APPENDIX B
SUMMARY OF STAKEHOLDER MEETING ON NOVEMBER 30, 2005

Lake Wingra Dam Replacement Issues
Meeting Summary (FINAL)
November 30, 2005 at 2:00 pm

Attendees:

City of Madison: Mike Cechvala, Mike Dailey, Genesis Bichanich, Lisa Coleman
WDNR: Sue Josheff, Ken Johnson, Kurt Welke, Scot Stewart, Bob Hay
Strand: Dave Wolmutt, Cassie Goodwin, Dave Walker
UW Arboretum: David Liebl
Friends of Lake Wingra: Matt Diebel, Anne Forbes, Cheryl Bauer-Armstrong

1. Introduction and Updates

Dave Wolmutt (Strand) discussed the scope of the work that Strand was hired by the City to do, and the progress made. He concluded that based on Strand's dam failure analysis, the most likely recommendation would be to replace the dam. Also, the hydraulic shadow of the dam warrants a low hazard rating.

Dave Wolmutt mentioned that the survey Strand performed was in Dane County coordinates, and all of the dam records are in City (1929) datum. Sue Josheff (WDNR) said that it is ok for Strand to use Dane County datum for design, as long as WDNR knows what datum is being used during review and a benchmark was provided.

David Liebl (Arboretum) asked whether the property boundaries between the City and the Arboretum on the dam embankment were located. Strand said they would look into that, but didn't find any property markers at the time of the survey.

2. Concerns and Issues Discussion

- Discontinuing use of locks, and changing authority of dam

  There were no objections or comments regarding the removal of the dam locks, although it was mentioned that including plans for a safe and defined portage path may help get through the required public notice period without too much objection. Sue Josheff explained that Class I public notice is required (30 days) to change the authority of the dam, since the dam was originally established as locks, and through a public review process. The City needs to request a change of the authority of the dam, probably sooner rather than later.

- Fisheries - whether to accommodate or restrict fish, and best way to approach it

  There was a long discussion about muskies and carp, and whether or not to accommodate fish passage through the dam. It was noted by Anne Forbes (Friends) and others that the musky jumping in the spring is a public attraction and spectacle, and an opportunity for educational outreach. However, Scot Stewart (WDNR) said that both Lake Wingra and Lake Monona are stocked musky fisheries, and therefore there is no need for muskies to pass between the lakes in terms of maintaining fisheries. Kurt Welke (WDNR) noted that movement of water, such as the water spilling over the dam, will attract fish no matter what, and they will always want to jump, so it will be hard to completely restrict fish from trying to jump over the dam.

David Liebl and Anne stated that the Arboretum and Friends of Lake Wingra feel very strongly that exotics be excluded from the lake if at all possible. After a long discussion, it was determined that the dam at Lake Wingra may not be the best way to exclude exotics, and may not be that effective, since the head is so low on the dam and there are times when the dam is submerged. Also, there is always the threat of exotics being dumped in the lake from coolers or aquariums. Kurt said it would probably be more effective to exclude new invasive exotics from the system at other points downstream, and that the dam at Lake Wingra would not be an effective stopping point.

Everyone agreed that if carp could be kept out of the lake it would be great, but it is unlikely that this could be accomplished. Kurt mentioned that they were in the process of tracking 15 carp with radio transmitters in Lake Wingra, but they could only locate one recently. They are going to fly over Lake Monona to see if they can locate the other 14, but it is unlikely in his mind that they all went over the dam. Otherwise Kurt has not seen a lot of evidence that carp have breached the dam. Sue noted that carp have been recognized as a problem in the lake since the 1800's, so it is likely that they have been there longer than the dam.

Anne (Friends of Lake Wingra) reiterated that, although total elimination of carp is not possible, Wingra may present some unique opportunities for significant suppression of the population. Thus, the design of the dam should discourage the passage of carp and other exotics.

Scot said they would like to see a non-abrasive surface such as plastic or wood on the weir instead of the metal weir plate, and a landing pool on the dam with enough depth so the muskies don't hit concrete when they jump over. He said ideally it would be 1.5 to 2 feet deep, and 8 to 10 feet wide. The pool would not need to be the full width of the dam, and actually would be better if it were centered so that the observation deck is not too close to the fish jumping (there have been problems with people interfering). Also, the launching area downstream of the dam should remain deep. Dave Wolmutt noted that we may not even need a landing pool, if the dam were just a wall, the lake could act as a landing pool. David reiterated the Arboretum's position that passage of non-native fish should be discouraged, and that eliminating the deep pool below the weir would help accomplish this.

It was concluded by the group that there is no need for a fish passage or fish ladder, but if musky passage is going to be continued it would be preferable to design the dam in such a way that the muskies who do jump are less harmed.

- Dam Type

Sue said that no matter what type of dam is put in, the spillway must be adequately sized to safely pass the Q_{100}. Dave Wolmutt mentioned that Arboretum Drive is acting as a back-up spillway right now for large storms, and David Liebl confirmed this. The City and Arboretum will have to work together to determine whether this should continue to be used as a spillway, or if the dam should be widened to allow for a larger spillway there, or if Arboretum Drive should be raised up. A sufficient right embankment will need to be constructed so trees in the area of the embankment will have to be removed. Some trees may be able to remain if the area between the impoundment and the downstream is sufficiently wider than is needed for an adequate embankment. Sue noted that she has seen holes in those woods full of water, and some water from the lake may be passing through the woods during overflows.

Everyone agreed that the design of the new dam should restrict access to the Arboretum side. Dave Wolmutt said that an earthen dam would be the easiest design, but may provide too much access to the Arboretum. It also may be a maintenance issue, such as vegetation, etc. Another option is a concrete retaining wall. No one seemed to prefer one dam configuration over another. Everyone agreed that the dam does not need to look similar to the existing dam. In fact, David Liebl suggested that the current location of the dam may not be the best location. He cited poor soils (sticky clay) and difficult construction. There was some question as to the regulatory implication of relocating the dam, and whether it would constitute a new dam permit. Ken Johnson (WDNR) and Sue said they were not comfortable making a conclusion at this time, but if the decision was made to relocate the dam they would need to look into precedent for moving dams.

The effect of widening the spillway was discussed, and as was the question of whether providing a wider spillway would dampen or stabilize the fluctuations of water levels in the lake during large storm events. David said that high water levels are known to inhibit the spread of invasive cattails. And, that fluctuating water levels increase shoreline erosion along the Arboretum. Bob Hay (WDNR) mentioned that the water level fluctuations due to large storms do not have ecological benefits as the detention time of the lake would only be increased by a day or two. Ecological benefits from drawdowns usually require longer periods of time such as seasons or years. Therefore stabilizing the water level in the lake by increasing the spillway capacity was not a concern for plant life, and would actually probably provide some benefit with regards to shoreline erosion.

Sue mentioned that the existing metal weir plate was added in the 1970's, and do we want to maintain the water level that the weir creates in the lake? Dave Wolmutt asked whether the dam should be designed to maintain current water stages, and Sue said that as long as the new design causes water stages to stay at or below existing water stages, it would be fine.

- Drawdown Issue – feasibility, extent, and rate of drawdown for Lake Wingra

Everyone agreed that no matter what type of dam is built, it must have the ability for drawdown of the lake for a sustained period of time. Drawing down the lake would provide complications with regards to recreational uses, but could provide some ecological benefits. David and Bob mentioned that prolonged drawdowns of the lake could help control invasive cattails. Although we did not discuss the details, we mentioned that there were ecological benefits of having drawdown capability, (which were not for the purpose of controlling cattails, but to allow for the establishment of other native emergent vegetation and to allow for some shoreline stabilization to occur- all of this being unsaid at the meeting). This may mean drawing down the lake by 1 foot or so, for a season or up to 2 years. The recreational implications of the drawdown (no access to boat ramps, ice skating, beaches) should be dealt with at the time, but the dam should still include drawdown measures so that there is the flexibility.

Sue said many dams use stop-log bays to maintain lower lake elevations.

- Construction Issues - major concerns regarding construction, and whether this should impact the design and/or type of dam

Sue discussed that if the City or contractor wants to draw down Lake Wingra for dam construction, there will be a lot of public interest issues that will have to be addressed

before WDNR will grant the request, and the conclusion may be made that drawing down is not feasible. The public interest issues are navigation and recreation, water quality, fish and wildlife habitat and natural scenic beauty. Lake Wingra has heavy navigation and recreational use, large amount of fish and wildlife habitat for that area and the vegetation in and adjacent to the lake would be affected which can affect water quality and habitat. The benefits and disadvantages of winter drawdown or summer drawdown would need to be considered. A full discussion of the draw down effects is needed before that decision can be made. It was discussed that there may be other benefits to drawing down the impoundment such as carp or vegetation control, dredging stormwater outfalls, etc. If a draw down were proposed and could be approved for the dam construction, it would be good to coordinate the additional beneficial activities to occur at the same time so another draw down wouldn't be needed. Even if a draw down is approved, it will still require coffer dams and by-pass channels or pumping, however.

David Liebl voiced concern for scouring of the lake bottom from stormwater outfalls during the drawdown. Also, the carp exclusion study in the lake that just began this summer will last for 3 years, so it is unlikely that the construction could start until after that study is completed.

- Other Issues

Everyone agreed that the current observation deck could be reconfigured, resized, pushed back, etc. But it was agreed that there should be some sort of public meeting place or viewing/fishing area near the dam. It should definitely include a railing to keep people from interfering with musky jumping, and for safety.

A boat portage with sufficient 'take out' and 'put in' should be incorporated into the design as well.

Sue commented that no matter what the dam ends up looking like, there should be an operation and maintenance agreement between the City and Arboretum.

3. Next Steps

Kurt Welke is going to keep the group informed about the carp location.

The City plans to hold a public review process and meetings in 2006. The City and Arboretum will work together to determine property boundaries.

Strand will come up with several conceptual design alternatives in December for the City to review to get the ball rolling.