



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

INVITATION TO BID
COVER PAGE

BID Number: **7232-21**

BID Title: **Sugarloaf Retaining Walls at SH-119**

Non-Mandatory Pre-Bid Meeting: May 10, 2021 – 11:00 a.m.
Microsoft Teams meeting
Join on your computer or mobile app
[Click here to join the meeting](#)

BID Questions Due: May 17, 2021 – 2:00 p.m. MDT

Submittal Due Date: May 28, 2021 – 10:00 a.m. MDT

Email Address: purchasing@bouldercounty.org

Documents included in this package:

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Please access additional files for this Invitation to Bid at the following link:

<https://www.dropbox.com/sh/adu0ife3zom8sc0/AAA2IBBB6WXE101XaR6qfrEka?dl=0>



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BID INSTRUCTIONS

1. Purpose/Background

The Boulder County Public Works Department is seeking bids for the Sugarloaf Road Retaining Walls at SH-119 project FEMA Federal Project No. F0-S48 PDM 2018 and Boulder County Project RD-122-000. The primary work consists of full depth asphalt replacement, storm sewer, modular block gravity retaining wall, grouted rock wall, structure excavation and rock excavation, guardrail replacement and signing & striping.

Specifications and a sample contract with a FEMA specific addendum are attached. The successful proposer shall execute the attached addendum as part of any contract with the county and comply with all FEMA requirements set forth in that addendum.

2. Non-Mandatory Pre-Bid Video Conference Meeting

A Non- Mandatory Pre-Proposal Video Conference Meeting through Microsoft Teams will be held on **11:00 a.m. on May 10, 2021**. Please click on the link on the cover page, or call 1 720-400-7859 Conference ID: 545 293 91#. Boulder County highly recommends that potential bidders visit the project site prior to the pre-bid meeting.

3. Written Inquiries

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at purchasing@bouldercounty.org on or before **2:00 p.m. May 17, 2021**. A response from the county to all inquiries will be posted and sent via email no later than **May 21, 2021**.

Please do not contact any other county department or personnel with questions or for information regarding this solicitation.

4. Submittal Instructions

BIDs are at the email box only, listed below, for time and date recording on or before **10:00 a.m. Mountain Time on May 28, 2021**. A bid opening will be conducted at 11:00 a.m. Mountain Time via email by sending a copy of the bid tab to all who have submitted a bid.

Please note that email responses to this solicitation are limited to a maximum of 50MB capacity. NO ZIP FILES OR LINKS TO EXTERNAL SITES WILL BE ACCEPTED. THIS INCLUDES GOOGLE DOCS AND SIMILAR SITES. ALL SUBMITTALS MUST BE RECEIVED AS AN ATTACHMENT (E.G. PDF, WORD, EXCEL).

Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email purchasing@bouldercounty.org; identified as BID # 7232-21 in the subject line.

All BIDs must be received and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the bidder to see that their BID response is received on time at the stated location(s). Any BIDs received after due date and time will be returned to the bidder.

The Board of County Commissioners reserves the right to reject any and all BIDs, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

Americans with Disabilities Act (ADA): If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.



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TERMS AND CONDITIONS

1. Bidders are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
2. Each bidder will furnish the information required in the Invitation to Bid.
3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Invitation to Bid, will be most advantageous to the County of Boulder, based on best value not only price.
4. The County of Boulder reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
5. No submittal will be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
7. Late or unsigned bids will not be accepted or considered. It is the responsibility of bidders to ensure that the bid arrives at the Administrative Services Information Desk prior to the time indicated in the "Invitation to Bid."
8. The proposed price will be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
9. Any interpretation, correction or change of the bid documents will be made by Addendum. Interpretations, corrections and changes of the bid documents made in any other manner will not be binding, and bidder will not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.
10. Confidential/Proprietary Information: Bids submitted in response to this "Invitation to Bid" and any resulting contract are subject to the provisions of the Colorado Public (Open) Records Act, 24-

72-201 et.seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the bid and any resulting contract will be clearly stated in the bid itself. Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the bid. Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a bid, in its entirety, nor bid price information will be considered confidential/proprietary. Any information that will be included in any resulting contract cannot be considered confidential.

11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient and reduced toxic level products where availability, quality and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product, but is not excessive.



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SPECIFICATIONS

**SUGARLOAF ROAD RETAINING WALLS AT SH-119
 BOULDER COUNTY**

The CDOT 2019 Standard Specifications for Road and Bridge Construction controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

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**SUGARLOAF ROAD RETAINING WALLS AT SH-119
BOULDER COUNTY
STANDARD SPECIAL PROVISION INDEX**

Name	Date	No. of Pages
Revision of Section 101 – Record Set	(Dec. 16, 2020)	1
Revision of Section 103 – Award and Execution of Contract	(Sept. 18, 2020)	1
Revision of Section 105 – Control of Work (105.08)	(Dec. 16, 2020)	1
Revision of Section 106 – Buy America Requirements – Non-Federal Aid	(Oct. 1, 2019)	1
Revision of Section 601 – Structural Concrete	(Oct. 4, 2019)	17
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Revision of Section 602 – Reinforcing Steel	(Sept. 3, 2020)	4
Revision of Section 630 – Barrier (Temporary)	(Oct. 4, 2019)	1
Revision of Section 630 – Construction Zone Traffic Control	(Dec. 28, 2020)	1

NOTICE TO BIDDERS

NOTICE: The proposal guaranty shall be a certified check, cashier's check or bid bond in the amount of 10% of the Contractor's total bid.

Both a payment and a performance bond are required for this project and must equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.

Bidders must be prequalified with the Colorado Department of Transportation to bid the project. Proposals are requested for the furnishing of all labor and materials on a UNIT basis.

Contractor hereby proposes to furnish all labor, machinery, equipment, materials and supplies, and to sustain all the expense incurred in doing the work per the proposal schedule, and in pursuance of a certain advertisement of the County Commissioners, County of Boulder, of the State of Colorado, and in accordance with the full details, Plans, and Specifications as prescribed by said County Engineer.

Pursuant to subsections 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details.

The Boulder County Public Works Department is seeking bids for the Sugarloaf Road retaining walls project. The primary work consists of full depth asphalt replacement, storm sewer, modular block gravity retaining wall, grouted rock wall, structure excavation and rock excavation, guardrail replacement and signing & striping.

COMMENCEMENT AND COMPLETION OF WORK

The Contractor shall commence work under the Contract on or before the 15th day following Contract execution unless such time for beginning the work is changed by the Project Engineer in the "Notice to Proceed."

The Contractor shall complete all work within 100 working days in accordance with the "Notice to Proceed" and the punch list items shall be completed within and additional 10 working days. Punch list work shall be done efficiently and effectively so as not to unnecessarily delay work.

Work may be suspended for cold or inclement weather that would not allow for asphalt paving or would impact the quality of the final work. No additional payment will be made for remobilization if the project is suspended due to weather. Work may also be suspended due to adjacent CDOT highway improvement road work during the contract period. Should this occur, the Contractor shall refer to Section 108 of these specifications and Sections 108 and 109 of the *CDOT Standard Specifications for Road and Bridge Construction* for additional information.

If work is suspended, the contractor shall continue coordination with Boulder County Maintenance to insure safe travel of the public through the project site. If the project is suspended for an extended period, the contractor shall leave the project in a state that would not require temporary traffic control during the suspension.

Per the Boulder County Stormwater Quality Permit (SWQP) requirements, no earthwork can occur except that which is required to facilitate the installation of control measures until all control measures have been inspected by the County. Contractor's schedule shall include this process. Working days will not be counted between control measure installation and County inspection.

See Project Special Provision, "Revision to Section 108 Prosecution and Progress" for more information and schedule information for the Salient features on the project.

REVISION OF SECTION 101 DEFINITIONS AND TERMS

Certain terms utilized in the latest edition of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction shall be interpreted to have different meanings within the scope of this Contract. A summary of redefinitions follows:

Section 101 of the Standard Specifications is hereby revised for this project as follows:

Subsection 101.22: “Contractor” shall mean prefabricator and/or contractor as described in subsection 101.23

Subsection 101.28: “Department” shall mean Boulder County, Colorado (where applicable).

Subsection 101.29: “Engineer” shall mean County Engineer, Boulder County, Colorado or designated representative (where applicable).

Subsection 101.36 shall be replaced with the following:

When New Year’s Day, Cesar Chavez Day, Independence Day, or Christmas Day falls on a Sunday, the following Monday shall be considered a holiday. When one of these days falls on a Saturday, the preceding Friday shall be considered a holiday.

Holidays recognized by the Boulder County are:

- New Year’s Day
- Dr. Martin Luther King, Jr. Day
- President’s Day
- Memorial Day
- Independence Day
- Labor Day
- General Election Day (Even years)
- Veterans Day
- Thanksgiving Day
- Friday after Thanksgiving Day
- Christmas Eve, 1/2 Day Christmas Eve (beginning at noon, only if day falls on Tuesday - Thursday), Full Day Christmas Eve, only if day falls on Monday
- Christmas Day
- New Year’s Eve, 1/2 day New Year's Eve (beginning at noon, only if day falls on Tuesday - Thursday), Full day New Year’s Eve, only if day falls on Monday

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REVISION OF SECTION 101 DEFINITIONS AND TERMS

Additional Holidays recognized by the State of Colorado are:

Cesar Chavez Day

Frances Xavier Cabrini Day (Cabrini Day)

Subsection 101.39: “Laboratory” shall mean Boulder County, Colorado or their designated representative.

Subsection 101.51: “Project Engineer” shall mean Boulder County’s duly authorized representative who may be a Boulder County or an employee of a consulting engineer (consultant) under contract to Boulder County (where applicable).

Subsection 101.51 (a): “CDOT Project Engineer” shall be replaced with “Project Engineer” within these specifications. When applicable and when these documents reference a CDOT engineer, this reference shall be construed to mean Project Engineer.

Subsection 101.51 (b): shall be replaced with the following:

“Consultant Project Engineer”. The consultant employee under the responsible charge of the consultant’s Professional Engineer who is in direct charge of the work and is responsible for the administration and satisfactory completion of the project. The Consultant Project Engineer’s duties are delegated by the Project Engineer in accordance with the scope of work in the consultant’s contract with Boulder County. The Consultant Project Engineer is not authorized to approve Contract Modification Orders.

Subsection 101.58 “Region Transportation Director” shall mean Boulder County Engineer, Boulder County, Colorado or designated representative (where applicable).

Subsection 101.76 “State” shall mean Boulder County, Colorado (where applicable).

**REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.04 shall be replaced with the following:

Any change to proposal forms, plans, or specifications prior to the opening of proposals will be issued by the Department by posting to bouldercounty.org and to bidnet.com and by emailing directly to vendors on the vendor list, Colorado Unified Certification Program DBE Directory vendor list and Minority Business Development Agency which emails them to their vendor list. Certain individuals are named in the project specifications who have authority to provide information, clarification or interpretation to bidders prior to opening of proposals. Information obtained from persons other than those named individuals is invalid and shall not be used for bidding purposes.

Subsection 102.05 shall include the following:

Boulder County will provide electronic files of drawings, the sample contract document, the project technical specifications in .PDF format, online at the designated internet bid advertisement site, and they will be considered as the official bid set and record set.

**REVISION OF SECTION 103
AWARD AND EXECUTION OF CONTRACT**

Section 103 of the Standard Specifications is hereby revised for this project as follows:

Subsection 103.01 shall be replaced with the following:

Consideration of Proposals. After the proposals (bids) are opened and read, they will be evaluated, and the Contract awarded or rejected in accordance with the “Rules” referenced in subsection 102.01.

REVISION OF SECTION 104 SCOPE OF WORK

Section 104 of the Standard Specifications is revised for this project as follows:

Subsection 104.01 shall include the following:

Boulder County and its partners have funding to repair failed slopes, retaining walls, and pavement due to the 2013 flood event in Boulder County. The project will include, at a minimum, installation of modular block gravity retaining wall; wall replacement with natural rock facing and flow-fill, full depth asphalt replacement, guardrail replacement, signing and striping, and Storm Drainage facilities.

Subsection 104.02 (b) shall include the following:

The Contractor is required to complete the Contract with sustained work efforts once he begins the project. The Contractor will coordinate work activities with the Engineer to minimize potential safety hazards to personnel and materials. Work may be suspended for cold or inclement weather that would impact the quality of the final work. No additional payment will be made for remobilization if the project is suspended.

Subsection 104.04 shall include the following:

Employee vehicle parking is prohibited where it conflicts with safety, access or flow of traffic. The Contractor is responsible for obtaining, coordinating and maintaining acceptable parking and staging areas for the duration of the construction activities. This shall not be paid for separately but shall be included in the work.

**REVISION OF SECTION 105
CONTROL OF WORK**

Section 105 of the Standard Specifications is revised for this project as follows:

Subsection 105.01(f) shall be replaced with the following:

Construction Drawings. The Contractor shall keep one set of plans, reviewed shop drawings, working drawings (red-lined), and other submittals available on the project site at all times. This set shall be defined as the “construction drawings.” The Contractor shall note on these construction drawings all changes and deviations from the work shown on the plans, shop drawings, working drawings, and other submittals. The construction drawings shall be kept current as the work progresses and notations shall be made within seven days of the change or deviation.

Record Set. Red-lined Construction Drawings are not considered the Record Set. The Contractor shall provide a Record Set per Standard Special Revision of Section 101 – Record Set.

Upon completion of the work and prior to final payment, the Record Set and a CAD file containing the final pipe inverts and sign locations shall be submitted to the Engineer.

**REVISION OF SECTION 106
CONTROL OF MATERIAL**

Section 106 of the Standard Special Provisions is hereby revised for this project as follows:

Subsection 106.03 shall include the following:

Testing will be done in accordance with Boulder County Public Work Department's Minimum Guideline for Sampling and Testing.

The Contractor will be responsible for establishing, documenting, and implementing a Quality Control Plan. The Quality Control Plan shall include all procedures necessary for the Contractor to control the quality of its production processes to meet the requirements of the Contract. The Contractor's Quality Control Plan shall include a testing and inspection schedule to control the production processes.

Boulder County will provide a qualified Construction Quality Assurance team to perform Quality Assurance (QA) testing, auditing and acceptance testing. The QA staff shall remain independent from the Contractor's production and Quality Control (QC). The Boulder County Construction Inspection team and/or testing firm will perform on-site inspection and testing of the construction elements of the work to verify that all work has been constructed in conformance with the Contract requirements.

Subsection 106.05 shall include the following:

For this project, Contractor process control testing of hot mix asphalt is voluntary.

**REVISION OF SECTION 107
SAFETY, HEALTH, AND SANITATION PROVISIONS**

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.06 shall be revised to include the following:

The Contractor and any subcontractor shall not require any laborer or mechanic employed in performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards (Rules and Regulations of the Federal Occupational Safety and Health Act of 1970 (OSHA) and as amended).

All facilities and work conditions shall comply with Colorado and local Health Department Regulations and with OSHA requirements.

**REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK**

Section 107 of the Standard Specifications is hereby revised as follows:

Add Subsection 107.061 immediately following subsection 107.06 as follows:

107.061 Performance of Safety Critical Work.

The following work elements are considered safety critical work for this project:

- (1) Asphalt paving operations
- (2) Rock Excavation activity
- (3) Wall construction
- (4) Construction activities adjacent to active roadway.

The Contractor shall submit, for record purposes only, an initial detailed construction plan that addresses safe construction of each of the safety critical elements. When the specifications already require an erection plan or a bridge removal plan, it shall be included as a part of this plan. The detailed construction plan shall be submitted two weeks prior to the safety critical element conference described below. The construction plan shall be stamped "Approved for Construction" and signed by the Contractor. The construction plan will not be approved by the Engineer.

The Construction Plan shall include the following:

- (1) Safety Critical Element for which the plan is being prepared and submitted.
- (2) Contractor or subcontractor responsible for the plan preparation and the work.
- (3) Schedule, procedures, equipment, and sequence of operations, that comply with the working hour limitations
- (4) Additional actions that will be taken to ensure that the work will be performed safely.
- (5) Names and qualifications of workers who will be in responsible charge of the work:
 - A. Years of experience performing similar work
 - B. Training taken in performing similar work
 - C. Certifications earned in performing similar work
- (6) The construction plan shall address how the Contractor will handle contingencies such as:
 - A. Unplanned events (storms, traffic accidents, etc.)
 - B. Work that cannot be completed in time for the roadway to be reopened to traffic

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**REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK**

- C. Replacement of workers who don't perform the work safely
 - D. Equipment failure
 - E. Other potential difficulties inherent in the type of work being performed
- (7) Name and qualifications of Contractor's person designated to determine and notify the Engineer in writing when it is safe to open a route to traffic after it has been closed for safety critical work.

A safety critical element conference shall be held two weeks prior to beginning construction on each safety critical element. The Engineer, the Contractor, the safety critical element subcontractors, and the Contractor's Engineer shall attend the conference. Required pre-erection conferences or bridge removal conferences may be included as a part of this conference.

After the safety critical element conference, and prior to beginning work on the safety critical element, the Contractor shall submit a final construction plan to the Engineer for record purposes only. The final construction plan shall be stamped "Approved for Construction" and signed by the Contractor.

The Contractor shall perform safety critical work only when the Engineer is on the project site. The Contractor's Engineer shall be on site to inspect and provide written approval of safety critical work for which he provided stamped construction details. Unless otherwise directed or approved, the Contractor's Engineer need not be on site during the actual performance of safety critical work but shall be present to conduct inspection for written approval of the safety critical work.

When ordered by the Engineer, the Contractor shall immediately stop safety critical work that is being performed in an unsafe manner or will result in an unsafe situation for the traveling public. Prior to stopping work, the Contractor shall make the situation safe for work stoppage. The Contractor shall submit an acceptable plan to correct the unsafe process before the Engineer will authorize resumption of the work.

When ordered by the Engineer, the Contractor shall remove workers from the project that are performing the safety critical work in a manner that creates an unsafe situation for the public in accordance with subsection 108.05.

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**REVISION OF SECTION 107
PERFORMANCE OF SAFETY CRITICAL WORK**

Should an unplanned event occur, or the safety critical operation deviate from the submitted plan, the Contractor shall immediately cease operations on the safety critical element, except for performing any work necessary to ensure worksite safety, and provide proper protection of the work and the traveling public. If the Contractor intends to modify the submitted plan, he shall submit a revised plan to the Engineer prior to resuming operations.

All costs associated with the preparation and implementation of each safety critical element construction plan will not be measured and paid for separately but shall be included in the work. Temporary shoring, if required, shall be included in the cost of Removal of Structure.

Nothing in the section shall be construed to relieve the Contractor from ultimate liability for unsafe or negligent acts or to be a waiver of the Colorado Governmental Immunity Act on behalf of the Department.

**REVISION OF SECTION 107
PUBLIC CONVENIENCE AND SAFETY**

Section 107 of the Standard Specification is hereby revised as follows:

Subsection 107.07 shall include the following:

Access to businesses and all bus stop facilities (including, but not limited to, bike racks, bike lockers, accessible ramps, bikeways) shall always be maintained.

Bicyclists residing above the Sugarloaf Road construction site shall be permitted to pass through the construction site during all phases of work, unless Boulder County Public Works deems passage by bicycle is too dangerous at the time of requested entry. Resident cyclists must obtain a permit from Boulder County Public Works to allow passing through the construction site.

**REVISION OF SECTION 107
PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE**

Section 107 of the Standard Specification is hereby revised as follows:

Subsection 107.12 shall include the following:

The Contractor shall save existing vegetation, except for those that must be removed to accommodate construction of the project.

The Contractor shall perform all the work in such a manner that the least environmental damage will result. Any questionable areas or items shall be brought to the attention of the Engineer for approval prior to vegetation removal or any damaging activity. Damaged or destroyed trees, shrubs, or wetlands, which could have been saved, shall be replaced at the expense of the Contractor.

If any trees or shrubs are to be removed between April 1st and August 31st, a nesting bird survey must be completed for active nests. The survey will be conducted by the County's designated Wildlife Biologist. If an active nest(s) is found, no work may be done within 50 feet of the nest(s) until Boulder County is notified and further direction of construction limitations have been defined. These requirements are in place to abide by the Migratory Bird Act of 1918.

**REVISION OF SECTION 107
RESPONSIBILITY OF DAMAGE CLAIMS, INSURANCE TYPES AND COVERAGE**

Subsection 107.15 shall be revised to include the following:

All insurance policies in this section shall name Boulder County and the Colorado Department of Transportation as additional insured.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: County of Boulder, State of Colorado, a body corporate and politic, and Colorado Department of Transportation and Concessionaire are named as Additional Insureds **including completed operations**.

Subsection 107.15 (a) insurance kinds and amounts shall be replaced (when applicable) as follows:

Commercial General Liability

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of:

- \$1,000,000 Each Occurrence,
- \$2,000,000 General Aggregate and
- \$2,000,000 Products/Completed Operations Aggregate.

The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

Worker's Compensation and Employer's Liability

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

Umbrella / Excess Insurance

Umbrella/Excess Liability insurance in the amount \$3,000,000.00, following form.

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**REVISION OF SECTION 107
RESPONSIBILITY OF DAMAGE CLAIMS, INSURANCE TYPES AND COVERAGE**

Professional Liability (Errors and Omissions)

Professional liability coverage with minimum limits of \$1,000,000 Per Loss and \$1,000,000 Aggregate. Professional Liability provisions indemnifying for loss and expense resulting from errors, omission, mistakes or malpractice is acceptable and may be written on a claims-made basis. The contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years beginning at the time work under this Contract is completed.

Pollution Liability

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

In regards to General Liability, Umbrella/Excess Liability, and Pollution Liability: If any or all of these coverages are required above, additional insured status will be required prior to beginning any and all tasks or work.

New certificates will be requested **if the contract process takes more than 30 days after an award.**

The Contractor shall provide a Certificate of Insurance to Boulder County demonstrating that the insurance requirements have been met prior to the commencement of Work under this Contract. Additional insured shall be endorsed to the policy.

**REVISION OF SECTION 107
CONTRACTOR'S RESPONSIBILITY OF WORK**

Section 107 of the Standard Specification is hereby revised as follows:

Subsection 107.17 shall include the following:

The Contractor shall be responsible for any damage to their work arising from running water from either a natural source or from landscape watering at no additional cost to the contract.

The Contractor shall be responsible for any damages done by the Contractor that is outside the scope of this work, including but not limited to irrigation facilities, landscaping, bus stop facilities, parking lots, or private property.

