

**Douglas County Road 67 - Colorado  
Stormwater Management Facility Operation and Maintenance Manual**

**Prepared for: Douglas County Department of Public Works**

**Prepared by: Chatfield Reservoir Mitigation Company (CRMC)**

In Reference To:  
Challenge Cost Share Agreement between  
Douglas County and Chatfield Reservoir Mitigation Company and the USDA  
Forest Service  
Pike and San Isabel National Forests  
Cimarron National Grasslands  
PSICC  
South Platte Ranger District

***EM-3 Sugar Creek Environmental Mitigation Project  
Douglas County 67 Road and Culvert Improvements***

March 21, 2019



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## **I. Background and authorizations for stormwater facility maintenance**

### **A. Compliance with Douglas County Stormwater Management Facility Maintenance Requirements**

Owners or managers of property located within the unincorporated limits of Douglas County are required to maintain all Stormwater Management Facilities located on the property. The Chatfield Reservoir Mitigation Company intends to fully comply with all requirements.

Details of the various arrangements are generally contained in an agreement entitled "Challenge Cost Share Agreement between Douglas County and Chatfield Reservoir Mitigation Company and the USDA Forest Service, Pike and San Isabel National Forests, Cimarron National Grasslands, PSICC, South Platte Ranger District." Douglas County (County) and the Chatfield Reservoir Mitigation Company (CRMC) are direct partners related to the agreement.

The purpose of the Sugar Creek Sediment Mitigation Project (Project) is to substantially reduce sediment inputs into the approximately 4.5-mile reach of Sugar Creek designated as critical habitat for Preble's Meadow Jumping Mouse (Mouse). The Project intends to carry out mutually acceptable goals for the County and the CRMC.

Requirements for inspection and maintenance are located in this Stormwater Management Facility Operation and Maintenance (O&M) Guidance Document. Additional information can be obtained by contacting the Director of Douglas County Public Works-Operations, Douglas County Department of Public Works (Douglas County) - Operations the Chatfield Reservoir Mitigation Company.

This Stormwater Management Facility Operation and Maintenance Manual may be revised and shall be reviewed by the Douglas County Public Works Engineering, Engineering Services before any revisions can be adopted.

### **B. Preventive Measures to Reduce Maintenance Costs**

The overall goal of the EM-3 Sugar Creek Environmental Mitigation Project, Douglas County 67 Road and Culvert Improvements, is to prevent excess sediment loadings into the natural waterways (Sugar Creek) and downstream receiving waters (South Platte River). Common pollutants include sediment, trash and debris, chemicals, pet wastes, runoff from stored materials, illicit discharges into the storm drainage system and many others. A comprehensive maintenance program will include measures to address these potential contaminants, and will save money and time in the long run. Key points of the maintenance program include:

- Educate the public regarding how their actions impact water quality, and how they can help reduce maintenance costs;
- Keep the roadway, storm inlets, and right of way free of trash, debris, and unwanted sediment;
- Ensure the proper disposal of weed control products;
- Check for vehicular fluid leaks. Use absorbent materials such as cat litter to soak up drippings – dispose of properly;
- Re-vegetate disturbed and bare areas to maintain vegetative stabilization;
- Clean out the upstream components of the storm drainage system, including inlets, storm sewers, and outfalls.
- Storage of maintenance materials on-site will not be allowed unless otherwise authorized by the County.

## **II. General Location and Description of Stormwater Management Facilities**

### **A. General Site Description**

Inspection or maintenance personnel may utilize the stormwater management facility site plan located in Appendix B containing the locations of the Stormwater Management Facilities within this development.

The site is generally located along CR 67 within the Pike National Forest along Sugar Creek. The Chatfield Reservoir Mitigation Company is responsible for the construction of all project features, which was completed October of 2018.

Specific goals of the Project include:

- 1) Improve aquatic and riparian habitat;
- 2) Expand and improve woody riparian habitat in disturbed areas if possible;
- 3) Mitigate for the Mouse;
- 4) Construct a prototype project that could be used as template elsewhere;
- 5) Encourage similar cooperative projects for forest resources;
- 6) Provide needed funding from CRMC for multiple benefits achieved by the Project.

## **III. Stormwater Management Facilities for the Project**

Facilities related to the Project include such items as:

- A. Sediment reduction facilities;
- B. Paving of existing gravel surface roadway;
- C. Installation of retaining walls;
- D. Installation of inlets and storm sewer systems; and
- E. Grading of roadside channels;

Please see the final plans and specifications for further information and specific project features.

## **IV. Access and Easements**

All stormwater management facilities located on the site have both a designated access location as well as a maintenance easement. Refer to the site plan located in Appendix B for access and easement locations.

## **V. Safety**

Safety considerations will be paramount for inspection procedures at all times. Likely hazards should be anticipated and avoided. Confined spaces will not be entered (outlet structure, manhole, etc.) without proper training and equipment. A confined space should never be entered without at least one additional person present.

If a highly toxic or flammable substance is discovered, the inspector(s) will leave the immediate area and contact the Douglas County Sheriff at 911. If there is any question about a substance, the area will be vacated and Douglas County Sheriff at **(303) 660-7500** will be contacted. Sealed containers should not be opened unless the contents are fully known to the inspector.

Potentially dangerous (e.g., fuel, chemicals, hazardous materials) substances found in the areas will be referred to the Douglas County Sheriff's Office (DCSO) immediately for response by the Hazardous Materials Unit. The emergency contact number is **911**.

Vertical drops may be encountered in areas located within and around the facility. Avoid walking on top of retaining walls or other structures that have a significant vertical drop. If a vertical drop is identified within the stormwater management facility that is greater than 48" in height, an appropriate comment will be made on the maintenance inspection form.

**If any hazard is found within the facility area that poses an immediate threat to public safety, the Douglas County Sheriff's Office shall be contacted immediately.**

## **VI. Field Inspection Equipment**

It is imperative that the appropriate equipment is taken to the field with the inspector(s). This is to ensure the safety of the inspector and allow the inspections to be performed as efficiently as possible. Below is a list of the equipment that may be necessary to perform the inspections of a Stormwater Management Facilities:

- Protective clothing and boots;
- Personal Protective Equipment (e.g. vest, hard hat, confined space entry equipment);
- Communication equipment;
- Approved Operation and Maintenance Manual;
- Smart phone with camera;
- Stormwater Maintenance Facility Maintenance Inspection Forms (See Appendix D);
- Manhole Lid Remover (if applicable);
- Shovel; and
- First Aid Kit

Some of the items identified above need not be carried by the inspector (e.g. manhole lid remover, shovel, and confined space entry equipment). However, this equipment should be available in the inspection vehicle if needed.

## **VII. Inspecting and Maintaining Stormwater Management Facilities**

The quality of stormwater entering the waters of the state within the County relies heavily on the proper operation and maintenance of permanent best management practices.

This section contains a general overview of stormwater management facility O&M guidelines and documentation procedures. Appendix B contains the Standard Operating Procedures (SOP) for each of the stormwater management facilities located on site.

### **A. Inspection Procedures**

All stormwater management facilities shall be inspected by a qualified representative from CRMC and/or Douglas County – Operations (Douglas County), at a minimum of one time per year, at date and time agreed to by both parties. The annual inspection should follow the inspection guidance found in the SOP located in Appendix B of this manual. The person(s) conducting the inspection activities shall complete the appropriate inspection report located in Appendix D. A copy of each inspection form shall be kept indefinitely and provided to Douglas County upon request.

## **B. Maintenance Procedures**

Stormwater Management Facility Maintenance Programs are separated into three broad categories of work. These categories were based largely on the Urban Drainage and Flood Control District's Maintenance Program for regional drainage facilities. The categories are separated based upon the magnitude and type of the maintenance activities performed. A description of each category follows:

### **1. Routine Work**

The majority of this work consists of regularly scheduled mowing and trash and debris pickups for stormwater management facilities during the growing season. This includes items such as the removal of debris/material that may be clogging the outlet structure well screens and trash racks. It also includes activities such as weed control, mosquito treatment, and algae treatment. These activities normally will be performed numerous times during the year. These items can be completed without any prior correspondence with Douglas County.

### **2. Minor Work**

This work consists of a variety of isolated or small-scale maintenance/operational problems. Most of this work can be completed by a small crew with hand tools, and small equipment. These items require completed inspection forms.

### **3. Major Work**

This work consists of larger maintenance/operational problems and failures within the stormwater management facilities. Most of this work requires consultation with the Director of Douglas County Public Works-Operations, Douglas County Department of Public Works - Operations to ensure the proper maintenance is performed. Some of this work requires that the Operations Staff review the original design and construction drawings to assess the situation and assign the necessary maintenance. This work may also require more specialized maintenance equipment, design/details, surveying, or assistance through private contractors and consultants. A Grading, Erosion and Sediment Control (GESC) Permit or Annual Maintenance GESC Permit will be required before any Major Maintenance Work. Please refer to the Douglas County GESC Manual for additional information.

## **C. Maintenance Personnel**

Maintenance personnel must be qualified to properly maintain stormwater management facilities. Inadequately trained personnel can cause additional problems resulting in additional maintenance costs.

## **D. Stormwater Management Facility Maintenance and Inspection Forms**

The Stormwater Management Facility Maintenance and Inspection Form provides a record of each inspection. A separate form shall be filled out in the field for all stormwater management facilities inspected. If a stormwater management facility cannot be inspected, the inspector shall record an explanation of the circumstances on the form. The stormwater management facility specific inspection form(s) is/are located in Appendix D. A description of each part of the form follows:

### **1. General Information**

This section identifies the Project Name/Subdivision, Stormwater Management Facility Location (address or cross streets), and Type of BMP (Stormwater Management Facility).

