

I-70 Westbound PPSL Construction Administration Scope of Work

Date: SEPTEMBER 2018

CDOT Region 1

Project:

I-70 West Bound Peak Period Shoulder Widening Project

NHPP 0703-445 (21893)

Estimated Start Date: January 2019

The Contract Administrator for this Contract will be:

Kevin Brown
CDOT R1 Resident Engineer
425 A Corporate Circle
Golden, CO 80401
Phone: (720) 497-6951

Active day-to-day administration will be delegated to:

Jeff Hampton
CDOT R1 Project Engineer
425 A Corporate Circle
Golden, CO 80401
Phone: (720) 497-6957

Project Location

I-70 Westbound from Veterans Memorial Tunnels to Empire Junction approximately MP 230 – MP 243.

Work Duration

The period for the work described in this scope of work covers approximately January 2019 to July 2021. Work will be required on weekends, nights and holidays. Concurrent day and night work is very likely and should be expected throughout the duration of the project.

Authorization to Proceed

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

Staffing levels required during the project may be modified by the Resident Engineer as needed by the workload.

General Scope of Work

Consultant services are requested to provide construction administration support, project engineering services (construction management), inspection, and materials-testing services required for construction of the I-70 Westbound Peak Period Shoulder Lane project located in Clear Creek County, approximately milepost 231 to 243.

The major Work components of this project shall include subgrade, base course and paving required for roadway shoulder widening and complete overlay of I-70 within the project corridor, rock wall blasting and removal, construction of retaining walls and CE style barrier, upgraded drainage components and many other incidental items.

Construction will also include several thousand linear feet of conduit replacement for fiber optic conductor replacements, tolling equipment, permanent VMS's, and coordination with utility companies who will provide power sources for various equipment installed for the project.

Several Senior and Junior Inspectors and specialists will be required to meet the QA requirements over the next two years. The CDOT and Consultant Team will be responsible for all QA documents, including all final Construction as-built documentation as well as full Materials testing QA as described under LIMS by the CDOT Materials Lab. A massive amount of data generated by the project will be managed and controlled in the office as part of the project.

Construction Traffic Control will be a major part of this project and will require a dedicated team to review and coordinate traffic control with the Contractor. The project team will need to monitor the demanding daily traffic management and help to resolve issues arising from the project.

The Consultant Project Public Information Manager will coordinate regularly with the CDOT Region 1 Communications Manager, CDOT Project Engineer, CDOT Resident Engineer, Contractor, Idaho Springs and Clear Creek County Governments to accurately and reliably share construction information with the Project's many stakeholders. The Consultant Project Public Information Manager will coordinate with any INFRA Grant and other projects within the project corridor impacting traffic operations to ensure single point of contact

communications throughout the duration of the project. It is anticipated that the following projects may be included:

- Fall River Road Bridge
- Clear Creek County Greenway Projects
- County Road 314 Improvements
- Smart I-70 Projects
- ITS/Maintenance Projects

Due to the high visibility of this project and its proximity to Clear Creek and other critically sensitive environmental concerns, an environmental specialist will be required to help coordinate and resolve environmental issues during construction.

The Consultant Scheduler will be a key member of the management team providing monthly reviews of the Contractor's CPM schedule and providing feedback on the technical aspects of the schedule as well as monitoring critical and near critical activities and communicating any potential issues with the Project team. Regular attendance at Weekly Meetings will also be required to maintain a working knowledge of the progress of the project.

Prior to Advertisement, members of the consultant staff will be required to assist in review of the construction drawings and specifications and participate in Constructability reviews and bid documentation preparations to assist CDOT in providing a quality Advertisement set of Construction Documents for the Project.

General Requirements

This Scope of Work (SOW) has been carefully reviewed by the Department and reflects a plan of approach based on the project approach. The Consultant's analysis of the project, its evaluation of the work elements, and its formulation of the work plan, coupled with its understanding of and sensitivity to the key issues may produce new approaches or modifications to the project's work elements. Therefore, the Final Scope of Work for the project may change in some details to incorporate the Consultant's input.

Definitions:

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 CDOT Resident Engineer authorizes interim and final payments and all changes to Contracts for all Consultants and Contractors.

CDOT Project Engineer – The CDOT Project Engineer is responsible for the quality and successful completion of a transportation project. The CDOT Project Engineer has active day-to-day administration and monitoring of this contract.

Construction Management, Construction Inspection, and Construction Testing (CM, CI, CT) - The activities associated with the roles assigned for the monitoring, testing, documentation and other administrative 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 Standards.

Consultant - The firm or corporation providing personnel under this agreement to perform construction services as outlined herein.

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 Professional Engineer may be the Consultant Project Engineer at the direction and approval of the CDOT Resident Engineer. This Engineer shall be available to review Safety Critical submittals concerning rock fall, structures, shoring, and traffic control as needed.

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

Consultant Assistant Project Engineer (CAPE) – The CAPE shall be assigned full time on the project site. The Consultant Assistant Project Engineer works directly for the CDOT Project Engineer. The duties of the CAPE are limited to those duties in the scope of work and as delegated by CDOT Project Manager. The CAPE shall be licensed in the State of Colorado, unless otherwise approved by the CDOT Resident Engineer.

Consultant Inspector - The Consultant's employee(s) who perform(s) inspection services under the responsible charge of the Consultant's Professional/Project Engineer and at the direction of the CDOT Resident Engineer.

Consultant Tester - The Consultant's employee(s) who perform(s) materials testing and inspection services under the responsible charge of the Consultant's Professional/Project Engineer and at the direction of the CDOT Resident Engineer.

Consultant Testing Supervisor – The Consultant employee in responsible charge of the Consultant Project Tester. See additional requirements in Colorado Procedure 10 in the Field Materials Manual.

