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NAS SOUTH WEYMOUTH
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LETTER AND U S NAVY RESPONSE TO U S EPA REGION I COMMENTS REGARDING
BASIS OF DESIGN DOCUMENTS FOR SITE 1 WEST GATE LANDFILL NAS SOUTH
WEYMOUTH MA
09/29/2009
SHAW ENVIRONMENTAL AND INFRASTRUCTURE



September 29, 2009

Brian J. Helland
BRAC Program Management Office NE
4911 South Broad Street
Philadelphia, PA 19112-1303

**RE: RESPONSE TO BASIS OF DESIGN DOCUMENTS – WESTGATE LANDFILL
CLOSURE, NAS SOUTH WEYMOUTH, WEYMOUTH, MASSACHUSETTES.
CONTRACT N62470-08-D-1007, TASK ORDER WE03, SHAW PROJECT 136398**

Dear Mr. Helland:

The purpose of this correspondence is to respond to the comments received from the Environmental Protection Agency, dated August 21, 2009. Attached are the comments and our response. Comments will be addressed in the upcoming 30% design submittal. Due to the compressed design schedule, a revised Basis of Design will not be developed.

Thank you for providing Shaw Environmental & Infrastructure, Inc. with this opportunity. Should you have questions or comments please do not hesitate to call me at (609) 588-6349.

Sincerely,
Shaw Environmental, Inc

Steven Kawchak
Project Manager

Enclosures (1)

cc.
William Deane Shaw Environmental, Inc.
James Dunn Shaw Environmental, Inc.
Project File 136398

**Environmental Protection Agency
Region 1
Basis of Design Documents
Westgate Landfill Closure
NAS South Weymouth, Weymouth, Massachusetts**

September 2009

A. General Comments

1. **GC#1:** "One overriding concern is whether the cap configuration will minimize impacts on the hydrology of French Stream and the adjacent wetlands. Moving the apex of the cap farther east would apparently require top slopes steeper than 5% (5% is the minimum top slope by regulation and the ROD anticipated top slopes of approx. 5%). Steeper slopes will result in greater runoff velocity that should also be minimized."

RESPONSE: It is the intention of Shaw to minimize the impacts on the French Stream. The 30% Design will include grading which will accomplish this.

2. **GC#2:** "The West Gate Landfill cap should be designed so that its final footprint does not extend into the 100-year floodplain. Please provide calculations to demonstrate compliance with this requirement."

RESPONSE: The footprint for the landfill cap will not extend into the 100-year floodplain. Shaw will provide calculations to this effect with the 30% design submission.

3. **GC#3:** "The final grading plan (shown in Figure C-2) does not appear to satisfy the required design criteria (*i.e.*, 310 CMR 53(3)(p)2.a) that require minimization of hydrologic changes to resource areas. It appears that the grading plan will cause significantly more runoff to French Stream from both point and non-point sources under current conditions. Alternative cap configurations that minimize the hydrologic changes need to be developed, such as moving the apex of the landfill cap farther east to minimize the runoff volume to French Stream and reducing the length of the northern culvert that discharges to French Stream. Please clearly demonstrate with calculations that the impacts to the hydrology of French Stream will be minimal. The design of the landfill cap should not advance beyond the 30% stage until sufficient detail is presented to show that the design criteria can be met by the proposed design.

RESPONSE: Based on the results of the PDI, Shaw will evaluate options to minimize hydraulic changes to the resource areas, specifically the French Stream. These options will be incorporated into the 30% design submittal.

4. **GC#4:** "The statement that a drainage layer is not needed needs to be reconsidered in light of frost heave. A drainage layer of stone may minimize the impacts from frost heaving of the low permeability soil even if it is found to be unnecessary for drainage purposes. Please address this concern in the preliminary design.

RESPONSE: Shaw will take into account a frost heave condition and propose a design that will minimize the impacts to the low permeability cap. This will be addressed within the 30% design submittal.

5. **GC#5:** "When evaluating the need for a drainage layer to address infiltration, the design analysis should include a case using far rather than a good vegetative cover (e.g. a default evapotranspiration of twenty inches and a SCS curve number of 75) to provide a conservative assessment of the need for a drainage layer."

RESPONSE: Shaw will utilize a fair vegetative cover scenario when calculating the need for a drainage layer. This calculation will be consulted in the decision to include a drainage layer.

6. **GC#6:** "While landfill design requirements allow a maximum landfill side slope of 33%, which is recognized in the Record of Decision, the Record of Decision also specifies (page 35) that the landfill side slopes would be graded to create approximate 15% side slopes. The Basis of Design proposes side slopes up to 25%. Except where required to match the existing slope along French Stream, a design that incorporates side slopes of no more than 6H:1V to satisfy the ROD requirements must be evaluated."

RESPONSE: These options will be evaluated to the extent noted. All design will be in conformance with the restrictions detailed within the ROD.

B. Attachment A Comments

1. **p. 4-1, §4.0:** "Please clarify the text. While CERCLA cleanup at the West Gate Landfill does not require permits, the remedial action must satisfy the substantive requirements of the appropriate permits. Permits are required for activities conducted off site or that impact off site areas. The site boundary is currently the limit of contamination."

RESPONSE: The text "Permits are required for activities conducted off site or that impact off site areas. The site boundary is currently the limit of contamination" should be disregarded.