REVISION OF SECTION 107 FIRE PROTECTION PLAN

Section 107 of the Standard Specifications is hereby revised as follows:

Subsection 107.18 shall be deleted and replaced with the following:

107.18 Fire Protection Plan. The following work elements are considered safety critical work for this project:

(a) *Fire Protection Plan.* Prior to start of work, the Contractor shall submit a Fire Control Plan in writing to the Engineer and Local Fire Authority for approval. The plan shall include the following:

- (1) The name and contact information of a Fire Control Coordinator who shall be assigned to the project.
- (2) A 24-hour Emergency Contact List which, at a minimum, includes Project Superintendent, Project Foreman and Project Traffic Control Supervisor.
- (3) A complete list, including storage locations, of all tools and equipment the Contractor will use in the event of an emergency within project limits.
- (4) Methods that will be employed if a fire is encountered or started during construction activities within the project limits.
- (5) Specific fire prevention precautions, and the required fire mitigation equipment, for every activity which has the potential for starting a fire. At a minimum the plan shall address prevention planning related to use of heavy equipment, vehicles, hand tools, storage and parking areas.
- (6) Specific precautions for fueling operations.
- (7) Provisions for field safety meetings. The Contractor shall conduct field safety meetings (also known as toolbox or tailgate meetings) at least once per week to include a local Fire Authority Representative. The Contractor shall encourage participation by all persons working at the project site. Participants shall discuss specific fire prevention precautions for construction activities.

(b) *Open Burn Exemption.* A BURN EXEMPTION may be requested by the Contractor from the Boulder County Sheriff's Office if current fire restrictions are in place. The fire restrictions Prohibit:

- (1) Building, maintaining, attending, or using an open fire, campfire or stove fire (including charcoal barbecues and grills) on public land;
- (2) Use of all personal fireworks;
- (3) Shooting or discharging firearms for recreational purposes, except for hunting with a valid and current hunting license on public land;

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

- (4) Smoking, except in an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable materials;
- (5) Operating a chainsaw without a USDA or SAE-approved spark arrester properly installed and in effective working order. A chemical, pressurized fire-extinguisher must be kept with the operator, and at least one round-point shovel with an overall length of at least 35 inches must be readily available for use;
- (6) Welding or operating acetylene or other open-flame torches, except in cleared areas of at least 10 feet in diameter, and with a chemical, pressurized fire-extinguisher immediately available for use; and
- (7) Using an explosive.

(c) Equipment and Procedures.

Fire Boxes. If required by the local Fire Authority shall contain tools and equipment that shall be used exclusively for controlling or suppressing fires which occur due to construction activities on project sites. Each fire box shall contain, as a minimum, the following:

- (1) Five round-pointed shovels,
- (2) Two double-bitted axes,
- (3) Three Pulaskis or mattocks,
- (4) Two backpack pumps, and
- (5) Four large fire extinguishers as prescribed by the local Fire Authority.

Welding/Torching/Cutting/Drilling. If work at field locations is required, the work shall be done at a location where all flammable material has been cleared within a 30-foot radius and approved by the local Fire Authority.

Spark Arrestors. All diesel and gasoline powered engines, both mobile and stationary, shall be equipped with serviceable spark arrestors each gasoline power saw shall be provided with a spark screen and a muffler in good condition. Spill-proof metal safety cans shall be used for refueling. Approved and inspected by the local Fire Authority.

Storage and Parking Areas. Batch plant areas, equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas shall be cleared of all flammable materials for a distance of 50 feet. Small stationary engine sites shall be cleared of all flammable material for distance of 20 feet. Other mitigation methods may be used as approved by the Engineer and applicable codes.

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

(d) *Fire Control Coordinator Responsibilities.* The Fire Control Coordinator shall:

- (1) Be the primary contact for the local Fire Authority and Project Engineer
- (2) Implement the Fire Control Plan.
- (3) Monitor, manage, and adjust the Fire Control Plan as needed as construction work progresses.
- (4) Document in a letter to the Engineer and Local Fire Authority changes to the Fire Control Plan.
- (5) Contact local firefighting authorities 3 days in advance when a hazardous operation is scheduled. Inspection due to construction activities within project limits may be required.
- (6) Coordinate fire control, mitigation and possible suppression activities until authorities arrive, including the evacuation of staff.

When the Fire Control Coordinator cannot be on the project site, he shall designate a person who is on site to serve as the Fire Control Coordinator. The Fire Control Coordinator, or his designee, shall always be on site while work is performed.

(e) *Open Burning During Weather Events.* **During any of the following weather events, open burning is not permitted in unincorporated Boulder County from time of issuance until midnight in which the event expires: Red Flag Warning, High Wind Warning, High Wind Watch and Fire Danger Warning.** Check the local forecast for up to date information issued by the National Weather Service. This is per Boulder County Ordinance 2018-1, "An Ordinance Repealing and Replacing Boulder County Ordinance 2006-2 and Authorizing the Declaration of Open Fire Bans by the Board of County Commissioners or the County Sheriff."

The National Weather Service issues weather statements to inform area firefighting and land use management agencies that conditions are ideal for wildland fire ignition and propagation (Red Flag Warning, High Wind Warning, High Wind Watch, Fire Danger Warning).

For this standard special provision, smoking is an open flame and shall be included in the definition of open burning, which is not permitted for the above listed weather events. Any smoking or lighting of items outside or within a vehicle with open windows is not permitted on the project site or within 500 feet of the project's limits of disturbance. With the approval of the Engineer, who consults with the local Fire Authority, a designated smoking area may be established.

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

No additional payment or compensation will be paid to the Contractor during any weather events associated with open burning and include Red Flag Warning, High Wind Warning, High Wind Watch, Fire Danger Warning. Delays may be counted as an excusable delay per Standard Specification 108.08 or at the discretion of the Engineer.

- (f) *Costs.* All costs associated with the preparation and implementation of the Plan and compliance with all fire protection provisions and requirements will not be measured and paid for separately but shall be included in the work.

**REVISION OF SECTION 107
AIR QUALITY CONTROL**

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.24 shall include the following:

Equipment Emissions. Boulder County projects shall meet or exceed current Colorado Air Quality standards. The project work shall be performed using practices that minimize air quality detriments during construction. All the standards below shall be followed to improve air quality related to this project:

(a) Emissions standards:

- (1) Optimally, electric or hybrid powered equipment or vehicles will be used on all projects.
- (2) Equipment engines shall be compliant with the most recent Environmental Protection Agency (EPA) requirements.
- (3) Contractors are required to maintain a minimum emissions level for diesel fueled equipment at a Tier 3 level.
- (4) Contractors shall provide certification of compliance with diesel emissions standards. Failure to do so will result in immediate stoppage of work and is a non-excusable delay per subsection 108.08(c)2.
- (5) All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel (B20) blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

(b) Proximity. Any project within 1000 linear feet of a residence or regular gathering location of multiple people (i.e., schools, parks, places of worship, commercial buildings, etc.) is required to have either electric, hybrid or Tier 4 diesel powered equipment or vehicles.

(c) Exemption. Emergency equipment is exempt from this specification. All reasonable effort will be made to replace equipment placed in service at the beginning of the emergency work with equipment as specified above as soon as possible.

(d) Definition. Vehicle, for the purposes of this specification, is defined as any diesel-powered company owned car or truck. It does not apply to personal vehicles.

(e) Cost. Unless shown otherwise in the bid tabulation for this project, costs to achieve this specification will be included in the overall cost of the project.

REVISION OF SECTION 108 PROSECUTION AND PROGRESS

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03(b) shall include the following:

The Contractor shall present a CPM baseline schedule to the Engineer at least three (3) working days prior to the preconstruction conference. This CPM baseline schedule shall show the major features of the project through completion.

Salient features to be shown on the Contractor's progress schedule are:

- (1) Traffic Control
- (2) Mobilization/ Construction Surveying
- (3) Removals
- (4) Asphalt Milling
- (5) Storm Sewers and Inlets
- (6) Wall Construction
- (7) Site Grading
- (8) Asphalt Paving & Overlay
- (9) Guardrail Installation
- (10) Traffic Restoration
- (11) Site Restoration and Cleaning

Meetings will be required to review progress and plan upcoming activities. The Traffic Control Supervisor, the Erosion Control Supervisor and representatives from the Contractor and all active subcontractors shall attend the meetings as necessary. Such meetings will be required on a weekly basis at a time to be determined by the Engineer and the Contractor.

At the weekly progress meetings, the Contractor shall, a written statement of planned activities and anticipated inspection, testing and surveying requirements for the upcoming three (3) weeks. The Contractor shall provide a 24-hour notice to the Engineer if the Contractor elects to change a planned activity.

The Contractor must complete all aspects of the project including punch-list items within an approved not-to exceed period indicated in the Project Special Provision "Commencement and Completion of Work" or liquidated damages per the table included in Section 108.09 of the CDOT Standard Special Provisions will be incurred.

Should the Engineer be notified of this project interfering with Colorado Department of Transportation improvement project, a stop work order may be issued by the Owner. Stop work orders shall be subject to Section 108.08 (c)1.B Determination and Extension of

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**REVISION OF SECTION 108
PROSECUTION AND PROGRESS**

Contract Time, Noncompensable Delay and Section 109.10, Compensation for Compensable Delays of the Specifications.

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**REVISION OF SECTION 108
PROSECUTION AND PROGRESS**

Subsection 108.05 shall include the following:

All work performed by the Contractor or any of his agents shall be accomplished during the established working hours of 8:00 a.m. and 4:00 p.m., Monday through Fridays. Neither the Contractor nor his agents shall work outside of the daily working hours without prior approval by the Engineer.

If the Contractor receives approval to work additional hours beyond the normal working hours or days in Section 108.05 above for his convenience, the Contractor shall reimburse the County for the cost of providing additional engineering and inspection services. The reimbursement to the County will be at a rate of \$125.00 per hour for each County employee and \$175.00 per hour for each consultant required to be on the job site. This cost will be deducted from any money due the Contractor.

**REVISION OF SECTION 201
CLEARING & GRUBBING**

Section 201 of the Standard Specifications is hereby revised for this project as follows:

Subsection 201.01 shall be revised as follows:

No burning of perishable material shall be allowed. Removal of detached concrete, removal of fallen trees shall be removed and discarded as Clearing and Grubbing. Removal of all other items depicted on the plans to be removed, which do not have a pay item, shall be included under Clearing and Grubbing. Removal of Trees that are six (6) inches or less in diameter shall be included under Clearing and Grubbing.

Subsection 201.02, second paragraph shall be replaced as follows:

Clearing and Grubbing shall encompass the area as shown on the plans or as designated by the Project Engineer.

Subsection 201.02, seventh paragraph shall be replaced as follows:

No deleterious material, asphalt or other debris shall be buried within the project limits, unless specified otherwise on the plans.

Subsection 201.02 shall include the following:

It is the responsibility of the Contractor to visit the site and determine the resources necessary to clear and grub the project limits, per the design specifications, and no additional compensation will be allowed thereafter.

**REVISION OF SECTION 202
REMOVAL OF PAVEMENT MARKING**

Sections 202 of the Standard Specifications are hereby revised for this project as follows:

Subsection 202.05 Removal of Pavement Markings shall include the following:

Pavement Markings to be removed shall be marked by the Contractor or Subcontractor no less than 48 hours prior to removal. The Department shall review and approve the pavement markings to be removed prior to the work. All Removal of Pavement Markings shall be completed prior to permanent striping layout. All pavement markings removed shall become the property of the Contractor and disposed of properly offsite.

REVISION OF SECTION 203 EXCAVATION AND EMBANKMENT

Section 203 of the Standard Specifications is hereby revised for this project as follows:

Subsection 203.02 shall include the following:

Material excavated on site may be used in the areas requiring borrow, provided that the material is free of material larger than 6-inch diameter, has a good mix of fines, sand, and gravels and if it meets the required specifications. Material excavated will be evaluated on a case-by-case basis by the Engineer for suitability for reuse in the embankment.

Subsection 203.03, third paragraph shall be replaced with the following:

The borrow source of embankment material is not designated. The material shall be furnished to the site and compacted in place as per CDOT specifications and proof rolled with a fully loaded 4000-gallon tandem axle water truck or equivalent to determine adequate compaction, as determined by the Engineer. Any benching, over excavation, construction of temporary pads, removal of large boulders, shoring, or other work necessary to place the borrow to the lines and grades is considered incidental to the work. The material shall be a well-blended mixture of fines, sand, gravels, and cobbles not to exceed 6-inches in diameter. The material and borrow source must be visually inspected by the Engineer prior to construction. Approval of the source will be contingent upon the material meeting the following requirements

1. A maximum dry density of not less than 100 pounds per cubic foot and a modulus resistance value of at least 40 (for the Hveem method).
2. A well-mixed blend of fines, sand, gravel, and cobbles free of organic and deleterious material, not to exceed 6-inches in diameter and with a No. 200 range of 12 to 28 percent. An overburden cover material containing material passing the No. 200 may be required to be mixed with an overly pervious borrow to produce a borrow material which compacts well, is resistant to erosion, and allows for smooth, cobble-free slopes and allows for complete re-vegetation on the final embankment slopes.

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**REVISION OF SECTION 203
EXCAVATION AND EMBANKMENT**

The Contractor shall furnish certification from a material testing laboratory that the borrow material to be furnished meets the above requirements, including gradation tests.

No aggregate base course materials shall be placed in any section until the cut or fill slopes of that section of embankment and the ditch cut areas have been completely compacted to the top of subgrade and to the full width of the finish subgrade, with no cobbles or rock or debris visible on the slopes.

Subsection 203.04 shall include the following:

All permanent slopes must be left smooth and cobble free for the reestablishment of vegetation. All work and cost associated with the requirement to finish the slopes to a smooth and cobble free finish is included in the price bid for this item. If there is any difficulty with the finishing of the slopes, the contractor shall import and place an approved material to cover the irregular slopes.

Subsection 203.05 (b), first paragraph, shall include the following:

Excess material that must be removed from the project shall become the property of the Contractor and disposed of outside the project limits.

The Contractor shall make all arrangements to obtain any required agency permit(s) and written permission from property owners for disposal locations outside the limits of the project, within unincorporated Boulder County.

Disposal of more than 50 cubic yards of unclassified excavation within unincorporated Boulder County may qualify for one of the following Boulder County Community Planning & Permitting review processes:

- (a) Grading Permit,
- (b) Site Plan Review,
- (c) Site Plan Review Waiver, or
- (d) Limited Impact Special Review.

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**REVISION OF SECTION 203
EXCAVATION AND EMBANKMENT**

Copies of the permit(s) and written permission shall be furnished to the Engineer before the disposal area is used.

Subsection 203.12 shall include the following:

Payment for Unclassified Excavation (Complete in Place) and Embankment (Complete in Place) shall be paid for as Unclassified Excavation (Complete in Place) and also include costs associated with obtaining any necessary permits or written permissions and will not be paid separately.

**REVISION OF SECTION 207
TOPSOIL**

Section 207 of the Standard Specification is hereby revised as follows:

Subsection 207.01 last sentence shall be replaced with the following:

It shall include the placing of topsoil upon constructed cut and fill slopes after grading operations are completed.

Subsection 207.02 shall include the following:

All topsoil shall be either secured from the site or imported and shall be approved by Boulder County at the source prior to import.

Subsection 207.03 shall include the following:

Relieving Compaction: Areas to receive topsoil that have been compacted by heavy equipment shall be ripped or chiseled **prior to redistribution of topsoil**. Construction areas and other compacted areas will be chiseled to a minimum depth of 10 inches, with no more than a 10-inch interval between chiseled furrows. Two passes with a chiseler may be necessary, with the second pass chiseling between the first furrows, or perpendicular to original furrows.

Redistribution of Topsoil and Application of Soil Conditioning: The topsoil should be redistributed uniformly over the disturbed areas, minimizing compaction by equipment. **Topsoil redistribution shall not occur under wet soil conditions.** When applicable, fertilizer or soil conditioning shall be incorporated evenly throughout the topsoil as described in Specification.

**REVISION OF SECTION 208
EROSION CONTROL**

Section 208 of the Standard Specifications is hereby revised for this project as follows:

Section 208 of the Standard Specification is hereby revised as follows:

Subsection 208.02(h) shall include the following:

All erosion logs shall be biodegradable unless otherwise approved by the Engineer.
Photodegradable will not be accepted.

Subsection 208.02 (k) shall include the following:

Prior to the initial arrival onto the project site, all equipment shall be thoroughly power washed, including the undercarriages and tires. Equipment must be clean of mud, vegetative matter, and other debris to prevent importation of non-native and noxious weed seeds from other project sites.

**REVISION OF SECTION 209
WATERING AND DUST PALLIATIVES**

Section 209 of the Standard Specifications is hereby revised for this project as follows:

Subsection 209.05 shall include the following:

The contractor shall be responsible for controlling vehicle and equipment speeds within the project site to keep dust to a minimum. The Contractor shall monitor activities daily for dust. If excessive dust is being generated by construction speeding vehicles or equipment the contractor shall immediately take corrective action to ensure operators and drivers control speeds, thereby, assisting in dust suppression.

Application of dust palliative may be required when work is not in progress, including weekends, holidays, and nighttime.

Subsection 209.08 delete paragraphs one, two and three and replace with the following:

Water and/or dust palliative required for all work covered under the contract will not be measured and paid for separately but shall be included in the work. The source of this water shall be the contractor's responsibility. Water may not be taken from on-site ditches, creeks, or their tributaries.

**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER, AND SODDING**

Section 212 of the Standard Specification is hereby revised as follows:

Subsection 212.02 (a) shall include the following:

Maximum crop and weed content shall follow the Colorado Seed Certification Standards for certified seed:

- (1) Prohibited (Primary) Noxious Weeds (List A): None,
- (2) Restricted (Secondary) Noxious Weeds (List B): Less than 0.1%, and
- (3) Total Other Crop Seed: Less than 1.0%.

Seed shall be free of Prohibited (Primary) Noxious Weeds (List A) including, but not limited to, Canada thistle, diffuse knapweed, spotted knapweed, Russian knapweed, field bindweed, hoary cress, jointed goat grass, leafy spurge, musk thistle, and yellow toadflax. The Contractor shall be responsible for replacing any refused seed at no additional cost to the project.

If specified type or variety of seed is not available, substitutions must be submitted and approved by the Engineer.

Subsection 212.02 (b) 1 shall be replaced with the following.

(b) Fertilizer, Soil Conditioners and Biochar

1. Fertilizer: Fertilizer may only be used if directed by the project specific documents.

Fertilizer shall meet the following description; a slow release organic fertilizer composed of dried granulated fungal and bacterial biomass. The nutrient source shall be derived from fermented plant material along with nutrients such as cottonseed meal, soybean meal and trace elements all under sterile conditions. It shall not contain urea or sewage material.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

The fertilizer shall meet the following minimum requirements:

Criteria	Requirement
Nutrient Content (N-P-K)	7-2-1 <ul style="list-style-type: none">• Nitrogen (total) >7%• Nitrogen (water soluble) <0.5%• Phosphorus (P205) 2-4%,• Potassium (K20) 1%
Phosphorous Content	3-6-3, 4-6-4, 3-7-4, or comparable
pH level	6.5-7.5
Organic Material	>75%

Subsection 212.02 (b) 2 shall be replaced with the following:

2. Soil Conditioner: Soil conditioner shall consist of compost, biological nutrient, biological culture or humic acid-based material. Compost shall be used as a soil conditioner unless otherwise specified in the project specific documents.

Humic acid-based material (Humate) shall be mined from fresh water, sand matrix source and shall include the following:

- (1) A pH 3.5 to 4.0.
- (2) Maximum 15 percent inert ingredients.
- (3) Minimum 85 percent organic material with 50 percent minimum humic acid.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Compost shall be weed-free, organic compost derived from a variety of feed stocks including agricultural, biosolids, forestry, food, leaf and yard trimmings, manure, tree wood with no substance toxic to plants. Material shall be aerobically composted in a facility permitted by the Colorado Department of Public Health and Environment (CDPHE) to produce or sell compost in accordance with House Bill (HB) 1181. The Contractor shall submit a copy of this permit to the Engineer for approval and the project records. The compost shall be tested in accordance with the U.S. Composting Council's Test Methods for Examining of Composting and Compost (TMECC) manual.

The compost manufacturer shall be a participating member of in the U.S. Composting Council's Seal of Testing Assurance Program (STA). The Contractor shall provide a participation certificate and test data on a Compost Technical Data Sheet. The Contractor shall provide a participation certificate and test data showing the lab analysis on a Compost Technical Data sheet that verifies that the compost meets the requirements. The Contractor shall submit documentation showing the feedstock amount by percentage in the final compost product. Compost feedstock may include, but is not limited to, leaves and yard trimmings, food scraps, food-processing residuals, manure or other agricultural residuals, forest residues, bark, and paper. Biosolids (from sewage treatment facilities) are not considered suitable feedstock.

Compost shall consist of a carbon to nitrogen ratio between 10:1 and 20:1. Compost may consist of one or more of the following, or include other appropriate composts:

- (1) Well-aged dairy cattle manure,
- (2) Well-aged poultry manure, or
- (3) Composted yard wastes.

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**REVISION OF SECTION 212
 SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Compost shall have the following physical properties:

Compost Parameters	Reported As	Requirement	Test Method
pH	pH units	6.0 – 8.5	TMECC 04.11-A
Soluble Salts (Electrical Conductivity)	dS m ⁻¹ or mmhos cm ⁻¹	Maximum 10dS/m	TMECC 04.10-A
Moisture Content	%, wet weight basis	30 – 60%	TMECC 03.09-A
Organic Matter Content	%, dry weight basis	30 – 65%	TMECC 05.07-A
Particle Size (sieve sizes)	%, dry weight basis for each sieve fraction	Passing 1 inch – 100% 1/2 inch – 95%	TMECC 02.02-B
Man-made Inert Contamination	%, dry weight basis	< 1%	TMECC 03.08-A
Stability (Respirometry)	mg CO ₂ -C per g TS per day mg CO ₂ -C per g OM per day (PASS/FAIL) Limits:	8 or below	TMECC 05.08-B
Select Pathogens	Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <1000 MPN/gram (PASS/FAIL) Limits:	Pass	TMECC 07.01-B Fecal Coliforms, or 07.02 Salmonella
Trace Metals	(PASS/FAIL) Limits (mg kg ⁻¹ , dw basis): As 41, Cd 39, Cu 1500, Pb 300, Hg 17, Ni 420, Se 100, Zn 2800	Pass	TMECC 04.06
Maturity (Bioassay) Percent Emergence Relative Seedling Vigor	%, (average) %, (average)	> 80% > 80%	TMECC 05.05-A
The Contractor shall provide a CTR in accordance with subsection 106.13 confirming that the material has been tested in accordance with TMECC.			