Consultant Project Public Information Manager (PPIM) – The PPIM shall manage communications with the purpose of accurately and reliably sharing construction information with the Project's many stakeholders. The PPIM shall supervise the Contractors PIM as it pertains to the project public information; attend weekly project meetings to discuss project issues, accomplishments, schedule and activities including as necessary Contractor's Construction meetings; manage Crisis Communications including responses to crisis on the project; continue PI Outreach including proactive public education regarding particular construction activities impacts, etc; review approach with CDOT Communications Manager; implement outreach tools and issue strategy; coordinate regularly with the CDOT Region 1 Communications Manager, CDOT Engineers, Contractor and Clear Creek County; and be the point of contact for public inquiries about the project.

Consultant Scheduler – The Consultant employee in charge of schedule review and documenting review processes for all Contractor submitted schedules per the Standard Specifications. The Consultant Scheduler shall be proficient in Microsoft Project and Primavera software and have experience with CDOT highway construction.

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

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 Region Materials Engineer – The CDOT Region Materials Engineer (RME) assists the CDOT Resident Engineer and CDOT Project Engineer on this project with materials related issues including earthwork, concrete, asphalt and steel. 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 testing and materials documentation.

Work – The engineering and materials testing services that are the subject of this contract.

I. CONSTRUCTION MANAGEMENT

Anticipated Consultant Personnel Requirements

One (1)	Consultant Professional Engineer
Two (2)	Consultant Assistant Project Engineer (Field, Office)
Three (3)	Senior Engineer/Inspector (Roadway, Walls/Structures, ITS)
Four (4)	Junior Engineer/Inspector (Field, Office, Traffic Control, Environmental)
Four (4)	Intern Engineer/Inspector (3 Field, 1 Office)
Three (3)	Consultant Tester
One (1)	Project Public Information Manager
One (1)	Consultant Scheduler (Part Time)

Initial Project Meeting

The consultant personnel and CDOT project personnel shall meet to coordinate and schedule the required work. The Consultant shall complete all work in accordance with the approved schedule.

Status of Contract

The Consultant shall monitor the status of current spent amount against the Not to Exceed (NTX) Amount of the Agreement and any Task Orders, and shall advise the CDOT Resident Engineer of any potential need to supplement the contract or task order NTX amounts. Failure to monitor contract status and provide timely notification may result in non-payment and possible discontinuation of the Consultant’s services.

Project Standards

All documentation shall be in accordance with the latest versions of the Colorado Department of Transportation’s Construction Manual, Field Materials Manual, CDOT Laboratory Manual of Test Procedures, Colorado Department of Transportation Inspector’s Checklist, Standard Specifications for Road and Bridge Construction, the Supplemental Specifications, applicable M & S standards, MUTCD and the plans and specifications currently in use when the construction project is advertised or revised under advertisement.

References to “the specifications” shall include all applicable CDOT Standard Specifications for Road and Bridge Construction including standard specifications, supplemental specifications, standard special provisions, project special provisions, and project plans.

Consultant’s proposed work procedures shall be coordinated with the CDOT Project Engineer prior to the start of work.

Routine Billing & Reporting

The Consultant shall provide the following on a regular basis:

- a) Coordination of all contract activities by the Consultant’s Project Engineer.
- b) Monthly billing formats, suitable to the CDOT Project Engineer, for all contract activities performed by the consultant's Project Engineer and inspectors.
- c) Periodic reports and billings required by CDOT Procedural Directive 400.2.
- d) Weekly time cards for consultant personnel. The Consultant Professional Engineer, prior to billing, must sign these time cards.

Status of Project

The consultant shall monitor the status of work, and advise the CDOT Project Engineer/Manager of any potential need for supplementing their contract. Failure to monitor work status and provide timely notification may result in discontinuing the consultant’s services relative to the task order until a supplemental agreement can be affected.

The Consultant’s work shall be under the direction of, and shall be reviewed by a Professional Engineer registered in the State of Colorado, or as appropriate, by a Licensed Professional Land Surveyor, registered in the State of Colorado.

The inspection technician(s) and/or Project Manager(s) permanently assigned to a project shall be competent in road and bridge construction and be thoroughly familiar with CDOT specifications, manuals, forms and documentation requirements.

The level of qualification provided shall be as requested and approved by the CDOT Resident Engineer.

The qualifications for the level(s) shall be commensurate to experience, and are as follows:

- 1. Intern Level Inspector – zero (0) to four (4) years of experience
- 2. Junior Level Inspector – four (4) to eight (8) years of experience, and experienced in construction management.
- 3. Senior Level Inspector – more than eight (8) years of experience, and experienced in construction management.

4. Project Manager – six (6) or more years of experience, licensed as a Professional Engineer in the State of Colorado, and responsible for the supervision of the inspectors.

CDOT Consultant Employee Construction Inspector Qualification Program Mandatory Requirements

The following chart, with the appropriate checked certifications, shall be maintained by consultant employees engaged in this type of work performed for the State.

Class/Certification	Consultant Project Engineer	Consultant Inspector	Consultant Tester
Basic Highway Math		X	X
Basic Highway Surveying	X	X	X
Basic Highway Plan Reading	X	X	X
Erosion Control Supervisor	X	X	X
Specialty Certifications	To be determined by the Resident Engineer and Consultant		
CAPA Asphalt Inspection	X	X	X
Asphalt Inspection	X	X	X
WAQTC			X
Major Structures	X	X	
Other(As defined by RE)			

A copy of work experience, references and/or proof of Licensing shall be provided before work begins to the CDOT Project Engineer. Personnel provided by the Consultant who do not meet 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 CDOT Project Engineer.

