

# LBWID Operations Director Report

(December 2009 – January 2010)

## Engineering/Projects

### **Replacement of the dam's HMI (Human machine Interface) (new)**

- LBWID had the dam's control system's HMI (Human Machine Interface) replaced.
- The previous HMI was 7 years old and was showing signs of an imminent hard drive failure.
  - The hard drive and power supply had already been replaced once.
- The hard drive in the new HMI is a solid state unit (no moving parts) and should perform better in the extreme temperature and humidity conditions of the dam house.
  - The new HMI also has more memory and a faster processor than the previous HMI.
- The cost of the new HMI and installation is \$7,940.00.
- This project was awarded to Applied Control Engineering, the company who originally installed the dam's current control system and also maintains it.

### **Maintenance of the dam's Lake Level Sensor #1 (new)**

- Lake level sensor # 1 had been generating unstable lake level data and thus was taken out of service for maintenance.
  - The dam has two lake level sensors; lake level sensor #2 was being used during the maintenance of lake level sensor #1.
- Lake level sensor # 1 and the pipe (stilling well) that it was mounted in had to be removed and cleaned.
  - A layer of algae had formed around the sensor and the pipe and was interfering with the sensor reading the correct lake level.
  - Additional holes were also drilled in the pipe to allow for better water circulation.
- Lake level sensor # 1 and the pipe were reinstalled and have been working properly for about 1 week.

### **Concrete restoration for the dam (update)**

- The LBWID Dam Concrete Restoration Committee (Luis Fernandez, Walter Cate, Sammie Guy, Kevin Howe, LBWID Trustees, and the LBWID Operations Director) reviewed the design phase proposal that WR&A submitted this past November and concluded that the proposal fulfills the need of the LBWID and the dam concrete restoration project, and does so for a fair and competitive price.
  - WR&A will develop all technical specifications and drawings, they will take the lead in preparing all required bid solicitation documents, and they will administer the preliminary review of all submitted bids (with a more in-depth review of the three most competitive bidders).
  - The LBWID will have final say on all documents advertised or any information that will be released. The LBWID will also have the final say on which contractor will be awarded the project.
- The cost of this phase of the dam concrete restoration project is \$117,902.60.

- LBWID signed the proposal/contract on January 5<sup>th</sup> and requested that WR&A start work immediately.

### **Dam hydraulic cylinder testing program (update)**

- The hydraulic cylinder testing program is now anticipated to start in February 2010 (next month).
  - WR&A is still developing the testing and reporting protocol that the LBWID staff will use to administer the tests.
  - LBWID and WR&A are also considering expanding the program to include some testing of the dam's main hydraulic system.
  - These tests would not have been possible during most of January anyway because of the ice layer that has formed on the lake.
    - The ice can apply increased pressure against the bascule gate and potentially skew the hydraulic cylinder pressure data that is recorded during the testing period.

## **Operations**

### **Beach 3 pathway and drainage issues (new)**

- LBWID staff recently completed rebuilding the Beach 3 access path, made some repairs to the timbers containing the sand and corrected some related drainage and erosion issues.
  - LBWID provided the labor and LBA payed \$1,121 for the materials.
- The access path repair included removing approximately a 3 to 4 inch layer of river stone and placing it with compacted stone dust.
- The erosion issue involved installing a drainage pipe and wooden timbers to direct runoff water away from the Beach to stop beach erosion.
- The project took approximately 4 days with a 3 man crew

### **LBA storage container ventilation (new)**

- LBWID staff recently installed a solar powered ventilation fan in the LBA storage container that is located at the LBWID compound.
- The ventilation fan was installed to reduce the temperature and humidity in the storage container during the summer months.
  - Lengthy exposure to mold and mildew has damaged some of the equipment stored in the container.
- The LBA purchased the ventilation fan and the LBWID provided the labor for installation.
  - Installation took 1 staff member approximately 3 hours.

### **Purchase of new excavator for unloading hopper barges (new)**

- LBWID has purchased an excavator for unloading the hopper barges that are used during the LBWID's in-house dredging program.
  - The new excavator will replace the old clam-shell truck that was acquired with the dredging equipment that was purchased from Lake of the Woods.

- It was always understood that the old clam-shell truck would need to be replaced and that it would only be used to determine how well the in-house dredging program would work.
      - The clam-shell truck lasted 1 year less than expected, but the actual clam-shell bucket, which was the most valuable component of the truck, will be retrofitted to be used on the new excavator.
  - The cost for the new excavator is \$46,000.00; the price includes the cost of adapting the clam-shell bucket from the old truck to the new excavator.
    - The purchase of the exactor will reduce overall cost of trucking away the dredge spoils to the landfill; LBWID will no longer have to rent a machine to load the dump trucks.

### **Acquisition of new trailer for moving the new excavator (new)**

- Though a trade the LBWID has acquired a 1986 20 ton trailer that will be used for moving the new excavator (16 ton) that was purchased for the in-house dredging program. The trailer will be pulled by the LBWID dump truck.
  - The LBWID traded a compactor attachment that was never used and was part of the dredging equipment purchase from Lake of the Woods. Lake of the Woods had no use for the compactor attachment and included it in the deal at no additional cost to LBWID.
- The trailer will require an investment of approximately \$5,000.00 to restore it to new condition.
  - To buy this trailer new would cost about \$15,000.00
    - LBWID did not want to buy new because the trailer will only be used a couple of time each year to move the excavator between the Beach 3 and Beach 5 off-loading sites.

### **LBWID Staff health insurance change (update)**

- Starting March 1, 2010 the LBWID staff will have a new health insurance provider.
- The Commonwealth of Virginia's The Local Choice Program (a program created for municipal entities in Virginia) will be the new provider.
  - The Local Choice Program currently represents 230 municipal entities in Virginia and provides health insurance coverage for 43,000 government employees, retirees and family members.
  - The insurance is underwritten by Anthem Blue Cross & Blue Shield
- Switching to The Local Choice Program will result in a 32% cost reduction for LBWID and will have very minimal impact on the benefit coverage that the staff receives.
  - Benefits will be the same but co-pays and deductibles increased slightly.

### **3 Year bathymetry surveying contract (new)**

- LBWID has received a new 3 year contract from Princeton Hydro for conducting the annual bathymetry survey of Lake Barcroft. The cost will be the same as old contract averaging \$7,829 per year.
- The survey is performed in May or June of each year and it helps to determine how much sediment is being deposited in the Lake annually and where it is being deposited. This information is crucial for determining when and where to deploy LBWID's in-house dredging equipment.

## **Preparation for the 2010 spring and summer season (new)**

- LBWID staff will be spending much of their time during the winter months preparing for the upcoming spring and summer season.
  - Dredging and debris removal equipment is being serviced and/or repaired.
  - Tools and supplies are being inventoried (and purchased if needed).
  - LBWID compound is being cleaned and organized.
- All of this is done during the winter so that when the weather improves in the spring the staff will be effective and efficient at performing its lake and dam management duties.

## **Vine removal on Swift Island (new)**

- In February the LBWID staff will be removing the vines that grow in the trees on Swift Island.
  - This is done to prevent the trees from being choked and killed by the vines.
  - The vine removal is done on an annual basis.
- LBWID staff will also be trimming the informal path that runs around the perimeter of the island so that the staff will have an easier time navigating it this spring when the goose egg oiling program starts.
  - Swift Island is where the majority of the geese population nests in Lake Barcroft.

## **Dredge spoil disposal (new)**

- Weather permitting, in February the LBWID will truck away the 1300 CY of dredge spoils that were removed from the Lake in 2009 to Lorton Construction Landfill.
- February is a good time to do this because it is a slow month for trucking companies and we are hoping to negotiate a lower rate than we would get during the summer months.

Respectfully,

Davis Grant

LBWID Operations Director