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July 27, 2010

Ms. Karlee Kenison
Waste Management Programs
New Hampshire Department of Environmental Services
P.O. Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095

**RE: Hebron-Bridgewater Refuse District
Letter of Deficiency #WMD-10-016
CMA #522**

Dear Ms. Kenison:

Please find attached a work plan for an Initial Site Characterization of an incinerator ash release at the Hebron-Bridgewater Refuse District site at 290 Dick Brown Road in Bridgewater, New Hampshire. The work plan was prepared to address Item No. 3 in the Letter of Deficiency issued to the District by the New Hampshire Department of Environmental Services on June 22, 2010.

Please contact the undersigned or the Chairman of the District, Mr. Terry Murphy, if you have any comments or questions, or need additional information.

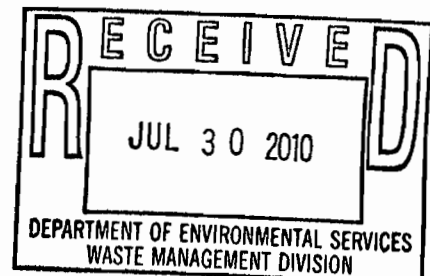
Very truly yours,
CMA ENGINEERS, INC.

Robert J. Grillo, P.E.
Project Manager



RJG:cak

cc: John Regan, NHDES
Doug Kemp, NHDES
Terry Murphy, H-B Refuse District



WORK PLAN

INITIAL SITE CHARACTERIZATION ASH AT OUTFALL PIPE

**Hebron-Bridgewater Refuse District
Bridgewater, New Hampshire**

BACKGROUND AND OBJECTIVES

Ash-like deposits have been observed at the outfall of a PVC drain pipe. The PVC drain line is connected to three floor drains in the solid waste incinerator operated by the Hebron-Bridgewater Refuse District (District). The incinerator and drain line have been in operation for about six years. A locus plan and site plan are shown on Figures 1 and 2, respectively. The floor drains are in the process of being permanently plugged by the District. Discharges to the drain in the future will be limited to clean non-contact cooling water discharged to the drain by direct piping. The area between the incinerator building and the outfall pipe is occupied by a registered pre-1981 landfill. This landfill was operated as a burning dump prior to 1981, and as a wood and brush burn area until recently when the area was closed by establishing a stable vegetative soil cover.

On April 30, 2010, DES collected and tested a sample of the ash-like material deposited at the drain line outfall. Consistent with municipal solid waste incinerator ash, the results show the presence of heavy metals including elevated levels of lead, cadmium, and arsenic.

On July 23, 2010, CMA Engineers, Inc. conducted a reconnaissance of the site. Excavations were dug by hand to delineate the horizontal limits and thickness of the ash-like deposits based on observations of the color and consistency of the ash and the surrounding natural ground. A detailed site sketch of the ash disposal area is presented on Figure 3. Photographs of the site are provided in Appendix A. The locations and orientation of the photographs are shown on Figures 3 and 4. The ash deposits extend about 29 feet from the pipe outlet on the pre-1981 landfill bank. The lower end of the ash area is contained in area of depressed ground such that no ash has left the immediate area of the discharge pipe.

The objectives of this work plan are to characterize the nature and extent of the ash deposits, and any impacts to soil and groundwater quality in the vicinity of the site. The work will be conducted in general accordance with the requirements set forth in Env-Or 605.08 for an Initial Site Characterization.

DISCUSSION

The ash deposits cover an area of about 170 square feet. With an average thickness of about 3 inches, a total ash volume of about 1.5 cubic yards is estimated. The pre-1981 landfill

encompasses about 25,000 square feet. Assuming an average thickness of 5 feet (the down slope bank is about 10 feet high), the pre-1981 landfill contains about 4,600 cubic yards of waste.

The pre-1981 landfill was operated as a municipal solid waste burning dump, and subsequently as an area for burning wood and brush. The waste in the pre-1981 landfill is therefore expected to be similar to the recent incinerator ash composition relative to metals content. Since the volume of waste in the pre-1981 landfill is roughly 3,000 times larger than the recent ash deposits, any impacts to groundwater quality from the recent ash deposits will be masked by impacts (if any) from the larger ash landfill. Further, since the recent ash deposits overlap and are contiguous to the down slope limits of the pre-1981 landfill, it is not possible to separately attribute any groundwater quality impacts to these ash deposits through the installation of monitoring wells.

