



# Construction Services Scope of Work

SH 149 Rural Roads Surface Treatment Project  
CDOT Region 5

It is intended that services will be performed primarily for the following Project SH 149 (C 149A-028, SA 23490)

Project Number: C 149A-028  
Project Code: SA 23490  
Project Location: SH 149 MP 21 to 42 and MP 70 to 92  
Contract Type: Project Specific, Specific Rate of Pay  
Contract Subject: Construction Management, Inspection, and Materials Testing Services

The Contract Administrator for this Contract will be:

Arthur Miller, Region 5 Resident Engineer  
1205 West Avenue, Alamosa, CO 81101  
719-589-4251 ext. 6501  
[arthur.miller@state.co.us](mailto:arthur.miller@state.co.us)

Active Day-to-Day administration and monitoring of this contract will be delegated to the assigned Project Manager as follows:

Arthur Miller, Region 5 Resident Engineer  
1205 West Avenue, Alamosa, CO 81101  
719-589-4251 ext. 6501  
[arthur.miller@state.co.us](mailto:arthur.miller@state.co.us)



## 1.0 GENERAL SCOPE OF WORK

The scope of work and associated cost estimate is for providing construction administration support services for the referenced project. The scope of work will be for:

- 1 full-time Consultant Project Engineer (PE)
- 3 full-time Consultant Construction Inspectors
- 2 full-time Consultant Material Testers
- 1 full-time Consultant Material Tester for lab testing of HMA (Voids Acceptance)

### 1.1 Project Description and Location

This project is located on State Highway 149 between mileposts 21 and 92. There are two segments of work. The first is from MP 21 to 42 and the second segment is from MP 70 to 92. The work consists of cold bituminous pavement (recycle) treatment, hot mix asphalt overlay, bridge deck repair, guardrail replacement, ADA Ramp (in Creede), pavement markings and construction traffic control.

### 1.2 Work Duration and Project Staffing

The time period for the work described in this scope of work will last approximately nine (9) months including the duration of the construction plus pre and post construction activities as required. It is anticipated that the duration of work covered by this scope of work is approximately February 2022 (Preconstruction Meeting and file setup) through November 2022 (finals submitted). Consultant staff should be available from February 14, 2022 through January 13, 2023

The Consultant shall provide the following construction management staffing for the estimated durations as shown below:

<b>Number of Personnel</b>	<b>Duty Assignment</b>	<b>Assigned to Project</b>	<b>Anticipated Duration</b>
1	Consultant Project Engineer (CPE)	Full Time	February 14, 2022 to November 18, 2022
3	Consultant Inspector (CI)	Full Time	March 14, 2022 to October 21, 2022
2	Consultant Materials Tester (CT)	Full Time	February 14, 2022 to October 21, 2022
1	Consultant Materials Tester (CT) (For Lab Testing of HMA (Voids Acceptance)	Full Time	Based upon 859, but dependent upon Contractor's schedule. May 9, 2022 to October 21, 2022

For project construction management, the actual time period, all consultant work shall be completed within 30 working days of the Project Acceptance date.

The above represents primary personnel time commitments to the projects listed. It is understood that some personnel will need to split their time among multiple projects including projects not specifically



listed above as assigned by the Resident Engineer. Personnel duties and locations will vary depending on the work and roles assigned by the Resident Engineer.

The Resident Engineer may modify actual staff required during the project.

Work may be required night and/or day, on weekends, holidays and/or on a split shift basis. Work weeks may be in excess of or less than the standard 40-hour week but shall be kept to the minimum necessary to adequately manage construction of the project.

### 1.3 Definitions

**Construction Management, Construction Inspection, and Construction Testing** - The activities associated with the roles assigned for the monitoring, testing, documentation and other project-related services under the responsible charge of the Consultant Professional Engineer, and at the direction of the Project Engineer to ensure conformance with the project construction Contract.

**CDOT Project Manager** – the CDOT employee that has active day-to-day administration and monitoring of this contract.

**Region Material Engineer (RME)** – assists the Resident Engineer on this project with materials related issues including concrete, asphalt, soils and steel. The CDOT RME provides project support in areas relating to construction materials issues. The RME is in responsible charge of the region laboratory units, and is required to review the Form 1324 (Consultant Tester Evaluation).