Documentation

Each of the Consultant’s on-site project personnel shall maintain a daily diary for each day they perform work on the project. They shall use CDOT Form 103, Project Diary, or a form approved by the CDOT Project 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 shall not be incorporated in the diaries or on any written correspondence applicable to the project. The diary shall not be used for reporting pay quantity documentation. A copy of the daily diary shall be given to the CDOT Project Engineer within one working day of its date.

Personnel Qualifications

The Consultant shall provide a Professional Engineer registered in the State of Colorado, who will be in responsible charge of Construction Services. This Engineer shall certify in writing that all inspection and Construction Management conforms to the plans, specifications, and purpose of design. The Consultant Engineer shall be available to review work, resolve problems and make decisions in a timely manner as

requested by the CDOT. This Engineer shall be available to review Safety Critical submittals concerning rock fall, structures, shoring, and traffic control as needed.

The CDOT Project Engineer shall be the final authority regarding acceptance of work not conforming to the plans. The Consultant Engineer must be experienced and competent in road and bridge construction management and inspection.

The Consultant Engineer and inspectors shall provide daily or routine certifications as shown below. The Consultant Engineer in responsible charge of all the Consultant inspectors shall also provide this certification on a monthly basis, and shall certify as follows:

"The items listed above this certification were tested or inspected and found to be in reasonably close conformity to the plans and specifications except as noted".

When performing Construction Management Services, the Consultant's Professional Engineer shall also provide monthly certifications prior to processing monthly Contractor interim progress payments as shown:

"The construction on this project is being conducted in reasonable close conformance with the plans and specifications".

When performing Construction Management Services, the Consultant's Professional Engineer shall also provide a final certification at the completion of the project as shown:

"The project has been completed in reasonably close conformity with the plans and specifications including authorized changes. The project has been reviewed for obvious safety deficiencies. The project Right of Way appears to be free from unauthorized encroachments resulting from construction on this project. The FHWA Form - 47 has been completed and submitted".

Specific Work Description – Consultant Assistant Project Engineer

The Consultant Project Management services shall support CDOT's project staff through management of CDOT construction projects. The Consultant Assistant Project Engineer shall be a Professional Engineer registered in the State of Colorado unless otherwise approved by the CDOT Resident Engineer. The CAPE shall also be capable of managing day-to-day construction management should the CDOT Project Engineer not be available.

This Engineer shall be experienced and competent in road and bridge construction management, inspection and materials testing.

The CDOT Project Engineer shall be the final authority regarding acceptance of work not conforming to the plans and specifications. The CDOT Project Engineer, or Resident Engineer in the absence of the CDOT Project Engineer, shall be responsible for signature approval of all construction contract modification orders (CDOT FORM 90) and all construction contract payments.

Submittal of Final Documentation

Final pay documentation shall be submitted to the CDOT Project Engineer within 20 working days after completion of the construction project work. The Consultant shall be available to assist the CDOT Project Engineer and Finals Engineer in correcting documentation and as-constructed plans during the final checking process.

A completed CDOT Form 250 shall be submitted to the CDOT Project Engineer no more than 14 calendar days after the Consultant has been notified of final quantities. Failure to submit final documentation as required will result in withholding of Consultant payments.

Organization References for Personnel Certifications

American Concrete Institute (ACI): Colorado Ready Mix Concrete Association
Ms. Linda Jones PH 303-290-0303
<http://www.crmca.org>

Construction Inspector Certification: Donna Stretz
303-796-4664
FAX: 303-930-6040
donna_stretz@urscorp.com
or <http://www.dot.state.co.us/CHRMEmpCorner/empdev.cfm>

Western Alliance for Quality Transportation
Construction (WAQTC): CK Su
Colorado Department of Transportation
PH 303-398-6587
Cheng.Su@state.co.us

Laboratory for Certification of Asphalt
Technicians (LabCat): Tom Clayton
Rocky Mountain Asphalt Education Center
6880 South Yosemite Court, Suite 110
Centennial, Colorado 80112
PH 303-741-6148
RMAEC@co-asphalt.com

II. PROJECT CONSTRUCTION INSPECTION

In addition to the construction inspection tasks identified in:

Construction Management

The construction inspector(s) shall assist the CDOT Project Engineer in performance of construction inspection activities and other project-related activities, as directed by the CDOT Project Engineer. Inspection responsibilities may include but are not limited to the following:

- Assist CDOT Project Engineer in the performance of construction inspection activities;
- Reviewing periodic reports and billings;
- Preparing and transmitting updates of construction activities to CDOT’s Public Information Office;
- Participation in weekly progress meetings with contractor, subcontractors, utilities, and other interested parties;
- Anticipating project problems and suggesting solutions to the CDOT Project Engineer;

- 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 and the Manual of Uniform Traffic Control Devices;
- Initial, follow-up, completion, and final inspections of work in progress, including interim and final measurements;
- Notifying contractor and Project Engineer of non-compliance with the contract plan and specifications;
- Performance of special tests, investigations, or monitoring which are required to fulfill the intent of the CDOT inspection program;
- Completing inspection documentation using CDOT forms for the development of progress payments for the contractor in accordance with CDOT's prescribed procedures;
- Submittal of standard documentation reports no later than the following working day;
- Preparation of routine correspondence to the contractor, CDOT Staff, local agencies, etc;
- Providing liaison and communication to contractor field crews;
- Assisting in preparing punch lists of uncompleted work, non-conformance reports, and deficiency notices;
- Maintaining accurate field notes during construction reflecting actual construction details to be used in preparation of the as-constructed plans;
- References to "the specification" shall include all applicable CDOT Standard Specifications for Road and Bridge Construction including Supplemental Specifications, Project Standard Revisions and Project Special Provisions, and project plans and specifications;
- Miscellaneous project-related duties as directed by the CDOT Project Engineer.

