

**CONSTRUCTION ADMINISTRATION
PROJECT-SPECIFIC SCOPE OF WORK**

Date: April 18, 2018

Region 1

I-25 South Gap Project; Monument to Castle Rock

Project Code: NHPP 0252-450

Project Number: 21102

Estimated Start Date: July 1, 2018

The Contract Administrator for this Contract will be:

Paul J Neiman III
Resident Engineer
7328 S Revere Pkwy, Ste 204A
Phone: 303 907 8931

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

Larry Quirk
Project Engineer
7328 S Revere Pkwy, Ste 204A
Phone: 720 838 9137

General Scope of Work

CDOT has need of a consultant to provide construction administration support, project engineering services (construction management), inspection, and materials-testing services required for construction of the I-25 South Gap project located between the cities of Monument and Castle Rock, approximately milepost 160 to 180.

Work on this project shall include road widening, several new bridge installations for wildlife crossings, several existing bridge replacements, construction of several thousand feet of retaining walls and CE style barrier, construction of noise walls, new concrete box culverts (CBC) and modifications to existing CBC's, nearly 12 miles of wildlife fencing, overhead sign structures, embankment, 36 Miles (18 miles in each direction) of HMA and SMA paving with interchange ramp modifications and approximately one mile of full reconstruction pavement as well as many other incidental items..

Construction will include thousands of linear feet of conduit replacement for fiber optic conductor replacements, tolling equipment, permanent VMS's, and coordination with E470 for the integration of equipment, as well as coordination with utility companies who will provide power sources for various equipment installed for the project.

Construction Traffic Control and Public Relation will be a major part of this project and will require a dedicated team to review and coordinate PR with the Contractors PIO. A traffic control operation team will be needed to monitor the demanding daily traffic and help to resolve issues.

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

Several Senior and Junior Inspectors and specialists will be needed to meet the QA requirements over the next three 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 need to be managed and controlled in the office as part of the project.

This project is being delivered using the Construction Manager/General Contractor (CM/GC) process in packages. All packages are expected to be in construction by February of 2019 with project completion scheduled for Spring of 2021. The selected contractor is Kraemer North America. It will be expected that the selected Construction Management Consultant will also be involved in the final design review process.

General Requirements

This Scope of Work (SOW) has been carefully reviewed by the Department and reflects a plan of approach based on the known goals. The Consultant's analysis of the project goals, 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. This work is located primarily in CDOT Region 1, with the southern part of the project in CDOT Region 2.

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.

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

Consultant Construction Manager - The Consultant Construction Manager directs the consultant services for the administration and satisfactory completion of the project improvements, which are under separate contract between CDOT and a Contractor.

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.

Consultant Inspector or Materials Testing Technician (MTT) - Consultant employee who performs construction inspection, construction materials testing services, and other project-related services under the direction of the Consultant Construction Manager.

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

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.

Work Duration

The period for the work described in this scope of work covers approximately July of 2018 through December of 2021. Work will be required on weekends, nights and holidays. Concurrent day and night work is very likely throughout most of the project duration.

Authorization to Proceed

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

Routine Billing & Reporting

The Consultant shall provide the following on a regular basis:

1. Monthly billing formats, suitable to the CDOT Project Engineer, for all contract activities performed by the Consultant.
2. Periodic reports and billings required by CDOT Procedural Directive 400.2.
3. Weekly time cards for consultant personnel. The Consultant Professional Engineer, prior to billing, must sign these time cards.

Status of Contract

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

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.

Labor, Materials, Vehicles & 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 several 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 and documentation of the project shall be made available to the CDOT Project Engineer on a regular basis.