**Region Head Tester** – The CDOT Employee that is assigned to assist the Project Engineer with oversight of project testing, and documentation of testing and materials.

**Region I.A.T. Staff** – Individual assigned by the State to be responsible for administering the Independent Assurance Program and the Independent Assurance Sampling-Testing and Witnessing of Testing Sampling as defined in Appendix D of the Field Materials Manual.

**CDOT Resident Engineer** – The CDOT Resident Engineer is responsible to the Region Program Engineer for the quality and successful completion of a transportation project. The Resident Engineer authorizes interim and final payments and all changes to Contracts for all Consultants and Contractors.

**Consultant** – The individual, firm or corporation contracting with CDOT to perform services as described in this Contract.

**Consultant Professional Engineer** - The Consultant employee in responsible charge of Consultant services performed as described in this Contract. The Consultant Professional Engineer administers the Consultant contract and must be licensed in the State of Colorado. The Consultant Project Engineer may be the Consultant Professional Engineer at the direction or approval of the CDOT Resident Engineer.

**Consultant Project Engineer (CPE)** – The Consultant Project Engineer is the Chief Engineer’s duly authorized representative administering the contract, is in direct charge of the work, and is responsible



for the administration and satisfactory completion of the construction project under contract. The CPE shall be licensed in the State of Colorado, unless otherwise approved by the CDOT Resident Engineer, and is in responsible charge of construction. If the CPE is not a PE, then the CPE shall be under the responsible charge of a Consultant Professional Engineer, and at the direction of the CDOT Resident Engineer.

The CPE works directly for the CDOT Resident Engineer. The CPE shall be assigned full time on the project sites. The duties of the CPE are limited to those duties in the scope of work and as delegated by CDOT Resident Engineer.

**Consultant Engineer in Responsible Charge (EIRC)** – The licensed individual with degree of control and is required to maintain through engineering decisions personally or by others over which the engineer exercises supervisory direction and control authority. The EIRC shall at all times recognize that their primary obligation is to protect the safety, health, property, and welfare of the public.

**Consultant Inspector (CI)** – The on-site Consultant employee whose primary function is to perform inspection, and associated documentation of work items. The CI performs work under the responsible charge of the Construction Project Engineer and at the direction of the CDOT Resident Engineer.

**Consultant Material Tester (CT)** – The on-site Consultant employee whose primary function is to perform inspection, testing of materials, and maintain the associated documentation for materials certifications and field and laboratory testing. The CT performs work under the responsible charge of the Construction Project Engineer and at the direction of the CDOT Resident Engineer.

**Consultant Materials Testing Supervisor (CMTS)** – The Consultant employee responsible for the satisfactory performance of work by the CT relating to materials testing and documentation. Also, reference the additional requirements in Colorado Procedure 10 in the Field Materials Manual.

**Consultant Documentations Engineer (DE)** – The Consultant employee primary function is to be a resource for review of contractor critical path schedule, review and support of change orders, support for project first documentation, and overall review of conformance of critical and complex project documentation on a regular basis. The duties of the DE are limited to those duties in the scope of work and as delegated by CDOT Resident Engineer.

**Contractor** – The individual, firm or corporation contracting with CDOT to construct a transportation project.

## 2.0 GENERAL REQUIREMENTS

The Consultant shall provide each of their project staff members a written copy of the approved task order scope of work to ensure that they understand their duties and requirements for this project.

### 2.1 Authorization to Proceed

Work shall not commence until the written Notice to Proceed is received by the consultant, and shall be completed in the time specified.



## 2.2 Routine Billing & Reporting

The Consultant personnel shall submit a completed Form 10 or other tracking form as approved by the CDOT Resident Engineer on a weekly basis for approval. Billings shall accurately reflect the hours per diem, and mileage on the approved Form 10's.

The Consultant shall provide the following on a regular basis:

- Monthly billing formats, suitable to the Project Engineer, for all contract activities performed by the Consultant.
- Monthly billings should include the contract status.
- Weekly time cards for consultant personnel. The Project Engineer prior to billing must sign these time cards.
- Supporting documentation for all direct costs.
- Weekly approval of mileage for vehicle.

## 2.3 Status of Contract

The Consultant shall monitor the fiscal status of the contract, and advise the Resident Engineer of any potential need for supplementing their contract or negotiating an additional task order. Failure to monitor status and provide timely notification may result in the discontinuation of the Consultant's services on the project until a supplemental agreement can be implemented and executed.