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**REVISION OF SECTION 212
 SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

- 3. Biochar: Biochar shall be a USDA Certified Biobased Product. Biochar shall be made in a slow pyrolysis process and exceed 70% carbon content in the delivered product. The size of an individual piece of char shall range between 0.25 inches to 1.25 inches.

Mycorrhizae: Supplemental mycorrhizae, Quantum Growth VSC:

- (1) 1.32% humic acid (from peat humus)
- (2) 0.50% *Rhodopsuedomonas palustris*..... 1.0 E+6 cfu/ml
- (3) 0.25% *Bacillus amyloliquefaciens*..... 5.0 E+5 cfu/ml
- (4) 0.25% *Bacillus licheniformis*..... 3.0 E+5 cfu/ml
- (5) 0.25% *Bacillus megaterium*..... 1.0 E+5 cfu/ml
- (6) 0.25% *Bacillus subtilis*..... 2.0 E+5 cfu/ml

Supplemental mycorrhizae, Quantum Growth Light:

- (1) 0.5% *Rhodopsuedomonas palustris*.....5.0 E+6 cells/ml
- (2) 99.5% de-ionized water

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Subsection 212.06 (a) shall be replaced with the following:

- (a) *Soil Preparation.* Following redistribution of topsoil, the disturbed areas shall be chiseled again to a minimum depth of 12 inches, with no more than a 10-inch interval between chiseled furrows. Slopes flatter than 2:1, shall be tilled to a well settled, firm, and friable seedbed four (4) inches deep. Slopes 2:1 or steeper shall be left in a roughened condition. Slopes shall be free of soil clods, sticks, stones, and debris more than four (4) inches in any dimension and be brought to the desired grade and line. Uneven grading of the soil surface is acceptable and encouraged to prevent further compaction from excess heavy machinery operation. All slopes shall be free of concrete and asphalt. No soil preparation for seeding shall occur when soil is frozen or in an extreme wet or dry condition.

Subsection 212.06 (b) shall be replaced with the following:

- (c) *Fertilizing and Soil Conditioning.* Prior to seeding, fertilizer, soil conditioner, or both shall be applied evenly throughout the topsoil.
1. Fertilizing. Apply approved product at 800 to 1,300 lbs. per acre. Fertilizers shall be incorporated into the top four (4) inches of soil after broadcasting seed.
 2. Compost. Biological nutrient, culture or humic based material called for on the plans shall be uniformly applied at three (3) cubic yards per 1000 square feet onto the soil service. Organic amendments shall be applied uniformly over the soil surface and incorporated into the top six (6) inches of soil. No measurable quantity of organic amendment shall be present on the surface after incorporation.
 3. Biochar. Supplemental mycorrhizae – Quantum Growth VSC applied at 2 gal/acre and Quantum Growth Light applied at 1 gal/acre.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Subsection 212.06 (c) shall be replaced with the following:

- (c) *Seeding.* Seeding shall be accomplished within 24 hours of tilling or scarifying to make special seed bed preparation unnecessary. The seeding application rate shall be as designated in the Contract. All slopes flatter than 2:1 shall be seeded with grass or no-till drills followed by packer wheels. Drag chains are not allowed. Drills shall have depth bands set to maintain a planting depth between $\frac{1}{2}$ and $\frac{3}{4}$ inch and shall be set to space the rows not more than seven (7) inches apart. Packer wheels that firm the soil over the drill row are required. Seed that is extremely small shall be sowed from a separate hopper adjusted to the proper rate of application. The Contractor shall notify the Engineer 24 hours in advance and request inspection of seeding areas prior to installation.

Seed must be applied with a grass or no-till drill that is specifically designed to accommodate variability in size and physical characteristic of native grass seeds.

Seed drills must be clean of seed from previous seeding jobs before any seeding begins.

If strips greater than seven (7) inches between the rows have been left unplanted or other areas skipped, the Engineer will require additional seeding at the Contractor's expense.

When requested by the Contractor and approved by the Engineer, seeding may be accomplished by broadcast or hydraulic type seeders at twice the rate specified in the Contract at no additional cost to the project.

All seed sown by broadcast-type seeders shall be "raked in" or covered with soil to a depth of at least $\frac{1}{4}$ inch. Broadcasting seed will be permitted only on small areas not accessible to machine methods. Broadcast seeding shall proceed on freshly disturbed (raked or harrowed) soil surface and broadcast seed shall be immediately raked or harrowed into the surface. Raking shall be accomplished using metal-tined garden or landscape rakes; no plastic leaf rakes shall be allowed. If harrowing is used, an English harrow or its equivalent shall be required.

Hydraulic seeding will not be accepted.

Seeded areas damaged due to circumstances beyond the Contractor's control shall be repaired and reseeded as ordered. Payment for this corrective work, when ordered, shall be at the contract prices.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Areas not requiring seeding that have been damaged due to the seeding operation shall be required as ordered. Payment for this corrective work, when ordered, shall at the contract prices.

Multiple seeding operations shall be anticipated as portions of job are completed to take advantage of growing conditions and to comply with Section 208 and subsection 212.03.

Application of various types of seeding are as follows:

1. Seeding (Upland). Prior to seeding, the soil conditioner shall be applied at 3 CY per 1000 SF and incorporated into the top eight (8) inches of soil.
Seed shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under Seeding (Upland). Seed shall be applied to Seeding (Upland) areas shown on plans.
2. Seeding (Riparian). Prior to seeding, the soil conditioner shall be applied at 6 CY per 1000 SF and incorporated into the top eight (8) inches of soil.
Seed shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under Seeding (Riparian). Seed shall be applied to Seeding (Riparian) and Perennial (Tublings) areas shown on plans.
3. Combined Seeding. Prior to seeding, the soil conditioner shall be applied at three cubic yards per 1000 SF and incorporated into the top eight (8) inches of soil.
Seed shall be made up of 70% Seeding (Upland) and 30% Seeding (Riparian). Combined seeding shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under both Seeding (Upland) and Seeding (Riparian).

Subsection 212.07, paragraph four, shall include the following:

The Contractor shall furnish the Engineer with delivery tickets or bag weight tickets prior to placing any soil conditioner. Any soil conditioner placed by the Contractor without the Engineer's approval will not be paid for.

Tags attached to bags of seed will not be removed until the bag is opened on site at the time of seeding.

**REVISION OF SECTION 214
LANDSCAPE MAINTENANCE**

Section 214 of the Standard Specifications is hereby revised for this project as follows:

Subsection 214.01 shall include the following:

This work consists of establishing seeding.

Subsection 214.02 shall include the following:

Seeding material shall be as specified in Standard Specification 212.

Subsection 214.03 shall include the following:

Seeding construction requirements shall be as specified in Standard Specification 212.

Subsection 214.04, second paragraph shall include the following:

Planting material (Plants) also includes seeding.

Subsection 214.04 (b) shall include the following:

The Contractor shall water, mow and remove noxious weeds and cultivate the seeded areas as required or as directed by the Engineer. The Contractor shall repair eroded areas, washouts and gullies, replace lost mulch, keep all seeded areas free from weeds, mow weeds prior to flowering and remove seed heads to minimize future weed growth, and do other work necessary to ensure seed establishment and growth.

Subsection 214.04 (b), 1 shall include the following:

Watering in Irrigated Areas. Seeding shall be watered lightly and often enough to keep the surface of the soil moist during seed germination, which can take up to two to four weeks.

Watering in Non-irrigated Areas. Seeding shall be watered lightly and often enough to keep the surface of the soil moist during seed germination, which can take up to two to four weeks.

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**REVISION OF SECTION 214
LANDSCAPE MAINTENANCE**

Subsection 214.05 shall include the following:

Planting material (Plants) also includes seeding.

Subsection 214.06 shall include the following:

Removal of noxious weeds from seeded or sodded areas shall be included in the work for Landscape Maintenance.

For each month that landscape maintenance is performed for seeding and sodding and accepted during the landscape maintenance period as specified in subsection 214.04, payment for landscape maintenance will be made in installments as follows:

- (1) 10 percent of the lump sum amount will be paid for each of the eight growing season months, March through October.
- (2) 5 percent of the lump sum amount will be paid for each of the winter months, November through February.

Landscape maintenance performed for seeding and sodding during construction will not be measured and paid for separately but shall be included in the work.

Landscape Establishment performed for seeding and sodding, except for landscape maintenance, will not be paid for separately, but shall be included in the work.

REVISION OF SECTION 216 SOIL RETENTION COVERING

Section 216 of the Standard Specifications is hereby replaced as follows:

DESCRIPTION

216.01 This work consists of furnishing, preparing, applying, placing, and securing soil retention blankets for erosion control on roadway slopes or channels as designated in the Contract

MATERIALS

216.02 Soil retention covering shall be a soil retention blanket as specified in the Contract. All soil retention coverings shall be biodegradable. Photodegradable will not be accepted. It shall conform to the following:

- (a) *Soil Retention Blanket*. Soil retention blanket shall be composed of degradable natural fibers mechanically bound together between two slowly degrading natural fiber nettings to form a continuous matrix and shall conform to the requirements of Tables 216-1 and 216-2. The blanket shall be of consistent thickness with the fiber evenly distributed over the entire area of the mat.

When biodegradable blanket is specified, the thread shall be 100 percent biodegradable; polypropylene thread is not allowed.

Blankets and nettings shall be non-toxic to vegetation and shall not inhibit germination of native seed mix as specified in the Contract. The materials shall not be toxic or injurious to humans. Class 1 blanket shall be an extended term blanket with a typical 24-month functional longevity. Class 2 blanket shall be a long-term blanket with a typical 36-month functional longevity. The class of blanket is defined by the physical and performance characteristics.

1. *Soil Retention Blanket (Straw-Coconut) (Biodegradable)*. Soil Retention Blanket (Straw-Coconut) shall be a machine produced mat consisting of 70 percent certified weed free agricultural straw or Colorado native grass straw and 30 percent coconut fiber. The blanket shall be either biodegradable or photodegradable. Blankets shall be sewn together on a maximum 2-inch centers.

The top and bottom netting shall be 100 percent biodegradable organic jute fiber. Netting shall be constructed using a weave unattached at intersections which allows the strands of the net to move independently of each other.

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**REVISION OF SECTION 216
 SOIL RETENTION COVERING**

2. *Soil Retention Blanket (Coconut) (Biodegradable)*. Soil Retention Blanket (Coconut) (Biodegradable) shall be a machine produced mat consisting of 100 percent coconut fiber that is biodegradable.

The top and bottom netting shall be 100 percent biodegradable organic jute fiber. Netting shall be constructed using a weave which is unattached at the intersections, and which allows the strands of the net to move independently of each other.

**TABLE 216-1
 PHYSICAL REQUIREMENTS FOR
 SOIL RETENTION BLANKET – BIODEGRADABLE BLANKET**

Bio Degradable Class	Minimum Roll Width	Minimum Thickness ASTM D6525	Acceptable Matrix Fill Material	Min. Mass per Unit Area ASTM D6475	Size of Net Opening
1	6.5 ft.	250 mils	Straw/ Coconut	8oz/sy	Minimum 0.50"x0.50"
					Maximum 0.50"x1.00"
2	6.5 ft.	300 mils	Coconut*	8oz/sy	Minimum 0.50"x0.5"
					Maximum 0.5"x1.00"

*Minimum Open Area, 36%

**TABLE 216-2
 PERFORMANCE REQUIREMENTS FOR
 SOIL RETENTION BLANKET – BIODEGRADABLE BLANKET**

Biodegradable Class	Slope Application "C" Factor ¹ ASTM D6459	Minimum Tensile Strength MD ² ASTM D6818	Minimum Tensile Strength ASTM D4595
1	<0.1 at 3:1	8.33 lbs/in	
2	<0.1 at 3:1	10.42 lb/in	1968 lb/ft

1. "C" Factor is calculated as ratio of soil loss from soil retention blanket protected slope (tested as specified or greater gradient, 3H:1V) to ratio of soil loss from unprotected (control) plot in large-scale testing.
 2. MD is for machine direction testing (along the length of the roll).

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REVISION OF SECTION 216 SOIL RETENTION COVERING

Blankets shall be tested for physical properties and have published data from an independent testing facility.

Large scale testing of Slope Erosion Protection ("C" factor) shall be performed by an independent testing facility.

- (b) *Staples*. Staples shall be made of ductile steel wire, 0.165 inches in diameter, 8 inches long and have a 1-inch crown. "T" shaped staples will not be permitted.

A sample of the staples and a Certificate of Compliance (COC) including the manufacturer's product data showing that the product meets the Contract requirements shall be submitted for approval at the Environmental Pre-construction Conference. Installation of the blanket will not begin until approval has been received from the Engineer in writing.

- (c) *Earth Anchors*. The mechanical earth anchor shall be composed of a load bearing face plate, a tendon rod or wire rope, and a locking head or percussion anchor. Each element of the anchor shall be composed of corrosion resistant materials. The anchor and wire rope shall have a breaking strength of 9,500 pounds utilizing standard tensile testing and ASTM A1007-07. The anchor shall have a minimum 1,000 pounds ultimate holding strength in normal soil and a manufacturer's recommended minimum driven depth of 3.5 feet.

A sample of the anchors and a Certificate of Compliance (COC) including the manufacturer's product data showing that the product meets the Contract requirements shall be submitted for approval at the Environmental Pre-construction Conference. Installation of the blanket will not begin until approval has been received from the Engineer in writing.

CONSTRUCTION REQUIREMENTS

216.03 The Contractor shall install soil retention coverings in accordance with Standard Plan M-216-1 and the following procedure:

- (1) Prepare soil in accordance with subsection 212.06(a).
- (2) Apply topsoil or soil conditioning as directed in the Contract to prepare seed bed.
- (3) Place seed in accordance with the Contract.
- (4) Unroll the covering parallel to the primary direction of flow.

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REVISION OF SECTION 216 SOIL RETENTION COVERING

- (5) Ensure that the covering maintains direct contact with the soil surface over the entirety of the installation area.
- (6) Do not stretch the material or allow it to bridge over surface inconsistencies.
- (7) Staple the covering to the soil such that each staple is flush with the underlying soil.
- (8) Ensure that staples or earth anchors are installed full depth to resist pull out. No bent over staples will be allowed. Install anchor trenches, seams, and terminal ends as shown on the plans.

216.04 Slope Application. Soil retention coverings shall be installed on slopes as follows: The upslope end shall be buried in a trench 3 feet beyond the crest of the slope if possible. Trench depth shall be a minimum of six inches unless required by the manufacture to be deeper. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over trench and secured with staples or earth anchors at one foot on center.

There shall be an overlap wherever one roll of fabric ends, and another begins with the uphill covering placed on top of the downhill covering. Staples shall be installed in the overlap.

There shall be an overlap wherever two widths of covering are applied side by side. Staples shall be installed in the overlap.

Staple checks shall be installed on the slope length at a maximum of every 35 feet. Each staple check shall consist of two rows of staggered staples.

The down slope end shall be buried in a trench 3 feet beyond the toe of slope. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping and seeded. Fabric shall be brought back over the trench and secured with staples or earth anchors. If a slope runs into State waters or cannot be extended 3 feet beyond the toe of slope, the end of covering shall be secured using a staple check as described above.

Coverings shall be securely fastened to the soil by installing staples or earth anchors at the minimum rate shown on the Standard Plan M-216-1. Staple or earth anchor spacing shall be reduced where required due to soil type or steepness of slope.

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REVISION OF SECTION 216 SOIL RETENTION COVERING

216.05 Channel Application. Soil retention coverings shall be installed as follows on a channel application:

Coverings shall be anchored at the beginning and end of the channel across its entire width by burying the end in a trench. Trench depth shall be a minimum of 6 inches, unless a larger depth is specified by the manufacturer's recommendations. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil and compacted by foot tamping and seeded. Fabric shall be brought back over the trench and stapled.

Covering shall be unrolled in the direction of flow and placed in the bottom of the channel first. Seams shall not be placed down the center of the channel bottom or in areas of concentrated flows when placing rolls side by side.

There shall be an overlap wherever one roll of covering ends and another begins with the upstream covering placed on top of the downstream covering. Two rows of staggered staples shall be placed.

There shall be an overlap wherever two widths of covering are applied side by side. Staples shall be placed in the overlap.

The covering shall have a channel check slot every 30 feet along the gradient of the flowline. Check slots shall extend the entire width of the channel. The covering shall be buried in a trench. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over the trench and continued down the channel.

Coverings shall be securely fastened to the soil by installing staples at the minimum rate shown on the plans. Staple spacing shall be reduced where needed due to soil type or high flows.

216.06 Maintenance. The Contractor shall maintain the soil retention coverings until all work on the Contract has been completed and accepted. Maintenance shall consist of the repair of areas where damage is due to the Contractor's operations. Maintenance shall be performed at the Contractor's expense. Repair of those areas damaged by causes not attributable to the Contractor's operations shall be repaired by the Contractor and will be paid for at the contract unit price. Areas shall be repaired to reestablish the condition and grade of the soil and seeding prior to application of the covering.

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**REVISION OF SECTION 216
SOIL RETENTION COVERING**

METHOD OF MEASUREMENT

216.07 Soil retention coverings, including staples, complete in place and accepted, will be measured by the square yard of finished surface, excluding overlap, which is installed and accepted. Earth anchors will be measured by the actual number of earth anchors complete in place and accepted.

BASIS OF PAYMENT

216.08 The accepted quantities of soil retention coverings will be paid for at the contract unit price per square yard. The accepted quantities of earth anchors will be paid for at the contract unit price for each installed.

Payment will be made under:

Pay Item	Pay Unit
Soil Retention Blanket (Straw-Coconut) (Biodegradable Class 1)	Square Yard

**REVISION OF SECTION 403
 HOT MIX ASPHALT**

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1

Property	Test Method	Value for Grading		
		S(75)	SX(75)	Patching
Air Voids, percent at: N (design)	CPL 5115	3.5 – 4.5	3.5 – 4.5	3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115	75	75	75
Stability, minimum	CPL 5106	30	30	30
Aggregate Retained on the 4.75 mm (No. 4) Sieve with at least 2 Mechanically Induced fractured faces, % minimum	CP 45	60%	60%	60%
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B	80	80	80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method B	205 (30)	205 (30)	205 (30)
Grade of Asphalt Cement, Top Layer			PG 58-22	PG 58-22
Grade of Asphalt Cement, Layers below Top		PG 58-22		PG 58-22
Voids in the Mineral Aggregate (VMA) % minimum	CP 48	See Table 403-2	See Table 403-2	See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2	60-75	60-75	60-80
Dust to Fine Gradation Asphalt Ratio: Coarse Gradation	CP 50	0.6 – 1.2 0.8 – 1.6	0.6 – 1.2 0.8 – 1.6	0.6 – 1.2 0.8 – 1.6
<ul style="list-style-type: none"> • AI MS-2 = Asphalt Institute Manual Series 2 • The current version of CPL 5115 is available from the Region Materials Engineer (RME). • Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems. • Gradations for mixes with a nominal maximum aggregate size of one inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen. • Gradations for mixes with a nominal maximum aggregate size of ¾ inch or smaller are considered a coarse gradation if they pass below the maximum density line at the #8 screen. • Fractured face requirements for SF may be waived by RME depending on project conditions. 				

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REVISION OF SECTION 403
HOT MIX ASPHALT

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. The job mix formula (Form 43) will establish construction targets for asphalt cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.

Table 403-2

Minimum Voids in the Mineral Aggregate (VMA)			
Nominal Maximum Size*, mm (inches)	***Design Air Voids **		
	3.5%	4.0%	4.5%
37.5 (1½)	11.6	11.7	11.8
25.0 (1)	12.6	12.7	12.8
19.0 (¾)	13.6	13.7	13.8
12.5 (½)	14.6	14.7	14.8
9.5 (¾)	15.6	15.7	15.8
* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%. ** Interpolate specified VMA values for design air voids between those listed. *** Extrapolate specified VMA values for production air voids beyond those listed.			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop, and the cause of segregation shall be corrected before paving operations will be allowed to resume.

The hot mix asphalt will include reclaimed asphalt pavement (RAP) per revised Standard section 401.

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (Grading S) (75) (PG 58-22).

A minimum of one percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

Acceptance samples shall be taken according to CP-41.

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**REVISION OF SECTION 403
 HOT MIX ASPHALT**

Subsection 403.03 shall include the following:

A material transfer device will be required for the placement of asphalt on the top lift of paving.

Prior to placing tack coat and beginning overlay work, the surface to be tack coated shall be swept to remove accumulations of loose gravel, vegetation and debris.

All patching shall be completed prior to any mill/planning process and before the heating and scarifying process.

Subsection 403.05 shall include the following:

Payment will be made under:

PAY ITEM	PAY UNIT
Hot Mix Asphalt (Grading SX) (75)(PG 58-22)	Ton
Hot Mix Asphalt (Grading S) (75)(PG 58-22)	Ton
Hot Mix Asphalt (Patching) (Asphalt)	Ton

Aggregate, asphalt recycling agent, additives, hydrated lime, and all other work necessary to complete each hot mix asphalt item will not be paid for separately but shall be included in the unit price bid. When the pay item includes the PG binder grade, the asphalt cement will not be measured and paid for separately but shall be included in the work. Asphalt cement will not be measured and paid for separately but shall be included in the work. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately but shall be included in the work.

Hot Mix Asphalt (Patching) (Asphalt) shall include, neat line cutting around the perimeter of the patch area, the removal and disposal of existing pavement and underlying material six (6) inches in depth to achieve the desired patch section, mechanical compaction of subgrade, placement of emulsified asphalt (CSS-1H) tack coat, and the haul, placement, and compaction of six (6) inches of full depth Hot Mix Asphalt.

REVISION OF SECTION 504 MODULAR BLOCK GRAVITY RETAINING WALL

Section 504 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of designing and constructing a pre-manufactured, Modular Block Gravity Retaining Wall at the locations and to the lines and grades shown on the plans. The retained structure backfill zone is the structure backfill retained by the gravity structure as shown on the plans. The wall design shall conform to AASHTO LRFD 5th Edition 2010 with Current Interims. The wall design shall accommodate the existing utilities without adjustment unless noted on the plans. The wall design shall accommodate all construction within the existing public Right of Way and easements as shown on the plans.

MATERIALS

- (a) **Shop Drawings.** The Contractor shall submit six (6) shop drawings in accordance with the subsection 105.02, including all design calculations, stamped and signed by a professional engineer registered in the State of Colorado, at least two weeks prior to the planned start of construction of the walls. For quality approval, the shop drawings shall calculate and report the total number of square feet of facial areas as stipulated in method of measurement. The shop drawings shall provide the details necessary to demonstrate compliance with the requirements in the plans and these specifications.