Labor, Materials, Vehicles & Equipment (Continued)

The following equipment shall be furnished by the Consultant in sufficient quantity and in good working order (with current calibration) to ensure accurate performance of all work required in a timely manner:

- Nuclear Asphalt Content Gauge
- Nuclear Moisture-Density Gauge
- Concrete air meter, slump cone, and other concrete testing equipment.
- Sieves for aggregates and soil gradations
- Electronic scales
- Asphalt & A/C sample containers and small tools
- Proctor equipment for soil curves and one point tests
- Atterburg, Rice value, and Sand Equivalent equipment
- Sample drying equipment
- Concrete cylinder molds which meet AASHTO requirements except that paper molds shall not be used, and plastic molds shall not be reused
- Miscellaneous equipment for performing the required soils, asphalt and concrete tests

Work Description

The Construction Administration of the project will require Consultant personnel to have a combination of CDOT construction experience and roadway and bridge construction experience. Specific experiences should include bridge replacement, reinforced concrete, pavements and bases, retaining walls, caissons, piling, environmental constraints, erosion control, embankment, HMA, ITS Tolling and integration, permanent traffic devices, and temporary traffic control management . The Consultant personnel shall be prepared to work in a mountain environment and adverse weather conditions. Additional experience in the Construction Manager/General Contractor (CM/GC) project delivery method will be beneficial.

A separate consultant will be providing Design Support for the project during construction, but Consultant CM staff will be required to provide details of any project encountered issue to them for evaluation and proposed changes to the design plans.

The Consultant shall provide support to the CDOT Project Engineer through assignment of personnel to construction administration and inspection responsibilities. Construction Administration and Inspection responsibilities include:

- **Pre-Construction Activities include but are not limited to:**
 - Review and provide comments on design plans and specifications;
 - Attend and participate in the design review meetings;
 - Assist CDOT with other duties/tasks as requested;

Work Description (Continued)

➤ **Construction Activities include but are not limited to:**

- **Progress Reports:** Prepare weekly progress reports for the CDOT Resident Engineer and Project Engineer documenting project progress in accordance with the Basic Contract. Project Status Report shall include all activities that transpired during the previous week, a forecast of the upcoming week, project budget and schedule updates, outstanding RFI's and CMO's, known and/or possible claim or dispute issues, and any other issues of possible concern.
- Preparing and transmitting updates of construction activities to the Project Engineer for CDOT's Public Information Office.
- Monitoring contractor payroll compliance requirements as they relate to B2G and LCP Tracker.
- Weekly Progress Meeting agenda and minutes
- Daily Work Diaries by all staff members
- Securing project documentation from the contractor.
- Anticipating project problems, then formulating and implementing solutions.
- Reviewing drawings and data submitted by the construction contractor and suppliers for conformance with the specifications. Inform and obtain concurrence as needed from the CDOT Project Engineer and keep relative documentation for project records.
- Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans.
- Communicating with adjacent landowners as required to resolve issues that arise due to construction.
- Monitoring compliance with and taking appropriate action to preserve safety on the project for all workers and traveling public in accordance with Methods of Handling Traffic (MHT).
- Initial, follow up, and final inspections of work in progress including interim and final measurements.
- Notifying contractors and CDOT Project Engineer of non-compliance with the contract plans and specifications
- Performance of special tests, investigations, or monitoring which are required to fulfill the intent of the CDOT inspection program
- Ensure compliance with permits such as 404 and NPDES.
- Inspection of erosion control, review of SWMP notebook, and participation in Erosion Control Compliance Reviews
- Preparation of inspection documentation for development of progress payments for the contractor in accordance with prescribed procedures
- Submittal of standard documentation reports no later than the following working day
- Aiding in the preparation of correspondence to the contractor, CDOT Staff, local agencies, etc.
- Providing communication to contractor field crews
- Preparation of final "As Constructed" plans upon project completion

Work Description (Continued)