The Consultant Contract Administrator shall report the status of the task order to the CDOT Contract Manager and CDOT Resident Engineer monthly on task order expenditure and time progress reports. Summary may include multiple tasks or may be project specific, but should include all relevant Task Orders for a particular project (i.e. if Multiple Task Orders written for the same project). Reporting shall include but shall not be limited to:

- Expiration date
- Percent complete / percent remaining
- Contract duration used / remaining
- Contract schedule – work completed / work remaining
- Work completed to date / Work remaining (descriptive summary)
- Task Order balance relative to expenditures
- Assessment of Task Order status/condition

## 2.4 Labor, Materials, Vehicles and Equipment

The Consultant shall furnish all personnel, materials, equipment and transportation required to perform the work. Consultant personnel shall have appropriate vehicles (equipped with flashing amber beacon) cellular phones, computers and miscellaneous equipment and supplies (printers, calculators, manuals, office supplies, safety equipment, DMI, etc.) required to perform the work.

A Field Office and lab will be provided at each of the two segments of work by Construction Contract pay items. One CDOT lab will be provided for voids acceptance testing of the HMA. All other field equipment required for the field lab and office will be the responsibility of the Consultant. Personnel qualifications,



staffing level, and number and types of vehicles shall be subject to the approval of the Resident Engineer. Each consultant staff shall be supplied with a state of the art computer w/modem, a writable CD drive, and loaded with the most current version of MS Office including Microsoft Project, Primavera, SiteManager, and/or QA/QC program if applicable. The Consultant shall have a digital camera available to staff at all times and document the project accordingly submitting CD's or flash drives with relevant photos to the Resident Engineer on a regular basis. At least one Consultant vehicle shall be equipped with a DMI (distance measuring instrument) to facilitate inspection and measurement of materials placed on the project. The Consultant shall assign personnel for the duration of the construction contract unless otherwise approved by the CDOT Resident Engineer.

## **2.5 Engineer's Certification**

The CDOT Resident Engineer shall be the final authority regarding acceptance of work not conforming to the plans and specifications.

## **2.6 Project Meetings**

The Consultant and CDOT project personnel shall meet to coordinate and schedule the required work prior to active construction. The Consultant shall complete all work in accordance with the approved schedule or as approved by the Project Manager. The Consultant personnel shall be present at all project meetings as required and as directed by the Project Manager.

## **2.7 Post-Construction Activities**

The Consultant shall assist in preparing and submitting redline drawings that have been revised to reflect actual as-constructed details as recorded throughout the construction of the project, wage and payroll certification and other closeout activities.

## **2.8 Project Standards**

Consultant construction management shall be in accordance with the Colorado Department of Transportation's guidelines and procedures to include the project awarded Construction Plans, Special Provisions, Standard Special Provisions, as well as current versions of CDOT Standard Specifications for Road and Bridge Construction, CDOT Construction Manual, Field Materials Manual (as stipulated on the Project LIMS/CAR 250 Reports). If the required sampling or testing method is not described in the CDOT Field Materials Manual, the required work shall be completed in accordance with the current AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing (as revised and supplemented) or if no AASHTO procedure exists, the ASTM Standards and Specifications shall be used.

Proposed work procedures shall be coordinated with and approved by the CDOT Resident Engineer prior to the start of work.

## **2.9 Documentation**

Project documentation shall be in electronic format following the examples provided by the Finals Engineer.

The Consultant personnel shall be capable of preparing CMO's, justifications for CMO's and MCR's; price justification (force account analysis); review of MHT's, construction quantity calculations required for this



type of project; inspection reports; daily diaries; Site Manager; review of 205's; and other construction administration documentation required per CDOT construction manual.

All consultant personnel charging to the project, to include consultant office staff, except administrative staff preparing consultant billings, shall develop a CDOT Form #103 Project Diary in electronic format for the dates they work on the project. All consultant personnel diaries, field and office staff, shall be retained in a single electronic folder managed by the Project Engineer. Diaries assembled by field personnel on the project shall attach digital photographs of the Contractor's daily work. The consultant company shall provide consultant project staff with a digital camera for this purpose.

The Consultant's personnel shall be thoroughly familiar with CDOT forms and documentation requirements.