- (b) **Premanufactured Modular Concrete Blocks.** Concrete blocks including partial blocks and cap units produced by a licensed manufacturer shall conform to the requirements shown on the plans and these specifications including the color, texture, and pattern. Contractor shall submit the appropriate documentation to the Engineer demonstrating that the wall manufacturer is qualified and experienced in the design and fabrication of modular concrete block retaining walls for use in similar projects. The Contractor shall provide certification that the results of tests performed in accordance with this subsection meet the requirements of the appropriate specification.
 - 1. The modular concrete block shall conform to the requirements shown on the plans and these specifications including the color, texture, and pattern (type, contrast, color(s), and finish to be determined) with dome shear knobs, approved by the Engineer. Sample blocks shall be prepared by the manufacturer for inspection by the Engineer prior to shipping any blocks to the site to confirm the color and finish desired.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

2. Cementitious material shall meet the requirements of Section 701. The concrete block wall unit shall conform to the standards ASTM C94 for ready mixed concrete.
3. Aggregates used in concrete blocks shall conform to ASTM C33 for normal weight concrete aggregate.
4. The 28-day compression strength for concrete blocks shall be equal to or greater than 4000 psi. The quality of blocks shall be maintained such that the variations of the compression strengths are within 10 percent. The minimum oven dry unit weight shall be 125 pcf with an air content within five (5) to eight (8) percent, a slump within four (4) to six (6) inches, and a maximum water absorption rate by weight of six (6) percent. Testing shall be performed in accordance with ASTM C642.
5. Blocks shall be visually efflorescence free. An efflorescence control agent shall be used in the concrete mix design. Test results for freeze and thaw durability shall be supplied with test data up to 300 cycles to confirm that blocks with concrete additives alone can survive 150 cycles with weight loss for each of the four (4) or five (5) samples not exceeding 1% initial weight. Per Engineer's approval, project specific freeze and thaw durability tests may be substituted by the tests of units made with the same material, concrete mix design, manufacturing process, and curing method, conducted not more than 18 months prior to delivery. An independent laboratory shall provide reports and certifications of the above tests as per ASTM C1262 and C1372 as appropriate.
6. The Contractor shall check the materials upon delivery to assure proper material has been received and shall protect the materials from damage. All units shall be sound and free from cracks or other defects that would interfere with proper placement of the unit or impair the strength or permanence of the construction. Cracks, chips, or color blemishes will be cause for rejection. Damaged materials shall not be incorporated in the project. The Contractor shall prevent excessive mud, wet concrete and like materials from coming in contact with the block units.
7. The permissible variations in the exterior dimensions of the concrete blocks shall not differ more than plus or minus $\frac{1}{8}$ inch, except the height of the block shall be within plus or minus $\frac{1}{16}$ inch from the specified dimensions for an individual block. The minimum thickness of the concrete blocks shall comply with those designated on the plans.
8. The Engineer shall be allowed access to the manufacturer's facilities to inspect and sample units from lots prior to delivery with a minimum 2 working days advance notice. The Engineer will reject any concrete blocks, which do not meet the requirements of this specification. The Contractor shall notify the Engineer in writing at least 3 working days before shipment of blocks begins.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

- (c) **Leveling Pad.** Concrete for the leveling pad shall be Concrete (Class D) conforming to the requirements of Section 601. For erosion protection and bearing capacity the leveling pad shall have a minimum 18 inches soil embedment. Unless specified on the plans, the maximum vertical step shall be no greater than 18 inches. The leveling pad shall be a minimum of 12 inches in thickness and reinforced only at the steps. When the toe of the wall is founded on a slope steeper than 1.5 (H) to 1 (V), the leveling pad shall be constructed with reinforced concrete with same reinforcing schedule as at its steps. Leveling pad concrete shall be cured for at least 12 hours before placement of the concrete blocks.
- (d) **Structure Backfill (Flow-Fill).** All retained fill as shown on the plans shall consist of Structure backfill (flow-fill) in accordance with 206.
- (e) **Geomembrane and Joints.** A Geomembrane shall be installed on all walls at the top of the retained structure backfill zone to intercept surface runoff and prevent salt penetration into the backfill of the wall as shown on the plans. The Geomembrane shall meet the requirements of subsection 712.08 for geomembrane and shall have a minimum thickness of 30 mils. It shall be spliced with a dual track field seamed joint in accordance with ASTM D4437 or ASTM D7717. Unless otherwise shown on the plans, the membrane shall have a minimum coverage length measured perpendicular to the wall face of at least two times the wall Design Height (DH). The membrane shall be installed with a slope between 20:1 (minimum) and 10:1 (maximum), as shown on the plans, from the block facing to a drainage system located at the cut or pre-filled slope as shown on the plans.
- (f) **Drainage System.**
1. The drainage system shall consist of a 12-inch wide geo-composite strip drain inserted into a slot in the geomembrane, at 10-foot maximum spacing, that collects the water from the membrane and conveys it to a water collector system at the toe of the slope as shown on the plans.
 2. The water collector system shall consist of a 4-inch diameter perforated collector pipe wrapped with Class 3 Geotextile. A 4-inch diameter non-perforated drainpipe, at 100 foot maximum spacing, shall be used to discharge the water in the water collector system out the face of the wall.
 3. Alternatives for the drainage system shown on the plans may be used by the Contractor. A detailed layout of this equivalent water collection system shall be provided by the Contractor and approved by the Engineer.
- (g) **Non-Woven Geotextile Fabric.** If indicated on the plans, Non-Woven geotextile fabric shall be placed between the structural backfill and the native soil. Fabric shall be in accordance with 708.

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REVISION OF SECTION 504 MODULAR BLOCK GRAVITY RETAINING WALL

- (h) **Certifications and Testing Reports.** The Contractor shall submit six sets of the following reports, certifications, and checklists. The Contractor is responsible for providing the material testing and certifications, obtained from the manufacturer or an independent testing laboratory, demonstrating that the materials meet or exceed the required wall design criteria.
1. Report for Block-Block Connection Test. An independent laboratory shall prepare the test report. The block-to-block connection test method shall generally conform to the requirements of NCMA Methods SRWU-2. The service state connection strength displacement criterion shall be $\frac{3}{4}$ inches.
 2. Report and Certification for Concrete Block 28 Day Compression Strength. For the 28-day compressive strength test, a saw cut coupon compressive test is acceptable to verify the 28-day concrete strength provided the sample allows the test to conform to ASTM C90. The sampling shall be done at manufacturer's casting yard and testing results shall be pre-approved before shipment. The Engineer will approve the sample selections for the coupon tests. Coupons shall be cut from the two sides or the back of block (not the front split face) with maximum two original concrete surfaces. The average compressive strength of three tests from three randomly selected blocks, with load applied in the bearing direction shall be equal to or greater than 4,000 psi with the minimum of 3,500 psi for individual tests in accordance with ASTM C90 and ASTM C140.
 3. Efflorescence. The block shall be visually efflorescence free. Efflorescence control agent shall be used in concrete mix design.
 4. Concrete mix design for Structure Backfill (Flow-Fill) in accordance with Sections 206 and 601.
 5. Submittal Checklist. The Contractor shall submit the Modular Block Gravity Retaining Wall Submittal Checklist, Form 1401, with the certifications and testing report submittal package.

CONSTRUCTION REQUIREMENTS

- (a) **Approval and Qualifications of Gravity Block Wall Installer.** The job site wall foreman shall have experience in construction of at least five transportation related MSE or Gravity Block walls within the last three years. Transportation related walls are walls that carry or are adjacent to vehicular traffic and are constructed with modular block facing units with crushed rock backfill or MSE reinforcement in the reinforced structure backfill zone. The foreman or manufacturer's representative must have prior experience or adequate training on the products that the Contractor elects to use on the project. The resume and credentials of the foreman or manufacturer's representative shall be submitted to the Engineer for approval prior to the pre-construction meeting. The foreman shall be on the site for 100 percent of the time during which the wall is being constructed.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

- (b) **Wall Test Segment.** The wall test segment shall be the first segment of the wall constructed. The wall test segment shall be constructed in the presence of the Technical Representative and the Engineer and shall include construction of each of the four elements listed in (c) below. The minimum length of the wall test segment shall be 40 feet or the full length of the wall if less than 40 feet. A wall test segment shall be constructed for the first wall constructed from each wall product used on the project.
- (c) **Technical Representative of Wall Product Supplier.** The Contractor shall arrange for a technical representative (Tech Rep) of the manufacturer of the wall products to be present during the construction of each wall test segment. If the wall products are supplied from different manufactures, a Tech Rep from each wall product shall be present.
1. The Tech Rep shall be present for construction of the wall test segment and each of the following elements:
 - A. Placement of a minimum of the first two courses of concrete blocks and backfill or a minimum of a three-foot wall height,
 - B. If obstructions (i.e. steel piles, concrete piers/abutments, concrete boxes, pipes, etc.) exist, placement of backfill at one of the obstructions,
 - C. If a vertical slip joint is required, construction of the vertical slip joint in a minimum of a two-course portion of blocks or a minimum of a three-foot wall height, and
 - D. If corners are required, construction of a representative corner in the wall in a minimum of a two-course portion of blocks or a minimum of a three-foot wall height.
 2. Before construction of the wall test segment the Tech Rep shall provide the Contractor and the Engineer the following:
 - A. Technical instructions as required in the construction of the earth retaining wall system.
 - B. Product specific specifications in the placement of the soil reinforcement and backfill in accordance with the wall system.
 - C. Guidelines in placing the gravity block units and attaching them to the soil reinforcement in accordance with the system requirements.
 - D. Provide technical assistance to the gravity block unit fabricator.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

3. At the completion of the wall test segment the Tech Rep shall provide the following:
 - A. Documentation that the wall test segment was constructed in accordance with the product specific specifications. This documentation shall include a location description (starting and ending stations and elevations) of the wall test segment.
 - B. Documentation that the job site wall foreman is familiar with the wall products used to construct the walls on the project.
 4. After completion of the wall test segment the Tech Rep shall be available whenever there is any special field condition such as change of geological condition, when there are equipment or personnel changes, or when requested by the Engineer.
- (d) **Gravity Block Quality Control, Placing Plan and Daily Placement Logs.** Before the start of each wall construction, the Contractor shall provide a block-placing plan and shall supply daily placement logs to the Engineer weekly and at the completion of the wall. The daily placement log shall consist of an elevation view of the wall showing the dates, number of blocks placed, and the lot numbers of the blocks placed. The block quality control shall contain multiple submittals if required. Blocks shall be labeled with the manufacturer's lot number for each shipment and corresponding certification with one set of random samples tested for each 1,000 blocks. At least one certification with supporting test results is required for each wall. Test results shall be reviewed and preapproved by the Engineer before shipment. The Engineer may conduct separate tests with the spared coupons from the original samples. Block testing shall be increased to one set of sampling for every 500 blocks if the Engineer identifies substandard blocks or when block color or concrete mix changes. With the Engineer's approval, block sampling may be reduced to one set of sampling for every 2,000 blocks after the first acceptable sampling results. The blocks used for Engineer's verification purposes shall be a maximum of 0.5 percent of the total number of blocks. The Engineer will conduct block sampling as early as possible and acquire blocks regularly. However, when tests are not performed within 90 days of the sampling date, the blocks will be returned untested. The Contractor shall coordinate and mark the block and backfill placing sequence on the daily placement logs. The log serves as means for the Engineer to identify where each lot of blocks was placed.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

- (e) **Wall with Curved Alignments, Tight Curved Corners, and Sections Adjacent to Bridge Abutment.** The Contractor shall provide a placement plan that shows curved layouts, special block or saw cut block dimensions, sequence of block placement, and construction off-sets as recommended by the Manufacturer. For tight curved corners, 8-foot radius or less, and dissimilar foundations such as bridge abutment, to avoid blocks with random cracks, the Contractor shall install stack bond blocks with vertical slip joints, if necessary, as shown on the plans. A vertical slip joint for stress relief may be built either with pre-cut or partial pre-cut individual blocks or by saw cutting block face of breaking running bond vertically right after installation.
- (f) **Excavation and Backfill.**
1. The base of the leveling pad shall receive the same compaction as cut areas required by subsection 203.07. The Contractor shall report to the Engineer in writing density test results for any unsatisfactory bearing material not meeting the minimum 90 percent of AASHTO T-180 compaction for walls less than 16 feet high and 95 percent of AASHTO T-180 compaction for walls higher than 16 feet. If the excavation for the placement of the leveling pad exposes an unsatisfactory bearing material, the Engineer may require removal and replacement of that material. The removed material shall be replaced with Structure Backfill (Flow-Fill) or Structure Backfill (Class 1) compacted in conformance with subsection 206.03. The Engineer with the assistance of the geotechnical engineer of record for the wall design will provide the limits including the depth of removal. As directed by the Engineer, and if required, Structure Backfill (Class 1) shall be reinforced with soil reinforcements in conjunction with wick drains and outlet pipes.
 2. The Contractor shall grade the foundation for the bottom of the wall for a width equal to or exceeding 12 inches beyond all sides of the first course of concrete. This graded area shall be compacted with an appropriate vibratory roller weighing a minimum of 8 tons for at least five passes or as directed by the Engineer. For cut wall with continuous seepage, phasing of foundation construction or a different drainage and foundation improvement plan may be necessary.
 3. Place Structure Backfill (Flow Fill) in accordance with 206.
 4. Where required, place Structure Backfill (Class 1) in accordance with 206.
 5. Where required, place crushed rock backfill in uniform loose lifts a maximum of 6" thick. Consolidate the backfill with a minimum of three passes with a 24" wide walk-behind, vibrating plate compactor capable of delivering at least 2000 pounds of centrifugal force. Compact to a density of at least 90 percent relative density of the backfill in accordance with ASTM D-4253 and D-4254. In place density of the crushed rock backfill shall be confirmed using ASTM D-6938.

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**REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL**

6. Backfill containing frost or frozen lumps shall not be used. Backfill that has been placed and becomes frozen shall be removed and replaced at the Contractor's expense. The Contractor shall provide a test report, prepared and certified by an independent laboratory, that the internal friction angle of crushed rock backfill meets or exceeds that shown on the plans.
 7. The Contractor shall provide immediate temporary storm water protection and wind erosion control at the end of each day during construction. If settlement occurs as the result of loss of backfill due to wind or water erosion, non-conforming backfill such as frozen fill or over-saturated fill, or if the backfill does not meet compaction requirements, the Contractor shall remove the backfill, and bring the elevation to the finished grade at the Contractor's expense.
 8. A final inspection will be made 30 days after the completion of the wall. Before final project acceptance, the Contractor shall repair any backfill losses due to wind and water erosion.
 9. To avoid the foundation of the leveling pad being washed out by rain, the area in front of the wall and around the leveling pad shall be backfilled as soon as practicable.
- (g) **Leveling Pad.** The foundation of the leveling pads shall meet the requirements of subsection (f) immediately above. The leveling pad shall be level within the tolerance of $1/16$ inch for any two block lengths, and within $1/4$ inch for any two points that are 10 feet apart. Cushion or shimming material (expansion joint material, concrete mortar grout or roofing felt,) shall be used to support the blocks that are to be directly founded on the leveling pad. Before starting a new course of blocks, the Contractor shall take measures to ensure that the wall elevations will be matched at the next leveling pad step. Cushion or shimming material or grinding as necessary shall be used to obtain the necessary block elevations at the next leveling pad step.
- (h) **Block Facing.** For walls that support a roadway, the wall layout line at the leveling pad shall be set back and pre-measured with the batter shown on the plans from the top of the blocks according to the offset with respect to the centerline of the road. An overall negative batter (wall face leaning outward) between the bottom and the top of the wall is not allowed. For vertical walls, unless otherwise noted on the plans, the final wall face shall be vertical or shall have a positive batter that is not greater than five percent for construction control purposes. The surface of the wall face shall be tested with a 10-foot straightedge laid along the surface in the horizontal and vertical directions. Except as necessary for horizontal alignment of the wall, a convex deviation (wall belly) of the wall face from the straightedge shall not be allowed, and any concave deviation (wall depression) from the straightedge shall be less than $3/4$ inches.

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REVISION OF SECTION 504 MODULAR BLOCK GRAVITY RETAINING WALL

- (i) **Block Placement.** Unless otherwise noted, all blocks shall be dry-stacked and placed with each block spanning the joint in the row below (running bond). Shimming or grinding shall control the elevations of any two adjacent blocks within $1/24$ inch. The top of blocks shall be tested with a 3-foot or longer straight edge bubble level. All high points identified by the straight edge shall be ground flat. Tilting of the blocks, from front to back of the wall, shall be checked at each course, correction by shimming shall be done no later than three completed courses.
- (j) **Top Block Placement.** If shown on the plans, the top three courses of blocks, including free standing blocks, shall be internally connected with J-bolts in accordance with manufacturer's installation guidelines.
- (k) **Concrete Sealer.** If shown on the plans, facing blocks directly exposed to spray from deiced pavements and indirect windborne spray shall have three coats of water resistant or repellent concrete sealer applied to the front face of the wall before the wall is opened to traffic.
- (l) **Fill under Leveling Pad.** For walls requiring fill under the planned elevation of the leveling pad, the Contractor may lower the elevation of the leveling pad as approved by the Engineer, except that the finished elevation at the top of the wall shall not be altered. As requested by the Contractor, and with the Engineer's approval, the higher wall shall be reviewed and redesigned by the geotechnical engineer of record for the wall design, and all design costs associated with this change shall be borne by the Contractor.

METHOD OF MEASUREMENT

Concrete block gravity retaining walls will be measured by the actual number of square feet of facial area installed and accepted. Facial area shall be defined as the area on a vertical plane from the top of the leveling pad to the top of the wall cap at the wall front face.

BASIS OF PAYMENT

The accepted quantities will be paid for at the contract unit price per unit of measurement for the pay items listed below:

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REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL

Payment will be made under:

Pay Item	Pay Unit
Modular Block Gravity Retaining Wall	Square Foot

All work and materials necessary and incidental to the construction of the Modular Block Gravity Retaining Wall, including but not limited to block units, drainage system, water resistant or repellant concrete sealer, geotextile and geomembrane, structure backfill (class 1), and structure backfill (crushed rock) will not be measured and paid for separately, but shall be included in the work.

Structure excavation and structure backfill (flow-fill) will not be measured but will be paid separately as the quantities designated in the Contract in accordance with Section 206. Concrete for leveling pads will be measured and paid for in accordance with Section 601. Reinforcing for leveling pads will not be measured or paid for separately but shall be considered incidental to Section 601.

Design of the walls and preparation of shop drawings will not be measured and paid for separately but shall be included in the work.

Block Facing Payment Reductions.

(a) *Definitions.*

Block. A concrete gravity block or a precast cap unit.

Dislocated Block. An individual block that is offset outward more than $\frac{1}{4}$ inch or placed with a vertical joint more than $\frac{1}{4}$ inch from the edge of adjacent blocks.

Cracked Block. An individual block with any crack visible in natural light from a distance equal to the wall height.

Corner Knock-off Block. A block with any missing facial corners or any side longer than $\frac{1}{2}$ inch at the corner.

Substandard Block. A concrete block installed in any wall segment that does not meet the certified values of compression strength, water absorption rate, and freeze/thaw cycles. Substandard blocks include blocks actually in the wall for which the Contractor does not provide reports and certifications as required.

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REVISION OF SECTION 504
MODULAR BLOCK GRAVITY RETAINING WALL

A price reduction will be applied if there are defects within any completed or partially completed portion of the wall. A defect occurs when the total number of defective blocks (cracked blocks, corner knock-off blocks, dislocated blocks, efflorescence or cement blemished blocks and substandard blocks) and blocks failing the straightedge test exceeds three percent of the total number of blocks in any wall segment of 40 foot horizontal or arc length..

The price reduction shall be three percent for each percent of defective blocks in this portion of the wall exceeding three percent. This percentage shall accumulate thereafter to a maximum reduction of 21 percent. For blocks subject to price reduction, if the defects are repairable or the overall quality of wall can be improved, with the consent from the Engineer, the Contractor may repair and reduce the percentage of price reduction. A walkthrough inspection will be made as requested by the Contractor before final payment.

TABLE OF PRICE REDUCTION

Defective Blocks (x) in 40-foot section (%)	% of Price Reduction for that Section
$x \leq 3$	0
$3 < x \leq 4$	3
$4 < x \leq 5$	6
$5 < x \leq 6$	9
$6 < x \leq 7$	12
$7 < x \leq 8$	15
$8 < x \leq 9$	18
$9 < x \leq 10$	21
$x > 10$	Rejection

The overall payment reduction percentage shall be calculated by dividing the sum of all defective blocks by the total number of blocks in that portion of the wall. When this percentage exceeds 10 percent, the Engineer will reject the entire wall or portions thereof. The Contractor shall replace the rejected wall at his own expense.

REVISION OF SECTION 504 NATURAL STONE WALL FACING

Section 504 of the Standard Specifications is hereby revised for this project as follows:

Subsection 504.01 shall include the following:

This work shall consist of the construction of rock retaining wall facing in accordance with the plans and these specifications, and shall be in reasonably close conformity with the existing type and appearance, and the lines and grades shown on the plans or modified by the Engineer in the field.

Subsection 504.02 shall include the following:

Rock for this wall shall utilize rock removed from existing retaining walls (Natural Stone Wall Facing (Existing)) and when required be supplemented with natural stone indigenous to the area (Natural Stone Wall Facing). The source and color of the rock shall be approved by Boulder county prior to construction. Approved rock shall be provided from a single source for each color. All rock to be used in the wall shall be hard, dense, sound and free from reeds, rifts, seams, laminations and minerals, which would cause discoloration or deterioration from weathering. Flaking or fragmental stone will not be permitted. Stone shall be quarried such that any stratification will be parallel to the bed when set in place.

Mortar shall conform to the requirements of CDOT Standard Specification 704.

Backfill for the wall shall be Structure Backfill (Flow-Fill) in accordance with CDOT Standard Specification 206.

Geocomposite material shall meet the requirements of CDOT Standard Specifications 712.08 and 712.09.

Veneer anchors shall be either: 1.) Corrugated Metal - 22-gauge x 1 inch wide, galvanized or 2.) Adjustable Metal Wire - 9-gauge, minimum, corrosion resistant wire with metal slip-type, steel pin/bolt.

Subsection 504.14 shall include the following:

The major portion of all retaining wall construction shall be completed prior to construction on the rock facing. The subgrade shall be compacted to 95% of AASHTO T99. Backfill behind rock facing, and geocomposite fabric (if applicable) shall be placed, as the stones are being stacked and grouted. Backfilling including backfilling the toe of the wall shall be compacted to 95% of AASHTO T99 with hand operated compaction equipment only. The toe of the wall shall be protected from rutting, and loss of compaction.

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**REVISION OF SECTION 504
NATURAL STONE WALL FACING**

Rocks shall be placed so that the irregular faces interlock to provide a stable wall. At least 80% of face stones shall extend back to full wall thickness.