Inspection observations shall be documented and approved by the CDOT Project Engineer in accordance with the references cited under PROJECT STANDARDS. Project specific work will be defined by task order, prior to work commencing.

Management of Consultant Project Construction Inspection

The consultant, CDOT Project Engineer, and Resident Engineer shall meet, coordinate and schedule the required work. The consultant shall complete all work in accordance with their approved schedule.

Project Staffing Authority

The CDOT Project Engineer is in direct charge of the work and is responsible for administration of the project contract as defined in the CDOT Standard Specifications. This includes approving and setting work hours for both project construction and inspection.

Project Standards

All inspection and documentation shall be in accordance with the *Colorado Department of Transportation (CDOT) Field Materials Manual, Construction Manual, CDOT M&S Standards, CDOT Inspector's Checklist* and applicable Project and Standard Special Provisions in the construction project contract and the applicable *CDOT Standard Specifications for Road and Bridge Construction*. The applicable *CDOT Field Materials Manual*, including *Colorado Procedures and Colorado Procedure-Laboratory*, shall be the one currently in use when the construction project is advertised. If the required 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 the *ASTM Standards and Tentatives*. Proposed work procedures shall be coordinated with the CDOT Project Engineer

prior to the start of work.

Labor, Vehicles, Materials, and Equipment

Personnel qualifications, staffing level, and number and types of vehicles shall be subject to the approval of the Engineer. The Consultant shall assign personnel for the duration of the Contract unless otherwise approved by the Engineer. Employees required to operate vehicles must possess and maintain a valid State of Colorado driver's license. The Consultant Inspectors permanently assigned to a project shall be competent in road and bridge construction and be thoroughly familiar with CDOT specifications, manuals, forms, and documentation requirements including SiteManager. The level of qualification provided shall be as requested and approved by the CDOT Resident Engineer.

A short summary bio of work experience and list of Certifications and/or Licenses of each proposed consultant staff member shall be provided to the CDOT Project Engineer. 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 CDOT Project Engineer.

It is anticipated that CDOT will require several full time lead persons (Consultant Construction Managers) and multiple full time Sr. and Jr. inspectors in the field as well as personnel to perform duties of an Office Engineer, Administrative Assistants, Public Relation/Social Media Specialist, Civil Rights Manager, Scheduling review, Environmental Specialist, and a Safety Critical Specialist. A lead Materials Manager with multiple materials testing technicians will be required to meet CDOT QA testing requirements. All work performed by consultant staff will be under the responsible charge of the Consultant Professional Engineer.

The Consultant shall furnish all personnel with all equipment and transportation required to perform the work. Consultant personnel shall have appropriate vehicles equipped with programmable LED light bars (Large flashing amber beacon arrays), Newer "Smart" Cell Phone, computers, and other miscellaneous equipment (calculator, office and lab supplies, safety equipment, etc.) required for performing the work.

Each consultant staff shall be supplied with a computer running Windows 7 or later Windows operating systems capable of wired and wireless network connections, a writeable CD, a color printer (that can be networked for all staff or black/white for other staff) and loaded with the most current version of MS Office software (Microsoft Project & Site Manager or QA/QC program if applicable), and Adobe Pro/DC for editing and mastering PDF files. Consultant shall provide an overhead projector to the project for project meetings and presentations. Consultant shall provide and maintain some form of "Cloud Storage" system for project documentation, the actual details of this will be coordinated with CDOT Post-Award. Consultant shall also provide several external data storage devices capable of storing all data on each device for the back-up of project documentation. Other office equipment may be requested by CDOT and supplied by the consultant. The Consultant shall have a phone with a digital camera with GPS cache ability that can be downloaded to a central location and available for staff to review at all times. Written and photo documentation of the project shall be made available to the CDOT Project Engineer on a regular basis.

III. GENERAL WORK DESCRIPTION FOR PROJECT MATERIALS TESTING

The consultant shall sample, test and inspect those specified materials utilized in construction. Test results and inspection observations shall be documented and approved by the CDOT Project Engineer in accordance with the references cited below under PROJECT STANDARDS. Project specific work will be defined by task order, prior to work commencing.

Management of Consultant Project Materials Testing

The consultant, CDOT Project Engineer, Resident Engineer and Residency Head Tester shall follow the requirements of CP-16 to meet, coordinate and schedule the required work. The consultant shall complete all work in accordance with their approved schedule. The consultant materials testing evaluation form shall be completed by the CDOT project engineer and head tester, and distributed as described in CP-16. The CDOT Project Engineer shall forward a copy of the completed Pre-Testing Meeting Agenda for Consultant Materials Testing to the Region Materials Engineer.

Project Staffing Authority

The CDOT Project Engineer is in direct charge of the work and is responsible for administration of the project contract as defined in the CDOT Standard Specifications. This includes approving and setting work hours for both project construction and the materials testing.

Project Standards

All sampling, testing, and documentation shall be in accordance with *the Colorado Department of Transportation (CDOT) Field Materials Manual, Construction Manual, CDOT M&S Standards and applicable Project and Standard Special Provisions in the construction project contract and the applicable CDOT Standard Specifications for Road and Bridge Construction*. The applicable *CDOT Field Materials Manual*, including *Colorado Procedures and Colorado Procedure-Laboratory*, shall be the one currently in use when the construction project is advertised. If the required 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 the *ASTM Standards and Tentatives*. Proposed work procedures shall be coordinated with the CDOT Project Engineer prior to the start of work.

Field Laboratory

CDOT will provide a field laboratory for many of the construction projects and the required traffic control for all of the construction projects. The CDOT Project Engineer will advise the consultant on the availability of the field laboratory.

