

**GENERIC SCOPE OF WORK BASIC CONTRACT**

CONTRACT TYPE

Specific Rate of Pay

Cost Plus Fixed Fee

Other

SOW DATE: June 20, 2019

PROJECT NUMBER: NHPP 5501 – 029

PROJECT LOCATION: US 550/160 Connection South

PROJECT CODE: 22420

THE COMPLETE SCOPE OF WORK INCLUDES THIS DOCUMENT (ATTACHED TO THE CONTRACT FOR CONSULTANT SERVICES)

SECTION 1 PROJECT SPECIFIC INFORMATION  
SECTION 2 PROJECT MANAGEMENT AND COORDINATION  
SECTION 3 EXISTING FEATURES  
SECTION 4 GENERAL INFORMATION  
SECTION 5 PROJECT INITIATION AND CONTINUING REQUIREMENTS  
SECTION 6 SERVICES AFTER DESIGN  
APPENDICES

Comments regarding this scope may be directed to:

**CONTRACTS AND MARKET ANALYSIS BRANCH**

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# GENERIC SCOPE OF WORK BASIC CONTRACT

## INSTRUCTIONS

**Note:** This Scope of Work is to serve as a template for Colorado Department of Transportation (CDOT) to develop and negotiate solid contracts with Consultant teams on projects and tasks. The Consultant shall coordinate all activities, tasks, meetings, communications and deliverables with the CDOT/Project Manager (PM) (or his or her designee) for this project. All submittals will be through the CDOT/PM or a designee, who will make appropriate distribution. Upon notice to proceed, the Consultant shall be responsible and will account for all effort contained in the Final Scope of Work.

This Draft Scope of Work has been reviewed by the Department and reflects a plan of approach based on the known goals. One factor determining the selection of a Consultant is the ability of that Consultant to analyze the project goals, evaluate the work elements, and formulate a work plan. This process may produce new approaches or modification to the project work elements. Because of that, all Consultants should be aware that the Final Scope of Work for a project will be produced with input from the selected Consultant.

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## SECTION 1 PROJECT SPECIFIC INFORMATION

### 1. PROJECT BACKGROUND

The US 550/160 Connection South Design-Build Project, herein referred to as Project, is intended to upgrade the connection of US 550 to US 160. It has been under study since the initiation of a Supplemental Environmental Impact Statement (SEIS) process, which began in 2009 and finished in 2015. The Project is part of the larger US 160 Environmental Impact Statement (EIS) completed in 2006. A Supplemental Draft and Final EIS, which was specific to the connection between US 550 and US 160, were completed in 2011 and 2012, respectively, and a Record of Decision completed in 2015.

The Project will depart the existing US 550 alignment near MP 14.9 and the new US 550 would connect to US 160 via the Grandview Interchange which is approximately 0.6 mile east of the existing US 160 and US 550 (south) intersection. The connection from existing US 550 to US 160 via Grandview Interchange includes removing the existing US 550 alignment along Farmington Hill and building approximately 1.2 miles of virgin alignment roadway. The Project will continue south along US 550 alignment to approximate MP 12.5. A detailed description of the Work included in the Project can be found within the Project Draft RFP.

The Project delivery is design-build. Currently the procurement schedule is as follows:

- Draft RFP Released – June 10, 2019
- Final RFP Release – July 12, 2019
- Proposals Due – October 30, 2019
- Notification of Final Selection – December 23, 2019
- Anticipated Award – Winter/Spring 2020
- Anticipated Construction Start – Spring 2020

### 2. PROJECT BENEFITS

This project is intended to produce the following improvements:

- **Mobility**

The connection will improve mobility by providing an efficient connection of US 550 to US 160, reducing travel times and improving access to:

  - Grandview;
  - the area's regional hospital;
  - the police substation;
  - the Three Springs residential development; and
  - the City of Durango business development.

Regional freight transportation will also benefit from the enhanced mobility.
- **Safety**

The project improvements will greatly enhance safety for both private passenger and commercial vehicles.

  - The connection, south of Durango, will realign US 550 directly into the existing US 160 interchange, eliminating the steep and windy grade of the current US 550 Farmington Hill and improving roadway geometry.
  - The new highway alignment will include state-of-the-art de-icing technology for a safer road surface during freezing weather conditions.
  - The connection will eliminate the need for the existing light signal at base of US 550 Farmington Hill.
- The project will include wildlife highway mitigation features which will reduce animal-vehicle collisions.