Provide anchors and wire ties in sufficient quantity to eliminate rattle or loose pieces and to ensure a rigid installation. Extent of anchorage and installation details indicated are intended to indicate minimum requirements. In general, a minimum of one (1) anchor per 2 square feet of area is required, with additional anchorage provided where necessitated by size, thickness, setting, shape or location. Grout anchor with 1-inch minimum cover. Design anchor attachments to resist a positive or negative horizontal force of 30 pounds per square foot.

All face stones shall be placed to a string line on straight walls or placed to batter stakes for curved walls. The batter shall be consistent with respect to all parts of the wall and shall meet the minimum requirements set forth in the detail. The degree of roughness on the exposed face shall be measured with a 6-foot straightedge supported between adjacent projections on the stone face. Variations in the face in excess of 4 inches will not be permitted. Rear faces shall present approximately plane surfaces.

All voids in the back of $\frac{1}{2}$ wall facing width and the top stone for the full width of wall shall be grouted and included in the cost of the work. Care shall be taken so that grout does not flow out of the wall and onto the front face of the wall. The Contractor shall remove any grout from all exposed surfaces of the wall after grouting. Place spacer stones as required along the front face of wall. The grouted wall shall prevent Structure Backfill (Flow-Fill) placed behind the wall from seeping through the wall.

Subsection 504.20 shall include the following:

The unit of measurement for Natural Stone Wall Facing will be per square foot for all facings constructed. It is assumed existing rock will be utilized for half of the retaining wall construction (Natural Stone Wall Facing (Existing)) and stone will need to be imported for the remaining half (Natural Stone Wall Facing). No measurement or payment will be made for additional stone needed to fill any voids created by irregularities in the stone face or inadvertent stone placement beyond that shown on the plans. The final pay quantity shall include all facing stone, mortar, anchors, all sampling, testing and reporting required by the Plans and Specifications.

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**REVISION OF SECTION 504
NATURAL STONE WALL FACING**

Subsection 504.21 shall include the following:

The accepted quantities of Rock Retaining Wall will be paid for at the contract unit price per unit of measurement as detailed in the plans.

Payment shall be made under:

Pay Item:	Pay Unit
Natural Stone Wall Facing	Square Feet
Natural Stone Wall Facing (Existing)	Square Feet

REVISION OF SECTION 506 SOIL RIPRAP

Section 506 of the Standard Specifications is hereby revised for this project as follows:

Subsection 506.01 shall include the following:

Proposed soil riprap indicated on plans shall be set at the locations, lines and grades shown on the plans and shall include the excavation of existing ground, bedding material, topsoil layer and geotextile filter fabric as indicated on the plans.

Subsection 506.02 shall include the following:

Soil Riprap:

- (a) Rock requirements are to comply with the riprap as specified in this section and shall be obtained from stockpiled rock removed from on-site excavations, if possible. If sufficient quantity of on-site materials are not available, the Contractor shall import rock reasonably matching the site native materials at no additional cost. When imported rock is used, it shall be placed with the native stone to provide a consistent, uniform appearance.
- (b) The soil material shall be native or topsoil and mixed with sixty-five percent (65%) riprap and thirty-five percent (35%) soil by volume.
- (c) Soil riprap shall consist of a uniform mixture of soil riprap without voids.

Subsection 506.03 shall include the following:

Soil Riprap:

1. Adjacent stockpiles of riprap and soil shall be created and mixing done at the stockpile location, not at the location where soil riprap is to be placed.
2. Mix thirty-five percent (35%) soil by volume with stockpiled riprap, using additional moisture and control procedures that ensure a homogenous mixture; where the soil fills the inherent voids in the riprap without displacing riprap.
3. With prior approval of ENGINEER, layering the riprap and soil instead of premixing may be allowed if the native soil is granular.
4. Place a first layer of smaller soil riprap of approximate d50 thickness. Then place the top layer with surface rocks that are largely d50 or greater, filling voids as necessary with smaller planted riprap.
5. The mixture shall be consolidated by large vibratory equipment or backhoe bucket to create a tight, dense interlocking mass.

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**REVISION OF SECTION 506
SOIL RIPRAP**

6. The soil shall be further wetted to encourage void filling with soil.
7. Any large voids shall be filled with rock and small voids filled with soil.
8. Excessively thick zones of soil prone to washing away shall not be created (for example, no thicknesses greater than six (6) inches).
9. For buried soil riprap, the top surface shall be covered with four (4) inches of topsoil such that no rock points are protruding.
10. The final surface shall be thoroughly wetted for good compaction, smoothed and compacted by vibrating equipment; the surface shall then be hand raked to receive planting or seeding.

Subsection 506.04 Method of Measurement shall be revised to include the following:

Soil Riprap of the sizes specified in the Contract will be measured by the cubic yard. Cubic yards will be by the method of average end areas based on dimensions shown on the plans or ordered.

Subsection 506.05 Basis of Payment shall include the following:

Payment will be made under:

PAY ITEM

PAY UNIT

Soil Riprap (6-Inch)

Cubic Yard

**REVISION OF SECTION 603
TRACER WIRE**

Section 603 of the Standard Specifications is hereby revised for this project as follows:

Subsection 603.01 Description, shall include the following:

This work consists of tracer wire installation for culverts and storm sewer. Tracer wire shall be installed at all underground culvert and storm sewer locations, except as noted below.

Tracer wire does not need to be installed for the following situations:

- (a) Short pipe culverts in which a light shining through one end is visible from the other end;
- (b) Short pipe culverts in which the inlet and outlet may easily be observed/identified from the same (or nearly the same) vantage point;
- (c) Underground storm sewer pipe in which a light shining through one end - or through a manhole - is visible on either end.

Subsection 603.02, Materials, shall include the following:

The following materials shall be accepted for tracer wire installation.

- (a) Tracer Wire: All trace wire shall have HDPE insulation intended for direct bury, color coded green. High Heat-resistant Nylon coated (THHN) wire is not acceptable as tracer wire.
 - 1. Open Trench – Trace Wire shall be #14 AWG copper, high strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.
 - 2. Direction Drilling/Boring - Trace wire shall be #14 AWG copper, extra high strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.
 - 3. Pipe Bursting/Slip Lining - Trace wire shall be 7 x 7 stranded copper c, extreme strength with 4,700 lb. break load, with minimum 50 ml HDPE insulation thickness.
- (b) Connectors:
 - 1. Mainline - All mainline trace wires must be interconnected in intersections, at mainline tees and mainline crosses. At tees, the three wires shall be joined using a single 3-way lockable connector. At Crosses, the four wires shall be joined using a 4-way connector. Use of two 3-way connectors with a short jumper wire between them is an acceptable alternative.

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**REVISION OF SECTION 603
TRACER WIRE**

2. Direct bury wire connectors – Direct bury wire connectors shall include 3-way lockable connectors and mainline to lateral lug connectors specifically manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon-filled to seal out moisture and corrosion and shall be installed in a manner to prevent any uninsulated wire exposure.
3. Prohibited - Non-locking friction fit, twist on or taped connectors are prohibited.

(c) Termination/Access Box:

1. All trace wire termination points must utilize an approved trace wire access box (above ground access box or grade level/in-ground access box as applicable), specifically manufactured for this purpose.
2. All grade level/in-ground access boxes shall be appropriately identified with “sewer” cast into the cap and shall be color coded in green
3. A minimum of two (2) feet of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
4. All trace wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the trace wire connection and the terminal for the grounding anode wire connection.
5. Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.

(d) Prohibited Materials:

1. Uninsulated wire insulations other than HDPE
2. Non-locking, friction fit, twist on or taped connectors
3. Brass or copper ground rods
4. Wire connections utilizing a taping or spay-on waterproofing

Subsection 603.03A, Tracer Wire Installation, shall be added and include the following:

603.03A.01 General Construction Requirements

Trace wire installation shall be performed in such a manner that allows proper access for connection of line tracing equipment, proper locating of wire without loss or deterioration of low frequency (512Hz) signal for distances greater than 1,000 linear feet and without distortion of signal caused by multiple wires being installed in close proximity to one another. Trace wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.

Trace wire shall be installed on top of the pipe and secured (taped/tied) at 5’ intervals. Trace wire must be properly grounded as specified.

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**REVISION OF SECTION 603
TRACER WIRE**

In occurrences where an existing trace wire is encountered on an existing utility that is being extended or tied into, the new trace wire and existing trace wire shall be connected using approved splice connectors and shall be properly grounded at the splice location as specified.

Any damage occurring during installation of the trace wire must be immediately repaired by removing the damaged wire and installing a new section of wire with approved connectors. Taping and/or spray coating shall not be allowed.

603.03A.02 Storm Sewer System Construction Requirements. A mainline trace wire must be installed, with all interconnecting storm sewer line trace wires properly connected to the mainline trace wire, to ensure full tracing/locating capabilities from a single connection point. Lay mainline trace wire continuously, by-passing around the outside of manholes/structures on the North or East side. Trace wire on all interconnecting storm sewer line trace wires must terminate at an approved trace wire access box location and color-coded green.

- (a) Storm Sewer on public property - Trace wire must terminate at an approved grade level/in ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway.
- (b) Long-runs, greater than 500 linear feet without manholes - Trace wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located at the edge of the road right-of-way, and out of the roadway. The grade level/in-ground trace wire access box shall be delineated using a minimum 48" polyethylene marker post, color coded green.

603.03A.03 – Grounding Construction Requirements. Trace wire must be properly grounded at all dead ends/stubs. Grounding of trace wire shall be achieved by use of a drive-in magnesium grounding anode rod with a minimum of 20ft of #14red HDPE insulated copper wire connected to anode (minimum 1.5 lb.) specifically manufactured for this purpose and buried at the same elevation as the utility. When grounding the trace wire at dead ends/stubs, the grounding anode shall be installed in a direction 180 degrees opposite of the trace wire, at the maximum possible distance. When grounding the trace wire in areas where the trace wire is continuous and neither the mainline trace wire or the grounding anode wire will be terminated at/above grade, install grounding anode directly beneath and in-line with the trace wire. Do not coil excess wire from grounding anode. In this installation method, the grounding anode wire shall be trimmed to an appropriate length before connecting to trace wire with a mainline to lateral lug connector.

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**REVISION OF SECTION 603
TRACER WIRE**

Where the anode wire will be connected to a trace wire access box, a minimum of two (2) ft. of excess/slack wire is required after meeting final elevation.

603A.03A.04 Prohibited Construction Methods.

- (a) Looped wire or continuous wire installations, that have multiple wires laid side-by-side or near one another;
- (b) Trace wire wrapped around the corresponding utility;
- (c) Brass fittings with trace wire connection lugs;
- (d) Wire terminations within the roadway, i.e. in valve boxes, cleanouts, manholes, etc.;
- (e) Connecting trace wire to existing conductive utilities

603.03A.05 Testing Construction Requirements

All new trace wire installations shall be located using typical low frequency (512Hz) line tracing equipment, witnessed by the contractor, engineer and facility owner as applicable, prior to acceptance of ownership.

This verification shall be performed upon completion of rough grading and again prior to final acceptance of the project.

Continuity testing in lieu of actual line tracing shall not be accepted.

Subsection 603.13 shall include the following:

Payment will be made as part of the utility line work and shall not be measured and paid for separately but shall be included in the work.

**REVISION OF SECTION 625
CONSTRUCTION SURVEYING**

Section 625 of the Standard Specifications is hereby revised for this project as follows:

Subsection 625.04 shall include the following:

The Contractor shall provide all construction surveying and staking necessary for the construction of the project.

The Contractor shall provide as-built elevations and/or horizontal locations for any items not built per the plans. Any revisions shall be marked-up on the construction drawings and provided to the Owner or Owner's Representative for review and acceptance.

REVISION OF SECTION 626 PUBLIC INFORMATION SERVICES

Section 626 of the Standard Specifications is hereby revised for this project to include the following:

DESCRIPTION

This work consists of providing Public Information Services throughout the duration of the project. Anticipated communications issues on this project include:

- (1) Detour routing
- (2) Lane closures of US287
- (3) Lane closures of Isabelle Road

CONSTRUCTION REQUIREMENTS

The Boulder County Public Works Department Public Information Officer (PIO) will coordinate public information regarding the project and provide timely updates regarding construction to the public through a variety of established channels. This includes coordination with the Engineer, Town of Erie and Colorado Department of Transportation's (CDOT) Region Communications Manager (RCM).

- (a) *Public Information Manager (PIM)*. The contractor shall designate a PIM with whom the PIO can confer with as needed to ensure that all pertinent construction-related information is conveyed to the public. Within 10 days following the date of the Notice to Proceed, the Contractor shall submit the name, contact information, and the Backup to the Engineer, county PIO and CDOT RCM. The contractor-designated representative may maintain a direct line of contact with the PIO to assist with answering questions from the public. The county PIO will also conduct any media related activities that may arise over the course of the project. All media inquiries will be directed to the county PIO for follow up. The PIM may be called upon to assist with media related requests for information and photo or video content.
- (b) *Activities of the PIM*. From the Notice to Proceed through the Final Acceptance of the project, the PIM shall be responsible for the following:
 - (1) *Public Meeting*. Prior to commencing construction, the contractor and Boulder County will host a public meeting to provide construction-related information to interested parties and answer questions.

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**REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES**

- (2) *Signing.* It shall be the contractor's responsibility to maintain adequate signage throughout the construction site. The Contractor shall erect construction traffic signs with the dates the Contractor expects to initiate and complete construction and with the Contractor's public information office's or PIO's phone number at each major approach to the project. The signs shall conform to the requirements of Section 630 and shall be erected at least one week prior to the beginning of construction. These signs shall be updated if the project schedule changes, at no cost to the project.
- (3) *Variable Message Board.* The contractor should confer with the County PIO and the County Engineering Project Manager on any messages that will appear on static or variable messaging boards. It will also be up to the contractor to maintain communications with area residents/property owners who will be directly impacted by daily construction activities. The contractor can do this as they so choose (door hangers, site visits, etc.) but they are to inform any resident at least 48-hours prior to work being conducted in front of a property so that they understand the impacts of the work and how they can access their home while work is taking place in their area.
- (4) *Emergency Vehicles.* Access for emergency vehicles must always be provided.

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**REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES**

(c) *Public Information Management Contact Sheet.* The PIM shall complete and update a Public Information Management Contact Sheet with the names and contact information of the individuals pertinent to Public Information. At a minimum the Contact Sheet will include the Engineer, PIO, RCM, PIM, Contractor Superintendent, and Traffic Control Supervisor.

(1) Public Information Services Contact Sheet Owners

Boulder County Public Works

Project Manager (Engineer)
Colton Coughlin
Phone: 303-682-6779
Email: ccoughlin@bouldercounty.org

Public Information Officer (PIO)
Andrew Barth
Phone: 303-441-1032
Email: abarth@bouldercounty.org

(2) Public Information Services Stakeholders

- Boulder County Sheriff Department
- • Other Emergency providers servicing this area
- Regional Transportation District: RTD

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Public Information Services will not be measured and paid for separately but be included with the items in under Section 630 Construction Zone Traffic Control.

REVISION OF SECTION 627 PAVEMENT MARKINGS

Section 627 of the Standard Specifications is hereby revised for this project as follows:

Subsection 627.03 shall include the following:

Full-compliance pavement markings by means of temporary or final markings shall be in place at the end of the day following placement of the upper asphalt lift both for detour pavement and permanent pavement.

- (f) *Pre-striping and Marking Construction Meeting.* A pre-striping and marking construction meeting shall be held prior to the layout to confirm the pavement marking plan. At a minimum, attendees shall include the Contractor, the Striping Contractor or Subcontractor and Department representative(s).

Any striping or marking detail or minor modification shall be provided by the Department in advance of layout. Minor changes shall be addressed in the Pre-striping and Marking Construction Meeting and vetted for constructability and cost.

Any significant modification shall be addressed by an approved CMO or change order policy with the Engineer prior the Pre-striping and Marking Construction Meeting.

Control Points and layout shall be done by the Contractor no less than 48 hours prior to striping and marking, and the Department shall review and approve the layout prior to the work whether temporary or final. Layout of all pavement marking whether temporary or final is included in the work.

Subsection 627.05 shall include the following:

The Contractor shall clean up excess beads from the roadway, shoulders and adjacent facilities. When used the Contractor shall leave all "Highway Striping" "next __miles" construction warning signs in place until excess glass beads have been cleared from the facilities.

Subsection 627.06 shall include the following:

Crosswalk bars shall be two feet wide and nine feet long unless otherwise noted. Stop bars shall be two feet wide, unless otherwise noted.

Thermoplastic pavement marking arrows shall be the elongated type.

The Contractor shall clean up excess beads from the roadway, shoulders and adjacent facilities.

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**REVISION OF SECTION 627
PAVEMENT MARKING**

Subsection 627.13 shall include the following:

Clean up of excess beads shall be included in the cost of the work.

**REVISION OF SECTIONS 627 AND 713
GLASS BEADS FOR PAVEMENT MARKING**

Sections 627 and 713 of the Standard Specifications are hereby revised for this project as follows:

Subsection 627.05, shall include the following:

Contractor shall sweep excess glass beads within 24 hours once the modified epoxy pavement marking is dry.

Subsection 627.05, delete the last paragraph and replace with the following:

Modified epoxy pavement marking and beads shall be applied within the following limits:

**Application Rate or Coverage
Per Gallon of Modified Epoxy Pavement Marking**

	Minimum	Maximum
16 – 18 mil marking	90 sq. ft.	100 sq. ft.
Beads	18 lbs.	20 lbs.

Subsection 713.08 (8) delete and replace with the following:

A minimum of 40 percent of the total weight shall be manufactured using a molten kiln direct melt method. All molten kiln direct melt glass beads shall be above the 600 µm (#30) sieve.

REVISION OF SECTION 630 CONSTRUCTION ZONE TRAFFIC CONTROL

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.11 shall include the following:

The Contractor's Superintendent and Traffic Control Supervisor (TCS) shall always be equipped with a mobile telephone unit that has a local number for contact with one another, the Engineer, or emergency response dispatchers when emergency services are required. The TCS shall make immediate contact with emergency personnel as required to assist accident victims, expedite the removal of broken-down vehicles, and maintain the smooth flow of traffic. This shall not be paid for separately but shall be included in the work items under Section 630.

Subsection 630.13 shall include the following:

Lane closures not otherwise shown on the plans shall not be allowed unless approved by the Engineer. Any closure shall be performed in accordance with the CDOT Region 4 Lane Closure Strategy document, which can be obtained from the following website:

https://www.codot.gov/library/traffic/work-zone-safety-and-work-zone-traffic-operations/lane-closure-strategies/R4_Lane_Closure_Report.pdf

Vertical Drop-offs located adjacent to the travel way must always have proper traffic control devices in place to warn and/or protect roadway users.

In the event the Contractor fails to complete the project within the allowable Contract time (including time extensions) the Contractor will bear all costs associated with the additional traffic control required by the project. This shall include all flagging, traffic control inspection, traffic control management, concrete barrier (temporary), rental and maintenance of traffic control devices, etc. until the project is completed.

Subsection 630.18 shall include the following:

Payment for the Traffic Control items shall include all work necessary to implement the approved TCP and MHTs and complete the construction of the project including, but not limited to the following:

- The rental/purchase, fabrication, installation and maintenance of all equipment, signs, channelization devices, barricades, etc. during construction of the project, including all signs on the Advance Signing Plan.
- Traffic Control for utility relocations.
- All labor costs

**REVISION OF SECTION 703
AGGREGATES**

Section 703 of the Standard Specification is hereby revised for this project as follows:

Subsection 703.00 shall include the following:

No crushed slag, crushed reclaimed concrete or recycled asphalt material may be used as a substitute for aggregates when used for aggregate material that is exposed to the elements.

Subsection 703.03 shall include the following:

Aggregates for bases used for shoulder material shall be crushed stone, crushed gravel or natural gravel and shall not be crushed slag, crushed reclaimed concrete or asphalt material unless otherwise approved by the Engineer.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with Subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force Account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

Force Account Item	Unit	Quantity	Amount
F/A Minor Contract Revisions	F/A	1	\$450,000*
F/A Erosion Control	F/A	1	\$10,000

*The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds.

TRAFFIC CONTROL PLAN – GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) Standard Plan S-630-1, Traffic Controls for Highway Construction and Standard Plan S-630-2.
- (3) Schedule of Construction Traffic Control Devices.
- (4) Construction phasing details.
- (5) CDOT Region 4 *Lane Closure Strategy Technical Report and Lane Closure Schedules* document.

All traffic control plans within CDOT ROW shall be approved by CDOT prior to the Work.

Advanced signing shall be placed at all approach roadways as shown on the plans.

The Contractor shall notify the County a minimum of 48 hours prior to any traffic restrictions. The Contractor shall submit traffic control plans to the County, and other impacted jurisdictions for approval prior to any lane closures and restrictions. The traffic control plans shall show the Contractor's method of handling traffic along with the locations of traffic control devices and the requirements for flagging. Access to local residents and properties will be maintained at all times.

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

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TRAFFIC CONTROL PLAN – GENERAL

Boulder County may have entered into operating agreements with one or more law enforcement organizations for cooperative activities. Under such agreements, at the sole discretion of Boulder County, law enforcement personnel may enter the work zone for enforcement purposes and may participate in the Contractor's traffic control activities. The responsibility under the Contract for all traffic control resides with the Contractor and any such participation by law enforcement personnel in Contractor traffic control activities will be referenced in either the Special Provisions or General Notes of the plans depending on whether the Contractor is to hire local law enforcement or if Boulder County is contracting with Colorado State Patrol for uniformed traffic control. Nothing in this Contract is intended to create an entitlement, on the part of the Contractor, to the services or participation of the law enforcement organization.

At least one week prior to starting construction, the Contractor shall notify the Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

Flagging Operations shall be performed during lane closures. There shall be a maximum 15-minute delay to traffic during these operations.

If any of these traffic control limitations are not met on any one day, the Engineer may apply a disincentive of \$1000/day.

Special Traffic Control Plan requirements for this project are as follows:

During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.

At least one week prior to starting construction, the Contractor shall notify the Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

UTILITIES

Known utilities within the limits of this project are:

Utility / Agency	Contact	Phone
Xcel Energy	Barbara Temple	(303)245 -2226
*Century Link Fiber Optic	Kathy Dunbar	(303) 587-4498
Comcast (Cable Communications)	Kevin Young	(720) 281-8666
Sugarloaf Fire Protection District Station 2	Andrew Goldman	(303 442-1050
City of Boulder Department of Public Works	Joe Taddeucci	(303) 441-3200
Betasso WTP Improvement Project	Josh Meck	(303) 413-7439

* Located in the project vicinity, but not expected to be involved in this project.

