

May 15, 2008

Ms. Geri Radermacher
Wisconsin Department of Natural Resources
141 NW Barstow St, Rm 180
Waukesha WI 53188

Dear Ms. Radermacher:

RE: Revised Chapter 30 Permit Application
Nagawicka Lake, City of Delafield, Wisconsin

Attached with this letter are five copies of the Revised Chapter 30 Permit Application for Nagawicka Lake incorporating the WDNR's March 8, 2007 comments.

Listed below are the city's responses to the individual WDNR comments. Please note that the city has previously requested that the WDNR complete Section 5 and Sections 11 through 17 of the Environmental Analysis (EA) pursuant to Wis. Admin. Code NR 150.22(1)1. Sections 1 through 4 and Sections 6 through 9 have been revised by the City's Engineer (Foth) and are included with the attached Revised Chapter 30 Permit Application.

Also, the Chapter 30 Permit Application and the WPDES General Permit Application forms provided in Appendix A have been revised based upon revisions to the project description. Separate from this application, the city is requesting a solid waste Grant of Exemption from Wis. Admin. Code NR 500 through 538 requirements. This request will be sent directly to Mr. Bizhan Sheikholesiani. A copy of the request will be forwarded to you.

Please recognize that the city has revised the dredge prism alignments to reflect the WDNR's concern of dredging impacts to sensitive bioaquatic environments. Those changes include:

- ◆ Elimination of all planned dredging within St. John's Bay and the Kettle area.
- ◆ Restrict dredging to only shoreline area "A" within sensitive Area No. 1.
- ◆ Restrict dredging to only 4 lake access channels in the Northwest channels areas.
- ◆ Restrict dredging to only 4 channels in the Northeast channels area.

Furthermore, the city would like the WDNR to realize these changes have significantly reduced the areas of disturbance and dredging volume by over 30,000 cy as compared to the October 2006, Chapter 30 permit application. A listing of those previously defined dredge areas as compared to this application are noted in Appendix O of this application.

Appendix 1 Proposed Dredge Areas

Comment Item A: Provide a separate purpose and need for each of the seven areas proposed to be dredged. Explain how the purposes and needs for each specific area will be met by this project. Can these purposes and needs be met by methods other than dredging (i.e. navigational buoys, extended piers, move location of piers, etc).

Response to Item A: *Further discussion of the need for the dredge areas is provided in Section 4.2 of the Revised Chapter 30 Permit Application. The number of dredge areas has been reduced from seven to five.*

Comment Item B: Decide on the method of dredge for each area, i.e. hydraulic or mechanical. Once determined, the Department will review potential public interest impacts of selected method of dredging.

Response to Item B: *Hydraulic dredging has been selected by the city for sediment removal in all of the areas.*

Comment Item C: The Department will limit the time of year the dredging may occur based on resource issues. To limit potential impacts to fish spawning, no dredging may occur from mid-March through June 30th of the calendar year. To avoid potential impacts to reptiles and amphibians, dredging may not occur from October 16th through April 1st of the calendar year, except for Zastrow's Bay. This means that the majority of the dredging may only occur between July 1st and October 15th of the calendar year. Provide a new time line which reflects the time of year restrictions.

Response to Item C: *No dredging will occur from mid-March through June 30th due to potential impacts to fish spawning, nor will dredging occur from October 16th thorough April 1st due to potential impacts to reptiles and amphibians, except in Zastrow's Bay. Figure 22 in the Revised Chapter 30 Permit Application shows a new project timeline with construction beginning in 2009.*

Comment Item D: Revise Figures 4 through 11 to remove dredging upland and wetland areas. For example, Figure 5 shows the proposed dredge channel going directly over upland area at 0786011-0786013.

Response to Item D: *Figures 5A and 5B through 13A and 13B in the Revised Chapter 30 Permit Application have been provided to more accurately reflect the proposed dredge areas. The dredge areas have been refined based upon a detailed poling survey conducted by Foth in October of 2007 and previous poling data collected by the LWC. The base map at 0786011 and 0786013 shows what appears to be dredging upland. The area in question is actually covered by water; however, the parcel information from Waukesha County extends into the lake.*

Comment Item E: Provide a series of standard cross-sections and top views for the dredge areas. Identify the corresponding dredge areas represented in the details. Provide specific dimensions for each dredge area, including the existing banks, and the proposed channel dimensions, including bottom width, top width, side slope, buffer width, water depth, etc.

Response to Item E: *Figures 5A through 13A in the Revised Chapter 30 Permit Application show dredge prisms for all the channel alignments. The dredge prisms are based upon historic survey information along with channel surveys conducted by Foth in October 2007. The dredge prisms show proposed dredge cuts through each channel to the target elevations. Cross-Sections through each channel are also shown on Figures 5A through 13A. Water depth in each channel location is shown on Figures 5B through 13B.*

Comment Item F: Discuss the impacts to riparians if piers are removed to facilitate dredging as well as any redesign of piers after dredging (to accommodate the new water depth).

Response to Item F: *The majority of piers affected by dredging are temporary and will be pulled prior to dredging. The removal and replacement of all piers will be at the cost of the owners. Owners of permanent piers will be allowed to have such piers remain in place with dredging conducted around the pier, no closer than 10 feet. The LWC has notified all riparian owners regarding necessary pier removal. Note that the proposed dredge alignments may be slightly altered based upon a pre-dredge pier survey which will be conducted by the LWC prior to dredging. A standard detail for dredging in areas with piers is provided on Figure 20.*

Appendix 2 Dredging Operation

Comment Item A: Determine how dredged material will be transported to the disposal location(s) (i.e. if hydraulic dredging show the location of pipes, hoses from the location of dredge machine all the way to the disposal site) from each of the seven areas proposed to be dredged. The in-lake locations of pipes, hoses will vary depending on what portion of lake is being dredged. Figures 12-14 of the application submittal provides an overview of the upland disposal routes but does not provide details for the in-lake routes.

Response to Item A: *Figure 14 show the potential orientation of the dredge piping/hoses from the various dredge areas to the shoreline staging areas in Zastrow's Bay. The shoreline staging area will be located off of Ridley Drive as shown on Figure 15. Recognize, however, final location(s) of the in-lake dredge pipe may change based upon the city's desire to minimize disturbance to recreational use of the lake during the summer months and the contractor's approved submittal for operations. Further discussion of sequencing of the dredge areas is provided in Section 5.1 of the Revised Chapter 30 Permit Application.*

Comment Item B: Provide a definition of and more details of the staging/mechanical load out areas. What will occur at these areas? Who owns these parcels? Describe the existing site conditions (land cover, soils, groundwater, etc). Provide site specific plans for these areas. Will the proposed project impact the existing site conditions (soil compaction, erosion, sedimentation)? Will these areas need other Chapter 30 approvals such as structures below the ordinary high water mark, grading in excess of 10,000 square feet, etc. If mechanical dredging is selected, will barges be able to float to these locations? Will Bleeker Street Boat Ramp be closed while it is used as a staging/loadout area? The staging/loadout areas located within the St. John's Bay will be further examined by the Department once the requested information is received. These areas may have to be relocated.

Response to Item B: *Section 5.2 of the Revised Chapter 30 Permit Application provides more detailed information regarding the shoreline staging area. Presently the city is considering only one shoreline staging area, off Ridley Drive as shown on Figure 15. Proposed equipment usage areas are also shown on this figure. Presently, this area is bituminous paved and is used by the city's weed harvester. The development of this area for shoreline staging for dredging operations will not require additional grading or disturbance to new areas. As such, a Chapter 30 Permit for land disturbance of more than 10,000 ft² within the ordinary high water mark is not needed.*

Influent and effluent piping will follow one of two paths. The preferred path shown on Figure 16 leaves Zastrow's Bay and returns to Zastrow's Bay through the Lang property, identified as parcel no. 0755996. The city has prepared an easement agreement with the property owner as provided in Appendix I of the Revised Chapter 30 Permit Application. The alternate route shows the piping following Ridley Road to Prince Road, east, crossing Nagawicka Road, to Hirschman Lane east to the Lake Country LLC property, to the city property. This alternate route is less favorable to the city because of the need to provide multiple crossings for property owners at driveways along Ridley Road.

Comment Item C: Will public or private navigation be impacted by the project? If so, for how long?

Response to Item C: *Navigation may temporarily be impacted in some channel areas due to space constraints, especially in the Northwest and Northeast Channels. Watercraft traffic may need to be temporarily detoured or, in a minority of areas, excluded from areas where dredging is occurring. However, in areas such as the Northeast Channels, it is expected dredging can be completed within 7 to 10 days in each channel, minimizing riparian inaccessibility to their property. Within the Northwest Channels, because of multiple channels, property access for most owners can be maintained.*

Dredge piping will be oriented in such a manner as to not interfere with watercraft traffic. Because dredging will occur during summer boating months, restrictions will be placed within certain areas of the lake close to the dredging operation. Access across the lake will be maintained by submerging the dredge pipeline. It is expected that only areas in close proximity to the dredge will have restricted navigation. The city will post planned dredging areas on its website to notify all citizens of restricted areas at least 30 days before dredging. Specific locations to cross the pipeline, when necessary, will be buoyed for easy identification.

Comment Item D: How will the pipes, hoses, etc be located in order to avoid impact to public and private navigation? Will the pipes, hoses be submerged or floating? We will need sign off from landowners for pipeline placed in their riparian zone.

Response to Item D: *Figure 14 shows the proposed in lake pipe alignment for all five dredge areas. Dredging pipes and hoses will be located to minimize impact to navigation. The piping which bisects the lake will be submerged 10 to 20 feet below the water surface to allow watercraft traffic to traverse the lake. Piping will be clearly marked in accordance to U.S. Coast Guard Standards and Department standards to avoid navigation issues.*

Prior to placement of dredge piping and equipment, landowners will be made aware of the proposed dredging operations by the City. Provided in Appendix I of the Revised Chapter 30 Permit Application is a letter prepared by the city to notify riparian owners of the planned dredging of their lake frontage. Also included in Appendix I is a notification letter to riparian owners around Zastrow's Bay whose properties will be affected by pipelines for extended periods. Other riparian owners in the dredge areas will only be temporarily inconvenienced as dredging progresses across the lake. Discussion of the planned dredge sequencing is provided in Section 5.1 of the Revised Chapter 30 Permit Application

Comment Item E: Provide details on the construction of the pipes, hoses. Will they be pressure tested? How will you determine if there is a leak? What is the plan if there is a leak?

Response to Item E: *Pipe pressure testing will be required to be conducted by the contractor prior to dredging. Based upon our experience with qualified dredge contractors, leaks are a very unlikely consequence. Experienced dredge contractors are able to detect leaks in the pipe system by noting changes in the system hydraulic performance. Also, recognize that any leaks would also be detected at the pipe discharge, while filling the geotubes. If a pipe leak is detected, the contractor will immediately shut down the dredge pumps and investigate for the leak location and conduct appropriate repairs.*

Appendix N of the Revised Chapter 30 Permit Application provides project specifications regarding project construction requirements including pressure testing and contingencies for equipment defects during dredging operations. Identification of leaks and a response plan is also provided in the Dredge Contingency and Spill Prevention Plan provided in Appendix M of the Revised Chapter 30 Permit Application.

Comment Item F: Provide contingency plans for the equipment and operation of equipment. Spill plan for staging areas, dredge machine, booster pumps, etc. Refueling for barges and pumps.

Response to Item F: *Appendix M of the Revised Chapter 30 Permit Application contains a Dredge Contingency and Spill Prevention Plan that will be used by the city during dredging operations to address these issues.*

Comment Item G: Provide details of marking of all in-water equipment. Must be properly marked to U.S. Coast Guard Standards and Department standards to avoid navigation issues.

Response to Item G: *The dredging contractor will be required to meet all applicable U.S. Coast Guard standards for navigation. The plans and specifications for this project require the dredging contractor to properly mark equipment and piping in accordance to U.S. Coast Guard standards. Details of standard in-water navigation markings are shown on Figure 20.*

Comment Item H: Provide name and addresses of all riparian property owners affected by the project, including areas where hoses, pipes, pumps may be located.

Response to Item H: *Provided in Appendix H of the Revised Chapter 30 Permit Application is a listing of all affected riparian property owners. This information was collected from county records. Note multiple owners of individual parcels may not be accurately defined.*

Comment Item I: How will the dredging operator stay within the approved dredge channel?

Response to Item I: *The dredge prisms are based upon Waukesha County horizontal will control and mean sea level elevation for vertical control. As such, dredge alignments will be provided to the contractor to allow dredging to meet the design criteria via Global Positioning System (GPS) equipment.*

Comment Item J: Once dredged, how will the as-built documentation be acquired? What if too much material was removed?

Response to Item J: *As-built documentation will be performed by surveyors using GPS equipment. To avoid over-dredging, the dredge operator will be provided design target elevations and horizontal locational data that can be programmed into a dredger's GPS equipment. This information will be used to control the horizontal and vertical dredge limits. Upon attaining design elevations, a confirmation survey (as-built) will be performed.*

Dredging contractors, as part of project specifications, will be paid only to the target elevation plus a 6-inch overcut allowance. He will not be paid for excess removal; as such, he will maintain a high level of precision during dredging such that excess overcut does not occur.

Comment Item K: Provide a cost estimate of the dredging operation. The Department will require a performance bond for the amount of the dredging operation, including hauling, dewatering and disposal costs.

Response to Item K: *The cost estimated for this project is provided in Appendix E of the Revised Chapter 30 Permit Application. The cost estimate includes mobilization/demobilization, dredging, pumping, dewatering, sediment management and site reclamation.*

Comment Item L: What will the hours of operation be for the dredge machinery, pumps and generators? Address the issue of noise? Are property owners prepared for the level of noise?

Response to Item L: *The city is proposing a 24 hours per day/5 days per week schedule to accomplish the dredging in two seasons. The process flow calculations provided in Appendix L of the Revised Chapter 30 Permit Application show 112 dredge days operating 24 hours a day/5 days a week is required for the proposed dredge volume.*

Issues with equipment noise will be mitigated by use of mufflers on engines, isolation distances, and portable noise barriers. Additionally, the dredge will not be operating in one location for extended periods of time; the dredge will be moving as each of the dredge areas reach design elevations. The city has informed the public of potential nuisances associated with this project.

Regarding the shoreline staging area where the hydraulic dredge booster pump station will be located, the booster pump can be installed with noise suppressant equipment to limit noise generation. Since the pump station will be operating from one location for a longer period of time than the dredges, which will be constantly moving, noise suppressant barriers can be utilized to further mitigate noise generation. Hours of operation for the booster pump stations will be concurrent with the aforementioned dredging operations hours.

Comment Item M: The re-suspension of sediment will generate odors? Are the riparian property owners aware of the potential odor?

Response to Item M: *Hydraulic dredging generally has minimal re-suspension of solids associated with it; therefore, odor generation is not anticipated to be a problem. If re-suspension of soft sediments does occur, it can be minimized by reducing the speed of dredge advancement and rotation speed and reducing or eliminating cut force undercutting by using a maximum lift thickness of 80 percent of the desired dredge cut invert.*

Odors may occur during sediment management at the dewatering site. However, based upon similar sediment management operations using geotextile bags, odors have not been a problem.

De-Watering Locations

Comment Item A: Provide either a letter of permission, easement or legal agreement from the owners of the dewatering sites.

Response to Item A: *Provided in Appendix I of the Revised Chapter 30 Permit Application is a letter of agreement with the city to use its property for dewatering.*

Comment Item B: Soil evaluation indicates a moderate to high infiltration rate at the dewatering sites but the design calculations assume no infiltration. If the infiltration rates are moderate to high, will the dewatering activities adversely impact groundwater, i.e. contamination?

Response to Item B: *Based upon the recent elutriate test and evaluation of parameters of concern, the city has decided to provide a sediment dewatering process including the use of geotextile bags underlain by a 30-mil PVC geomembrane liner. Using this approach, decant water from the sediments will be collected and pumped back to the lake, and not be allowed to percolate into underlying soils. Further discussion of the dewatering design is provided in Section 6.2 of the Revised Chapter 30 Permit Application. Additional information regarding water characteristics have been presented to the WDNR in a letter dated November 19, 2007.*

Comment Item C: The hydraulics of the proposed dewatering/infiltration berm should be evaluated to verify that the entire treatment flow rate will pass through the berm without overtopping.

Response to Item C: *As presented in Response to Comment B (above,) the city has redesigned the dewatering facility which does not include a dewatering/infiltration berm. Calculations showing that the proposed geotextile bags will permit effective dewatering of sediments, are provided in Appendix L of the Revised Chapter 30 Permit Application.*

Comment Item D: The dewatering/infiltration berm must be designed in accordance with the applicable criteria founding Dewatering Technical Standard 1061 (i.e. geotextile fabric specifications, 50% clogging factor, etc).

Response to Item D: *As stated above in Response to Item C, an infiltration berm is no longer proposed for the project. The geotextile bags have been designed to release water during sediment consolidation. Based upon the calculations provided in Appendix L of the Revised Chapter 30 Permit Application, the average opening size (AOS) of the geotextile will require a minimum 8 oz/yd² fabric to provide sufficient permittivity and release of water.*

Comment Item E: One section of the application states that polymer will be added while another section states polymers will not be used. Due to the significant clay content, polymers should be added prior to filtration. Only polymer products with a Department approved use restriction can be used in accordance with Water Application of Polymers Technical Standard 1051. Please state which polymer will be used and how it will be applied and monitored.

Response to Item E: *Polymer will be added to the slurry to promote sediment dewatering in the geotextile bags. Only state approved polymers will be used by the contractor. The contractor will be required to monitor polymer use via flow meters from the polymer pumping system injecting into the slurry pipeline. This will occur at a location selected by the contractor that will allow adequate mixing time prior to dispensing the slurry into the geotextile bags. The contractor will be required to provide a listing of WDNR approved polymers to be used during dredging. Specific application rates will be verified by the contractor prior to actual operations to achieve total suspended solids (TSS) permit levels.*

As discussed in the November 19, 2007 letter to the WDNR regarding the elutriate testing, the addition of approved polymer can reduce TSS to levels below 40 mg/L. Application rates are established by the contractor and typically range from 3 ppm to 20 ppm to achieve this level of performance. The contractor will be required to conduct a bench study of polymers and application rates which will be approved by the City's Engineer and WDNR prior to implementation.

Comment Item F: Filtration systems require routine maintenance to re-establish filtration rates and to prevent filter bypassing. It is recommended that filter “cells” in parallel are established so that an individual cell can be taken off line for maintenance.

Response to Item F: *As discussed in Response to Comments C, the city will use geotextile bags for sediment dewatering, as such, passive dewatering via separate cells is not planned.*

Comment Item G: Supply a revised grading, erosion control and final stabilization plan for the dewatering location. Include a construction sequence for the development of the dewatering facility as well as instruction for use of facility.

Response to Item G: *A site development plan for dredging operations is shown on Figure 17. Presently the city’s plan is to use the dewatered sediments for landscaping around the planned park area. The future site plan of property has not yet been developed by the city. As such, a final site stabilization plan cannot be developed. Upon city development of a final site grading plan, this information will be provided to the WDNR identifying areas having sediment incorporation. The city, upon final design of the property, will incorporate the sediment in the landscaping and cover it with 12 inches of on-site soil and topsoil. Alternatively, the city may sell the sediment to a local landscaper or nursery.*

Appendix 3 Re-Vegetation Plan

Comment Item A: As part of this project, the Department will require a re-vegetation plan for the dredged areas. The application material states that the plan will be filed under separate cover. The re-vegetation plan must be reviewed and approved as part of this application. Without the re-vegetation plan, the Department cannot approve the permit application.

Response to Item A: *Included in Appendix D is a revised re-vegetation plan for the dredge areas.*

Comment Item B: Provide a cost estimate for the implementation of the re-vegetation plan and a separate cost estimate for five years of maintenance and monitoring of the re-vegetation plan. The Department will require performance bonds to ensure that the re-vegetation plan is properly implemented and maintained.

Response to Item B: *A restoration plan cost estimate is provided in Appendix D of the Revised Chapter 30 Permit Application.*

Comment Item C: The newly planted areas may not be mechanically harvested during the five years of maintenance and monitoring and as such the Department will not issue a NR 109 permit to mechanically harvest these areas. The Aquatic Plant Management Plan will need to be amended to reflect the restoration areas and the proper management of said areas.

Response to Item C: *A monitoring and maintenance plan for the restoration areas is provided in Appendix D of the Revised Chapter 30 Permit Application.*

Comment Item D: Each riparian property owner must be made aware that they will not be able to harvest the newly vegetated areas (either manually, mechanically, or chemically). What provisions will be made to educate riparians about the re-vegetation plan and the possible implications to their shoreline?

Response to Item D: *A community outreach plan addressing this issue is provided in Appendix D of the Revised Chapter 30 Permit Application.*

Comment Item E: Remove the statement “available dependent” from species list. Remove coontail, northern water milfoil, whorled milfoil, and wigeon grass from the species list. Add sweet blue flag iris, soft stem bulrush, pickerel weed and slender naiad to the list.

Response to Item E: *The proposed planting species list, taking into account WDNR’s comment, has been revised in Appendix D.*

Comment Item F: Identify how plans will be anchored.

Response to Item F: *Submergent planting information is provided in Appendix D.*

Comment Item G: Develop a maintenance and monitoring plan which includes measurable performance standards that include percent cover and percent native species. Include measures to counter goose and swan predation. Include measures to counter eurasion water milfoil invasion. Include measures which will be taken if performance standards are not met. If not met, maintenance and monitoring may have to be extended.

Response to Item G: *A maintenance and monitoring plan addressing these issues has been provided in Appendix D.*

Appendix 4 Solid Waste Management

The dredge material from this project is regulated under s. NR 500.08(3)(c) because the lake has been treated with arsenicals and other chemicals in the past.

Comment Item A: Identify the final disposal location and management of the dredge material. The Environmental Assessment generated as part of the Chapter 30 permit process must indicate the final disposal location based on current data. Therefore, it may be most beneficial to you to have a plan “A” and plan “B” for disposal based. Plan “A” would be based on the current information which would not allow for re-use and may include taking the material to a licensed landfill or proper disposal in an upland area. Plan “B” could be based on further testing after de-watering (if further testing shows that material can be beneficially used). These two scenarios must be included in the EA.

Response to Item A: *It is the city’s plan to beneficially use the sediment on the city’s property as grading and landscaping material or to sell to third party landscapers or nurseries. Landfilling is not under consideration by the city. Sediment management Plan A will incorporate the sediment into the planned park area for grading and landscaping. Under this alternative the sediment will be covered with 12-inches of on-site soil followed by 3-inches of vegetated topsoil. This soil cover will prevent exposure and contact of sediment to park users and wildlife. Sediment management Plan B will be to sell the dewatered sediment to a third party as topsoil amendment. Under this plan the city would conduct additional sediment sampling after dewatering and mixing with on-site soils to identify concentrations of parameters of concerns (if any). If parameters of concern exceed the threshold effect concentration (TEC) the city will notify the WDNR and discuss the beneficial use alternatives.*

Comment Item B: Submit a request for exemption under NR 500.08(4) to the Waste and Materials Management Section to the Waukesha Service Center attn. Bizhan Sheikholeslami. As part of this application, you must decide how the material will be disposed or re-used. Currently, some of the proposed uses may not be approvable under current regulation. It is likely that after dewatering and other handling the chemical and physical characteristics of the solid may change that would allow for beneficial use of the materials.

Response to Item B: *On behalf of the city, Foth will submit to the WDNR a Grant of Exemption (GOE) from Wis. Admin. Code NR 500 through 538 for management of dewatered sediments. This request will be sent to Mr. Bizhan Sheikholesiani with a copy of the Revised Chapter 30 Permit Application.*

Comment Item C: The disposal locations must be assessed for potential adverse groundwater impacts.

Response to Item C *As presented in Section 6 of the Revised Chapter 30 Permit Application, the city presently will only use city's property off Oakwood Road for sediment dewatering. The city will integrate the dewatered sediments into the park development and landscaping plan. During sediment dewatering operations, the geotextile bags will be underlain by a geomembrane liner to prevent decant water from infiltrating to subsoils. As such, impact to the groundwater during operations will not occur. If the sediment is maintained on site for grading and landscaping, the city will install groundwater monitoring wells around the property.*

Comment Item D: The disposal location(s) may also require a public meeting as required under ss 289.54(2), Wis. Stats.

Response to Item D: *The city will support a public meeting if required by the WDNR.*

Comment Item E: We strongly recommend that you work closely with the Waste and Material Management staff during the dewatering process so the most cost effective disposal is achieved without any delay in the project.

Response to Item E: *As discussed in response to Item B above, Foth, on behalf of the city, has had discussions with the WDNR Solid Waste staff regarding sediment dewatering and has prepared a GOE request to the WDNR.*

Appendix 5 Elutriate Testing

Comment Appendix 5: The elutriate testing conducted by your consultant composited six samples taken from the Bark River Inlet, the Northwest Channels, and the West Channels. All six samples were composited and one test was conducted on each parameter. As discussed at our January 31, 2007 meeting, the elutriate sampling you conducted allowed the screening out of the majority of the parameters of concern from a WPDES permit standpoint. The levels of copper, arsenic, ammonia, and suspended solids detected from your one sample point were too high to allow the issuance of a General Permit (for wastewater discharge). In addition, the detection limit for mercury in your lab results was too high. A lower detection limit for mercury is needed. Additional elutriate testing is needed for two reasons: 1) The results of the additional testing may allow the department to issue a GP for the WPDES permit, 2) The results are needed in order to calculate limits for the IP if the department determines that an IP is needed for the WPDES permit.

Response to Appendix 5: *Foth conducted additional elutriate testing as prescribed by the WDNR March 8, 2007 letter. The results of these tests are presented in a letter to the WDNR dated November 19, 2007 and presented in Appendix C of the Revised Chapter 30 Permit Application.*

Appendix 6 Environmental Analysis

Comment Item A: Update the entire Environmental Analysis to reflect the revisions and decisions required by this letter.

Response to Item A: *As requested by the city, Foth has updated Sections 1 through 4 and 6 through 9 of the Environmental Analysis (EA). The WDNR will be responsible for addressing the remaining sections: Section 5 and Sections 11 through 17. The revised EA is provided in Appendix B of the Revised Chapter 30 Permit Application.*

Comment Item B: Section 1 – revise information on dewatering sites, timing, disposal, etc. Update estimate funding to include overall project costs, including planning, engineering, construction, dewatering, disposal of material, revegetation and maintenance and monitoring.

Response to Item B: *Section 1 of the EA has been revised reflecting the proposed dewatering site, construction timing and other design information. The project cost estimate includes construction, dewatering and site reclamation. Revegetation costs are associated with the park development costs, and therefore, are not included with the project dredging costs. Furthermore, monitoring of sediments has not been defined by the state, therefore, this cost has not been included. Costs for engineering during construction have been contracted separately by the city and is not included in the construction cost estimate.*

Comment Item C: Section 2. Breakdown the purpose and need for each of the seven proposed dredge areas. Provide evidence of project need (i.e. police boat response times, Bleeker Street launch not being utilized, etc.)

Response to Item C: *Section 2 has been revised to include purpose and need for each section. The number of areas has been reduced to five.*

Comment Item D: Section 3. Add all local, county and federal permits.

Response to Item D: *No county or federal permit (other than Chapter 30) approvals are required. The property is contained within the City of Delafield, therefore, the county has no jurisdiction over the site use.*

Comment Item E: Section 4. Include staging areas, final dewatering locations as well as final disposal locations. Move the discussion regarding the 30 sediment samples to the existing aquatic section.

Response to Item E: *Section 4 has been revised to reflect changes in the staging and dewatering locations.*

Comment Item F: Section 5. Breakdown of cubic yards in each of the seven locations. What will channel dimensions look like in each location, distance from shore, buffer, etc. How will the aquatic plants (i.e., re-vegetation plan) fish, reptiles and amphibians be manipulated? Describe if the water level will be manipulated. Include the discussions on type of dredge method selected.

Response to Item F: *As agreed, Section 5 will be completed by the WDNR.*

Comment Item G: Section 6. Finalize based on the method of dredge you select. Provide details of proposed staging areas. Move the dredging discussion to number 5.

Response to Item G: *Section 6 has been revised based upon hydraulic dredging with further discussion of the shoreline staging area.*

Comment Item H: Section 7. Add discussion regarding odors generated by actual dredge operations as well as dewatering location. Add discussion regarding noise from dredge operation, pumps, etc. Include discussion on potential hose leaks, fuel spills, refueling, etc.

Response to Item H: *Section 7 has been revised identifying odors that may occur during dredging. In addition, spill contingency planning is also presented.*

Comment Item I: Section 9. Add USGS maps, soils, lake map, revised plans, etc.

Response to Item I: *Revised Chapter 30 Permit Application contains revised figures showing the project development.*

Comment Item J: Section 11. Describe the lake as a whole, i.e. dam on lake, surrounding topography and drainage area. Break each of the seven areas and describe existing conditions, separately, include info on water depth, sediment depth and type, water clarity, dissolved oxygen, typical shoreline, describe the channels (i.e. man-made, etc.) and how these features may be affected by this proposal. Describe the existing features of the dewatering locations, staging/loadout areas, disposal locations and how these features may be affected by the project.

Response to Item J: *As agreed, Section 11 will be completed by the WDNR.*

Comment Item K: Section 12. Separately, describe the biological environment of each of the seven areas proposed to be dredged. Include vegetation information which includes site specific aquatic, wetland and terrestrial vegetation. Include in narrative form (do not just reference the attachment) the notes from August 8, 2006 field survey. Also include fish and wildlife information. How will these features be affected by this project.

Response to Item K: *As agreed, Section 12 will be completed by the WDNR.*

Comment Item L: Section 13. a.) Describe the existing land use features of each of the seven proposed dredge areas. Include the launches, large wetland complexes, etc. b.) Describe the existing social and economic features and describe how they will be impacted by the project. Summarize the survey of residents regarding dredging and provide a copy of survey and survey results as an attachment. Discuss how this project may improve the riparians access to the main body of water and how this allegedly may affect property values. Discuss the Lake Welfare Group and any other group associated with the lake. c.) Provide documentation from the State Historical Society of any existing archaeological or historic values and how they may be impacted by the project (include disposal, dewatering and staging areas).

Response to Item L: *As agreed, Section 13 will be completed by the WDNR.*

Comment Item M: Section 15. Describe probable adverse and beneficial physical impacts the project may cause, including indirect and secondary impacts on both the lake, disposal site, loading/staging areas and dewatering site. Example impacts include the change in the lake bottom (substrate, depth, etc.), re-suspension of sediment during project, release of sediment constituents (i.e. nutrients, metals, etc.), impacts of project on both public and private watercraft navigation and public and private vehicular traffic, impacts on the navigational channels due to increased traffic and size of boats, potential impacts on lake water level issues, visual impacts of the dredge operation and markings (hoses, barge, pipes, booster pumps, etc.), noise from project (including all aspects), dust, changes in the loading/staging areas due to soil compaction, runoff, etc., change in the disposal area and dewatering area as well as cumulative impacts of future projects.

Response to Item M: *As agreed, Section 15 will be completed by the WDNR.*

Comment Item N: Section 16. Describe probable adverse and beneficial biological impacts the project may cause, including indirect and secondary impacts on both the lake, disposal site, dewatering site and loading/staging areas. Example impacts include the mortality of reptiles, amphibians and fish, temporary loss of aquatic vegetation which may impact fish and wildlife (cover, nursery, food, etc.), channels, more susceptible to erosion and slumping until vegetation is established, shift of native plant beds to more non-native species, impacts to wildlife, including migration, potential algal blooms due to nitrogen and phosphorus release, impacts on the resource by allowing larger watercraft to access areas as well as cumulative impacts of future projects.

Response to Item N: *As agreed, Section 16 will be completed by the WDNR.*

Comment Item O: Section 17. a) Describe probable adverse and beneficial impacts to land use (both public and private) the project may cause. Example impacts include an impact to the land use at the dewatering sites (how long will the material site be there, aesthetics), loading/staging areas. b) describe probable adverse and beneficial impacts to social/economics. Include funding for project and long term maintenance, increase in

Ms. Geri Radermacher
Wisconsin Department of Natural Resources
May 15, 2008
Page 17

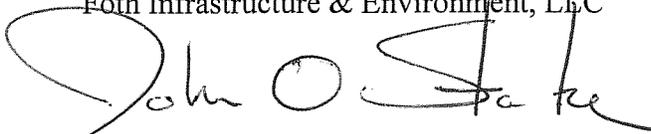
property values (property assessment study), recreational impacts. Discussion on funding shall include information on how the project will be funded (how revenue will be generated) including planning, construction, re-vegetation, and maintenance and monitoring.

Response to Item O: *As agreed, Section 17 will be completed by the WDNR.*

We believe the information contained herein meets the city's and state's goals for achieving a well balanced lake restoration program. If you need further information please contact either Tom Hafner at the city (262) 646-6225 or John Starke at Foth (920) 496-6865.

Sincerely,

Foth Infrastructure & Environment, LLC

A handwritten signature in black ink that reads "John O. Starke". The signature is written in a cursive style with a large initial "J" and "S".

John O. Starke, P.E.
Project Manager

cc: Tom Hafner, City of Delafield
Kent Attwell, Lake Welfare Committee
Denis Roznowski, Foth I&E
Jerry Berg, Foth I&E