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- **Economic Vitality**  
US 550 and US 160 are truck routes, which provide significant freight mobility for oil and gas, agriculture, and other industries, while also ensuring safe and reliable travel for critical goods and services to and from New Mexico and the Four Corners region.
- **Connectivity**  
The project will provide connectivity to a new urban core, including the regional hospital; police department; retail and business district; and residential neighborhoods.

### 3. PROJECT LIMITS

This project is located on US 550 between milepost 12.5 and milepost 16.5 La Plata County.

### 4. PROJECT COSTS

The construction cost of this project is estimated at \$77,000,000.00 (upset price)

### 5. WORK DURATION

The time for the work described in this scope is approximately 2 years 6 months. It is anticipated that the majority of design submittals and subsequent reviews will be limited to the first year of the Project.

### 6. CONSULTANT RESPONSIBILITY AND DUTIES

The Consultant shall be responsible for:

- Review of all design submittals, schedules, reports, MHTs, Plans, estimates, claims, etc. as defined in the Project RFP, from the successful proposer; this shall include attending all task force meetings. The Consultant shall provide feedback and recommendations to CDOT resultant to each review.
- Construction audit (inspection) services required by the Project and the RFP
- Materials testing and documentation services required by the Project and the RFP
- Sufficiently staffing the Project in order to prevent delays in the Project schedule. This shall require anticipating needs and may require personnel additional to the attached organizational chart.

Key Staff required by this scope of work is shown on the attached delivery organizational chart and is described below.

The Consultant shall be responsible for QA testing during construction of the Project.

### 7. DEFINITIONS

**The following definitions are in addition to the base contract. Other definitions used herein are as defined by the Project RFP.**

**Key Staff** - The persons listed on the attached delivery organizational chart or as amended through the contract, subject to revision in accordance with the Contract requirements.

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

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

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**Region Material Engineer (RME)** – The CDOT Employee that provides project support in areas relating to construction materials issues. The RME is in responsible charge of the region laboratory units, and is required to review the Form 1324 (Consultant Tester Evaluation).

**Head Tester** – The Employee that is assigned to assist the Project Engineer with oversight of project and shall be responsible for testing, and documentation of testing and materials as required by the Project RFP. The head tester shall have sufficient knowledge of and experience with all aspects of the construction presented by the Project RFP in order to accurately manage and schedule testers to cover the Work.

**Head Inspector/Auditor** – The Employee that is assigned to assist the Project Engineer and shall be responsible for oversight of project inspection/audit, and documentation of inspections and audits as required by the Project RFP. The head inspector/auditor shall have sufficient construction experience and knowledge including but not limited to geotechnical hazard mitigation, structures, earthwork, and pavement similar to what is presented in the Project RFP in order to accurately manage and schedule inspector/auditors to cover the work.

**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.

**Consultant Inspector/Auditor or Tester-** The on-site Consultant employee whose primary function is to perform inspection, testing of materials, and maintain the associated documentation for materials certifications and field and laboratory testing. The CI/T performs work under the responsible charge of the Construction Project Engineer and at the direction of the CDOT Resident Engineer.

**Quality/Contract Manager-** The employee responsible for the management and oversight of the project specific contract, coordinating with all subs involved, and for verifying the quality of the design submittals as related to the RFP.

**Deputy Design Manager-** The employee responsible for coordinating all design staff including leads and technical support, attending all task force meetings, verifying timely review of design submittals, and assisting design manager in day to day activities. The deputy design manager shall demonstrate a comprehensive knowledge of the Project RFP in order to manage design leads and schedule personnel to cover the work.

**Schedule/Estimate Manager-** The employee responsible for reviewing all estimates and schedules associated with the project during design and construction. The schedule/estimate manager shall have sufficient experience with construction estimating and scheduling as well as an in depth working knowledge and access to Primavera scheduling software.

**Design Leads-** The employee(s) responsible for attending all task force meetings relative to their discipline as well as cross discipline task force meetings, reviewing all design submittals, and providing feedback or recommendations to CDOT as necessary. This includes the following disciplines: roadway, drainage, structures, traffic, ITS, environmental, geotechnical, earthwork and pavement. The design leads shall have knowledge and experience in the discipline area to which they are assigned. The design leads shall also be familiar with the section of the RFP pertaining to their discipline area.

**Design Technical Support-** The employee(s) responsible for supporting the design staff when specific areas of concern requiring a depth of knowledge in those areas are required.