Shallow groundwater flow is expected to follow topography and discharge into Tilton Brook. The brook is located about 400 feet down slope of the ash deposits. The area between the site and the brook is undeveloped woodland. Considering the steeply sloped nature of this land, the presence of wetlands, and the land locked nature of the area, the land between the landfill/ash deposits and the brook is unlikely to be developed in the future. The only potential groundwater receptor therefore is Tilton Brook.

Water quality in Tilton Brook has been sampled 13 times over a time period spanning the six year operation of the incinerator. The surface water is tested for RCRA metals, iron, manganese, chloride, nitrate, total Kjeldahl nitrogen, sulfate, chemical oxygen demand, specific conductance, pH and temperature. Water is sampled at an upstream location (SG-1/SW-1) north of the landfill at the access road crossing of the brook, and down slope of the C/D Landfill (SW-2) several hundred feet down stream of the ash deposits. Table 1 includes a summary of water quality results from the brook. The laboratory data indicate no impacts to surface water quality from any operations at the site, and are indicative of background water quality.

SCOPE OF WORK

Task 1 – Field Investigations and Testing

CMA Engineers will collect three samples of the ash and the underlying soil at the locations shown on Figure 3. The samples will be obtained using a disposable, one time use trowel, scoop or spade. The sample of ash will be taken from the full depth of the ash deposits. The sample of the underlying soil will be representative of the upper six inches of soil underlying the ash. The samples will be analyzed by Eastern Analytical, Inc. of Concord, New Hampshire. Each sample will be tested for TCLP RCRA metals (EPA Method 1311) and total RCRA metals (EPA Method 6020).

The purpose of the ash testing is to determine whether the ash is considered hazardous. If not, it will be excavated, combined with other incinerator ash generated at the facility, and disposed at a permitted solid waste landfill. If the ash is determined to be hazardous, it will be handled as a hazardous waste and be disposed at a permitted hazardous waste facility in full accordance with the Hazardous Waste Rules.

The purpose of the soil testing is to characterize the impacts of the ash on soil quality. Soil that is determined to be non-hazardous, and having levels of metals below their respective soil remediation standards per Table 600-2 in Env-Or 600, will be left in place, covered with topsoil and seeded. Soil exceeding one of these standards will be removed and disposed of at an appropriate solid or hazardous waste facility. Complete removal of contaminated soil will be documented by test results (three per testing round) of the excavation bottom and side walls indicating the remaining soil metals concentrations are below relevant hazardousness or remediation standards.

As described above, groundwater quality testing to determine impacts from the recent ash deposits is not viable due to the size and proximity of the pre-1981 landfill, or necessary given the results of surface water quality testing completed to date.

Task 2 – Reporting

CMA Engineers will prepare a report presenting the results of the field investigations. The report will include all laboratory results and a discussion of the data. Recommendations will be provided for additional work if necessary, such as additional soil sampling if results indicate metal levels over relevant standards, and for the proper disposal of the ash and soil if necessary. The report will include a narrative on how and when releases of ash have occurred.

SCHEDULE

CMA Engineers will conduct the field work and laboratory testing, and complete the report within 30 days of receiving DES approval of the work plan, provide such approval is not granted during frozen ground conditions.