- Perform miscellaneous project related duties as requested by the CDOT Project Engineer and CDOT Resident Engineer
 - Assist in preparing punch lists of uncompleted work, non-conformance reports, and deficiency notices.
 - Assist in preparing responses to contractors' and suppliers' requests for information, submittals, change notices, claims, and correspondence.
 - Evaluate the project schedule
 - Assist Project Engineer with coordination of all construction contract activities, assist in the supervision of other project staff and assignment of duties and responsibilities;
 - Review, give comments, and acknowledge completeness of required submittals
 - Maintaining of project files, project diaries and time counts
 - Prepare periodic reports and billings required by CDOT Procedural Directive 400.2
 - Participate in and ability to facilitate (as necessary) weekly progress meetings with contractor, subcontractors, utilities and other interested parties
 - Change Orders/MCR – discussions with: Contractor, Area Engineer, RE, Specialties as necessary. Also write CMO and justification letter, prepare package with attachments, price justification/negotiation, form 90, etc.
 - Review/Monitor Schedule (baseline, updates and narrative reviews)
 - Weekly meetings (agendas, minutes, preparation, facilitation, etc...)
 - Pre-con meetings (agendas, minutes, distribution, preparation, facilitation, etc...)
 - Review inspectors work (diaries, 266's, DWR's, calculations, spreadsheets, etc...)
 - Participate in Traffic Control Reviews
 - Review inspectors work (diaries, 266's, DWR's, calculations, spreadsheets, etc...)
 - Erosion control management and oversight, bi-weekly reviews, post-storm event reviews, MAR
 - Submittal review and approve and forward to specialties as appropriate for review/approval
 - Manage the receipt, filing, storage, cataloging and review of all project Contractor Submittals
- **Post Construction Activities include but are not limited to:**
- As-Constructed Drawings: Complete 11"x 17" as-constructed drawings of work completed by the Contractor, including final pay quantities.
 - Preparation of Final Pay Estimate: Assist in determining final pay quantities with appropriate supporting documentation and checks.
 - Preparation of Materials Final: Prepare the final materials documentation for closing the project.

Project Personnel Descriptions

Office Engineer

- The Office Engineer (OE) will be responsible for the management of all project documentation. The OE will develop and maintain a physical and electronic structured system for documentation of the project. The OE will be responsible for all Site Manager entries and must be familiar with CDOT project documentation. The OE will input all Inspector Reports, Change Orders, Stockpile Materials request, and any other required information into Site Manager. The OE will prepare all estimates in Site Manager. The OE will also be responsible for the assembly of the Project Final Documentation (As-Built) for delivery to the Finals Engineer. The OE will manage the Administrative Assistant's to ensure all project data is collected, scanned, filed, archived and distributed to project personnel.

Schedule Specialist

- Review the Contractor's initial and base-line schedule and method statement submittals and submit written comments to the Project Engineer on acceptability. Review the Contractor's accepted as-planned schedule, schedule updates, and method statements for compliance with contract requirements. Perform a schedule delay analysis and determine the amount of Contractor and/or CDOT excusable delays. Prepare schedule reports and exhibits to assist in evaluation of schedule delays and remaining as-planned work. Presentations and attend meetings, as requested on schedule related items. Provide ongoing schedule review and evaluation support through project completion. If needed, assist the project team and assemble the data needed to create an as-built schedule.

Safety Critical Specialist

- Review the Contractor's safety critical work plans, method statements, procedures, working drawings, shop drawings, PE engineered plans and drawings, demo plans, erection plans, etc. for compliance with contract requirements. Provide a written report of each work item to the engineer, with comments and a recommendation to approve, reject/revise/resubmit, or accept with comments. Participate in pre-construction meetings for all safety critical work items. Assist CDOT in maintaining full-compliance with CDOT policies and procedures and contractual compliance. Perform periodic Project Safety Reviews for overall project safety and compliance. Participate in other on-site inspection activities associated with safety critical work items. Assist, as needed or requested by the Project Engineer, with inspection of safety critical work as the work transpires and progresses. Assist and review safety critical elements of a special nature as related to RailRoad requirements, policies, procedures, etc. Assist the Engineer in any other areas or special requests. Maintain documentation of all safety critical work, analysis, comments, reviews, documentation, meetings, etc. Be able to attend meetings, give presentations, and provide input and comments as requested.