### 8. EXPERIENCE AND QUALIFICATIONS

Training and certifications for Consultant personnel shall be the sole responsibility, and at the expense of the Consultant Company. All training and certifications shall occur prior to the consultant starting work on the project.

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

1. Construction Zone Temporary Traffic Control
2. Earthwork
3. Erosion Control and Final Stabilization
4. Bridge Construction
5. Landslide Mitigation
6. Wall Construction
7. Utilities
8. Culverts and Storm Sewer Items
9. Backfilling of Structures
10. Roadway Bases
11. Concrete Pavement
12. Reinforcing Steel
13. Various concrete construction items
14. HMA Pavement
15. Guardrail
16. Bridge Rail
17. Signing
18. Pavement Markings
19. Anti/De-Icing Systems

The Consultant is responsible for ensuring that consultant staff have all appropriate certifications for the work being performed on the projects, regardless of whether or not the certification is listed herein.

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### **9. WORK PRODUCT**

The Consultant work products shall be:

- Reports resultant to each review described above
- Audit reports
- Conformance/non-conformance reports
- Materials testing result forms
- Etc.

Requirements are further described in the sections that follow. All work required to complete this Scope of Work requires the use of English Units.

### **10. WORK PRODUCT COMPLETION**

All submittals must be accepted by the CDOT Contract Administrator or designee.

### **11. ADDITIONAL PROJECT INFORMATION**

Any additional information regarding this Project is included in the project RFP



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## **SECTION 2 PROJECT MANAGEMENT AND COORDINATION**

### **1. CDOT CONTACT**

The Contract Administrator for this project is: David Valentinelli, Project Director

Active day-to-day administration of the contract will be delegated to the CDOT/PM:

- A. Name: Charlie Franklin
- B. Title: Project Engineer
- C. Address: 3803 N Main Avenue
- D. Office phone: 970 – 985 - 1414
- E. Cell phone: 318-312-0684
- F. Email: Charlie.franklin@state.co.us

### **2. PROJECT COORDINATION**

Coordination with agencies outside of CDOT will remain the responsibility of CDOT

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## SECTION 3 EXISTING FEATURES

**Note:** This Section lists known features in the area. It should not be considered as complete, and should include, as appropriate, information from Section 2 Project Management and Coordination. The Consultant should be alert to the existence of other possible conflicts.

**1. STRUCTURES**

See Book 2 Section 15 of the Project RFP

**2. UTILITIES**

See Book 2 Section 6 of the Project RFP

**3. IRRIGATION DITCHES**

See Book 2 Section 7 of the Project RFP

**4. GEOTECHNICAL FEATURES / PAVEMENT**

See Book 2 Section 10 of the Project RFP

**5. EARTHWORK**

See Book 2 Section 11 of the Project RFP

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## SECTION 4 GENERAL INFORMATION

### 1. NOTICE TO PROCEED

Work shall not commence until the written Notice-to-Proceed is issued by CDOT. Work may be required, night or day, and/or weekends, and/or holidays, and/or split shifts. CDOT must concur in time lost reports prior to the time lost delays being subtracted from time charges. Subject to CDOT prior approval, the time charged may exclude time lost for:

- A. Reviews and Approvals
- B. Response and Direction

### 2. PROJECT COORDINATION

- A. Routine Working Contact: Routine working contact shall be between the CDOT/PM and the Consultant Project Manager (C/PM) as defined in Appendix C.
- B. Project Manager Requirements: Each Project Manager shall provide the others with the following:
  - 1. A written synopsis or copy of their respective contacts by telephone and in person with others
  - 2. Copies of pertinent written communications

### 3. ROUTINE REPORTING AND BILLING

The Consultant shall provide the following on a routine basis:

- A. Coordination:  
Coordination of all contract activities by the C/PM
- B. Periodic Reports and Billings:  
The periodic reports and billings required by CDOT Procedural Directive 400.2 (Monitoring Consultant Contracts), including monthly drawdown schedules.
- C. General Reports and Submittals:  
In general, all reports and submittals must be approved by CDOT prior to their content being utilized in follow-up work effort.

### 4. PERSONNEL QUALIFICATIONS

The C/PM and all contract consultant personnel must be approved by the CDOT Contract Administrator. Certain tasks must be done by Licensed Professional Engineers (PE) or Professional Land Surveyors (PLS) who are registered with the Colorado State Board of Registration for Professional Engineers and Land Surveyors. National Institute for Certification in Engineering Technology (NICET) certification or other certifications may be required for project inspectors and testers.

