



COLORADO
Department of Transportation
Region 1

West Engineering Program
425B Corporate Circle
Golden, CO 80401-5635

CONSTRUCTION MANAGEMENT SCOPE OF WORK

Date: February 2, 2023
CDOT Region 1 West Program

I-70 Resurfacing from MP 223 to Georgetown
Construction Management, Inspection & Materials Testing Services
NHPP 0703-505 (24884)
Estimated Start Date: April 27, 2023

The Contract Administrator for this Contract will be:

Benjamin Davis
CDOT R1 Resident Engineer
425 B Corporate Circle
Golden, CO 80401
Phone: (720) 819-5484

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

Matt Osborne
425 B Corporate Circle
Golden, CO 80401
Phone: (720) 497-6928

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Introduction

CDOT is requesting construction management services and materials testing services for the construction of NHPP 070A-7055 (24884) I-70 Resurfacing from MP 223 to Georgetown. The Project is located on eastbound Interstate 70 from MP 223, between Bakerville and Silver Plume, to Georgetown (MP 228.35) and also includes roughly 0.75 miles near Empire Junction MP 231.3 to MP 231.9 within Clear Creek County, Colorado. (see exhibit A)

Description of Project and Work Duration

This project consists of a full-width 2.5" mill & fill of mainline I-70 and on/off ramps, replacement of type 3 guardrail with the new MGS standard type 3 guardrail, bridge deck joint sawing and sealing, minor drainage improvements, and signing and striping.

It is anticipated that this project will start construction in May of 2023 with a completion date of December 1, 2023. This project is expected to be completed in one construction season. All construction activities are planned to be executed during the night shift due to the R1 Lane Closure Strategy Guide.

Consultant's proposed work procedures shall be coordinated with the CDOT Resident Engineer with Formal "Notice to Proceed" prior to the start of work.

I. CONSTRUCTION MANAGEMENT

Anticipated Consultant Personnel Requirements

- One (1) Consultant Project Engineer**
- One (1) Consultant Assistant Project Engineer/Senior Inspector**
- One (1) Consultant Inspector**
- One (1) Consultant Inspector/Materials Tester**
- One (1) Consultant Materials Tester**
- One (1) Consultant Part-Time Schedule Reviewer**

These positions may be adjusted as necessary to part-time as directed by the CDOT Resident Engineer. Additional project support may be required for schedule reviews, finals review, and other support as necessary. Supplemental materials testing and inspection may need to be supported based on the contractor's schedule. In addition to the consultant staff, CDOT will be providing an inspector with 1 year of experience. CDOT expects that the consultant team will provide training and experience for this individual in tasks ranging from inspection to day-to-day construction management activities including documentation and Site Manager work.

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.

Personnel Qualifications

Personnel qualifications and staffing level shall be subject to the approval of the CDOT Resident Engineer. The Consultant shall assign personnel for the duration of the Contract unless otherwise approved by the CDOT Resident Engineer. Employees required to operate vehicles must possess and

maintain a valid State of Colorado driver's license. The Consultant Project Engineer, Inspectors, and Materials Testers 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 Consultant staff shall have sufficient education, training, and experience to meet the minimum qualifications. Consultant staff shall be experienced and competent in all aspects of highway construction within the scope of this project. Personnel who do not meet all 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 Resident Engineer. Back-up Consultant resources should be available in case of loss of staff, sickness, or vacations or as required for the project.

Project Standards

Construction Management and Construction Inspection shall be in accordance with the Colorado Department of Transportation's Construction Manual, Field Materials Manual, applicable AASHTO test procedures, CDOT Laboratory Manual of Test Procedures, Colorado Department of Transportation Inspector's Check-list, Standard Specifications for Road & Bridge Construction, Supplemental Specifications, applicable M&S Standards, and the plans and specifications currently in use when a construction project is advertised or revised under advertisement, and as modified by change order.

References to "the specifications" shall include all applicable CDOT Standard Specifications for Road and Bridge Construction including Supplemental Specifications, Project Standard Revisions, Project Special Provisions, and project plans and specifications.

All activities performed shall be as directed and authorized by the Consultant Project Engineer, and as approved by the CDOT Resident Engineer.

Routine Billing & Reporting

The Consultant shall provide the following on a routine basis:

- a) Coordinate all contract activities by the Consultant's Project Engineer.
- b) Provide monthly billing formats, suitable to the active day to day contract administrator for this Project and CDOT Resident Engineer, for all contract activities performed by the consultant's Project Engineer and inspectors.
- c) Develop periodic reports and billings required by CDOT Procedural Directive 400.2.
- d) Provide a weekly timecard for consultant personnel signed by the Consultant Professional Engineer prior to billing.