Project Personnel Descriptions (Continued)

Civil Rights Manager

- Review all certified payroll documentations as provided by the Contractor for conformance to the specifications and functional uses, conduct random interviews of Contractor employees to determine if the Contractor is in conformance with CDOT's DBE, EEO/Labor Compliance policies, assist FHWA with all requested documentation, Manage the OJT requirements of the contract and write reports for progress estimates when approved.

Public Relations, Social Media Specialist & Coordination with TDM Program

- Responsible for reviewing and commenting on all public information campaigns to be distributed by the Contractor. This person will review the Contractors PIO information for conformance to the PIO specification, attend all project meetings, and provide comments to Contractors proposed campaign. A social Media campaign will be implemented by this person (or an additional person) to provide "real time" Traffic updates while daily project work is active. It is expected that all forms of current "popular" Social Media outlets will be utilized to distribute project information. Specific details of this effort will be finalized post award.
- Responsible for coordination with the Denver Regional Council of Governments (DRCOG) who will create, facilitate and support the implementation of a coordinated Transportation Demand Management (TDM) program for this project. The goal is to mitigate traffic congestion and poor air quality by reducing vehicle trips and vehicle miles of travel. This will be accomplished by subsidizing the existing ride share program for commuters and expanding existing Bustang services to targeted users between Colorado Springs and the Denver Tech Center. The Consultant shall support the TDM program at all public forums and forward all program inquiries to DRCOG. The program will have a not to exceed program budget of \$1M for this task which the Consultant shall invoice CDOT for these services.

Administrative Support & Document Managers

- Responsible for all office operations and document control as developed by the Office Engineer. This person will need to have strong organizational and computer skills to assist the OE in document management. Recording meeting minutes and other various office task as requested by the OE, Project and Assistant Engineers will be required.

Project Lead (General Description)

Project Lead personnel will be required to prepare weekly progress reports for the CDOT Resident Engineer and Project Engineer documenting project progress in accordance with the Basic Contract. Project Lead personnel will be responsible for all project deliverables such as project diaries, inspection reports, photos, quantity records, and other documentation shall be prepared and submitted throughout the duration of construction in accordance with CDOT requirements. Project Leads will supervise others in the work they are tasked with and provide

Project Personnel Descriptions (Continued)

all necessary information to Change Order Specialist if a CO is determined to be necessary. Project Leads will be responsible for all project QA documentation and its timely submittal to the Office Engineer for inclusion into progress estimates.

Materials Manager

- The Material Manager and the Inspectors or MTT (Materials Testing Technician) shall sample, test, and document specified materials incorporated into the project. This includes materials delivered to the project that are listed in the Summary of Approximate Quantities or referred to in the Plans and Specifications. Additional quantities may be added by Contract Modification Order, or plan approximate quantities may be increased or decreased. The Material Manager and the Inspectors or MTT (Materials Testing Technician) shall review project quantities on a weekly basis to ensure that sufficient tests have been performed for all material placed to date. Testing of materials that are specifically designated to be pre-inspected or pre-tested shall remain the responsibility of CDOT. When directed by the CDOT Project Engineer, the Consultant Inspector or MTT, or the CDOT inspector or MTT, shall document and transport samples of any and all materials to the CDOT Region or Central Laboratory that are required to be tested by CDOT, regardless of pre-inspection or pre-testing responsibilities. The items and test frequencies of CDOT tested materials shall be in accordance with the column titled "Project Verification" in the Schedule in the Field Materials Manual. The Material Manager and the Inspectors or MTT (Materials Testing Technician) shall be competent in LIMS and will be required to complete all CDOT required documentation for submittal of the Final Materials Documentation books.

Environmental Specialist

- Review, monitor, and manage all environmental requirements of the contract including but not limited to, managing of all erosion control documentation, Hazmat compliance, noise compliance, issuance of 105's for non compliance, and attendance of all inspections required by the permit. The Environmental Specialist will ensure compliance of mitigation of all biological and endangered species issues on the project. This person(s) is expected to be qualified in all aspects of Environmental concerns related to the project with the ability to support the Project Engineer to maintain full environmental compliance on the project. Approval of this person(s) shall be required by CDOT Environmental.