In addition to the documentation above, the Consultant Project Engineer/Inspector will support the Project Engineer to meet the documentation requirements in accordance with CDOT Chief Engineer's Memorandum regarding archiving of construction engineering records dated September 11, 2017 until such time as PD (Procedural Directive 21.1) is executed which will supersede the Chief Engineers Memorandum. The Project Engineer shall be responsible for verifying access to the specific project folder in ProjectWise and for placement of documents in the correct folder as indicated in the CDOT Construction Engineering Record File Plan. The Project Engineer shall be required to complete the As- Constructed/As-Built Plans template found in ProjectWise under the specific Project Folder/Plans\_and specs-PDFs/As-Built. The Project Engineer shall be required to archive all documents in PDF format listed in the Construction Record File Plan in which the Project Engineer is listed as Record Owner. Except as otherwise noted in the Construction Record File Plan, electronic files will be stored in CDOT ProjectWise. These documents/files shall be named according to the Record Title listed in the Construction Engineering Record File Plan and shall be placed in the Location of Electronic Record. The Project Engineer shall also be responsible for verifying that the Construction Record Files are page aligned, searchable (OCR), compressed, and conform to the ISO PDF/a-1b standard (unless CDOT requires a different ISO Compliant standard for a specific type of document) before they are placed in ProjectWise.

The Consultant is responsible for the management and work product of all consultant and sub consultant personnel. The consultant is responsible for complete and error free construction and materials documentation on the project. Failure to submit acceptable final documentation as required may result in withholding any and all consultant payments. Further, no payment shall be made for the correction of any finals documentation for noted deficiencies. The final materials documentation file shall include, at a minimum, a draft Form 474 exceptions, a completed and signed Form 1199 (Region 5 variant Project Closure), and up-to-date Owner Acceptance Sampling and Testing and Certification Checklists (CAR Reports). The Owner Acceptance Sampling Checklist shall be sealed and signed by a Colorado Registered Professional Engineer. The materials testing and certification documentation file shall be submitted to the Region Finals Administrator or the Region Finals Materials Documentation Coordinator within 20 working days of the Project Acceptance Date.



### 3.0 PERSONNEL REQUIREMENTS

The Consultant's staff shall be composed of personnel experienced in CDOT construction project management, inspection and testing procedures, and shall be certified in the areas of inspection to be performed on the project by the CDOT Construction Inspector Qualification Program as described below.

Resumes, three references, and copies of licenses/certifications for proposed consultant personnel showing that they meet the requirements of this section shall be provided to the CDOT Resident Engineer prior to the commencement of consultant work on the project. The CDOT Resident Engineer may conduct phone interviews in the selection of consultant project personnel.

Personnel provided by the Consultant who do not meet all of the specified requirements, or who fail to perform their work in an acceptable manner, shall be removed from the project when determined and directed by the Resident Engineer. The Consultant shall replace personnel removed from the project within two business days. Costs related to the replacement of personnel shall be the sole responsibility of the Consultant.

Consultant personnel shall remain assigned to the project for its entire duration unless otherwise determined by the CDOT Resident Engineer. CDOT reserves the right to replace consultant personnel with available CDOT personnel as CDOT staffing allows or with other qualified consultant personnel.

The Consultant shall also provide any other services as requested by the Project Engineer.

Back-up Consultant resources shall be available in case of loss of staff, sickness, or vacations or as required for the project.

All consultant construction personnel shall have experience in the following roadway construction areas as they pertain to their duty assignment:

- Construction Zone Temporary Traffic Control
- Earthwork and basic Geotechnical
- Erosion Control and Final Stabilization
- Utilities, Electrical Conduit, Light Bases
- Surveying
- ADA Ramp Design, Layout, and Construction
- Roadway Bases
- Various Concrete construction items
- Hot Mix Asphalt Construction and Inspection
- Signing and Pavement Marking
- Bridge Rehabilitation
- Culverts and Storm Sewer items
- Backfilling of structures
- Reinforcing steel
- Concrete Pavement





- Guardrail
- Bridgerail

The Consultant is responsible for ensuring that consultant staff have all appropriate certifications for the work being performed on the projects, regardless of whether or not the certification is listed. Training and certifications for Consultant personnel shall be the sole responsibility, and at the expense of the Consultant Company. All training and certifications shall occur prior to the consultant starting work on the project. Anticipated required training and certifications are as follows:

Classes/Certifications	Duty Assignment		
	Consultant Project Engineer	Consultant Tester	Consultant Inspector
Basic Highway Math	X	X	X
Basic Construction Surveying	X	X	X
Basic Highway Plan Reading	X	X	X
Certified Payroll Training	X		X
Transportation Erosion Control Supervisor	X		X
Traffic Control Supervisor Training	X		X
AASHTOWare Site Manager	X	X	X
Site Manager Accessories	X	X	X
AASHTOWare SiteManager LIMS		X	
CRMCA PCCP Inspection Level I			X
LabCat Level E – Aggregates (or ACI Aggregates)		X	
LabCat Level A/B		X	
ACI Field Testing Technician Grade I		X	
WAQTC – Embankment & Base Testing Technician Certification		X	
WAQTC – Embankment & Base Excavation & Embankment – (Soils Inspector)		X	
CDOT Tester Certification Program (as of 2020)		X	
Arc GIS Survey 123	X		X

### 3.1 Consultant Project Engineer (CPE)

The Consultant Project Engineer shall be licensed in the State of Colorado, unless otherwise approved by the CDOT Resident Engineer. If the CPE is not licensed, they shall work under the direction of a Colorado Licensed Professional Engineer (PE). The PE can be different from the Engineer in Responsible Charge. The Consultant PE shall be familiar with road and bridge construction and it is preferred they have extensive documented experience with CDOT procedures including, construction schedule review, contract modification preparation, force account analysis, structures, water quality, phasing, cold-in-place recycling, utilities, roadway paving, documentation.



The Consultant Project Engineer will be responsible for the day to day activities and duties associated with CDOT contract administration in coordination with the CDOT Resident Engineer and as supported by the CDOT Assistant Project Engineer. These responsibilities and duties include supervision of project staff, verbal and written correspondence with the Prime and Sub-Contractors, inspection of materials and methods of construction to verify compliance with CDOT and contract specifications, preparing monthly pay estimates in SiteManager, documentation and inspection of construction activities, reviewing and approving Methods of Handling Traffic (MHT's), prepare project change orders and minor contract revisions( including justification letters), monitoring the project schedule and financial status, reviewing certified payrolls( in B2G and LCPtracker), resolving material and traffic control issues, and coordination/contract with local entities and business with respect to construction activities.

### 3.2 Consultant Construction Inspector

The Consultant Construction Inspector shall be able to inspect and document all work performed and produced by the CDOT construction contractor on the project. The service shall include inspection and documentation of requirements set forth in the Standard Specifications for Road and Bridge Construction, the M & S Standards and references there from. This work is to be accomplished in accordance with the CDOT Construction Manual. The individual shall meet all the requirements as outlined in CDOT Policy Memo 25, Construction Inspector Qualification Program including Traffic Control Supervisor training. The Consultant shall be familiar with SiteManager Construction Management System to enter CMO's, Time Counts, Daily Work Reports, and other areas if needed.

Inspection work shall conform to the CDOT Construction Manual and the Inspector Checklist. Each of the Consultant's field inspectors shall maintain a daily diary for each day the Consultant performs work on the project. They shall use CDOT's Survey 123 – Project Diary or other form approved by the Resident Engineer. The contents of the diary shall be brief and accurate statements of progress and conditions encountered during the prosecution of the work. Editorial comments are not to be incorporated in the diaries or on any written correspondence applicable to the project. A copy of the diary shall become a part of the permanent project record.

Responsibilities may include but are not limited to the following:

1. Participation in weekly progress meetings with contractor, subs, utilities and other interested parties.
2. Securing project documentation from the contractor.
3. Anticipating project problems and directing solutions to the CDOT Project Engineer.
4. Reviewing drawings and data submitted by the construction contractor and suppliers for conformance with the specifications. Inform and obtain concurrence as needed from the Project Engineer and keep relevant documentation for project records.
5. Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans.
6. Communicating with adjacent landowners as required towards resolving issues that arise during construction.
7. Review and approve the Contractor's Method of Handling Traffic if delegated by the CDOT Project Engineer.