2. **p. 4-1, §4.1:**

- a) "The Basis of Design should note that the landfill is within the 200-foot riverfront area because French Stream is perennial (see 310 CMR 58.00). This resource area will impact a greater portion of the eastern side than the wetland buffer."

RESPONSE: Comment noted.

- b) "While 310 CMR 53(3)(p) allows the limited project for landfill closure, the interests associated with the resource areas in 310 CMR 53 through 58 must also be preserved. Please acknowledge"

RESPONSE: Acknowledge, Shaw will conform to 310 CMR 53 through 58.

- c) "The bullets consistently refer to "wetlands areas" when the regulations refer to "resource areas". Please refer to resource areas, which have a broader definition than wetland areas."

RESPONSE: Shaw will address all future wetlands areas as resource areas.

3. **p. 4-2, §4.2:**

- d) "Please change the title to Construction Storm Water Discharges." Although Massachusetts has proposed a storm water permitting program in its draft 314 CMR 21.00 regulations, EPA is the current permit authority for Construction General Storm water Permits. The proposed regulation defers to EPA [314 CMR 21.18(3)©] unless the discharge is not adequately regulated by the EPA. Please edit the text accordingly."

RESPONSE: Shaw will follow the EPA guidance on stormwater regulations and ensure all future text indicates such.

e) "Please refer to the Massachusetts Stormwater Handbook for best management practices."

4. p. 5-2, §5.3: : "In the sixth bullet, please change minimum to maximum "

RESPONSE: Concur.

5. p. 6-1, §6.2: "The proposed final cap system described is not consistent with Detail #1 on Figure C-3, please revise."

RESPONSE: Shaw will address in the 30% design submittal.

6. **Figure C-1:**

f) "The contour line that follows the southern extent of the landfill is labeled both 152 and 150. Please correct the elevation (Figure C-2 shows it at 150)"

RESPONSE: Elevation 150 is correct. Shaw will revise accordingly in future submittals.

g) "Please ensure that the most appropriate coordinate systems are used for this project, considering coordinate systems previously used for investigations at this site. NAD 83 and NAVD 88 are proposed, but are these systems compatible with data from the site? If not, data conversions will be required for proper long term monitoring activities."

RESPONSE: The Navy has previously agreed to utilize NAVD 88 for consistency.

7. **Figure C-2:**

h) "Please edit this figure to clearly identify the limits of the proposed landfill cap"

RESPONSE: Shaw will revise the line styles to indicate the limits more clearly in future submittals.

i) "Please edit the figure to identify what the dashed line around the perimeter of the landfill represents."

RESPONSE: This line will be removed from all future figures."

j) "Please edit the figure to clearly identify what the black dotted line along the southern edge of the landfill represents. It appears to represent the as-built limit of wetlands."

RESPONSE: An ID feature will be added to this line in future submittals.

k) "The dashed blue line is identified as the post and rail fence and Note #2 states that the actual location will be identified during the PDI. Please note that the fence installed before construction is not expected to be the same type of fence required post construction. The fence installed pre-construction is intended to prevent unauthorized access to contaminated materials and debris and includes the wetland area where debris exists. The fence installed post construction will not be designed to prevent access and is not expected to extend into the wetland. Please revise this figure accordingly."

RESPONSE: The fence line depicted on Figure C-2, and referred to in Note #2 is the post construction fence. The actual location of this fence will be finalized after the PDI. Figure C-2

does not indicate the location of the pre-construction fencing. This fencing will be placed along the perimeter before and during construction activities to act as site security.

- l) "The flow allowed to discharge to French Stream should be limited to minimize the hydrologic impact. Also, the discharge velocities (point and non-point flows) must not exceed the ROD-established maximum of four feet per second. The hydrologic impact of the point and non-point discharges to French Stream should be evaluated in the design and their impact on the 100 year flood elevation assessed."

RESPONSE: Concur.

- m) "An access road will be required, presumably at the northern corner. Contours and drainage may need to be adjusted to create the access road."

RESPONSE: Shaw will propose a final design which includes an access roadway. Grading will be such that the drainage patterns do not negatively impact the site."

8. **Figure C-3:**

- n) "Please include a geotextile barrier between the top of the low permeability layer and the fill material to discourage animals from burrowing into the low permeability layer in Detail #1."

RESPONSE: Shaw will include this revision in the 30% design."

- o) "Regarding Detail #2, EPA expects that the landfill cap will not extend below the 100-year flood elevation of French Stream. Please edit the BOD to acknowledge this and provide documentation of the 100 year flood elevation during the preliminary design stage"

RESPONSE: Shaw will provide calculations and documentation for the 100 year flood stage. The landfill cap limits will be relocated if they extend below the 100 year flood elevation."

- p) "Regarding Detail #2, the toe of the landfill cap needs to be protected from erosion owing to stream flows greater than the design criteria. Plan to include appropriately sized rip rap to protect the tow. EPA notes that an 8 foot long by 12 inch thick rip rap barrier was installed at the RDA."

RESPONSE: Shaw will provide toe protection in a manner similar to the RDA"

- q) "For all details, it is not appropriate to leave waste in place directly beneath the toe of the cap. All waster material, to depth that is within five feet of the toe of the cap should be removed and consolidated on the landfill. Please revise the design accordingly."

RESPONSE: Shaw will revise the design to consolidate all debris within five feet of the landfill cap limits to ensure that the toe of the cap has no debris beneath."