

**DOPHE 136**  
**HAZARDOUS MATERIALS**

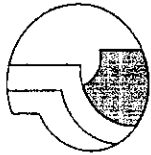
SW\_1.6.\_2580



BOX#

167

SW MES MES 1.6



Cameron L. Garcia  
Solid Waste Director  
(970) 255-0754 - Office  
(970) 242-7467 - Fax

Mesa County Solid Waste Management  
P.O. Box 20,000  
Grand Junction, Colorado 81502  
cameron.garcia@mesacounty.us

---

November 29, 2010

Roger Doak, Permitting Group Unit Leader  
Solid Waste and Materials Management Unit - Solid and Hazardous Waste Program  
Colorado Department of Public Health and the Environment (CDPHE)  
4300 Cherry Creek Drive South  
Denver, Colorado 80246-1530

Dear Mr. Doak:

The following submittal was written by Mesa County Solid Waste Management to address the five deficiencies noted by CDPHE in their August 19, 2010 Compliance Advisory Notice, by identifying Mesa County's course of action to correct non-compliance issues. When necessary, copies of design plans and updated operational procedures will be included as appendices. Please refer to the original Compliance Advisory for the specific cited deficiency as it relates to the various Mesa County Solid Waste Management programs. The key items discussed for each deficiency are identified below.

**Deficiency 1 (Financial Assurance – 5-Year Closure and Post Closure Cost Estimate)**

*Response:* Mesa County has elected to use the local government financial test to demonstrate financial assurance. The County does not currently have any outstanding general obligation debt; therefore the County will demonstrate compliance with the two financial ratios based on the most recently audited annual financial statements, for the fiscal year ended December 31, 2009.

The landfill's closure/post-closure care cost estimate was most recently revised in 2009 to reflect current increases in waste stream volumes. A copy of this report was sent to your office. Given these waste stream volume rates, the estimated life of the landfill is approximately 24 years with closure projected for the year 2033.

Mesa County chooses to use an estimated inflation rate of three percent, which is greater than the required implicit price deflator for the GDP, or 1.009, as published by the U.S. Department of Commerce. The estimated cost of closing the landfill, hazardous waste facility and composting operations, at this time, is \$15,137,284.

The Mesa County's Comprehensive Annual Financial Report (CAFR) for the fiscal year ending on December 31, 2009 will be provided to CDPHE in December 2010. It will be prepared in conformity with generally accepted accounting principles. The CAFR has received an unqualified audit opinion from the independent audit firm of Dalby, Wendland & CO., P.C. and the requirements of Governmental Accounting Standards Board (GASB) Statement 18 have been met. The audit includes performing the procedures cited in the Regulations Pertaining to Solid Waste Disposal Sites and Facilities 6 CCR 1007-2, as amended Section 1.8.11(C)(7) to evaluate Mesa County's compliance of

**Mesa County Landfill/MES**

11/29/2010

MES

Solid Waste - Correspondence - Enforcement - Response to Deficiencies  
Noted by CDPHE in the Compliance Advisory Notice dated August 19,  
2010

**SW/1.6./2580**



**SW/1.6./300**

local test requirements. The review also includes a comparison of data and financial statements required by Section 1.8.11(A)(1)(b)(i) and (ii), a comparison between waste data and financial statements as required by 1.8.11(A)(2), 1.8.11(A)(3)(c), and 1.8.11(A)(3)(d).

**Deficiency 2: Organic Materials Composting Facility – Section 14 Regulations**

*Response:* The following Section 14 violations have been corrected through updating of the Design and Operations Plan for the Organic Materials Composting Facility (Appendix A): Odor Management Plan (14.3.3(I), Contingency Plan (14.3.3(G), Employee Training (14.3.3 (J), and Fire Protection (14.3.3(H).

To meet the requirements specified in Section 14.3.1(C) for work pad design and Section 14.3.2 for CQA requirements, Mesa County proposes the construction of a new stormwater drainage design for the composting facility. The design will be provided to CDPHE and is engineered to retain 17,290 cubic feet of water (25-year, 24-hour storm event) for a maximum of 30 days. The design includes the installation of a 14 inch perforated pipe on the northern edge of the facility in a trench lined with a synthetic liner and backfilled with gravel. Currently the slope of the work pad drains at a 1% grade to the north. The perforated pipe will collect the stormwater runoff and drain it to the irrigation/retention pond located on the northwest corner of the site. The current pond will be expanded and lined with a synthetic liner to meet the need for the volume of water that would be retained. The 14 inch perforated pipe can also store 1,000 ft<sup>3</sup> of water. The water retained in the pond will be utilized for composting operations and facility dust suppression activities. This design will meet the general requirements outlined in Section 14.3.1(B) 2-7 and will be documented through an approved CQA plan.

The work pad design is sufficient to meet the requirements specified in 14.3.1(C)(1), (2) and (3) to ensure ground water protection, sufficient slope to direct stormwater to the appropriate collection system, and can withstand various temperatures and allow heavy equipment operation, without damage. The work pad has been in place for over 10-years and there is documented proof that it effectively directs stormwater to the northern edge where it collects. Mesa County feels that no further design engineering or testing is warranted.

A CQA plan will be development after final design and construction plans are approved by CDPHE for the stormwater drainage design. Mesa County is requesting that construction of the drainage and retention structures be initiated in early April 2010 to ensure that weather conditions will not negatively impact work activities.

