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October 19, 2011

Lake Isabella Property Owners Association
1096 Queens Way
Lake Isabella, MI 48893

Dear Al;

I would like to preface this memo by restating a fact that you likely already are aware of; simply, the Village of Lake Isabella has no formal position on whether or not a winter draw down is the best action for the care and management of the lake. The Village respects the unique relationship that our two organizations have and in no manner desires to take over the care or management of the lake. We value the role that the LIPOA plays in the community, and look forward to working together as partners to keep Lake Isabella the most desirable place to live in mid-Michigan.

It is that desire which has prompted the Village Council to direct me to send this memo to you and the board of directors of the LIPOA. It should go without saying that the single most vital piece of infrastructure we have as a community is the Lake Isabella Dam. To be clear, when I reference the dam I am referring to the entire structure which impounds the waters of the Chippewa River. This includes the concrete super structure and spillway, the sluice gate, and the earthen embankment. These three things have their own unique structural functions and all need to be maintained in the highest condition possible.

In recent weeks a number of documents have been presented to the Village regarding the care and condition of the dam which concern us. These concerns come from our obligation to represent the interests of all property owners in the community. Our geographical boundaries contain significantly more area than is found in the plats which make up the LIPOA. This includes all of the waterfront owners on Lake Isabella.

The documents shared with the Village have all been prepared by outside professional civil engineers and when they are collectively viewed raises several items which the Village feels requires the immediate attention of the LIPOA.

To begin with, multiple reports going back to 1979 stress the need for a formal Operation & Maintenance Manual for the dam. In the 2007 report prepared by Lapham Associates they note that this plan should include, at a minimum, the following elements:

- A monthly inspection requirement, with a written checklist of commonly found problems.

- A clear record keeping system of all events related to the dam.
- A record keeping system of water flow and elevation.
- A copy of the emergency action plan.

The 2010 report from Spicer Group (three years after the Lapham Associates report) goes on to note that no formal Operation and Maintenance Manual or plan exists, and that one needs to be adopted. A plan of this nature is needed to ensure that as staff and board members turn-over at the LIPOA, there is consistent care and operation of the dam. This plan would help monitor the integrity of the dam and establish clear lines of procedure to follow in emergency situations and peak flow events.

With respect to the earthen berm there are several items of concern that we would like to see addressed by the LIPOA. In 2007 Lapham Associates noted that the toe drains have appeared to have failed. This is detailed on page 8 of their report. At that time Lapham Associates noted only minor seepage being observed.

Three years later the inspection from the Spicer Group also notes the seepage on page 6 on their review of the embankment. Specifically, *“seepage was observed along the downstream end of the left side interface between the earthen embankment and concrete spillway. This seepage is likely traveling along the interface for the entire length of the spillway...”*

With respect to seepage, the Michigan Department of Environmental Quality notes that *“regular monitoring is essential to detect seepage and prevent failure. Without knowledge of the dam’s history the owner or inspector has no idea whether the seepage conditions is in a steady or changing state.”* The MDEQ goes on to further note that *“It is important to keep written records of points of seepage exit, quantity and content of flow, size of wet area, and evidence of flow carrying soil particles.”*

In the absence of a formal Operation & Maintenance Manual for the dam, the Village would like to inquire as to how the LIPOA has been monitoring the seepage reported since 2007, and what plans the LIPOA has for addressing the failed toe-drains under the dam. Based on the 2007 and 2010 reports, it appears that the seepage problem may in fact be getting worse based solely on the comments of the reports. We believe that this is a serious matter which requires the immediate attention and focus of the LIPOA. It also should be noted that the Spicer Group gave the embankment a rating a *“fair.”* This rating contains the following statement on page 2 of their report, *“risk may be in the range to take further action.”*

In addition to the seepage and toe-drain issues, the Village feels that additional care is needed to ensure the earthen embankment is not compromised. This includes regular mowing, fertilizing grass in the fall to ensure a thick growth the following the year, and regular inspections for burrowing animal holes. We also feel that the level of public access should be reviewed. This includes an evaluation of continuing to allow the golf course to use the top of the embankment as a tee box. We believe research needs to be conducted on whether or not this activity and continued watering may in anyway harm the embankment or may be connected to the observed seepage.

The Village would also request clarification on the use of the emergency sluice gate to conduct a winter draw down. The design and purpose of this gate is solely for emergency situations where in order to protect the integrity of the entire dam additional water must be released downstream, or to lower the water level in the lake to conduct repairs on the dam. We have received a memo dated October 3, 2011 from Brandon Mieras of Williams & Works which explains that in detail.

Mr. Mieras notes that *“Operation of these repaired gates in a partially opened configuration will make them more susceptible to vibration damage as has been seen in the past.”* It is clear to the Village that the cause of the past damage to the gate was its continued use for winter draw downs. The risk for damage is even higher when the gate is left in a partially opened state. It is our understanding that the LIPOA is planning on limiting this year’s draw down to 4 feet. The Village has great concern over leaving the gate partially open for entire winter. The sluice gate is not designed for this purpose and we fear using it in this capacity may seriously compromise the gate working properly in an emergency situation.

The purpose of the gate for use in emergency situations and for maintenance purposes is also reinforced by the correspondence from the Saginaw Chippewa Indian Tribe on Friday, October 14th. The concerns shared by the water quality specialist note that releasing large volumes of water from the bottom of the dam will result in environmental damage due to amount of sediment and decaying matter that have accumulated since the last draw down over a decade ago. It will also compromise the water quality by introducing large amounts of water that are void of dissolved oxygen. We believe that the concerns of the Saginaw Chippewa Indian Tribe need to be respected and taken very seriously by the LIPOA.

It has also come to our attention that the LIPOA is considering at least two alterations to the dam. The first is being referred to as a “belt and suspender” system to provide counterforce against the sluice gate when partially opened to protect against future damage. The second is a rebar screen on the corrugated intake pipe to the sluice box. The Village would like to request that before any modifications to the dam are made that the plans be reviewed by our engineering firm. This will be at no cost to the LIPOA, and is being offered as a sign of good faith on the part of the Village.

Likewise, we would like to remind you that under Michigan Law (MCL 324.31507) a dam shall not be repaired or altered except as provided for under the Michigan Natural Resources and Environment Protection Act (Public Act 451 of 1994). That act goes on to require that a permit be obtained from the MDEQ for all dam repairs or alterations. Concerns have been shared with the Village that these alterations to the intake pipe or sluice box/gate may be done without seeking an MDEQ permit. This is unacceptable to the Village, and we are prepared to take action to prevent any unpermitted modifications to the Lake Isabella dam.

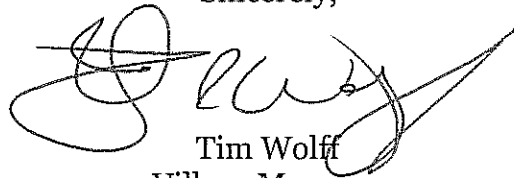
We are also prepared to take action to prevent the future use of the sluice gate for seasonal draw downs if the use of the sluice gate results in damage which could jeopardize the dam in a peak storm/flow event. We feel that the ability to properly operate the sluice gate is critically important to not only the dam, but also downstream

residents. It was noted by the U.S. Army Corps of Engineers I 1979 that “the dam can be expected to overtop” during a peak flow event. Overtopping of the dam could result in a major failure with loss of life and property. It is for this reason that the Lake Isabella dam is classified as a “High Hazard dam.”

We understand that the LIPOA has limited financial resources. It is for that reason that Village is willing to consider partnering with the LIPOA in any large scale repairs that may be needed. This would be done via our special assessment powers and only as part of a plan on the future care and operation of the dam that our two organizations can jointly endorse.

We look forward to your prompt reply to the concerns raised in this memo.

Sincerely,



Tim Wolff
Village Manager

CC: Kip Cronk, MDEQ
Jim Pawloski, MDEQ
Rick Jakubiec, Isabella County Drain Commissioner