All tasks assigned to the Consultant must be conducted by a person on the Consultant team that is qualified and has specific expertise in that task. The qualified person is a professional with the necessary education, certifications (including registrations and licenses), skills, experience, qualities, or attributes to complete a particular task. Design of any special project features must be directed, completed, and overseen by a professional engineer with significant experience in design of those special project features.

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This contract requires that the prime firm or any member of its team be pre-qualified in the following disciplines for the entire length of the contract. Bridge Design, Bridge Inspection, Civil Engineering, Geotechnical Engineering, Highway & Street Design, Hydrology and Hydraulics (including PWQ), Landscape Architecture, Management (Contract Admin), Management (Construction), Materials Testing, , Soils Engineering, Structural Engineering, Transportation Engineering, Traffic Engineering, and Water Quality.

### 5. CDOT COMPUTER/SOFTWARE INFORMATION

The consultant shall utilize the most recent CDOT adopted software. The primary software used by CDOT is as follows:

- |    |                       |   |
|----|-----------------------|---|
| A. | Earthwork             | InRoads   |
| B. | Drafting/CADD         | InRoads & Microstation w/CDOT's formatting configurations & standards |
| C. | Survey/photogrammetry | CDOT TMOSS, InRoads   |
| D. | Bridge check          | CDOT Staff Bridge software shall be used in either design or design   |
| E. | Estimating            | Transport (an AASHTO sponsored software) as used by CDOT              |
| F. | Specifications        | Microsoft Word  |
| G. | Scheduling            | Microsoft Project and Primavera                                       |
| H. | Water Quality Data    | ArcView   |
| I. | Materials Testing     | LIMS  |
| J. | Document Management   | Bentley Deliverables Management                                       |

### 6. COMPUTER DATA COMPATIBILITY

The data format for submitting design computer files shall be compatible with the latest version of the adopted CDOT software as of Notice to Proceed for the contract. The Consultant shall immediately notify the CDOT/PM if the firm is unable to produce the desired format for any reason and cease work until the problem is resolved. Refer to Section 8, Table 1 - Submittals, for additional information regarding current formats and the acceptable transmittal media.

### 7. PROJECT DESIGN DATA AND STANDARDS

- A. General:  
Appendix A provides a comprehensive list of state and federal reference material. However, Appendix A does not contain local agency reference material that may be pertinent to some projects. The consultant is responsible for obtaining and ensuring compliance with the most recent CDOT-adopted version of the listed references including standards and specifications, manuals, and software, or as directed by the CDOT/PM. Conflicts in criteria shall be resolved by the CDOT/PM.
- B. Specific Design Criteria:  
Appendix B is a list of specific project criteria. The list is comprehensive and may include items that are not required for tasks defined in this scope. The Consultant shall submit any proposed changes to the pertinent criteria to the CDOT/PM at one of the periodic progress meetings prior to initiating design.
- C. Construction Materials/Methods:  
The materials and methods specified for construction will be selected to minimize the initial construction and long-term maintenance cost to the State of Colorado. Non-typical construction materials and methods must be approved in writing by CDOT.

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**SECTION 5  
PROJECT INITIATION AND CONTINUING REQUIREMENTS**

**Note:** This list establishes the individual task responsibility. Those tasks identified as CDOT/Other should utilize an abbreviation system to indicate whether the task will be completed by CDOT or another agency (i.e. “C” for CDOT and abbreviations as provided below). The consultant shall maintain the ability to perform all work tasks that are indicated below by an ‘X’ in the consultant column, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Where appropriate, mark “N/A” for not applicable items.

