

Revisions and Updates to Manual

In an effort to ensure the Arapahoe County Grading, Erosion, and Sediment Control (GESC) Manual provides clear guidance and regulations, Arapahoe County Staff has made revisions to Sections 1.5.3, 2.1.3, 2.16.3, 2.16.3.1, 3.1.1.9, 3.1.4.8, 3.1.5.10, 3.2.15, 3.3.1, 4.1.3, 4.1.5, 4.5.4, 4.7, 4.11, 4.15.3, 4.15.9, 4.15.22, 5.9.4, 6.1.2, 6.2.3, 6.2.8, 6.2.9, 10.2

Section 1.5.3 – At the end of Section, add the paragraph of “*Haul Roads, as defined by the Air Quality Control Commission, Regulation 1 (5 CCR 1001-3), are roads which are used for commercial, industrial or governmental hauling of materials and which the general public does not have a right to use. Any owner or operator of any new or existing haul road which has vehicle traffic exceeding 40 haul vehicles or 200 total vehicles per day (averaged over any consecutive 3-day period) from which fugitive particulate emissions will be emitted shall be required to use all available practical methods which are technologically feasible and economically reasonable in order to minimize such emissions in accordance with the requirements of Section III.D. of Regulation 1. Additional control measures or operating procedures, including but not limited to road watering, chemical stabilization, road carpeting, paving, suggested speed restrictions and other methods or techniques approved by the Air Quality Control Division, may be necessary to fully comply with these regulations at the construction site. The CDPHE should be contacted about APENs and other air quality requirements.*”

Section 2.1.3 – Replace the bulleted note no. 3 of “Maintenance of existing public and private roadways” to “Maintenance of pavement repair, including mill and overlay and signal projects, on existing public and private roadways.”

Section 2.16.3 - Add Irrevocable Letter of Credit from out-of-state financial institution in a form acceptable to the County.

Section 2.16.3.1 – Modify terms of collateral for governmental and quasi-governmental entities. Waiver governmental and quasi-governmental agencies from financial collateral upon providing agreement with conditions of approval.

Section 3.1.1.9 – Updated Design Engineer’s Certification Statement as follows:

“I hereby attest that the attached Grading, Erosion, and Sediment Control (GESC) Plan for (Name of Subdivision/Development) has been prepared by me or under my direct supervision, and to the best of my knowledge and ability has been prepared in accordance with the latest version of the Arapahoe County GESC Manual. The signature and stamp affixed hereon certifies that the GESC Plan was prepared in accordance with the required regulations and criteria; however, the stamp and signature does not certify or guarantee future performance of the execution of the plan by the Contractor. The Contractor is responsible for executing the construction work according to the information set forth in the plan and in accordance with all applicable requirements.”

Registered professional Engineer _____

State of Colorado No. _____

Affix Seal

Revisions and Updates to Manual

Section 3.1.4.8 – Add additional notes on interim drawing:

- ALL INTERIM BMPS, INCLUDING SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED WITHIN 14 DAYS IF THE AREAS WILL REMAIN UNDISTURBED FOR A PERIOD GREATER THAN 30 DAYS AND PRIOR TO ISSUANCE OF ANY CURB AND GUTTER PERMITS.
- ALL PROPOSED SLOPES ON THIS PLAN HAVE A MAXIMUM SLOPE OF 4:1. ANY SLOPES BETWEEN 3:1 AND 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR FLEXIBLE GROWTH MEDIUM.

Section 3.1.5.10 - Add additional note on final drawing:

- ALL INTERIM BMPS, INCLUDING SEEDING AND MULCHING OF DISTURBED AREAS, MUST BE COMPLETED WITHIN 14 DAYS IF THE AREAS WILL REMAIN UNDISTURBED FOR A PERIOD GREATER THAN 30 DAYS AND PRIOR TO ISSUANCE OF ANY CURB AND GUTTER PERMITS.
- ALL PROPOSED SLOPES ON THIS PLAN HAVE A MAXIMUM SLOPE OF 4:1. ANY SLOPES BETWEEN 3:1 AND 4:1 WILL REQUIRE THE USE OF EROSION CONTROL BLANKETS OR FLEXIBLE GROWTH MEDIUM.

Section 3.2.15 – update landowner/authorized agent certification acknowledging the review and acceptance of responsibility as follows:

“I hereby certify that the GESC measures for (*Name of Subdivision/Development/ address*) shall be constructed according to the design presented in this report. I understand that additional erosion control, sediment control and water quality enhancing measures may be required of the owner and his or her agents due to unforeseen pollutant discharges or if the submitted plan does not function as intended. The requirements of the plan shall be the obligation of the land owner and/or his successors or heirs; until such time as the plan is properly completed, modified or voided.”

Owner or Authorized Agent _____

Authorized Signature _____

Section 3.3.1 – The GESC cost estimate has been modified to be a separate submittal from the GESC report. The GESC cost shall be signed by the Applicant/Developer, Engineer for Application, and the County Case Engineer.

Section 4.1.3 – The text of “All stockpiles must drain to a sedimentation pond” has been modified to “A sedimentation pond, or other appropriate BMP shall be used to control sediment from leaving the site” for stockpiles.

Section 4.1.5 – Modify the text of “the County requires that earthwork cut and fill volumes balance onsite” to “the County encourages earthwork cut and fill volumes balance onsite”.
A variance is no longer needed for earthwork balance

Section 4.5.4 – Alternative BMP of Flexible Growth Medium has been added.

Section 4.7 – A variance is no longer needed for earthwork balance onsite.