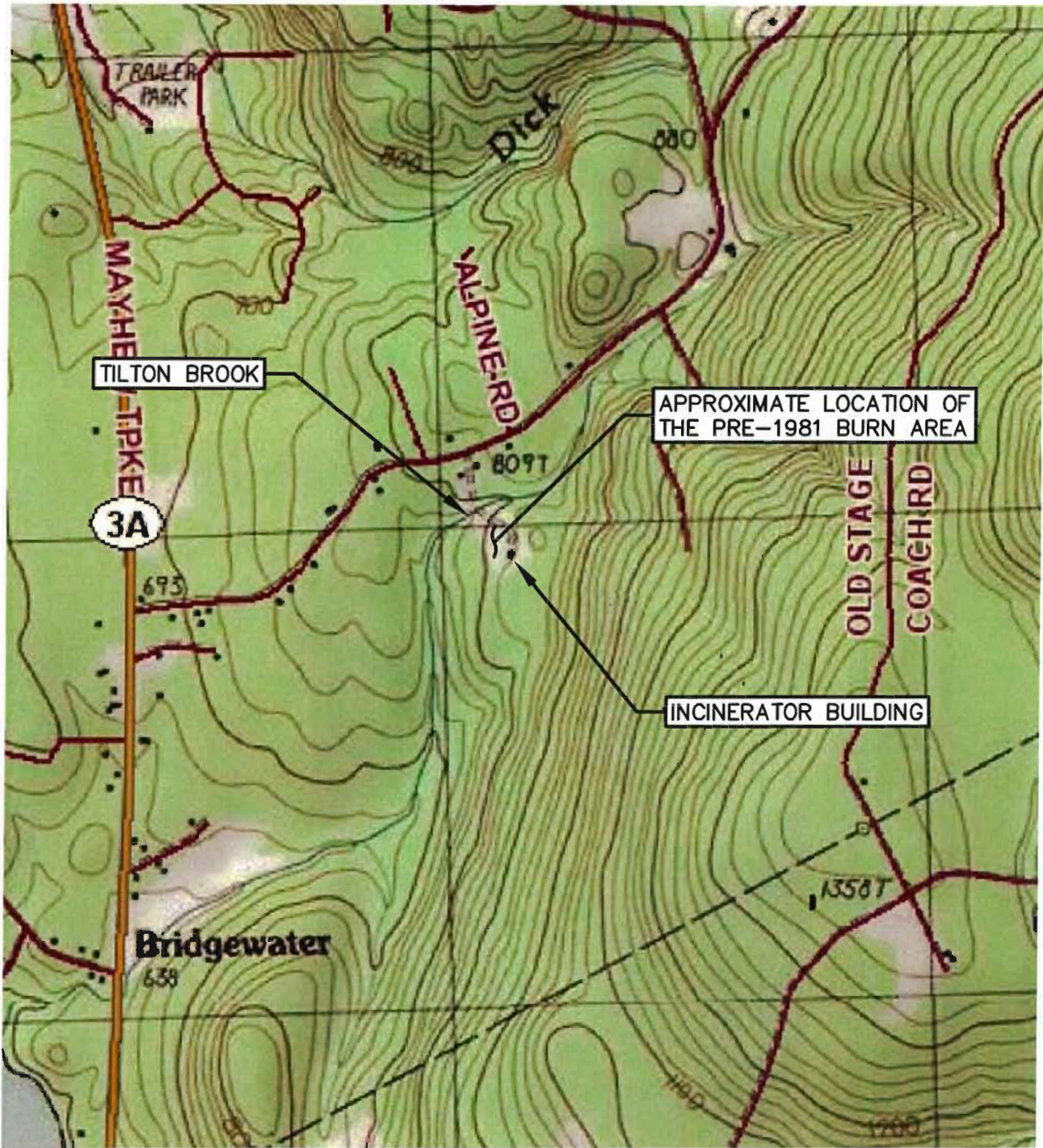
Attachments: Figures 1 -3
Table 1
Appendix A - Photographs

Table

Table :1 Inorganic and Indicator Concentrations (mg/L)

Figures

<i>Figure 1</i>	<i>USGS Locus Plan</i>
<i>Figure 2</i>	<i>Ash Area Plan</i>
<i>Figure 3</i>	<i>Ash at Outfall Pipe</i>



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*H-B Refuse District
 Bridgewater, New Hampshire
 Initial Site Characterization
 Ash At Outfall Pipe*