	CDOT or Contractor	Consultant	Not Applicable
<b>A. PROJECT MEETINGS</b> The types and numbers of meetings shall be flexible and determined by an interactive process as approved by the CDOT/PM. Public Hearing efforts are accounted for in Section 5.			
<b>1. Initial Project Meeting</b> Schedule and facilitate initial project kick-off meeting. All appropriate disciplines should be included in the scoping meeting. Create an invitation list, send notices with a draft agenda prior to the meeting, and provide meeting minutes to all those invited. Whenever possible, the kick-off meeting will include an on-site inspection to familiarize the entire project team with the character and conditions of the area. The scoping meeting will also be used to clearly identify scope elements, responsibilities and coordination necessary to complete the work.	X		
<b>2. Progress Meetings</b> CDOT and Consultant team will meet periodically as required (typically at two-week intervals). The meetings will review activities required to be complete since the last meeting, problems encountered/anticipated and potential solutions, project schedule update, action items, and coordination required with other agencies.	X	X	
<b>3. Public Meetings</b> The Consultant shall provide the presentation aids, and help conduct the meeting.			
a. Small Group Meetings (one-on-one) Meet with property and business owners or others directly affected by the project work to identify likely impacts and discuss possible mitigation or resolutions.	X		
b. General Public Meetings (information and workshops) The format of these meetings will be dictated by the project and goals for the meetings. These meetings may be used to establish communications with the public, add to the “contact list”, and gather information regarding local concerns. The meetings may also take the form of a work session or workshop with the affected parties.	X		
c. Public Review Meetings These meetings are intended to disseminate project progress information to the public and representatives of local entities. Notices will be mailed at least 14 days in advance of these meetings to those on the “contact list”.	X		

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	CDOT or Contractor	Consultant	Not Applicable
<p><b>4. Meeting Minutes</b> Project meeting minutes shall be completed by the Consultant and provided to the CDOT/PM within one week of the actual meeting. When a definable task is discussed during a meeting, the minutes will identify the “Action Item”, the party responsible for accomplishing it, and the proposed completion date.</p>		X	
<p><b>5. Contact List</b> Establish and maintain a computerized list of all appropriate interested parties for the communication process.</p>			
<p>a. The information on the list shall include as a minimum: i) Name ii) Firm (if any) iii) Mailing/E-mail address iv) Phone/Fax number</p>	X	X	
<p>b. The contacts will be compiled from the list below, as supplemented by the Project Team and the attendees at public meetings: i) Public Agencies ii) Elected/Appointed Officials iii) Neighborhood Groups iv) Property Owners/Tenants v) Business Interests vi) Special Interests vii) Railroads viii) Media Contacts</p>	X		
<p><b>6. Public Notices/Advertisements</b> Publicize the proposed project in accordance with the CDOT policies and procedures. Copies of the publication shall also be mailed to the individuals on the “contact list”.</p>	X		
<p><b>7. Communication Aids</b></p>			
<p>a. Graphics Support – provide graphics for presentations and project documents. This may include slides, overhead projector slides, maps and plan views of conceptual design, computerized presentations and other displays for visual presentations at meetings.</p>	X		
<p>b. Newsletter – a newsletter which will contain project progress information and announcements will be published at the specified interval and will be distributed to those on the “contact list” specified by the CDOT/PM.</p>	X		
<p>c. Local Office – Obtain and maintain an office within the project area to conduct small group meetings and provide displays/information to the public.</p>	X		

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	<b>CDOT or Contractor</b>	<b>Consultant</b>	<b>Not Applicable</b>
<p>d. Internet web pages – All external CDOT-related Web sites shall be hosted on CDOT’s server and developed in-house with assistance from the Web Team and the Office of Public Relations. The use of all Web 2.0 and similar social marketing applications on behalf of CDOT (including all regions, divisions and offices) is strictly prohibited unless authorized by the Director of the Office of Public Relations. No CDOT employee, contractor or consultant working for CDOT will post material on behalf of the agency on such applications without expressed written consent of the Director of the Office of Public Relations.</p>	X		
<p><b>B. PROJECT MANAGEMENT</b> At the kick-off meeting, or shortly thereafter, create and provide an approach for managing the project (i.e. involved staff, key team positions), including task orders, a schedule, document and agency reviews and other project needs. Should the overall project budget be \$500 million or more, an official Project Management Plan (PMP) shall be prepared in accordance with the Safe, Accountable, Flexible, Efficient, Transportation Equity Act (SAFETEA-LU) requirements (or newer authorization guidance as applicable). The Consultant shall coordinate all the work tasks being accomplished by all parties to ensure project work completion stages are on schedule.</p>	X	X	
<p><b>C. DEVELOP A PROJECT SCHEDULE AND ASSIGN TASKS</b> The Consultant is responsible for coordinating the required work schedule for tasks accomplished by CDOT and other agencies. Prepare the initial project schedule for review by the CDOT/PM and consultant team, and refine to provide detail as requested. Modifications will be made as necessary in collaboration with CDOT and appropriate justification. The tasks covered by this Scope of Work are expected to take approximately 3 Years to complete.</p>		X	
<p><b>D. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)</b> Prepare and submit a QA/QC plan as part of the planning documents noted above, and commit to adhering to the QA/QC process throughout the project.</p>		X	
<p><b>E. VALUE ENGINEERING (VE) STUDY</b> A team of transportation design and construction experts will perform a Value Engineering (VE) study. The VE study will be conducted early enough in the project development process to allow evaluation and incorporation of VE recommendations in the NEPA document or design process, as appropriate. The VE study shall be performed in accordance with Federal Highway Administration’s (FHWA) current guidelines and recognized techniques and will identify possible alternatives that may save the project cost, time, or other resources. An individual with prior experience and certification in facilitating VE studies (the VE facilitator) shall conduct each VE session. VE facilitators shall be qualified VE practitioners, experienced in performing and leading VE studies (have participated in several VE studies as a team member and several as a team leader), and have sufficient VE training, education, and experience to be recognized by the Society of American Value Engineers (SAVE) International as meeting the requirements for certification.  The VE team will consist of individuals with no prior exposure to the project. Individuals that have some familiarity and history with the project shall provide briefings to the team. Consultants or firms shall not conduct studies of their own designs unless they maintain distinct organizational separation of their VE and</p>			X