Revisions and Updates to Manual

Section 4.11 – Added two paragraphs as follows:

- Linear projects, such as transportation corridor and utilities projects, may consider other BMPs, such as vegetative buffer strips, grass swales or longer linear sediment basins that are retrofit into grass swales and vegetative buffers to provide sediment control during construction disturbance
- Mining pits when used for the extraction of sand and gravel, permitted through the Colorado Division of Reclamation Mining and Safety (DRMS) and/or the Colorado Department of Public Health and Environment, may be considered on a case-by-case basis when disturbance is limited to the immediate pit area.

Section 4.15.3 – Alternative BMP of pre-fabricated ecologically/environmentally friendly concrete washout bin has been added.

Section 4.15.9 – Flexible Growth Medium has been added in this section.

Section 4.15.21 – Alternative BMP of Pre-fabricated tracking mats has been added.

Section 5.6 – The last sentence of the first paragraph has been modified from “...shall be installed within 48 hours of the pouring of an inlet” to “...shall be installed after the construction of site infrastructure”.

Section 5.9.4 – Modify the section from “Remediation for Level II Violations shall commence immediately after the Permittee is notified of the violation. Notification can either be verbal instruction from the County Inspector to the GESC Manager, or included on an inspection report as a deficiency. Level II Violations shall be corrected within 48 hours of notification, unless otherwise specified in writing by the County Inspector. A re-inspection will be completed by the County following the allotted 48 hour time frame. If corrections have not been completed satisfactorily within the 48 hour time frame, and additional inspections are needed, reinspection fees will be applied for subsequent inspections. Corrections not made in full after additional inspections and subsequent inspections fees will result in the issuance of a Notice of Violation (NOV) and possible Stop Work Order” to “Remediation for Level II Violations shall commence after the Permittee is notified of the violation. Notification can either be verbal instruction from the County Inspector to the GESC Manager, or included on an inspection report as a deficiency. A re-inspection will be completed by the County to ensure remedies are implemented. If corrections have not been completed satisfactorily and additional inspections are needed, reinspection fees will be applied for subsequent inspections. Corrections not made in full after additional inspections and subsequent inspections fees will result in the issuance of a Notice of Violation (NOV) and possible Stop Work Order.”

Section 5.9.5 – Delete the text of “and the Permittee has been given 48 hours to correct”.

Section 5.9.6 – Delete the texts of “Violations must be remedied within 48 hours of the Notice of Violation” and “within 48 hours” in the paragraph.

Section 6.1.2 – Add the requirement at the end of paragraph: The County may invoice contractors or withhold collateral for inadequate street cleaning.

Section 6.2.3 – Add the alternative BMP: Pre-fabricated ecologically/environmentally friendly concrete washout bins are encouraged.

Revisions and Updates to Manual

Section 6.2.8 – Add the alternative BMP: Curb Socks can be used as an alternate to Reinforced Rock Berm inlet protection to reduce sediment from entering the storm sewer.

Section 6.2.9 – Add the “Key Installation and Maintenance Requirements” for Flexible Growth Medium.

Flexible Growth medium (FGM) is a hydraulically-applied, flexible erosion control blanket/mulch/covering composed of long strand, thermally processed wood fibers, crimped, interlocking fibers and performance enhancing additives. The FGM requires no curing period and upon application forms an intimate bond with the soil surface to create a continuous, porous, absorbent and erosion resistant blanket that allows for rapid germination and accelerated plant growth.

Key Installation and Maintenance Requirements:

- In areas where the flexible growth medium is shown on the plans, the Permittee(s) shall place topsoil and perform final grading, surface preparation, and seeding below the blanket in accordance with the GESC Plan Standard Notes and Details, Seeding and Mulching. Apply the flexible growth medium to geotechnically stable slopes that have been designed and constructed to divert runoff away from the face of the slope. Do not proceed with installation until satisfactory conditions are established.
- Strictly comply with Manufacturer’s installation instructions and recommendations. Use approved hydro-spraying machines with a fan type nozzle (50-degree tip) whenever possible to achieve best soil coverage. Apply the product from opposing directions to assure 100% soil surface coverage. Slope interruption devices or water diversion techniques are recommended when slope lengths exceed 75 ft. Mix and apply FGM material at a rate of approximately 50 lb per 125 gallons of water over freshly seeded surfaces. Confirm loading rates with equipment manufacturer. Do not leave seeded surfaces unprotected, especially if precipitation is imminent.
- A mechanically agitated hydraulic application machine is recommended for mixing product, filling tank to the middle of the agitator shaft or tank about 1/3 full of water. Turn on pump to wet or purge lines and begin agitating. Water should be added slowly while adding the FGM product at a steady rate.
- Consult application and loading charts to determine number of bags to be added and mixing rate. Contact Equipment manufacturer to confirm optimum mixing rates.
- All material should be loaded when the tank is approximately 3/4 full.
- Fertilizer should be added once the tank is nearly full.
- In order to fully activate bonding additives and attain proper viscosity, mix the slurry for at least 10 minutes after adding the last amount of material.
- Turn off recirculation valve to minimize potential for air entrainment within the slurry.
- Clean spills promptly. Advise owner of methods for protection of treated areas. Do not allow treated areas to be trafficked or subjected to grazing.
- The GESC Manager shall inspect flexible growth mediums weekly and during and after any storm event and make repairs as necessary.

Section 10.2 – Add the language of “The steel plate is not allowed in County ROW travel lanes” under bullet point no. 3.

Appendixes B, D, E, F, G, I – changes were made to each of these appendices to reflect revisions as made to corresponding sections above.