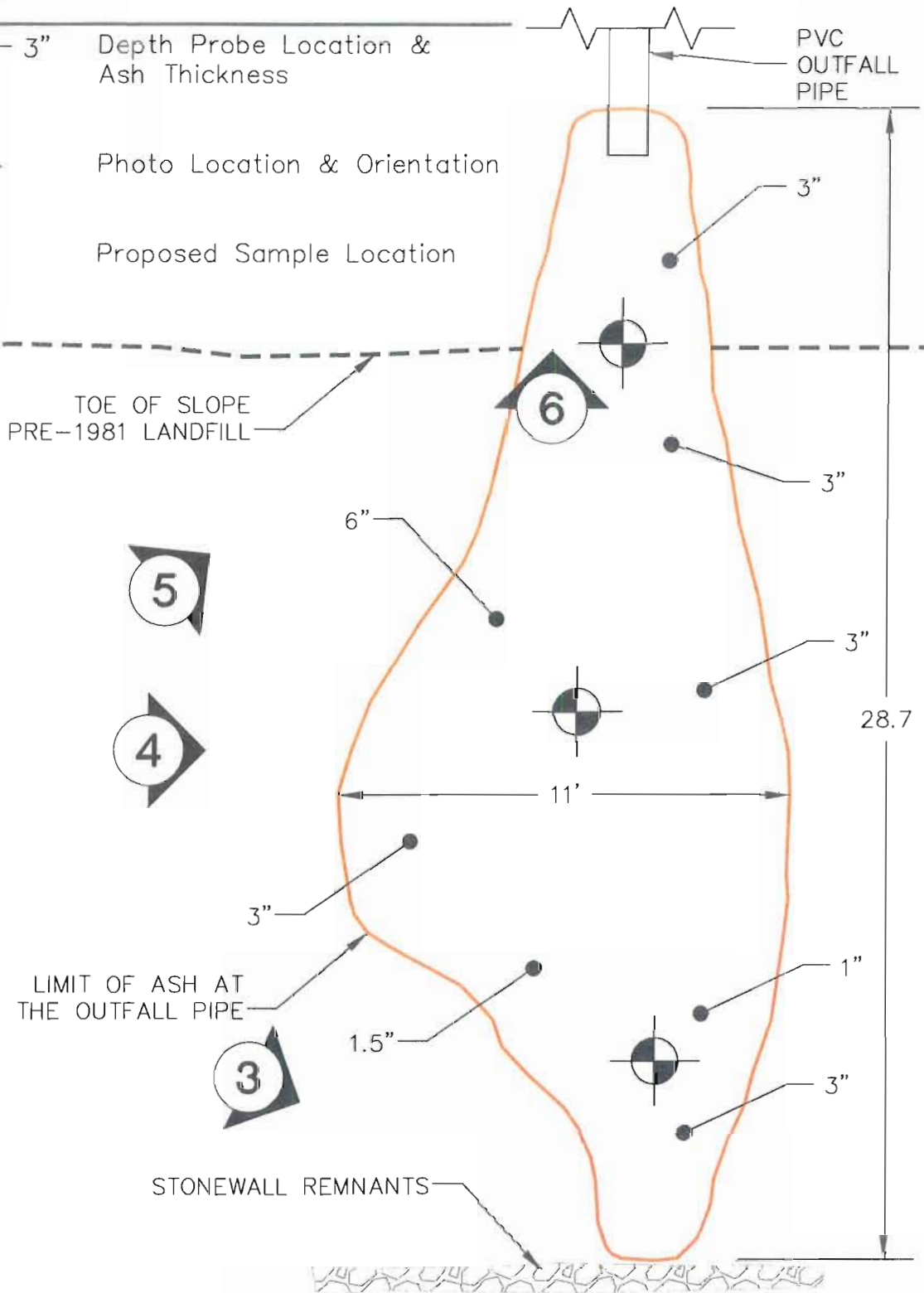
USGS Locus Plan

Scale: 1" = 1,000'

Figure 1

Legend:

-  3" Depth Probe Location & Ash Thickness
-  1 Photo Location & Orientation
-  Proposed Sample Location



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H-B Refuse District
Bridgewater, New Hampshire
Initial Site Characterization
Ash At Outfall Pipe

Ash at Outfall Pipe

Scale: 1" = 4'

Figure 3

APPENDIX A

Photographs



1 - Incinerator and Pre-1981



2 - Pre-1981 Landfill



3 - Lower Portion of Ash Area



4 - Middle Portion of Ash Area



5 - Upper Portion of Ash Area



6 - PVC Outfall Pipe