**2. Maintenance Activities Required.**

Inspect the Stormwater Facility based on the SOP located in Appendix B and the categories outlined on the Stormwater Management Facility Maintenance and Inspection Form located in Appendix D. Once completed determine the maintenance requirements and complete.

**3. Inspection Sign Off**

The Inspector shall fill in the date of the inspection and sign off on each form.

**E. Completed Maintenance Forms**

Completed maintenance forms shall be kept on file by the property owner. Douglas County may request submittal of inspection forms at any time.

**VIII. Appendices**

## **Appendix A**

### **Operating and Financial Plan Agreement**

(Includes maintenance responsibilities and inspection and maintenance frequencies)

## **Appendix B**

### **Standard Operating Procedure (SOP)**

Representatives from Douglas County and the Chatfield Reservoir Mitigation Company (CRMC) will meet annually on-site during the month April, or as agreed by both parties, to walk the limits of the project to determine maintenance needs for that year. The maintenance areas of responsibility are indicated on the Financial and Operation Agreement, attached within Appendix A, and are also summarized on the Inspection Form, attached within Appendix D.

The Douglas County and CRMC representatives will walk the project limits and will document the maintenance needs on the Inspection Form, and will provide a means and method description on what, how, and who will be performing those tasks and when they will be completed. Based on the maintenance task list developed, each Party will be responsible to coordinate and complete their identified area of work and payment for that work. CRMC and Douglas County may agree to have Douglas County perform certain maintenance activities, based the type of work, equipment needed, and overall efficiencies gained by Douglas County performing the work. If Douglas County does perform CRMC maintenance work, CRMC will pay Douglas County for that work based on a Time and Material invoice submitted by Douglas County to CRMC.

Before the CRMC performs any maintenance work and before CRMC accesses CR 67 for such purposes, it shall at its own expense obtain any and all required Douglas County, federal and state permits. CRMC will work with Douglas County to obtain a renewable Annual Access Permit, that will specify traffic control and work hour requirements.

Upon completion of the work, CRMC will notify Douglas County and request the work be inspected. Upon inspection and approval of that work, Douglas County will provide CRMC a formal notice that all work, as defined under the Inspection Form, has been completed and accepted by Douglas County.

## **Appendix C**

### **Construction As-Built**

### **Drawings**

As-Built Drawings provided to  
Douglas County on storage disk

**Appendix D**  
**Stormwater Management Facility Maintenance and**  
**Inspection Form Example**

## **Appendix E**

### **Pictures of Finished Site**

Project Video provided to Douglas County

**OPERATING AND FINANCIAL PLAN AGREEMENT BETWEEN  
DOUGLAS COUNTY AND THE CHATFIELD RESERVOIR MITIGATION COMPANY,  
INC. RELATED TO MAINTENANCE OF COUNTY ROAD 67  
AND ITS ADJACENT AREAS**

This Agreement (the "Agreement") is made and entered into this 11<sup>th</sup> day of April 2017 (the "Effective Date") by and between the Board of County Commissioners of the County of Douglas, State of Colorado (the "County") and the Chatfield Reservoir Mitigation Company, Inc. (the "Company"), collectively referred to as "the Parties."

**RECITALS**

A. The members of the Company currently include various special districts and units of state and local government.

B. The "Sediment Project Area" which is the subject of this Agreement is located in Douglas County beginning approximately at the intersection of South Platte River Road (County Road 97) and County Road 67 ("CR 67"), and a point approximately 4.7 miles upstream along CR 67. The location of the Sediment Project Area is as shown on the map attached as Exhibit 1 hereto.

C. The Sugar Creek Sediment Mitigation Project (the "Sediment Project"), which is the subject of a separate "Non-Funded Participating Agreement" between the Company and the U.S. Forest Service (the "USFS Agreement"), involves the performance by the Company of certain work in the Sediment Project Area.

D. The County currently provides routine periodic maintenance to CR 67, currently a gravel road, in the Sediment Project Area.

E. The Sediment Project will involve various capital construction actions as described in Attachment A to the USFS Agreement. These actions include paving a portion of CR 67 with asphalt to reduce sediment impacts to Sugar Creek and for traction control, and may require or entail other changes to the condition or configuration of CR 67.

F. Once the portion of CR 67 is paved and any other appropriate changes are made to CR 67 from its current condition and configuration as part of the Sediment Project, the maintenance requirements for the newly paved portion of CR 67 will be different from and more expensive than the current maintenance requirements for the same stretch of CR 67 because, among other things, the paved portion of CR 67 will need treatment for cold weather maintenance to combat icing, and will need periodic resurfacing to repair deterioration of the asphalt.

G. The estimated useful life of the pavement that is to be laid on the paved portion of CR 67 is 5 to 7 years, after which time this portion of CR 67 will need to be resurfaced. In addition, following completion of the Sediment Project by the Company, the unpaved portion of CR 67 road will require application of road stabilization and dust

suppressant annually that will be different from and more expensive than the current maintenance requirements for the same stretch of CR 67, which is in addition to the maintenance work the County is currently performing on CR 67.

H. The Parties desire through this Agreement to address certain aspects of the Company's implementation of the Sediment Project components that implicate CR 67, including reimbursement of the County by the Company, for future maintenance costs directly resulting from the changes to CR 67.

#### AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties agree to the following:

#### **I. LINE OF AUTHORITY**

The Douglas County Director of Public Works - Operations is designated as the "Authorized Representative" of the County for the purpose of performing, administering, and coordinating the work called for in this Agreement.

The General Manager of the Chatfield Reservoir Mitigation Company is designated as the "Authorized Representative" of the Company for the purposes of this Agreement.

#### **II. SCOPE OF WORK AND PAYMENT**

A. Location. The Work shall be performed in the Sediment Project Area.

B. County Maintenance Responsibilities. The nature and implementation of the specific improvements to CR 67 and its adjacent areas to be made as part of the Sediment Project by the Company pursuant to the USFS Agreement are not a part of this Agreement. Before implementing the improvements, the Company will provide the County with plans and designs for the improvements, for review and comment by the County. The Company shall not commence any construction activities until the design for the improvements has been approved by the County, which approval shall not be unreasonably withheld. This Agreement covers only matters relating to the subsequent maintenance of those improvements that are in addition to the normal maintenance which the County has routinely been providing to the applicable portions of CR 67 and its adjacent areas, and shall be referred to as the "Reimbursed County Maintenance Work." Maintenance and repair of areas not associated with the Sediment Project and historically maintained by the County will remain the responsibility and expense of the County.

The Reimbursed County Maintenance Work to be performed by the County will be focused on maintaining the structural integrity of CR 67. The limits of the County's maintenance responsibilities shall be as shown on Exhibits 2 and 3A through and 3C. The Reimbursed County Maintenance Work shall consist of:

- (1) Perform all work required to maintain proper function and stability of the roadway surface in excess of current levels of County maintenance, including any increased frequency of maintenance grading of the road; asphalt pavement repair; and treatment for cold weather maintenance of the road segment that is paved as part of the Sediment Project;
- (2) Apply annually (or as needed) road stabilization and dust suppressant on the unpaved road segment that is addressed under the Sediment Project; and
- (3) Resurface the paved portion of CR 67 road (estimated to occur every 5 to 7 years).

The County may perform maintenance activities, at its own cost, beyond the limits indicated on Exhibits 2, 3A and 3B to maintain the proper function and stability of the roadway. Examples include, but are not limited to: (a) the repair of roadway fill slopes that have eroded and undermined (or have the potential to undermine) the road, and (b) the repair of roadway cut slopes that may erode and fill the roadside ditch and/or reduce the width of the roadway.

Additional details regarding the scope of and respective responsibilities for future maintenance activities are described in the attached Exhibit 4.

It is recognized that the frequency of the County maintenance activities will vary as needed in order to maintain proper function and stability of the improvements associated with the Sediment Project. Based on the County's substantial experience and expertise in roadway maintenance, the County shall determine (a) the timing of the application of road stabilization and dust suppressant on the unpaved road; (b) the frequency and timing of the asphalt resurfacing for the paved roadway; (c) the frequency and timing of cleaning the roadside ditch, which will be monitored after storm events, as deemed necessary, and cleaned as needed to maintain roadway integrity; (d) what tasks it performs with in-house staff and what tasks it has outside contractors perform; (e) what outside contractors it hires to perform tasks under this Agreement; (f) the price it pays such outside contractors; and (g) the terms and conditions of the contract under which it hires such outside contractors. However, the County and Company shall coordinate and consult periodically, including meeting at least once annually, on the matters described in the immediately preceding sentence.

C. Company Maintenance/Permitting Responsibilities. The Company is responsible for:

- (1) Periodic removal of sediment from sediment traps;
- (2) Disposal of all sediment removed from sediment traps;
- (3) Maintenance, repair, and replacement of sediment trap structures;
- (4) Maintenance, repair, and replacement of culvert riprap protection and engineered culvert rundowns, and energy dissipators;
- (5) Maintenance, repair, and replacement of stilling basins;
- (6) Cleaning roadway cross culverts if they become plugged due to failure to

maintain sediment traps in a functioning condition;

- (7) Maintenance, repair, and replacement of retaining walls;
- (8) Maintenance, repair, and replacement of access roads for the Sediment Project, if any; and
- (9) Other maintenance, repair, and replacement needed to maintain proper functioning of the Sediment Project that are not the responsibility of the County as described in Section II.B.