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	<b>CDOT or Contractor</b>	<b>Consultant</b>	<b>Not Applicable</b>
<p>design sections. The VE team will be assembled to review the Conceptual Background information and plans shall be provided to the team at least three weeks in advance of VE sessions. The VE facilitator will coordinate the study with CDOT, appropriate entities, and FHWA.</p> <p>The VE review team will formally evaluate each VE recommendation, and sufficient justification will be made for the acceptance or rejection of each. The VE facilitator will produce a document that summarizes the results, as well as the project elements investigated.</p> <p>The Consultant/PM shall prepare a written response detailing which recommendations were not included, the reasons for exclusion, and how all approved VE results will be incorporated into subsequent engineering efforts. These responses shall be forwarded to the CDOT/PM for distribution to the CDOT Region Transportation Director, FHWA, and other appropriate entities. All approved VE proposals shall be incorporated into the final design plans</p>			
<p><b>F. OBTAIN NECESSARY RIGHT-OF-ENTRY AND PERMITS</b> Some activities may require work on land not controlled by CDOT. In such cases the Consultant shall obtain the necessary written permission to enter the premises. Written permission shall be coordinated with other CDOT staff and consultants that may need right-of-entry such as geotechnical and environmental personnel. Included in this written permission will be the names and telephone numbers of persons to contact should notification prior to entry be necessary.</p>			
<p><b>1. Signature Copies</b> Permissions apply to CDOT personnel as well as Consultant personnel. CDOT Form 730 may be used for this purpose. Signed copies of written permission will be submitted to the CDOT/PM prior to entering private property for survey work.</p>	X		
<p><b>2. Permits</b> Some activities such as materials testing on existing pavement and structures may require a permit. Permits will be obtained and copies submitted to the CDOT/PM.</p>	X		



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## SECTION 6 SERVICES AFTER DESIGN

**Note:** The Consultant shall appoint a responsible member of the firm to be the contact person for all construction services. That person should be available until the end of construction to coordinate the following services.

This list establishes the individual task responsibility. Those tasks identified as CDOT/Other should utilize an abbreviation system to indicate whether the task will be completed by CDOT or another agency (i.e. “C” for CDOT and abbreviations as provided below). The consultant shall maintain the ability to perform all work tasks which are indicated below by an ‘X’ in the consultant column, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Where appropriate, mark “N/A” for not applicable items.

	CDOT (C)/ Contractor	Consultant	Not Applicable
<b>A. REVIEW OF SHOP DRAWINGS</b>			
Review contractor shop and auxiliary drawings as directed by the CDOT/PM.			
<b>1. Maintain a log of all submittals which includes the following information:</b>		X	
a. Submittal description			
b. Date received			
c. Date transmitted back to the sender			
<b>2. The review of submittals shall be done by a licensed professional engineer who is acceptable to the CDOT/PM.</b>		X	
<b>3. Review Shop Drawings</b>			
Review the construction contractor’s shop drawings for conformance and compliance with the contract documents, the provisions of the current “Standard Specifications for Road and Bridge Construction, and the period of work shown in the CDOT specifications in conjunction with the contract work.		X	
<b>B.</b>			
<b>C. CONSTRUCTION SERVICES</b>			
When requested by the appropriate Program Manager, the Consultant shall provide the services described below			
<b>1. Coordinate Schedule</b>			
Coordinate and evaluate contractor’s construction schedule at start of construction and continuously throughout construction phase.		X	
<b>2. Provide field observation prior to, and on the day of, the following:</b>		X	
a. Pile driving and/or caisson drilling			
b. All major concrete pours			
c. Placement of girders			
d. Splicing of girders			
e. Post-tensioning duct and anchorage placement			
f. Post-tensioning operations			
<b>3. Technical Assistance</b>			
Provide technical assistance to CDOT project personnel on an as-needed basis. This service shall include, but not be limited to, the following:		X	
a. Respond to questions in the field that arise relative to the plans, details or special provisions			

