
Lake Columbia Dredging Project – 2008

July 28, 2008

Presentation to L.C.P.O.A. Board of Directors:

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INTENT OF PRESENTATION

The purpose of this report is three-fold.

First; to provide a detailed presentation of the current conditions at the South Canal with information regarding the last dredging project completed in 1999, including the results of that project. Past and recent engineering reports confirm that silt has always been a problem primarily concentrated at the southern end of the Lake at the Goose Creek inlet, and if allowed to continue unchecked, will detrimentally affect the water quality of the *entire* Lake.

Secondly; to request further studies and testing to confirm the need for a new dredging project to remove, dispose of in a leased or purchased containment area and to maintain the infestation of sediment, chemicals and weeds on an annual basis which negatively affect the quality of water at Lake Columbia.

And finally; to establish a committee, approved by the Board, whose agenda would be to address the issues relating to the silt, weeds, chemicals, and other related issues, including but not limited to the water quality of all of Lake Columbia and methods of correcting all of these issues in a better, long-lasting and cost effective way.

I have provided two poster boards including a number of pictures for your review that I'll leave with the presentation letter you've received today for your further consideration. As you will see, I have spent time during my investigations trying to understand what happened with the past dredging project and why it failed to provide a long term solution

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to the silt and weed infestation problems. Based on the documentation available at the Association office, most of the issues addressed in this presentation were as important in 1994-99 as they are today. It took five years, two engineering studies, and numerous L.C.P.O.A. participants to produce the past dredging project, but they were left with problems in the final results which ultimately allowed the south canal to return to the conditions originally experienced in 1994.

1. Current Conditions of Lake Columbia

- a. Lake Columbia is a man made lake which, when developed in the late 1950's and early 1960's converted woods, fields, a stream and other types of vegetative areas into a lake. It's a natural phenomenon for this lake to attempt to revert back to its original condition and there are areas which will always fight this battle on some level as long as it remains a lake.
- b. The south canal is negatively affected more than any other part of the lake as it's the point of entry for Goose Creek, the source of water for the lake and even though this area was dredged just nine years ago, it has filled with silt and weeds again and is in much the same condition as it was at the time of the last dredging. Lily pads move closer to the shore line every year, the silt gets deeper and the weeds have become nearly uncontrollable.
- c. Some of the south canal residents who have lived here from ten to twenty years talk about their children swimming off of the seawall at their property and stepping into a sandy bottom as far south as Lots 16 & 17. After the last dredging was completed they could swim there again for a short time.
- d. The silt entering the lake from the runoff of farms and roadways through Goose Creek is extremely fertile due to the silky consistency and the amounts and types of chemicals that are present.
- e. The large bay north of the "no wake" buoys which leads from the main body of water into the south canal is completely covered in weeds but is deep enough that boats can navigate the area.
- f. Weeds thrive on silt and grow extremely well in it. The more weeds that grow, the more silt is held in place inhibiting the flow of water and creating more weeds. This creates additional costs for weed treatments. The silt creates a "suction" holding whatever is placed in it.

- g. A major concern for the Association which has not previously been discussed is if a small child were to fall into the water, the child could be captured in the silt and not be able to pull its feet out. This is, of course, my opinion but it's based on my experience in attempting to place lifts, docks, and to simply work in the water at my shoreline and having my feet sink into the sedimentation.
- h. Areas of significant amounts of weeds are breeding grounds for fish. When fish deposit eggs for spawning with the presence of silt, the silt quickly covers them and they die creating additional costs in re-stocking the lake with fish.
- i. Andy Tomaszewski of the company who treats our weeds stated in an email on May 26, 2008, (see poster board), that "The last time, this area, (was treated), (the south canal), basically re-infested the lake with milfoil. He also indicated to June in the same email, that the re-application of Sonar should happen in 2009 instead of the originally planned date of 2010. Why spend an enormous amount of money on a product that only works marginally on portions of the lake? Shouldn't we look at alternative methods of treatment?"

2. Overview of the Past Dredging Project

- a. In 1994, an in-depth engineering report was provided by Cochran & Wilken, Inc. Consulting Engineers, (see poster board), which, in brief states that the infestation in the south canal created approximately 40,000 to 45,000 cu. yds. of sediment which needed to be removed and a disposal site of approximately eight acres would be required to accept this material. Bid requests, (RFP's), dated May 26, 1999 which were used by the committee in acquiring bids from dredging company's, reflect a sediment disposal area of 110,000 sf, 110' x 1100', (no depth is indicated), and the land lease between the Pelhams and L.C.P.O.A. dated August 4, 1999, reflects a sediment disposal area of 120,000 sf, 100' x 1200', (no depth is indicated). I called the office of Cochran & Wilken but learned that their phone has been disconnected. After further review I discovered that another engineering firm, Midwest Marine, provided another report in 1997 which stated that the silt depth was between 4' and 6', the water depth in certain areas was only 6" and recommended that 20,000 cu. yds. of material be removed. There's no data indicating which report is correct.
- b. A map of the proposed dredging area from 1999, (see poster board), was utilized in the past dredging project which indicates that at lot 20, the distance from the shore line to the limits of the dredging is 75'. At the moment, the distance from the shore line to the silt and lily pads at my property, Lot 25 &

half of Lot 24, is approximately 40'. The further south you travel there is barely enough room to navigate boats in and out of the canal.

The map also indicates that the area which is currently covered in lily pads was to be cleared and left completely open to navigation after the dredging and that the "firm bottom depth" is 6'. The water depth there is currently approximately 6".

- c. Near the end of the dredging operation, there was approximately \$35,000 remaining in the budget but the project had to be stopped before all material was removed due to the fact that the disposal site was not large enough to accept all of the material that was scheduled to be removed.
- d. After the dredging was completed, the disposal site leaked and the sediment which was removed spilled from the disposal site into Goose Creek and back into the south canal.
- e. Looking at the map of the previous dredging project, the entire area of lily pads which is currently overtaking the south canal that was identified in item 2-b above, was to be cleared during the last dredging. This area was not completely dredged due to the fact that there were stumps in the area that weren't identified during the engineering phase so they couldn't dredge this area. The stumps were not removed at that time.
- f. Either the engineering was not accurate or changes were made ignoring the report contributing to the current condition of this area. It's clear that adequate and correct engineering and planning is crucial to making an educated decision as to the size of the disposal site so this problem can be corrected and easily managed, cost effectively into the future.
- g. The underground pipe leading from the dredge area to the disposal site under Cement City Road is still in place. This may or may not be able to be utilized in the future, depending on the future disposal site which is chosen.

3. Proposed Solutions Regarding Dredging & Weed Treatment:

- a. Request bids from biologists for the study of vegetation and aquatic life to determine solutions to weed problems. This will eliminate reliance on *opinions* of companies whose income is based on treating the weeds and place it in the hands of an independent testing company whose *contractual obligation* will be to provide solutions to the weed infestation.

- b. Request multiple bids from engineering companies for expanded studies of the water quality, silt infestation and other issues utilizing the last report by Progressive AE as a point of beginning.
- c. The chosen engineering firm will identify all areas of concern throughout Lake Columbia to determine locations that require attention in addition to the south canal and determine a total quantity of materials to be removed.
- d. Utilize previous dredging map which was approved and permitted for the previous dredging project, identifying the limits of the dredging area to simplify the new approval and permitting process, updating it with new technology.
- e. Search for a disposal site which is large enough to accept all dredged materials to avoid the previous situation of not having a large enough disposal site to contain all of the spoils that are removed.
- f. Once a disposal site is leased or purchased, submit applications to the governing bodies having authority.
- g. After approvals are received from the governing body, submit requests for bids from multiple dredging companies to perform the dredging of the lake.

The initial dredging project would occur at the south canal as that is the main source of the sediment infestation which is creating additional problems throughout the lake. Once this is completed, we would start working north up the lake and work on all areas affected by sedimentation and weeds until the lake is clean and contains an acceptable amount of weeds. I would propose that a "long term plan" be implemented so that the costs for this project are combined with other projects such as signage and other improvements which will increase the living standard and water quality of the entire lake.

4. Weed Treatments:

The cost of treating the weeds is enormous and the treatments have not been effective in a large portion of the lake. The Association paid approximately \$118,000 for the initial Sonar treatment in 2006 with a follow up treatment that cost \$3,150 that year, then \$24,490 in 2007 for additional "touch up" and currently we have spent a total of \$26,020 this year and there should be another treatment in August to keep the area relatively clear of weeds through the end of the boating season. This money is being spent for a chemical product at a time when the entire country is proposing that we look to "Green Solutions" to solve our environmental issues. Some members may think weed control is

a separate problem from the dredging issue, but it's not. Both issues are integral to each other and are both a part of the entire water quality problem throughout Lake Columbia.

INFORMATIONAL REFERENCES

5. Progressive AE Report – 2008:

Paul Hausler
Water Resources
Civil Engineering Division
1811 4 Mile Road, NE

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This report, (posted on the L.C.P.O.A. web site), states that “since Lake Columbia was past dredged in 1999, significant sediment accumulation has occurred in Lake Columbia at the mouth of Goose Creek. Dredging will be required to effectively improve conditions in this portion of the lake”.

Mr. Hausler, the engineer who performed the in-field portion of the study, stated to me in a telephone conversation last month that, “**what is occurring at the south end of the lake is affecting the entire lake**”. At first glance, it may not be obvious in some areas, but simply look at the lake floor at any sand bar or at the island and you can see that the bottom is no longer sandy and that silt has infested all areas and weeds are spreading throughout the lake from the south canal.

According to Mr. Hausler, the study was limited at the direction of the past Board of Directors and the storm drain study was requested by the previous Board because, as he was told, “the Board was “getting heat” from the membership for paying too much attention to the south canal”. Mr. Hausler stated that the storm drain study was unnecessary and provided little, or in the case of the majority of the drains, no evidence of contribution to sediment infestation. He stated that a more in-depth study would need to be conducted to completely understand the condition of the lake as a whole.

The silt in the south currently averages approximately 1.7' in depth. There are areas where it is as deep as 5'. The average depth in 1999 was approximately 2.25'. These numbers are significant as it took nearly thirty three years for the problem to initially occur and it only took eight years, to the time of this study, for the buildup to occur again. This report states that 117 sediment depth measurements were taken and that

approximately 11,000 cu. yds. of sediment need to be removed, but it only includes the south canal and there are no specifications detailing how they determined this quantity. Areas around the lake other than the south canal also need to be included in the additional studies.

6. Harrisville Harbor Commission / Alcona Dredging, LLC:

Jim Hamather / John Bernard (respectively)

Dale Olshesky, an L.C.P.O.A. member and retired commercial construction manager, recently offered to help in accumulating information for this presentation. He spoke with the two gentlemen named above regarding the dredging project in 1999 and was told the following information based on their records, (see poster board).

The quantities of sediment which was removed from the south canal based on number of hours and pumping capacity of the dredging machine yielded between 11,000 to 16,000 cu. yds. of sediment instead of the RFP proposed 20,000 cu. yds.

Both of the gentlemen that Mr. Olshesky spoke with expressed interest in visiting the site and providing analysis, and this may be helpful in the event that the Board elects to proceed with further investigations.

7. River Raisin Watershed Authority (RRWA):

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- a. Lake Columbia is the largest lake in the chain of lakes along the R.R.W.A. (see chart on poster board)
- b. Lake Columbia has the largest damn in the chain of lakes along the R.R.W.A. (see chart on poster board)
- c. According to Ms. Mitchell, if it can be documented that the quality of water is negatively affected by the current infestation conditions, the state offers certain grants to help cover costs for cleanup. These grants are difficult to acquire and would most likely be limited to the cleanup and not to the cost of studies or purchase of land; however, this is another item that should be investigated.

- d. I have attached a chart identifying Watershed Grants that have been issued in the past (see poster board)

8. MDEQ Contacts - 2006:

- a. I made contact with the following sources and forwarded them to the past Board of Directors two years ago to use in studying this issue. I received no further information from the Board.
- b. The MDEQ and MDNR have information on their respective web sites which will be helpful in determining, improving water quality and weed control. If we proceed with the proposed studies, these will be free sources that we will investigate thoroughly.

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Tom Kolhoff – Biologist
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Jean – Secretary
517-335-6252

Justin Pung – Biologist Jackson County
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PROJECT MANAGEMENT

1. Company Profile:

I have been in the commercial construction business for twenty years and I have owned a design/build commercial construction management firm for the past ten years. (Please see our attached company profile).

As I have previously stated, I am willing to manage this Project at no fee for my services. Not only am I interested in protecting the great lake we all share, but our individual and collective investments are at risk and need to be protected as well.

I have to assume that all L.C.P.O.A. members have this is common.

I have come here tonight to request that further studies be implemented to help in confirming the real need for this dredging project to protect the water quality of Lake Columbia now and for future generations. I would like to extend an invitation to the Board members to come to the south canal and take a short ride on my pontoon boat to see first hand the conditions in that area.

2. Project Management Proposal:

I will be happy to provide a Project Management proposal detailing my limited authority in representing the Board of Directors specifically relating to this Project, all of my responsibilities, the step by step process of study, design, continual presentations to the Board for approvals through each and every portion of the Project, qualifying bidders, requesting bids from bidders, qualification of bids and recommendations to the Board, hiring and managing the dredging of the approved work.

If you decide to proceed, all work performed relating to this Project will be done only with the prior written approval of the Board of Directors by a committee which is appointed by the Board.

3. Membership Involvement:

I understand that the most difficult part of a project of this kind is to educate the membership and generate their support. This will take the efforts of me, everyone who currently supports the project and the Board of Directors serving notices periodically.

END OF PRESENTATION

COMMENTS

I firmly believe that if this is investigated, designed and planed correctly, we can solve this infestation issue so that it can be easily managed in the future at a minimal annual Cost so that everyone can enjoy the beautiful, quiet setting of the south canal which will increase the quality of the entire lake. The fishing will be better, navigation will be better, water quality will be better and we will still maintain the wetlands that are prevalent on the east shore of the south canal for the wildlife that nest in this area.

CONCLUSION

I would like all of you on the Board to know how much I appreciate you allowing me the opportunity to provide this presentation. If approved, this will be quite an undertaking, but it's important enough to me and my family that I'm willing to do what is necessary to contribute the time and energy to manage this project by establishing a committee to focus on the issues detailed herein. My wife and I plan on retiring here and eventually

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leaving our home to our children, so long term thinking is extremely important to us.

There are other Association members, Dennis Steele, Colleen Crampton, Ron Blewett, Ed Vella, Dale Olshesky and a number of others who have expressed interest in contributing their time and expertise and I will certainly take advantage of their generosity in suggesting names of members to the Board for the creation of an appointed committee if I'm allowed to proceed with this project.

Lake Columbia has always been a gem of the Irish Hills; and it's always had a siltation problem, which has been allowed to destroy the southern end of the Lake. If allowed to continue unchecked, this condition will negatively affect the water quality of the *entire* Lake.

Now is the time to act when the size, scope and cost to correct these problems are still manageable and so we leave Lake Columbia a great place for future generations.

Very truly yours,



Kevin Wetzel
President