The work described in these plans and specifications requires coordination between the Contractor and the utility companies in accordance with subsection 105.11 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project. Utility relocation work may not have been completed prior to the contractor beginning construction activities. The County will work to encourage utilities to move their facilities before construction commences but cannot provide any assurance that utility work will have been completed prior to start of construction.

Coordinating and scheduling utility relocation with utility owners is ultimately the responsibility of Contractor; any assistance provided by County shall be deemed a courtesy to Contractor and will not alleviate Contractor of its responsibility to coordinate and schedule utility relocation. Contractor’s failure to initially provide for sufficient time in the project schedule for all required utility relocations shall not alleviate Contractor from its obligations hereunder, and shall not entitle Contractor to additional time or compensation.

Subsurface Utility Engineering was performed by SurvWest and is available to the contractor. No Test Holes were required per SB 18-167 and were not performed.

THE WORK LISTED BELOW SHALL BE PERFORMED BY THE CONTRACTOR:

The work listed below shall be performed by the Contractor in accordance with the plans and specifications, and as directed by the Engineer. The Contractor shall keep each utility company advised of any work being done to its facility, so that the utility company can coordinate its inspections for final acceptance of the work with the Engineer.

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UTILITIES

Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility. Provide each utility owner with periodic updates to the schedule. Conduct necessary utility coordination meetings and provide other necessary accommodations as directed by the Engineer. Notify each utility owner in writing, with a copy to the Engineer, prior to the time each utility work element is to be performed by the utility owner.

Provide traffic control, as directed by the Engineer, for any utility work by the utility owner expected to be coordinated with construction. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner.

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) 811 or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

EXHIBIT D, FEDERAL PROVISIONS

1. APPLICABILITY OF PROVISIONS.

1.1. The Grant Award Letter to which these Federal Provisions are attached has been funded, in whole or in part, with an Award of Federal funds. In the event of a conflict between the provisions of these Federal Provisions, the Special Provisions, the agreement or any attachments or exhibits incorporated into and made a part of the agreement, the provisions of these Federal Provisions shall control.

2. DEFINITIONS.

2.1. For the purposes of these Federal Provisions, the following terms shall have the meanings ascribed to them below.

2.1.1. "Agreement" means the Grant Award Letter to which these Federal Provisions are attached and includes all Award types in §2.1.2.1 of this Exhibit.

2.1.2. "Award" means an award of Federal financial assistance, and the agreement setting forth the terms and conditions of that financial assistance, that a non-Federal Entity receives or administers.

2.1.2.1. Awards may be in the form of:

2.1.2.1.1. Grants;

2.1.2.1.2. Contracts;

2.1.2.1.3. Cooperative agreements, which do not include cooperative research and development agreements (CRDA) pursuant to the Federal Technology Transfer Act of 1986, as amended (15 U.S.C. 3710);

2.1.2.1.4. Loans;

2.1.2.1.5. Loan Guarantees;

2.1.2.1.6. Subsidies;

2.1.2.1.7. Insurance;

2.1.2.1.8. Food commodities;

2.1.2.1.9. Direct appropriations;

2.1.2.1.10. Assessed and voluntary contributions; and

2.1.2.1.11. Other financial assistance transactions that authorize the expenditure of Federal funds by non-Federal Entities.

2.1.2.1.12. Any other items specified by OMB in policy memoranda available at the OMB website or other source posted by the OMB.

2.1.2.2. Award *does not* include:

2.1.2.2.1. Technical assistance, which provides services in lieu of money;

2.1.2.2.2. A transfer of title to Federally-owned property provided in lieu of money; even if the award is called a grant;

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 2.1.2.2.3. Any award classified for security purposes; or
- 2.1.2.2.4. Any award funded in whole or in part with Recovery funds, as defined in section 1512 of the American Recovery and Reinvestment Act (ARRA) of 2009 (Public Law 111-5).
- 2.1.3. “Contractor” means the party or parties to an Agreement funded, in whole or in part, with Federal financial assistance, other than the Prime Recipient, and includes grantees, subgrantees, Subrecipients, and borrowers. For purposes of Transparency Act reporting, Contractor does not include Vendors.
- 2.1.4. “Data Universal Numbering System (DUNS) Number” means the nine-digit number established and assigned by Dun and Bradstreet, Inc. to uniquely identify a business entity. Dun and Bradstreet’s website may be found at: <http://fedgov.dnb.com/webform>.
- 2.1.5. “Entity” means all of the following as defined at 2 CFR part 25, subpart C;
 - 2.1.5.1. A governmental organization, which is a State, local government, or Indian Tribe;
 - 2.1.5.2. A foreign public entity;
 - 2.1.5.3. A domestic or foreign non-profit organization;
 - 2.1.5.4. A domestic or foreign for-profit organization; and
 - 2.1.5.5. A Federal agency, but only a Subrecipient under an Award or Subaward to a non-Federal entity.
- 2.1.6. “Executive” means an officer, managing partner or any other employee in a management position.
- 2.1.7. “Federal Award Identification Number (FAIN)” means an Award number assigned by a Federal agency to a Prime Recipient.
- 2.1.8. “Federal Awarding Agency” means a Federal agency providing a Federal Award to a Recipient as described in 2 CFR §200.37
- 2.1.9. “FFATA” means the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by §6202 of Public Law 110-252. FFATA, as amended, also is referred to as the “Transparency Act.”
- 2.1.10. “OMB” means the Executive Office of the President, Office of Management and Budget.
- 2.1.11. “Prime Recipient” means a Colorado State agency or institution of higher education that receives an Award.
- 2.1.12. “Subaward” means an award by a Recipient to a Subrecipient funded in whole or in part by a Federal Award. The terms and conditions of the Federal Award flow down to the Award unless the terms and conditions of the Federal Award specifically indicate otherwise in accordance with 2 CFR §200.38. The term does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 2.1.13. “Subrecipient” means a non-Federal Entity (or a Federal agency under an Award or Subaward to a non-Federal Entity) receiving Federal funds through a Prime Recipient to support the performance of the Federal project or program for which the Federal funds were awarded. A Subrecipient is subject to the terms and conditions of the Federal Award to the Prime Recipient, including program compliance requirements. The term “Subrecipient” includes and may be referred to as Subgrantee. The term does not include an individual who is a beneficiary of a federal program.
- 2.1.14. “Subrecipient Parent DUNS Number” means the subrecipient parent organization’s 9-digit Data Universal Numbering System (DUNS) number that appears in the subrecipient’s System for Award Management (SAM) profile, if applicable.
- 2.1.15. “Federal Provisions” means these Federal Provisions for Federally Funded Contracts, Grants, and Purchase Orders subject to the Transparency Act and Uniform Guidance, as may be revised pursuant to ongoing guidance from the relevant Federal or State of Colorado agency or institutions of higher education.
- 2.1.16. “System for Award Management (SAM)” means the Federal repository into which an Entity must enter the information required under the Transparency Act, which may be found at <http://www.sam.gov>.
- 2.1.17. “Total Compensation” means the cash and noncash dollar value earned by an Executive during the Prime Recipient’s or Subrecipient’s preceding fiscal year and includes the following:
- 2.1.17.1. Salary and bonus;
 - 2.1.17.2. Awards of stock, stock options, and stock appreciation rights, using the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2005) (FAS 123R), Shared Based Payments;
 - 2.1.17.3. Earnings for services under non-equity incentive plans, not including group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of Executives and are available generally to all salaried employees;
 - 2.1.17.4. Change in present value of defined benefit and actuarial pension plans;
 - 2.1.17.5. Above-market earnings on deferred compensation which is not tax-qualified;
 - 2.1.17.6. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the Executive exceeds \$10,000.
 - 2.1.17.7. “Transparency Act” means the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by §6202 of Public Law 110-252. The Transparency Act also is referred to as FFATA.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 2.1.18. “Uniform Guidance” means the Office of Management and Budget Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, which supersedes requirements from OMB Circulars A-21, A-87, A-110, and A-122, OMB Circulars A-89, A-102, and A-133, and the guidance in Circular A-50 on Single Audit Act follow-up. The terms and conditions of the Uniform Guidance flow down to Awards to Subrecipients unless the Uniform Guidance or the terms and conditions of the Federal Award specifically indicate otherwise.
- 2.1.19. “Vendor” means a dealer, distributor, merchant or other seller providing property or services required for a project or program funded by an Award. A Vendor is not a Prime Recipient or a Subrecipient and is not subject to the terms and conditions of the Federal award. Program compliance requirements do not pass through to a Vendor.
3. **COMPLIANCE.**
- 3.1. Contractor shall comply with all applicable provisions of the Transparency Act, all applicable provisions of the Uniform Guidance, and the regulations issued pursuant thereto, including but not limited to these Federal Provisions. Any revisions to such provisions or regulations shall automatically become a part of these Federal Provisions, without the necessity of either party executing any further instrument. The State of Colorado may provide written notification to Contractor of such revisions, but such notice shall not be a condition precedent to the effectiveness of such revisions.
4. **SYSTEM FOR AWARD MANAGEMENT (SAM) AND DATA UNIVERSAL NUMBERING SYSTEM (DUNS) REQUIREMENTS.**
- 4.1. SAM. Contractor shall maintain the currency of its information in SAM until the Contractor submits the final financial report required under the Award or receives final payment, whichever is later. Contractor shall review and update SAM information at least annually after the initial registration, and more frequently if required by changes in its information.
- 4.2. DUNS. Contractor shall provide its DUNS number to its Prime Recipient, and shall update Contractor’s information in Dun & Bradstreet, Inc. at least annually after the initial registration, and more frequently if required by changes in Contractor’s information.
5. **TOTAL COMPENSATION.**
- 5.1. Contractor shall include Total Compensation in SAM for each of its five most highly compensated Executives for the preceding fiscal year if:
- 5.1.1. The total Federal funding authorized to date under the Award is \$25,000 or more; and
- 5.1.2. In the preceding fiscal year, Contractor received:
- 5.1.2.1. 80% or more of its annual gross revenues from Federal procurement contracts and subcontracts and/or Federal financial assistance Awards or Subawards subject to the Transparency Act; and
- 5.1.2.2. \$25,000,000 or more in annual gross revenues from Federal procurement contracts and subcontracts and/or Federal financial assistance Awards or Subawards subject to the Transparency Act; and

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

5.1.3. The public does not have access to information about the compensation of such Executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d) or § 6104 of the Internal Revenue Code of 1986.

6. REPORTING.

6.1. Contractor shall report data elements to SAM and to the Prime Recipient as required in this Exhibit if Contractor is a Subrecipient for the Award pursuant to the Transparency Act. No direct payment shall be made to Contractor for providing any reports required under these Federal Provisions and the cost of producing such reports shall be included in the Agreement price. The reporting requirements in this Exhibit are based on guidance from the US Office of Management and Budget (OMB), and as such are subject to change at any time by OMB. Any such changes shall be automatically incorporated into this Agreement and shall become part of Contractor's obligations under this Agreement.

7. EFFECTIVE DATE AND DOLLAR THRESHOLD FOR REPORTING.

7.1. Reporting requirements in §8 below apply to new Awards as of October 1, 2010, if the initial award is \$25,000 or more. If the initial Award is below \$25,000 but subsequent Award modifications result in a total Award of \$25,000 or more, the Award is subject to the reporting requirements as of the date the Award exceeds \$25,000. If the initial Award is \$25,000 or more, but funding is subsequently de-obligated such that the total award amount falls below \$25,000, the Award shall continue to be subject to the reporting requirements.

7.2. The procurement standards in §9 below are applicable to new Awards made by Prime Recipient as of December 26, 2015. The standards set forth in §11 below are applicable to audits of fiscal years beginning on or after December 26, 2014.

8. SUBRECIPIENT REPORTING REQUIREMENTS.

8.1. If Contractor is a Subrecipient, Contractor shall report as set forth below.

8.1.1. **To SAM.** A Subrecipient shall register in SAM and report the following data elements in SAM *for each* Federal Award Identification Number no later than the end of the month following the month in which the Subaward was made:

8.1.1.1. Subrecipient DUNS Number;

8.1.1.2. Subrecipient DUNS Number + 4 if more than one electronic funds transfer (EFT) account;

8.1.1.3. Subrecipient Parent DUNS Number;

8.1.1.4. Subrecipient's address, including: Street Address, City, State, Country, Zip + 4, and Congressional District;

8.1.1.5. Subrecipient's top 5 most highly compensated Executives if the criteria in §4 above are met; and

8.1.1.6. Subrecipient's Total Compensation of top 5 most highly compensated Executives if criteria in §4 above met.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

8.1.2. **To Prime Recipient.** A Subrecipient shall report to its Prime Recipient, upon the effective date of the Agreement, the following data elements:

8.1.2.1. Subrecipient's DUNS Number as registered in SAM.

8.1.2.2. Primary Place of Performance Information, including: Street Address, City, State, Country, Zip code + 4, and Congressional District.

9. PROCUREMENT STANDARDS.

9.1. Procurement Procedures. A Subrecipient shall use its own documented procurement procedures which reflect applicable State, local, and Tribal laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in the Uniform Guidance, including without limitation, §§200.318 through 200.326 thereof.

9.2. Procurement of Recovered Materials. If a Subrecipient is a State Agency or an agency of a political subdivision of the State, its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

10. ACCESS TO RECORDS

10.1. A Subrecipient shall permit Recipient and auditors to have access to Subrecipient's records and financial statements as necessary for Recipient to meet the requirements of §200.331 (Requirements for pass-through entities), §§200.300 (Statutory and national policy requirements) through 200.309 (Period of performance), and Subpart F-Audit Requirements of the Uniform Guidance. 2 CFR §200.331(a)(5).

11. SINGLE AUDIT REQUIREMENTS

11.1. If a Subrecipient expends \$750,000 or more in Federal Awards during the Subrecipient's fiscal year, the Subrecipient shall procure or arrange for a single or program-specific audit conducted for that year in accordance with the provisions of Subpart F-Audit Requirements of the Uniform Guidance, issued pursuant to the Single Audit Act Amendments of 1996, (31 U.S.C. 7501-7507). 2 CFR §200.501.

11.1.1. **Election.** A Subrecipient shall have a single audit conducted in accordance with Uniform Guidance §200.514 (Scope of audit), except when it elects to have a program-specific audit conducted in accordance with §200.507 (Program-specific audits). The Subrecipient may elect to have a program-specific audit if Subrecipient expends Federal Awards under only one Federal program (excluding research and development) and the Federal program's statutes, regulations, or the terms and conditions of the Federal award do not require a financial statement audit of Prime Recipient. A program-specific audit may not be elected for research and development unless all of the Federal Awards expended were received from Recipient and Recipient approves in advance a program-specific audit.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 11.1.2. **Exemption.** If a Subrecipient expends less than \$750,000 in Federal Awards during its fiscal year, the Subrecipient shall be exempt from Federal audit requirements for that year, except as noted in 2 CFR §200.503 (Relation to other audit requirements), but records shall be available for review or audit by appropriate officials of the Federal agency, the State, and the Government Accountability Office.
- 11.1.3. **Subrecipient Compliance Responsibility.** A Subrecipient shall procure or otherwise arrange for the audit required by Part F of the Uniform Guidance and ensure it is properly performed and submitted when due in accordance with the Uniform Guidance. Subrecipient shall prepare appropriate financial statements, including the schedule of expenditures of Federal awards in accordance with Uniform Guidance §200.510 (Financial statements) and provide the auditor with access to personnel, accounts, books, records, supporting documentation, and other information as needed for the auditor to perform the audit required by Uniform Guidance Part F-Audit Requirements.

12. CONTRACT PROVISIONS FOR SUBRECIPIENT CONTRACTS

- 12.1. If Contractor is a Subrecipient, then it shall comply with and shall include all of the following applicable provisions in all subcontracts entered into by it pursuant to this Agreement.
- 12.1.1. **Equal Employment Opportunity.** Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 shall include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.
- 12.1.1.1. During the performance of this contract, the contractor agrees as follows:
- 12.1.1.1.1. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 12.1.1.1.2. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- 12.1.1.1.3. Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- 12.1.1.1.4. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- 12.1.1.1.5. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- 1.1.1.1.1. In the event of Contractor's non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 1.1.1.1.2. Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.”
- 1.1.2. **Davis-Bacon Act.** Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or Subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
- 1.1.3. **Rights to Inventions Made Under a Contract or Agreement.** If the Federal Award meets the definition of “funding agreement” under 37 CFR §401.2 (a) and Subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” Subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

- 1.1.4. **Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended.** Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- 1.1.5. **Debarment and Suspension (Executive Orders 12549 and 12689).** A contract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- 1.1.6. **Byrd Anti-Lobbying Amendment (31 U.S.C. 1352).** Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

2. CERTIFICATIONS.

- 2.1. Unless prohibited by Federal statutes or regulations, Recipient may require Subrecipient to submit certifications and representations required by Federal statutes or regulations on an annual basis. 2 CFR §200.208. Submission may be required more frequently if Subrecipient fails to meet a requirement of the Federal award. Subrecipient shall certify in writing to the State at the end of the Award that the project or activity was completed or the level of effort was expended. 2 CFR §200.201(3). If the required level of activity or effort was not carried out, the amount of the Award must be adjusted.

3. EXEMPTIONS.

- 3.1. These Federal Provisions do not apply to an individual who receives an Award as a natural person, unrelated to any business or non-profit organization he or she may own or operate in his or her name.
142. A Contractor with gross income from all sources of less than \$300,000 in the previous tax year is exempt from the requirements to report Subawards and the Total Compensation of its most highly compensated Executives.
143. There are no Transparency Act reporting requirements for Vendors.

EXHIBIT D, FEDERAL PROVISIONS (CONT.)

15. EVENT OF DEFAULT.

- 15.1. Failure to comply with these Federal Provisions shall constitute an event of default under the Agreement and the State of Colorado may terminate the Agreement upon 30 days prior written notice if the default remains uncured five calendar days following the termination of the 30 day notice period. This remedy will be in addition to any other remedy available to the State of Colorado under the Agreement, at law or in equity.



INSURANCE AND W-9 REQUIREMENTS

PAYMENT & PERFORMANCE BONDS

Both a payment and a performance bond are required for this project and must each equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.

INSURANCE REQUIREMENTS

Commercial General Liability \$1,000,000 Each Occurrence
\$2,000,000 General Aggregate
\$2,000,000 Products Completed Operations Aggregate
3 years Products/Completed Operations

Automobile Liability \$1,000,000 Each Accident
*Including Owned, Hired & Non-Owned Auto

Worker's Compensation and Employer's Liability

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

Umbrella / Excess Umbrella/Excess Liability insurance in the amount \$3,000,000.00, following form.

Professional Liability (Errors and Omissions)

\$1,000,000 Per Loss
\$1,000,000 Aggregate
Coverage maintained or extended discovery period for 2 years

Pollution Liability

\$1,000,000 Per Occurrence/Loss
\$1,000,000 Aggregate
Coverage maintained or extended discovery period for 3 years

***In regards to General Liability, Umbrella/Excess Liability, and Pollution Liability: If any or all of these coverages are required above, additional insured status will be required at the time a contract is executed.**

Note that the above insurance amounts are the minimum required for this project. Proof of current insurance must be provided with your proposal in the form of a sample certificate or your proposal will be deemed non-responsive. You are NOT required to include additional insured status until the time a contract is executed.

If you require a waiver of insurance requirements (e.g. Workers' Compensation and sole proprietorships) you may request one in your response with an explanation.

Boulder County and Colorado Department of Transportation and Concessionaire as Additional Insured: Boulder County and Colorado Department of Transportation and Concessionaire shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract INCLUDING COMPLETED OPERATIONS.

Additional insured including completed operations shall be endorsed to these policies using endorsements CG 2010 11/85, CG 2037, or equivalent.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: *County of Boulder, State of Colorado, a body corporate and politic, and Colorado Department of Transportation and Concessionaire are named as Additional **Insureds including completed operations.***

W-9 REQUIREMENT

Provide a copy of your business's W-9 with your proposal.

SAM.gov REGISTRATION

Please provide a copy of your business' registration in sam.gov with your proposal.