Traffic Control

- The Traffic Control Lead will be responsible for monitoring the Contractors day to day traffic operation for compliance to all CDOT and Federal standards. Duties will include review and commenting of MHT's, enforcement of MHT's, tracking and documenting all traffic devices and operations. All required CDOT documentation will be required to kept current daily and not limited to TCS diaries, form 7's, and daily traffic inspection logs. Video and photo logs may be required.

Project Personnel Descriptions (Continued)

Hydraulics Engineer

- The Hydraulics Engineer lead will be responsible for all QA inspection of all project drainage systems to be constructed or modified. This will include inspection of planned CBC structure extensions. Complete QA documentation shall be require.

Walls Engineer

- The Walls Engineer lead will be responsible for QA of any and all wall related elements constructed by the Contractor on the project. This will include inspection of temporary walls or permanent walls of various type. Complete QA documentation shall be require.

Documentation

The Consultant shall provide all correspondence and applicable CDOT forms to the CDOT Project Engineer or his authorized representative for review and signature.

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.

Each of the Consultant's personnel shall maintain a daily diary with photos for each day they perform work on the project. They shall use CDOT's Automated Form 103a - Project Diary unless otherwise 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 are not to be incorporated in the diaries or on any written correspondence applicable to the project. A copy of the daily diary and photos shall be given to the Office Engineer within one working day of its date.

Personnel Qualifications

CDOT is seeking supplemental construction administration support staff from the Consultant to augment the CDOT staff as required for the I-25 GAP Project. CDOT staffing on this project will vary as conditions change through the duration of construction work. It is expected that 20 or more consultant staff may be required full time to meet the project's QA requirements, depending on project needs. It is anticipated that the project will have multiple shift work, 24 hours a day, 7 days a week. Working nights, weekends and holidays will be required. The exact personnel requirements will be based upon the CM/GC construction schedule.

Construction of several structures will require an experienced a safety critical specialist to review and comment on safety critical work elements and submittals and attend project meetings. The Consultant

Personnel Qualifications (Continued)

will need to provide an individual with strong experience in critical path scheduling using Primavera Scheduling software. This Individual will review the schedule on a monthly or weekly basis or as requested by the Project Engineer. Personnel qualifications and staffing levels for the project shall be subject to the approval of the CDOT Resident Engineer. CDOT will reserve the right to review the resume and interview any new proposed staff to the project. The Consultant shall be certified as defined by the requirements set.

The Consultant Construction Managers will be on the project site for the duration of the project and will assist the CDOT Project Engineer in administration activities and management of inspectors and material testing technicians. The Consultant shall provide at least one Professional Engineer who may be in responsible charge of the project when the CDOT Project Engineer is not available. This person shall have at least 4 years construction experience as a project engineer or a resident engineer, either with CDOT or as a consultant.

Other skills to be highly considered for all personnel:

- CDOT experience with the federal project requirements such as OJT, review of 205's, performance of interviews to complete CDOT form 280, and review of Davis-Bacon wages
- Temporary traffic controls and reviewing and approving Methods of Handling Traffic and have taken the Traffic Control Supervision class.
- Survey experience
- Excellent documentation and communication skills
- Utility coordination experience
- ITS systems and devices

The Consultant Materials Testing Technicians (MTT or Testers) shall have experience in cast in place concrete, asphalt, earthwork, as well as the requisite certifications. The Consultant MTT shall review project plans, specifications, and the current version of the CDOT Field Materials Manual and the project specific CDOT Form 250 to assist the CDOT MTT in completing the project with the number and type of tests that will need to be performed on the project. The Consultant MTT, the CDOT MTT, the CDOT

Project Engineer, and the Consultant Manager shall meet on a regular basis to address any questions or issues involving testing procedures, frequency, or documentation. Additional testing may be required if requested by the Consultant Construction Manager or the CDOT Project Engineer. The Consultant MTT shall be thoroughly familiar with CDOT forms and documentation requirements. The consultant-supplied Materials Testing Technicians shall be available to the project and report to the project site when requested by the CDOT Project Engineer. The Consultant MTT shall be approved by the CDOT Project Engineer and have the following minimum qualifications:

- **National Institute for Certification in Engineering Technology (NICET) Level II Certification in Construction Materials Testing and Inspection for the types of work being performed, e.g. aggregates, asphalt, concrete, and soils. NICET Certification shall be provided to the CDOT Project Engineer or equivalent.**

Personnel Qualifications (Continued)

- **The MTT performing concrete tests shall be certified by The American Concrete Institute (ACI).**
- **The MTT performing hot bituminous pavement tests shall be Level II, A&B certified by The Colorado Asphalt Technician Certification Program (LabCAT).**
- **WAQTC, Soils Certification**

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 as determined and directed by the CDOT Resident Engineer. Back-up Consultant resources should be available in case of loss of staff, sickness, or vacations or as required for the project.

Vehicle Mileage and per diem

Compensation for mileage shall be for all necessary project related work while on project site and for required travel to and from the project site for required meetings. Mileage for consultant staff commuting when the commute is less than 35 miles to the project site on a daily basis shall commence from the closest equivalent distance of either the Consultants home office, the CDOT Residency, listed herein, or the Consultant staff's residence, whichever is less.

With Project Engineer's concurrence, Consultant may include project personnel that live greater than 35 miles from project. Consultant manager and CDOT Project Engineer shall agree to compensation for mileage in this instance. The compensation shall not be greater than the total one way mileage nor greater than the cost of lodging plus per diem.

Per diem expenses for consultant staff shall not be covered by CDOT but may be approved by the Resident Engineer for specific personnel cases as requested by CDOT.

Organization Chart

Please review the attached Project Organization Chart, please prepare your proposal for this project based on this org chart. If you choose to do so, you may propose suggested changes to the organizational chart and CDOT will take them into consideration. If your team is selected, CDOT may or may not accept any of your proposed changes in whole, or in part. The final organizational structure, the actual positions needed and the consultant personnel selected will be negotiated with the selected consultant but the final team selections will be at the sole discretion of CDOT. The quantity of consultants, positions of need, and actual consultant personnel needed may change during the course of the project. CDOT will require the consultant team to be adaptable and dynamic with staffing and be able to adjust as necessary to either increased or decreased personnel loading.

**CONSTRUCTION MANAGEMENT REQUIREMENTS
CHECKLIST**

The following checklist shall be used to establish the Construction Management responsibilities of the individual parties for this project.

The checklist shall be prepared by placing an “x” under the responsible party opposite each of the tasks listed below. When a task does not apply to the project, not-applicable “NA” shall be placed under both parties.

Tasks that will be performed by CDOT Headquarters staff will be so indicated.

The Region in accordance with established policies and procedures shall determine who will perform all other tasks that are the responsibility of CDOT.

Tasks may be adjusted periodically as required by changing and/or challenging project conditions, Consultant may be asked to revise assignments and/or staff to help manage the tasks at hand.

DESCRIPTION OF TASK	CONSULTANT	CDOT
1. Conduct the Pre-Bid conference, answer all questions, and maintain a log of all decisions given and/or made.		x
2. Attend design meetings related to CM/GC project delivery method.	x	x
3. Coordinate all construction contract activities with appropriate stakeholders.	x	x
4. Distribute ten award sets of plans and specifications to the CDOT Resident Engineer.		x HQ
5. Issue Notice to Proceed to the Contractor.		x HQ
6. Schedule, conduct and prepare minutes of all project meetings as follows:		
a. Job Showing	NA	NA
b. Pre-construction Conference	x	x
c. Partnering Workshop (if required)	x	x
d. Weekly Project Meetings	x	x
e. Pre-Survey Conference (if required):		
(1) Construction Staking	x	x
(2) Survey Documentation	x	x
f. Bridge Construction Communications	x	x
g. Safety Critical Pre-Work Meetings	x	x
h. Structural Concrete Pre-pour Conference	x	x
i. Concrete Pavement Preparing Conference	x	x
j. HBP Preparing Conference	x	x
k. Attend Contractor Weekly Safety “Tool Box” Meeting	x	x

DESCRIPTION OF TASK	CONSULTANT	CDOT
7. Public Relations:		
a. Prepare and coordinate with CDOT and others to publish and distribute public notices of all planned construction activities and schedules to the media, property owners, local residents, tenants, and other appropriate stakeholders affected by the project.	X	X
b. Perform public relation tasks with appropriate individuals as requested by CDOT.	X	X
c. Explain construction and work with adjacent property owners to resolve issues that arise during construction.	X	X
8. Review, comment, accept and/or approve as appropriate the following submittals: <i>Note: This list is not all-inclusive and other submittals may require action as directed by CDOT.</i>		
a. CDOT Form # 205 – Sublet Permit Application after Form #713 has been checked by the Region EEO Administrative Program Specialist.	X	X
b. Method of Handling Traffic	X	X
c. Progress Schedules	X	X
d. Method Statements	X	X
e. Shop drawings per 105.02	X	X
f. Working drawings per 105.02	X	X
g. Other submittals per 105.02	X	X
h. All EEO, Labor compliance requirements	X	X
i. Other submittals as directed	X	X
9. Construction inspection including calculations, measurements, and documentation of interim and final pay quantities as directed by the Project Engineer.	X	X
10. Perform required EEO/AA/DBE/OJT or labor compliance tasks as requested as follows:		
a. Conduct Contractor/Subcontractor reviews to ensure conformance with the Equal Employment Opportunity (EEO)/Affirmative Action (AA)/DBE/OJT requirements contained in the contract. (Standard Special Provisions, Project Special Provisions and FHWA Form 1273.)	X	X
b. Complete and submit to the CDOT Resident Engineer, the required number of CDOT Forms 280 – Equal Employment Opportunity and Labor Compliance Verification.	X	X
c. Monitor DBE participation to ensure compliance with the “commercially useful function” requirements.	X	X
d. Complete and submit to the CDOT Region EEO Administrative Program Specialist, the applicable number of CDOT Forms #200 – OJT Training Questionnaire, when project utilizes OJT’s.	X	X
e. Check certified payrolls to verify contractor/subcontractor compliance with contract requirements. Project personnel trained in payroll checking shall complete the checking. (Contact the Region EEO Administrative Program Specialist for training requirements.)	X	X
DESCRIPTION OF TASK	CONSULTANT	CDOT

f. Coordinate submittals by Contractor and all subcontractors of FHWA Form 1391 (Highway Construction Contractor's Annual EEO Report) to the CDOT Region EEO Administrative Program Specialist.	X	X
11. Materials:		
a. CDOT Form # 250 – Materials Documentation Record:	X	X
(1) Fill out and distribute CDOT Form # 250 before the Contractor commences work.	X	X
(2) Complete Form # 250 after work is completed; distribute per instructions in CDOT Materials Manual.	X	X
b. Approve changes to the Typical Section (requires a CMO).		X
c. Development, checking and design mix approvals:	X	X
(1) Concrete	X	X
(2) Hot Bituminous Pavement	X	X
d. Acceptance of manufactured products	X	X
e. Inspecting fabrication of structural steel and pre-cast concrete structural components.	X	X
f. Inspecting fabrication of bearing devices	X	
g. Laboratory check testing.	X	X
h. Acceptance testing.	X	X
i. Independent assurance testing - develop, complete and distribute CDOT Form # 379 – Project Independent Assurance Sampling Schedule.		X
j. Approve sources of materials.	X	
12. Maintain time counts	X	X
13. Maintain project files for documentation; provide duplicate documentation to CDOT Resident Engineer when requested.	X	X
14. Obtain, accept, and approve all required material certifications.	X	X
15. Approve shop drawings	X	X
16. Perform Traffic Control Inspections	X	X
17. Approve traffic signal equipment		X
18. Construction surveying – quality control checking and quantity verification as needed.	X	
19. ROW Monumentation – quality control checking		X
20. Prepare monthly estimates of the Contractor's work performed, materials placed or stockpiled materials on hand in accordance with the Contract. <i>Note: Only a CDOT Resident Engineer can approve and sign vouchers for interim and final Contractor pay estimates.</i>	X	X
21. Review interim and final billings for Utility relocation work. <i>Note: Only a CDOT Resident Engineer can approve and sign vouchers for interim and final Utility Company billings.</i>	X	X
22. Prepare CDOT Form # 90 [Contract Modification Order (CMO)] and/or # 90 [Minor Contract Revision (MCR)] including letter of explanation for CMO/MCR <i>Note: The Consultant may negotiate costs for extra work but only CDOT can approve costs. Only the CDOT Resident Engineer can approve and sign CMO/MCR's for modifying CDOT's Contract or paying the Contractor.</i>	X	X

DESCRIPTION OF TASK	CONSULTANT	CDOT
23. Monitor project financial status and submit monthly in a format acceptable to the Region, such as CDOT Form # 65a – Project Financial Status Report.	X	X
24. Prepare and submit monthly progress reports to the Region Program Engineer: CDOT Form # 110a – Status of Active Construction Projects and CDOT Form # 517a – Status of Construction Project Finals	X	X
25. Prepare appropriate responses to Contractor, subcontractor or supplier requests for information, submittals, disputes, claims, change notices, or other correspondence.	X	X
26. Prepare response for Project Engineer status of claim & Claim Status Report Form	X	X
27. Prepare complete claim record	X	
28. Give oral or written presentation to Region Director for claims.	X	X
29. Give presentation for Dispute Review Board or AAA Arbitration board.	X	X
30. Conduct routine, random, project reviews to ensure the project is being administered in accordance with the terms of the construction contract.	X	X
31. Conduct final project inspection of completed or unacceptable work and prepare punch list for final acceptance.	X	X
32. Prepare and submit CDOT Form # 1212a – Final Acceptance Report	X	X
33. Prepare final project acceptance letter and distribute per procedures in the CDOT Construction Manual.	X	X
34. Advertise for final settlement.		X
35. Maintain accurate as constructed notes and prepare and distribute final as-constructed plans per procedures in the CDOT Construction Manual.	X	X
36. Check final quantities, final plans, and prepare the final pay estimate. <i>Note: Only CDOT can sign final pay estimate sheets and voucher.</i>	X	X
37. Check material records.	X	X
38. Submit final materials certifications	X	X
39. Obtain and review CDOT Form # 17 – Contractor DBE Payment Certification from the Contractor and submit to the Region.	X	X
40. Obtain and review FHWA Form PR 47 (Statement of Materials and Labor Used) from the Contractor, check and submit to the Region.	X	X
41. Complete and submit CDOT Form # 950 for project closure.		X
42. Submit original of all project records to the CDOT Resident Engineer. (CDOT will retain project records for six years from the date of project closure.)		X

In addition to the qualifications, requirements set forth above, the following certifications will also be required:

Class/Certification	Office Engineer & Lead Worker	Senior Inspector	Junior Inspector	Materials Testing Technician
Basic Highway Math	X *	X *	X *	X
Basic Construction Surveying	X *	X *	X *	X
Basic Highway Plan Reading	X *	X *	X *	X
Stormwater Management and Erosion Control	X	X	X	
Traffic Control Supervisor	X	X	X	
Specialty Certifications				
LabCAT Level A&B				X
Asphalt Paving Inspection LabCAT Level I			X	X
WAQTC				X
ACI Field Testing Tech I				X

* Not required if the Consultant is a licensed Professional Engineer, or has an Engineering Degree from an accredited institution.

Intern Inspector/Tester is entry level and personnel assigned to this position may not be required to possess all of the certification/qualifications, but is progressing in that direction. The Consultant firm and the CDOT PE will review candidates and agree to the assigned personnel in advance.