

Date sent: Tue, 30 Sep 1997 11:16:49 +0500
From: "Bernie Garrett" <GARRETTLB@cdm.com>
To: sessomswd@wastenot.ehnr.state.nc.us
Subject: Re: Buncombe County C&D
Copies to: GRANTTD@cdm.com, WISEMANJ@cdm.com

We have received the comments and are working on them now.

Bob Hunter needs to carefully plan how to handle C&D waste until the permit is issued. For example, he doesn't want to place steel beams or rebar in the first few lifts of waste in his lined landfill. Therefore we need a firm date to set as the opening of the C&D landfill. Provided Cheryl Marks receives her responses next week, when can we count on opening the C&D landfill? What is the county permitted to do with bulky, sharp, liner-penetrating type C&D waste in the interim?

C&D LF

Fac/Perm/Co ID #	Date	Doc ID#
11-07	10/10/97	DIN 15346

From: Self <NRONA01/N1NW345>
To: Garrett Bernie, Grant Tim
Subject: Buncombe County C&D
Copies to: NRONA01/CMARKS, Wiseman Joe
Send reply to: sessomswd@wastenot.ehnr.state.nc.us
Date sent: Tue, 30 Sep 1997 09:52:03 EST

Bernie and Tim:

Cheryl Marks has faxed y'all a draft of the hydro review for Buncombe County. If you have not received it, please call or email Cheryl.

The memo will be attached to my review letter which hopefully will be sent within a couple of weeks.

Please feel free to contact Cheryl if you have any questions about the memo.

Thanks,

DRAFT

September 21, 1997

MEMORANDUM

TO: Bill Sessoms, PE

FROM: Cheryl Marks

RE: Hydrogeologic Technical Review of the Design Hydrogeologic Report - Proposed Construction and Demolition Debris Landfill: Buncombe Co.

Post-it® Fax Note	7671	Date	9-29-97	# of pages	3
To	Bernie Garrick, Tim Grant		From Cheryl Marks		
Co./Dept.	CD M		Co. Solid Waste Section		
Phone #			Phone # 733-0692 Ext 346		
Fax #	781-5730		Fax #		

A hydrogeologic review for the Buncombe C&D Landfill has been completed. Further information is necessary to continue the review process. Please have Camp Dresser & McKee respond to the following comments and questions:

Hydraulic Conductivity and Porosity

Page 14-18: "Based on observation of the cores, an effective porosity of about 1 to 5% has been estimated for the competent bedrock material." Explain methodologies and provide supporting documentation used to determine the effective porosity of the competent bedrock material.

Page 14-20: The middle of the first paragraph states eight samples were used for volume % water to produce an average of 20.6%. What eight samples were used? Provide calculations.

Page 14-22: "Vertical gradients are calculated as the difference in water level elevation between two nested piezometers, divided by the vertical distance from the midpoint of the screen of the shallower piezometer to the midpoint of the screen." What is the reference of the second screen in this statement? Provide calculations for the vertical gradients given.

Page 14-24: Last paragraph discusses previous slug test results from Cells 1-3 area. Most of the borings in the proposed C&D landfill indicate water was encountered in rock. The hydraulic conductivities in bedrock provided are based on testing from the cells 1-3 area that indicate a great variance ranging from 0.02 ft/day to 47 ft/day. While this provides good support information, the saturated hydraulic conductivity for the hydrological study of the C&D site as noted .0504 (1)(c)(i)(E)(I) also requires testing for each major lithologic unit.

Sheet 14-5: It is unclear which groundwater data belongs to piezometer B-335 on the potentiometric map.

Water Discharge

Page 14-25: The groundwater discharge location identified in the C&D Landfill area is not shown on any of the sheets submitted. Submit a revised sheet showing the discharge location. Two springs were observed in the foot print of the C&D Landfill cell during a recent site visit by the Solid Waste Section staff. If both springs in the C&D Landfill foot print are different than the one previously observed, they also need to be included on a revised sheet.

Page 14-26: Provide the location of the intermittent stream that flows in the western drainage feature which may be groundwater discharge from the saprolite.

Landfill Construction Considerations

Page 14-26: The first bullet under landfill construction considerations discusses the separation between the base of the landfill and the water table surface. It is the policy of the Solid Waste Section that four feet of separation also be maintained to the top of bedrock. Several rock exposures were observed in the proposed C&D landfill footprint during a recent site visit by the Solid Waste Section staff.

Water Quality Monitoring Plan

The aquifer at the C&D Landfill site is a complex fractured bedrock aquifer system. The Lineament/Fracture Analysis & VLF Survey indicate lithologic contacts in the southeastern portion of the C&D cell that may control groundwater flow. Additional monitoring wells in the fractured bedrock are required to adequately monitor the complex system.

Include a sheet showing the proposed monitoring wells and surface water locations for the C&D Landfill.

Provide a groundwater monitoring well schematic showing proposed screened interval, and construction.

Sheet 15-1: Explain the construction to the south of the proposed C&D Landfill shown on the groundwater monitoring plan.

Sheets

On a sheet provide the paths of the geological cross-sections A-A' and B-B'.

Sheet 14-1: The legend does not provide an explanation for the heavy lines with arrows in the

northeastern portion of the map located east of cell 3.

Tables

Table 14-1: There are discrepancies between Table 14-1 and the boring logs presented in Appendix B. Generally the screen is set as near to the bottom of the boring as possible. Explain why B-365, MW-5d, MW-7, and B-404H have 2.5 feet or more difference between the bottom elevation of the boring and the bottom elevation of the screen. What fill materials, if any, were used to confine the conduit created.

Table 14-2: Boreholes B-5, B-5A, and B-358 on Table 14-2 do not have logs included in Appendix B.

Table 14-3: The remolded conductivity listed on table 14-3 does not match the text on page 14-20.

Please call to arrange a meeting with the assigned hydrogeologist at the Solid Waste Section to discuss the complex fractured bedrock aquifer system and related groundwater monitoring concerns. Camp Dresser and McKee may call me regarding this memo, at (919) 733-0692, extension 346.

cc: Bobby Lutfy

September 11, 1997

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TO: Bill Sessoms, PE

FROM: Cheryl Marks

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