

SUMMARY OF THE DRAFT FEASIBILITY STUDY FOR EAST PARK CKD AREA

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Summary of the Draft Feasibility Study for East Park CKD Area

Over 80 years of cement manufacturing left behind an estimated 2.5 million cubic yards of cement kiln dust (CKD) at what is now known as Bay Harbor Properties and East Park. When water comes into contact with the CKD, it can leach substances from the CKD and potentially contaminate adjacent waters. CMS, a prior partner with Bay Harbor who retained environmental responsibility for the site, has been working since the summer of 2005 to implement interim measures to prevent leachate from entering Little Traverse Bay and work toward a solution that will address the problem permanently.

East Park, a public park owned by Resort Township, represents approximately 14% of the entire contaminated area with an estimated 360,000 cubic yards of CKD on site. Since East Park is a public property, priority was given to remediating this portion of the site first. Two documents were prepared by CMS in relation to remediating East Park. The first outlines the remedial investigation designed to determine the extent of contamination. The second is the feasibility study, which proposes remediation options for East Park.

The Feasibility Study considered the following Response Actions for CKD and leachate:

- Institutional controls (land development and use restrictions)
- Excavation with offsite disposal
- Excavation and reuse (recycling at another cement kiln or land application as nutrient or soil amendment)
- Excavation and treatment with offsite disposal or reuse
- Containment and isolation by onsite consolidation and covering (soil and/or liner)

- In-situ treatment such as chemical encapsulation, bottom liner, vertical barrier technology, dynamic compaction, and other engineering controls such as Accelerated Carbonation Technology
- Removal by extraction wells or collection trenches
- Upgradient extraction wells
- Upgradient diversion wells
- Vertical barriers
- Soil cover/impermeable cap
- In-situ treatment by neutralization

After evaluating the above various response actions based upon effectiveness, implementability, and cost, the following alternatives were proposed as long-term solutions by CMS. In parentheses is the predicted mercury loading for each alternative.*

- No Action (*8 mg/day, mercury load of 90 grams over 30 years*)
- CKD Consolidation and Cover, Ground Water Migration Control, Natural Attenuation, Ground Water Diversion, Treatment and Disposal of Ground Water, and Institutional Controls (*.5 mg/day, mercury load of less than 20 grams over 30 years*)
- CKD Consolidation and Cover, In-Situ Treatment of Ground Water, and Institutional Controls (*does not remove mercury or other chemicals of concern*)
- CKD Removal (*mercury load of 140-255 grams over 30 years*)

CMS prefers the second alternative.

*This document is draft and subject to additional ground water sampling for mercury expected to be completed in fall of 2009



Tip of the Mitt Watershed Council Comments

on Draft Feasibility Study for East Park CKD Area

Because safeguarding our waters is paramount to our mission, Tip of the Mitt Watershed Council has thoroughly reviewed and commented on multiple versions of the Remedial Investigation/Feasibility Study for East Park. Here are some of the primary concerns the Watershed Council has on the most recent Draft Feasibility Study for East Park.

FUNDING:

Priority should be placed upon obtaining financial assurance from CMS. We need a guarantee that funding will be available to effectively operate the long-term alternative. Further costs will be required to operate and maintain any long-term remedy beyond 30 years to ensure the permanent protection of Little Traverse Bay, aquatic habitat and species, and public health.

ECOLOGICAL INVESTIGATION:

Data from the ecological investigations could yield conclusions that alter the conclusions of the Remedial Investigation and, subsequently, the Feasibility Study and final remedy. The Ecological Investigation needs to be completed prior to final approval of the Feasibility Study.

MERCURY FLUX ANALYSIS:

While significant progress towards a complete analysis has been underway by the U.S Environmental Protection Agency, the final monitoring data and analysis is still needed. The results of this analysis could significantly alter current conclusions and, subsequently, needs to be finalized prior to final approval to ensure measures are adequately working to a sufficient level.

OTHER CONTAMINANTS OF CONCERN:

We need to ensure that the other Contaminants Of Concern within the leachate found to be in exceedance are being adequately controlled with the proposed remedial measures.

COLLECTION SYSTEM:

Contingency plans or secondary systems will ensure that the leachate does not contaminate the adjacent waters in the event of a shutdown of the collection system. Furthermore, additional or backup systems will enable the system to remain operational while maintenance is performed.

UPGRADIENT DIVERSION:

Upgradient diversion wells need to be designed to operate at maximum capacity to allow for the greatest prevention and sentinel wells need to be installed.

Monitoring requirements for collected water should be required, at least initially, to ensure water collected via upgradient diversion is not contaminated, especially if the water is to be used for irrigation by Resort Township.

LEACHATE MANAGEMENT/DISPOSAL:

Utilization of diverted ground water to alter contaminant flux, in essence dilution, should not be permitted as an acceptable action. Dilution will not reduce the overall level of heavy metals entering Little Traverse Bay, ultimately jeopardizing water quality, aquatic habitat, and human health.

Test wells can and should be drilled on site and in other areas to determine if suitable geologic formations exist for injection of leachate. All potential alternatives should be adequately evaluated.