When a field laboratory is not provided, the consultant shall use his own facilities. When the consultant is required to use his own facility, he shall follow the Laboratory Qualification Program requirements contained in the applicable CP-10.

The following equipment and supplies shall be furnished by the consultant for each project in sufficient quantity to ensure performance of all work required in a timely manner. Such equipment and supplies shall remain the property of the consultant.

1. A.C. content gauge and/or extraction equipment and solvents
2. Nuclear Moisture/Density gauge
3. Concrete air meter, slump cone, and other concrete testing equipment
4. Sieves for aggregates and soil gradations
5. Scales
6. Sample containers and small tools
7. Proctor equipment for soil curves and 1 point tests

8. Atterberg equipment
9. Sample drying equipment
10. Miscellaneous equipment for performing the required soils, concrete and asphalt field tests
11. Concrete cylinder molds, which conform to AASHTO requirements, except that PAPER MOLDS SHALL NOT BE USED, AND PLASTIC MOLDS SHALL NOT BE REUSED
12. Cell Phone for each tester
13. Computer and printer for each test lab (CDOT or Consultant). This equipment needs to have capability to operate all current CDOT project software as defined in the current migration plan. This includes Site Manager.
14. Ignition Oven for determining asphalt binder content meeting specifications of CPL 5120.

Personnel staffing level and qualifications of testing personnel and laboratories for the project shall be subject to the approval of the CDOT Project Engineer. The CDOT Project Engineer shall receive and review the testing personnel and consultant laboratory qualifications prior to commencement of testing on the project.

Sampling and testing personnel qualifications shall be in conformance with the requirements of the applicable CP-10. Additionally, the tester must possess a current and valid Colorado Driver's license.

The Consultant's work shall be under the direction of, and shall be reviewed, stamped and signed by a Professional Engineer registered in the State of Colorado. The only work to be stamped will be the summary sheets; i.e., CDOT Forms 6, 9, 58, 69, 212, 250, and 554. The Project Engineer may request that additional forms be stamped. The Professional Engineer shall be available to review work, resolve problems, and make decisions in a timely manner as requested by the CDOT Project Engineer, and must be experienced and competent in road and bridge construction materials testing.

Copies of the tester's required certifications and a resume, with references, including his/her materials testing experience shall be provided to the CDOT Project Engineer.

The materials testing technician(s) shall be thoroughly familiar with CDOT testing procedures, forms and documentation requirements. If oversight is necessary, the consultant shall provide the supervision and guidance needed for completion of the work. Oversight required by the consultant will not be paid for by CDOT. The materials testing technician(s) and inspector(s) shall be thoroughly familiar with CDOT forms and documentation requirements.

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 CDOT Project Engineer. Failure to perform the testing and documentation processes may result in termination of the task order as determined by the Task Order Administrator (Project Manager).

Specific Testing Requirements

The consultant shall sample, test, inspect, and document all materials generated and produced on the project. This includes: materials delivered to the project that are listed in the Summary of Approximate Quantities in accordance with the **SCHEDULE (Quality Assurance)** in the Field Materials Manual; materials that may be added to the project through contract modification; and altered material quantities whether increased or decreased. The consultant's Project Manager, field tester(s) and CDOT's Project Engineer shall be required to review project quantities on a monthly basis to ensure that sufficient tests have been performed for the material placed to date. The consultant shall also provide any other services as requested by the CDOT Project Engineer.

Testing of materials that are specifically designated to be preinspected or pretested by this or any other Department of Transportation shall remain the responsibility of CDOT. The consultant shall document and transport samples of any and all materials to the CDOT Central Laboratory that are required to be tested by CDOT regardless of preinspection or pretesting responsibilities. The items and test frequencies of Department tested materials shall be in accordance with the column titled "Central Laboratory" in the SCHEDULE.

Documentation

Each of the consultant's field testers shall maintain a daily diary for each day the tester performs work on the project. They may use CDOT's Form 103, Project Diary, or a form as approved by the CDOT Project Engineer. The contents of the diary shall be brief and accurate statement 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 daily diary shall be given to the CDOT Project Engineer within three working days of its date. Test results, sample submittals and inspection documentation transmitted to CDOT's Region or Central Laboratory shall be recorded on appropriate CDOT Forms.

The consultant's Project Manager and field tester(s) shall be required to review project quantities on a weekly basis to ensure that sufficient tests have been performed for the material placed to date. The consultant may use CDOT worksheets or worksheets approved by the CDOT Project Engineer. CDOT Forms and worksheets are available through the Residency Head Tester at no cost to the consultant.

The consultant shall furnish the CDOT Project Engineer with copies of all worksheets on a daily basis. The consultant shall also keep the CDOT Form 626 up to date at all times and provide copies of this form to the CDOT Project Engineer and the contractor within 12 hours for any material found to be out of compliance with the specifications.

The consultant shall coordinate the schedule for Independent Assurance Tests for the project in accordance with CDOT Form 379, with the Residency Head Tester, or directly with the Region IAT person.

Submittal of Final Documentation

Final documentation shall be submitted to the CDOT Project Engineer within 20 working days after project acceptance. A completed CDOT Form 250 shall be submitted to the CDOT Project Engineer 10 days after the consultant has been notified of final quantities. Failure to submit final documentation as required may result in withholding any and all consultant payments.

IV. GENERAL WORK DESCRIPTION FOR REGION MATERIALS LABORATORY TESTING:

This work consists of materials testing at the Regional Materials Laboratory (potentially located anywhere in Region or an approved laboratory furnished by consultant). Materials testing could involve a wide range of projects consisting of, but not limited to, the resurfacing, reconstruction, maintenance and new construction projects. When the consultant is required to use his own facility, he shall follow the Laboratory Qualification Program requirements contained in the applicable CP-10.

