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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

May 9, 1995

Mr. Dennis aRusso
Rhode Island Solid Waste Management Corporation
Central Landfill
65 Shun Pike
Johnston, RI 02919

RE: EPA Review of the *"Work Plan for Central Landfill, Operable Unit 2, Remedial Investigation, Task 3 - Stream Flow Measurements, March 1995".*

Dear Mr. aRusso:

EPA has reviewed the subject Work Plan and concurs with the proposed stream flow measurement locations and measurement procedures. However, we do not concur with the primary reason for obtaining the information and the general level of detail provided in this document is somewhat lacking. Does GZA intend to provide more detail in the Field Sampling Plan, OU2 Task 1? As stated in the EPA OSWER Directive 9355.3-01 "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA", October 1988, the Field Sampling Plan "should be written so that a field sampling team unfamiliar with the site would be able to gather the ... field information required." Typically, a detailed "Field Sampling Plan" should be prepared which provides guidance by defining **in detail** the sampling and/or, **in this case, data gathering methods** to be used.

Specific Comments

1) Page 1, Section 1.00: GZA states that the primary objective of this stream flow study is to assess "the potential effects that the extraction of groundwater at the site could have on the streams, and adjacent wetlands..."

   The objective stated in Section 5.50 of the Draft OU2 RI Work Plan, May 1993, was "to obtain discharge measurements at various locations at the site to better estimate groundwater baseflow and general hydrologic budget of the contributory watershed. The information gathered will be used in the mass balance/contaminant dilution computations to assess water quality impacts [and ecological impacts] to the Upper Simmons Reservoir." This objective should be included in the subject work plan. Also, how will

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the stream flow measurements be used to prove GZAs hypotheses that all the groundwater flowing from the site toward the Upper Simmons Reservoir, discharges to the Upper Simmons Reservoir and not under the Upper Simmons Reservoir?

2) Page 1, Section 1.00, second paragraph: Typographical error (?) - change "adequate" to "aquatic" (?)

3) Page 1, Section 1.00, third paragraph: More detail should be provided on how GZA plans to use the meteorological data from the Scituate Reservoir and USGS stream gauging data from other streams to help interpret data collected during the one year study.

4) Page 2, Section 3.21: More detail should be presented on the installation and maintenance of all staff gauges. To provide the best possible accuracy in discharge measurements, careful selection of the installation location is crucial. The staff gauge must be installed away from any "drawdown" effect from the weir. Will installing the staff gauge in three feet of sediment at the Upper/Lower Simmons Reservoir Weir be stable? The staff gauge elevation should be checked or resurveyed if damaged or moved by debris, ice, vandalism, etc. All debris should be removed from the discharge points prior to collection of water level measurements. The debris (as shown in the photographs) may cause backwater effects or mounding of the surface water.

   A complete reference for "Hwang, Hita - 1987" should be provided so the reviewer can properly evaluate the use of the presented equation in this situation. Units of measurement should be provided for each variable of the equation. "H" should read "Height **of water** above weir". "q" should be defined, with units, in list with other variables.

5) Page 3, Section 3.22, third paragraph: Again, provide full reference for the equation listed, as noted in comment 4 above.

6) Pages 2-3, Section 3.21: GZA states that there appears to be no good way to measure the seepage that occurs through the dam. However, if feasible, it is recommended that personnel experienced in flow discharge measurements attempt to use best professional judgement to **estimate** the seepage which occurs through the face of the dam, and incorporate this estimated discharge into the flow rate to correct the flow measurements, rather than leaving it out altogether.

7) Page 4, Section 3.30: The qualifications of the RISWMC personnel to be responsible for the weir monitorings should be presented, as determined by **experience and/or training**. In addition to the fairly straightforward task of reading and recording water levels, pertinent field observations at the time of stream flow measurements will be required and may be critical in the interpretation of the data to be collected (some potential types of pertinent observations are noted in comment 4 above). Therefore, trained, experienced personnel should perform these activities.

The work plan should be revised to address the comments provided above. As always, the RISWMC should check with the State to determine if they have any concerns. If you have any questions, please call me at (617) 573-5779.

Sincerely,

James M Brown

James M. Brown
Remedial Project Manager

cc: Dick Boynton, EPA
Al Klinger, EPA
Margaret McDonough
Tim Prior, USFW
Greg Fine, RIDEM
Ed Summerly, GZA GeoEnvironmental
Becky Cleaver, HNUS