Additional details for the maintenance activities are described in Exhibit 4.

Before the Company performs any work in the Sediment Project Area and before the Company accesses CR 67 for such purposes, the Company shall at its own expense obtain any and all required county, state and federal permits. Any work the Company performs on the slopes, ditches, and culverts must be approved in advance by the County's Department of Community Planning and Sustainable Development as part of the Annual Access Permit described below, to ensure that the work is satisfactory from an engineering standpoint and does not compromise the integrity of the CR 67 travel way or endanger the safety of persons and vehicles using CR 67.

So that the Company can undertake the Sediment Project and perform its future maintenance responsibilities, the County will issue a renewable Annual Access Permit to the Company. At its own expense, the Company shall be required to follow all requirements of the permit including traffic control and work hour limits. The requirements of the Annual Access Permit can be revised by the County annually if required with input from the Company. As part of the Annual Access Permit, the County will have the right, at its own cost, to inspect and review the work done by the Company on a daily basis if deemed desirable by the County. No payment by the Company to the County will be required to obtain an Annual Access Permit.

D. Coordination with U.S. Forest Service. Since the U.S. Forest Service owns the majority of the adjacent land associated with the applicable reach of CR 67, the County and the Company will coordinate their maintenance activities with the U.S. Forest Service, as needed, to accomplish the maintenance activities in a manner satisfactory to the U.S. Forest Service. This coordination shall include the securing of all permits, studies, designs, plans, Right-of-Way (ROW) agreements, and approvals for any work related to U.S. Forest Service ROWs, if any additional such agreements or approvals are necessary. The County and the Company shall keep each other informed of the coordination between the Parties and the U.S. Forest Service related to the Sediment Project.

### III. FUNDING

A. Payment of Invoices. The Company shall pay the County for all of the Reimbursed County Maintenance Work, as defined above, that the County invoices to the Company.

If the County chooses to perform the Reimbursed County Maintenance Work in-

house, such reimbursement shall be at the County's actual costs for materials and the County's established rates for labor and equipment, plus 5 percent for general overhead. Generally accepted accounting and invoicing procedure will be used by the County. If the County chooses to use an outside contractor to perform all or a portion of the Reimbursed County Maintenance Work, the Company shall reimburse the County the amount that the County pays the outside contractor.

Each invoice shall include a detailed description of the work performed and documentation supporting that work. Payment shall be made based on an invoice or invoices submitted by the County to the Company as frequently as quarterly, but at least annually. The Company shall pay the invoices in full to the County within 30 days from receipt of the County's invoice. If the County realizes any savings or credits in maintenance costs as a result of the Sediment Project, such savings or credits shall be appropriately credited to the Company. Such savings or credits may result from less frequent grading and maintenance of the road surface, and less frequent cleaning of roadside ditches and cross culverts from levels of frequency that existed before implementation of the Sediment Project.

B. Provision of Funds. The Company agrees to budget and set aside funds for payment to the County in an initial amount of \$48,750 per year, beginning with the Company's next fiscal year following the Effective Date, which reflects the initial estimate of annual invoices for the Reimbursed County Maintenance Work, plus a 25 percent contingency. These amounts may be adjusted in the future based upon actual expenses and inflation, upon agreement of both Parties.

If the Company fails to pay the County for Reimbursed County Maintenance Work, the County shall have the right to halt all future Reimbursed County Maintenance Work until the Company has paid it for all invoiced Reimbursed County Maintenance Work.

Since the asphalt resurfacing of the lower segment of CR 67 is anticipated to occur every 5 to 7 years, and will require increased funding, the Company shall set aside \$20,000 per year in additional funds for this work, beginning with the Company's next fiscal year following the Effective Date. These funds shall be escrowed in a separate account, subject to an appropriate escrow agreement to be agreed upon by the Parties, and may not be expended for any other purpose without the County's consent. The Company shall be entitled to the interest earned on such escrowed funds. The figure of \$20,000 per year will be inflation-adjusted annually based on changes in the Consumer Price Index for the Denver-Boulder-Greeley Metropolitan Area.

Any and all financial obligations of the County set forth in this Agreement are subject to annual appropriation by the County pursuant to C.R.S. Section 29-1-110, as amended.

#### IV. TERM

The term of this Agreement shall be for five years commencing at 12:01 a.m. on the Effective Date. This Agreement, at the option of both Parties, may be renewed for successive

5-year terms, if written agreement to that effect is signed by both Parties on or before expiration of the current term. This Agreement and/or any extension of its original term shall be contingent upon annual funding being appropriated, budgeted, and otherwise made available for such purposes by both the County and the Company.

#### **V. INDEMNIFICATION**

The County cannot and by this Agreement does not agree to indemnify, hold harmless, exonerate, or assume the defense of the Company or any other person or entity whatsoever for any purpose whatsoever. The Company does not agree to defend, indemnify, or hold harmless the County, its commissioners, officials, officers, directors, agents, or employees from claims, demands, suits, actions, or proceedings of any kind or nature whatsoever, in any way resulting from or arising from this Agreement; however, the Company shall include the County as an additional insured under all general liability insurance policies pertaining to the Sediment Project.

#### **VI. NOTICES**

Notices concerning termination of this Agreement, notices of alleged or actual violations of the terms or provisions of this Agreement, and all other notices shall be made as follows:

**Douglas County Contact:**

Director of Public Works – Operations, Douglas County Department of Public Works - Operations  
P.O. Box 1390, 3030 North Industrial Way  
Castle Rock, CO 80109  
Telephone: 303-660-7480  
FAX: 303-814-3319  
Email:

**Chatfield Reservoir Mitigation Company, Inc. Contact:**

Mr. Tim Feehan  
General Manager,  
Chatfield Reservoir Mitigation Company, Inc.  
8156 S. Wadsworth Blvd., Unit E-458  
Littleton, CO 80128  
Telephone: 303-618-5010  
Email: tim.feehan07@gmail.com

Said notices shall be delivered personally during normal business hours to the appropriate office above, or by prepaid first class U.S. mail, via facsimile, via email, or other method authorized in writing by the Authorized Representative. Mailed notices shall be deemed effective upon receipt or five business days after the date of mailing, whichever is earlier. A

party, through its Authorized Representative, may from time to time designate in writing to the other party substitute addresses or persons where and to whom such notices are to be mailed or delivered, but such substitutions shall not be effective until actual receipt of written notification.

## **VII. TERMINATION**

Either Party shall have the right to terminate this Agreement, with or without cause, by giving written notice to the other Party of such termination and specifying the effective date thereof, which notice shall be given at least thirty days before the effective date of such termination. In such event, the County shall be entitled to receive reimbursement, including the 5% allowance for overhead, in accordance with this Agreement for any work performed prior to the date of notice of termination. Notwithstanding the above, the Company shall not be relieved of liability to the County for damages sustained by the County by virtue of any breach of the Agreement by the Company. In the event of termination of this Agreement by either party, the Company shall be entitled to perform the work that was the responsibility of the County under this Agreement, at its own direction and cost, provided that the Company applies for and is granted all applicable County and federal permits and complies with the terms and conditions of such permits.

## **VIII. UNFORESEEN EVENTS**

Nothing herein contained shall be construed to obligate the County or the Company to address damage to CR 67 or its adjacent areas caused by unforeseen events (such as, by example and not limitation, flooding, fire, or heavy rain) of a magnitude not repairable by routine maintenance procedures. The maintenance work required under this Agreement does not contemplate major repairs to storm or fire damaged areas.

## **IX. RELATIONSHIP TO USFS AGREEMENT**

Nothing in this Agreement is intended to conflict with the USFS Agreement. If any conflicts arise between the USFS Agreement and this Agreement with respect to the nature and scope of the Company's obligations to implement the Sediment Project, the terms and conditions of the USFS Agreement shall prevail.

## **X. NO WAIVER OF GOVERNMENTAL IMMUNITY ACT**

The Parties hereto understand and agree that the County, its commissioners, officials, officers, directors, agents, and employees, are relying on, and do not waive or intend to waive by any provisions of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, C.R.S. §§ 24-10-101 to 120, or otherwise available to the County.

## **XI. ASSIGNMENT**

The Parties' rights and obligations hereunder may be assigned only with the prior written consent of the non-assigning Party.

## **XII. HEADINGS**

The headings contained herein are for information purposes only and shall not be deemed to limit or restrict the rights and obligations created hereunder.

## **XIII. BINDING EFFECT**

This Agreement and the rights and obligations created hereunder shall be binding upon and inure to the benefit of the Parties and their successors in interest.

## **XIV. GOVERNING LAW; VENUE**

This Agreement shall be deemed to have been made in, and construed in accordance with the laws of the State of Colorado. Venue for any action hereunder shall be in the District Court, County of Douglas, and State of Colorado. The Parties expressly waive the right to bring any action in or to remove any action to any other jurisdiction, whether state or federal.

## **XV. NO JOINT VENTURE CREATED**

This Agreement shall not be construed to create a joint venture or partnership between the Parties hereto, nor shall either be the principal or agent of the other.

The County shall not be a signatory on any permit issued by the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the Colorado Department of Public Health and Environment, the Colorado State Engineer, or any other federal or state agency, nor shall the County be, or be deemed to be, a permittee on or of any such permit.

The County is not, and shall not be, a party to, or member of, the Chatfield Storage Reallocation Project or any reallocation contract between the U.S. Army Corps of Engineers and the State of Colorado. The County's duties are limited to those contained within this Agreement.