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	CDOT (C)/ Contractor	Consultant	Not Applicable
b. Review girder erection plan			
<b>4. Report Submittal</b> The following reports/submittals shall be maintained and submitted:		X	
a. Diary - A complete diary will be accomplished daily for each field observation activity.			
b. Documentation/justification - Changes/revisions/documentation justifying changes and/or revisions to plans and specifications			
c. Progress reports - Monthly progress reports will be submitted for the Consultant's activities.			
d. Calculations, drawings, and specifications as needed.			
e. Daily time sheets - This will be filled out daily on a form approved by the Project Engineer. This sheet will remain with the Project Engineer.			
<b>D. POST DESIGN PLAN MODIFICATIONS</b>			
1. When requested by the Program Manager through the CDOT/PM, the Consultant shall provide design services for plan modifications required by unforeseen field conditions.			
2. Revisions to PWQ CMs and drainage design should be performed by Engineer of Record.		X	
<b>E. POST CONSTRUCTION SERVICES</b>			
<b>1. Final Earthwork or Interim Determination</b> Compute the final or interim as-built earthwork quantities. This will include the required surveying, engineering technician, and computer support.	X		
<b>2. "As-Built" Plans</b> Redline the original plan set in a "track changes" manner so that design information is shown alongside as-constructed information.	X		
<b>3. PWQ CM GIS Attribute Tables and Feature Classes</b> Information shall be submitted that meets all the reporting requirements of the MS4 Permit and the CDOT PWQ Program.			X
<b>4. Revisions to the Final Right-of-Way Plans</b> Review the final Right-of-Way line to identify any excess property due to construction changes. Prepare Final Plan Revisions, including legal Descriptions of excess property	X		
<b>5. Monument the Right-of-Way</b>	X		
a. Reset all monuments referenced prior to construction that have been damaged or destroyed.			
b. Reset any control monuments disturbed or destroyed by construction that are necessary to set Right-of-Way monuments.			
c. Set all new Right-of-Way monuments as shown on final plans (or reference monuments, if necessary).			
<b>6. Set property corners on all remainder parcels</b> Required monumentation will be as directed by the CDOT/PM.	X		

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	CDOT (C)/ Contractor	Consultant	Not Applicable
<p><b>7. Deposit ROW Plans</b> A Record Plan Set updated for revisions and showing all monuments set subsequent to construction, must be signed and sealed by the Professional Land Surveyor responsible for the work. The Record Set must be deposited in the appropriate county office in accordance with CRS 38-50-101 and CRS 38-51-107. A copy of the deposited plan set must be delivered to the CDOT/PM.</p>	X		
<p><b>8. FEMA LOMR Submittal</b> Apply for a Letter of Map Revision from FEMA based on the as-built information and corresponding modifications to the modeling and report that was submitted to FEMA for the CLOMR application for all work that will alter the regulatory floodplain or floodway.</p>			X
<p><b>9. Update Floodway No-Rise Certification</b> Stipulations for no-rise in regulatory floodways often include as-built surveys, certifications, and other operational standards. Check project specials from CDOT and floodplain development permit stipulations from local agencies issuing the permit to determine what is required.</p>			X
<p><b>10. Water Rights Reporting</b> Submit pond information to the water rights reporting website. Pond information submitted should reflect the as-built condition for pond volume and stage/storage/discharge relationships, and any other information requested by the water rights reporting website during upload.</p>			X

# GENERIC SCOPE OF WORK BASIC CONTRACT

## APPENDIX A REFERENCES

### 1. US 550/160 Connection South Design-Build Request For Proposals

Books 1-4 of the RFP is found at the following website:

<https://www.codot.gov/business/designsupport/adp-db-cmgc/opportunities/design-build-solicitations-active/us-550-160-connection-design-build/us-550-160-connection-design-build-draft-rfp>

In order to acquire a full copy of the RFP including Reference Documents please request a copy at the following email: [550-160.connection@state.co.us](mailto:550-160.connection@state.co.us)