Management of Consultant Region Laboratory Materials Testing

The consultant, CDOT Region Materials Engineer and CDOT Region Materials Lab Manager shall meet, coordinate and schedule the required work. The consultant shall complete all work in accordance with their approved schedule.

Project Staffing Authority

The CDOT Region Materials Engineer is in direct charge of the work and is responsible for administration of the project contract as defined in the CDOT Standard Specifications. This includes approving and setting work hours for the materials testing.

Project Standards

All sampling, testing, and documentation shall be in accordance with *the Colorado Department of Transportation (CDOT) Field Materials Manual, Construction Manual, CDOT M&S Standards and applicable Project and Standard Special Provisions in the construction project contract and the applicable CDOT Standard Specifications for Road and Bridge Construction*. The applicable *CDOT Field Materials Manual*, including *Colorado Procedures and Colorado Procedure-Laboratory*, shall be the one currently in use when the construction project is advertised. If the required 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 the *ASTM Standards and Tentatives*. Proposed work procedures shall be coordinated with the CDOT Project Engineer prior to the start of work.

The consultant tester(s) must meet the requirements of Chapter 800 of the Field Materials Manual, be a minimum of 19 years of age and possess a personnel-monitoring device.

Personnel staffing level and qualifications of testing personnel and laboratories for the project shall be subject to the approval of the CDOT Project Manager. The CDOT Project Manager shall receive and review the testing personnel qualifications prior to commencement of the work. When required, the consultant tester's work may be required to be under the direction of a Professional Engineer in the State of Colorado.

The Professional Engineer shall be available to review work, resolve problems, and make decisions in a timely manner as requested by the Region Materials Engineer. Personnel Staffing level and qualifications of testing personnel and laboratories for this work shall be subject to the approval of the Region Materials Engineer. The Region Materials Engineer shall receive and review the testing personnel and consultant laboratory qualifications prior to commencement of testing.

Activities will include sampling, sample reducing, and testing materials supplied to and/or produced on the projects. This includes but is not limited to performing the following tests:

1. Rice Test (CP 51)
2. Gradations of aggregate (CP 31)
3. Bulk Specific Gravity of cores and/or compacted mix (CP 44 and CP-L 5103)
4. Fine aggregate angularity (CP-L 5113)
5. Hveem Stability (CP-L 5106)
6. Lottman Testing (CP-L 5109)
7. AC Content by Nuclear Method (CP 85)
8. AC Content by Ignition Method (CP-L 5120)
9. Sand Equivalent Test (AASHTO T-176)
10. Liquid Limit and Plasticity Index of Soils (AASHTO T-89, T-90)
11. Moisture Density Relations of Soils (AASHTO T-99, T-180)

Assist with documentation, general cleanup and routine laboratory equipment upkeep as needed. The consultant may enter results into a computer database. The tester(s) may assist the Region Materials lab personnel (using mobile drill rig) in the collection of soil profile data and samples.

Tests will be performed in accordance with the applicable CDOT Field Materials Manual, CDOT Laboratory Manual of Test Procedures, and/or AASHTO Test Procedures. The Region Materials Engineer will determine testing frequency.

The contract tester(s) may be allowed the use of Region Materials Laboratory and all equipment, except for nuclear moisture density gauges, in order to conduct the required testing, when deemed necessary by the Region Materials Engineer. Unless designated, the consultant tester will conduct his/her testing services in the lab provided.

The Region Materials Engineer may designate a member of his staff to represent him in the contract.

Special Qualifications of Region Laboratory Materials Tester(s)

Tester(s) must have a working knowledge, a minimum of 320 hours relevant experience, and possess and maintain current relevant certifications in the following programs for the duration of the task order:

- *CAPA (LABCAT) asphalt technician* Certification in Levels A and B
- *WAQTC Embankment & Base Testing Technician* Certification
- Tester(s) must possess a current and valid Colorado Driver's License

V. GENERAL WORK DESCRIPTION FOR CONSULTANT PROJECT PUBLIC INFORMATION MANAGER:

Providing timely, relevant, and context-sensitive information is a critical component of the I-70 Westbound Peak Period Shoulder Lane Project. The Project Public Information Manager (PPIM) shall demonstrate a commitment to these values and to developing a comprehensive and strategic public information program, working closely with the Contractor's Public Information Manager (PIM), CDOT project team, and Region Public Information Officer (PIO).

Staff Requirements

The PPIM shall have at least seven (7) years of professional experience in public/media relations, marketing, or other related fields acceptable to the CDOT Resident Engineer and PIO. The PPIM shall have exceptional writing skills and experience working with both print and broadcast media, as well as relevant transportation communications experience. The PPIM shall be responsible for overseeing all Contractor communications efforts during construction. The PPIM shall be locally based.

The PPIM and any additional contracted staff members shall comprise the Communications Team. The PPIM shall provide the names and resumes of additional members of the Communications Team with assigned roles and responsibilities. The PPIM also shall provide a list of any specialists that will be a part of the Communications Team.

Staff Coordination

The PPIM shall participate in weekly Project meetings held at the Project office. At the meetings, the PPIM will discuss weekly communications issues and work with CDOT/PIO and the PIM to provide timely details for

upcoming media advisories/press releases, lane closure reports, website updates, and hotline voicemail recordings.

The PPIM shall be available or on call every working day and available upon request at other than normal working hours. The PPIM shall maintain communications with CDOT/PIO regarding all aspects of public information related to this Project.