DUNS NUMBER

Please provide your business' DUNS number with your proposal.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

BID TAB

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COSTS	TOTAL COST
201-00000	CLEARING AND GRUBBING	LS	1	_____	_____
202-00155	REMOVAL OF WALL	LF	701	_____	_____
202-00035	REMOVAL OF PIPE	LF	208	_____	_____
202-00220	REMOVAL OF ASPHALT MAT	SY	5598	_____	_____
202-01130	REMOVAL OF GUARDRAIL (TYPE 3)	LF	1272	_____	_____
202-01170	REMOVAL OF GUARDRAIL (TYPE 7)	LF	381	_____	_____
202-01300	REMOVAL OF END ANCHORAGE	EA	2	_____	_____
203-01594	COMBINATION LOADER	HOUR	24	_____	_____
202-04002	CLEAN CULVERT	EA	4	_____	_____
203-00000	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	1098	_____	_____
203-00400	ROCK EXCAVATION	CY	1434	_____	_____
203-01597	POTHOLING	HR	8	_____	_____
206-00000	STRUCTURE EXCAVATION	CY	1434	_____	_____
206-00065	STRUCTURE BACKFILL (FLOW-FILL)	CY	1875	_____	_____
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY	378	_____	_____
207-00205	TOPSOIL	CY	150	_____	_____
207-99999	STOCKPILE BOULDERS (SPECIAL)	CY	232	_____	_____
208-00023	EROSION LOG TYPE 3 (12 INCH)	LF	2041	_____	_____

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COSTS	TOTAL COST
208-00035	AGGREGATE BAG	LF	292		
208-00045	CONCRETE WASHOUT STRUCTURE	EA	2		
208-00070	VEHICLE TRACKING PAD	EA	2		
208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	HR	120		
208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	HR	120		
208-00207	EROSION CONTROL MANAGEMENT	DAY	30		
210-00810	RESET GROUND SIGN	EA	12		
212-00006	SEEDING (NATIVE)	AC	0.3		
213-00003	MULCHING (WEED FREE)	AC	0.3		
213-99999	COBBLE DRAINAGE SWALE (SPECIAL)	SF	9138		
214-00000	LANDSCAPE MAINTENANCE	LS	1		
216-00042	SOIL RETENTION BLANKET (STRAW/ COCONUT) (BIODEGRADABLE CLASS 1)	SY	111		
304-06007	AGGREGATE BASE COURSE (CLASS 6)	CY	1529		
403-33721	HOT MIX ASPHALT GRADING S (75)(PG 58-28)	TN	748		
403-34721	HOT MIX ASPHALT GRADING SX (75)(PG 58-28)	TN	748		
504-08255	MODULAR BLOCK GRAVITY RETAINING WALL	SF	12460		
504-99998	NATURAL STONE WALL FACING	SF	1255		
504-99999	NATURAL STONE WALL FACING (EXISTING)	SF	1255		
506-00209	RIPRAP (9-INCH)	CY	8		
506-00406	SOIL RIPRAP (6-INCH)	CY	209		
601-01000	CONCRETE CLASS B (WALL LEVELING PAD)	CY	510		
601-03000	CONCRETE CLASS D (HEADWALL)	CY	4		
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	9231		
603-01180	18-INCH REINFORCED CONCRETE PIPE	LF	158		

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COSTS	TOTAL COST
603-01360	36-INCH REINFORCED CONCRETE PIPE	LF	65		
603-10420	42-INCH CORRUGATED STEEL PIPE	LF	58		
604-00305	INLET TYPE C (5 FOOT)	EA	1		
604-13005	INLET TYPE 13 (5 FOOT)	EA	2		
604-30010	MANHOLE SLAB BASE (10 FOOT) (6 FOOT I.D.)	EA	1		
605-00040	4 INCH PERFORATED PIPE UNDERDRAIN	LF	1058		
606-00301	GUARDRAIL TYPE 3 (6-3 POST SPACING)	LF	1500		
606-02003	END ANCHORAGE (NONFLARED)	EA	1		
606-02005	END ANCHORAGE (FLARED)	EA	1		
620-00020	SANITARY FACILITY	EA	2		
625-00000	CONSTRUCTION SURVEYING	LS	1		
626-00000	MOBILIZATION	LS	1		
627-00001	PAVEMENT MARKING PAINT (TEMPORARY)	GAL	52		
627-00008	MODIFIED EPOXY PAVEMENT MARKING	GAL	37		
630-00000	FLAGGING	HR	4200		
630-00007	TRAFFIC CONTROL INSPECTION	DAY	48		
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	120		
630-80001	FLASHING BEACON (PORTABLE)	EA	6		
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	17		
630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EA	8		
630-80344	CONSTRUCTION TRAFFIC SIGN (SPECIAL)	EA	2		
630-80359	PORTABLE MESSAGE SIGN PANEL	DAY	120		
630-80364	DRUM CHANNELIZING DEVICE (W/ LIGHT) (STEADY BURN)	EA	34		
630-80370	BARRIER (TEMPORARY)	LF	1150		

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COSTS	TOTAL COST
630-80380	TRAFFIC CONE	EA	100	_____	_____
630-86800	TRAFFIC SIGNAL (TEMPORARY)	LS	1	_____	_____
FORCE ACCOUNT					
700-70010	MINOR CONTRACT REVISIONS	F/A	1	<u>\$450,000.00</u>	<u>\$450,000.00</u>
700-70380	EROSION CONTROL	F/A	1	<u>\$10,000.00</u>	<u>\$10,000.00</u>
TOTAL					_____

Enclosed herewith is the required bid bond in the amount of ten percent (10%) (\$_____) which the bidder agrees to be forfeited to and become the property of the County of Boulder as liquidated damage should this proposal be accepted and a Contract be awarded to him and he fails to enter into a Contract in the form prescribed and to furnish the required bonds and insurance within ten days upon his signing the contract and delivering the approved bonds. In submitting the bid it is understood that the right is reserved by the County of Boulder to reject any and all bids.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

SUBMITTAL SECTION

The bidder’s attention is especially called to the items listed below, which must be submitted in full as part of the BID. Failure to submit any of the documents listed below as a part of your BID, or failure to acknowledge any addendum in writing with your BID, or submitting a bid on any condition, limitation or provision not officially invited in this Invitation to Bid (BID) may be cause for rejection of the BID.

THIS CHECKLIST MUST BE SUBMITTED AS PART OF YOUR BID PACKAGE: Bidder will check each box indicating compliance:

INCLUDED	ITEM
	Name and Address of the Partners and Subcontractors if applicable
	A detailed project schedule with an all-inclusive total cost
	Information on the relevant experience of key personnel
	State your compliance with the Terms and Conditions in the Sample Contract contained in this BID. Specifically list any deviations and provide justification for each deviation.
	Submit three references for similar projects your company has completed within the last three years and contact information
	Insurance Certificate
	W-9
	Signature Page
	Addendum Acknowledgement(s) (If Applicable)



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

SIGNATURE PAGE

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name, Title and Email Address of Person Authorized to Contract with Boulder County	
Company Address	
Company Phone Number	
Company Website	

By signing below I certify that:

I am authorized to bid on my company's behalf.
 I am not currently an employee of Boulder County.
 None of my employees or agents is currently an employee of Boulder County.
 I am not related to any Boulder County employee or Elected Official.
 (Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

**Signature of Person Authorized to Bid on
Company's Behalf**

Date

Note: If you cannot certify the above statements, please explain in a statement of explanation.

BOULDER COUNTY SAMPLE CONTRACT

THIS CONTRACT ("Contract") is entered into by and between the Board of County Commissioners on behalf of the County of Boulder, State of Colorado, a body corporate and politic, for the benefit of the Public Works Department, ("County") and [Supplier] ("Contractor"). County and Contractor are each a "Party," and collectively the "Parties."

In consideration of the mutual covenants contained in this Contract, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Incorporation into Contract: The **Details Summary** is incorporated into this Contract. The **Contract Documents** are incorporated into this Contract by reference, except to the extent that the Proposal, if any is incorporated, contains any obligations placed upon County and not otherwise contained in this Contract.

2. Work to be Performed: Contractor will provide all labor and equipment and do all tasks necessary and incidental to performing the work as described in the **Details Summary** and **Contract Documents** (the "Work"). Contractor will perform the Work (i) in a good and workmanlike manner, (ii) at its own cost and expense, (iii) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (iv) in strict accordance with the Contract. County and its representatives shall have access to the Work at all times.

a. Contractor shall supervise and direct the Work and shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

b. Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work. Contractor warrants that all materials incorporated into the Work will be new unless otherwise specified.

c. Contractor shall at all times enforce good order among its employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to such person. Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with the Work to ensure safe conditions on the premises at all times. Contractor shall comply with all laws, regulations, ordinances, rules, and orders of any public authority bearing on the safety of persons and property. In the event that County notifies Contractor of any unsafe conditions or practices, Contractor shall immediately take all actions required to remediate them at no expense to County. County reserves the right to immediately suspend the Work in the event of imminent hazard, as determined by County.

d. At all times, Contractor shall keep the premises free from accumulation of waste materials or rubbish caused by Contractor's operations. Upon completion of the Work,

Contractor shall remove all of its waste materials and rubbish from the premises, as well as its tools, construction equipment, machinery and surplus materials.

e. Contractor shall confine operations on the premises to areas permitted by law, ordinances, permits, this Contract, and as directed by County, including storage of any materials or equipment.

f. Any claim for an increase in the **Contract Amount** shall be made and generally described by Contractor in writing and delivered to County promptly, in no event later than thirty (30) days after the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered to County within sixty (60) days after such occurrence and shall be accompanied by Contractor's written statement that the amount claimed covers all known amounts to which Contractor is entitled as a result of the occurrence of said event. All claims for increase in the **Contract Amount** shall be determined by County if the Parties are unable to otherwise reach agreement on the claim.

g. Before ordering any materials or doing any Work, Contractor shall verify all measurements for the Work and shall be responsible for the correctness of same.

3. Term of Contract: The **Contract Term** begins on the **Start Date** and expires on the **Expiration Date**, unless terminated sooner. All the Work must be performed during the **Contract Term**.

4. Payment for Work Performed: In consideration of the Work performed by Contractor, and subject to conditions contained in this Contract, County will pay an amount not to exceed the **Contract Amount** to Contractor in accordance with the **Contract Documents**.

5. Invoicing: Contractor will promptly provide a copy of its Form W-9 and invoice template to County upon request. Contractor must submit an invoice to the County by the fifteenth (15th) day of the month for completion of any Work performed in the prior calendar month. All invoices submitted require the following components: Contractor's name and address (submitted W-9 address must match remit address), detailed description of services, dates of services, itemization of labor and materials costs, "Bill to: Boulder County" language, payment remittance address, payer, name and address, date of invoice, unique invoice number, and total amount due. Contractor must send all completed invoices to the **Invoice Contact** in the **Details Summary**. County may require delivery of invoices by email. Failure to submit invoices in a timely manner and in accordance with the terms of this Contract may cause a delay in payment. County may recoup any damages incurred because of Contractor's failure to submit invoices pursuant to the terms of this paragraph. County's acceptance or payment of an invoice will not constitute acceptance of any Work performed under this Contract.

6. Extra Time to Complete the Work (Additional Time only): If Contractor cannot complete the Work by the **Expiration Date**, Contractor may request extra time to

complete the Work. County, in its sole discretion, may grant Contractor additional time to complete the Work by sending a written notice of extension to Contractor. An extension of time to complete the Work will not entitle Contractor to additional compensation from County.

7. Extension of Contract Term (Additional Time and Work): Upon mutual agreement of the Parties, this Contract may be extended until the **Final End Date**. During any extended **Contract Term**, the terms of this Contract will remain in full force and effect, unless otherwise amended in writing by the Parties. Where the Contractor will provide additional services for additional compensation beyond the initial **Contract Amount**, the Parties must execute a written amendment before the then-current **Expiration Date**. If necessary, the written amendment will incorporate an updated Scope of Work and updated Fee Schedule as exhibits. Contractor must provide a current Certificate of Insurance to the County that complies with the **Insurance Requirements** of this Contract, if any, prior to any extended **Contract Term**.

8. Schedule of Work: County may designate the hours (on a daily or weekly basis) during which Contractor may perform the Work, strictly for the purposes of minimizing inconvenience to the County and interference with County operations. Contractor will otherwise set its own work schedule. Contractor shall promptly notify County of any aspect of the Work that will not be delivered or accomplished according to the initial schedule.

9. Indemnity: Contractor will be liable for any damages to persons or property caused by or arising out of the actions, obligations, or omissions of Contractor, its employees, agents, representatives or other persons acting under Contractor's direction or control in performing or failing to perform the Work under this Contract. Contractor will indemnify and hold harmless County, its elected officials and appointed department heads, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of Contractor, its employees, agents or representatives, or other persons acting under Contractor's direction or control. This indemnification obligation will extend to claims based on Contractor's unauthorized use or disclosure of confidential information and intellectual property infringement. County will not be obligated to indemnify or defend Contractor under any circumstances. Contractor's obligations under this provision shall survive expiration or termination of this Contract. Nothing contained in this Contract or the **Contract Documents** is intended to limit or restrict the indemnification rights or obligations of any Party under this provision, or damages available for breaches of the obligations herein.

10. Nondiscrimination: Contractor will comply with the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, State and Federal laws concerning discrimination and unfair employment practices. County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin,

age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable Federal, State or local law. Contractor must require that its subcontractors, if any, similarly comply with all applicable laws concerning discrimination and unfair employment practices.

11. Information and Reports: Contractor will provide to authorized County, State, and Federal government representatives all information and reports that may be required for any purpose authorized by law. Contractor will permit access to such representatives to Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where information required by a representative is in the exclusive possession of a person or entity other than Contractor, Contractor must so certify to the County and explain what efforts it has made to obtain the information.

12. Independent Contractor: Contractor is an independent contractor for all purposes in performing the Work. None of Contractor, its agents, personnel or subcontractors are employees of the County for any purpose, including the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the Colorado Workers' Compensation Act, the Colorado Unemployment Insurance Act, and the Public Employees Retirement Association. Accordingly, County will not withhold or pay any income tax, payroll tax, or retirement contribution of any kind on behalf of Contractor or Contractor's employees. As an independent contractor, Contractor is responsible for employing and directing such personnel and agents as it requires to perform the Work. Contractor will exercise complete authority over its personnel and agents and will be fully responsible for their actions.

13. Termination

a. Breach: Either Party's failure to perform any of its material obligations under this Contract, in whole or in part or in a timely or satisfactory manner, will be a breach. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) days after the institution of such proceeding, will also constitute a breach. In the event of a breach, the non-breaching Party may provide written notice of the breach to the other Party. If the breaching Party does not cure the breach, at its sole expense, as reasonably determined by the non-breaching Party in its sole discretion, within thirty (30) days after delivery of notice, the non-breaching Party may exercise any of its remedies provided under this Contract or at law, including immediate termination of this Contract.

b. Non-Appropriation: The other provisions of this Contract notwithstanding, County is prohibited by law from making commitments beyond the current fiscal year. Payment to Contractor beyond the current fiscal year is contingent on the appropriation and continuing availability of funding in any subsequent year. County has reason to believe that sufficient funds will be available for the full **Contract Term**. Where, however, funds are not allocated for any fiscal period beyond the current fiscal year,

County may terminate this Contract without penalty by providing seven (7) days' written notice to Contractor.

c. Convenience: In addition to any other right to terminate under this Section 13, County may terminate this Contract, in whole or in part, for any or no reason, upon seven (7) days' advance written notice to Contractor.

14. Contractor Obligations upon Termination or Expiration: By the **Expiration Date** or effective date of termination, if earlier, Contractor must (1) remove from County property all of its personnel, equipment, supplies, trash and any hazards created by Contractor, (2) protect any serviceable materials belonging to the County, and (3) take any other action necessary to leave a safe and healthful worksite. Any items remaining on County property after the Expiration Date or the effective date of termination, if earlier, will be deemed abandoned by Contractor.

15. Payable Costs in Event of Early Termination: If County terminates this Contract before the **Expiration Date**, Contractor's payments (and any damages associated with any lawsuit brought by Contractor) are limited to only (1) payment for Work satisfactorily executed and fully and finally completed, as determined by County in its sole discretion, prior to delivery of the notice to terminate, and (2) the reasonable and actual costs Contractor incurred in connection with performing the Work prior to delivery of the notice to terminate. Contractor explicitly waives all claims it may have against the County for any other compensation, such as anticipatory profits or any other consequential, special, incidental, punitive or indirect damages.

16. Remedies for Non-Performance: If Contractor fails to perform any of its obligations under this Contract, County may, at its sole discretion, exercise one or more of the following remedies (in addition to any other remedies provided by law or in this Contract), which shall survive expiration or termination of this Contract:

a. Suspend Performance: County may require that Contractor suspend performance of all or any portion of the Work pending necessary corrective action specified by the County and without entitling Contractor to an increase in compensation or extension of the performance schedule. Contractor must promptly stop performance and incurring costs upon delivery of a notice of suspension by the County.

b. Withhold Payment Pending Corrections: County may permit Contractor to correct any rejected Work at the County's discretion. Upon County's request, Contractor must correct rejected work at Contractor's sole expense within the time frame established by the County. Upon full and final completion of the corrections satisfactory to the County, County will remit payment to Contractor.

c. Deny Payment: County may deny payment for any Work that does not comply with the requirements of the Contract or that Contractor otherwise fails to provide or fully and finally complete, as determined by the County in its sole discretion. Upon County

request, Contractor will promptly refund any amounts prepaid by the County with respect to such non-compliant Work.

d. Removal: Upon County 's request, Contractor will remove any of its employees or agents from performance of the Work, if County, in its sole discretion, deems any such person to be incompetent, careless, unsuitable, or otherwise unacceptable.

17. Binding Arbitration Prohibited: County does not agree to binding arbitration by any extra-judicial body or person.

18. Conflicts of Interest: Contractor may not engage in any business or personal activities or practices or maintain any relationships that conflict in any way with the full performance of Contractor's obligations.

19. Notices: All notices provided under this Contract must be in writing and sent by Certified U.S. Mail (Return Receipt Requested), electronic mail, or hand-delivery to the other Party's **Contact** at the address specified in the **Details Summary**. For certified mailings, notice periods will begin to run on the day after the postmarked date of mailing. For electronic mail or hand-delivery, notice periods will begin to run on the date of delivery.

20. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally, including but not limited to: C.R.S. § 38-26-107, which requires withholding funds where the County receives a claim for payment from a supplier or subcontractor of Contractor upon notice of final settlement (required for public works contracts that exceed \$150,000); C.R.S. § 8-17-101 et seq.; C.R.S. § 18-8-301, et seq.; and C.R.S. § 18-8-401, et seq.

21. Public Contracts for Services (C.R.S. §§ 8-17.5-101, et seq.): *The phrase "unauthorized worker" as used in this provision shall have the same and intended meaning as "illegal alien" as such phrase is used in C.R.S. §§ 8-17.5-101, et seq.* Contractor hereby certifies, warrants, and agrees that it does not knowingly employ or contract with an unauthorized worker who will perform work under this Contract and further certifies that it will confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Contract by participating in the E-Verify Program established under Pub. L. 104-28 or the department verification program established under C.R.S. § 8-17.5-102(5)(c). Contractor (i) shall not knowingly employ or contract with an unauthorized worker to perform work under this Contract; (ii) shall not enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an unauthorized worker to perform work under this Contract; (iii) has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Contract through participation in the E-Verify program or department program; (iv) is prohibited from using either the E-Verify program or department program procedures to undertake preemployment screening of job applicants while this Contract is being performed; and (v) shall comply with any reasonable request by the department made in the course of an

investigation that the Colorado Department of Labor and Employment is undertaking pursuant to the authority established in C.R.S. § 8-17.5-102(5). If Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an unauthorized worker, Contractor shall (a) notify the subcontractor and County within three (3) days that Contractor has actual knowledge that subcontractor is employing or contracting with an unauthorized worker; and (b) terminate the subcontract if, within three (3) days of receiving notice hereunder, subcontractor does not stop employing or contracting with the unauthorized worker; except that Contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an unauthorized worker. Contractor's violation of this provision will constitute a material breach of this Contract, entitling the County to terminate the contract for breach. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages to the County.

22. Entire Agreement/Binding Effect/Amendments: This Contract represents the complete agreement between the Parties and is fully binding upon them and their successors, heirs, and assigns, if any. This Contract terminates any prior agreements, whether written or oral in whole or in part, between the Parties relating to the Work. This Contract may be amended only by a written agreement signed by both Parties.

23. Assignment/Subcontractors: This Contract may not be assigned or subcontracted by Contractor without the prior written consent of the County. If Contractor subcontracts any of its obligations under this Contract, Contractor will remain liable to the County for those obligations and will also be responsible for subcontractor's performance under, and compliance with, this Contract. Contractor shall not contract with a person or entity to whom County has made a reasonable objection.

24. Governing Law/Venue: The laws of the State of Colorado govern the construction, interpretation, performance, and enforcement of this Contract. Any claim relating to this Contract or breach thereof may only be brought exclusively in the Courts of the 20th Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

25. Breach: The failure of either Party to exercise any of its rights under this Contract will not be deemed to be a waiver of such rights or a waiver of any breach of the Contract. All remedies available to a Party in this Contract are cumulative and in addition to every other remedy provided by law.

26. Severability: If any provision of this Contract becomes inoperable for any reason but the fundamental terms and conditions continue to be legal and enforceable, then the remainder of the Contract will continue to be operative and binding on the Parties.

27. Third-Party Beneficiary: Enforcement of the terms and conditions and all rights and obligations of this Contract are reserved to the Parties. Any other person receiving services or benefits under this Contract is an incidental beneficiary only and has no rights

under this Contract. Notwithstanding, where the beneficiary **Department** is led by an Elected Official, such Elected Official shall be considered a third-party beneficiary.

28. Colorado Open Records Act: County may disclose any records that are subject to public release under the Colorado Open Records Act, C.R.S. § 24-72-200.1, et seq.

29. Conflict of Provisions: If there is any conflict between the terms of the main body of this Contract and the terms of any of the **Contract Documents**, the terms of the main body of the Contract will control.

30. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.

31. Representations and Warranties: Contractor represents and warrants the following:

- a. Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
- b. The individual executing this Contract is authorized to do so by Contractor;
- c. Contractor is authorized to do business in the State of Colorado and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Work and the Contractor; and
- d. Contractor and its subcontractors, if any, are financially solvent, able to pay all debts as they mature, and have sufficient working capital to complete the Work and perform all obligations under the Contract.

32. Legal Compliance: Contractor assumes full responsibility for obtaining and maintaining any permits and licenses required to perform the Work. Contractor is solely responsible for insuring that its performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes. Contractor shall promptly notify County if any drawings or specifications are at variance with any laws, regulations, ordinances, or codes. If Contractor performs any Work contrary to such laws, regulations, ordinances, or codes, Contractor shall bear all costs arising therefrom. County approval of the Work or any aspect of Contractor's performance, such as drawings, specifications, plans, designs, or other Contractor-drafted documents, shall not be interpreted to mean that Contractor has satisfied its obligations under this Section.

33. Litigation Reporting: Contractor is not currently involved in any action before a court or other administrative decision-making body that could affect Contractor's ability to perform the Work. Contractor will promptly notify the County if Contractor is served with a pleading or other document in connection with any such action.

34. Tax Exemption: County is exempt from payment of Federal, State, and local government taxes. Contractor shall collect no tax from the County, and the County shall

not be liable to pay any taxes imposed on Contractor. County shall provide its tax exemption status information to Contractor upon request.

35. Delegation of Authority: The Parties acknowledge that the Board of County Commissioners has delegated authority to the Department Head or Elected Official that leads the beneficiary **Department** and their designees to act on behalf of the County under the terms of this Contract, including but not limited to the authority to terminate this Contract.

36. Ownership of Work Product: All work product, property, data, documentation, information or materials conceived, discovered, developed or created by Contractor pursuant to this Contract ("Work Product") will be owned exclusively by the County. To the extent possible, any Work Product will be deemed to be a work made for hire. Contractor unconditionally and irrevocably transfers and assigns to the County all right, title and interest in and to any Work Product.

37. Publicity Releases: Contractor will not refer to this Contract or the County in commercial advertising without prior written consent of the County. This provision shall survive expiration or termination of this Contract.

38. Execution by Counterparts; Electronic Signatures: This Contract may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The Parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121. The Parties will not deny the legal effect or enforceability of this Contract solely because it is in electronic form or because an electronic record was used in its creation. The Parties will not object to the admissibility of this Contract in the form of electronic record, or paper copy of an electronic document, or paper copy of a document bearing an electronic signature, because it is not in its original form or is not an original.

39. Limitation on Public Statements and Lobbying Activity. During the term of this Contract, Contractor may receive from the County its confidential data, work product, or other privileged or confidential information that is protected by law. To maintain the fact and appearance of absolute objectivity, Contractor shall not, without the prior written consent of the County, which shall not be unreasonably withheld, do any of the following: (a) disclose information obtained because of this contractual relationship to any third party; (b) lobby any State or Federal agency on any pending matter while this Contract is effective; or (c) make any public statements or appear at any time to give testimony at any public meeting on the subject matters regarding which Contractor is or was retained by the County. County may set reasonable conditions on any disclosure authorized by the County under this provision. Notwithstanding, Contractor may make disclosures as required by law, and to law enforcement officials in connection with any criminal justice investigation.

