



**To:** Marc MacLeod, General Manager, FRSWC

**From:** Crane Mountain Enhancement, Inc.

**Subject:** CMEI Priorities, FRSWC “Action Plan 2009”

**Date:** March 8, 2011

## **Introduction**

CMEI has been requested by the FRSWC General Manager to respond to his “Action Plan” with a statement regarding our priorities. Because the mandate of CMEI is to monitor the operations of the landfill and because the protection of the groundwater downgradient of the landfill is its primary concern, our priorities lie in two main areas: **understanding the flow system of the groundwater downgradient of the landfill** and **the testing and protection of the domestic wells downgradient of the landfill**. Our **other priorities** also involve ensuring ongoing protection of groundwater.

### **1. Understanding the groundwater flow system**

- a. Intermediate Well Locations:** Both the 2005 and 2009 ADI Reviews recommend that **deeper groundwater monitoring wells** be installed in order to adequately characterize the flow system and fracture network. It is our understanding that these deeper groundwater wells are important as a basis for the study of geochemical evolution (Priority 1 #2). Therefore CMEI sees the installation of these wells a high priority—to be installed prior to rather than subsequent to an examination of the flow system.
  
- b. CMEI considers the examination of **geochemical evolution in the groundwater flow system** (Priority 1 - #2) and **development of numerical models of groundwater flow and contaminant transport** (Priority 1 - #3) to be a high priority because the results from these studies are cited as potentially having an impact on several other items in the plan (Priority 2 - #2, #3 and #4 as cited in the Action Plan; also Priority 1 - #4 and #5.) Therefore, due to the potential for time lag between evaluation and completion, CMEI recommends that the **evaluation process start as soon as possible**. Because using university graduate students for this project may not be feasible, it is also recommended that use of a **private firm** and looking for **sources of funding for the work** be investigated **in the same time frame** as partnership with universities.**

## 2. Testing and protection of domestic wells

- a. CMEI has contended in numerous written documents over the years that the **testing and protection of domestic wells** is part of the **overall monitoring system of the landfill** and has also documented and verified that fact. Therefore CMEI cannot support the FRSWC's responses under priority 2: #s1-6. We support ADI's recommendation to "integrate the domestic well monitoring as a key component of the overall monitoring and reporting program."
- b. In reference to # 5 "General Chemistry Suite as per #94"-- the Approval to Operate, # 94 reads as follows: "for the purpose of this Approval, GENERAL CHEMISTRY shall include the following analyses." The following parameters in that list are **not currently included in the domestic well testing**: sulphide, chemical oxygen demand, colour, phenols, total suspended solids, and total kjeldahl nitrogen. (See also *Environmental Monitoring Program Annual Report 2009*, Appendix A: Compliance Monitoring.) CMEI requests that the complete list of General Chemistry parameters be included in all future domestic well testing.

## 3. Other priorities

- a. Several aspects of the Waste Commission's **underdrain testing** are currently being looked into as a result of questions from CMEI. We look forward to continued dialogue about this important issue (Priority 1, #6 in the Action Plan).
- b. CMEI agrees that one of our top priorities is the **setting of trigger concentrations**. We are also in agreement with the General Manager that some mechanism for identifying adverse trends and acting on them before trigger concentrations are reached is wise and proactive. We do however, stand by the recommendations in the 2009 ADI Update Review for the methodology and expertise needed for setting the actual trigger concentrations (priority 1 - #4) and standard statistical data interpretation (priority 1 - #5).
- c. CMEI made a presentation to the Waste Commission about various questions and concerns related to **Perpetual Care and Landfill Life (Priority 3)**. We trust that the issues raised and carefully documented in that report will be studied and responded to. The problems cited in the report concerning the use of Cell One performance for "end date" should be taken into consideration. Priority 3, Item #2 refers to a "Current Report" that is "completed." CMEI would like a copy of that report.

## **Conclusion**

After consideration of our mandate and careful study of the Waste Commission's "Action Plan," CMEI has determined that the above are our current priorities. We have also been requested to refrain from reporting on or raising concerns about these issues more than once. However, because of the changing nature of the effects of landfills on the environment, CMEI reserves the right to speak to the Waste Commission and/or the Department of the Environment about any of the issues raised in the ADI 2005 and 2009 Reviews and listed in the FRSWC "Action Plan" more than one time as new concerns arise or decisions are made. With due respect, we believe that we would not be responsibly fulfilling our mandate if we were to agree to any such restriction.

(CMEI would like to make several comments on and corrections to the "Action Plan" as it is presented:

**Cover Page:** The FRSWC received ADI's "2009 Update-Independent External Review of the Landfill" in November, 2009, not March 2010. Second, the title of the document is misleading because the target dates "are not commitment to completion, but a commitment to an evaluation timeline." Therefore, it is suggested that a more accurate title for the document would be "FRSWC Plan for Evaluation of ADI 2009 Update Review."

**Categories:** To correlate with the ADI Review, Domestic Wells should be numbered as part of Priority One, Groundwater Resource Protection, not Priority Two, Landfill Construction, Operation and Management.)

Board of Directors  
Crane Mountain Enhancement Inc.  
Tom Simpson, Chair