CDOT PPIM Responsibilities

Communications Team Management

In order to accurately and reliably share construction information with the Project's many stakeholders, the CDOT PPIM shall use the following process to manage communications:

- Supervise the Contractors PIM as pertains to the project public information
- Attend weekly project meetings to discuss project issues, accomplishments, schedule and activities including as necessary Contractor's Construction meetings
- Lead weekly project communications meeting with the Contractor's PIM
- Determine what type of public information strategy/action is necessary
- Crisis Communications includes response to crisis in field or regarding project
- PI Outreach includes proactive public education regarding particular construction activities impacts, etc.
- Issues Management includes strategy development and implementation of specific issues management approaches
- Review approach with CDOT PIO
- Implement outreach tools and issue strategy
- Depending on the strategy, either the CDOT PPIM or the Contractors PIM shall be responsible for the final execution of the PI Outreach Tool, Crisis Communications Approach or Issue Strategy
- Coordinate regularly with the CDOT Region 1 PIO, CDOT Engineers, Contractor and Clear Creek County
- Form a communications taskforce comprised of Public Information Officers/Managers along the Region 1 I-70 Mountain Corridor, the CDOT Region 1 PIO and the PIM that will meet quarterly.

Project Management

The CDOT PPIM shall provide communications budget management support and assistance with contract administration. The CDOT PPIM shall also audit as requested Contractor PIM compliance with contract specifications. The CDOT PPIM will participate in any partnering with the Contractor and other program elements necessary to help tie the communications program together.

Project Information Leadership Team (PILT)

In coordination with the Project Engineer, the CDOT PPIM will oversee the PILT for the project. The PILT consists of representatives from stakeholder groups and will meet regularly to discuss the PIP's effectiveness and bring issues regarding the project to the attention of CDOT. The PILT is expected to meet on a regular basis. It has been determined that there will be one regular and one alternate from each entity on the PILT if the entity is interested in participating. CDOT has identified the PILT members listed below:

- I-70 Coalition
- School Districts/Charter Schools
- Local, regional and state government officials
- Chambers of Commerce

- Commercial vehicle operators Ports of Entry and Denver Permit Office, and Colorado Motor Carriers Association
- CDOT employees and other internal team members, including CDOT Headquarters, the Office of Communications and the Government Relations office

Emergency Services /First Responder Meetings

The CDOT PPIM shall oversee the Contractor PIM's coordination of Emergency Services/First Responders meetings. The purpose of the meetings are to discuss the various project phases and coordinate emergency service protocols and access routes. Emergency Services/First Responders will include the following organizations: Local Colorado State Patrol, Local Police and Sheriff Departments, Local Hospitals Private and Public Ambulance Services, and Local Fire Departments and Districts.

Local Agency/Community Coordination

The CDOT PPIM will coordinate with the local agencies, businesses and communities to understand local and regional events and festivals scheduled that may be impacted by the project. Scheduled activities and events will be tracked monthly and reviewed as necessary during public information and weekly construction meetings. The CDOT PPIM and Contractor's PIM will communicate construction schedules and impacts with the organizers of each and will encourage them to provide a link to the CDOT web page on their web sites.

Stakeholder Coordination

The CDOT PPIM shall oversee the Contractor's PIM outreach to key stakeholders including:

- Emergency response agencies, such as the Colorado State Highway Patrol, local police departments, sheriff departments, fire departments, ambulance services, hospitals, urgent care operations
- Business owners
- Area Residents
- School Districts/Charter Schools
- Property owners and property management companies
- Local, regional and state government officials
- Commuters
- Tourism organizations
- Chambers of Commerce
- Delivery, Courier and waste hauling organizations.
- The traveling public
- Transportation Management/advocacy organizations
- Mass Transit public agencies
- Area neighborhood associations
- Local Civic Groups
- Commercial vehicle operators Ports of Entry and Denver Permit Office, and Colorado Motor Carriers Association
- Rail Roads
- Utility Owners
- CDOT employees and other internal team members, including CDOT Headquarters, the Office of Communications and the Government Relations office.

The PPIM shall work with the Contractor's PIM to develop a master distribution list of contacts to be used for general public information, publications, and informational flyers/newsletters. CDOT's "Travel Alerts" system

shall be used as the basis for development of this list/database. This list or database shall be presented to CDOT for review. The Contractor's PIM will assist the PPIM in supplementing the database.

Public Contact Management

The CDOT PPIM shall manage the Contractor's PIM regarding all public contacts made from key stakeholders and make sure that communication between the CDOT PPIM and Contractor PIM is conducted in a cohesive manner. The CDOT PPIM shall participate in and document any meeting held with affected individuals, and maintain ongoing communications with businesses directly impacted by construction as warranted (such as when the work zone changes and a new access is impacted). The CDOT PPIM shall take and maintain notes for all meetings and review notes taken by the Contractor's PIM.

Media Relations

The CDOT PPIM will work with CDOT to identify local, regional and state news media representatives, for providing information and project updates on a continuous basis. The PPIM will also be responsible for developing a comprehensive media plan. The CDOT PPIM, in coordination with the Project Engineer/CDOT PIO, will approve all media advisories, news releases, newspaper inserts, radio and television public service announcements, media interviews and other means as deemed necessary.

During the Project, the CDOT PIO shall serve as the spokesperson. The CDOT PPIM shall support the handling of all media inquiries and media requests and will serve as a spokesperson when delegated by the CDOT PIO. The CDOT PPIM shall review media releases, traffic advisories and other information provided by the Contractors PIM. The information will be distributed per CDOT's standards. The CDOT PPIM shall be familiar with, and comply with, CDOT's required protocol when contacted by media representatives.

Government Relations

The CDOT PPIM will support the Project Engineer and CDOT PIO to develop and implement a comprehensive government relations program. Throughout the work, all communication requests by local, state or federal governments received shall be immediately referred to the CDOT PPIM (not including those requests related to project management or the Contractor's responsibilities under the Contract Documents). In support of the Project Engineer, the CDOT PPIM will attend Idaho Springs City Council or other elected official meetings to provide project updates on a monthly basis, or more frequently as the project dictates.

