

From: Deborah Lukovich [dlukovich@wi.rr.com]
Sent: Wednesday, January 31, 2007 4:51 PM
To: wlynch@execpc.com
Cc: 'Jim Donnelly'; 'Jim Plaisted'
Subject: FW: FINAL DRAFT
Hi Bill:

Please see attached email from Jim Donnelly, which contains our responses to the questions you posed. Feel free to contact me if you have any questions. I will also be forwarding a sample maintenance agreement with the Parks Department after this. Thanks so much for the extension. We've done a lot of work in the last week.

Deb

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From: Jim Donnelly [mailto:jim@designoffice.com]
Sent: Tuesday, January 30, 2007 4:39 PM
To: Deborah Lukovich
Subject: FINAL DRAFT

Please Send This To Bill Lynch ASAP.
Call Me Immediately 414 651 1110

The Bradford Beach Watergarden Project
Questions from LDAC/ Bill Lynch:

1. Please do the best you can to define and quantify the anticipated routine, periodic and long term maintenance costs and benefits from the proposed project.

Routine • normal litter pick-up.

- clean out any debris in the water trough.
- rinse cleaning of water elements*

*Provisions will be made for routine cleaning of the main water garden area during Spring, Summer, and Fall. Preliminary plans include installing a connection to City water to which a hose with high pressure nozzle can be connected to allow periodic washing off of bird droppings, etc. from the surface of the benches. The hose connection will be hidden by landscaping. It is anticipated that cleaning may be performed on a weekly basis. Cleaning would be performed by volunteers or contractors paid for using the funds collected for routine maintenance. As part of the engineering design process, we will evaluate whether water from one or more of the wells can be used for this purpose. Factors to be considered would include whether this would complicate permitting for the wells, or result in the need for any additional routine testing of the water quality.

- ongoing observational assessments and recommendations, that contribute to:

Periodic • seasonal clean-ups; start-of-the-season / end-of-the-season / New Years Day / Fourth of July.

- seasonal start-up/shut-off procedures.
- inspect the water trough for clogged holes, clean as necessary.
- check all other working parts, including the pump.
- replacement of paving stones in basin.
- weeding, pruning or replacement of plantings.

- ongoing observational assessments and recommendations, that contribute to:

Long-term • leveling wood deck segments of sand element;

- reconstruction or replacement of wooden components.
- readjustment and leveling of water troughs inside benches;
- reconstruction or replacement of concrete or stone components.

- parking lot run-off*

*At present, surface water runoff from the adjacent parking lot appears to be collected via storm sewers within the parking lot and appears to discharge directly to the Lake. No surface water from the parking lot is believed to discharge onto the area where the Watergarden will be constructed. Whether surface water from the parking lot could be contributing to water quality problems along the lake front is unknown, but this is outside the scope of this project. The

Watergarden will in no way negatively contribute to any existing surface water runoff problems in the area. It should be noted that the construction of the Watergarden would potentially provide an opportunity to address some of the storm water issues associated with the parking lot, such as by incorporating a rain garden as part of the landscaping along the edge of the parking lot. There may be grants available to fund a portion of these costs. However, it will be up to the County or the City to step forward and take advantage of this opportunity related to Storm water if they should so choose.

2. Be sure to address the ways in which the project will reduce maintenance costs by renewing, improving and extending the time before features will need to be maintained or replaced as well as ways the project will increase maintenance needs.

The proposed reorganization of the stone rip-rap along the edge of the bluff will be reorganized/restacked which will serve as an erosion control measure.

No or few custom parts should be specified; instead easy to replace mechanical components and material elements should be used.

An approach to the design is to allow “wear” and incorporate “age” that will enhance the appearance and make easy any repair. The only difficult part may be adjusting / maintaining the sloped water channels inside the bench forms.

Although the Garden may result in some increased use of this portion of the Lake front, the level of use is not anticipated by Sue Black to result in any incremental increased costs for the County for services such as cleaning of wastebaskets in the area, police patrols, etc.

3. Also address how maintenance will be done, by whom, and at whose expense.

Maintenance of the structures will be performed by volunteers or by service providers (graffiti removal) contracted by either Friends of Bradford Beach or affiliated groups.

Friends of Bradford Beach (FoBB) will finalize a written set of procedures regarding funding and

completion of maintenance tasks. Based on the current organizational structure of FoBB, we will continue to partner with The Park People, our fiscal agent. *The policy may look something like this:*

- Basic maintenance.

We will enter into an agreement with the Milwaukee County Parks Department to confirm that the Parks Department will perform the same routine maintenance that is done for other similar County property managed by the Parks Department (i.e., graffiti, vandalism, etc.). Documentation of maintenance of the water garden by the Parks Department will be passed along to FoBB to provide data about maintenance needs.

- Maintenance or repairs related to the specific design.

Maintenance and/or repair tasks that are specific to the water garden design will be completed and funded by FoBB. For example, FoBB plans to secure at least one extra set of pumps and parts.

- Communications.

As with other County Park land, complains, concerns or other comments regarding the Watergarden will be directed to the Parks Department. Depending on the type of attention needed, either the Parks Department will take care of the tasks or they will forward the issue to The Park People who will then contact FoBB. A careful record will be kept of these communications.

- Funding.

FoBB will set aside \$10,000 to pay for maintenance and repairs that are not covered by the Parks Department.

- Seasonal Cleanup.

FoBB plans to use cleanup tasks as opportunities for outreach to build a sense of pride and accountability for the Watergarden. In addition to cleanup of the Watergarden, we may include the bath house in these activities.

4. The Commission understands that the project design is in the conceptual stages making precise determinations of the engineering specifications, materials to be used and other matters affecting the longevity and sustainability of the projects features difficult.

- If the water and pump mechanisms elements are removed there remains a viable erosion control infrastructure, benches and trail head. So to, the reorganization of the breakwater stones.

- The sand element can be insured for vandalism and designed in unboltable, removable segments

capable of being moved away pending rising water levels.

- The quality of the wood specified should be able to withstand Wisconsin coastal winters. ex: Unimpregnated mountain larch, or Robinia, sawn 3" x 8" timbers, core free and planed.
- Robust bearing mechanisms of sintered metal and hot-dip galvanized steel will be specified for hardware and foundation anchors.

It is planned to use materials that will remain in good condition with minimal maintenance for a period of 25 to 50 years. The wood that will be used for the sand feature has been documented in similar applications to remain in good condition, free of rot, or splinters, for 25 or more years. The benches for the water feature will be constructed of a special highly durable concrete mixture poured in a controlled environment for maximum durability. It is anticipated that the benches will remain in good condition with minimal maintenance for 25 to 50 years.

5. How might any changes in the specifics of the project's design and engineering impact anticipated maintenance costs?

6. Please provide information concerning the longevity and sustainability in good condition of the projects features.

A critical focus for the engineering phase will be to design the major components in a way to enhance durability and decrease maintenance. It is anticipated that it will be possible to achieve a high durability low maintenance cost design regardless of changes that may need to be made in the overall project design due to budget or other problems.

Important factors in enhancing the durability of the concrete benches will be the concrete mixture used, the environment in which the concrete cures, the type of finish on the surface of the concrete. A finish with a high polish will decrease the susceptibility of the concrete to water infiltration, graffiti, and other environmental factors. The pumps will be designed in a manner such that the below grade portions will be constructed of standard pump parts that are of known durability, easy to replace, and easy to acquire as replacement parts. The above grade portion will be custom designed in a manner that increases the durability, the susceptibility of vandalism and rough use. Proper design of foundations for the benches will eliminate the possible uneven settling of the bench structures. Proper design of drainage will also help prevent future maintenance problems.

7. Also please address the costs resulting if any of the projects features becomes damaged or destroyed.

The sand feature will be designed in a manner such that it will be relatively easy to repair. The

platform will be designed in segmented forms such that individual sections can be removed and repaired or replaced if necessary. There are hundreds of firms within the Milwaukee area that could perform this work, as well as volunteers. Repairs for the platform could be as limited as repairing and replacing a single board on a single wooden platform section.

The concrete bench structures will also be designed in a manner such that they are resistant to damage, but relatively easy to repair or replace.

- The bench features will consist of approximately 6- to 10-foot long sections.
- Only three molds will be created and used to create the sections – one for straight sections and two for curved sections. The molds will be placed into storage.

In the unlikely event that one of the sections is severely damaged, it will be possible at a relatively modest cost to create a replacement section out of commonly available materials.

The above-ground portions of the pumps will be designed in a manner such that they are as durable for a harsh outdoor, urban environment and as resistant to vandalism as possible.

- At least one spare pump will be purchased at the time the pumps are installed, and available for replacing one or more of the pumps in the unlikely event that it is severely damaged by vandalism.

Probably the greatest potential causes for damage are severe storms, random vandalism, and extreme winter weather conditions. There is also likely some potential over a 25-year or more life span for a vehicle on Lincoln Memorial Drive to lose control and crash into a portion of the structure nearest the roadway.

Storms will be addressed partially through the design process and locating the structures at a location outside of the 25 year storm event wave crash zone. There are options to minimize storm damage including dismantling the structure over the winter, and moving the structure “up-beach” if lake level trends reverse and begin rising significantly at some future date.

Graffiti will potentially be the most serious type of vandalism threat. This could partially be addressed by improving lighting in the adjacent parking lot area, possibly as part of the project design. The other will be to select materials and finishes that provide the greatest resistance to damage from graffiti, and ease of removal of the graffiti.

8. An example might be the need to remove the sand play area feature if the water level rises and it is no longer intact or reachable from shore.

The costs to remove the sand feature should be minimal. The feature will be designed in sections that the wooden portions can be assembled and dismantled by a crew of four people using

specialty tools in approximately one 8 hour work day.

9. At the hearing the possibility that the Park People would provide some of the routine maintenance was mentioned, but there is no mention in Park People's letter of support respecting taking on this role. Has Park People made a commitment to do routine maintenance?

Maintenance of the structures will be performed by volunteers or by service providers (graffiti removal) contracted by either Friends of Bradford Beach or affiliated groups.

Friends of Bradford Beach (FoBB) will finalize a written set of procedures regarding funding and completion of maintenance tasks. Based on the current organizational structure of FoBB, we will continue to partner with The Park People, our fiscal agent.

Provide me with your written response to these matters by Tuesday, Jan. 30.

As promised,

David B. Holmes, P.G. Symbionet. Senior Hydrogeologist/Brownfields Project Coordinator
Deborah Deborah Lukovich, aline project solutions, LLC
James Donnelly, Project Designer

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