



**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

**INVITATION TO BID**  
**COVER PAGE**

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**BID Number:** **7478-23**

**BID Title:** **Scour Improvements at North 119<sup>th</sup> Street Bridge Over St. Vrain River**

**Optional Pre-Bid Meeting:** June 29, 2023 - 11:00 a.m.  
**Microsoft Teams meeting**  
**Join on your computer, mobile app or room device**  
[Click here to join the meeting](#)  
Meeting ID: 224 098 443 207  
Passcode: FjM2mn  
**Or call in (audio only)**  
[+1 720-400-7859,,444700460#](#) US, Denver  
Phone Conference ID: 444 700 460#

**BID Questions Due:** July 6, 2023 – 2:00 p.m.

**Submittal Due Date:** July 21, 2023 – 2:00 p.m.

**Email Address:** [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

Documents included in this package:

Bid Instructions  
Terms and Conditions  
Specifications  
Plans  
Insurance and W-9 Requirements  
Submittal Checklist  
Bid Tab Section  
Signature Page  
Sample Contract



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## **INSTRUCTIONS**

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### **1. Purpose/Background**

This project consists of removal of portions of existing riprap and placing new riprap. The project also includes temporary creek diversion and access, and temporary erosion control best management practices, to minimize construction impacts to St. Vrain River.

### **2. Optional Pre-Bid Meeting**

An Optional Pre-Bid Meeting will be held on **June 29, 2023 at 11:00 a.m.** Please click on the link on the cover page or use the call-in number if you wish to attend.

### **3. Written Inquiries**

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org) on or before 2:00 p.m. **July 6, 2023**. A response from the county to all inquiries will be posted and sent via email no later than **July 13, 2023**.

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

### **4. Submittal Instructions**

BIDs are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. July 21, 2023**. A bid opening will be conducted at 3:00 p.m. via Microsoft Teams. Please click on the link below or use the call-in number. A copy of the bid tab will also be sent to all who have submitted a Bid. **Vendors must answer whether line-item pricing information submitted with a bid is confidential or closely held.**

# Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 283 409 593 573

Passcode: EFsgwz

**Or call in (audio only)**

[+1 720-400-7859,698788737#](#) United States, Denver

Phone Conference ID: 698 788 737#

**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](mailto:purchasing@bouldercounty.org); identified as **BID # 7478-23** 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.

Contractors and their employees, subcontractors, and agents must comply with all federal, state, and local laws, regulations, ordinances, orders, and codes, as well as Boulder County policies, guidelines, and protocols.

**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**

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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 Purchasing email address 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 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 or resulting contract should be clearly stated in the bid and contract itself. Confidential/proprietary information should be readily identified, marked and/or separated from the rest of the bid. Co-mingling of confidential/proprietary and other information is NOT acceptable. Vendors must answer whether line-item pricing information submitted with a bid is confidential or closely held. Bids that do not identify confidential/proprietary information may be released in their entirety. Pricing totals contained in a bid are not considered confidential.

**The Boulder County Attorney’s Office retains sole authority for determining whether the Colorado Open Records Act requires or permits Boulder County to disclose proposal or bid documents, or any information contained therein, pursuant to an open records request.**

11. Boulder County promotes the purchase/leasing of energy efficient materials and products with low toxicity levels when availability, quality and budget constraints allow. Proposers 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. Proposers 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.
12. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage will be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel’s website: <http://www.colorado.gov/dpa/>.
13. Bid Security: Boulder County may require, at its discretion, bid security for construction contracts when the price is expected to exceed \$50,000 and for any other contracts as determined by Boulder County to be in its best interest. Bid security provides assurance to Boulder County that the bidder will, upon award, fulfill its bonding and contracting obligations as required by the instructions to bidders. When bid security is required, as indicated in the instructions to bidders, the following terms apply:
  - Bid security must be for an amount equal to 10 percent of the amount bid, unless otherwise stipulated in the instructions to bidders.
  - Bid security must be in the form of a bond, issued by a surety company authorized to do business in Colorado, or a bank cashier’s check made payable to Boulder County.

- Bidders should scan and submit a copy of the bid security instrument with their bid submittal AND mail to Boulder County the actual bid security instrument, postmarked no later than the date of the bid deadline.
- Bidder noncompliance with bid security requirements requires that the bid be rejected as nonresponsive.
- The bid security is submitted as a guarantee that the bid will be maintained in full force and effect for a period of thirty (30) days after the opening of the bids. Accordingly, after bids are opened, they shall be irrevocable for a period of thirty (30) days.
- If a bidder is permitted to withdraw his bid before award, at Boulder County's sole discretion, no action shall be had against the bidder or the bid security.
- Following award, if a contractor fails to deliver the required performance and payment bonds or refuses to enter into a contract with Boulder County under the terms of its winning bid, the contractor's bid shall be rejected and its bid security will be enforced by Boulder County to the extent of actual damages.



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## **SPECIFICATIONS**

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**BOULDER COUNTY PUBLIC WORKS – ENGINEERING DIVISION**  
**SCOUR IMPROVEMENTS AT N 119<sup>TH</sup> ST. OVER St Vrain River**

The 2022 *Standard Specifications for Road and Bridge Construction* from the Colorado Department of Transportation controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

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**BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION  
SCOUR IMPROVEMENTS AT N 119<sup>TH</sup> ST. OVER St Vrain River**

**Standard Special Provisions Index**

The 2022 *Standard Specifications for Road and Bridge Construction* from the Colorado Department of Transportation controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

<b>Name</b>	<b>Revised Date</b>	<b>No. of Pages</b>
Revision of Section 103 – Colorado Resident Bid Preference	(October 1, 2021)	1
Revision of Section 109 – Prompt Payment (Local Agency)	(April 26, 2022)	2

## **Commencement and Completion of Work**

The Contractor shall commence work under the Contract on or before the 15<sup>th</sup> day following the 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 (excluding punch list items) within 80 calendar days in accordance with the "Notice to Proceed" and the punch list items shall be completed within 15 working days. Punch list work shall be done efficiently and effectively so as not to unnecessarily delay work.

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** Holidays shall include:

Additional holidays recognized by Boulder County are:

New Year's Eve Day, Starting at Noon, if falls on Tuesday through Thursday  
Full Day New Year's Eve, only if day falls on Monday.  
President's Day  
Juneteenth  
Election Day (Even Years)  
Day after Thanksgiving Day  
Christmas Eve, Starting at Noon, if falls on Tuesday through Thursday  
Full Day Christmas Eve, only if day falls on Monday

**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.



**REVISION OF SECTION 101  
DEFINITIONS AND TERMS**

**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 sign or 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 102.05** 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 104**  
**Maintaining Traffic**

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

**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 106 Control Of Material**

**Section 106** of the Standard Specifications is hereby revised for this project as follows:

**Subsection 106.03** shall include the following:

Sampling and 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.

**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. Wetlands that are shown as being temporarily impacted shall be protected and restored to the greatest extent possible. Wetlands that are not being impacted, but are within the limits of construction shall be protected by silt fence as shown on plans.

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 1<sup>st</sup> and August 31<sup>st</sup>, 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**  
**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.

**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;

**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 or other equipment capable of causing sparks or flames without a USDA or SAE-approved spark arrester properly installed and in effective working order. A chemical, pressurized minimum 20Lb 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.



**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.

**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, Air Quality Control**, 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 107  
Water Quality Control**

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

**Subsection 107.25(a)** shall include the following:

8. Colorado Department of Transportation or CDOT. All instances of "Colorado Department of Transportation" or "CDOT" shall be replaced with "Boulder County."

**Subsection 107.25(b)7** the following shall be added:

- (9) Contractor shall submit a dewatering plan which uses either infiltration or a frac tank. If infiltration is to be used, the CDPHE low-risk discharge policy may apply such that a CDPHE dewatering permit may not be required. Submit the following information to Boulder County for approval.

If infiltration is used: infiltration plan including: outfall locations, control measures to prevent erosion at outfalls, control measures to prevent sediment. Plan for restoration of the infiltration area.

**Subsection 107.25 (c), first paragraph** shall be replaced with the following:

Stormwater Construction Permit. It is not anticipated that the project disturbance area will exceed over an acre. However, if the project disturbance area is over an acre, a Colorado Discharge Permit System Stormwater Construction Permit (CDPS-SCP) will be obtained from CDPHE by the Contractor. The Contractor and Boulder County will be co-permittees. The Contractor shall provide a copy of permit certification as the Operator to the Engineer prior to or at the Pre-construction Conference. No work shall begin until the CDPS-SCP permit with Owner and Operator has been approved by CDPHE. A copy of the permit shall be placed in the project SWMP.

## **Revision of Section 108 Prosecution and Progress**

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

**Subsection 108.03** shall include the following:

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

The minimum salient features to be shown on the Contractor's CPM Schedule are:

- (1) Mobilization
- (2) Detour/Traffic Control Installation and Maintenance
- (3) Stabilization of staging areas
- (4) Erosion/Water Control
- (5) Temporary River Diversion placement and relocation
- (6) Removal of existing rip rap and channel material
- (7) Installation of new rip rap and matrix rip rap.
- (8) Removal of River Diversion
- (9) Final Stabilization
- (10) Cleanup/Completion

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 and location to be determined by the Engineer and the Contractor.

At the weekly progress meetings, the Contractor shall submit 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.

**REVISION OF SECTION 108  
PROSECUTION AND PROGRESS**

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.

**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 4:30 p.m., Monday through Friday. 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 for each consultant required to be on the job site. This cost will be deducted from any money due the Contractor.

## **Revision of Section 202 Removal of Topsoil**

**Section 202** of the Standard Specification is hereby revised as follows:

**Subsection 202.02** shall include the following:

*Topsoil Removal:* After the construction area and its access have been delineated, the vegetation should be mowed to a maximum height of four (4) inches over the area to be disturbed. If the amount of vegetation exceeds what can be incorporated into the soil without interfering with establishing a proper seedbed, then excess vegetation shall be removed.

Topsoil should be removed by a front-end loader (preferred method) or grader. Under no circumstances should upland topsoil be removed under wet soil moisture conditions. The depth of the topsoil layer may vary. Topsoil may be delineated from the subsoil by a higher organic matter content (usually, but not always, indicated by a darker color) and a relatively loose and friable soil structure. Typically, topsoil is between four (4) and eight (8) inches in depth.

Under no circumstances shall subsoil be mixed with topsoil, and subsoil shall not be placed on top of the topsoil. If necessary, salvaged topsoil shall be cordoned off to delineate the topsoil from subsoil or other materials. The topsoil shall be protected from contamination by subsoil material, weeds, etc. and from compaction by construction equipment and vehicles.

**Revision of Section 203  
Excavation and Embankment**

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

**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.

**Subsection 203.12** shall include the following:

Payment for Unclassified Excavation shall 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 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 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.

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

The fertilizer shall meet the following minimum requirements:

<b>Criteria</b>	<b>Requirement</b>
Nutrient Content (N-P-K)	7-2-1 <ul style="list-style-type: none"><li>• Nitrogen (total) &gt;7%</li><li>• Nitrogen (water soluble) &lt;0.5%</li><li>• Phosphorus (P205) 2-4%,</li><li>• Potassium (K20) 1%</li></ul>
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.

**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.

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

Compost shall have the following physical properties:

<b>Compost Parameters</b>	<b>Reported As</b>	<b>Requirement</b>	<b>Test Method</b>
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 CO2-C per g TS per day mg CO2-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	TMECC 07.01-B Fecal Coliforms, or 07.02 Salmonella
Trace Metals	(PASS/FAIL) <sup>[SEP]</sup> 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.			

**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



**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.

**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.

**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 (Native) 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 (Wetland) 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).

Recommended seed mixes for the project area are as follows:

**Upland Seed Mix:** For upland areas above the bank of the St. Vrain River. The seed mix would be seeded at a rate of 2 pounds per 1,000 square feet or 25 pounds per acre.

30% Sideoats grama (*Bouteloua curtipendula*)  
20% Western wheatgrass (*Pascopyrum smithii*)  
10% Slender wheatgrass (*Elymus trachycaulus*)  
5% Indian ricegrass (*Achnatherum hymenoides*)  
5% Big bluestem (*Andropogon gerardii*)  
5% Blue grama (*Bouteloua gracilis*)  
5% Canada wildrye (*Elymus canadensis*)  
5% Bottlebrush squirreltail (*Elymus elymoides*)  
5% Switchgrass (*Panicum virgatum*)  
5% Little bluestem (*Schizachyrium scoparium*)  
5% Yellow Indiangrass (*Sorghastrum nutans*)

**Riparian Seed Mix:** For seasonally or temporarily wet soils below the top of the bank of the St. Vrain River. The riparian and mesic areas within the project area, including the area above the matrix riprap can be seeded with the following seed mix. The seed mix would be seeded at a rate of 2 pounds per 1,000 square feet or 25 pounds per acre.

25% Canada wildrye (*Elymus canadensis*)  
20% Western wheatgrass (*Pascopyrum smithii*)  
15% Big bluestem (*Andropogon gerardii*)  
15% Switchgrass (*Panicum virgatum*)  
15% Indiangrass (*Sorghastrum nutans*)

5% Baltic rush (*Juncus balticus*)  
2.5% Spikerush (*Eleocharis palustris*)  
2.5% Alkali sacaton (*Sporobolus airoides*)

**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 and sodding.

**Subsection 214.02** shall include the following:

Seeding and sodding material shall be as specified in Standard Specification 212.

**Subsection 214.03** shall include the following:

Seeding and sodding 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 and sodding.

**Subsection 214.04 (b)** shall include the following:

The Contractor shall water, mow and remove noxious weeds and cultivate the seeded or sodded 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.

Sodding shall be watered frequently enough to keep the sod and underlying soil moist, not soggy. Sod should be well rooted into the soil below within two to three weeks. Once established, water less frequently, but increase the quantity of water applied to promote deeper rooting.

**REVISION OF SECTION 214  
LANDSCAPE MAINTENANCE**

**Subsection 214.04 (b), 2** shall include the following:

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.

Sodding shall be watered frequently enough to keep the sod and underlying soil moist, not soggy. Sod should be well rooted into the soil below within two to three weeks. Once established, water less frequently, but increase the quantity of water applied to promote deeper rooting.

**Subsection 214.05** shall include the following:

Planting material (Plants) also includes seeding and sodding.

**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 unless there is a specific bid item dedicated to noxious weed removal.

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.

**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 <sup>1</sup> ASTM D6459	Minimum Tensile Strength MD <sup>2</sup> ASTM D6818	Minimum Tensile Strength ASTM D4595
1	<0.1 at 3:1	8.33 lbs/in	1968 lb/ft
2	<0.1 at 3:1	10.42 lb/in	

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).



**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.

**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.

**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.

**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 and earth anchors will be paid for within the Temporary Erosion Control lump sum bid item.

## **Section 240**

### **Protection of migratory birds biological work performed by the contractor's biologist**

**Section 240** is hereby added to the Standard Specifications for this project as follows:

#### **DESCRIPTION**

**240.01** This work consists of protecting migratory birds during construction.

#### **MATERIALS AND CONSTRUCTION REQUIREMENTS**

**240.02** The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall retain a qualified wildlife biologist for this project. The wildlife biologist shall have a minimum of three years experience conducting migratory bird surveys and implementing the requirements of the MBTA. The Contractor shall submit documentation of the biologist's education and experience to the Engineer for acceptance. A biologist with less experience may be used by the Contractor subject to the approval of the Engineer based on review of the biologist's qualifications.

The wildlife biologist shall record the location of each protected nest, bird species, the protection method used, and the date installed. A copy of these records shall be submitted to the Engineer.

(a) *Vegetation Removal.* When possible, vegetation shall be cleared prior to the time when active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits for active migratory bird nests. The Contractor's wildlife biologist shall also survey for active migratory bird nests within 50 feet outside work limits. Contractor personnel shall enter areas outside the right of way only if a written, signed document granting permission to enter the property has been obtained from the property owner. The Contractor shall document all denials of permission to enter property. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

**SECTION 240**  
**PROTECTION OF MIGRATORY BIRDS**  
**BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST**

- (1) *Tree and Shrub Removal or Trimming.* Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests shall be conducted by the wildlife biologist within the seven days immediately prior to the beginning of work in each area of tree and shrub removal or trimming. The survey shall be conducted for each phase of tree and shrub removal or trimming.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the wildlife biologist and approved by the Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

- (2) *Grasses and Other Vegetation Management.* Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by a wildlife biologist within the seven days immediately prior to ground disturbing activities.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the Owner's biologist. This buffer dimension may be changed if determined appropriate by the Owner's biologist and approved by the Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

**SECTION 240  
PROTECTION OF MIGRATORY BIRDS  
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST**

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

- (b) *Work on structures.* The Contractor shall prosecute work on structures in a manner that does not result in a taking of migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall not prosecute the work on structures during the primary breeding season, April 1 through August 31, unless they take the following actions:
- (1) The Contractor shall remove existing nests prior to April 1. If the Contract is not awarded prior to April 1 and CDOT has removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon Notice to Proceed.
  - (2) During the time that the birds are trying to build or occupy their nests, between April 1 and August 31, the Contractor shall monitor the structures at least once every three days for any nesting activity.
  - (3) If the birds have started to build any nests, they shall be removed before the nest is completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
  - (4) Installation of netting may be used to prevent nest building. The netting shall be monitored and repaired or replaced as needed. Netting shall consist of a mesh with openings that are  $\frac{3}{4}$  inch by  $\frac{3}{4}$  inch or less.

If an active nest become established, i.e., there are eggs or young in the nest, all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied as determined by the wildlife biologist and approved by the Engineer. The Contractor shall prevent construction activity from displacing birds after they have laid their eggs and before the young have fledged.

**SECTION 240  
PROTECTION OF MIGRATORY BIRDS  
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST**

If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, the Contractor shall remove and properly dispose of netting used on the structure.

**METHOD OF MEASUREMENT**

**240.03** Wildlife Biologist will be measured by the actual authorized number of hours a wildlife biologist is on site performing the required tasks.

Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

**BASIS OF PAYMENT**

**240.04** The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Wildlife Biologist	Hour

Payment for Wildlife Biologist, if needed, will be full compensation for all work and materials required to complete the item, including wildlife biologist, wildlife survey, and documentation (record of nest location and protection method).

Based on the anticipated construction timing Netting and Removal of Nests are not included.



**SECTION 240  
PROTECTION OF MIGRATORY BIRDS BIOLOGICAL WORK PERFORMED BY THE  
CONTRACTOR'S BIOLOGIST**

Clearing and grubbing will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately but shall be included in the work.

Removal and trimming of trees will be measured and paid for in accordance with Section 202.

Fence (Plastic) will be measured and paid for under Temporary Erosion Control Item.

## Revision of Section 506

### Matrix Rip Rap

Section 506 of the Standard Specifications shall include the following.

#### DESCRIPTION

506.01 Partially Grouted Riprap (Matrix Riprap). This work includes all equipment, materials, labor and other costs associated with supplying and installing the geotextile underlayment specified in the plans, bedding layer if applicable, riprap of type and gradation specified in the plans, and cementitious mortar (mortar) to the lines and grades shown on the plans.

#### MATERIALS

In Subsection 506.02 add with the following:

Materials used for the matrix riprap shall conform to the following standards:

- a) AASHTO M 85, Standard Specification for Portland Cement
- b) AASHTO M6, Standard Specification for Fine Aggregate for Portland Cement Concrete
- c) AASHTO M43, Standard Specification for Sizes of Aggregate
- d) ASTM C231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- e) ASTM C138, Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- f) ASTM C143, Standard Test Method for Slump of Hydraulic Cement Concrete
- g) ASTM C1437, Standard Test Method for Flow of Hydraulic Cement Mortar
- h) ASTM C1611, Standard Test Method for Slump Flow of Self-Consolidating Concrete
- i) DIN 1048, German Standard Flow Table Test, Ref: EN 12350-5

Riprap Rock. Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic, fine particulates, or other unsuitable material. Angular rock is characterized by sharp, clean edges at the intersections of relatively flat surfaces. Furnish rock with width and thickness of individual rock at least one-third its length (dimension of longest axis). Do not use shale, rock with shale seams, or other fissile or fissured rock that may break into smaller pieces in the process of handling and placing.

Rock for riprap must conform to the following: comply with Section 506 of the Standard Specifications ; riprap class: 9", 12", or 15" nominal D(50); screen all riprap at Quarry. Reject all material finer than 4"; remove all material coarser than two times nominal D(50) at the Quarry.

Geotextile Fabric. Provide materials specified on Plans.

**REVISION OF SECTION 506 MATRIX  
RIPRAP**

Bedding Material. If applicable, provide materials specified on Plans (only required if geotextile does not meet survivability Class I).

Cementitious Mortar. Furnish mortar recipe for matrix riprap that meets the requirements outlined below:

- a) Portland Cement conforming to AASHTO M 85 suitable for onsite soil conditions.
- b) Fine Concrete Aggregate (Sand) conforming to AASHTO M6
- c) Coarse Concrete Aggregate (Very Fine Gravel) conforming to AASHTO M43, No. 7, 8 or 9
- d) Total Aggregate to Portland Cement Ratio of 3.1-3.25, by weight
- e) Water to Cement Ratio of 0.55-0.6, by weight
- f) Fine/Coarse Aggregate Ratio of 1-1.5, by weight
- g) Entrained Air 5-7%
- h) Mortar Density of 120-140 lb/ft<sup>3</sup>
- i) Additives and admixtures shall be included in Mortar Mix Design submittal.
- j) Water Reducing Agents are not recommended.
- k) Cement Extenders (pozzolan, fly ash, blast furnace slag, etc) are not permitted.
- l) Hydration Stabilizing Admixtures.
  - When hydration stabilizing admixtures are used to extend the allowable delivery time for mortar, include the admixtures in the mortar mix design. Base dosage on the time needed to delay the initial set of the mortar for delivery and discharge on the job. Include the design discharge time limit in the dosage submittal. The maximum allowable design discharge time is 3.5 hours.
  - Use an approved and compatible hydration activator at the discharge site to ensure proper placement and testing.
  - Determine dosage required to stabilize mortar using job site material and field trial mixtures. The extended-set admixture shall control the hydration of all cement minerals and gypsum.
  - When requested, the admixture manufacturer or concrete supplier shall provide the service of a qualified person to assist in establishing the proper dose of extended-set admixture and to make dosage adjustments required to meet changing job site conditions

In Subsection 506.02 add with the following:

**SUBMITTALS**

The following will be submitted to the Engineer for approval, prior to construction.

**REVISION OF SECTION 506 MATRIX  
RIPRAP**

The following will be submitted to the Engineer for approval, prior to construction.

- Riprap size class, typical quarry production gradation, and rock quality test results.
- Cementitious Mortar Mix Design.
- Geotextile Material Specifications.
- Matrix Riprap Work Plan: A matrix riprap work plan describing installation methods, materials, and equipment needed for access to the placement location and for mortar placement in matrix riprap, for approval by the Engineer. The work plan shall specifically identify proposed pumping equipment and placement hose dimensions. Include on the work plan the scheduled date for the test panel, the order of construction and schedule to complete the work, and a sequencing plan. Include dewatering and channel diversion dates, if applicable. Submit proposed Work Plan for review at least 7 days prior to beginning matrix riprap placement.

In Subsection 506.03 add with the following:

(a). Testing at Batch Plant

Perform concrete property tests at the batch plant. Mix shall be adjusted as necessary to meet the following field testing criteria with the specified equipment.

Equipment: Flow Table conforming to DIN 1048; Flow Cone conforming to DIN 1048 Water Bucket, broom, and sponge for cleaning and wetting the flow table

Acceptable results for Flow Table Test performed in accordance with DIN 1048

Number of taps	Range of Grout diameter
taps	inches
0	13.5-15
15	20-22

Air Content Test conforming to ASTM C231. Acceptable Results: 5-7% onsite.

Concrete Unit Weight test conforming to ASTM C138. Acceptable Results: 120-140 lb/ft<sup>3</sup>.

**REVISION OF SECTION 506 MATRIX  
RIPRAP**

With Engineer's approval, DIN 1048 flow table testing at the batch plant may be replaced by ASTM C143 (Slump), ASTM C1437 (Flow of Hydraulic Cement Mortar), and ASTM C1611 (Slump Flow) tests. Acceptable Results for alternative flow testing Protocol: Slump: 6.5-7.5 inches slump; Flow: 140%-150%; Slump Flow: Average of Cone and Inverted Cone Tests: 14-1/4-15-3/4 inches average diameter; Visual Stability Index (VSI) equals zero (0): T<sub>50</sub> is not applicable.

(b). Testing at Worksite

Testing of Flow Table properties (DIN 1048) and Air Content shall be performed at the construction site to confirm field properties of mortar at the following intervals:

- (1) prior to placement (sample obtained from first concrete truck or portable mill as applicable);
- (2) every five cubic yards of mortar placed (sample obtained from placement hose);
- (3) whenever new material arrives at site (sample obtained from concrete truck or portable mill); and
- (4) at direction of Engineer on-site, but not less than once per day. If alternative flow testing protocol has been substituted for DIN 1048 flow table testing, then the Flow of Hydraulic Cement Mortar test (ASTM 1437) need not be performed on-site.

All test results shall be reported to the Engineer prior to incorporating mortar in the work.

Under observation of the Engineer, construct a Matrix Riprap test panel measuring approximately 10 feet by 10 feet in area and having a minimum thickness of 2 times the median diameter (d<sub>50</sub>) of the riprap. The test panel shall be constructed onsite at least 3 days prior to matrix riprap placement and shall not be constructed in the final location of the proposed matrix riprap. The test panel shall be placed using the methods presented in the Matrix Riprap Work Plan and, after 72 hours, shall be demolished under the observation of the Engineer to verify mortar penetration and to provide performance feedback to placement personnel. The Contractor will remove the test panel at no expense to the Owner.

(c). Delivery, Handling and Storing

Store and handle fabric in accordance with manufacturer's instructions.

Store and handle bedding aggregates by methods that prevent segregation of particle sizes or contamination by mixing with other materials.

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**REVISION OF SECTION 506**  
**MATRIX RIPRAP**

**(d) Geotextile Placement**

Place geotextile underlayment as specified and as indicated in the Plans. Placement shall also comply with geotextile manufacturer’s installation instructions and to the following:

1. Voids, gaps, tears, or other holes in the geotextile must be avoided to the extent practicable, and the geotextile must be replaced or repaired when they occur.
2. Place the geotextile on the prepared area in direct intimate contact with the subgrade. Place the geotextile free of tension, stress, or wrinkles. Place the geotextile in such a manner that placement of the riprap will not excessively stretch or tear the geotextile.
3. Place geotextile such that upstream strips overlap downstream strips. Overlap geotextile in the direction of flow wherever possible. Overlap all joints a minimum of 1.5 feet.

**(e) Riprap Placement**

Riprap shall be placed to a minimum thickness of two times the median riprap grain size ( $2 \times d_{50}$ ) or as indicated on the Plans.

Riprap shall be machine placed dumped rock. Hand placement is not recommended.

Riprap shall be placed with sufficient density that no geotextile underlayment is visible from the surface of the placement.

Riprap shall be placed in the dry.

Riprap shall be pressure washed onsite immediately prior to mortar placement (Wash #2), to provide saturated surface wet condition. Re-spray as needed to provide wet rock surface before placing mortar.

**(f) Mortar Application**

Place mortar at a rate of application as indicated in the chart below:

Table #. Typical Mortar application volumes for Matrix Riprap.				
Nominal Riprap Median Size	Mortar Volume yd <sup>3</sup>		Riprap Surface Area yd <sup>2</sup>	
	Per yd <sup>2</sup> riprap surface area		Per yd <sup>3</sup> mortar	
	Min	max	min	max
9-inch	0.088	0.100	10.0	11.5
12-inch	0.117	0.133	7.5	8.5
15-inch	0.146	0.167	6.0	7.0

Note: Adjust Mortar volume if Riprap blanket thickness is greater than  $2 \times d_{50}$ .

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**REVISION OF SECTION 506**  
**MATRIX RIPRAP**

Use mortar application equipment and placement technique presented in Matrix Riprap Work Plan and tested during construction of test panel. Mortar shall fill approximately 50 percent of void space in riprap placement, with approximately 2/3 of the volume in the upper 1/2 of the placement depth, full penetration of rock blanket matrix, and less than 50% mortar coverage of geotextile underlayment.

Mortar for installation of matrix riprap shall not be hand-placed. Pump and hose placement is expected.

Place mortar in the dry. Dewater and divert flowing water as necessary to place matrix riprap in the dry.

Mortar placement in matrix riprap shall be performed with overnight minimum air temperature at the site of 35°F. Minimum placement air temperature shall be 40°F and above. Do not place mortar under cold-weather conditions.

Typical ACI Cold Weather Concrete provisions are not sufficient to protect Matrix Riprap installed in freezing conditions.

Do not traverse by either foot, machine or otherwise disturb placed Matrix Riprap for 24 hours after mortar placement.

Matrix Riprap sections that are rejected for non-conformance to this specification shall be allowed to cure for 72 hours before being broken up and re-placed.

Interfaces with penetrations into the Matrix Riprap blanket (Piers, cutoff walls, etc.) shall be fully grouted (completely fill void space with mortar) to two times the median grain size ( $2 \times d_{50}$ ) from the edge of the penetration. Penetrations need not be mechanically interlocked with mortar (no dowels).

(d) Quality Control/Acceptance

Verify that riprap delivered to the placement site meets the applicable class size specified and gradation in the Plans through sampling and testing the size characteristic as follows:

The intermediate dimension of the largest accessible rock will be measured and must be greater than the  $D_{85}$ , particle size for the applicable riprap class.

The intermediate dimension is defined as the shortest, straight-line distance from one side of the rock to the other on the side of the rock with the largest surface area).

**REVISION OF SECTION 506 MATRIX  
RIPRAP**

Prior to mortar placement, verify minimum thickness of riprap is two times nominal median grain size ( $2x d_{50}$ ) of riprap used in installation and that no filter fabric is visible from riprap blanket surface.

Verify that the amount of mortar applied per unit surface area of riprap conforms to the requirement of Table 1.

During placement, verify that mortar is placed in vertical void spaces until refusal, demonstrating mortar penetration through entire layer thickness.

Verify mortar penetration by visual inspection.

In Subsection 506.04 add with the following:

Matrix riprap shall be measured by surface area in place to the lines and grades shown on the Plans.

In Subsection 506.05 add with the following:

Payment will be made at the contract unit price per square yard, complete in place, including excavation, geotextile underlayment, bedding layer, riprap, mortar, labor, and equipment.

Payment will be made under:

Pay Item	Pay Unit
Matrix Riprap	Cubic Yard

**END OF SECTION**



**Section 621**  
**Construction Access**

**Section 621** is hereby added to the Standard Specifications for this project and shall include the following:

**DESCRIPTION**

**621.01** This work shall consist of furnishing all labor, materials, and equipment, and performing all operations necessary to construct a creek access road from adjacent paved roads to the creek channel to perform the construction work within the channel.

**MATERIALS**

**621.02** Creek Access materials shall conform to the following:

- (a) Aggregate shall be crushed natural aggregate with at least two fractured faces. Gradation shall conform to 208.02 (1).
- (b) Recycled crushed concrete or asphalt shall not be used for the creek access road
- (c) If used, geotextile shall be a minimum Class 2, conforming to subsection 712.08.
- (d) A thin layer of stone, geotextile, or other stable surface may be required to stop rutting under the construction access road.

**CONSTRUCTION REQUIREMENTS**

**621.03** A construction access road shall provide access to the creek channel to perform the work. The access road shall be placed only at a location approved by the Engineer and shown on the plans. Means, and methods for the access road shall be determined by the Contractor and submitted to the Engineer for approval at the preconstruction conference. Materials shall conform to 621.02 and be approved by the Engineer.

- (a) *Wetlands.* Temporary impacts to the wetland shall be minimized to the greatest extent possible and as shown in the plans. Following construction, wetland areas impacted shall be restored and revegetated by disking wetlands covered by the construction access road or removing, stockpiling, and replanting wetland topsoil. The method used for restoring temporarily impacted wetlands shall be approved by Boulder County.
- (b) *Permits.* The road construction shall be in accordance with applicable project permits including but not limited to, Boulder County Floodplain Development, Boulder County Stormwater Quality Permit, and Army Corps 404 permit.
- (c) *Construction.* The construction access road shall be constructed to the minimum size necessary while also ensuring enough area as to allow room for equipment to stay within the designated area.
- (d) *Maintenance.* The Contractor shall maintain the creek access road during the entire time that it is in use for the project.

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**SECTION 621**  
**CONSTRUCTION ACCESS**

- (e) *Removal.* Removal of the road shall be done to minimize impacts to the surrounding area as much as possible and shall conform to section 208, when appropriate.
- (f) *Other Agencies.* If CDPHE, US Army Corps of Engineers (USACE), the Environmental Protection Agency (EPA), or a Local Agency reviews the project site and requires additional measures to prevent and control erosion, sediment, or pollutants, the Contractor shall cease and desist activities resulting in pollutant discharge and immediately implement these measures. Implementation of these additional measures will be paid for at contract unit prices.

**METHOD OF MEASUREMENT**

**621.04** Construction Access will not be measured but will be paid for on a lump sum basis.

**BASIS OF PAYMENT**

**621.05** The accepted quantity of creek access road measured as provided above will be paid for at the contract unit price bid.

Payment will be made under:

**Pay Item**

**Pay Unit**

Temporary Access Road

Lump Sum

Payment for will be full compensation for all labor, materials and equipment required to install, maintain and remove the road. Any additional material necessary to maintain the creek access road shall not be paid for separately but shall in be included in the work.

Other incidental work that is not included as a pay item will not be measured and paid for separately but shall be included in the work.

**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) Pre-construction notification
- (2) Construction duration notification throughout the length of project
- (3) Advanced notification for detour

**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.

- (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, and county PIO. 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) *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. 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.
  - (2) *Variable Message Sign Panel*. The contractor should confer with the County PIO and the Engineering on any messages that will appear on static or variable messaging boards. A total of three (3) portable message sign panels shall be placed seven (7) calendar days in advance of work. Locations will be approved by the Engineer.

**REVISION OF SECTION 626  
PUBLIC INFORMATION SERVICES**

- (3) *Resident/Property Owner Communications.* 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. The contractor is also responsible for informing impacted property owners and residents of any utility service interruptions (i.e., water, power, cable, phone, internet).
- (4) *Emergency Vehicles.* Access for emergency vehicles must always be provided. Coordination with emergency service providers is the responsibility of the contractor. The contractor must inform local emergency service providers (Sheriff, Fire Protection District, ambulance services) of any work that may impact their ability to respond to an emergency in the area of the construction project prior to completing the work.
- (5) *Other Services.* The Contractor must also coordinate with the United States Postal Service (USPS) and trash haulers if construction-related activities will interfere with their ability to complete their duties.
- (6) *School Routes.* Impacts to local school bus routes must also be coordinated by the contractor and the affected school district. The same can be said for impacts to Regional Transportation District Route (RTD) that are impacted by construction.

The Contractor shall submit weekly lane closure reports to the Engineer and the PIO.

- (7) **Public Information Services Contact Sheet Owners**

Boulder County Public Works  
Allison Kelly  
Phone: 720-237-2384  
Email: akelly@bouldercounty.org

Public Information Officer (PIO)  
Andrew Barth  
Phone: 303-441-1032 Fax: 303-441-4594  
Email: abarth@bouldercounty.org

**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 Traffic Control (Special)

**Revision of Section 630  
Construction Zone Traffic Control**

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

**Subsection 630.09** shall be revised for this project to include the following:

Portable message sign panels shall be placed at the locations shown in the plan or otherwise approved by Boulder County. The signs shall be posted seven calendar days in advance of and throughout construction activities. The Contractor shall also meet the requirements set forth in Standard Special Revision of 626 for Public Information Services in regards to the portable message sign panels.

**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 is considered incidental to the work and payment is included in the Mobilization work item.**

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.

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

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, and 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.

The Contractor shall supply a 5-watt, FM band hand-held radio, capable of transmitting and receiving on three frequencies throughout the limits as required for traffic and safety control, to the Project Engineer, Assistant Project Engineer, Head Tester, Traffic Control Supervisor, each flagger, and other personnel as required. The radios shall be equipped with battery chargers and rechargeable batteries. The radios shall be supplied seven days prior to the commencement of work. This shall not be paid for separately but shall be included in the work items under Section 630.

**REVISION OF SECTION 630  
CONSTRUCTION ZONE TRAFFIC CONTROL**

**Subsection 630.14** shall include the following:

**All flagging personnel used on the project shall be certified for traffic control operations.**

**Subsection 630.18** shall include the following:

**All labor, equipment, materials, and incidentals required for pedestrian, bicycle traffic and vehicle traffic control and maintenance, including construction signing, channelizing devices, barricades etc., where there is not a specific pay item shall be incidental to the project.**

## FORCE ACCOUNT ITEMS

### DESCRIPTION

This special provision contains the Division'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	\$ 51,800
F/A Erosion Control	F.A.	1	\$ 5,000

**F/A Minor Contract Revisions** – Consists of minor work authorized and approved by the Engineer, which is not included in the contract drawings or specifications and is necessary to accomplish the scope of this contract.

**F/A Erosion Control** – This work consists of Stormwater BMPs authorized and approved by the Engineer. This Force Account is to pay for all necessary work and materials for erosion control items not identified in the plans and at the Engineer's direction. Payment will be made based on time and materials used to perform the work. All items shall be pre-approved by the Engineer prior to installation or they will be at no cost to the project.

## **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 standard specifications.
- 2) Standard Plan S-630-1, Traffic Controls for Highway Construction, and Standard Plan S-630-2, Barricades, Drums, Concrete Barriers (Temp),
- 3) Schedule of Construction Traffic Control Devices,
- 4) Project's Lane Closure Plan
- 5) Accommodation for Cyclists
- 6) Construction Plans, and
- 7) Manual of Traffic Control Devices (MUTCD)

Advanced signing shall be placed at all approach roadways.

The Contractor shall submit to the County Traffic Engineer a method of handling vehicular and cyclist traffic for approval at least one week prior to each construction phase, prior to changes in traffic control, and prior to any construction.

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.



**TRAFFIC CONTROL PLAN – GENERAL**

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:

An off-site detour with bridge closure as shown on the plans is proposed for this project.

The Contractor will develop an access control plan in coordination with adjacent property owners and submit it in conjunction with the traffic control plan to the Engineer for approval prior to the start of any work. The contractor shall maintain access to all adjacent property owner's property unless approved explicitly by Boulder County. The contractor shall maintain all pedestrian cyclists on the St Vrain greenway trail and underpass at all times during construction.

The Contractor shall not place the tack coat on any surface to be overlaid where traffic will be forced to travel upon the fresh oil.

The Contractor and the subcontractors shall equip their construction vehicles with flashing amber lights or as directed by the Engineer.

During the construction of this project, traffic shall use the present traveled roadway and detour route 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.

The Contractor shall be in accordance with CRS 43-5-308 for all traffic control on-site.

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 OWNER / ADDRESS	CONTACT / EMAIL	PHONE / FAX
119 <sup>th</sup> St Location		
Xcel Energy/Electric	Eric S. Thomas <a href="mailto:Eric.s.thomas@xcelenergy.com">Eric.s.thomas@xcelenergy.com</a>	303-571-3263
Xcel Energy/Gas	Eric S. Thompson <a href="mailto:Eric.s.thomas@xcelenergy.com">Eric.s.thomas@xcelenergy.com</a>	303-571-3263
Century Link/Telephone	Pat Provost <a href="mailto:Patrick.provost@centurylink.com">Patrick.provost@centurylink.com</a>	720-888-4686
City of Longmont/Storm Sewer	Jim Angstadt	303-651-8416

The work described in the contract documents, including the plans and specifications, requires coordination and scheduling 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.

Subsurface Utility Engineering was performed by SEH, Inc. and is available to the contractor. Test Holes were not performed for this project.

-2-  
**UTILITIES**

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.

The Contractor shall provide written notice to each utility owner, with a copy to the Engineer, immediately prior to each utility work element expected to be coordinated with construction.

Xcel Energy – Electric/Gas

1. Notify/Coordinate with utility when within ten feet of utility.

CenturyLink – Telephone

1. Notify/Coordinate with utility owner when within ten feet of utility.

City of Longmont – Water/Storm Sewer

1. Notify/Coordinate with utility owner when within ten feet of utility.

THE WORK LISTED BELOW WILL BE PERFORMED BY THE UTILITY OWNERS OR THEIR AGENTS:

Xcel Energy – Electric/Gas

1. Provide correspondence/coordination with construction contractor regarding the proximity of construction equipment to utilities, including any restrictions or conflicts with current utilities. De-energizing overhead utilities will be attempted as possible/applicable.

Century Link – Telephone

1. Provide correspondence/coordination with construction contractor regarding the proximity of construction equipment to utilities, including any restrictions or conflicts with current utilities.

City of Longmont – Water/Storm Sewer

1. Provide correspondence/coordination with construction contractor regarding the proximity of construction equipment to utilities, including any restrictions or conflicts with current utilities.

-3-  
**UTILITIES**

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) at (8-1-1) 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. It is Contractor's responsibility to verify such information and to locate, preserve, and coordinate the relocation (if required) of all existing utilities, whether shown in the contract documents or not. If utility conflicts, beyond those described in the contract documents, are encountered by Contractor during construction, Contractor shall file prompt, sufficient notice to the owner of the utility so that it may make the necessary adjustments, as well as the Engineer.

Unless otherwise noted in the contract documents, Contractor may relocate or adjust the utility lines or service connections for its convenience with the permission of the owner of the utility and the Engineer, at no increase in contract price or contract time.

At all times, Contractor shall take reasonable steps to protect the utilities and prevent service disruption. Whenever Contractor damages a utility or causes any interruption to any utility service, Contractor shall promptly notify the Engineer, the affected utility owner, and the appropriate governmental authorities. Contractor shall cooperate with the affected utility owner and the appropriate governmental authorities in the restoration of service. If the damage is to a utility that is known or should have been discovered before damage occurred, Contractor shall be responsible for all costs associated with its repair and restoration of service, at no increase in contract price or contract time.

Prior to excavating or performing any earthwork operations, the Contractor shall positively locate all potential conflicts with existing underground utilities and proposed construction, as determined by the Contractor according to proposed methods and schedule of construction. The Contractor shall propose modifications to construction plans to avoid existing underground facilities as needed, and as approved by the Engineer.

The Contractor shall provide traffic control and survey for any utility work expected to be coordinated with construction, as directed by the Engineer.

-4-  
**UTILITIES**

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

Coordination with utility owners includes, but is not limited to, the Contractor staking construction features, providing and periodically updating an accurate construction schedule which includes all utility work elements, providing written notification of upcoming required utility work elements as the construction schedule indicates, allowing the expected number of working days for utilities to complete necessary relocation work, conducting necessary utility coordination meetings, and all other necessary accommodations as required for the project to continue per the schedule. Surveying or staking of utility relocations to be performed by the utility owner shall be the responsibility of the utility owner.

The County will cooperate with the Contractor and the utility owner for the relocation of utilities, but cannot guarantee utilities will be relocated in a timely manner. Contractor acknowledges that utilities may not be relocated prior to commencement of construction and has considered this uncertainty in preparation of its bid/proposal.

In the event of delayed utility relocations caused by utility owners, Contractor shall use best efforts to mitigate the resulting impacts on the project schedule and costs. Best efforts to mitigate shall include evaluating and proposing alternative methods of work sequencing or construction methods in order to continue the work; Contractor is prohibited from implementing any alternative methods without prior approval of the Engineer and County.

Contractor hereby holds the County harmless against all risks arising from acts or omissions of utility owners that damage the work or generate delays, disruptions, or additional cost to Contractor in performance of the work. Subject to subsection 108.08, contract time may be extended on account of acts and omissions of utility owners that delay the work without fault of the Contractor.

# BOULDER COUNTY, COLORADO

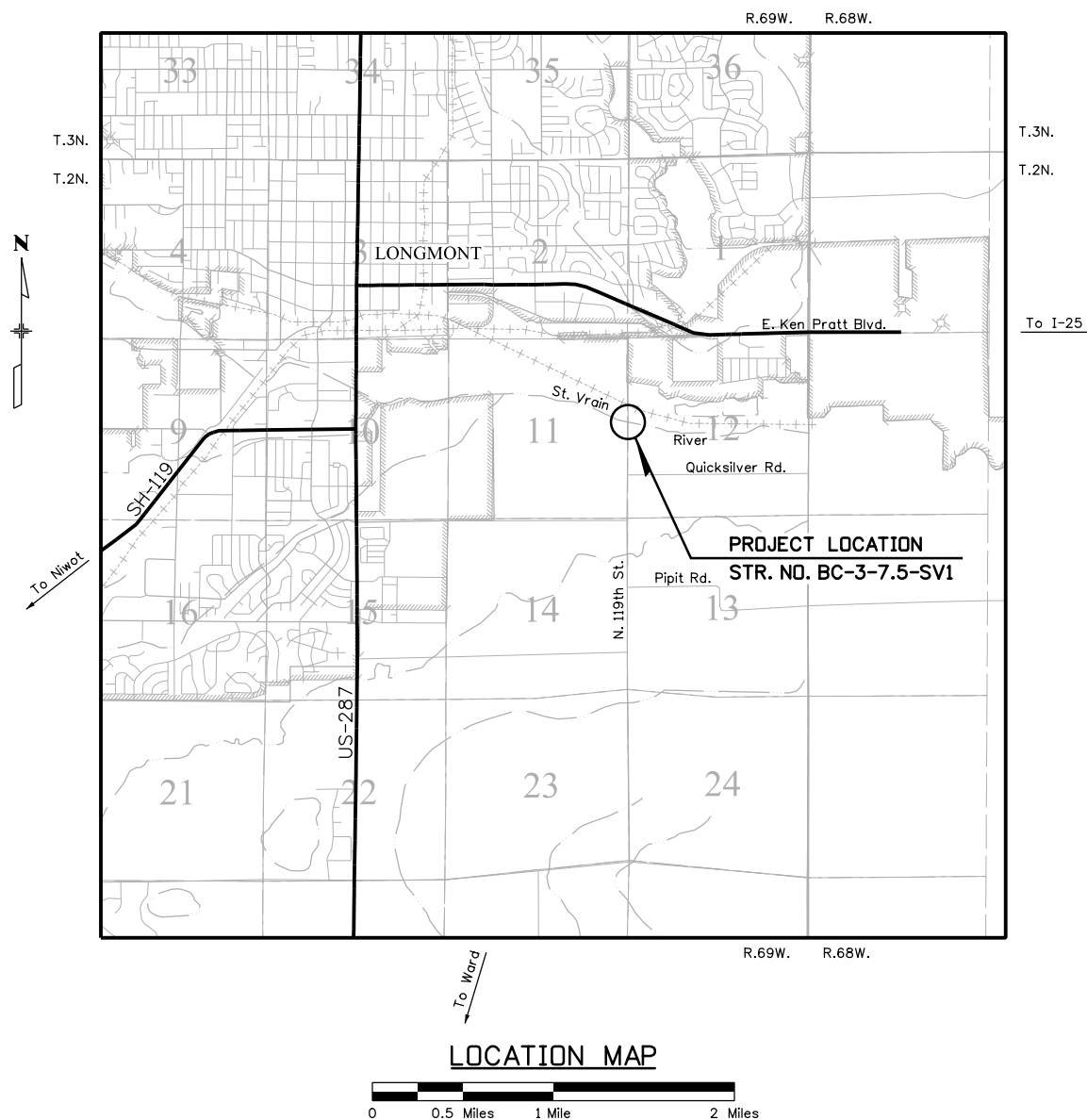
## SCOUR IMPROVEMENTS AT NORTH 119TH STREET BRIDGE OVER ST. VRAIN RIVER

### BOULDER COUNTY PROJECT NUMBER BC-102-344

**PROJECT SCOPE OF WORK:**

THIS PROJECT CONSISTS OF REMOVAL OF PORTIONS OF EXISTING RIPRAP AND PLACING NEW RIPRAP.

THE PROJECT ALSO INCLUDES TEMPORARY CREEK DIVERSION AND ACCESS, AND TEMPORARY EROSION CONTROL BEST MANAGEMENT PRACTICES, TO MINIMIZE CONSTRUCTION IMPACTS TO ST. VRAIN RIVER.



SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2-4	GENERAL NOTES
5	SUMMARY OF APPROXIMATE QUANTITIES
6	DETOUR PLAN
7	CONSTRUCTION ACCESS PLAN
8	EROSION CONTROL PLAN
9	SUGGESTED TEMPORARY DIVERSION
10	SCOUR COUNTERMEASURES
11	R.O.W. EXHIBIT
12	ENVIRONMENTAL IMPACTS
	SUE PLANS

**FINAL PLAN SET**  
June, 2023

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<b>FINAL REVIEW</b>	<p style="font-size: 8px; margin: 0;">CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	NO.	DATE	REVISION DESCRIPTION:	<p style="font-size: 8px; margin: 0;"><b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b></p>	DESIGNED: SEK		CAD/C3D: DWS		CHECKED: SEK		DATE: 6/13/2023		PROJECT NO: <b>BC-102-344</b>		SHEET NO: <b>1</b>	
		SUE PLANS: TITLE SHEET, GENERAL NOTES, SUMMARY OF APPROXIMATE QUANTITIES, DETOUR PLAN, CONSTRUCTION ACCESS PLAN, EROSION CONTROL PLAN, SUGGESTED TEMPORARY DIVERSION, SCOUR COUNTERMEASURES, R.O.W. EXHIBIT, ENVIRONMENTAL IMPACTS, SUE PLANS															

**GENERAL NOTES**

- 1.) EXCEPT WHERE OTHERWISE PROVIDED FOR IN THESE PLANS AND SPECIFICATIONS, THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2022 AND THE CURRENT STANDARD PLANS M&S STANDARDS, AND BOULDER COUNTY MULTIMODAL TRANSPORTATION STANDARDS SHALL APPLY.
- 2.) CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL, CDOT, AND BOULDER COUNTY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL, CDOT, OR BOULDER COUNTY.
- 3.) COMPACTION OF SOILS, AGGREGATE BASES, AND STRUCTURE BACKFILL SHALL BE DETERMINED BY CDOT STANDARD SPECIAL PROVISION, REVISION OF SECTION 203, 206, 304 AND 603 - COMPACTION.
- 4.) THE CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE PERMANENT R.O.W. AND TEMPORARY EASEMENTS INDICATED IN THE PLANS AND AS DIRECTED BY THE ENGINEER. EXCEEDING THESE WORK LIMITS THAT RESULTS IN DISTURBANCE GREATER THAN 1 ACRE WILL REQUIRE THE CONTRACTOR TO OBTAIN PERMITTING AND NPDES CONFORMANCE AT NO ADDITIONAL COST TO THE PROJECT. THE CONTRACTOR SHALL KEEP EQUIPMENT AND MATERIALS WITHIN THESE ESTABLISHED LIMITS.
- 5.) SEEDING AND MULCHING WILL BE REQUIRED FOR ALL DISTURBED AREAS NOT SURFACED, INCLUDING ROADWAY EMBANKMENT, SITE GRADING AND CHANNEL SHAPING. SEED AND MULCH SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR.
- 6.) TRAFFIC CONTROL SIGNING, BARRICADES AND CONSTRUCTION SIGNING SHALL BE FURNISHED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR.
- 7.) THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED A SUBSIDIARY OBLIGATION OF THE CONTRACTOR UNDER OTHER CONTRACT ITEMS.
- 8.) WASTE MATERIALS GENERATED BY THE CONTRACTOR SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A DISPOSAL SITE FOR ALL UNUSABLE MATERIALS.
- 9.) CONTRACTOR IS RESPONSIBLE FOR ACQUIRING A DEWATER PERMIT FROM CDPHE AND A BOULDER COUNTY STORMWATER QUALITY PERMIT.
- 10.) FOR CONCRETE TO BE PLACED ON THE PROJECT, THE SULFATE EXPOSURE LEVEL IS CLASS 0.
- 11.) CONTRACTOR SHALL COMPLY WITH THE MIGRATORY BIRD TREATY ACT OF 1918. BETWEEN APRIL 1 AND AUGUST 31 A SURVEY CONDUCTED BY BOULDER COUNTY OR OTHERS SHALL BE COMPLETED TO VERIFY THE ABSENCE OF ANY ACTIVE NESTS PRIOR TO ANY WORK ON OR UNDER THE BRIDGE OR ANY REMOVAL OF TREES OR SHRUBS. IF AN ACTIVE NEST(S) IS FOUND, NO WORK MAY BE DONE WITHIN 50' OF THE NEST(S) UNTIL THE NEST(S) BECOMES INACTIVE. TO AVOID THE SURVEY REQUIREMENT, IT IS RECOMMENDED THAT ALL VEGETATION THAT NEEDS TO BE REMOVED, BE REMOVED AFTER AUGUST 31 AND BEFORE APRIL 1.
- 12.) CLEARING AND GRUBBING OF VEGETATION THAT MAY DISTURB GROUND NESTING BIRDS SHALL BE COMPLETED BEFORE BIRDS BEGIN TO NEST OR AFTER THE YOUNG HAVE FLEDGED. IF WORK ACTIVITIES ARE PLANNED BETWEEN APRIL 1 AND AUGUST 31, VEGETATION SHALL BE REMOVED AND/OR TRIMMED TO A HEIGHT OF SIX (6) INCHES OR LESS PRIOR TO APRIL 1. ONCE VEGETATION HAS BEEN REMOVED AND/OR TRIMMED, APPROPRIATE MEASURES, I.E. REPEATED MOWING/TRIMMING, SHALL BE IMPLEMENTED TO ASSURE VEGETATION DOES NOT GROW MORE THAN SIX (6) INCHES. FAILURE TO MAINTAIN VEGETATION HEIGHT OF SIX (6) INCHES OR LESS MAY POSTPONE PROJECT CONSTRUCTION.
- 13.) FOR BIRDS OF PREY THAT COULD POTENTIALLY NEST NEAR THE PROJECT SITE, PLEASE CONTACT THE BOULDER COUNTY BIOLOGIST AND/OR REFER TO THE COLORADO PARKS AND WILDLIFE'S "RECOMMENDED BUFFER ZONES AND SEASONAL RESTRICTIONS FOR COLORADO RAPTORS" GUIDELINES AVAILABLE AT COLORADO PARKS AND WILDLIFE DISTRICT OFFICES.
- 14.) LOCATION OF STAGING AREAS, EQUIPMENT AND MATERIAL STORAGE ARE THE CONTRACTOR'S RESPONSIBILITY, AND MUST BE APPROVED BY BOULDER COUNTY IF THE CONTRACTOR PROPOSES DIFFERENT THAN SHOWN ON THE PLANS. ALL STAGING AND MATERIAL STORAGE AREAS SHALL BE IN ACCORDANCE WITH THE PROJECT'S FLOODPLAIN DEVELOPMENT PERMIT.
- 15.) CONTRACTOR SHALL PROTECT ALL SURVEY AND RIGHT-OF-WAY MONUMENTATION DURING CONSTRUCTION OPERATIONS. ANY MONUMENTS DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE RESET BY THE CONTRACTOR AT THEIR EXPENSE, IN ACCORDANCE WITH CDOT SPECIFICATIONS, SECTION 629, SURVEY MONUMENTATION.
- 16.) CONTRACTOR SHALL PROTECT EXISTING VEGETATION NOT DESIGNATED FOR REMOVAL, INSIDE AND OUTSIDE THE PROJECT AREA. DAMAGED VEGETATION UNDESIGNATED FOR REMOVAL, SHALL BE REPLACED WITH SIMILAR ITEMS AT THE CONTRACTOR'S EXPENSE.
- 17.) CONSTRUCTION INSPECTION AND MATERIAL TESTING WILL BE PROVIDED BY BOULDER COUNTY.
- 18.) CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE. ANY DISTURBANCE BEYOND THOSE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES SHALL ALSO INCLUDE VEHICLE AND EQUIPMENT PARKING, DISPOSAL OF LITTER, AND ANY OTHER ACTIVITY THAT WOULD ALTER EXISTING CONDITIONS.

- 19.) UNLESS OTHERWISE SPECIFIED, REMOVAL ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVALS SHALL BE DISPOSED OF OUTSIDE OF THE PROJECT'S LIMITS, UNLESS OTHERWISE APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.
- 20.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.
- 21.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE BOULDER COUNTY INSPECTOR AT ALL TIMES. THESE UPDATES SHALL BE DONE AS WORK PROGRESSES. PREPARATION OF AS-BUILT PLANS WILL NOT BE PAID FOR SEPARATELY.
- 22.) UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION REQUIRED IN THESE PLANS AS APPROVED BY BOULDER COUNTY.
- 23.) DISPOSAL OF EXCESS MATERIAL OFF-SITE OR THE IMPORTING OF MATERIALS ON-SITE, REGARDLESS OF PROPERTY OWNERSHIP, MUST BE DONE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS AND POLICIES.
- 24.) A BOULDER COUNTY HAULER LICENSE IS REQUIRED FOR HAULING OF MATERIAL OFF SITE, REGARDLESS OF WHERE THE MATERIAL IS DEPOSITED. THIS APPLIES TO THE PRIME CONTRACTOR AS WELL AS ANY SUBCONTRACTORS THAT COLLECT, TRANSPORT OR DISPOSE OF DISCARDED MATERIALS (GARBAGE, RECYCLABLES OR COMPOSTABLES, CONSTRUCTION AND DEMOLITION WASTE, OR LANDSCAPING MATERIALS) IN UNINCORPORATED BOULDER COUNTY. SEE LINK OR ADDITIONAL INFORMATION: <https://www.bouldercounty.org/environment/trash/hauler-license/>.

**SIGNING, STRIPING AND TRAFFIC CONTROL NOTES**

- 1.) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING THE REQUIRED CONSTRUCTION ZONE TRAFFIC CONTROL DEVICES AND PERSONNEL PER SPECIAL PROVISIONS, SECTION 630 OF THE STANDARD SPECIFICATIONS AND THE MUTCD. THE CONTRACTOR IS PROHIBITED FROM STARTING WORK AT ANY LOCATION IF A TRAFFIC CONTROL PLAN, INCLUDING BICYCLES AND PEDESTRIANS, HAS NOT BEEN SUBMITTED AND APPROVED BY THE BOULDER COUNTY ENGINEER OR TRAFFIC ENGINEER.
- 2.) CONTRACTOR SHALL PROVIDE SAFE, LOCAL ACCESS FOR ALL ADJACENT PROPERTY OWNERS, EMERGENCY SERVICES, SCHOOL BUSES, DELIVERIES, ETC. AT ALL TIMES.



**EROSION AND STORMWATER NOTES**

- 1.) A BOULDER COUNTY STORMWATER QUALITY PERMIT (SWQP) IS REQUIRED FOR THIS PROJECT. BECAUSE IT DISTURBS ONE ACRE OR MORE, OR IS WITHIN 100 HORIZONTAL FEET OF A WATERWAY. THE BOULDER COUNTY STORMWATER QUALITY PERMIT CAN BE ACQUIRED VIA <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/>
- 2.) A STATE CONSTRUCTION DEWATERING WASTEWATER DISCHARGE PERMIT IS REQUIRED ON THIS PROJECT SINCE DEWATERING WILL BE REQUIRED IN ORDER TO COMPLETE THE WORK AND WATER WILL BE DISCHARGED INTO A CHANNEL OR WATERS OF THE UNITED STATES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THIS PERMIT. ALL COSTS ASSOCIATED WITH DEWATERING SHALL BE INCLUDED WITHIN THE DEWATERING PAY ITEM. A DETAILED DEWATERING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- 3.) THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREA AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO COST TO THE OWNER. THIS SHALL INCLUDE REMOVAL OF ANY DEBRIS CAUSED BY FLOODING.
- 4.) ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL, ON OR OFF SITE, PRIOR TO ANY OTHER GROUND DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING. EROSION CONTROL MEASURES SHALL BE PLACED CONTINUALLY AS DRAINAGE FEATURES ARE BEING CONSTRUCTED.
- 5.) IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EXISTING CONTROL MEASURES AND ENSURE THEIR COMPLETE REMOVAL FROM THE PROJECT ONCE FINAL STABILIZATION HAS BEEN REACHED.

**BEST MANAGEMENT PRACTICES**

- 1.) CONTRACTOR/PERMITTEE SHALL PERIODICALLY INSPECT ALL INSTALLED BMPS, PROVIDE MAINTENANCE, AND MAKE REPAIRS AS NECESSARY TO PREVENT THEIR FAILURE.
- 2.) SILT FENCE OR AN EQUIVALENT SHALL BE PLACED AS PERIMETER CONTROL ON ALL CONSTRUCTION ACTIVITIES THAT OCCUR ON LAND. UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR OTHERWISE REQUESTED, REMOVE PERIMETER CONTROLS WITHIN 30 DAYS AFTER THE DATE OF WARRANTY PERFORMANCE OF THE WORK OR IN ACCORDANCE WITH BMPS.
- 3.) VEHICLE TRACKING CONTROLS SHALL BE USED AT ALL VEHICLE AND EQUIPMENT ACCESS POINTS TO THE SITE TO PREVENT SEDIMENT EXITING THE PROJECT SITE ONTO PAVED PUBLIC ROADS. ACCESS SHALL BE PROVIDED ONLY AT LOCATIONS APPROVED BY THE ENGINEER. VEHICLE TRACKING CONTROL LOCATIONS SHALL BE RECORDED ON THE SWMP SITE MAP.
- 4.) ALL INLETS AND CULVERTS SHALL BE PROTECTED DURING ONSITE CONSTRUCTION ACTIVITIES. INLET PROTECTION LOCATIONS SHALL BE RECORDED ON THE SWMP SITE MAP.
- 5.) CONCRETE WASTED IN DESIGNATED DEWATERING AREAS SHALL BE COLLECTED, REMOVED FROM THE PROJECT SITE, AND DISPOSED OF PROPERLY. WASTED CONCRETE ALSO INCLUDES EXCESS CONCRETE REMOVED FROM FORMS, SPILLS, SLOP, AND ALL OTHER UNUSED CONCRETE THAT ENDS UP ON THE GROUND.
- 6.) THE CONTRACTOR/PERMITTEE MUST MAINTAIN A SPILL KIT ON SITE WHEN WORKING AROUND SURFACE WATERS. IF POLLUTANTS ARE SPILLED INTO ANY SURFACE WATERS DURING THE COURSE OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR/PERMITTEE MUST NOTIFY THE OWNER'S REPRESENTATIVE OR ENGINEER IMMEDIATELY.

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<b>FINAL REVIEW</b>	 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	CALL UTILITY NOTIFICATION CENTER OF COLORADO	REVISIONS:	NO.    DATE    REVISION DESCRIPTION:	 <b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>	N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS	
		DESIGNED: SEK    CAD/C3D: DWS    CHECKED: SEK    DATE: 6/13/2023	<b>GENERAL NOTES</b>			PROJECT NO: <b>BC-102-344</b> SHEET NO: <b>2</b>	

**WASTE MANAGEMENT**

- 1.) THE CONTRACTOR/PERMITEE SHALL NOT BURN, BURY, OR OTHERWISE DISCHARGE CONSTRUCTION OR DEMOLITION WASTE ON THE SITE UNLESS SPECIFIED OTHERWISE.
- 2.) THE CONTRACTOR/PERMITEE SHALL PROVIDE A PORTABLE TOILET AND ASSOCIATED MAINTENANCE SCHEDULE FOR THE CONSTRUCTION AREA SUFFICIENT TO ACCOMMODATE THE CONSTRUCTION CREW AND ALL OTHER AUTHORIZED PERSONS TO BE ONSITE DURING CONSTRUCTION ACTIVITIES.

**HAZARDOUS MATERIALS**

- 1.) THE CONTRACTOR/PERMITEE SHALL TRANSPORT, USE, AND STORE HAZARDOUS MATERIALS IN ACCORDANCE WITH ALL REGULATORY REQUIREMENTS. SPILLED HAZARDOUS MATERIALS, INCLUDING HAZARDOUS LIQUID WASTES, SHALL BE REMOVED FROM THE SITE AND THE PROPERTY RESTORED TO ITS PRE--SPILL STATE IN ACCORDANCE WITH REGULATORY REQUIREMENTS.
- 2.) THE CONTRACTOR/PERMITEE SHALL IMMEDIATELY REPORT SPILLS TO THE PROPER REGULATORY AUTHORITY AND SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- 3.) HANDLING OF CONSTRUCTION FUELS AND LUBRICANTS:
  - A.) THE CONTRACTOR/PERMITEE SHALL EMPLOY PERSONS QUALIFIED TO HANDLE CONSTRUCTION EQUIPMENT FUELS AND LUBRICANTS.
  - B.) THE CONTRACTOR/PERMITEE SHALL REFUEL AND SERVICE EQUIPMENT AWAY FROM FLOODPLAINS OF RIVERS, STREAMS AND OTHER BODIES OF WATER. THE CONTRACTOR/PERMITEE SHALL ENSURE EQUIPMENT THAT ENTERS THE WATER IS FREE FROM EXTERNAL GREASE, OIL, AND MUD.
  - C.) THE CONTRACTOR/PERMITEE SHALL PREVENT HANDLING AND FUELING OPERATIONS FROM CONTAMINATING THE GROUND, SURFACE WATER, AND GROUND WATER. THE CONTRACTOR/PERMITEE SHALL USE CONTAINMENT BERMS AND AN IMPERMEABLE BASE COURSE OR OTHER SYSTEM TO CONTAIN SPILLED FUEL.

**HEAVY EQUIPMENT OPERATIONS AND MAINTENANCE**

- 1.) EQUIPMENT OPERATED BELOW THE ORDINARY HIGH WATER MARK OF THE RIVER CHANNEL, MUST BE INSPECTED AND CLEAN OF FUEL, LUBRICANT LEAKS, AND INVASIVE AQUATIC SPECIES.
- 2.) TO MINIMIZE THE SPREAD OF INVASIVE SPECIES, ALL EQUIPMENT SHALL BE POWER-WASHED AND FREE OF WEEDS PRIOR TO ITS DELIVERY TO THE PROJECT AREA. IF EQUIPMENT WAS USED IN ANOTHER WET AREA WITHIN 10 DAYS OF INITIATING WORK, DECONTAMINATION PRACTICES SHOULD BE EMPLOYED TO MINIMIZE THE SPREAD OF DIDYMOPHENIA, NEW ZEALAND MUD SNAILS, WHIRLING DISEASE, ZEBRA MUSSELS, AND OTHER AQUATIC HITCHHIKERS.
- 3.) READILY BIODEGRADABLE HYDRAULIC FLUIDS OR BIO-HYDRAULIC FLUIDS SHALL BE UTILIZED FOR ALL EQUIPMENT OPERATING IN WATER OR BELOW THE HIGH WATER MARK AND SHALL NOT HAVE A MINERAL OIL BASE. THE CONTRACTOR SHALL SUBMIT CERTIFICATION OF THE USE OF NON-TOXIC, READILY BIODEGRADABLE HYDRAULIC FLUIDS FOR EQUIPMENT OPERATED IN WATER TO THE ENGINEER AND OWNER FOR APPROVAL PRIOR TO USE.
- 4.) ALL EQUIPMENT WITH BIO-HYDRAULIC FLUIDS SHALL BE VISIBLY MARKED AND READILY IDENTIFIABLE AT A DISTANCE OF 100-FT. BASE OIL IS PREFERRED IN THE FOLLOWING ORDER: VEGETABLE OIL PREFERRED OVER SYNTHETIC ESTERS OR POLYALKYLENE GLYCOLS. BIO-HYDRAULIC FLUIDS THAT HAVE HAD MORE TESTING COMPLETED FOR SECTION 12 OF THE SDS DATA SHEET FOR EPA VGP EAL COMPLIANT OR EU ECOLABEL COMPLIANCE ARE PREFERRED OVER NO DATA AVAILABLE.
- 5.) ACCEPTABLE READILY BIODEGRADABLE FLUIDS WILL MEET THE FOLLOWING CRITERIA IN SECTION 12 OF THE SDS DATA SHEETS (ANY EXCEPTIONS MUST BE APPROVED BY THE OWNER.)
  - A. AQUATIC/ECOTOXICITY: BASED ON PREVIOUS STUDIES, LC50/EC50 IS GREATER THAN 3,000 PPM (3000 MG/L) (AMOUNT OF SUBSTANCE THAT KILLS 50 PERCENT OF THE TEST ANIMALS IN A GIVEN TIME).
  - B. BIODEGRADATION: ULTIMATE BIODEGRADATION IS LISTED AS "READILY BIODEGRADABLE" >60% AFTER 28 DAYS (INHERENTLY BIODEGRADABLE IS NOT SUFFICIENT).
  - C. PERSISTENCE AND DEGRADABILITY: READILY BIODEGRADABLE >60% AFTER 28 DAYS.
  - D. BIOACCUMULATION: NON-BIOACCUMULATING. THE BASE OIL SHALL NOT BE MINERAL OIL.

**AQUATIC NUISANCE SPECIES AND NOXIOUS WEED PROTOCOL**

- 1.) NO EQUIPMENT SHALL BE MOBILIZED TO THE WORK SITE UNLESS ONE OF THE FOLLOWING MEASURES ARE TAKEN TO PREVENT THE SPREAD OF NOXIOUS AND INVASIVE SPECIES INCLUDING AQUATIC NUISANCE SPECIES (ANS):
  - A. REMOVE ALL SOIL, PLANT AND ANIMAL MATERIAL, AND DEBRIS FROM EQUIPMENT (TRACKS, TIRES, UNDERCARRIAGES, TURRETS, BUCKETS, DRAGS, TEETH ETC.) AND SPRAY/ SOAK EQUIPMENT WITH A 1:1 SOLUTION OF FORMULA 409 HOUSEHOLD CLEANER AND WATER, KEEPING EQUIPMENT WET FOR AT LEAST 10 MINUTES, OR
  - B. REMOVE ALL SOIL, PLANT AND ANIMAL MATERIAL, AND DEBRIS FROM EQUIPMENT (TRACKS, TIRES, UNDERCARRIAGES, TURRETS, BUCKETS, DRAGS, TEETH ETC.) AND SPRAY/SOAK EQUIPMENT WITH WATER 120-140 DEGREES F FOR AT LEAST 10 MINUTES.
- 2.) PRIOR TO MOVING SUCH EQUIPMENT ONTO THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN LIST OF THE EQUIPMENT AND A SIGNED CERTIFICATION THAT IT WAS TREATED USING ONE OF THE TWO METHODS SPECIFIED ABOVE. INSPECTION BY COUNTY OF ALL PREVIOUSLY USED EQUIPMENT IS HIGHLY RECOMMENDED AT THE CLEANING LOCATION, OR AT THE WORK PROPERTY BOUNDARY (NOT RECOMMENDED DUE TO HIGH CHANCE OF REJECTION). NEW (CLEAN) EQUIPMENT CAN BE AN EXCEPTION TO THE CLEANING REQUIREMENTS, AS APPROVED BY COUNTY, BUT MUST STILL BE INSPECTED AT THE WORK PROPERTY BOUNDARY AT MINIMUM. EQUIPMENT REMOVED FROM THE PROJECT BOUNDARY AND SEEKING RE-ENTRY WILL NEED TO BE CLEANED AGAIN FOLLOWING ONE OF THE TWO METHODS ABOVE. AFTER PROJECT COMPLETION, THIS EQUIPMENT SHALL BE TREATED PRIOR TO ITS USE IN ANOTHER STREAM, RIVER, LAKE, POND OR WETLAND.

**GENERAL CARE OF WATER**

- 1.) CARE OF WATER SHALL INCLUDE THE DESIGN OF ALL TEMPORARY CARE OF WATER PROVISIONS INCLUDING COFFER DAMS, SUMPS, PUMPING SYSTEMS, PIPELINES, CHANNELS, FLUMES, DRAINS, AND OTHER PROTECTIVE AND DEWATERING WORKS TO ALLOW FOR WORK TO BE PERFORMED UNDER DRY CONDITIONS.
- 2.) NO CONSTRUCTION EQUIPMENT SHALL BE OPERATED BELOW THE EXISTING WATER SURFACE UNLESS SPECIFICALLY AUTHORIZED BY THE STORMWATER QUALITY PERMIT ISSUED BY BOULDER COUNTY, AND ANY OTHER APPLICABLE LOCAL, STATE OR FEDERAL LICENSE OR PERMIT.
- 3.) THE CONTRACTOR/PERMITEE IS RESPONSIBLE FOR ALL CARE OF WATER INCLUDING BUT NOT LIMITED TO DESIGNING, SUPPLYING, CONSTRUCTING, OPERATING, AND REMOVING ALL CARE OF WATER PROVISION INCLUDING COFFER DAMS AND SEDIMENT REMOVAL SYSTEMS; DESIGNING, SUPPLYING, INSTALLING, MAINTAINING, AND REMOVING PROTECTIVE WORKS FOR WINTER OPERATIONS OF CARE OF WATER SYSTEMS.
- 4.) THE CONTRACTOR/PERMITEE SHALL COMPLY WITH ALL USACE 404 PERMIT REQUIREMENTS INCLUDING ANY SPECIAL CARE REQUIREMENTS ISSUED FOR THIS PROJECT.
- 5.) WHEN REQUIRED THE CONTRACTOR/PERMITEE SHALL DESIGN TEMPORARY STREAM DIVERSIONS TO FACILITATE UPSTREAM FISH PASSAGE. INSTREAM VELOCITIES SHALL BE LIMITED TO 7 FT/SEC WHEN THIS PROVISION IS REQUIRED.
- 6.) CARE OF WATER SHALL INCLUDE PROVISIONS FOR HANDLING GROUNDWATER, RAINSTORM RUNOFF, SNOW, SNOWMELT, AND ICE THAT MAY ENTER THE WORK AREA.
- 7.) PROTECTIVE WORKS SHALL BE DESIGNED BY THE CONTRACTOR/PERMITEE AS NECESSARY TO INCLUDE ENCLOSURES, INSULATION, AND HEATING SYSTEMS TO ENSURE THAT DEWATERING SYSTEMS OPERATE CONTINUOUSLY AND DO NOT BECOME FROZEN DURING COLD WEATHER.
- 8.) THE CONTRACTOR/PERMITEE SHALL PROVIDE AND MAINTAIN SEDIMENT PONDS OR OTHER MEANS, REMOVE SEDIMENT FROM WATERS COLLECTED WITHIN ACTIVE CONSTRUCTION AREAS PRIOR TO ALLOWING IT TO ENTER OR RETURN INTO THE WATERCOURSE. CONTRACTOR/ PERMITEE SHALL DISPOSE OF SEDIMENTS IN A SUITABLE OFF-SITE WASTE DISPOSAL FACILITY.
- 9.) THE CONTRACTOR/PERMITEE SHALL MONITOR WATER TURBIDITY DURING CONSTRUCTION ACTIVITIES AND SHALL SHUT DOWN WORKS AT TIMES OF EXCESS TURBIDITY IN ORDER TO ALLOW THE WATER TO CLEAR PRIOR TO RE-COMMENCEMENT OF IN-STREAM WORK.
- 10.) TURBIDITY IS EXPECTED DURING PLACEMENT AND REMOVAL OF WATER CONTROL. IF WATERS BECOME NOTICEABLY TURBID, CONTRACTOR/ PERMITEES SHOULD PROMPTLY HALT OPERATIONS TO ALLOW WATERS TO CLEAR PRIOR TO RESUMING OPERATIONS. FURTHERMORE, SHUTDOWNS FOR SILTY OR TURBID WATER MAY BE SPECIFIED BY THE ENGINEER OR THE OWNER'S REPRESENTATIVE, AT THEIR DISCRETION.
- 11.) IN THE EVENT OF UNSCHEDULED CONSTRUCTION ACTIVITY THAT RESULTS IN A VISUALLY CONSPICUOUS PLUME OF SEDIMENT, CONTRACTOR/ PERMITEE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND UNDERTAKE MITIGATION ACTIONS NECESSARY TO COMPLY WITH THE SPECIFIED CLEAN WATER CRITERIA.
- 12.) READILY BIODEGRADABLE HYDRAULIC FLUIDS OR "BIO-HYDRAULIC FLUIDS" SHALL BE UTILIZED FOR ALL EQUIPMENT OPERATING IN WATER OR BELOW THE HIGH WATER MARK AND SHALL NOT HAVE A MINERAL OIL BASE. THE CONTRACTOR SHALL SUBMIT CERTIFICATION OF THE USE OF NON-TOXIC, READILY BIODEGRADABLE HYDRAULIC FLUIDS FOR EQUIPMENT OPERATED IN WATER TO THE ENGINEER AND OWNER FOR APPROVAL PRIOR TO USE. ALL EQUIPMENT WITH BIO-HYDRAULIC FLUIDS SHALL BE VISIBLY MARKED AND READILY IDENTIFIABLE AT A DISTANCE OF 100-FT. BASE OIL IS PREFERRED IN THE FOLLOWING ORDER: VEGETABLE OIL PREFERRED OVER SYNTHETIC ESTERS OR POLYALKYLENE GLYCOLS. BIO-HYDRAULIC FLUIDS THAT HAVE HAD MORE TESTING COMPLETED FOR SECTION 12 OF THE SDS DATA SHEET FOR EPA VGP EAL COMPLIANT OR EU ECOLABEL COMPLIANCE ARE PREFERRED OVER NO DATA AVAILABLE.
 

ACCEPTABLE READILY BIODEGRADABLE FLUIDS WILL MEET THE FOLLOWING CRITERIA IN SECTION 12 OF THE SDS DATA SHEETS (ANY EXCEPTIONS MUST BE APPROVED BY THE OWNER.)



  1. AQUATIC/ECOTOXICITY: BASED ON PREVIOUS STUDIES, LC50/EC50 IS GREATER THAN 3,000 PPM (3000 MG/L) (AMOUNT OF SUBSTANCE THAT KILLS 50 PERCENT OF THE TEST ANIMALS IN A GIVEN TIME).
  2. BIODEGRADATION: ULTIMATE BIODEGRADATION IS LISTED AS "READILY BIODEGRADABLE" >60% AFTER 28 DAYS (INHERENTLY BIODEGRADABLE IS NOT SUFFICIENT)\*.
  3. PERSISTENCE AND DEGRADABILITY: READILY BIODEGRADABLE >60% AFTER 28 DAYS.
  4. BIOACCUMULATION: NON-BIOACCUMULATING. THE BASE OIL SHALL NOT BE MINERAL OIL.
- 13.) AQUATIC NUISANCE SPECIES AND NOXIOUS WEED PROTOCOL:
 

NO EQUIPMENT SHALL BE MOBILIZED TO THE WORK SITE UNLESS ONE OF THE FOLLOWING MEASURES ARE TAKEN TO PREVENT THE SPREAD OF NOXIOUS AND INVASIVE SPECIES INCLUDING AQUATIC NUISANCE SPECIES (ANS):

  1. REMOVE ALL SOIL, PLANT AND ANIMAL MATERIAL, AND DEBRIS FROM EQUIPMENT (TRACKS, TIRES, UNDERCARRIAGES, TURRETS, BUCKETS, DRAGS, TEETH ETC.) AND SPRAY/ SOAK EQUIPMENT WITH A 1:1 SOLUTION OF FORMULA 409 HOUSEHOLD CLEANER AND WATER, KEEPING EQUIPMENT WET FOR AT LEAST 10 MINUTES, OR
  2. REMOVE ALL SOIL, PLANT AND ANIMAL MATERIAL, AND DEBRIS FROM EQUIPMENT (TRACKS, TIRES, UNDERCARRIAGES, TURRETS, BUCKETS, DRAGS, TEETH ETC.) AND SPRAY/SOAK EQUIPMENT WITH WATER 120-140 DEGREES F FOR AT LEAST 10 MINUTES.

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<b>FINAL REVIEW</b>	 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	CALL UTILITY NOTIFICATION CENTER OF COLORADO	NO.	DATE	REVISION DESCRIPTION:	 <b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>	S. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS	
			<b>GENERAL NOTES</b>		DESIGNED: SEK CAD/CSD: DWS CHECKED: SEK DATE: 6/13/2023		PROJECT NO: <b>BC-102-344</b> SHEET NO: <b>3</b>	



**UTILITY NOTES**

- 1.) THE LOCATION OF UTILITY FACILITIES AS SHOWN ON THE PLAN SHEETS, AND HEREIN DESCRIBED, WERE OBTAINED FROM THE BEST AVAILABLE INFORMATION.
- 2.) THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF ABOVE GROUND AND UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 105.11 OF THE STANDARD SPECIFICATIONS CONCERNING UTILITIES.
- 3.) 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 THREE (3) BUSINESS DAYS PRIOR TO COMMENCING SUCH OPERATIONS. CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. CONTACT THE UNCC AT 1-800-922-1987 AT LEAST 3 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK. 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.
- 4.) THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY OF PROTECTING LIVE UTILITIES DURING THEIR CONSTRUCTION OPERATIONS AND SHALL HOLD THE COUNTY HARMLESS FOR ANY AND ALL DAMAGES TO LIVE UTILITIES ARISING FROM THEIR CONSTRUCTION OPERATIONS.
- 5.) ALL COSTS INCIDENTAL TO THE FOREGOING REQUIREMENTS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
- 6.) UTILITY CONTACTS:  
SEE SUE PLANS

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<b>FINAL REVIEW</b>	 CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	REVISIONS:	NO.	DATE	REVISION DESCRIPTION:		<b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>			N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS	
			DESIGNED: SEK	CAD/C3D: DWS	CHECKED: SEK		DATE: 6/8/2023	<b>GENERAL NOTES</b>			
							PROJECT NO: <b>BC-102-344</b>	SHEET NO:		<b>4</b>	

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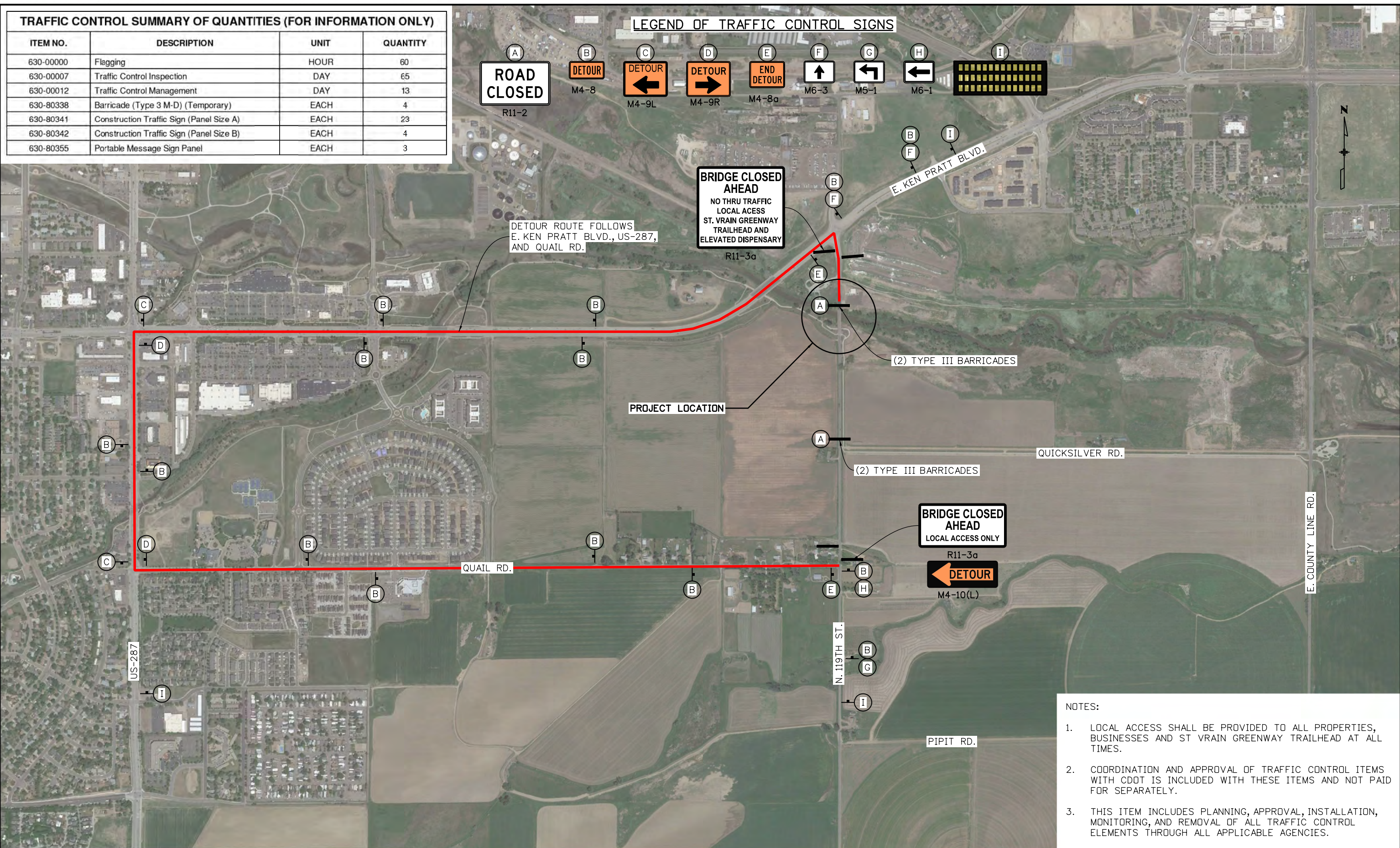
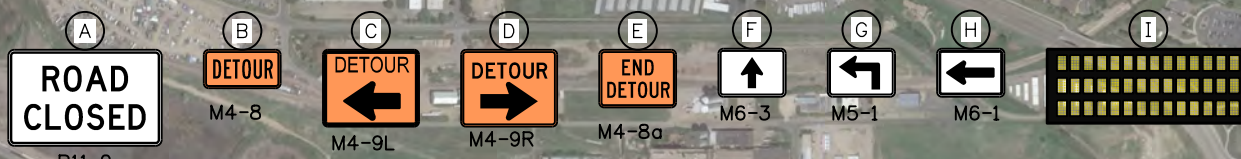
INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	Roadway		Channel		Structure		PROJECT TOTALS				
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
			201-00000	Clearing and Grubbing	L S	1									1	
			202-00010	Removal of Tree	EACH	2									2	
			202-00027	Removal of Riprap	CY			410							410	
			203-00000	Unclassified Excavation	CY			320							320	
			208-00000	Temporary Erosion Control	L S			1							1	
			208-00301	Temporary Diversion	L S			1							1	
			210-01051	Reset Wire Fence	LF	20									20	
			210-01130	Reset Guardrail Type 3	LF	40									40	
			211-03005	Dewatering	L S			1							1	
			214-00000	Landscape Maintenance	L S	1									1	
			240-00000	Wildlife Biologist	HOURL	16									16	
			420-00102	Geotextile (Erosion Control) (Class 1)	SY			820							820	
			506-00206	Riprap (6 Inch)	CY			30							30	
			506-00615	Matrix Riprap (12 Inch)	CY			650							650	
			620-00001	Field Office (Class 1)	EACH	1									1	
			620-00020	Sanitary Facility	EACH	1									1	
			621-00411	Temporary Access Road	L S	1									1	
			625-00000	Construction Surveying	L S	1									1	
			626-00000	Mobilization	L S	1									1	
			630-00016	Traffic Control (Special) LS	L S	1									1	
			700-70010	F/A Minor Contract Revisions	F A	1									1	
			700-70380	F/A Erosion Control	F A	1									1	



**TRAFFIC CONTROL SUMMARY OF QUANTITIES (FOR INFORMATION ONLY)**

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
630-00000	Flagging	HOUR	60
630-00007	Traffic Control Inspection	DAY	65
630-00012	Traffic Control Management	DAY	13
630-80338	Barricade (Type 3 M-D) (Temporary)	EACH	4
630-80341	Construction Traffic Sign (Panel Size A)	EACH	23
630-80342	Construction Traffic Sign (Panel Size B)	EACH	4
630-80355	Portable Message Sign Panel	EACH	3

**LEGEND OF TRAFFIC CONTROL SIGNS**



DETOUR ROUTE FOLLOWS  
E. KEN PRATT BLVD., US-287,  
AND QUAIL RD.

**BRIDGE CLOSED AHEAD**  
NO THRU TRAFFIC  
LOCAL ACCESS  
ST. VRAIN GREENWAY  
TRAILHEAD AND  
ELEVATED DISPENSARY

**BRIDGE CLOSED AHEAD**  
LOCAL ACCESS ONLY

R11-3a

**DETOUR**

M4-10(L)

- NOTES:
1. LOCAL ACCESS SHALL BE PROVIDED TO ALL PROPERTIES, BUSINESSES AND ST VRAIN GREENWAY TRAILHEAD AT ALL TIMES.
  2. COORDINATION AND APPROVAL OF TRAFFIC CONTROL ITEMS WITH CDOT IS INCLUDED WITH THESE ITEMS AND NOT PAID FOR SEPARATELY.
  3. THIS ITEM INCLUDES PLANNING, APPROVAL, INSTALLATION, MONITORING, AND REMOVAL OF ALL TRAFFIC CONTROL ELEMENTS THROUGH ALL APPLICABLE AGENCIES.

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CALL UTILITY NOTIFICATION CENTER OF COLORADO

**811**

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:

**BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION**

DESIGNED: SEK CAD/CSD: DWS CHECKED: SEK DATE: 6/12/2023

N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS


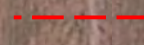
**DETOUR PLAN**

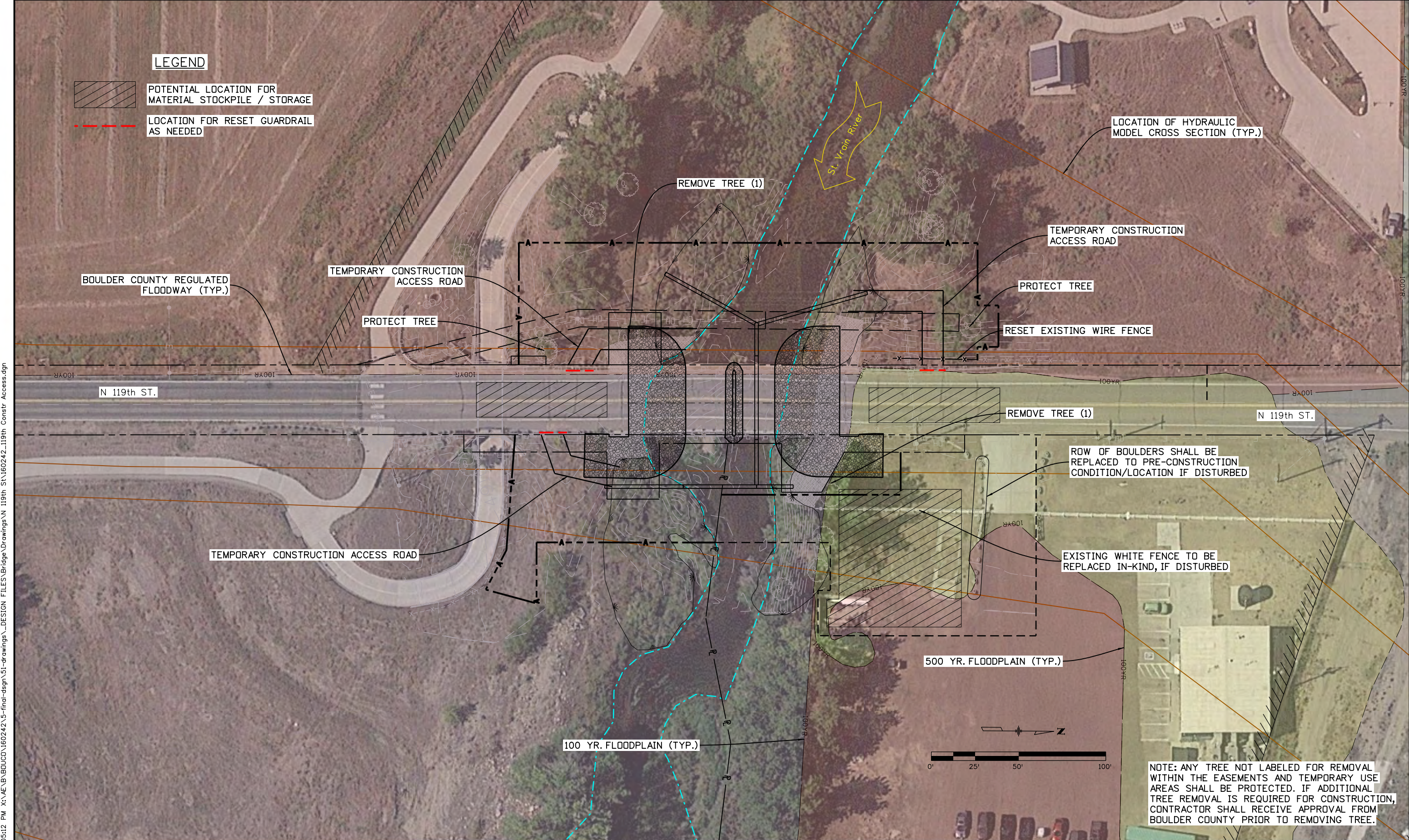
PROJECT NO: **BC-102-344** SHEET NO: **6**

**FINAL REVIEW**




**LEGEND**

-  POTENTIAL LOCATION FOR MATERIAL STOCKPILE / STORAGE
-  LOCATION FOR RESET GUARDRAIL AS NEEDED

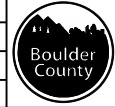


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**FINAL REVIEW**

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



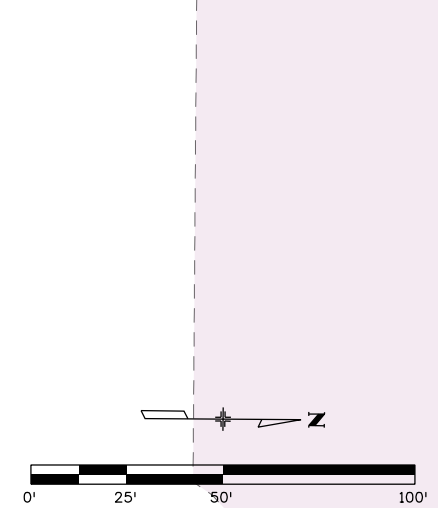
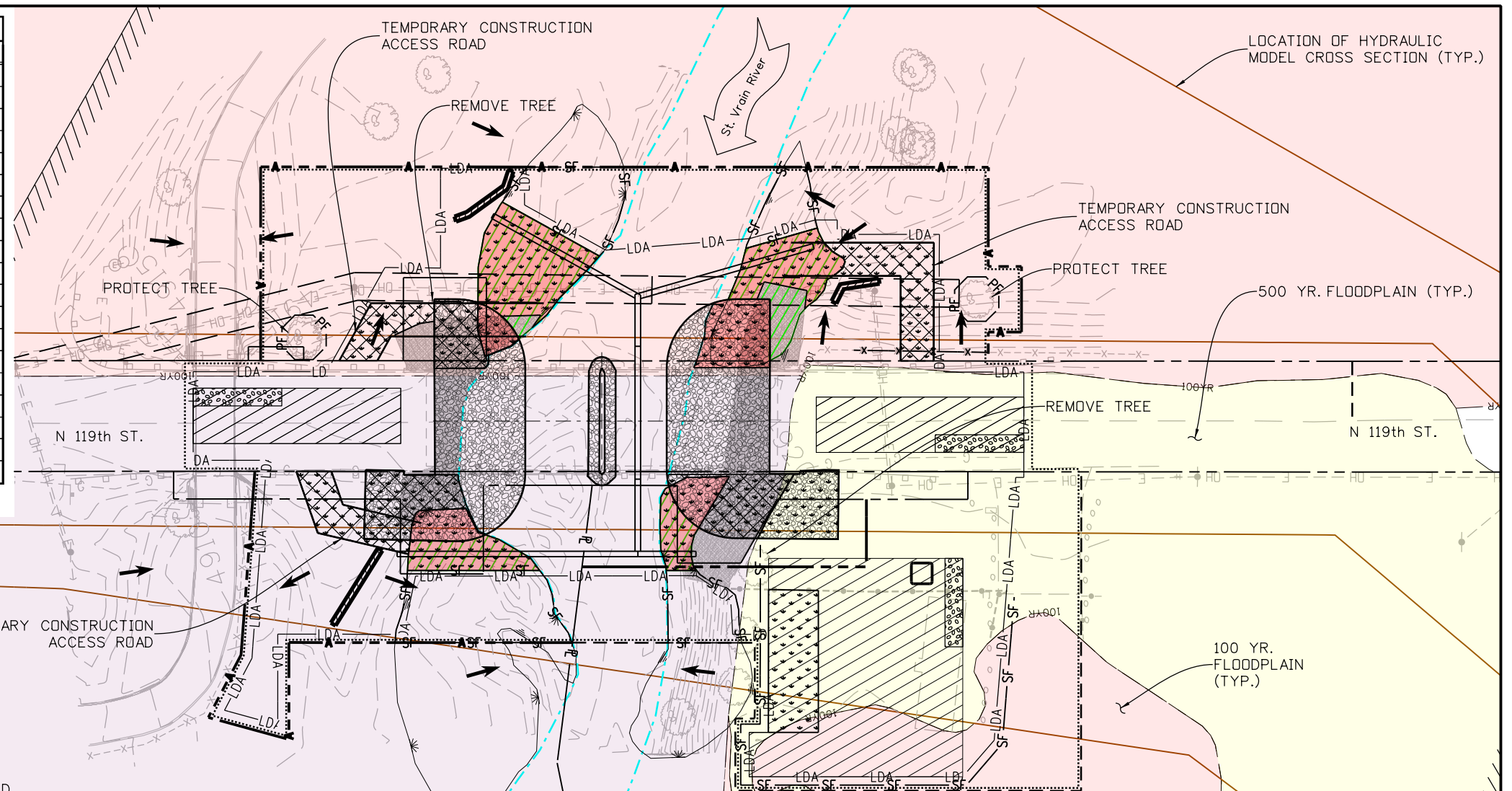
**BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION**  
 DESIGNED: SEK CAD/C3D: DWS CHECKED: SEK DATE: 6/12/2023

N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS  
**CONSTRUCTION ACCESS PLAN**  
 PROJECT NO: **BC-102-344** SHEET NO: **7**

**NOTE: ANY TREE NOT LABELED FOR REMOVAL WITHIN THE EASEMENTS AND TEMPORARY USE AREAS SHALL BE PROTECTED. IF ADDITIONAL TREE REMOVAL IS REQUIRED FOR CONSTRUCTION, CONTRACTOR SHALL RECEIVE APPROVAL FROM BOULDER COUNTY PRIOR TO REMOVING TREE.**



EROSION CONTROL SUMMARY OF QUANTITIES (FOR INFORMATION ONLY)			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
207-00210	STOCKPILE TOPSOIL	CY	90
207-00310	STOCKPILE WETLAND TOPSOIL	CY	70
207-00700	TOPSOIL (ONSITE)	CY	90
207-00703	TOPSOIL (WETLAND)	CY	70
207-00704	SUBGRADE SOIL PREPARATION	SY	520
208-00002	EROSION LOG TYPE 1 (BIODEGRADABLE) (12 INCH)	LF	160
208-00020	SILT FENCE	LF	750
208-00045	CONCRETE WASHOUT STRUCTURE	EACH	1
208-00075	PRE-FABRICATED VEHICLE TRACKING PAD	EACH	3
208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	HOUR	30
208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	HOUR	30
208-00207	EROSION CONTROL MANAGEMENT	DAY	10
212-00006	SEEDING (NATIVE)	ACRE	0.11
212-00028	SEEDING (WETLANDS)	ACRE	0.09
213-00002	MULCHING (WEED FREE HAY)	ACRE	0.20
213-00061	MULCH TACKIFIER	LB	18
216-00201	SOIL RETENTION BLANKET (STRAW-COCONUT) (BIODEGRAD. CLASS 1)	SY	780
217-00015	NOXIOUS WEED MANAGEMENT	SY	942
607-11525	FENCE (PLASTIC)	LF	110



BOULDER COUNTY REGULATED FLOODWAY (TYP.)

**NOTES:**

- LIMITS OF CONSTRUCTION (LOC) AREA = 1.27 ACRES  
LIMITS OF DISTURBANCE (LDA) AREA = 0.91 ACRES
- STAKING OF LIMITS OF DISTURBANCE (LDA) AND WETLANDS SHALL BE INCLUDED IN THE CONSTRUCTION SURVEYING (LS) ITEM.
- VEHICLE TRACKING PADS SHOWN FOR REFERENCE ONLY. VEHICLE TRACKING PADS WILL BE PLACED AT THE DISCRETION OF THE CONTRACTOR AT ALL POINTS OF INGRESS AND EGRESS AT THE SITE. LOCATION OF VEHICLE TRACKING SHALL BE ADJUSTED DURING CONSTRUCTION IN COORDINATION WITH TRAFFIC PHASING PLAN TO MAINTAIN VEHICULAR TRAFFIC THROUGH THE SITE DURING CONSTRUCTION.
- CONCRETE WASHOUT STRUCTURE IS SHOWN FOR REFERENCE ONLY. LOCATION WILL BE AT THE DISCRETION OF THE CONTRACTOR, AND APPROVED BY THE ENGINEER. CONCRETE WASHOUT STRUCTURE SHALL BE PLACED AT A MINIMUM OF 50 FEET AWAY FROM ANY WATERWAY.
- SILT FENCE SHALL BE USED ON FILL SLOPES AS SHOWN. EROSION LOGS CAN BE USED IN PLACE OF SILT FENCE, AND SHALL BE APPROVED BY THE ENGINEER.
- HYDROSEED CAN BE USED ON SLOPES 2:1 OR STEEPER, WITH APPROVAL FROM BOULDER COUNTY.
- NATIVE SEED MIXES SHALL BE PROVIDED BY BOULDER COUNTY PRIOR TO CONSTRUCTION.
- NO ITEMS ARE TO BE LOCATED IN THE RIVER OR CROSSING THE RIVER, UNLESS SHOWN ON PLANS OR APPROVED BY THE ENGINEER.
- THIS IS A RECOMMENDED SWMP/EROSION CONTROL PLAN. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING THEIR OWN SWMP BASED ON THEIR PROPOSED CONSTRUCTION ACTIVITY AND CDPE, CDOT SPECIFICATIONS. THE CONTRACTOR'S SWMP SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- LOCATION OF STAGING SHALL BE AT THE DISCRETION OF THE CONTRACTOR, AND APPROVED BY THE ENGINEER. PERIMETER CONTROL SHALL BE INSTALLED AS NEEDED TO PREVENT SEDIMENT FROM ENTERING WATERWAYS.

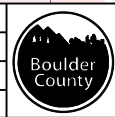
**LEGEND**

- FLOW ARROW
- EXISTING R.D.W.
- PROPOSED PERMANENT EASEMENT
- - - - - TEMPORARY CONSTRUCTION EASEMENT
- ▲--- TEMPORARY USE AREA
- SF— SF — SF— SILT FENCE
- LDA— LDA — LIMITS OF DISTURBANCE (LDA)
- ..... LIMITS OF CONSTRUCTION (LOC)
- PF— PF — PF— PLASTIC FENCE
- ▬ EROSION LOG
- CONCRETE WASHOUT STRUCTURE
- ▨ SEEDING (NATIVE), MULCHING AND MULCH TACKIFIER
- ▩ SEEDING (NATIVE) AND SOIL RETENTION BLANKET
- ▧ SEEDING (WETLANDS) AND SOIL RETENTION BLANKET
- ▦ TEMPORARY WETLAND IMPACT
- ▤ VEHICLE TRACKING PAD
- ▥ POTENTIAL LOCATION FOR MATERIAL STOCKPILE / STORAGE

**FINAL REVIEW**

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



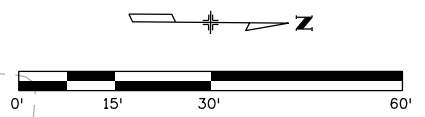
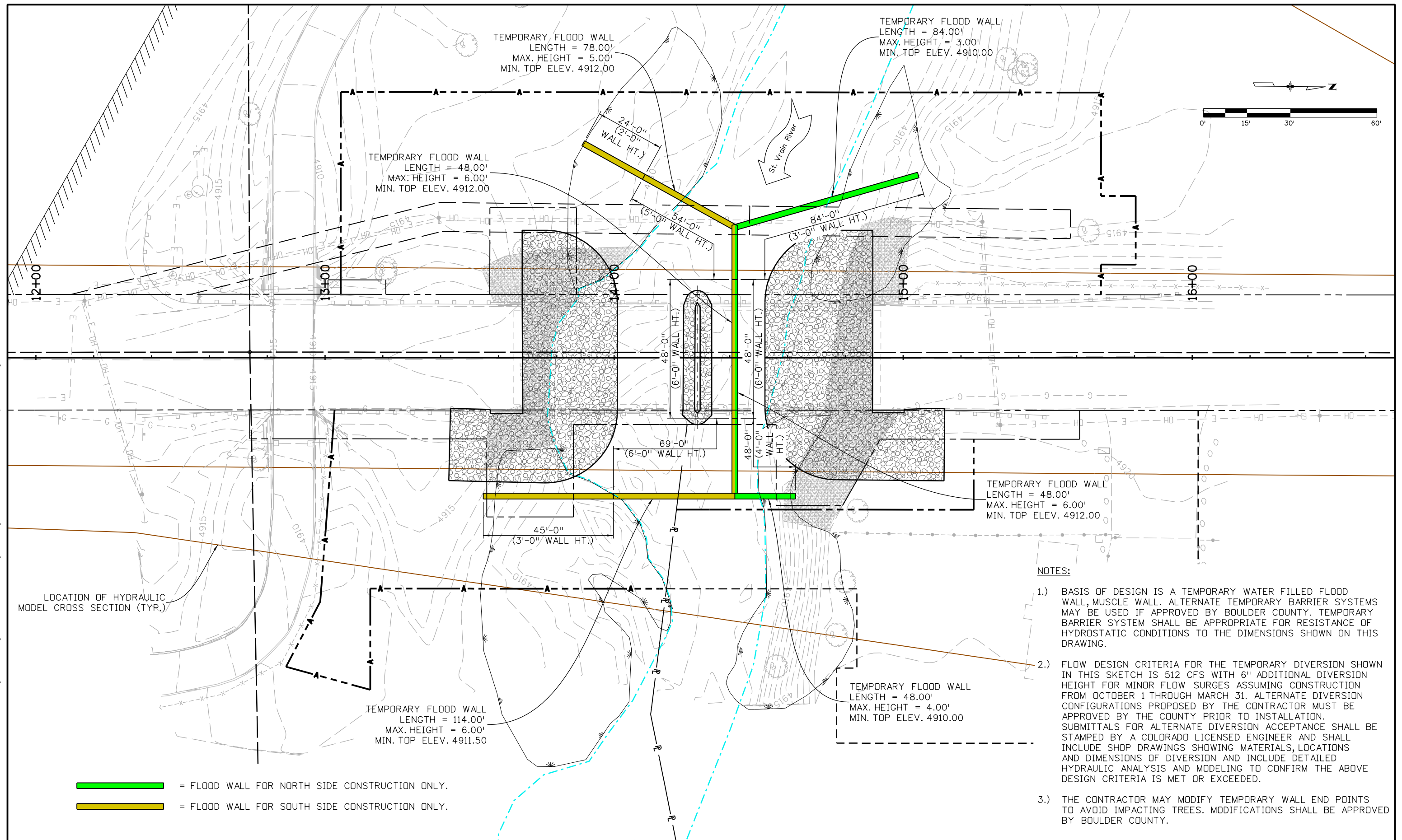
**BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION**  
 DESIGNED: SEK CAD/CSD: DWS CHECKED: SEK DATE: 6/13/2023

N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS  
**EROSION CONTROL PLAN**  
 PROJECT NO: **BC-102-344** SHEET NO: **8**

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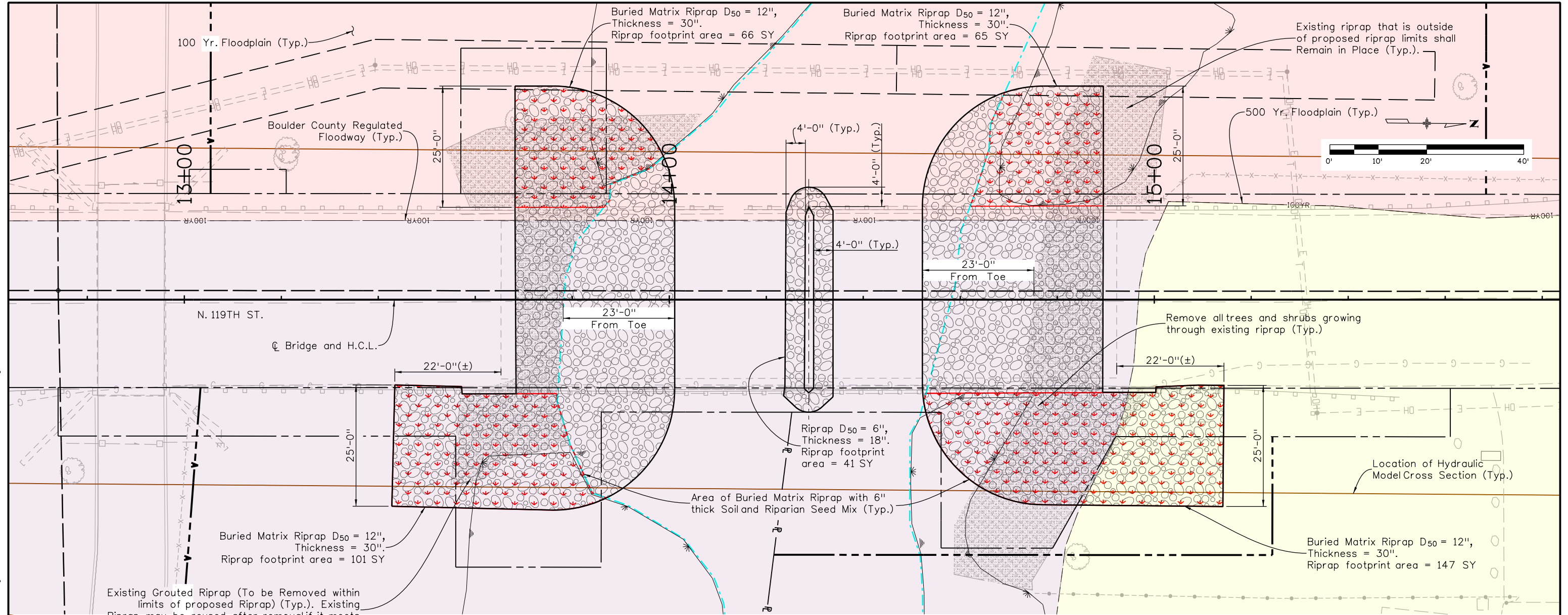


**NOTES:**

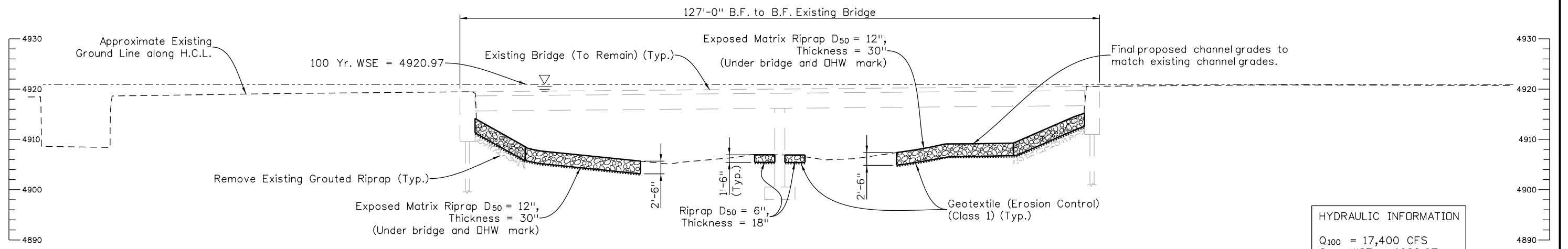
- 1.) BASIS OF DESIGN IS A TEMPORARY WATER FILLED FLOOD WALL, MUSCLE WALL. ALTERNATE TEMPORARY BARRIER SYSTEMS MAY BE USED IF APPROVED BY BOULDER COUNTY. TEMPORARY BARRIER SYSTEM SHALL BE APPROPRIATE FOR RESISTANCE OF HYDROSTATIC CONDITIONS TO THE DIMENSIONS SHOWN ON THIS DRAWING.
- 2.) FLOW DESIGN CRITERIA FOR THE TEMPORARY DIVERSION SHOWN IN THIS SKETCH IS 512 CFS WITH 6" ADDITIONAL DIVERSION HEIGHT FOR MINOR FLOW SURGES ASSUMING CONSTRUCTION FROM OCTOBER 1 THROUGH MARCH 31. ALTERNATE DIVERSION CONFIGURATIONS PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE COUNTY PRIOR TO INSTALLATION. SUBMITTALS FOR ALTERNATE DIVERSION ACCEPTANCE SHALL BE STAMPED BY A COLORADO LICENSED ENGINEER AND SHALL INCLUDE SHOP DRAWINGS SHOWING MATERIALS, LOCATIONS AND DIMENSIONS OF DIVERSION AND INCLUDE DETAILED HYDRAULIC ANALYSIS AND MODELING TO CONFIRM THE ABOVE DESIGN CRITERIA IS MET OR EXCEEDED.
- 3.) THE CONTRACTOR MAY MODIFY TEMPORARY WALL END POINTS TO AVOID IMPACTING TREES. MODIFICATIONS SHALL BE APPROVED BY BOULDER COUNTY.

<b>FINAL REVIEW</b>	CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	NO.	DATE	REVISION DESCRIPTION:	<b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>	DESIGNED: SEK    CAD/C3D: DWS    CHECKED: SEK    DATE: 6/12/2023		PROJECT NO: <b>BC-102-344</b> SHEET NO: <b>9</b>	
		CALL UTILITY NOTIFICATION CENTER OF COLORADO    N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS <b>SUGGESTED TEMPORARY DIVERSION</b>							

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**PLAN**



**SECTION**

HYDRAULIC INFORMATION	
Q <sub>100</sub>	= 17,400 CFS
Q <sub>100</sub> WSE	= 4920.97
Q <sub>100</sub> Velocity	= 5.75 fps

<b>FINAL REVIEW</b>	CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	NO.	DATE	REVISION DESCRIPTION:	<b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>	DESIGNED: SEK		CAD/C3D: DWS		CHECKED: SEK		DATE: 6/8/2023		PROJECT NO: <b>BC-102-344</b>		SHEET NO: <b>10</b>	
		S. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS <b>SCOUR COUNTERMEASURES</b>															



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SE1/4  
SEC 11  
T2N, R69W

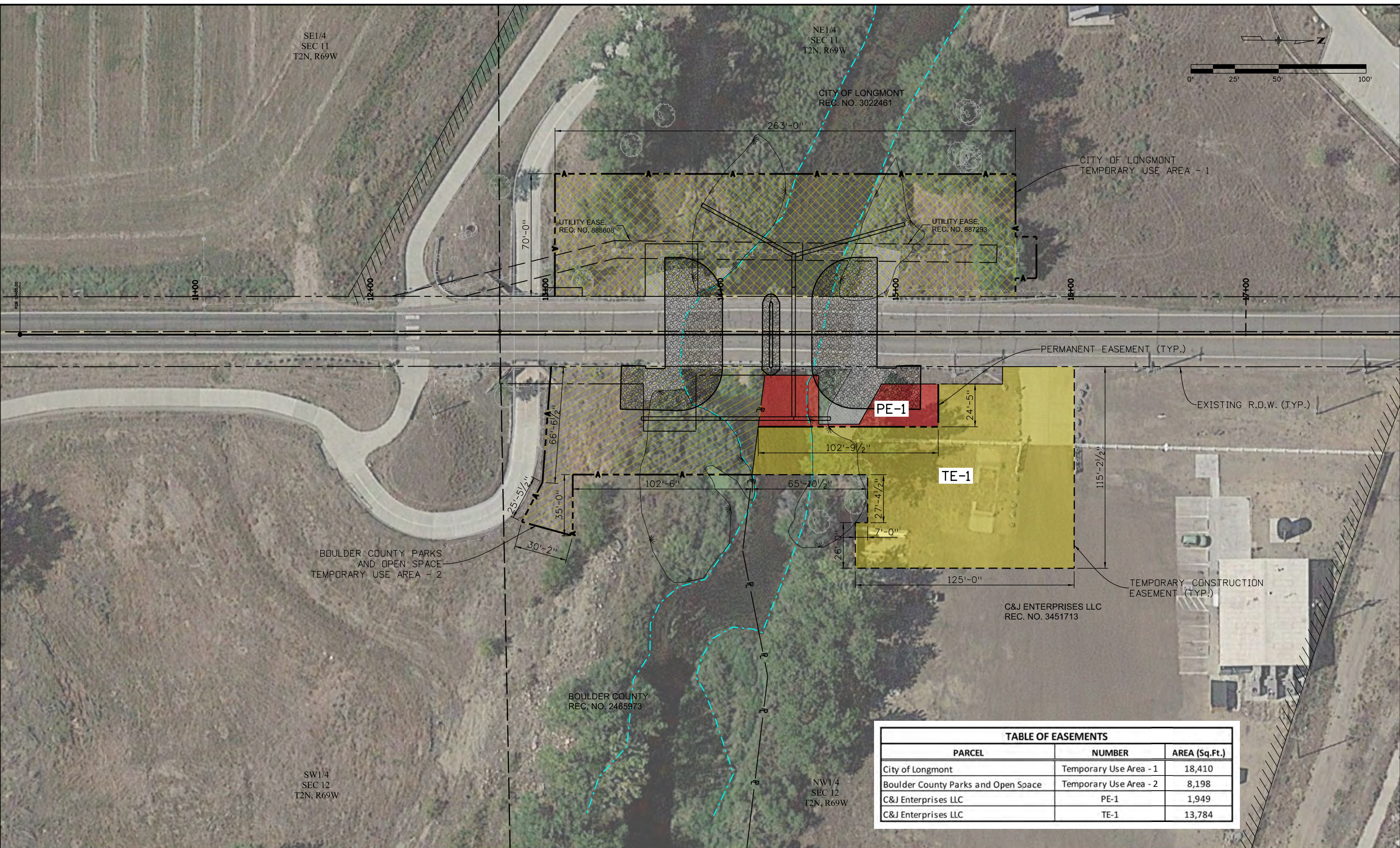
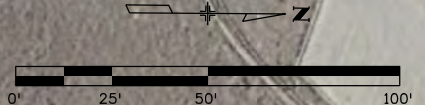
NE1/4  
SEC 11  
T2N, R69W

CITY OF LONGMONT  
REC. NO. 3022461

CITY OF LONGMONT  
TEMPORARY USE AREA - 1

UTILITY EASE.  
REC. NO. 888608

UTILITY EASE.  
REC. NO. 887293



SW1/4  
SEC 12  
T2N, R69W

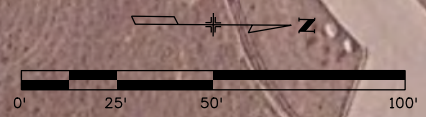
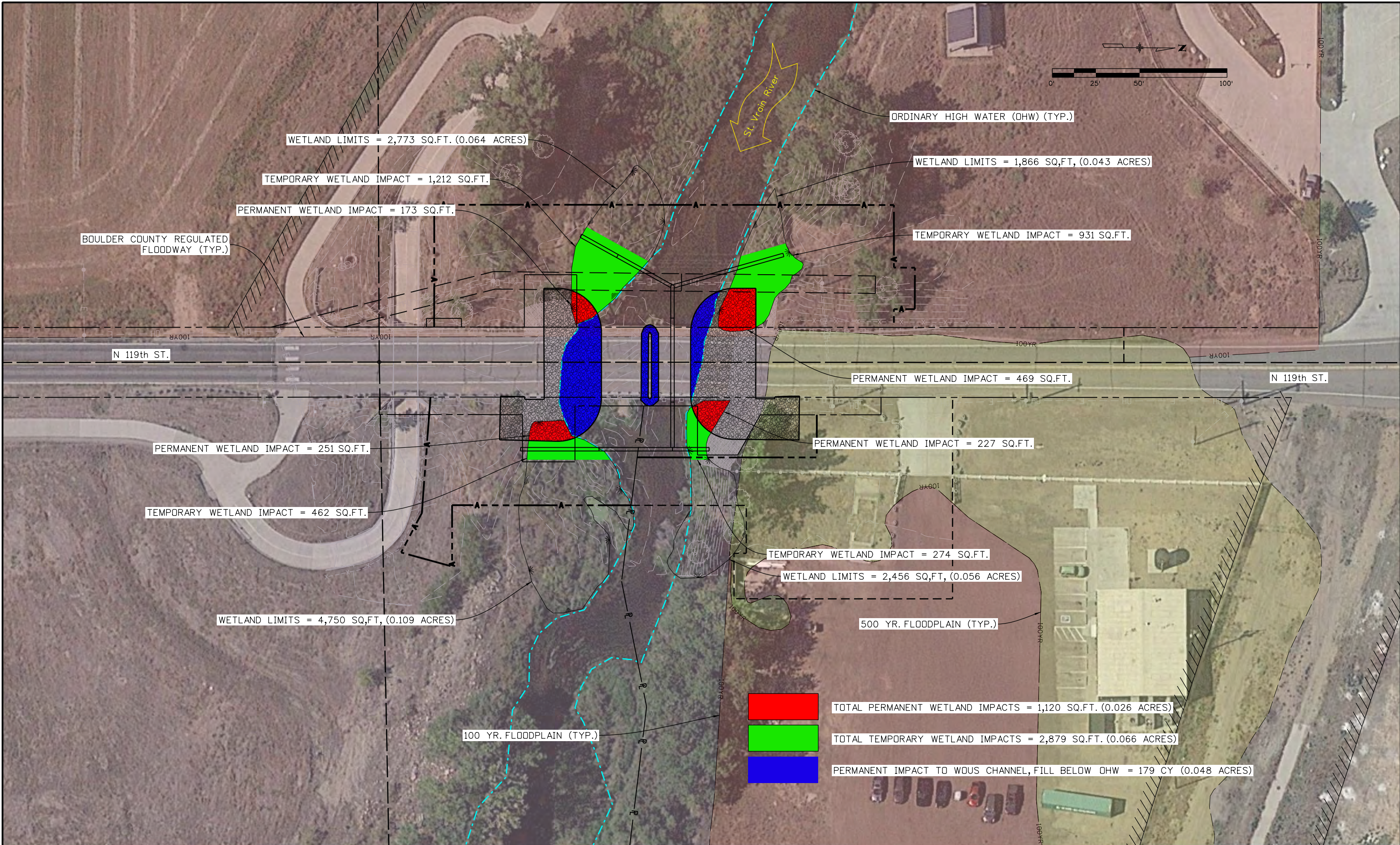
NW1/4  
SEC 12  
T2N, R69W

TABLE OF EASEMENTS		
PARCEL	NUMBER	AREA (Sq.Ft.)
City of Longmont	Temporary Use Area - 1	18,410
Boulder County Parks and Open Space	Temporary Use Area - 2	8,198
C&J Enterprises LLC	PE-1	1,949
C&J Enterprises LLC	TE-1	13,784

<b>FINAL REVIEW</b>	CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	NO.	DATE	REVISION DESCRIPTION:	<b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b>	S. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS	
		DESIGNED: SEK	CAD/C3D: DWS	CHECKED: SEK		DATE: 6/9/2023	<b>R.O.W. EXHIBIT</b>



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WETLAND LIMITS = 2,773 SQ.FT. (0.064 ACRES)

TEMPORARY WETLAND IMPACT = 1,212 SQ.FT.

PERMANENT WETLAND IMPACT = 173 SQ.FT.

ORDINARY HIGH WATER (OHW) (TYP.)

WETLAND LIMITS = 1,866 SQ.FT. (0.043 ACRES)

TEMPORARY WETLAND IMPACT = 931 SQ.FT.

BOULDER COUNTY REGULATED FLOODWAY (TYP.)

N 119th ST.

PERMANENT WETLAND IMPACT = 469 SQ.FT.

N 119th ST.

PERMANENT WETLAND IMPACT = 251 SQ.FT.

PERMANENT WETLAND IMPACT = 227 SQ.FT.

TEMPORARY WETLAND IMPACT = 462 SQ.FT.

TEMPORARY WETLAND IMPACT = 274 SQ.FT.

WETLAND LIMITS = 2,456 SQ.FT. (0.056 ACRES)

WETLAND LIMITS = 4,750 SQ.FT. (0.109 ACRES)

500 YR. FLOODPLAIN (TYP.)

100 YR. FLOODPLAIN (TYP.)



TOTAL PERMANENT WETLAND IMPACTS = 1,120 SQ.FT. (0.026 ACRES)

TOTAL TEMPORARY WETLAND IMPACTS = 2,879 SQ.FT. (0.066 ACRES)

PERMANENT IMPACT TO WOUS CHANNEL, FILL BELOW OHW = 179 CY (0.048 ACRES)

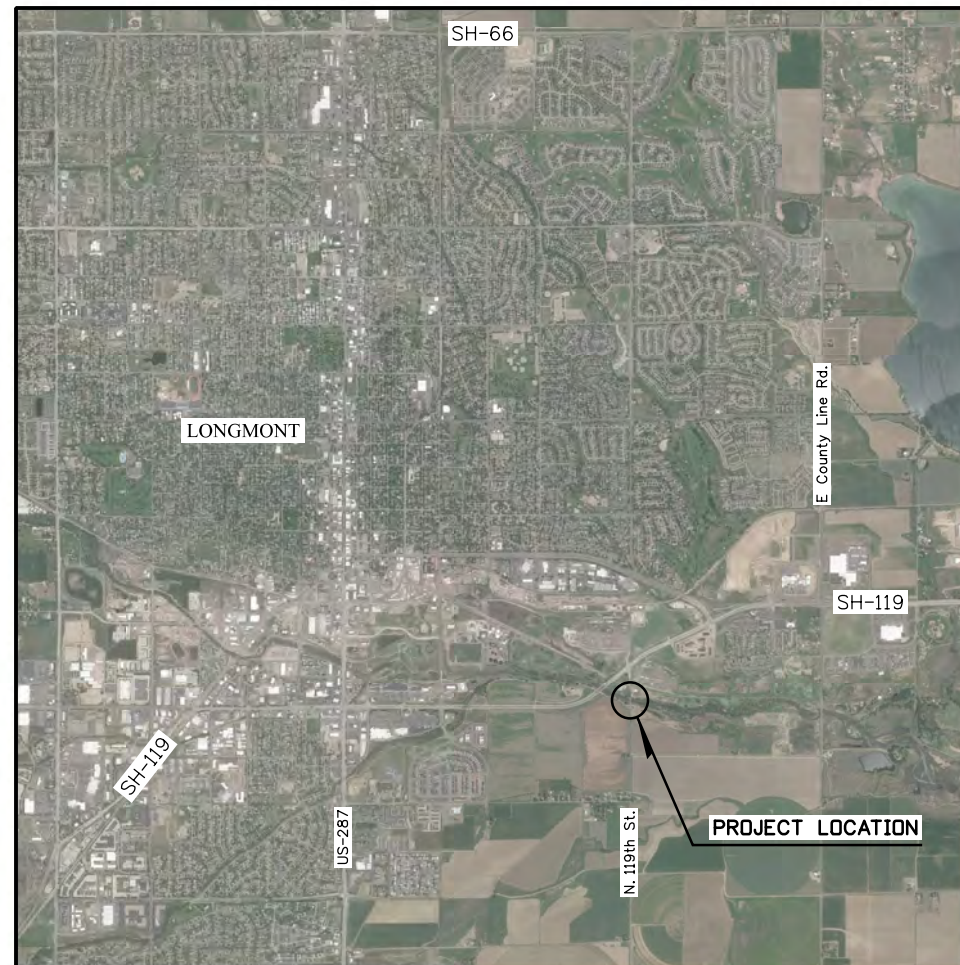
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		DESIGNED:	CAD/C3D:	CHECKED:	DATE:		<b>ENVIRONMENTAL IMPACTS</b>				
						SEK	DWS	SEK	6/9/2023	PROJECT NO: <b>BC-102-344</b>	SHEET NO: <b>12</b>



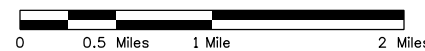
# BOULDER COUNTY, COLORADO

## PLANS OF EXISTING SUBSURFACE UTILITIES SUBSURFACE UTILITY ENGINEERING (SUE) QUALITY LEVEL B AND C

NORTH 119TH STREET BRIDGE OVER ST. VRAIN RIVER





LOCATION MAP



SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
2	GENERAL NOTES AND LEGEND
3	PLAN UTILITY LAYOUT

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<b>FINAL REVIEW</b>	 <p>CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION DESCRIPTION:</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	REVISION DESCRIPTION:										 <p><b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b></p>	<p>N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS</p> <p><b>TITLE SHEET</b></p>
	NO.	DATE	REVISION DESCRIPTION:													
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DESIGNED: SEK	CAD/C3D: DWS	CHECKED: SEK	DATE: 4/19/2023													
PROJECT NO: <b>BC-102-344</b>	SHEET NO: <b>1</b>															

**GENERAL NOTES**

SURVEY INFORMATION

CONTROL STATEMENT:

HORIZONTAL CONTROL IS A MODIFIED COLORADO STATE PLANE (1983) NORTH ZONE COORDINATE SYSTEM IN WHICH A SCALE FACTOR OF 1.00028485 WAS APPLIED AT NGS MONUMENT W410 (POINT NO. 500). IN ORDER TO CONVERT THIS PROJECT TO GRID COORDINATES A SCALE FACTOR OF 0.9997155 MUST BE APPLIED AT POINT NO. 500.

VERTICAL DATUM IS BASED ON NAVD 88, WHICH IS BASED ON NGS MONUMENT W410 NO. 500 ELEVATION = 5115.33'.

SITE BENCHMARK IS A CHISELED X ON THE CURB ON THE SOUTHWEST CORNER OF BRIDGE (POINT NO 303) ELEVATION = 4919.84'.

BASIS OF BEARING IS S 0°24'03" E FROM THE NW QUARTER CORNER OF SECTION 12 TO THE WEST QUARTER CORNER OF SECTION 12.

SURVEY NOTES:

- DATE OF SURVEY 8/3/2021
- BRIDGE IS A CONCRETE STRUCTURE WITH ONE CENTER CONCRETE PIER, ELEVATIONS MEASURED INCLUDE: TOP OF DECK = 4920.1', TOP OF STEEL GUARDRAIL = 4922.2', LOW CHORD = 4915.9'

CONTROL POINT TABLE

POINT #	DESCRIPTION	ELEVATION (SFT)	NORTHING (SFT)	EASTING (SFT)
301	CPT :NO5 REBAR W/ SEH OPC	4916.93	1298597.568	3119045.752
303	CPT :CHISELED X SW COR BRIDGE	4919.84	1298764.503	3118999.521
304	CPT :NO5 REBAR W/ SEH OPC	4920.16	1299022.085	3119043.387
305	CPT :NO5 REBAR W/ SEH OPC	4917.92	1298610.350	3119002.630
500	GPS :W410	5115.33	1317183.622	3096457.824

SUE QUALITY LEVELS

Quality Level "D": Information derived from existing records and/or oral recollections

Quality Level "C": Information obtained by surveying and plotting visible above-ground utility features and by using professional judgement in correlating this information to Quality Level D information.

Quality Level "B": Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities (aka designating).

DISCLAIMER:

Overhead Electric is Quality Level C

Fiber Optic is Quality Level B, Fiber Optic handholes are Quality Level C

Gas is Quality Level B

SEH utilize the following geophysical equipment:

- vLoc3-5000
- Vivax-Metrotech VM-810
- VM-560

Paint markings placed on the ground by SEH are to be used for design purposes only and not for construction purposes. The use of QL-B information provided does not relieve any Contractor or the Client from the duty to comply with applicable utility damage prevention laws and regulations.



UTILITY CONTACT LIST

UTILITY	UTILITY TYPE	UTILITY CONTACT	PHONE	EMAIL
XcelEnergy	Electric	Eric S. Thomas	303-571-3263	eric.s.thomas@xcelenergy.com
XcelEnergy	Gas	Eric S. Thomas	303-571-3263	eric.s.thomas@xcelenergy.com
CenturyLink Telephone	Telephone	Pat Provost	720-888-4686	patrick.provost@centurylink.com
City of Longmont	Storm Sewer	Jim Angstadt	303-651-8416	N/A

LEGEND

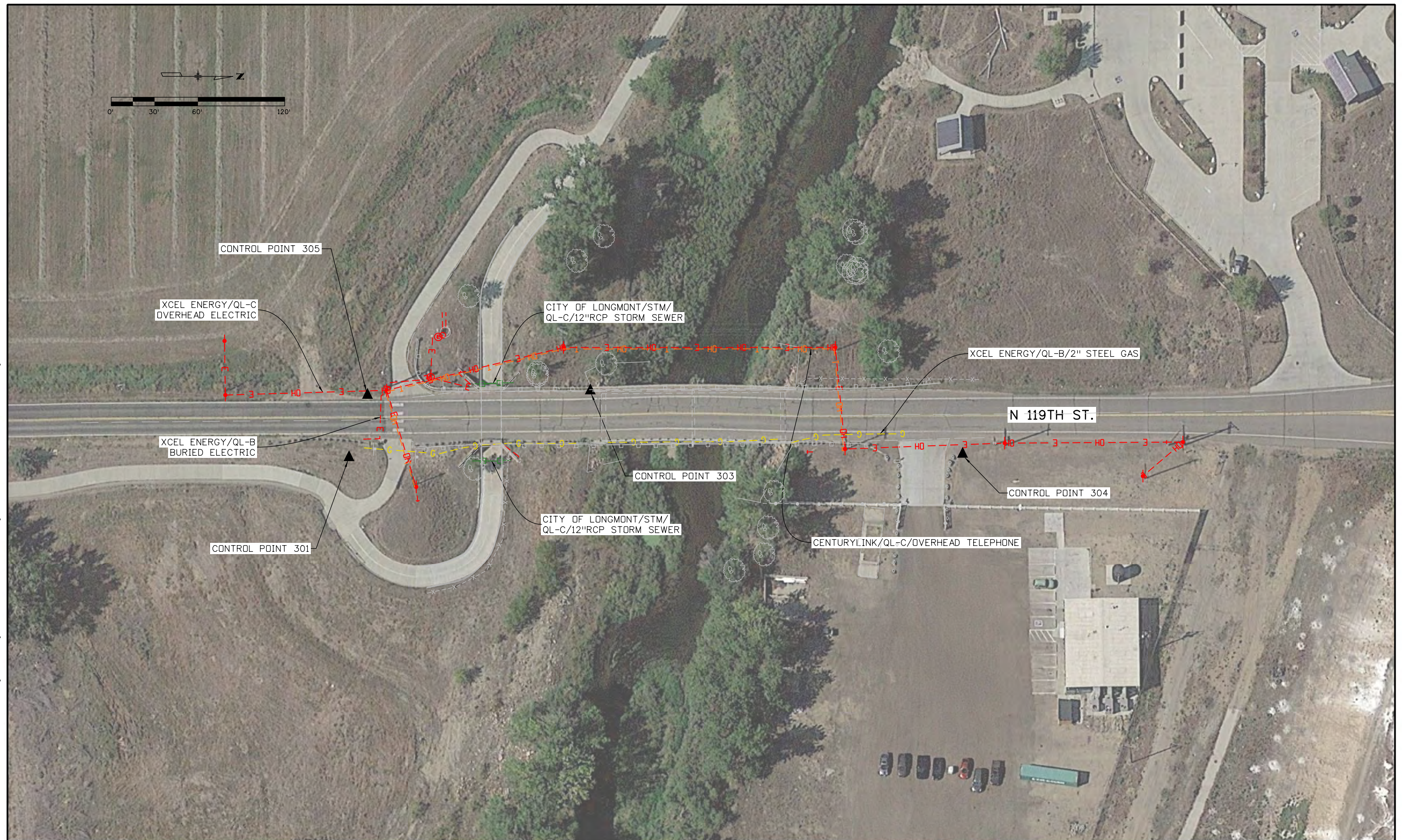
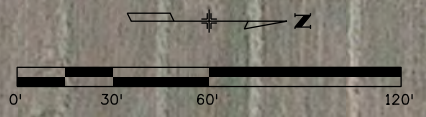
- OH --- E --- EXISTING OVERHEAD ELECTRIC
- E --- E --- EXISTING BURIED ELECTRIC
- G --- G --- EXISTING BURIED GAS LINE
- OH --- T --- EXISTING OVERHEAD TELEPHONE LINE
- S --- S --- EXISTING STORM SEWER
- EXISTING POWER POLE
- ⓔ EXISTING ELECTRIC JUNCTION BOX
- ⊕ EXISTING GAS VALVE
- Ⓜ EXISTING WATER MANHOLE

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<b>FINAL REVIEW</b>	 <p>CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION DESCRIPTION:</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	REVISION DESCRIPTION:										 <p><b>BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION</b></p>	<p>N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS</p>	
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DESIGNED: SEK	CAD/C3D: DWS	CHECKED: SEK	DATE: 4/19/2023														
				PROJECT NO: <b>BC-102-344</b>	SHEET NO: <b>2</b>												



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**FINAL REVIEW**

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



**BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION**

DESIGNED: SEK CAD/CSD: DWS CHECKED: SEK DATE: 4/19/2023

N. 119TH AVE. BRIDGE SCOUR IMPROVEMENTS

**PLAN UTILITY LAYOUT**

PROJECT NO: **BC-102-344** SHEET NO: **3**





**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

## **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**

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

#### **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.

#### **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.

#### **Umbrella / Excess Insurance**

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

#### **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.

**Boulder County as Additional Insured: Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.**

**THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insureds.**

**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. You are NOT required to include additional insured status until the time a contract is executed.**

**If you require a waiver of insurance requirements you may request one in your response with an explanation.**

#### **W-9 REQUIREMENT**

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



**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto: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. Boulder County will review all contractor evaluation forms from previous County projects.
	Insurance Certificate
	W-9
	Signature Page
	Addendum Acknowledgement(s) (If Applicable)

**THIS QUESTION MUST BE ANSWERED AS PART OF YOUR BID PACKAGE:** Bidder will answer Yes or No indicating compliance:

YES OR NO	ITEM
	Do you customarily keep line-item pricing information, such as the information being submitted with this proposal, confidential or closely-held?



**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

**BID TAB**

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Please see Excel Spreadsheet attached separately.





**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto: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

DETAILS SUMMARY	
<b>Document Type</b>	Choose an item.
OFS Number-Version	
<b>County Contact Information</b>	
Boulder County Legal Entity	Choose an item.
Department	
Division/Program	
Mailing Address	
Contract Contact – <i>Name, email</i>	
Invoice Contact – <i>Name, email</i>	
<b>Contractor Contact Information</b>	
Contractor Name	
Contractor Mailing Address	
Contact 1- <i>Name, title, email</i>	
Contact 2- <i>Name, title, email</i>	
<b>Contract Term</b>	
Start Date	
Expiration Date	
Final End Date	
<b>Contract Amount</b>	
Contract Amount	
Fixed Price or Not-to-Exceed?	Choose an item.
<b>Brief Description of Work</b>	
<b>Contract Documents</b>	
a. Formal Procurement (RFP/Bid/SOQ) No. Bid Variable (the "Bid Documents") b. Contractor’s proposal in response to the Bid Documents (the "Proposal") c. Project Details, including project-specific terms and a Scope of Work, attached as Exhibit A (the "Scope of Work") d. Fee Schedule, attached as Exhibit B (the "Fee Schedule")	
<b>Purchasing Details – <i>County Internal Use Only</i></b>	
Grant Funded?	Yes or No
Bid Number	
Award Date	
If no Bid No., bid process used	Choose an item.
COVID-19	YES or NO
Project #	
Purchasing Notes <i>(optional)</i>	
<b>Contract Notes</b>	
<i>Additional information not included above</i>	

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 [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. 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.

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 20<sup>th</sup> 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 provide County with a written guaranty covering all labor, materials and workmanship incorporated into the Work for one (1) year, 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.

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. **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 as Additional Insured:** Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

**THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS:** *County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

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:

**Commercial General Liability**

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

**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.

**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.

**Umbrella / Excess Insurance**

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

**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:			