Internal Communications

The CDOT PPIM shall develop an internal communications program that helps build consensus and focus among the team and consultants and helps set the tone for external communications by working with CDOT Project Leadership as ambassadors for the project and sharing key messages to keep focused on the common organizational vision.

Communications Tool Box

The CDOT PPIM shall develop and employ a variety of tools to successfully convey the overall vision and specific objectives such as (but not limited to):

- More robust branding process to raise visibility of the project

- Overall campaigns for program, for example “open for business efforts”
- Special events to recognize project milestones
- Regular key messages to address different issues
- CDOT-led public meetings, small group meetings, sidewalk talks, project tours, community awareness
- CDOT project web page presence and monitoring/posting social media
- Different collateral such as regular reports, postcards, posters, tear-off note pads, flyers or brochures

The communications tool box must be flexible enough to adjust to the stakeholder’s needs and preferred communications styles. It should be developed with a focus on the Contractor specifications and complimenting (and avoiding duplication of) the tools that will be developed by the Contractor’s PIM.

Crisis Communications

In an event of a crisis, the CDOT PPIM and Contractor’s PIM will support the CDOT PIO following the crisis communications protocol in the PIP established by the Contractor’s PIM.

PUBLIC INFORMATION PLAN (PIP) AND COMMUNICATIONS PLAN

The PPIM shall oversee and approve the design, plan and coordination of the communications program articulated in a written Communications Plan that will also incorporate the future Contractors Public Information Plan (PIP). The Communications Plan will be used to establish the umbrella communications program and the necessary elements to identify and inform stakeholders within the region of the project and its impacts. The Communications Plan is not designed to be duplicative of the Contractor’s Public Information Plan (PIP) and specification requirements but rather the umbrella approach under which they both shall reside. The Communications Plan shall be used throughout the duration of the project to manage and implement the public information process.

The CDOT PPIM shall schedule and hold Communications Plan review meetings with CDOT/PIO, the PILT, the Contractor, and the Contractor’s PIM to review, assess input, and/or modify the Communications Plan. These meetings shall be held on an ongoing basis after the initial Communications Plan is established and approved by CDOT.

As significant components of the Communications Plan, there are categories of information that shall be communicated and coordinated between the CDOT PPIM and the Contractors PIM. These include the following:

- The Vision and Benefits of the Project: Why is the project needed, what work will be done, the benefits of the Project, how the Project fits into the community, and how the Project fits into broader transportation plans. The PPIM shall work to develop the Project vision and benefits in coordination with CDOT. The CDOT Project Engineer will give final approval after review by the CDOT PIO.
- The Project’s Progress: The PPIM and the Contractors PIM shall provide ongoing messages to keep the public and other stakeholders informed about the project including the schedule, traffic impacts, major milestones, etc. The Contractor PIM shall work with the PPIM to develop the messages. The CDOT Project Engineer will give final approval after review by the CDOT PIO.
- Coping During the Project - Construction Information: Coping information helps people deal with the inconveniences caused by the Project, such as details regarding detours, lane closures, closed ramps and access impacts, information resources available to people including Transportation Demand

Management (TDM) strategies, and other activities that affect residents, businesses and commuters. The Contractors PIM shall be responsible for developing and disseminating all coping messaging related to construction. The CDOT Project Engineer will give final approval after review by the CDOT PIO.

- Coping During the Project - Economic: The second level of coping information is how to more broadly communicate the economic impact messaging, specifically that businesses are open during construction. The CDOT PPIM and Contractor PIM will focus on the economic impacts communications strategy (i.e. development of a shop local during construction campaign). The CDOT Project Engineer will give final approval after review by the CDOT PIO.
- Community/Business Relations: The CDOT PPIM shall develop and implement overarching community and business relations strategies that communicate vision and progress messages to the public. The CDOT PPIM will collaborate with the Contractor's PIM to recommend coping strategies that provide the public with the information they need to make short-term and long-term decisions about how they can deal with the construction with as little disruption as possible. Each strategy will be uniquely tailored to individual stakeholders to include the location or region of customer group(s), what information is needed and when, and tools to be used for dissemination, such as one-on-one meetings, additional research, multi-lingual communications, providing regular calls or contact, etc. The stakeholders include, but are not limited to:
 - Area residents in Clear Creek County and along the project corridor
 - Corridor property owners and property management companies
 - Adjacent mountain communities (Silverthorne, Vail, Idaho Springs, Georgetown, Eagle, Breckenridge, Dillon, Silver Plume, Empire, etc.)
 - Chambers of Commerce/Visitor Centers
 - Hotels and mountain resorts along the I-70 Mountain Corridor
 - Colorado Tourism Board
 - Local and regional business owners, employees and customers
 - Neighborhood associations
 - Local community organizations
 - Local schools
 - Commuters
 - Transportation management/advocacy organizations
 - Denver International Airport
 - Public and private transit entities
 - The traveling public
 - Local, regional and state government officials
 - City and county staff
 - US Forest Service
 - Department of National Resources (Fish and Wildlife)
 - Delivery and courier services
 - Taxis, shuttles, and rental car companies
 - Commercial vehicle operators, Ports of Entry and Denver Permit Office, and Colorado Motor Carriers Association
 - Emergency response agencies, such as the Colorado State Highway Patrol, and the local police departments, sheriff departments, fire departments, ambulance service providers, and hospitals

- Tourist destinations and organizations
- CDOT employees and other internal team members, including CDOT Headquarters, the Office of Communications and the Government Relations Office
- Disadvantaged Business Enterprise companies
- Utility owners
- Commercial boating and rafting companies and customers
- Recreationalists (anglers, cyclists, hikers, campers, skiers, and snowshoers)
- TV, print and radio