DATE: January 14, 2011
TO: Chairman Michael Mayo
FROM: Julie Esch, Legislative Research Analyst

SUBJECT: Pro and Con Analysis of Estabrook Dam Alternatives

Per your request, I have prepared a listing of “pros” and “cons” for repairing the Estabrook Dam and the “pros” and “cons” of abandoning the dam, as follows:

Repair, Operation and Maintenance of Estabrook Dam

Pros
- $2.1 million in general obligation bonds budgeted for repairs
- More large motorized boat recreational opportunities, particularly for nearby residents, if the County were allowed to fill the impoundment seasonally
- Seasonally the impoundment creates the aesthetics of a lake amenity

Cons
- Would still need an estimated of $2 million in cash to clean up contaminated sediment behind the dam
- Phase II legacy match needed at an estimated $3.5 million (including the aforementioned $2 million) to clean up sediment behind the dam and up the river; otherwise, contaminated sediments will continue to flow downstream and re-contaminate the area around dam structure
- $1.3 million of operation and maintenance (O/M) costs over the next 20 years in order to maintain a 20 year lifecycle of the dam; without budget O/M funding, the lifecycle of the structure decreases
- Need easements for short and long term access to the dam structure along the west side of the stream bank, which is privately owned
✓ County has been previously unsuccessful in securing grants for repair of the Estabrook Dam

✓ Cost of fish passage improvements is not included in any of the estimates – these costs vary depending upon the size and sophistication of the structure

✓ An operational order that allows seasonal fill and draw of the dam impoundment (as was past practice) is not guaranteed after repair of the dam

✓ Negative impacts on the river’s ecosystems if seasonal fill and draw were to be permitted

✓ When Impoundment is full, with gates closed, potential for flooding upstream increases for three months of the year

✓ The dam is an impediment to navigation

✓ Costs associated to provide safe navigation around the dam is not included in the estimates

✓ Unfeasible to implement more stream bank stabilization and habitat structures using US EPA sediment cleanup funding due to a three month impoundment behind the dam

✓ The river will continue to be lined with exposed banks that are not fully vegetated due to the seasonal fill and draw of the impoundment

✓ Mud flats exposed nine months of year during seasonal draw down

---

**Removal of the Estabrook Dam**

**Pros**

✓ Eliminate ongoing operating and maintenance costs estimated at $80,000 - $100,000 annually

✓ Less cost to demolish the dam than repair it

✓ More grant programs available for habitat restoration and dam removal

✓ Eliminate ongoing dam responsibilities and liabilities

✓ Free-flow of the Milwaukee River (without the obstruction of the dam structures) will maintain natural wetland hydrology
Barriers to fish movement from Lake Michigan through the Milwaukee River would be removed.

Dam removal would result in the greatest reduction in flood elevations along the river upstream from the dam thereby reducing the potential for upstream flooding.

Aesthetics associated with a free flowing river.

Eliminates vandalism/graffiti that has occurred in the past.

Cons

- Would still need an estimated $2 million in cash to clean up contaminated sediment behind the dam.

- Phase II legacy match needed at an estimated $3.5 million (including the aforementioned $2 million) to clean up sediment behind the dam and up the river; otherwise, contaminated sediments will continue to flow downstream and re-contaminate the area around dam structure.

- Most costs for dam removal are not bond eligible.

- Without an impoundment to raise water levels behind the dam, the river will be less able to support large, motorized boat recreation during the summer season.

- Mud flats along river will be exposed until re-vegetated.

"Cons" highlighted in red are the same for both repair and removal options for the dam.