40. Sustainability: All construction, deconstruction, remodel, and office move projects are required to follow construction waste procedure modeled off of Boulder County

BuildSmart Code, International Green Construction Code (IGCC), International Energy Conservation Code (IECC), and Leadership in Energy and Environmental Design (LEED) certification, as an effort to achieve maximum jobsite waste diversion, energy efficiency, and water conservation. All 'demolition projects' are to follow deconstruction procedures. Instead of demolition project materials being crushed and primarily sent to the landfill, these projects should be systematically dismantled, typically in the opposite order they were constructed, in order to maximize the salvage of materials. Any hazardous materials encountered should follow state and federal standards, and contractor shall leverage the Boulder County Hazardous Materials Management facility for hazardous materials. The development of a project diversion plan is encouraged to include material types and volume/weight estimations as well as planned destinations. Projects must track all jobsite waste.

41. Limitation of Liability: COUNTY SHALL NOT BE LIABLE TO CONTRACTOR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO THIS CONTRACT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. COUNTY'S AGGREGATE LIABILITY, IF ANY, ARISING FROM OR RELATED TO THIS CONTRACT, WHETHER IN CONTRACT, OR IN TORT, OR OTHERWISE, IS LIMITED TO, AND SHALL NOT EXCEED, THE AMOUNTS PAID OR PAYABLE HEREUNDER BY COUNTY TO CONTRACTOR. ANY CONTRACTUAL LANGUAGE LIMITING CONTRACTOR'S LIABILITY SHALL BE VOID.

42. County Opportunity to Review: Contractor shall provide County with the opportunity to review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents.

43. Notice to Proceed: The Parties agree that time is of the essence and work will begin after a "Notice to Proceed" has been issued by the County and in accordance with the terms therein.

44. Retainage: County may retain partial payment pending completion and County acceptance of the Work as satisfactory and fully and finally complete. For contracts that exceed \$150,000, the retention rate shall not exceed five percent (5%). C.R.S. § 24-91-103. Contractor is responsible for submitting a final invoice for any retainage held by County. If It becomes necessary for County to take over completion of the Work, all of the amounts owing to Contractor, including the withheld percentage, shall be applied: First, towards completion of the Work; second, towards performance of the withholding requirement set forth in C.R.S. § 38-26-107; third, to the surety furnishing bonds for the Work, to the extent such surety has incurred liability or expense in competing the Work or made payments pursuant to C.R.S. § 38-26-106; then, to Contractor. Such retained percentage as may be due to Contractor shall be due and payable as provided by C.R.S. § 38-26-107.

45. Bonds: Upon County's request, Contractor shall obtain and deliver to County payment and performance bonds each equal to 100% of the total Contract. Bonds shall be executed by a qualified corporate surety and must be acceptable to County. County reserves the right to accept other acceptable forms of surety in lieu of a bond, and to reduce the bond requirements set forth herein consistent with C.R.S. § 38-26-106.

46. Change Orders: If unforeseen modifications or changes are required, Contractor may submit a Change Order request to County, which must include a complete description, timeline, and fee schedule for the proposed work. Change Orders are not effective until approved by County in writing.

47. No Suspension or Debarment: Contractor certifies, and warrants for the duration of this Contract, that neither it nor its principals nor any of its subcontractors are debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Contract by any Federal or State department or agency. Contractor shall comply, and shall require its subcontractors to comply, with subpart C of 2 C.F.R. § 180.

48. Permits/Licenses/Code Compliance: Prior to starting the Work, Contractor will identify and obtain, and maintain during this Contract, all permits and licenses necessary to perform the Work. Contractor shall comply with all State and local codes. Contractor is responsible for locating all public utilities, as necessary. Contractor shall require its subcontractors to comply with this provision. HVAC, roofing, and general contractors must be licensed through Boulder County Land Use. Electricians and plumbers must be licensed through the State and registered with Boulder County Land Use Building Safety and Inspection Division. Architects, Professional Engineers and Professional Land Surveyors must be fully-licensed through the State. All required permits and licenses must be provided to County prior to Contractor beginning the Work.

49. Stormwater Quality Protection Requirements: Contractor will take all measures necessary to prevent pollutants from entering storm drains and watercourses. To eliminate stormwater pollution, Contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of this Contract. Contractor shall also be responsible for proper disposal of all waste materials, including wastes generated by the implementation of BMPs. Contractor shall otherwise comply with the Federal Clean Water Act, Colorado Water Quality Control Act, and Boulder County's local Clean Water Act, Illegal Discharge Ordinance (No. 2012-4). For work performed in urbanized areas, Contractor must comply with the requirements of MS4 permit (COR090000), which is available through the Colorado Department of Public Health and Environment.

50. Guaranties and Warranties: Upon completion of the Work, Contractor will guaranty all labor, materials and workmanship incorporated into the Work for two (2) years (or

one year for federally-funded projects) from the Letter of Substantial Completion, or within any such longer period of time as may be prescribed by law, the specifications, or any other applicable special warranty required by the **Contract Documents**. Final payment upon full and final completion of the Work will not relieve Contractor of responsibility for faulty material or workmanship, which County may require Contractor to fix at Contractor's sole expense, in addition to County's other remedies. This provision shall apply to Work completed by Contractor's employees and subcontractors. **Any warranty associated with the Work shall be in compliance with 23 CFR 635.413. In the event of a conflict between 23 CFR 635.413 and warranty-related provisions of this Contract, 23 CFR 635.413 shall control.**

51. Final Payment: A final inspection of the Work shall be conducted by County. If a list of deficiencies results from such final inspection, Contractor shall promptly rectify all items appearing thereon before final payment will be made. When County indicates acceptance of the Work, Contractor may request final payment from County, including any retained amounts. Final payment shall be subject to C.R.S. § 38-26-107.

52. Notice of Final Settlement: Prior to remitting final payment to Contractor, County shall publish a Notice of Final Settlement in accordance with C.R.S. § 38-26-107. Final payment will be rendered in accordance with the statute and the other terms of this Contract. Final payment will not be rendered until County, in its sole discretion, determines full and final completion of the Work.

53. Geographic Information System (GIS) Data: Contractors agree that the following, specified data formats, shall be used and/or adhered to when submitting required data to the County:

a. All GIS data must be ArcGIS 10.x compatible. Shapefiles may be accepted with written, pre-approval, from the County.

b. All GIS data must have complete metadata, following Boulder County GIS Metadata Standards located at:
<https://assets.bouldercounty.org/wpcontent/uploads/2018/03/metadata-standards-contractors.pdf>

c. All Computer Aided Design (CAD) files must have an assigned real world coordinate system to ensure compatible conversion into the County's GIS system, if necessary.

d. All spatial or georeferenced data will be provided to the county in the following coordinate system:

i. Name:
NAD 1983 HARN State Plane Colorado
North FIPS 0501 Feet

ii. Unit:
Foot US

iii. Projection:
Lambert Conformal Conic

iv. Horizontal Datum:
North American Datum 1983 HARN

v. Vertical Datum:
North American Vertical Datum 1988

vi. Spheroid:
GRS 1980

e. Contractors are responsible for capturing section corners or quarter corners for specific projects to be added into the Public Land Survey System (PLSS) project for updating the section corners, Contractors shall provide high-accuracy PLSS monument coordinates for each corner section or quarter corner section monument used as control points or that occur within the project area (“putting it on the cap”) as is reasonable, depending on the difficulty to access the point. All positions to be collected shall be required to use (at a minimum) the Real-Time Kinematic (RTK) method.

54. State Specifications: The Standard Specifications for Road and Bridge Construction 2017, either in whole or as set forth in the Bid Documents, are expressly incorporated into this Contract by reference.

55. Determination of Unit Prices: County will determine the actual quantities and classifications of Unit Price Work performed by Contractor. The Parties will review the County's preliminary determinations before County renders a written decision thereon (by recommendation of an Application for Payment or otherwise), which shall be final and binding upon Contractor. The value of any Unit Price Work covered by a Change Order or claim for an increase or decrease in the Contract Amount shall be determined by applying the unit prices to the quantities of items.

a. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the Parties agree that the Contract Amount includes the total cost of Unit Price Work, determined by multiplying the quantity of each item by its unit price. Initial quantity determinations are estimates, which must be adjusted to reflect actual quantities. Contractor shall make a claim in writing to County for any additional amounts owed where actual quantities exceed estimated quantities. Contractor shall provide such written claim within twenty (20) days of providing the items and shall be accompanied by supporting documentation. The written claim shall include a statement that the claimed amount covers all known amounts (direct, indirect and consequential) to which Contractor is owed. County shall only pay Contractor for actual quantities of items provided hereunder.

b. The Parties agree that each unit price adequately covers Contractor's overhead and profit for each item.

56. Records Retention/Access/Audits: Contractor shall maintain all records and documents pertaining to this Contract in accordance with the requirements prescribed by County. Such records shall be maintained for a period of five (5) calendar years after the date of Contractor's final payment from County under this Contract. Contractor agrees that County or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Contract as necessary and upon request, throughout the term of this Contract, and for five (5)

calendar years after the date of the final payment hereunder. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. County and Contractor acknowledge that protected information is exempt from this requirement without proper client release.

57. Legal Interpretation. Each Party recognizes that this Contract is legally binding and acknowledges that it has had the opportunity to consult with legal counsel of its choice about this Contract. The rule of construction providing that any ambiguities are resolved against the drafting Party will not apply in interpreting the terms of this Contract.

58. Insurance: Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this paragraph. All policies evidencing coverage required by the Contract will be issued by insurance companies satisfactory to the County. Contractor will forward Certificates of Insurance directly to the **County Department** and **Contact** listed in the **Details Summary**.

a. Boulder County and Colorado Department of Transportation and Concessionaire as Additional Insured: Boulder County and Colorado Department of Transportation and Concessionaire shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract INCLUDING COMPLETED OPERATIONS. **Additional insured including completed operations shall be endorsed to these policies using endorsements CG 2010 11/85, CG 2037, or equivalent.**

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: *County of Boulder, State of Colorado, a body corporate and politic, and Colorado Department of Transportation and Concessionaire are named as Additional Insureds **including completed operations**.*

b. Notice of Cancellation: Each insurance policy required by this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days' prior written notice has been given to the County except when cancellation is for non-payment of premium, then ten (10) days' prior notice may be given. If any insurance company refuses to provide the required notice, Contractor or its insurance broker shall notify the County any cancellation, suspension, or nonrenewal of any insurance policy within seven (7) days of receipt of insurers' notification to that effect.

c. Insurance Obligations of County: County is not required to maintain or procure any insurance coverage beyond the coverage maintained by the County in its standard course of business. Any insurance obligations placed on the County in any of the **Contract Documents** shall be null and void.

d. Deductible: Any and all deductibles contained in any insurance policy shall be assumed by and at the sole risk of Contractor.

e. Primacy of Coverage: Coverage required of Contractor and its subcontractors, if any, shall be primary over any insurance or self-insurance program carried by the County.

f. Subrogation Waiver: All insurance policies in any way related to this Contract secured or maintained by Contractor as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against County, its organizations, officers, agents, employees, and volunteers.

g. Requirements. For the entire duration of this Contract including any extended or renewed terms, and longer as may be required by this Contract, Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance to insure the liability risks that Contractor has assumed under this Contract:

i. **Commercial General Liability**

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

ii. **Automobile Liability**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

iii. **Workers' Compensation and Employer's Liability**

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

iv. **Umbrella / Excess Insurance**

Umbrella/Excess Liability insurance in the amount 3,000,000.00, following form.

v. **Professional Liability (Errors and Omissions)**

Professional liability coverage with minimum limits of \$1,000,000 Per Loss and \$1,000,000 Aggregate. Professional Liability provisions indemnifying for loss and expense resulting from errors, omission, mistakes or malpractice is acceptable and may be written on a claims-made basis. The contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years beginning at the time work under this Contract is completed.

vi. **Pollution Liability**

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations

[Signature Page to Follow]

IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

SIGNED for and on behalf of Boulder County	SIGNED for and on behalf of Contractor
Signature:	Signature:
Name:	Name:
Title:	Title:
Date:	Date:
<i>↓↓ For Board-signed documents only ↓↓</i>	
Attest:	<i>Initials</i>
Attestor Name:	
Attestor Title:	

(If this Contract is executed on behalf of a corporation, it must be signed by an agent duly authorized by the corporation to execute such Contract, and if specified by the corporate by-laws, the corporate seal must be affixed to the Agreement by the Secretary of the corporation or other authorized keeper of the corporate seal.)

**ADDENDUM TO CONTRACT
FEDERAL EMERGENCY MANAGEMENT AGENCY'S GRANT PROGRAM
REQUIREMENTS FOR PROCUREMENT CONTRACTS**

This is an addendum to the [CONTRACT NAME], BID _____, Agreement between [CONTRACTOR] ("Contractor"), and Boulder County, (the "County").

The parties acknowledge that the above-referenced contract is subject to the provisions of 44 CFR § 13.36 and the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.). This addendum is hereby expressly incorporated into the agreement between Boulder County and the Contractor. To the extent that the terms of the Agreement and this Addendum conflict, the terms of this Addendum shall control. Nothing in this Addendum shall be construed as making this Agreement contingent upon a Presidential disaster declaration or FEMA's approval or obligation of funds.

The following provisions are hereby added and incorporated into the above-referenced Agreement:

- 1. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE** *(applicable to all construction contracts awarded in excess of \$10,000 by grantees and their contractors or subgrantees; 44 CFR§13.36(i)(3))*

Contractor agrees to comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Part 60).

- 2. ANTI-KICKBACK ACT COMPLIANCE** *(applicable to all contracts and subgrants for construction or repair; 44 CFR§13.36(i)(4))*

Contractor agrees to comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3).

- 3. ACCESS TO RECORDS**

- A.** The Contractor agrees to provide the County, FEMA, the Comptroller General of the United States or any their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this Agreement for the purposes of making audits, examinations, excerpts and transcriptions. 44 CFR§13.36(i)(10).
- B.** The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- C.** The Contractor agrees to maintain all books, records, accounts and reports required under this Agreement for a period of not less than three years after the later of: (a)

the date of termination or expiration of this Agreement or (b) the date County makes final payment under this Agreement, except in the event of litigation or settlement of claims arising from the performance of this Agreement, in which case, Contractor agrees to maintain same until the County, FEMA, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.44 CFR§13.36(i)(11).

4. CONTRACT WORK HOURS AND SAFETY STANDARDS (*applicable to construction contracts awarded by grantees and subgrantees in excess of \$2,000, and in excess of \$2500 for other contracts which involve the employment of mechanics or laborers; 44 CFR §13.36(i)(6)*)

Contractor agrees that it shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327–330) as supplemented by Department of Labor regulations (29 CFR Part 5), which are incorporated herein.

5. NOTICE OF REPORTING REQUIREMENTS

- A. Contractor acknowledges that it has read and understands the reporting requirements of FEMA stated in 44CFR§ 13.40 et seq., 13.50-13.52 and Part III of Chapter 11 of the United States Department of Justice’s Office of Justice Programs Financial Guide, and agrees to comply with any such applicable requirements.
- B. The Contractor agrees to include the above clause in each third party subcontract financed in whole or in part with Federal assistance provided by FEMA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions

6. PATENT RIGHTS (*applicable to contracts for experimental, research, or development projects financed by FEMA; 44 CFR §13.36(i)(8)*)

- A. **General.** If any invention, improvement, or discovery is conceived or first actually reduced to practice in the course of or under this Agreement, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the County and Contractor agree to take actions necessary to provide immediate notice and a detailed report to FEMA.
- B. Unless the Government later makes a contrary determination in writing, irrespective of Contractor's status (a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual), the County and Contractor agree to take the necessary actions to provide, through FEMA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” 37 CFR, Part 401.
- C. The Contractor agrees to include paragraphs A and B above in each third party subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FEMA.

7. NOTICE OF REQUIREMENTS PERTAINING TO COPYRIGHTS

A. Contractor agrees that FEMA shall have a royalty-free, nonexclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for government purposes:

(1) The copyright in any work developed with the assistance of funds provided under this Agreement;

(2) Any rights of copyright to which Contractor purchases ownership with the assistance of funds provided under this Agreement. 44 CFR §13.34, 13.36(i)(8)-(9).

B. The Contractor agrees to include paragraph A above in each third party subcontract financed in whole or in part with Federal assistance provided by FEMA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

8. ENERGY CONSERVATION REQUIREMENTS

A. The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act. 44 CFR § 13.36(i)(13).

B. The Contractor agrees to include paragraph A above in each third party subcontract financed in whole or in part with Federal assistance provided by FEMA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

9. CLEAN AIR AND WATER REQUIREMENTS *(applicable to all contracts and subcontracts in excess \$100,000, including indefinite quantities where the amount is expected to exceed \$100,000 in any year; 44 CFR §13.36(i)(12))*

A. Contractor agrees to comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).

B. Contractor agrees to report each violation of these requirements to the County and understands and agrees that the County will, in turn, report each violation as required to assure notification to FEMA and the appropriate EPA regional office.

C. The Contractor agrees to include paragraph A and B above in each third party subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FEMA.

10. TERMINATION FOR CONVENIENCE OF COUNTY *(applicable to all contracts in excess of \$10,000; 44 CFR §13.36(i)(2))*

A. County shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. County shall

exercise this option by giving Contractor written notice of termination. The notice shall specify the date on which termination shall become effective

- B.** Upon receipt of the notice, Contractor shall commence and perform, with diligence, all actions necessary on the part of Contractor to effect the termination of this Agreement on the date specified by County and to minimize the liability of Contractor and County to third parties as a result of termination. All such actions shall be subject to the prior approval of the County. Such actions shall include, without limitation:
- (1)** Halting the performance of all services and other work under this Agreement on the date(s) and in the manner specified by County.
 - (2)** Not placing any further orders or subcontracts for materials, services, equipment or other items.
 - (3)** Terminating all existing orders and subcontracts.
 - (4)** At County's direction, assigning to County any or all of Contractor's right, title, and interest under the orders and subcontracts terminated. Upon such assignment, County shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.
 - (5)** Subject to County's approval, settling all outstanding liabilities and all claims arising out of the termination of orders and subcontracts.
 - (6)** Completing performance of any services or work that County designates to be completed prior to the date of termination specified by County.
 - (7)** Taking such action as may be necessary, or as the County may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which County has or may acquire an interest.
- C.** Within 30 days after the specified termination date, Contractor shall submit to County an invoice, which shall set forth each of the following as a separate line item:
- (1)** The reasonable cost to Contractor, without profit, for all services and other work County directed Contractor to perform prior to the specified termination date, for which services or work County has not already tendered payment. Reasonable costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for services or other work. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice. Taking such action as may be necessary, or as the County may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which County has or may acquire an interest.
 - (2)** A reasonable allowance for profit on the cost of the services and other work described in the immediately preceding subsection (1), provided that Contractor can establish, to the satisfaction of County, that Contractor would have made a

profit had all services and other work under this Agreement been completed, and provided further, that the profit allowed shall in no event exceed 5% of such cost.

- (3) The reasonable cost to Contractor of handling material or equipment returned to vendor, delivered to the County or otherwise disposed of as directed by the County.
- D. In no event shall County be liable for costs incurred by Contractor or any of its subcontractors after the termination date specified by County, except for those costs specifically enumerated and described in the immediately preceding subsection (c). Such non-recoverable costs include, but are not limited to, anticipated profits on this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs related to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under such subsection (c).
- E. In arriving at the amount due to Contractor under this Section, County may deduct:

 - (1) All payments previously made by County for work or other services covered by Contractor's final invoice;
 - (2) Any claim which County may have against Contractor in connection with this Agreement;
 - (3) Any invoiced costs or expenses excluded pursuant to the immediately preceding subsection (d); and
 - (4) In instances in which, in the opinion of the County, the cost of any service or other work performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected services or other work, the difference between the invoiced amount and County's estimate of the reasonable cost of performing the invoiced services or other work in compliance with the requirements of this Agreement.
- F. County's payment obligation under this Section shall survive termination of this Agreement.

11. TERMINATION FOR DEFAULT

Contractor's failure to perform or observe any term, covenant or condition of this document (Federal Emergency Management Agency's Emergency Management Performance Grant Program Requirements for Procurement Contracts) shall constitute an event of default under this Agreement.

- A. Each of the following shall also constitute an event of default ("Event of Default") under this Agreement:

 - (1) Contractor fails or refuses to perform or observe any other term, covenant or condition contained in this Agreement, and such default continues for a period of ten days after written notice thereof from County to Contractor.

- (2) Contractor (a) is generally not paying its debts as they become due, (b) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction, (c) makes an assignment for the benefit of its creditors, (d) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of Contractor or of any substantial part of Contractor's property or (e) takes action for the purpose of any of the foregoing.
- (3) A court or government authority enters an order (a) appointing a custodian, receiver, trustee or other officer with similar powers with respect to Contractor or with respect to any substantial part of Contractor's property, (b) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction or (c) ordering the dissolution, winding-up or liquidation of Contractor.
- B. On and after any Event of Default, County shall have the right to exercise its legal and equitable remedies, including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. In addition, County shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default; Contractor shall pay to County on demand all costs and expenses incurred by County in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. County shall have the right to offset from any amounts due to Contractor under this Agreement or any other agreement between County and Contractor all damages, losses, costs or expenses incurred by County as a result of such Event of Default and any liquidated damages due from Contractor pursuant to the terms of this Agreement or any other agreement.
- C. All remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy.

12. SOCIOECONOMIC ENGAGEMENT

Contractor will take the following affirmative steps to engage small and minority firms, women's business enterprises, and labor surplus area firms.

- A. Place qualified small and minority business and women's business enterprises on sub-contractor solicitation lists.
- B. Assure that such firms are solicited whenever they are potential sources.
- C. Divide total requirements into smaller tasks or quantities to permit maximum participation by such firms.

D. Establish delivery schedules which encourage participation by such firms.

13. NO SUSPENSION OR DEBARMENT

Contractor certifies that neither it nor its Principals (as defined at 49 C.F.R. §29.105) or any of its subcontractors is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Agreement by any Federal department or agency.

Except as modified herein, all terms and conditions of the existing contract between the parties remain in full force and effect.

IF THIS ADDENDUM IS INCORPORATED BY REFERENCE INTO THE CONTRACT, THE PARTIES DO NOT NEED TO SIGN THE ADDENDUM, AND THE SIGNATURE BLOCKS MAY BE REMOVED

Accepted by **[CONTRACTOR]** on

(Date)

By: _____

TITLE

Accepted by **BOULDER COUNTY** on

, Chair