8. Monitoring compliance with and taking appropriate action to preserve safety on the project for all workers and traveling public in accordance with Method of Handling Traffic (MHT) and the Manual of Uniform Traffic Control Devices (MUTCD).
9. Initial follow up, and final inspections of work in progress including interim and final measurements.
10. Promptly notifying contractors and CDOT Project Engineer of non-compliance with the contract plans and specifications.
11. Performances of special tests, investigations, or monitoring which are required to fulfill the intent of the CDOT inspection program.
12. Preparation of inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures.
13. Submittal of standard documentation reports no later than the following working day.
14. Preparation of routine correspondence to the contractor, CDOT Staff, local agencies, etc.
15. Providing liaison and communication to contractor field crews.
16. Preparation of final "As Constructed" plans.
17. Assist in preparing punch lists of uncompleted work, non-conformance reports, and deficiency notices.
18. Assist in preparing responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence.

### **3.3 Consultant Materials Testing Technician (CT)**

The Consultant Materials Testing Technician shall sample, test, inspect and document all materials generated on the project unless otherwise notified by the CDOT Project Manager. This includes but is not limited to: materials delivered to the project that are listed in the Summary of Approximate Quantities in accordance with the schedule in the Field Materials Manual; materials that may be added to the project through contract modification orders; and altered material quantities whether increased or decreased. The testing technician and CDOT's Project Manager shall review project quantities on a weekly basis to ensure that sufficient tests have been performed for the material placed to date. The consultant shall also provide any other related testing services requested by the CDOT Project Manager.

Testing of materials that are specifically designated to be pre-inspected or pre-tested shall remain the responsibility of CDOT. The consultant shall document and obtain samples of any and all materials to be transported to CDOT Central Laboratory that are required to be tested by CDOT regardless of pre-inspection or pre-testing responsibilities. The items and test frequencies of Department tested materials shall be in accordance with the Materials Manual under Schedule (Owner Acceptance), Central Laboratory.

The Consultant Materials Tester's primary responsibility will be the inspection and documentation of work items, as well as the testing and documentation of materials in accordance with SiteManager Materials/LIMS (SMM/LIMS), the CDOT Field Materials Manual, and the CDOT CAR Form 250. The CT shall meet Sampling and Testing Personnel Qualifications for applicable testing items on the project as outlined in CP 10, Table 10-1 of the CDOT Field Materials Manual and/or as outlined below. The consultant testers shall use the CDOT Form 211 to notify the Project Engineer of outstanding documentation prior to the project weekly meetings. The CT shall have previous experience with SMM/LIMS.



The materials testing technician shall be under the direction of, and shall be reviewed by the Project Manager, and CDOT testing personnel. A consultant supervisor shall be available to review work, resolve problems, and make decisions in a timely manner as requested by the CDOT Project Manager, and must be experienced and competent in road and bridge construction, materials testing, and inspections.

The materials testing technician assigned to the project on a full-time basis shall have a minimum of two years of experience in each specialty field (soils, aggregates, asphalt paving, and concrete) that is being tested, and shall have the following qualifications: WAQTC certification, nuclear safety certified as issued by the Colorado Department of Health, ACI certified as a concrete Field Testing Technician Grade 1, ACI certified as concrete Strength Testing Technician Grade 1, CAPA certification LabCAT Levels A & B and Traffic Control Supervisor training. The individuals shall meet all the requirements as outlined in CDOT Policy Memo 25, Construction Inspector Qualification Program. Nuclear Gauges must be calibrated using the Department's standard blocks. The materials testing technicians shall be thoroughly familiar with CDOT forms and documentation requirements and have had LIMS training in site-manager with the ability to enter all materials documentation into site-manager LIMS program.

The equipment shall be furnished by the consultant tester for each segment of the project in sufficient quantity and in good working order to ensure accurate performance of all work required in a timely manner. Equipment for this project may include, but not limited to following;

1. Nuclear Moisture/Density Gauge.
2. Sieves for aggregates and soils gradation.
3. Electronic scales, if not furnished by the contractor.
4. AC gauge, Rice equipment and hand tools for HMA Testing.
5. Sample containers including, but not limited to: quart sized asphalt cement cans with lids, 3-gallon metal containers and lids for HMA samples, sample bags, 5-gallon buckets with rubber seal lids for moisture samples, and buckets for sampling concrete.
6. Proctor equipment for soil curves and 1-point tests.
7. Atterberg equipment.
8. Sample drying equipment.
9. Miscellaneous pans, tools, and equipment for performing the required soils, concrete, and asphalt field tests.
10. Concrete cylinder molds which conform to AASHTO requirements.
11. Tape measure and various hand tools.
12. High/low and recording thermometers.
13. Various office supplies and calculators.
14. Computer and CDOT approved programs.
15. CDOT M & S Standards, Construction Manual, and Inspector's Checklist.
16. Concrete testing equipment: air meter, slump cone, unit weight scale, hand tools and beam molds.