### 2. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) PUBLICATIONS (using latest approved versions):

- A. A Policy on Design Standards-Interstate System
- B. A Policy on Geometric Design of Highways and Streets
- C. Guide for Design of Pavement Structures
- D. Standard Specifications for Highway Bridges
- E. Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities
- F. Guide for the Development of Bicycle Facilities
- G. Standard Specifications for Transportation Materials and Methods of Sampling and Testing – Part 1, Specifications and Part II, Tests
- H. Highway Design and Operational Practices Related to Highway Safety
- I. Roadside Design Guide
- J. Load Resistance Factor Design (LRFD) Specifications

### 3. COLORADO DEPARTMENT OF TRANSPORTATION PUBLICATIONS (using latest approved versions):

- A. Design Guide (all volumes)
- B. Bridge Design Guide
- C. Bridge Detailing Manual
- D. Bridge Rating Manual
- E. Project Development Manual
- F. Erosion Control and Stormwater Quality Guide
- G. Field Log of Structures
- H. Cost Data Book
- I. Drainage Design Manual
- J. NEPA Manual
- K. Environmental Stewardship Guide
- L. Quality Manual
- M. Survey Manual
- N. Field Materials Manual

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- O. Standard Plans, M & S Standards
- P. Standard Specifications for Road and Bridge Construction and Supplemental Specifications
- Q. Item Description and Abbreviations (with code number) compiled by Engineering Estimates and Market Analysis Unit (“Item Book”)
- R. Right-of-Way Manual
- S. The State Highway Access Code
- T. Utility Manual
- U. TMOSS Generic Format
- V. Field TMOSS Topography Coding
- W. Topography Modeling Survey System User Manual
- X. Interactive Graphics System Symbol Table

### 4. **CDOT PROCEDURAL DIRECTIVES** (using latest approved versions):

- A. No. 27.1 Social Marketing – Use of Web 2.0 and Similar Applications
- B. No. 31.1 Web Site Development
- C. No. 400.2 Monitoring Consultant Contracts
- D. No. 501.2 Cooperative Storm Drainage System
- E. No. 514.1 Field Inspection Review (FIR)
- F. No. 516.1 Final Office Review (FOR)
- G. No. 1217a Survey Request
- H. No. 1304.1 Right-of-Way Plan Revisions
- I. No. 1305.1 Land Surveys
- J. No. 1601 Interchange Approval Process
- K. No. 1700.1 Certification Acceptance (CA) Procedures for Location and Design Approval
- L. No. 1700.3 Plans, Specifications and Estimates (PS&E) and Authorization to Advertise for Bids under Certifications Acceptance (CA)
- M. No. 1700.5 Local Entity/State Contracts and Local Entity/Consultant Contracts and Local Entity/R.R. Contracts under C.A
- N. No. 1700.6 Railroad/Highway Contracts (Under Certification Acceptance)
- O. No. 1905.1 Preparation of Plans and Specifications for Structures prepared by Staff Bridge Branch

### 5. **FEDERAL PUBLICATIONS** (using latest approved versions):

- A. Manual on Uniform Traffic Control Devices
- B. Highway Capacity Manual
- C. Urban Transportation Operations Training – Design of Urban Streets, Student Workbook
- D. Reference Guide Outline – Specifications for Aerial Surveys and Mapping by Photogrammetric Methods for Highways

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- E. Executive Order 12898
  - F. Executive Order 11988 & 13690 FHWA Federal-Aid Policy Guide
  - G. FHWA NHI Hydraulic Circular (HEC) and Hydraulic Design Series (HDS) Reports
  - H. Technical Advisory T6640.8A
  - I. U.S. Department of Transportation Order 5610.1E
  - J. Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques
  - K. ADAAG Americans With Disabilities Act Accessibility Guidelines
  - L. 23 CFR 771, the FHWA Technical Advisory T6640.8A
  - M. 44 CFR 59-72, standards of the National Flood Insurance Program (NFIP)
6. **AREA:**
- A. Manual for Railway Engineering
  - B. Urban Storm Drainage Criteria Manual (UDFCD)
  - C. Any appropriate local agencies references as appropriate

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## **APPENDIX B SPECIFIC DESIGN CRITERIA**

**Note:** All design criteria for the Project can be found in the Project RFP.

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## **APPENDIX C DEFINITIONS**

**Note:** For defined terms and acronyms refer to the Project RFP