**Deficiency 3: Agitated Air Drying and Curing Facility – Section 14 Regulations**

*Response:* The following Section 14 violations have been corrected through updating of the Design and Operations Plan for the Agitated Air Drying and Curing Facility (Appendix B): Odor Management Plan (14.3.3(I), Contingency Plan (14.3.3(G), Employee Training (14.3.3 (J), and Fire Protection (14.3.3(H).

The current retention pond will be redesigned to ensure collection of onsite run-off water resulting from a 25-year, 24-hour storm event. The retention pond will be constructed of a minimum of 18 inches of compacted Unit 1 Mancos shale. Testing will be conducted to ensure that the pond liner meets the  $1 \times 10^{-6}$  cm/sec hydraulic conductivity requirement as specified in Section 14.3.1 (B) (4).

Current drainage ditches surrounding the facility will be designed and constructed with a synthetic liner to continue to direct stormwater run-off to the retention pond.

The work pad design is sufficient to meet the requirements specified in 14.3.1(C)(1), (2) and (3) to ensure ground water protection, sufficient slope to direct stormwater to the appropriate collection system, and can withstand various temperatures and allow heavy equipment operation, without damage. The work pad has been in place for over 6-years and effectively directs stormwater to the current retention located at the southern edge of the facility. Mesa County feels that no further design engineering or testing is warranted for the work pad.

A CQA plan will be development after final design and construction plans are approved by CDPHE for the re-design of the current stormwater drainage and collection system. Mesa County is requesting that construction of the drainage and retention structures be initiated in May 2010 after the re-design of the stormwater collection system at the Organic Materials Composting Facility is completed.

**Deficiency 4: Organic Materials Composting Facility – “Clean Water Impoundment”**

Response: Please find the asbuilt design of the clean water impoundment located on the southwestern most boundary of the composting facility in Appendix C. The pond was constructed in September of 2008 and functions to store water pumped from the Gunnison River and used in compost operations and site dust control activities. The pond is lined with 45 mil reinforced polypropylene liner and one layer of 8 oz. non-woven geotextile fabric under the liner.

**Deficiency 5: Organic Materials Composting Facility – Groundwater Monitoring Plan**

Response: Based upon several previous assessments conducted at MESA County Solid Waste, stormwater has periodically entered wet/dry wells MW-NE and MW-NW. Based upon assessment results, the presence of water was directly correlated to a precipitation and/or snow melt event (NWCC, May 2010). It was determined that because of the inherent nature of well construction (i.e., well screen location approximately 5 feet below ground surface in gravels), stormwater had migrated around any well seal and entered the well screens.

Water samples believed to be associated with stormwater were collected from MW-NW during March 2010. In addition, compost material samples were collected concurrently with water samples and analyzed in order to compare water results with compost and background groundwater quality. CDPHE noted that collected water samples exhibited nitrate and nitrite levels above groundwater standards and questions the origin of these analytes.

Since nitrate and nitrite were not detected above the laboratory Method Detection Limits (MDL) in compost samples, compost was ruled out as the potential origin of these analytes. Although nitrate and nitrite levels were detected above the groundwater standards in the water samples, nitrate concentrations were significantly below background groundwater levels and nitrite well within reported background levels.

Because of limited water in the wells and little to no recharge, purge activities could not be conducted prior to sample collection. Therefore, collected samples are not considered representative. Moreover, because of the nature of well construction, it is believed that surface

water is impacting the wells that appear to be providing a preferential migration pathway to the subsurface and not liquid that could potentially leak from the nearby compost facility. Therefore, it appears that the presence of nitrate and nitrites in the well could be related to surface water. It should be remembered that the wells are located up-gradient from the landfill, within the certificate of designation, and down-gradient compliance monitoring well MW-4 appears to be impacted with only levels of nitrates or nitrites below the groundwater standards.

In accordance with the August 19, 2010 CDPHE correspondence, in the event that liquids are detected in MW-NE and/or MW-NW during detection monitoring activities, sample collection will be attempted. In order to collect representative samples, well purging and sampling will be conducted in accordance with detection monitoring protocol. Collected samples will be analyzed for the approved analytical suite used for down-gradient compliance monitoring well MW-4. The composting facilities Design and Operations Plan has been updated to reflect the new groundwater sampling procedure and can be found in Appendix A. During the fall 2010 sampling event, samples were obtained for analysis from MW-NW. Analytical results from the event are not yet available, but will be provided in a groundwater report submitted to CDPHE in January/February 2011.

Because wet/dry wells appear to be providing a preferential migration pathway for surface water and potential related impacts, Mesa County and its contractor recommends that the wet/dry wells be properly abandoned and replaced with inclined leak detection wells installed beneath the compost pad. By installing the inclined wells, better leakage monitoring should be achieved since the wells will be located directly beneath the pad and stormwater interference should be minimized.

I will be happy to provide any additional information you may need. You can reach me at my work mailing address or at (970) 255-0754.

Sincerely,



Cameron L. Garcia, M.P.A, REM, CHMM  
Solid Waste Director  
Mesa County Solid Waste Management

cc: Bob Peterson, CDPHE – Solid Waste and Materials Management Unit  
Charles Johnson, CDPHE – Solid Waste and Materials Management Unit