**Consultant Materials Testing Supervisor (CMTS)**- The CMTS shall be thoroughly familiar with the CDOT Field Materials Manual, CDOT testing and documentation requirements, project plans and specifications, and associated manuals and standards. The CMTS shall meet the requirements per Sampling and Testing Personnel Qualifications as stipulated in Colorado Procedure 10. Subsequent to visiting the project, or when performing project related work when not at the project, the CMTS shall document any project related work on a CDOT Form 103, Project Diary. The diary shall note the purpose of the visit/work performed, any issues that were discussed with Consultant personnel and recommendations for resolution of concerns/deficiencies that were noted by the CMTS. Significant findings by the CMTS shall be discussed with the Project Engineer prior to departing the project. An electronic copy of the Form 103 shall be transmitted to the Project Engineer, Resident Engineer and Program Construction Coordinator within 72 hours of the site visit.

## 4.0 COST PROPOSAL ASSUMPTIONS

The attached compensation proposal is **SPECIFIC RATE OF PAY**.

A supplement to this task order may be necessary in the event the level of effort required increases beyond that described, including but not limited to extended construction duration and/or additional construction shifts. Direct costs will be expended as required for the proper performance of the work, and in accordance with CDOT requirements and approvals. Work may be required night and/or day, weekends, holidays, and/or on a split shift basis when requested by the Resident Engineer. Workweeks may be in excess of or less than the standard 40-hour week.

Man-hour estimates will be based on **50 hours** maximum per week.

The Scope of Work is based on several assumptions and a specific organization throughout construction. Since construction management tasks extend over a long duration of time and tasks will overlap greatly throughout any construction day, the general approach to the fee is based on number of full time employees on the project as opposed to duration of each task. As a result, the budget defined will be considered the scope of work. The CDOT Resident Engineer will be notified of any work outside the budget and considered out-of-scope, and will not proceed without formal approval by the CDOT Resident Engineer.

### 4.1 Per Diem

Staff considered being “Traveling Away from Home” as defined per Fiscal Rule 5-1, Section 2.24 will be reimbursed at the applicable per diem rate per the Fiscal Rule 5-1, Section 6.11 to cover costs of meals and incidental expenses while traveling. For this project per diem will be \$55.00 per day and paid as follows:

- Breakfast           \$13.00/day
- Lunch                 \$14.00/day
- Dinner                \$23.00/day
- Incidental           \$5.00/overnight stay



## 4.2 Travel and Lodging

### 4.2.1 Travel

Travel reimbursement shall follow the guidelines set forth in the Travel Reimbursement guidance for CDOT Consultant Contracts and Task Orders, dated 2/4/13, as revised, except that project related travel from or within the Project site will be actual mileage vs. estimated. All costs anticipated for reimbursement must be approved by the CDOT Project Manager and CDOT Resident Engineer prior to commencement. All time and mileage shall be approved by the CDOT Resident Engineer on the Form 10 for the same period in which the travel occurred.

All travel and per diem expenses shall be in accordance with CDOT procedures and policies and state fiscal rules.

CDOT will reimburse Consultant for time and mileage of personnel “Traveling Away from Home” who are full or part time on-site personnel for one roundtrip per week at a maximum of four hours and two hundred miles per roundtrip.

CDOT will reimburse Consultant for actual travel time (minus one hour), and mileage of personnel “Traveling Away from Home” who are not assigned to the project.

All mileage for all staff will be paid at the 2WD rate.

### 4.2.2 Lodging

Staff assigned full or part time to the project and considered “Traveling Away from Home” per Fiscal Rule 5-1; Section 2.24 will be reimbursed for actual lodging costs per Fiscal Rule 5-1, Section 6.11. Reimbursement of lodging costs will follow Fiscal Rule 5-1, Section 9.

Should the consultant personnel choose to procure a short-term home rental for the duration of the project, CDOT shall be notified of this intent prior to securing a lease.