AUTHORIZATION TO PROCEED

Work shall not commence until the consultant receives the written Notice to Proceed for the contract or any individual Task Order if the work is contracted through a Task Order Directed Agreement. Work shall be completed within the allotted contract time. Time charged shall be exclusive of time lost for:

- Reviews and approvals
- Responses/direction from CDOT

STATUS OF CONTRACT

The consultant shall monitor the fiscal status of the Task Order and status of the work throughout the

duration of the contract. The Consultant will advise the CDOT Resident Engineer of any potential need for supplementing their contract or negotiation for an additional Task Order. The Consultant shall notify CDOT in a timely manner of any changes that need to be made. 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.

PROJECT TEAM

The Consultant’s work shall be under the supervision of 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 Consultant shall provide support to CDOT through assignment of personnel to construction management, construction administration, inspection responsibilities, and materials testing support. Specific responsibilities include:

1. Consultant Project Engineer – Ten (10) or more years of experience and will be responsible for the supervision of the inspectors, project management, and construction inspection. Experience shall include the inspection and management of CDOT projects and CDOT construction electronic documentation. Professional Engineering License is preferred, but not required.
2. Consultant Assistant Project Engineer – Five (5) or more years of experience and will be responsible for the supervision of inspectors, project management, and construction inspection. Experience shall include the inspection and management of CDOT projects and CDOT construction electronic documentation.
3. Consultant Inspector – Three (3) or more year of experience and will be responsible for inspecting construction activities and ensure compliance with the contract. The Inspector must be experienced and competent in road and bridge construction. Asphalt placement experience is required.
4. Consultant Materials Testing Technician – Three (3) or more years of experience and shall be thoroughly familiar with the CDOT testing procedures, forms, and documentation requirements (LIMS). It is preferred that the Materials Tester have Junior Inspector capabilities during times when testing is not needed. If oversight of the materials tester 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.
5. Consultant Schedule Reviewer - Shall be experienced in CPM schedule review for CDOT road and bridge construction projects. The schedule reviewer shall be familiar with Microsoft Project and Primavera and other scheduling software’s as needed to review contractor submitted project schedules. The schedules shall be thoroughly reviewed in accordance with the project and CDOT specifications to provide recommendations to the Consultant Project Engineer and CDOT Resident Engineer.

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/Assistant Engineer	Consultant Inspectors	Consultant Materials Tester
Basic Highway Math	X*	X	X

Basic Highway Surveying	X*	X	X
Basic Highway Plan Reading	X*	X	X
Transportation Erosion Control Supervisor (TECS)	X	X	
CCA Traffic Control Supervisor	X	X	
Specialty Certifications	To be determined by the Resident Engineer and Consultant		
CAPA Asphalt Inspection	X	X	X
LabCAT Level A & B		Level A	X
WAQTC		X	X
ACI Field Testing Tech I		X	X
ACI Concrete Strength			X
SiteManager Materials and LIMS-Tester Training			X
Certified Nuclear Gauge Operator Certification			X
CDOT Materials Technician Certification Program			X

*Not required if the Consultant Assistant Project Engineer is a licensed Professional Engineer

** CDOT Traffic Control Supervisor, Technician, and Flagger certifications are required if/when the personnel's CCA certification expires. This training required by CDOT Procedural Directive 1512.1 (Effective September 2022)

A copy of work experience, references and/or proof of Licensing shall be provided before work begins to the CDOT Resident 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 Resident Engineer.

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.

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/electronic documentation approved by the CDOT Resident Engineer. The contents of the diary shall be brief and accurate statements of progress and conditions encountered during the prosecution of the work. Editorial comments 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 Resident 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 Project Engineer and Materials Tester 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 Resident Engineer. CDOT Forms and worksheets are available through the Residency Head Tester at no cost to the consultant.

The consultant shall furnish the CDOT Resident 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 Consultant Project Engineer, CDOT Resident 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.

All necessary finals documentation shall be submitted electronically to the CDOT R1 Finals Engineer at the completion of the project.

Personnel Qualifications

The Consultant Project Engineer, Assistant Project Engineer and inspectors shall provide daily or routine certifications as shown below. The Consultant Project 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 Project 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, a Consultant's Professional Engineer shall 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 Form FHWA - 47 has been completed and submitted".

Work Description

The Consultant Project Management services shall support CDOT staff through the management of the I-70 Resurfacing project. This Consultant Project Engineer and Assistant Project Engineer shall be able to review work, resolve problems, and make decisions in a timely manner as requested by CDOT.

