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May 11, 2009

Mr. David Fredette, PE  
City of New Bedford  
Department of Environmental Stewardship  
133 William Street  
New Bedford, Massachusetts 02740

Subject: April 2009 Cap Inspection  
Keith Middle School  
New Bedford, Massachusetts

Dear Mr. Fredette:

At the request of the City of New Bedford (City), TRC performed the fifth inspection of the protective cap installed at the Keith Middle School Site located at 225 Hathaway Boulevard in New Bedford, Massachusetts. A TRC representative conducted the inspection on April 24, 2009 in accordance with the Long-term Monitoring and Maintenance Implementation Plan (LMMIP) dated October 20, 2006 prepared by the BETA Group, Incorporated (BETA). The LMMIP requires three inspections per year in April, August and November to confirm that the cap is being properly maintained to prevent exposure to the impacted fill beneath.

The inspection consisted of a walking traverse of the entire Site with visual observations of the entire cap including the first floor concrete slab of the building, the courtyard within the building footprint, and concrete, asphalt and landscaped surfaces outside the building. Access to locked rooms within the building was provided by the facility engineer, Gary Gomes. The inspection was documented in a log book. Copies of the log book pages are presented as Attachment 1. The findings of the inspection are documented in a site-specific Cap Inspection Form (Attachment 2) provided in the LMMIP. Annotated photographs taken during the inspection are presented as Attachment 3.

Based on TRC's inspection, the concrete floor within the footprint of the building is currently acting to prevent exposure to the impacted fill beneath. The courtyard within the building and pavement and concrete surfaces outside the building were also acceptable.

The landscaped areas outside the building were acceptable with the exception of the following:

- There is sparse vegetation located on the steep slope at the southeastern corner, southern slope and southwestern corner of the Site property. The amount of vegetation remained stable since the previous inspection. A perimeter security fence installed around the Bethel A.M.E. property (immediately south of the KMS property) limits access to the southern end of the KMS cap. Sparse vegetation, visible from the KMS property, exists along portions of the top of slope.
- A shallow slope failure located on the steep slope between the wetland to the west and the southern parking lot to the east has been repaired. A photograph of the slope failure prior to the temporary repair is presented in Attachment 4. A permanent repair has been implemented and should not require additional work pending the reestablishment of vegetation around the repaired area.
- Sloughing riprap stabilization stone that is undermining the concrete fence support at the top of the slope and filling the outlet of the storm water drainage culvert on the west side of the Site. Design and planning of a permanent solution is currently underway.
- The cap slope (outside the perimeter fence) is becoming overgrown causing an increased potential for deep rooting vegetation and/or burrowing animals to become established. However, neither is presently an issue.

Areas of significant erosion were not present onsite at the time of the inspection. Significant erosion would include areas where rills or divets are present at depths greater than six inches and/or there is exposure of the underlying orange warning layer. Please refer to the attached Cap Inspection Form for additional details concerning observed conditions.

If you have any questions, please contact me at 978-656-3565.

Sincerely,



David M. Sullivan, LSP, CHMM  
Senior Project Manager

Attachments

# **Attachment 1**

## **Log Book**

SUNNY, 60's

LMS CAP INSPECTION

FRIDAY 4/24/09

0645 ALHAMILTON ARRIVES ONSITE AT  
KEITH MIDDLE SCHOOL TO CONDUCT THE  
APRIL CAP INSPECTION.

0700 G. GOMEZ, LMS FACILITY ENGINEER  
ARRIVES ONSITE. DISCUSS CONDITIONS  
OF CAP. NO ISSUES / NO AREAS OF

CRACKING. THE PROVIDED ACCESS TO  
AN AREA OF THE FIRST FLOOR TO  
CONDUCT INSPECTIONS. SCHOOL IS NOT

IN SESSION THIS WEEK. THE CONDUCTED  
INSPECTION: NO AREAS OF CRACKING

IN CONCRETE GREATER THAN 1/4-INCH

IN WIDTH WERE PRESENT IN ANY AREA  
WHERE CONCRETE IS VISIBLE. OTHER

AREAS OF THE FLOOR COVERED W/ TILES

→ ARE WELL MAINTAINED AND THERE  
IS NO EVIDENCE OF ANY SIGNIFICANT

WEAR OR SETTLEMENT. PIPE PENETRATIONS  
THROUGH FLOORING WERE INSPECTED. AND  
THERE IS NO CHANGE IN CONDITION.

1000 TIL CONDUCTED INSPECTION OF THE  
BUILDING EXTERIOR. ALL PAVED

AREAS ARE IN GOOD CONDITION. NO  
EVIDENCE OF CRACKING. ALL CONCRETE

WALKWAYS ARE IN EXCELLENT CONDITION

A. Hantz 4/24/09

SUNNY 60's

LMS CAP INSPECTION

4/24/09

WITH NO EVIDENCE OF CRACKING.  
ALL COURTYARDS ARE WELL MAINTAINED  
NO EVIDENCE OF CRACKING. TWO

MINOR DIVETS NOTICED IN GRASSED/  
LANDSCAPED AREAS. SEE INSPECTION  
FORM FOR LOCATIONS. BOTH AREAS,

DEPTHS ARE LESS THAN 1 INCHES.

CAP PERIMETER INSPECTED. NO  
AREAS OF SIGNIFICANT EROSION.

~~4/24/09~~  
~~4/24/09~~

**Attachment 2**

**Cap Inspection Form**

## CAP INSPECTION FORM KEITH MIDDLE SCHOOL

Use this inspection form to document cap inspections. If unacceptable conditions are observed, complete an additional form immediately after repairs are completed.

Inspection Date: April 24, 2009

Inspection by: Amy Hamilton

A. ASPHALT AND CONCRET PAVING – observe asphalt and concrete paving for cracking, holes, asphalt removed during construction, other damage.

All Asphalt and concrete paving acceptable? ☒ YES ☐ NO

If no, attach photograph ☐

If no, describe unacceptable condition:

Location

Condition

Describe any repairs to asphalt and/or concrete paving conducted since previous inspection

All repairs adequate ☐ YES ☐ NO

Photograph of repair attached ☐

B. INTERIOR CONCRETE FLOORS – observe concrete for cracking, holes, concrete removed during construction, other damage.

All interior concrete floors acceptable? ☒ YES ☐ NO

The two cracks in the boiler room floor are still less than ¼-inch wide. The majority of interior concrete floors are covered with tiles or other type of flooring material. Based on visual inspection and conversations with current employees, there are no breaches or other significant damage or deterioration of the interior surficial flooring materials or, where visible, concrete floors. No construction was occurring within the building at the time of the inspection. The interior floors are well maintained.

If no, attach photograph ☐

If no, describe unacceptable condition:

Location

Condition

Describe any repairs to interior concrete floors conducted since previous inspection

All repairs adequate ☐ YES ☐ NO

Photograph of repair attached ☐

C. LANDSCAPING – observe landscaping for erosion animal holes, excavation, erosion control vegetation health.

All landscaped areas acceptable? ☐ YES ☒ NO

If no, attach photograph ☒

If no, describe unacceptable condition:

Location: The southeastern end of the school property, the steep slope just above the wetland and to the west of the southern parking lot, two minor divets greater than 1 inch in depth.

Condition:

1. Overall, the landscaped areas surrounding the Keith Middle School (KMS) are in excellent condition and are well maintained. There were two minor divets in the landscaped areas that had depths greater than 1 inch. The first was located off the southwestern corner of the KMS building (approximately 30 feet), south of the first concrete walkway. See Photograph #15. The second was located against the front of the KMS building approximately 36 feet north of the main entrance. See Photograph #16.
2. The repair to the slope failure between the wetland to the west and the southern parking lot to the east is currently functioning as intended. The hay bales and silt fence are still in place as shown in Photograph #9. The erosion control blankets are still visible. There is minor erosion shown in Photograph #10.
3. Riprap stabilization rock placed around the outlet of one of the storm water drainage culverts is falling down the slope and filling the end of the culvert. The outlet in question is the fourth outlet south of the above ground oil storage tank. The falling riprap undermined the concrete fence support at the top of the slope. See Photographs #11 through #13. Photograph #13 shows a crack in the concrete support of the fence along the top of slope. The structural integrity of the fence may be compromised if the sloughing of the riprap continues. The cap soils beneath the riprap may also become exposed and susceptible to erosion. The area appears stable at the moment. The extent of erosion seems similar to the conditions observed during the previous inspection. See inspection report letter dated November 24, 2008, Attachment 3, Photographs #11 and #12.

Describe any repairs to landscaping since previous inspection: This is the fourth cap inspection to be completed as required by the December 2006 Long-term Monitoring Plan.

All repairs adequate ☐ YES ☐ NO      Photograph of repair attached ☐

D. Areas Not Inspected:  
Southern end of cap.

Reason:

Perimeter fence installed

A perimeter security fence installed around the Bethel A.M.E. property (immediately south of the KMS property) limits access to the southern end of the KMS cap.

Additional Notes: None

**Attachment 3**

**Site Inspection Photographs**



**SITE PHOTOGRAPHS**  
**April 2009 Cap Inspection**  
**Keith Middle School**  
**New Bedford, Massachusetts**



**1) Example of typical condition of interior flooring materials.**

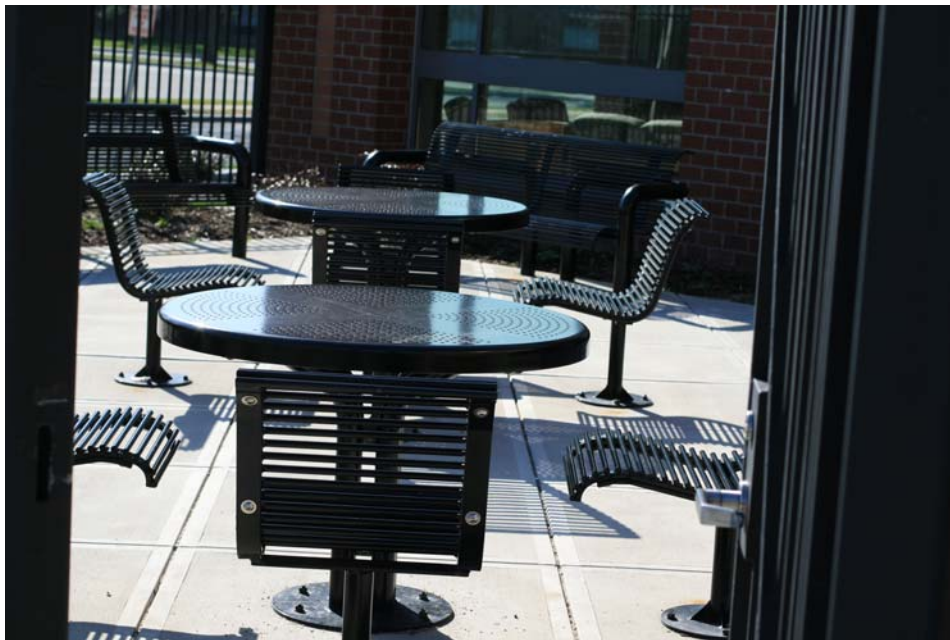


**2) Example of typical condition of interior flooring materials.**

**SITE PHOTOGRAPHS**  
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**3) Courtyard looking south.**



**4) Community Room/Faculty Lounge (014) courtyard facing southwest.**

**SITE PHOTOGRAPHS**  
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**5) Western side of the building facing south.**



**6) Landscaping along the northern side of the building facing west.**



**SITE PHOTOGRAPHS**  
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**7) Landscaping along the eastern side of the building facing north.**



**8) Southern parking lot facing northeast.**

**SITE PHOTOGRAPHS**  
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**9) Condition of slope repair in southwestern portion of cap facing south.**



**10) Minor erosion adjacent to slope repair facing southeast.**



**SITE PHOTOGRAPHS**  
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**11) Undercutting of fenceline at culvert outlet facing southeast.**



**12) Sloughing of riprap at culvert outfall facing southeast.**



**SITE PHOTOGRAPHS**  
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**13) Crack of concrete support at junction just south of riprap sloughing.**



**14) Condition of vegetation in eastern portion of cap south of above ground tank.**



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**15) Minor divet in flat grassed area off the building's southwestern corner.**



**16) Minor divet in landscaped area on the building's eastern face.**



**Attachment 4**

**Slope Failure Photograph**

