

**FEASIBILITY REPORT  
FOR  
LAKE ZUMBRO RESTORATION PROJECT  
IN  
OLMSTED AND WABASHA COUNTIES, MINNESOTA**

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

  
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William Angerman, P.E.

*8/26/15*  
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Date

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License. No.

**whks**

engineers + planners + land surveyors

# LAKE ZUMBRO RESTORATION PROJECT

## FEASIBILITY REPORT

### Introduction

This Feasibility Report, for the Lake Zumbro Restoration Project, has been prepared to address the requirements set forth in Chapter 429 of the Minnesota Statutes. The Report is needed to assist in determining the feasibility of the proposed project and in determining special assessments for the adjacent property owners.

The scope of this Feasibility Report includes the dredging of the Lake and disposal of sediment. The following is a summary of the background of Lake Zumbro, the scope of the project work, opinion of costs and special assessment methodology for the adjacent properties.

### Background

Lake Zumbro was created in 1919 following completion of the Lake Zumbro Hydro Project that dammed the south and middle forks of the Zumbro River north of Rochester, MN (Wabasha and Olmsted counties). Rochester Public Utilities (RPU) currently owns and operates the dam as a hydropower facility.

Lake Zumbro consisting of approximately 700 acres is a popular recreation area in southeastern Minnesota. Recreational opportunities include boating, water skiing, water tubing, canoeing, kayaking, water ski shows, fishing, tent and RV camping, and residential homes lining the lake. In addition, the lake has a wheel chair accessible fishing dock, marina, restaurants, year round youth camp and retreat center, and public and privately owned boat launches.

Lake Zumbro is unique, in the fact it is the only body of water in southeastern Minnesota that offers hydropower ability and these recreation opportunities.

Since the creation of Lake Zumbro sediment deposition has resulted in severe accumulation of sediment in several areas of the lake.

### Lake Zumbro Volunteers

Since 2002, volunteers have contributed over five thousand hours of time towards restoring Lake Zumbro. Recognizing the need to work on a watershed-wide scale, these volunteers helped establish the Zumbro Watershed Partnership in 2005. A lake volunteer worked with the University of Minnesota and the Minnesota Pollution Control Agency to map lake depth contours. Results were compared to lake depths maps in 1919, 1957, and 1978. In 2006 Lake Zumbro Forever, Inc. (LZFI) a 501(c)3 organization was formed.

LZFI is dedicated to the restoration and preservation of the beauty, environmental character, recreational quality, and regional value of Lake Zumbro.

In 2005 nine potential dredging areas were identified in Lake Zumbro. It was estimated dredging up to 6 feet at these locations would result in a volume of 1,000,000 cubic yards of dredge spoils.

RPU in collaboration with the Lake Zumbro Improvement Association, LZFI and Olmsted and Wabasha Counties retained the services of Barr Engineering to perform sediment and dredging assessments of Lake Zumbro. The purpose of the assessment was to determine if dredge spoils were suitable for removal, and to identify and prioritize dredging sites, determine necessary water depth and dredge depth, collect and analyze sediment samples, and to identify long term storage and dredged material sites. The analysis known as Lake Zumbro Sediment and Dredging Assessment is dated December 12, 2006 (Revised January 2007) (refer to attached Exhibit "A").

In 2010, with funding from the State of Minnesota and Rochester Public Utilities, LZFI retained the services of Barr Engineering to prepare a preliminary engineering report for the Lake Zumbro Restoration. The Report known as the Preliminary Engineering Report, Lake Zumbro Restoration is dated November 2011. The Report provides the basis for project planning (refer to attached Exhibit "B").

The original project cost was estimated at \$10.0 mil. An estimate of the Lake Zumbro Restoration project cost prepared during the preliminary report is \$7.0 mil.

### **State Bonding**

In 2012 and in 2013 the State of Minnesota appropriated \$3.5 mil in State Bonding funds towards the Lake Zumbro \$7.0 mil Restoration Project. The funds are conditioned that a dollar for dollar match be provided at the local level.

### **Joint Powers Board (JPB)**

The existing JPB duties were modified to cover the dredging of the Lake.

Article II of the Agreement states, in part, that "The parties hereto will work together in restoring Lake Zumbro through programs to fund and oversee the removal of deposited sediments through dredging."

The Agreement was amended in the Spring of 2015 to designate the JPB "To serve as the "joint county authority", with authorization to undertake projects of improvement consistent with the purposes of the Lake Zumbro Improvement District, including all forms of financing set forth in Minn. Stat. Section 103B.555. This shall specifically include, but is not limited to, assessing the costs of the projects upon benefited property within the District in the manner provided under Chapter 429 of the Minnesota Statutes." (refer to attached Exhibit "C" for Joint Powers Agreement, including amendment).

### **Lake Zumbro Improvement District (LZID)**

Olmsted and Wabasha counties authorized the creation of the LZID. The properties included in the LZID are located within the boundaries contained in the LZID map (refer to the attached

Exhibit “D”). The LZID was established with the intent to assess property owners for a portion of the Lake Zumbro restoration costs.

### **LZID Board**

The LZID Board was authorized by Olmsted and Wabasha counties.

The LZID Board was not granted the right to levy special assessments to properties located within the LZID. The authority to levy special assessments was retained by Olmsted and Wabasha counties.

### **Preparation of Feasibility Report**

In 2015 Rochester Public Utilities retained the services of Barr Engineering for Lake Zumbro Improvement Services, for developing the methodology and preparation of assessments for the LZID and the preparation of a Feasibility Report for the improvements. The Statement of Work is included as Exhibit “E”. The scope of services is summarized as follows:

1. Assessment Methodology
  - a. Development of assessment methodology, property lists and maps
  - b. Meet with LZID Board to discuss assessment methodology
  - c. Meet with LZID Board to obtain consensus on preferred assessment option
2. Feasibility Report
  - a. Prepare and submit a Draft Feasibility Report to LZID Board and the JPB for review and comments. The Report is to address the requirements set forth in Chapter 429 of the Minnesota Statutes and will generally address the following:
    - 1) is the project feasible?
    - 2) an estimate of the improvement’s cost as proposed
    - 3) a reasonable estimate of the total amount to be assessed
    - 4) a description of the methodology used to calculate individual assessments for affected properties
  - b. Present Final Feasibility Report to Joint Powers Board for Approval.
  - c. Assist in Project Hearing process.
3. Adoption of Assessments
  - a. Assist in developing the final amount to be assessed.
  - b. Assist in the Assessment Hearing process and levying of assessments.

### **Feasibility Report**

The project is necessary to restore approximately 208 acres of the lake in order to address the following objectives:

- remove sediment deposited since construction of the dam,
- improve recreational navigation of the lake,
- increase the storage capacity of the lake, allowing RPU to optimize hydro operations and potentially increase electrical generation,

- restore lake access to shoreline property owners where sedimentation and plant growth has compromised riparian access rights (i.e. restore boat access between property and lake),
- create and maintain sustainable sediment storage/management areas to reduce areas to be dredged in the future,
- improve / prevent further degradation of Lake Zumbro water quality,
- improve aquatic habitat where feasible (with input from MDNR and regulatory agencies).

The feasibility of the project is based on the following documents and reports:

Lake Zumbro Sediment and Dredging Assessment dated December 12, 2006 (Revised January 2007) (refer to attached Exhibit “A”).

Preliminary Engineering Report, Lake Zumbro Restoration dated November 2011. The Report provides the basis for project planning (refer to attached Exhibit “B”).

### **Scope of Work**

The lake improvements will consist of removing approximately 1,000,000 cubic yards of sediment. The final volume to be will be based on construction bids. The areas for sediment removal were identified in the Preliminary Engineering Report prepared by Barr Engineering dated November 2011. The areas identified for dredging are summarized as follows:

| Area | Location                 | Acres |
|------|--------------------------|-------|
| 1    | Dam West                 | 6     |
| 2    | Rausch’s Bay             | 16    |
| 3    | Hidden Cove              | 3     |
| 4    | Kings Marina             | 27    |
| 5    | Blakely Bay              | 13    |
| 6    | Saterdalen Cove          | 10    |
| 7    | Sandy Point North        | 30    |
| 8    | Sandy Point South        | 41    |
| 9    | Cedar Beach              | 39    |
| 10   | Kings Park               | 13    |
| 11   | King Park Oronoco Branch | 10    |
|      | Total                    | 208   |

The dredging areas are illustrated on Sediment Removal Areas map (refer to attached Exhibit “F” and “G”).

### **Land Acquisition**

The Barr Engineering Lake Zumbro Sediment and Dredging Assessment identified potential land for placement of dredged material. The land will either need to be purchased or leased for placement of the material.

Land acquisition procedures need to be determined during final design.

## **Opinion of Probable Cost**

The opinion of probable cost is based on the project cost estimates as follows:

|                    |              |                                 |
|--------------------|--------------|---------------------------------|
| Construction       | \$6.160 mil* |                                 |
| Land Acquisition   | \$0.140 mil  | 80 acres x \$350/acre x 5 years |
| Engineering        | \$0.700 mil  |                                 |
| Administrative     | TBD          |                                 |
| <u>Legal</u>       | <u>TBD</u>   |                                 |
| Total Project Cost | \$7.000 mil  |                                 |

\* Construction costs will vary to meet the \$7.0 mil project budget.

## **Proposed Project Funding**

|                    |             |   |
|--------------------|-------------|---|
| State Bonding      | \$3.284 mil | \$3,283,500<br>requires a dollar for dollar local share |
| RPU Commitment     | \$1.167 mil | 1/3 of local share previously committed                 |
| LZID Board         | \$1.617 mil | \$1,616,500 recommended assessment                      |
| Counties Share     | \$0.500 mil | Total Olmsted and Wabasha County Share                  |
| Local Share        | \$3.284 mil | \$3,283,500   |
| Total Project Cost | \$6.567 mil |   |

\* Barr Engineering and WHKS & Co. recommend that 20% of the project costs be in the form of special assessments. 20% is based on the share of project costs that a number of municipalities in southeastern Minnesota use for special assessments. Assessing 20% of a project's cost has proved to result in few objections and appeals to the assessments when levied by a municipality.

However, based on the level of project funding committed by RPU and the Counties, the LZID Board recommends that \$1.617 mil (23.1%) of the project costs are assessed. This leaves a project funding shortfall of \$216,500 for the local match. This reduces the local match to \$3.284 mil and the State share to \$3.284 mil, for a total project cost of \$6.567 mil.

## **LZID Share Assessment Methodology**

Assessments can be levied against a benefitting parcel by following the process outlined in Minnesota Statutes Chapter 429, Local Improvements Special Assessments.

There is no record that we are aware of that a dredging project has been assessed in the State of Minnesota. As such, previous assessments for a dredging project can't be referenced, to establish an assessment methodology for the Lake Zumbro Restoration Project.

The assessment methodology for the Lake Zumbro project has been developed based on research of the LZID property uses and whether or not a property abuts the Lake, or Lake access via association owned property. The assessment methodology is intended to be consistent with generally accepted assessment procedures to assist with passing the benefits



test (increase in property value) in the event that there are objections and appeals made to the assessments.

Each parcel within the LZID has been assigned a parcel designation. The parcel designation and definition are as follows:

| <b>Parcel Designation</b>                    | <b>Definition</b>  |
|--|--|
| Non-Assessable                               | State, City (RPU), County, Township, or other Gov't Agency                         |
| Commercial                                   | Restaurant, campground, marina, etc.   |
| Improved (abuts lake)                        | Parcel contains a seasonal or year round residential dwelling                      |
| Improved (abuts lake, multiple parcels)      | Multiple parcels with same owner   |
| Improved (abuts lake via association parcel) | Parcel is lake front and has lake access via association parcel                    |
| Un-Improved (abuts lake association owned)   | Parcel owned by multiple property owners (townhomes, subdivisions, etc.)           |
| Improved (abuts lake and is in association)  | Parcel abuts lake and is also in an association that owns a parcel that abuts lake |
| Improved (doesn't abut lake, in association) | Parcel is improved , but has a shared lake access                                  |
| Unimproved (abuts lake)                      | Parcel does not contain a residential dwelling                                     |
| Unimproved (abuts lake, multiple parcels)    | Parcels are unimproved and parcels have same owner                                 |
| Dredging                                     | Parcel is located in a designated dredging area                                    |
| No Dredging                                  | Parcel is not located in a designated dredging area                                |

### **Residential Equivalent Unit (REU)**

Each parcel will be assigned an REU based on the parcel's designation. One REU will be assigned to a parcel that abuts the lake and contains a seasonal or year round residential dwelling. A seasonal dwelling may consist of a cabin, trailer home, or camper.

Commercial parcels are assigned an REU based on a combination of parcel size and land use.

Association owned parcels that abut the lake will be assigned an REU based on the number of buildable lots within the association divided by 5. An example of a calculation for an association parcel is as follows:

$$\text{REUs} = \frac{\text{Buildable Lots}}{5} = \frac{45 \text{ buildable lots}}{5} = 9 \text{ REUs}$$

### **REU Rate**

The REU rate will be calculated by taking the total project costs to be assessed divided by the total residential equivalent units. The following is an example of the REU calculation:

$$\frac{\text{Total Assessment Amount}}{\text{Total REUs}} = \frac{\$1,616,500}{356 \text{ REUs}} = \$4,541/\text{REU}$$

The actual REU rate will be calculated after the total number of REUs is determined, and after the project is bid, and prior to the project's assessment hearing.

## **Individual Parcel's Assessment Amount**

Each parcel's special assessment will be calculated based on the actual REU rate and two REU rate multipliers. The first rate multiplier is based on each parcel's designation. The second REU rate multiplier is based on whether, or not, a parcel is located within a designated dredging area. Parcels located in a designated dredging area will receive improved access to the Lake. As such, the parcels will receive an additional benefit from the Lake Restoration Project. It's proposed that parcels in a designated dredging area are assessed 30% more than parcels located in a non-dredging area. A parcel's designation and applicable REU rate multipliers are as follows:

| <b>Parcel Designation</b>                    | <b>REU Rate Multipliers</b> |
|--|-----------------------------|
| <b>First Multiplier</b>                      |                             |
| Non-Assessable                               | 0.00                        |
| Commercial                                   | 1.00                        |
| Improved (abuts lake)                        | 1.00                        |
| Improved (abuts lake, multiple parcels)      | 1.00                        |
| Improved (abuts lake via association parcel) | 0.50                        |
| Un-Improved (abuts lake association owned)   | 1.00                        |
| Improved (abuts lake and is in association)  | 1.00                        |
| Improved (doesn't abut lake, in association) | 0.00                        |
| Unimproved (abuts lake)                      | 0.00                        |
| Unimproved (abuts lake, multiple parcels)    | 0.00                        |
| <b>Second Multiplier</b>                     |                             |
| Dredging                                     | 1.15                        |
| No Dredging                                  | 0.85                        |

## **Improvement Hearing**

A Notice of Improvement Hearing will be published in the official newspaper(s) for the LZID. Each LZID parcel proposed to be assessed will be mailed a Notice of Hearing prior to the Improvement Hearing being conducted. The Notice will state the date, time, and place of the Hearing.

The purpose of the Improvement Hearing is for the JPB to discuss the Lake Restoration Project before ordering it done. The JPB will consider the Feasibility Report and any other information, including public comment, necessary for the JPB deliberation.

## **Assessment Hearing**

A Notice of Assessment Hearing will be published in the newspapers. Each LZID parcel proposed to be assessed will receive a Notice of Assessment prior to the Assessment Hearing being conducted. The Notice will state the date, time, and place of the Hearing, inform the property owner of the amount proposed to be assessed against the parcel and provide information regarding the property owner's rights under Minnesota Statutes Chapter 429.

The purpose of the Assessment Hearing is for the JPB to hear and consider all objections to the proposed assessments, whether presented orally or in writing. Before the JPB adopts the assessments it may change, or amend the proposed assessment as to any parcel.



## **Assessment Spread**

Assessments can be paid over a period of time as determined by the JPB not to exceed 30 years. Based on the amount of the each parcel's assessment, a typical timeframe is for assessments to be payable over a period of ten (10) years.

## **Interest Charges**

Minnesota Statutes Chapter 429 authorizes interest to be charged on the assessments. Minnesota Statutes Chapter 429 permits adding an additional interest rate to the assessment interest rate to cover administrative costs. A typical amount to add to the interest rate is 1.0%.

## **Notice for Payment of Assessments**

After the Final Assessment Hearing has occurred, each property owner will be mailed a Notice for Payment of their respective assessments. Payment can be made within 30 days of the notice with no interest charges. It is anticipated the payment notice will be mailed out in October of the year that the first Certification of the Assessments will be made.

## **Certification of Assessments**

The certification of assessments will be made by the JPB, to each respective County. Each county will include the annual assessment payment in the real estate taxes due and payable for each affected parcel in any given year. An agreement should be negotiated and prepared between the counties to layout a payment process.

## **Deferral of Assessment**

Minnesota Statutes Chapter 429 allows deferral of assessment payments. The JPB needs to determine whether, or not, deferrals will be allowed. Such deferrals could be made based on consideration of the property owner's age, medical condition and financial status. A deferral can be charged interest, but a policy would need to be developed by each County and a decision will need to be made to determine and evaluate each request for a deferral. In any case, payment of the assessment and accrued interest is required within 30 years of the date the assessment is levied.

## **Future LZID Service Charges**

Unimproved properties – Consistent with typical assessment practices, these properties will not receive an assessment. We have been working to determine the best way to account for future development within the LID boundary, how much future development should be included in assessment calculations now, how to collect future dollars, and who should receive these dollars. Future development generally consists of new plats, lot splits, and new homes on existing lots. Typically the governing body would cover the cost of a portion attributed to new development. The governing body then recoups this contribution over a defined time limit. In this scenario we think the possibility exists for the County to contribute an amount at the present

time for future development that they would collect from these unimproved properties over a defined time frame such as 20 years.

Tentative estimates of the number of unimproved properties and the number of acres are as follows:

| County  | Parcels | Acres |
|---------|---------|-------|
| Olmsted | 57      | 555   |
| Wabasha | 27      | 144   |

### **Conclusion/Summary**

The Lake Zumbro Restoration Project is feasible from an engineering standpoint. It is recommended that the JPB conduct a legal and fiscal review of the proposed project. It is recommended that the project recover a portion of the project costs through special assessments.

Per this Feasibility Report the LZID Board recommends that \$1.617 mil of the project costs be recovered through special assessments.

## Project Schedule

## Completion Date

1. JPB Receives Feasibility Report  
a. Order Public Improvement Hearing  
b. two publications of Hearing in official newspaper(s)  
c. notice of hearing mailed to the owner of each parcel proposed to be assessed  
July 2015
2. JPB Holds Public Improvement Hearing  
a. orders the improvement  
b. authorizes preparation of plans and specifications  
September 2015
3. Consultant Engineer Environmental and Design Services  
a. Environmental Review/Documentation and Approvals  
b. Prepare final design and specifications  
October 2015
4. Land acquisition for sediment disposal  
Fall 2015
5. JPB approves plans and specifications and authorizes Advertisement of Bids  
July 2016
6. JPB Receives Bids  
a. Order Final Assessment Hearing  
August 2016
7. Consultant Finalizes Assessment Roll  
a. one publication of Hearing in official newspaper(s)  
b. notice of Hearing mailed to the owner of each parcel proposed to be assessed  
August 2016
8. JPB Conducts Assessment Hearing  
a. approve assessments by Resolution  
b. awards contract by Resolution  
August 2016
9. Project construction is commenced  
Spring 2017
10. Mail Notices for Payment of Special Assessments  
October 2016
11. Certify assessments to Olmsted and Wabasha Counties for inclusion in Real Estate Taxes payable in 2017  
December 2016
12. Project construction is completed  
Fall 2017