The Consultant shall provide support to CDOT through assignment of personnel to construction management, construction administration, inspection responsibilities, and materials testing support. Specific responsibilities include:

1. Pre-Construction: Assist with project showings, pre-bid meetings and Q&A's while the project is under advertisement. Complete submittal review, baseline schedule review and other duties as necessary to get the project up and running per CDOT requirements.
2. Meetings: The Consultant personnel shall be present at and facilitate all project meetings as required including weekly progress meetings with the Contractor, Subcontractors, utilities, and other interested parties. The Consultant staff shall be required to attend and facilitate the Project Preconstruction Meeting, Project First Meeting, and other meetings prior to commencement of the project as directed by the CDOT Resident Engineer.
3. Documentation: The Consultant personnel shall maintain project submittal register, track project

correspondence, track installed quantities, check daily diaries, prepare inspectors progress reports, and complete appropriate CDOT paperwork and forms. The Consultant shall provide all correspondence, and other construction administration documentation required per the CDOT Construction Manual, and applicable CDOT forms to the CDOT Resident Engineer for review and signature. Submittal of standard documentation reports shall be submitted and filed electronically on a weekly basis. Trialing and tracking field contractor activities might be required in the Survey123 Application.

4. Project Schedules: Review of Contractor schedules in accordance to 108.03 of the Standard Specifications.
5. Quality / Conformance with Plans and Specifications: Monitor and inspect the Contractor's construction activities with respect to the contract documents and relevant schedule submittals governing the performance of the work. Resolve construction problems and/or recommend action for their resolution, as they relate to changed field conditions or conflicts in the contract documents. Perform special tests, investigations, or monitoring to fulfill the intent of the CDOT inspection program. Notify Contractor and CDOT Resident Engineer of non-compliance with the contract documents.
6. Submittals and Shop Drawings: Submittals, design drawings, shop drawings, working drawings, materials, and test procedures received from the Contractor will be reviewed and/or forwarded to appropriate CDOT personnel for review. Approved drawings will be returned to the Contractor as well as a copy retained for use during the remainder of the project.
7. Methods of Handling Traffic (MHT) / Safety: Review the Contractor's Method(s) of Handling Traffic (MHT) submittals. During construction, monitor the Contractor's MHT for implementation of traffic signing, barriers, and other traffic control measures in accordance with the approved plan. Monitor compliance with and taking appropriate action to preserve safety on the project for all workers and traveling public in accordance with Method of Handling Traffic (MHT).
8. Quantity Tracking: Perform daily inspections of construction activities to document activities performed and assessment of conformance with the contract documents. Quantities of work elements constructed will be measured in accordance with the CDOT Construction Manual and recorded on an electronic Form 266 to support the preparation and processing of progress pay estimates to the Contractor. Quantities will be documented in an interim quantity spreadsheet for tracking of quantities constructed as compared to the original design quantities on the project. Quantities of work will be agreed upon with the Contractor and then reflected in monthly progress pay estimates prepared by the Consultant's staff. Assist CDOT in resolving disputes in quantities with the Contractor prior to the preparation of the pay estimate.
9. Pay Estimates: Determine quantities with appropriate supporting documentation and checks and prepares pay estimates in SiteManager.
10. Daily Diaries: Consultant's personnel shall maintain a daily diary for each day they perform work on the project. They shall use CDOT's Form 103a - Project Diary, unless otherwise approved by the Project Engineer. Use of the digital Form 103 through the Survey123 Application may be required. 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.
11. Change Orders: Capable of preparing project change orders and minor contract revisions as necessary, justification for CMO's and MCR's, price justification (Force Account Analysis) per the CDOT Construction Manual.
12. Civil Rights Compliance: Review certified payroll documentation in LCP Tracker provided by the Contractor and conduct random interviews of Contractor employees to determine if the Contractor is in conformance with CDOT EEO/Labor Compliance policies. Review 205's and

sublet compliance in B2GNow.

13. Stormwater Management: Inspect erosion control, review SWMP notebook, and participate in Erosion Control Compliance Reviews.
14. Check Surveying: Provide quality assurance surveying and quantity verification as needed. If the Construction Contract includes a Construction Surveying pay item, then the Contractor is responsible for performing all surveying required to properly layout and constructs the work covered.
15. Completion, Inspection, and Punch List: Participate in the final inspection with the Contractor, Project Engineer, CDOT Resident Engineer and CDOT Maintenance representative(s) upon substantial completion. The result of the inspection is the development of a punch list of remaining and/or outstanding work to be performed by the Contractor prior to final project acceptance.
16. As-Constructed Drawings: Maintaining accurate notes reflecting actual construction details to be used in preparation of as-constructed plans. Complete as-constructed drawings of work completed by the Contractor including final pay quantities.
17. Completion Inspection and Close-Out: Following the completion of all punch list items by the Contractor, participate in the final inspection with representatives from the Contractor and CDOT, to confirm the completion of all work. The result of this inspection will constitute final project acceptance.
18. Communication: Provide communication to Contractor field crews. Communicate with adjacent landowners as required to resolve issues that arise due to construction.
19. Miscellaneous project related duties as requested by the CDOT Resident Engineer or other CDOT units.
20. Project documentation shall be stored in a shared drive such as Google Drive or other approved application. At the end of the project, all required final documentation shall be transferred to CDOT's ProjectWise on premise or the ProjectWise Cloud system by the Consultant.