## **XVI. NO THIRD PARTY BENEFICIARIES**

The enforcement of the terms and conditions of this Agreement and all rights of action relating to such enforcement, shall be strictly reserved to the County and the Company, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other or third person under such Agreement.

## **XVII. ENTIRE AGREEMENT/COUNTERPARTS**

The Parties acknowledge and agree that the provisions contained herein constitute the entire agreement and that all representations made by any commissioner, official, officer, director, agent, or employee of the respective parties unless included herein or in the USFS Agreement are null and void and of no effect. No alterations, amendments, changes, or

modifications to this Agreement shall be valid unless they are contained in writing and executed by all the parties with the same formality as this Agreement. This Agreement may be executed in counterparts, each signed by one of the Parties, in which case all such counterparts shall constitute one and the same instrument. An executed facsimile or e-mailed copy of this Agreement shall be deemed an original and binding upon the Parties.

#### **XVIII. CONFLICT OF INTEREST**

The Company agrees that no official, officer or employee of the County shall have any personal or beneficial interest whatsoever in the services or property described herein, and the Company further agrees not to hire, pay, or contract for services of any official, officer or employee of the County. A conflict of interest shall include transactions, activities or conduct that would affect the judgment, actions or work of the Company by placing the Company's own interests, or the interest of any party with whom the Company has a contractual arrangement, in conflict with those of County

#### **XIX. COUNTY REVIEW OF RECORDS**

The Company agrees that, upon request of the Authorized Representative, at any time during the term of this Contract, or three years thereafter, it will make full disclosure to the County and make available for inspection and audit upon request by the Authorized Representative, the County Director of Finance, or any of their authorized representatives, all of its records associated with work performed under this Contract for the purpose of making an audit, examination or excerpts. The Company shall maintain such records until the expiration of three years following the end of the term of this Contract.

#### **XX. NONDISCRIMINATION**

In connection with the performance of work under this Contract, the Company agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability.

#### **XXI. COMPLIANCE WITH ALL LAWS AND REGULATIONS**

All of the work performed under this Contract by the Company shall comply with all applicable laws, rules, regulations and codes of the United States and the State of Colorado. The Company shall also comply with all applicable ordinances, regulations, and resolutions of the County and shall commit no trespass on any public or private property in the performance of any of the work embraced by this Contract.

#### **XXII. FORCE MAJEURE**

No party shall be liable for failure to perform hereunder if such failure is the result of *force majeure*. Any time limit shall be extended for the period of any delay resulting from any

*force majeure*, or this Contract may be terminated if such delay makes performance of the Contract impossible or impracticable. *Force majeure* shall mean causes beyond the reasonable control of a party such as, but not limited to, weather conditions, acts of God, strikes, work stoppages, unavailability of or delay in receiving labor or materials, faults by contractors, subcontractors, utility companies or third parties, fire or other casualty or action of government authorities.

### **XXIII. COUNTY EXECUTION OF AGREEMENT**

This Agreement is expressly subject to, and shall not be or become effective or binding on the County, until execution by all signatories of the County.

IN WITNESS WHEREOF, the County and the Company have caused their names to be subscribed hereto as of the Effective Date.

*[Remainder of this page intentionally left blank. Signature pages follow.]*

**SIGNATURE PAGE FOR  
OPERATING AND FINANCIAL PLAN AGREEMENT RELATED TO  
MAINTENANCE OF COUNTY ROAD 67 AND ITS ADJACENT AREAS  
BETWEEN DOUGLAS COUNTY  
AND THE CHATFIELD RESERVOIR MITIGATION COMPANY, INC.**

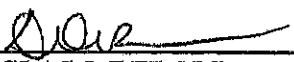
**FOR THE COUNTY:**

BOARD OF COUNTY COMMISSIONERS  
CONTENT: OF THE COUNTY OF DOUGLAS

  
ROGER PARTRIDGE, CHAIR

Date

APPROVED AS TO

  
DOUGLAS J. DEBORD  
COUNTY MANAGER

Date

APPROVED AS TO FISCAL CONTENT: APPROVED AS TO LEGAL FORM:

  
ANDREW COPLAND Date

Director of Finance

  
NICK PIJAN 3-31-17  
Senior Assistant County Attorney

Date

SIGNATURE PAGE FOR  
OPERATING AND FINANCIAL PLAN AGREEMENT RELATED TO  
MAINTENANCE OF COUNTY ROAD 67 AND ITS ADJACENT AREAS  
BETWEEN DOUGLAS COUNTY  
AND THE CHATFIELD RESERVOIR MITIGATION COMPANY, INC.

FOR THE COMPANY:

R Dr 3/20/17

President Date  
Chatfield Reservoir Mitigation Company, Inc.

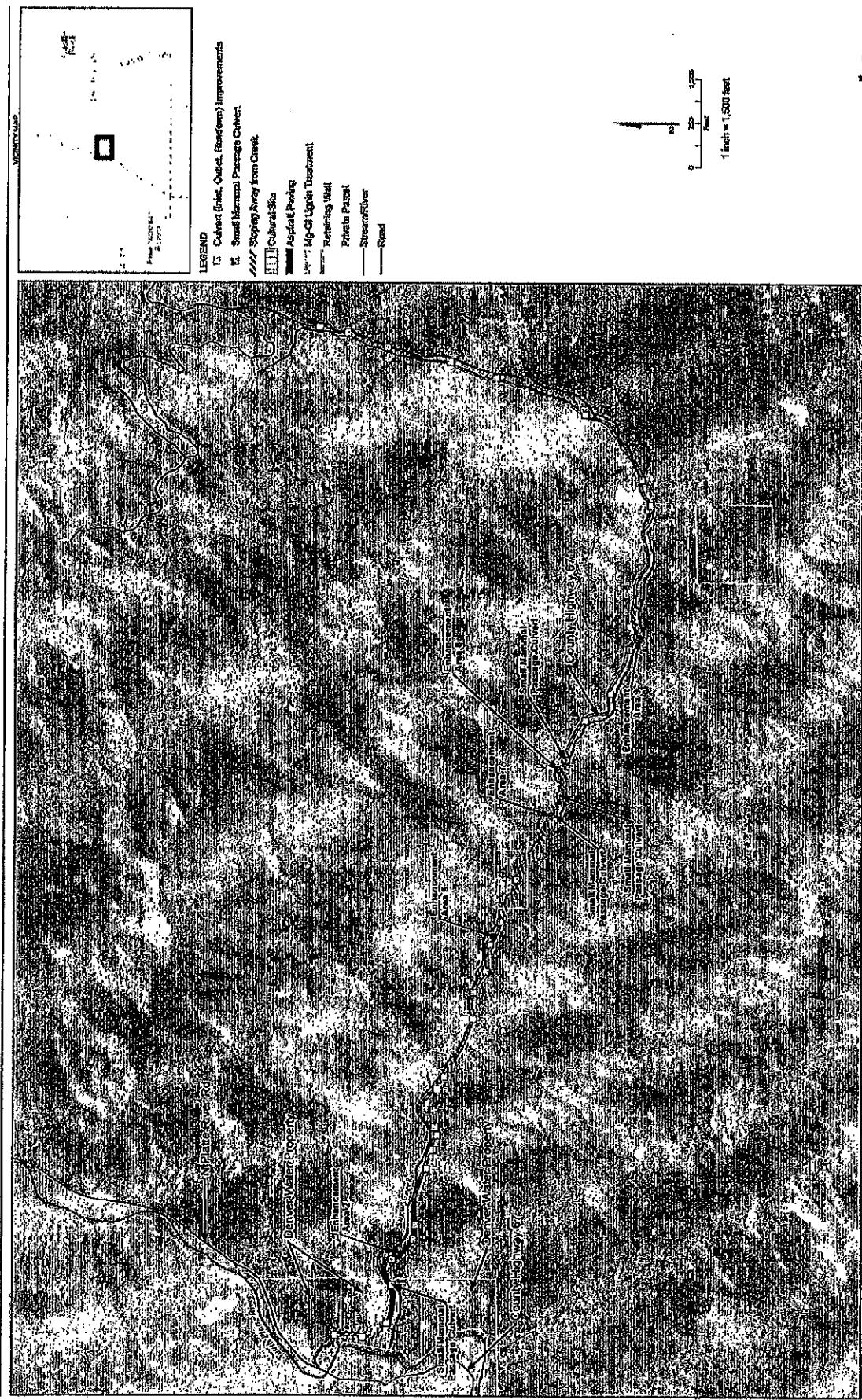
John D. Clark 3/20/17

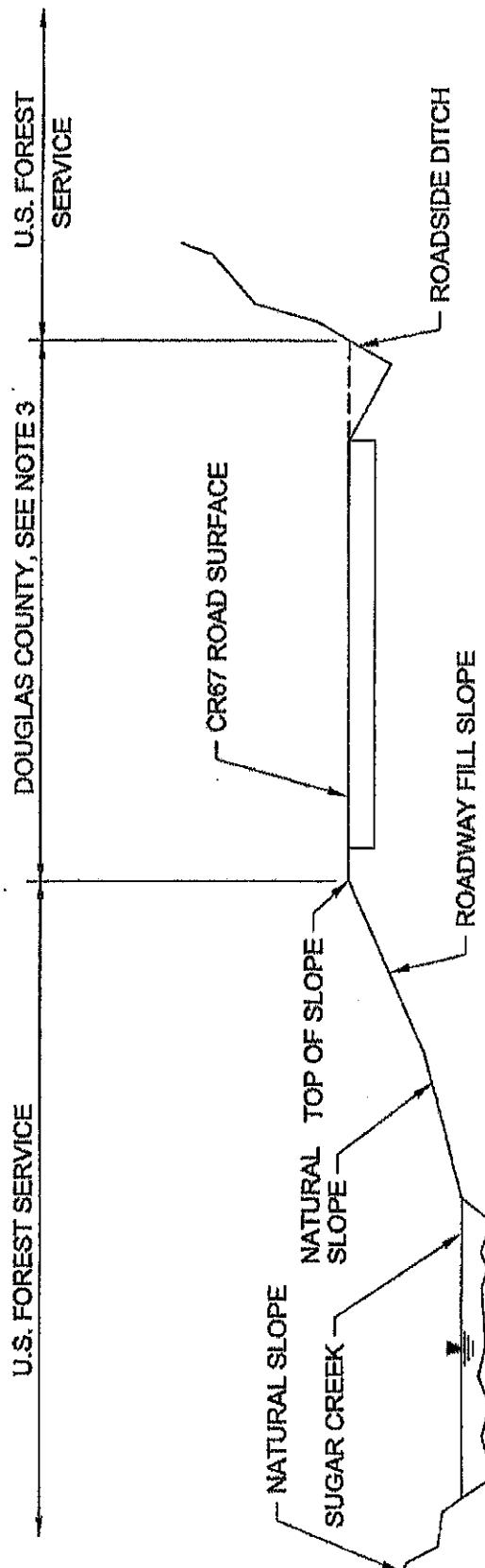
Vice President Date  
Chatfield Reservoir Mitigation Company, Inc.



9345202\_7

-Ch2ant-



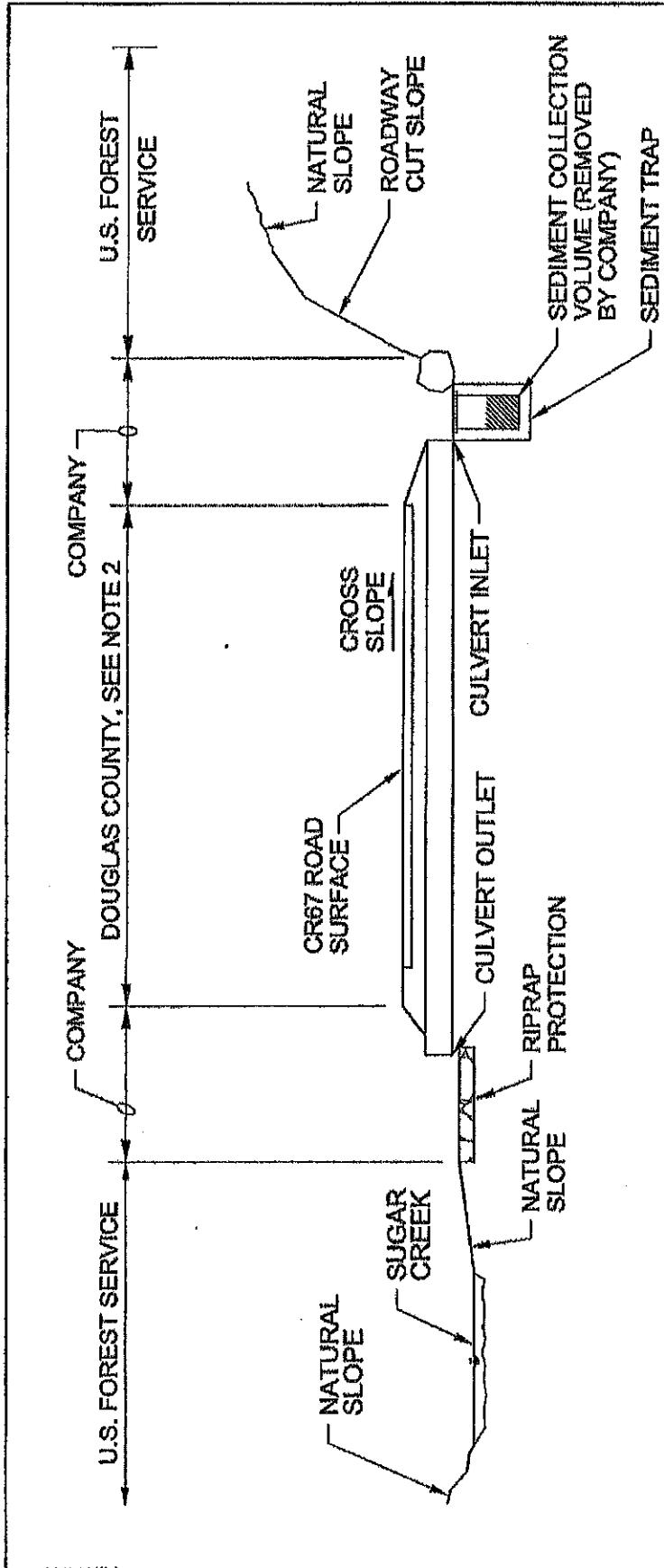


NOTES:

1. "COMPANY" REFERS TO THE CHATFIELD RESERVOIR MITIGATION COMPANY.
2. MAINTENANCE LIMITS APPLY TO AREAS WITHOUT CULVERTS, AND AREAS WITH EXISTING CULVERTS BUT NO SEDIMENT PROJECT IMPROVEMENTS.
3. FINANCIAL RESPONSIBILITY DETERMINED IN ACCORDANCE WITH EXHIBIT 4:

**EXHIBIT 2**  
**MAINTENANCE LIMITS - SUGAR CREEK SEDIMENT MITIGATION PROJECT**  
TYPICAL CROSS SECTION

ch2m

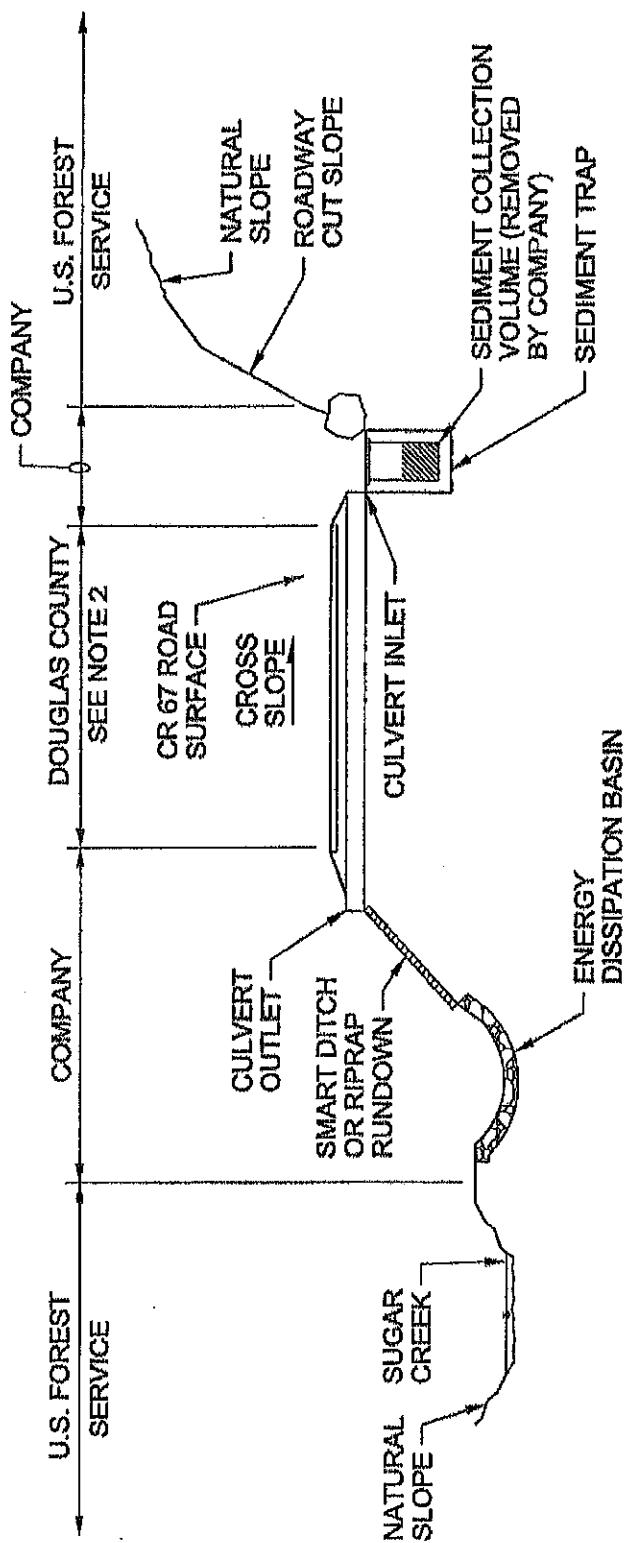


NOTES:

1. "COMPANY" REFERS TO THE CHATFIELD RESERVOIR MITIGATION COMPANY.
2. FINANCIAL RESPONSIBILITY DETERMINED IN ACCORDANCE WITH EXHIBIT 4.
3. COMPANY RESPONSIBILITY FOR EXTENDS 10 FEET BEYOND CONSTRUCTED IMPROVEMENT, NOT INCLUDING THE ROAD SIDE OF IMPROVEMENT.

**EXHIBIT 3A**  
**MAINTENANCE LIMITS-SUGAR CREEK SEDIMENT MITIGATION PROJECT**  
 TYPICAL CROSS SECTION WITH CULVERT IMPROVEMENTS  
 LOCAL GRADING AND RIPRAP PROTECTION

ch2m:

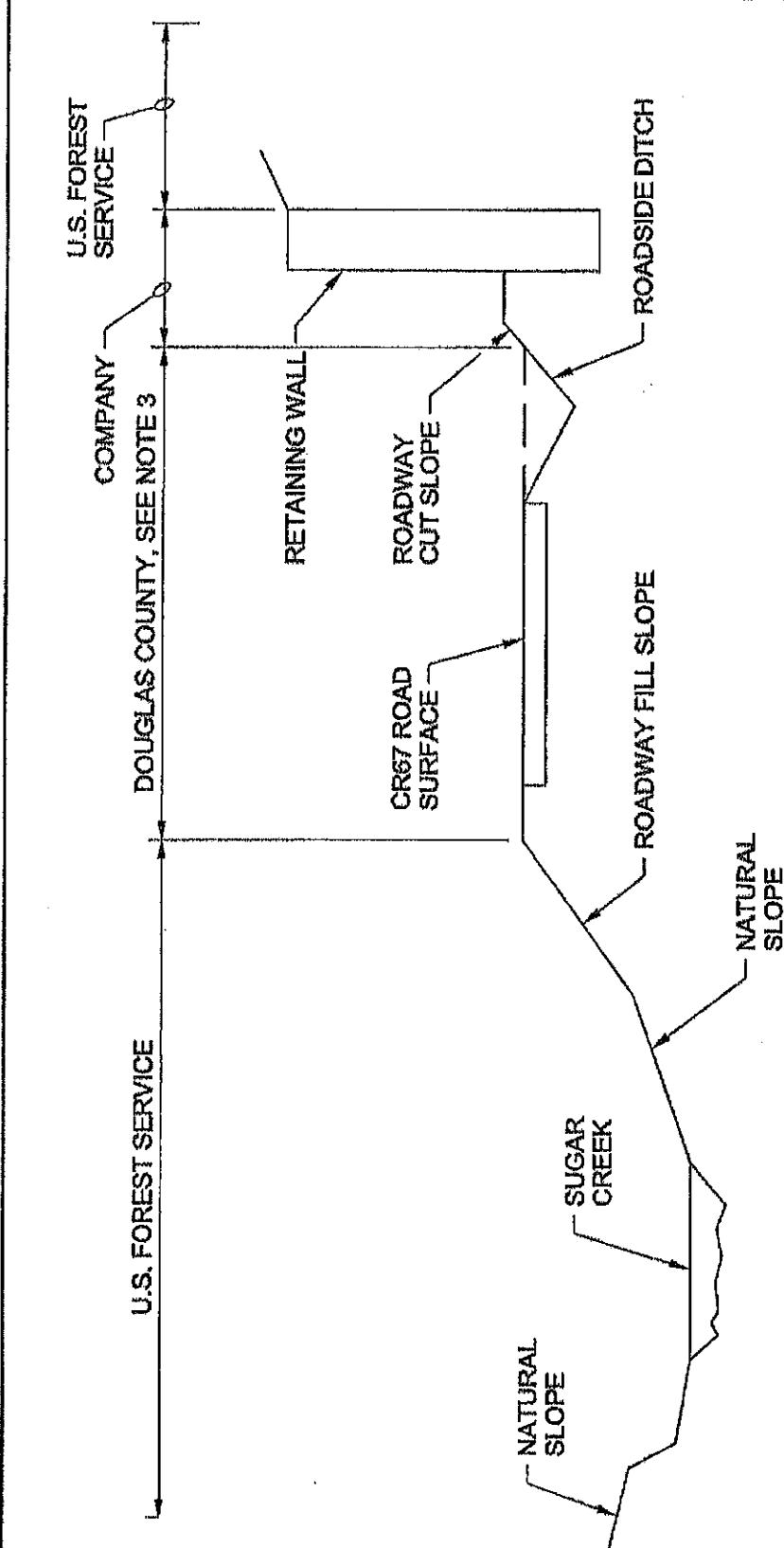


## NOTES:

1. "COMPANY" REFERS TO THE CHATFIELD RESERVOIR MITIGATION COMPANY.
2. FINANCIAL RESPONSIBILITY DETERMINED IN ACCORDANCE WITH EXHIBIT 4.
3. COMPANY RESPONSIBILITY EXTENDS 10 FEET BEYOND CONSTRUCTED IMPROVEMENT, NOT INCLUDING THE ROAD SIDE OF THE IMPROVEMENT.

**EXHIBIT 3B**  
**MAINTENANCE LIMITS-SUGAR CREEK SEDIMENT MITIGATION PROJECT**  
TYPICAL CROSS SECTION WITH CULVERT IMPROVEMENTS  
RUNDOWN AND ENERGY DISSIPATION BASIN

ch2m:



© CH2M HILL

NOTES:

1. "COMPANY" REFERS TO THE CHATFIELD RESERVOIR MITIGATION COMPANY.
2. FINANCIAL RESPONSIBILITY DETERMINED IN ACCORDANCE WITH EXHIBIT 4.

**EXHIBIT 3C**  
**MAINTENANCE LIMITS-SUGAR CREEK SEDIMENT MITIGATION PROJECT**  
TYPICAL CROSS SECTION WITH RETAINING WALL

ch2m

## Exhibit 4

### Summary of Maintenance Activities

The anticipated maintenance activities and the party responsible for performing the activity associated with keeping the Project improvements in proper working order are described below. The anticipated maintenance frequencies noted below are only estimates; only if the frequency of normal maintenance activities by the County, increases over historical frequencies, shall the costs of such activities be considered Reimbursed County Maintenance Work. Maintenance shall be performed as often as needed to maintain proper function of the improvements and to minimize sediment from entering Sugar Creek or Preble's habitat.

1. Roadway Cross Slope [County]:
  - a. For roadway reaches that are intended to slope away from the creek, maintain the roadway cross slope so that it drains accordingly. Maintain minimum cross slope in accordance with Sedlment Project final design.
  - b. Instruct operational crews conducting washboard grading and similar activities to grade sediment away from the creek. Minimize overcutting of the roadway surface during grading operations. Excess sediment shall be removed and disposed of properly to prevent introduction into Sugar Creek.
  - c. Anticipated Frequency: As needed.
  - d. Note Regarding Snow Plow Operations: It is acknowledged that snow plow operations will need to plow snow towards the creek, due to the lack of storage area for snow.
2. Roadway Ditches (paved and unpaved) [County]:
  - a. Maintain ditches so that ditch erosion is minimized.
  - b. Repair damage to ditches.
  - c. Remove sediment from ditches, and dispose of sediment properly to prevent introduction into Sugar Creek.
  - d. Anticipated Frequency: Twice per year.
3. Roadway Surface – Asphalt Pavement [Reimbursed County Maintenance Work]:
  - a. Repair potholes or pavement damage.
  - b. Minimize undermining of the asphalt, especially at the edges of the pavement, which could lead to erosion and asphalt failure.
  - c. Resurface the asphalt consistent with County practices.
  - d. Treatment for cold weather maintenance.
  - e. Anticipated Frequency: Determined by the County, resurfacing is anticipated to be needed every 5 to 7 years.
4. Roadway Surface – Application of Road Stabilization and Dust Suppressant (Mg-Cl Lignin Treatment) [Reimbursed County Maintenance Work]:
  - a. Apply treatment to maintain a drivable and erosion resistant surface.
  - b. Minimize overspray of the road stabilization and dust suppression treatment in order to protect Preble's habitat, vegetation, and water quality.
  - c. Anticipated Frequency: Determined by the County, treatments are typically needed more frequently in early years, and less frequently in later years. The initial anticipated frequency is once per year.
5. Culvert Inlets (Sediment Trap) [Company]:
  - a. Remove debris from the trash rack, as needed.

- b. Inspect sediment trap to see if there is any damage, and repair if needed.
- c. Inspect the sediment level. Sediment shall be removed from the sediment collection volume area as frequently as needed in order to minimize sediment from entering the upstream end of the culvert. At a minimum, remove sediment from the sediment trap when 80% of the collection volume has been filled.
- d. Remove sediment using a vacuum truck, manual methods, or approved mechanical devices.
- e. Haul sediment to a temporary storage location, as approved by U.S. Forest Service, County and Company.
- f. Haul sediment from the temporary storage location to a permanent disposal area, as approved by U.S. Forest Service, County and Company.
- g. Anticipated Frequency:
  - i. Trash Rack Cleaning: Quarterly, or as needed to keep trash racks clear of debris.
  - ii. Sediment Trap Cleaning: Quarterly, or as needed to keep the sediment accumulation volume well below the invert of the culvert.
  - iii. Transfer of sediment from the temporary storage location to the permanent location: At least once per year.

6. Roadway Culverts (under the road) with Sediment Traps [Company Except as Noted]:

- a. Inspect for blockages or problems, and remedy as needed.
- b. If sediment is found, it shall be removed in a manner that does not allow the sediment to enter the stilling basins, Sugar Creek, or the overbank areas of Sugar Creek. Sediment shall be disposed of properly.
- c. Inspect the ground surface above the culvert for signs of culvert joint problems, including piping, settling, or movement of the pipe.
- d. Anticipated Inspection Frequency: Twice per year.
- e. Repair or replace failed roadway cross culvert as needed. [County]

7. Roadway Culverts (under the road), no Sediment Traps [County]:

- a. Inspect for blockages or problems, and remedy as needed.
- b. If sediment is found, it shall be removed in a manner that does not allow the sediment to enter the stilling basins, Sugar Creek, or the overbank areas of Sugar Creek. Sediment shall be disposed of properly.
- c. Inspect the ground surface above the culvert for signs of culvert joint problems, including piping, settling, or movement of the pipe.
- d. Anticipated Inspection Frequency: Twice per year.
- e. Repair or replace failed roadway cross culvert as needed.

8. Culvert Rundowns (Riprap or Smart Ditch) [Company]:

- a. Inspect for blockages or problems, and remedy as needed.
- b. Inspect and repair any damage to the rundowns such as relocating or replacing riprap, repair any damaged to the Smart Ditch, erosion control blankets and/or vegetation.
- c. If sediment is found, it shall be removed in a manner that does not allow the sediment to enter the stilling basins, Sugar Creek, or the overbank areas or Sugar Creek. Sediment shall be disposed of properly.
- d. Inspect the ground surface above the culvert for signs of culvert joint problems, including piping, settling, or movement of the pipe.
- e. If a dissipation basin exists at the end of the rundown, refer to maintenance items listed under Culvert Outlets.
- f. Anticipated Frequency: Twice per year.

9. Culvert Outlets (Riprap Energy Dissipation Basin, Riprap Protection, or Roadside Embankment Stabilization [Company]):
  - a. Inspect and repair any damage to the stilling basins or riprap protection/stabilization, such as relocating or replacing riprap or boulders in order for the feature to function properly, erosion control blankets and vegetation.
  - b. Due to the location of the stilling basins and riprap protection/stabilization at the culvert outlet and the potential for additional erosion to occur during access, limit ground disturbance to the greatest extent that is reasonable to access the basins.
  - c. Sediment in the stilling basins or riprap protection may be from the culvert, or from natural sedimentation due to storm flows in the creek. The sediment does not need to be removed, unless the feature is unstable or not functioning due to the sediment.
  - d. Anticipated Frequency: Once per year.
10. Small Mammal Passage Culverts [Company]:
  - a. Inspect all small mammal passage culverts for erosion, blockages, or problems, and repair as needed.
  - b. Remove any debris caught in the small mammal passage culverts which may inhibit flow through the culvert or small mammal passage.
  - c. Inspect small mammal passage ledges attached to the inside of culverts for damage or problems and repair as needed. Ensure ledges are intact and secured to the culverts. Ensure soil riprap at either end of the ledges is intact and forms a ramp from the ledge to ground surface.
  - d. Inspect small mammal arch culverts for erosion, blockages or problems and repair as needed. Ensure that riprap mammal ledges are intact and exposed to promote mammal passage within the culvert during base flow conditions.
  - e. Anticipated Frequency: Once per year.
11. Roadway Fill Slope and Cut Slope Erosion (For Areas Not Associated with the Project) [County and Forest Service]:
  - a. This maintenance is already part of the County's ongoing maintenance, and the County will continue to manage and fund these repairs.
  - b. Inspect and repair damage as needed, including placement of fill, erosion control blanket, and seeding.
  - c. Repair the roadway surface, as needed.
  - d. Anticipated Frequency: As needed in accordance with available funding and resources.
12. Enhancement Areas (Preble's Habitat Planting Areas) [Company]: It is anticipated that maintenance will be minimal. The areas shall be monitored for weeds and invasive species, and if found, will be controlled as needed in coordination with the U.S Forest Service. U.S Forest Service will continue to conduct weed control on property owned by Denver Water (near the confluence with the South Platte River, refer to Exhibit 1).

#### **POSSIBLE CHANGES TO THE PROPOSED IMPROVEMENTS**

At the time of the Agreement, the proposed Sediment Project improvements have been preliminarily designed, but are subject to further refinement during final design. Therefore, the needed maintenance activities and their extent may change as the design evolves. At the conclusion of the project, the Company shall develop Record Drawings to document the final as-constructed improvements and form the basis for further discussions with the County concerning final delineation of maintenance activities, to be incorporated via amendment to the Agreement.

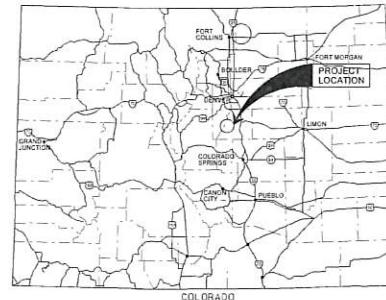
CHATFIELD RESERVOIR MITIGATION COMPANY



EM-3-SUGAR CREEK ENVIRONMENTAL MITIGATION  
DOUGLAS COUNTY 67 ROAD AND CULVERT IMPROVEMENTS  
VOLUME 1 - RECORD DRAWINGS



VICINITY MAP



LOCATION MAP

PRINT DATE: 07/10/2019  
PRINT TIME: 04:51 PM

ENGINEER  
MARK ROSE, P.E.  
CH2M ENGINEERS, INC.  
ENGLEWOOD, CO  
303-655-7702

PRINCIPAL MANAGER  
TED JOHNSON, P.E.  
CH2M ENGINEERS, INC.  
DENVER, CO  
303-224-3824

CONSTRUCTION MANAGER  
TREVOR LATKINSON  
CHATFIELD RESERVOIR MITIGATION COMPANY  
LITTLETON, CO  
303-977-4490

DESIGNED BY: L. ATKINSON  
CHAN 10: M. ROSE  
APPROVED BY: M. ROSE  
CROSS CH: D. LATKINSON  
APPROVED BY: LATKINSON  
DATE: JUNE 2019  
SPNPATH

**ch2m**

9999 S. JAMAICA ST.  
ENGLEWOOD, CO 80112



CHATFIELD RESERVOIR MITIGATION COMPANY  
CHATFIELD STORAGE REALLOCATION PROJECT  
EM-3 SUGAR CREEK ENVIRONMENTAL MITIGATION  
DOUGLAS COUNTY 67 ROAD & CULVERT IMPROVEMENTS

REVISIONS DRAWN BY: J. PALMER Date: 01/2019  
THESE RECORD DRAWINGS HAVE BEEN PREPARED ON THE BASIS OF INFORMATION PROVIDED BY CH2M ENGINEERS, INC. AND THE PROJECT TEAM. THE DRAWINGS DO NOT DETAIL THE EXACT LOCATION, TYPE OF COMPONENT, NOR MANNER OF CONSTRUCTION.

THE AS-BUILT CONDITIONS FIELD SURVEY DATA HAS BEEN SUPERIMPOSED ON THESE PLANS IN RED FOR THE PURPOSES OF DOCUMENTING THE BEST INFORMATION AVAILABLE FOR THE RECORD. NO CHANGES TO THE DRAWINGS ARE MADE HEREIN. SEE THE AS-BUILT DRAWINGS FOR THE ORIGINAL DESIGN DRAWINGS DATED JUNE 2018. SIMILARLY, NO ADDITIONAL CHANGES HAVE BEEN MADE TO THE AS-BUILT DRAWINGS C3-104, C3-105, C3-106, C3-107 AND C3-154 WHICH WERE REVISED VIA FIELD ORDER AND ARE INCLUDED HEREIN.

ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

GENERAL  
COVER SHEET

PROJECT NO. 67326  
FILE NAME: SC-G-0001.dwg  
SHEET NO. G-001

CONFIRMED DOCUMENTS

CONSTRUCTION DRAWINGS		GRADING, EROSION AND SEDIMENT CONTROL (GESC) DRAWINGS	
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
GENERAL			
G-001	COVER SHEET	G-01	COVER SHEET
G-002	SHEET INDEX	G-02	SHEET INDEX
G-003	ROADWAY KEYMAP AND SURVEY CONTROL	G-03	KEYMAP "GRADING, EROSION AND SEDIMENT CONTROL" PLANS
G-004	STAGING AREA LOCATIONS	G-04	KEYMAP "GRADING, EROSION AND SEDIMENT CONTROL" STAGING AREAS 1, 2, 3, 4
G-005	KEYMAP CULVERT PLAN AND PROFILE	G-05	CIVIL LEGEND
G-007	CIVIL LEGEND	G-07	
G-008	CIVIL LEGEND	G-08	
G-010	COLLATERAL INFORMATION TABLES	G-10	
G-011	POTHOLE AND BOREHOLE INFORMATION TABLES	G-11	
ROADWAY			
R-1001	ROADWAY GEOMETRY ALIGNMENT DATA	E-01	GRADING, EROSION AND SEDIMENT CONTROL PLANTING AND SCHEDULES
R-1002	ROADWAY GEOMETRY ALIGNMENT DATA	E-02	GRADING, EROSION AND SEDIMENT CONTROL PLAN STAGING AREAS 1, 2, 3, 4
R-1003	ROADWAY GEOMETRY ALIGNMENT DATA	E-03	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14435 CULVERT #14475
R-1004	ROADWAY GEOMETRY ALIGNMENT DATA	E-04	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14471 CULVERT #15011 CULVERT #14424 CULVERT #14481
R-1005	ROADWAY GEOMETRY ALIGNMENT DATA	E-05	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14474 CULVERT #14480 CULVERT #14481
R-1006	ROADWAY GEOMETRY ALIGNMENT DATA	E-06	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14476 CULVERT #14482
R-1007	ROADWAY GEOMETRY ALIGNMENT DATA	E-07	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14477 CULVERT #14483
R-1008	ROADWAY GEOMETRY ALIGNMENT DATA	E-08	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14478 CULVERT #14484
R-1009	ROADWAY GEOMETRY ALIGNMENT DATA	E-09	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14479 CULVERT #14485
R-1010	ROADWAY GEOMETRY ALIGNMENT DATA	E-10	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14480 CULVERT #14505
R-1011	ROADWAY GEOMETRY ALIGNMENT DATA	E-11	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14481 CULVERT #15018
R-1012	ROADWAY GEOMETRY ALIGNMENT DATA	E-12	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14482 CULVERT #15041
R-1013	ROADWAY GEOMETRY ALIGNMENT DATA	E-13	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14483 CULVERT #15043
R-1014	ROADWAY GEOMETRY ALIGNMENT DATA	E-14	GRADING, EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1015	ROADWAY GEOMETRY ALIGNMENT DATA	E-15	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1016	ROADWAY GEOMETRY ALIGNMENT DATA	E-16	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1017	ROADWAY GEOMETRY ALIGNMENT DATA	E-17	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1018	ROADWAY GEOMETRY ALIGNMENT DATA	E-18	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1019	ROADWAY GEOMETRY ALIGNMENT DATA	E-19	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 35+00
R-1020	ROADWAY GEOMETRY ALIGNMENT DATA	E-20	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1021	ROADWAY PLAN STA 34+00 TO 38+00	E-21	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1022	ROADWAY PLAN STA 34+00 TO 48+00	E-22	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 124+00 TO 124+00
R-1023	ROADWAY PLAN STA 34+00 TO 48+00	E-23	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 124+00 TO 124+00
R-1024	ROADWAY PLAN STA 34+00 TO 58+00	E-24	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1025	ROADWAY PLAN STA 34+00 TO 58+00	E-25	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 224+00 TO 224+00
R-1026	ROADWAY PROFILE STA 10+00 TO 113+00	E-26	GRADING, EROSION AND SEDIMENT CONTROL PLANT STAGING AREAS 1, 2, 3, 4
R-1027	ROADWAY PROFILE STA 10+00 TO 113+00	E-27	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #12200 CULVERT #14441 CULVERT #14455
R-1028	ROADWAY PROFILE STA 11+00 TO 127+00	E-28	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14451 CULVERT #14474 CULVERT #14481
R-1029	ROADWAY PROFILE STA 11+00 TO 127+00	E-29	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14476 CULVERT #14477 CULVERT #14480 CULVERT #14481
R-1030	ROADWAY PROFILE STA 11+00 TO 127+00	E-30	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14478 CULVERT #14482
R-1031	ROADWAY PROFILE STA 38+00 TO STA 41+00	E-31	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14489 CULVERT #15031 CULVERT #15055
R-1032	ROADWAY PROFILE STA 38+00 TO STA 41+00	E-32	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #14490 CULVERT #15032 CULVERT #15056
R-1033	ROADWAY PROFILE STA 48+00 TO STA 51+00	E-33	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #15013 CULVERT #15014 CULVERT #15018
R-1034	ROADWAY PROFILE STA 48+00 TO STA 51+00	E-34	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #15015 CULVERT #15016
R-1035	ROADWAY PROFILE STA 103+00 TO STA 108+00	E-35	GRADING, EROSION AND SEDIMENT CONTROL PLAN CULVERT #15042 CULVERT #15043
R-1036	ROADWAY PROFILE STA 109+00 TO STA 113+00	E-36	GRADING, EROSION AND SEDIMENT CONTROL PLAN STA 1-00 TO 38+00
R-1037	ROADWAY PROFILE STA 109+00 TO STA 113+00	E-37	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 1-00 TO 38+00
R-1038	ROADWAY PROFILE STA 114+00 TO STA 124+00	E-38	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 43+00
R-1039	ROADWAY PROFILE STA 114+00 TO STA 124+00	E-39	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 34+00 TO 43+00
R-1040	ROADWAY PROFILE STA 118+00 TO STA 124+00	E-40	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 49+00 TO 53+00
R-1041	ROADWAY PROFILE STA 124+00 TO STA 131+00	E-41	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 124+00 TO 131+00
R-1042	ROADWAY PROFILE STA 124+00 TO STA 131+00	E-42	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1043	ROADWAY PROFILE STA 124+00 TO STA 131+00	E-43	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1044	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-44	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1045	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-45	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 134+00 TO 134+00
R-1046	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-46	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 123+00 TO 124+00
R-1047	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-47	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 123+00 TO 124+00
R-1048	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-48	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 123+00 TO 124+00
R-1049	ROADWAY PROFILE STA 224+00 TO STA 230+00	E-49	ROADWAY EROSION AND SEDIMENT CONTROL PLAN STA 224+00 TO 224+00
CIVIL			
C-1001	CIVIL PLAN AND PROFILE CULVERT 1500 STA 17+37	1	GESC PLAN STANDARD NOTES AND DETAILS
C-1002	CIVIL PLAN AND PROFILE CULVERT 1500 STA 24+25	2	GESC PLAN STANDARD NOTES AND DETAILS
C-1003	CIVIL PLAN AND PROFILE CULVERT 1415 STA 27+80	3	GESC PLAN STANDARD NOTES AND DETAILS
C-1004	CIVIL PLAN AND PROFILE CULVERT 1415 STA 39+75	4	GESC PLAN STANDARD NOTES AND DETAILS
C-1005A	CIVIL PLAN AND PROFILE CULVERT 1515 STA 24+28	5	GESC PLAN STANDARD NOTES AND DETAILS
C-1006	CIVIL PLAN AND PROFILE CULVERT 1515 STA 45+80	6	GESC PLAN STANDARD NOTES AND DETAILS
C-1007A	CIVIL PLAN AND PROFILE CULVERT 1475 STA 50+35	7	GESC PLAN STANDARD NOTES AND DETAILS
C-1008	CIVIL PLAN AND PROFILE CULVERT 1475 STA 50+46	8	GESC PLAN STANDARD NOTES AND DETAILS
C-1009	CIVIL PLAN AND PROFILE CULVERT 1480 STA 60+74	9	GESC PLAN STANDARD NOTES AND DETAILS
C-1010	CIVIL PLAN AND PROFILE CULVERT 1500 STA 61+14	10	GESC PLAN STANDARD NOTES AND DETAILS
C-1011	CIVIL PLAN AND PROFILE CULVERT 1488 STA 71+73	11	GESC PLAN STANDARD NOTES AND DETAILS
C-1012	CIVIL PLAN AND PROFILE CULVERT 1488 STA 73+00	12	GESC PLAN STANDARD NOTES AND DETAILS
C-1013	CIVIL PLAN AND PROFILE CULVERT 1488 STA 76+04	13	GESC PLAN STANDARD NOTES AND DETAILS
C-1014	CIVIL PLAN AND PROFILE CULVERT 1488 STA 76+79	14	GESC PLAN STANDARD NOTES AND DETAILS
C-1015	CIVIL PLAN AND PROFILE CULVERT 1500 STA 95+76		
C-1016A	CIVIL PLAN AND PROFILE CULVERT 1500 STA 100+26		
C-1017	CIVIL PLAN AND PROFILE CULVERT 1500 STA 100+31		
C-1018	CIVIL PLAN AND PROFILE CULVERT 1500 STA 118+20		
C-1019	CIVIL PLAN AND PROFILE CULVERT 1500 STA 118+27		
C-1020	CIVIL PLAN AND PROFILE CULVERT 1500 STA 150+72		
C-1021	CIVIL PLAN AND PROFILE CULVERT 1504 STA 185+52		
C-1022	CIVIL PLAN AND PROFILE CULVERT 1505 STA 231+04		
C-1023	CIVIL PLAN AND PROFILE CULVERT 1505 STA 231+04		
C-1024	CIVIL PLAN AND PROFILE CULVERT 1505 STA 231+06		
C-1025	CIVIL PLAN AND PROFILE CULVERT 1504 STA 250+72		
C-1026	CIVIL PLAN AND PROFILE CULVERT 1504 STA 250+72		
C-1027	CIVIL PLAN AND PROFILE CULVERT 1504 STA 250+72		
C-1028	CIVIL PLAN AND PROFILE CULVERT 1504 STA 250+72		
C-1029	CIVIL DETAILS CULVERT INLET DETAILS		
C-1030	STRUCTURE IDENTIFICATION NUMBER DETAIL		
C-1031	DETAILS		
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W-1200	CIVIL WALL 1 AND WALL 2 ROADWAY STA 27+98 TO STA 31+85		
W-1201	CIVIL WALL 3 AND WALL 4 ROADWAY STA 35+10 TO STA 38+70		
W-1202	CIVIL WALL 5 AND WALL 6 ROADWAY STA 34+10 TO STA 37+00		
W-1203	WALL INFORMATION TABLE		
RECORD DRAWINGS			
Revisions Drawn By	J. PALMER	DESIGNED BY	L. ATKINSON
Date	04/2019	DRAWN BY	M. McNAMARA
		APPROVED BY	M. ROSSER
		APPROVED BY	L. ATKINSON
		DATE	
ch2m: 			
CHATFIELD RESERVOIR MITIGATION COMPANY CHATFIELD STORAGE REALLOCATION PROJECT EM-3 SUGAR CREEK ENVIRONMENTAL MITIGATION DOUGLAS COUNTY 67 ROAD & CULVERT IMPROVEMENTS			
GENERAL SHEET INDEX		PROJECT NO. 873806 FILE NAME: SC-G-002.dwg SHEET NO. G-002	
CONFORMED DOCUMENTS			