The Consultant Project Engineer and Assistant Project Engineer shall perform construction project management, inspection of construction activities and other project-related activities as directed by the CDOT Resident Engineer. The Consultant Assistant Project Engineer will be capable of replacing the Consultant Project Engineer and fulfilling all their duties should the need arise.

The Consultant Inspector(s) shall assist the Consultant Project Engineer in performance of construction inspection activities and other project-related activities, as directed by the Consultant Project Engineer and/or the CDOT Resident Engineer.

The Consultant Materials Tester shall sample, test, and inspect those specified materials utilized in construction. Test results and inspection observations shall be documented and approved by the Consultant Project Engineer and/or CDOT Resident Engineer in accordance with the references cited under PROJECT STANDARDS

The Consultant 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 Resident Engineer and head tester and distributed as described in CP-16. The Consultant Project Engineer shall forward a copy of the completed Pre-Testing

Meeting Agenda for Consultant Materials Testing to the Region Materials Engineer.

Submittal of Final Documentation

Final pay documentation shall be submitted to the CDOT Resident Engineer within 20 working days after completion of the construction project work. Consultant shall be available to finalize the project. This includes assisting the CDOT Finals Engineer in obtaining and correcting documentation and completing as-constructed plans during the final checking process. All documentation shall be completed electronically and placed on CDOT's ProjectWise server. This shall be completed within 45-days of project acceptance.

A completed CDOT Form 250 shall be submitted to the 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.

Project Authority

The Consultant Project Engineer, or other CO State licensed PE designated by the Consultant, shall be the Engineer in Responsible Charge of the work and is in direct control and supervision of construction work. They shall be responsible for contract conformance as defined in the CDOT Standard Specifications and engineered plans and specifications.

The Consultant Project Engineer will be responsible for approving and setting work hours for both project construction inspection and materials testing. The CDOT Resident Engineer shall have the final authority for project staffing.

The Consultant Project Engineer and/or CDOT Resident Engineer shall be the final authority regarding acceptance of work not conforming to the plans and specifications. The Consultant Project Engineer, and CDOT Resident Engineer shall be responsible for signature approval of all construction contract modification orders (CDOT FORM 90) and all construction contract payments. A Scope of Services detailing the duties and responsibilities of Construction Management responsibilities for each Task Order shall be prepared by the CDOT Resident Engineer. The Scope of Services shall be attached to each Task Order request.

ORGANIZATIONAL 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

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 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 as approved by the CDOT Resident Engineer.

The consultant shall furnish all personnel, vehicles, materials, and equipment required to perform the work in a timely manner:

- Computer with appropriate software
- Clipboard, string line, 4-foot carpenter level
- Miscellaneous equipment to include calculator, officer supplies, and personal safety equipment
- Cell phone
- Project transportation

FIELD LABORATORY

The Contractor will provide a field laboratory for many of the construction projects and the required traffic control for all of the construction projects. 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 Asphalt Content Gauge
3. Nuclear Moisture/Density gauge
4. Concrete air meter, slump cone, and other concrete testing equipment
5. Sieves for aggregates and soil gradations
6. Scales
7. Asphalt & A/C sample containers and small tools
8. Proctor equipment for soil curves and 1 point tests
9. Atterberg, Rice Value, and Sand Equivalent equipment
10. Sample drying equipment
11. Miscellaneous equipment for performing the required soils, concrete, and asphalt field tests
12. Concrete cylinder molds, which conform to AASHTO requirements, except that PAPER MOLDS SHALL NOT BE USED, AND PLASTIC MOLDS SHALL NOT BE REUSED
13. Cell Phone for each tester

14. 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.
15. 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 Project Engineer. The 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 Project Engineer, and must be experienced and competent in road and bridge construction materials testing.

The materials testing technician(s) shall be thoroughly familiar with CDOT testing procedures, CDOT 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.

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 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 including the following: 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 monthly 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 Project Engineer.

Testing of materials that are specifically designated to be pre-inspected 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 pre-inspection 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.

Exhibit A:

