

**MEETING DATE:** September 14, 2017

**TITLE:** Approval of Revised Mooney Lake Emergency Pumping Plan

**RESOLUTION NUMBER:** 17-056

**PREPARED BY:** Laura Domyancich, Project and Land Technician

**E-MAIL:** ldomyancich@minnehahacreek.org

**TELEPHONE:** 952-641-4582

**REVIEWED BY:**  Administrator  Counsel  Program Mgr. (Name): Tiffany Schaufler  
 Board Committee  Engineer  Other:

**WORKSHOP ACTION:**

Advance to Board meeting Consent Agenda       Advance to Board meeting for discussion prior to action

Refer to a future workshop (date): \_\_\_\_\_       Refer to taskforce or committee (date): \_\_\_\_\_

Return to staff for additional work       No further action requested.

Other (specify): Approval requested at September 14, 2017 Board Workshop.

**PURPOSE or ACTION REQUESTED:**

Approval of revised Mooney Lake Emergency Pumping Plan.

**PROJECT/PROGRAM LOCATION:**

Mooney Lake Outlet Structure, Plymouth, MN.

**PROJECT TIMELINE:**

Ongoing.

**PROJECT/PROGRAM COST:**

Fund name and number: Project Maintenance and Land Management, 200-2003-4320

Current budget: \$683,310

Expenditures to date: \$100,586.11

Requested amount of funding: None.

**PAST BOARD ACTIONS:**

- November 29, 2005      RES 05-072 Mooney Lake Cost Share and Pump-out Elevation
- July 19, 2007      RES 07-052 Order Mooney Lake Emergency Pumping Outlet
- August 6, 2009      RES 09-080 Cooperative Agreement with City of Plymouth
- August 7, 2011      RES 11-031 Approval of Mooney Lake Pumping Plan and Fund Disbursement

**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.  
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

**SUMMARY:**

The Mooney Lake Outlet Structure was cooperatively constructed by the District and the City of Plymouth in 2008 to provide a permanent outlet for Mooney Lake, which has no natural outlet and periodically rises to flooding levels. Subsequently, in March of 2011, the Board approved the original Mooney Lake Operating Plan for Emergency Pumping, which set lake elevations to begin and end pumping and responsibilities of each party for water level and water quality monitoring, public and municipality notifications, and equipment maintenance.

Due to prolonged regional flooding in 2014, Mooney Lake was pumped over a period of several months. This extended period of pumping and long-term implementation of the Operating Plan exposed a lack of clarity in the plan and highlighted the need for revisions. Following, District and City of Plymouth staff coordinated to draft an updated document that clarifies agency obligations, refines necessary operational procedures, and incorporates associated easements and permits. These revisions are strictly limited to operational procedures; lake elevations and timeframes associated with pumping remain entirely the same. In addition to drafting the revised document with City of Plymouth staff, the Mooney Lake Association has also reviewed and approved these revisions that better meet the needs of all parties.

**ATTACHMENTS:**

- Revised Mooney Lake Emergency Pumping Plan

**RESOLUTION**

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**RESOLUTION NUMBER:**    17-056

**TITLE:**            **Approval of Revised Mooney Lake Emergency Pumping Plan**

WHEREAS,    the Minnehaha Creek Watershed District (MCWD) engages in regional capital improvement projects as described in its Water Resources Management Plan; and

WHEREAS,    the District and the City of Plymouth cooperatively constructed the Mooney Lake Outlet Structure and developed the associated Mooney Lake Emergency Pumping Plan; and

WHEREAS,    the District continues to coordinate the operation of the Mooney Lake Outlet Structure with the City of Plymouth and those communities downstream under guidelines set forth by the Mooney Lake Emergency Pumping Plan; and

WHEREAS,    the District recognizes the need to periodically update and revise operating plans to improve the operation of infrastructure, increase efficiencies, and respond to changing conditions; and

WHEREAS,    the revised Mooney Lake Emergency Pumping Plan clarifies operational procedures for parties responsible for implementation of the Plan.

NOW, THEREFORE, BE IT RESOLVED, that the revised Mooney Lake Emergency Pumping Plan is approved.

Resolution Number 17-056 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_.  
Motion to adopt the resolution \_ ayes, \_ nays, \_ abstention. Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_  
Secretary

DRAFT MOONEY LAKE  
OPERATING PLAN FOR  
EMERGENCY PUMPING

MOONEY LAKE EMERGENCY OUTLET INFRASTRUCTURE PROJECT

PREPARED BY:

THE CITY OF PLYMOUTH AND MCWD

APPROVED BY THE MINNEHAHA CREEK WATERSHED DISTRICT ON

MARCH 24, 2011

REVISED MAY 2017

TO BE CONSIDERED BY MCWD BOARD OF MANAGERS 9/14/17

## BACKGROUND

Mooney Lake is a 115 acre land-locked basin located in southwestern Plymouth and also within the Cities of Medina and Orono (Figures 1 and 2) with a history of high water concerns dating back to 1976. Mooney Lake has an ordinary high water level of 988.0 and a 100-year high water level of 990.0. Several meetings, reports, and models were completed by the Minnehaha Creek Watershed District (MCWD) on the lake elevation from 1976-2004, however, projects to address the flooding concerns were not authorized by the MCWD consistent with the recommendations of the Mooney Lake Feasibility Study (2001). In October 2002, unusually high rainfall resulted in emergency pumping of Mooney Lake to protect structures adjacent to the lake. The high water levels also resulted in discussions on constructing a permanent pumping station intended to more fully address the flooding concerns.

On July 24, 2007 the City of Plymouth entered into a cooperative agreement with the Minnehaha Creek Watershed District (MCWD) for construction of the Mooney Lake Emergency Outlet Infrastructure Project. This improvement included construction of an outlet structure at the southeast corner of Mooney Lake, installation of approximately 1,100 lineal feet of underground pipe, and installation of a lift station with controls, with a connection to the City of Plymouth storm sewer system. As outlined in the cooperative agreement, responsibilities of the City of Plymouth and the MCWD with regards to the Operating Plan for Emergency Pumping are as follows:

### Responsibilities of the City of Plymouth:

1. Preparation of an operating plan for emergency pumping based upon the emergency pumping plan previously prepared by MCWD and Plymouth, in accordance with the MN DNR Pumping Permit [\(Exhibit A\)](#), and in accordance with the MCWD Board Resolution dated November 29, 2005 [\(Exhibit B\)](#).
2. Acquire rights to access, operate, and maintain the pumping facility and associated piping.
3. Communication with affected landowners within the City of Plymouth.
4. [Notify Mooney Lake Association President, MCWD, City of Wayzata, City of Orono, and City of Medina staff by email when pumping begins and ends.](#)
- ~~3.5.~~ [Placement of "Thin Ice" warning signs around the pumping facility if pump is operating while ice is present on Mooney Lake.](#)
- ~~4.6.~~ Repairs, maintenance, replacement, and general operation of the pumping facility and associated piping.
7. Cost of power usage.
8. [Reporting to MCWD a summary of the pumping:](#)
  - a. [Date\(s\) pumping started and stopped, pumping rates, and estimated total volume pumped.](#)

Responsibilities of the Minnehaha Creek Watershed District:

1. Monitoring and follow-up reporting to the City of Plymouth and the ~~Mn-MN~~ DNR.
  - a. Monitoring and follow-up reporting includes providing documentation on pumping rates, pumping times, estimating pumping volumes, and recording water levels on Mooney Lake, Pinetree Pond, Queensland Avenue Pond, Hadley Lake, Far Hill Road Wetland (GC-W5A), wetlands along I-394 in Wayzata, and Glenbrook Pond to Wayzata Bay, ~~and taking water quality samples.~~
  - b. Water elevations shall be monitored daily for the first 5 days of pumping, then weekly or immediately after significant runoff events at the locations shown in Figure 3.
2. The MCWD will ~~be responsible to secure all required permit(s) (see Appendix A for example of Mn DNR Water Appropriations Permit) and~~ provide 5 days advance notification to the ~~Mn-MN~~ DNR Area Hydrologist ~~for prior to~~ implementation of the emergency pumping as required by DNR Permit 2008-0278 for the project plan.
- 2.3. Annual surveying of the staff gauge in Mooney Lake near 1890 Troy Lane, North, Plymouth. The gauge elevation is surveyed using a permanent benchmark elevation at this address. During high water periods, MCWD will request elevation readings be taken by the resident of this address and reported to MCWD. This will be the official lake elevation reading and will inform the decision to initiate pumping.

**OPERATING PARAMETERS ORDER OF OPERATIONS FOR IMPLEMENTING EMERGENCY PUMPING**

The Mooney Lake emergency pumping shall follow the order of operations below:

1. Based on water level monitoring by MCWD, if Mooney Lake’s water elevation ~~are~~ is at the “Start Pumping” elevation as noted in the Table 1 below, then MCWD will contact Plymouth to discuss possible pumping.

Table 1. Mooney Lake target elevations for seasonal emergency pumping

	<u>Start Pumping</u>	<u>Stop Pumping</u>
<u>January – February</u>	<u>None</u>	<u>None</u>
<u>March – September</u>	<u>990.0</u>	<u>989.0</u>
<u>October – December</u>	<u>989.0</u>	<u>988.0</u>

2. MCWD will contact the City of Wayzata to jointly determine with the City of Wayzata if the downstream waterbodies (see Appendix A for a brief description of the downstream waterbodies) have storage capacity available to receive the Mooney Lake pumping.
  - a. Estimates on the increase in downstream water surface elevations under maximum pumping rates (1.7 cfs) are as follows:
    - i. Pinetree Pond – Less than 4 inches
    - ii. Queensland Avenue Pond – Less than 4 inches

~~ii.iii.~~ Hadley Lake – Less than 12 inches

~~ii.iv.~~ Far Hill Road Wetland (GC-W5A) – Less than 10 inches

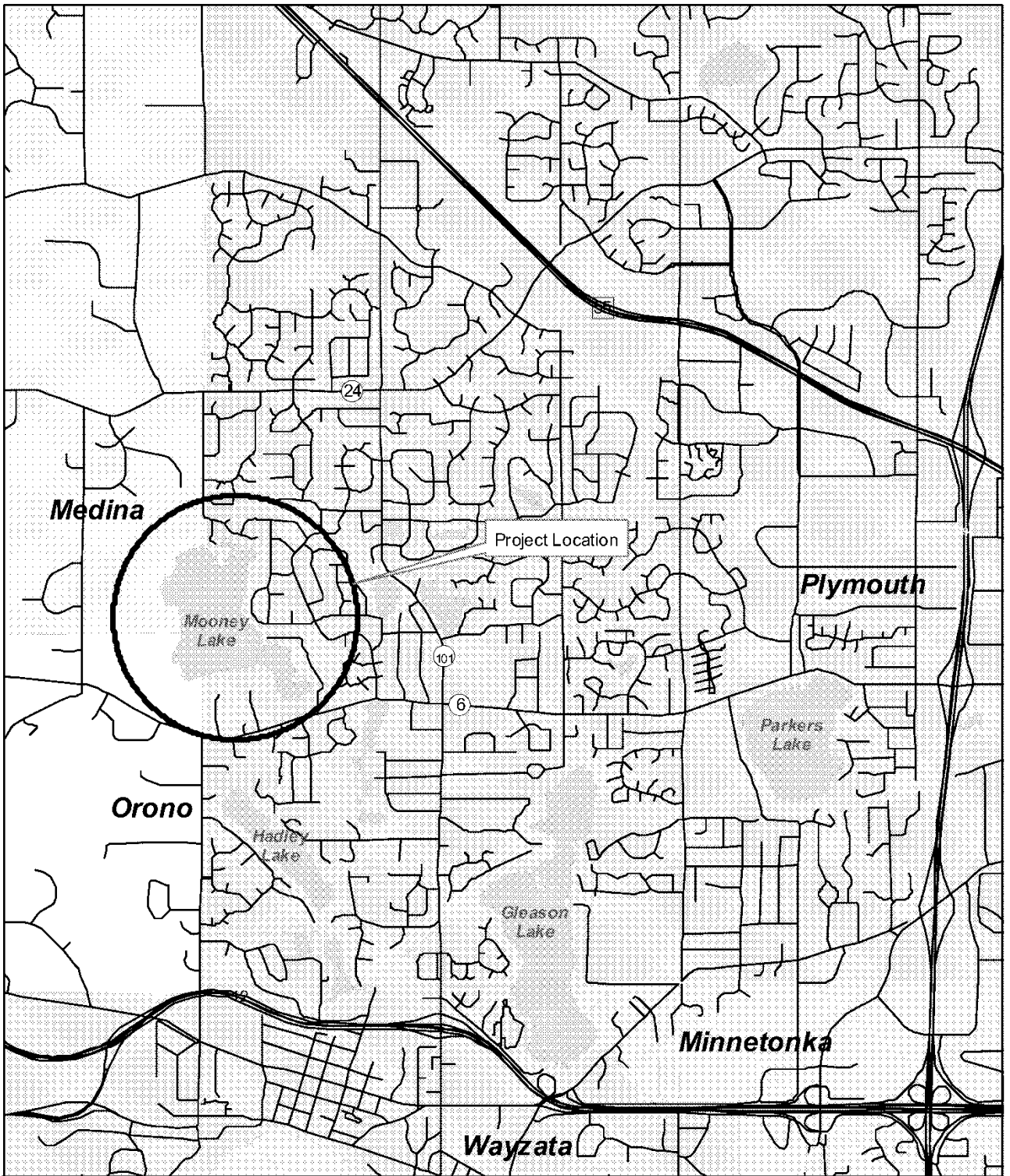
~~ii.v.~~ Glenbrook Pond – Less than 1 inch

- b. The actual water elevation increase is dependent on the outlet structure characteristics for each waterbody and starting water surface elevation and also assumes that outlets remain clear of debris with unobstructed flow.
3. If the potential for structural flooding downstream is no more than the potential for structural flooding on Mooney Lake then the City of Plymouth will begin pumping. MCWD will give 5 days' notice to the DNR Area Hydrologist prior to initiating pumping. The pumping system shall run continuously through on/off cycling, unless operational problems occur, and have a maximum discharge capacity of 1.7 cfs (750 gpm). Pumping will be maintained during precipitation events. The pumping system may be shut down for an indefinite period of time if an extreme event or prolonged wet period results in high water conditions in downstream waterbodies.
4. The City of Plymouth will turn off pumping when the "Stop Pumping" elevation noted in Table 1 has been met for the related time of year; OR the City of Plymouth will reduce or turn off pumping if it is determined by the City of Plymouth, MCWD, or DNR to have an adverse impact on downstream waterbodies.

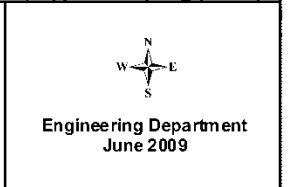
## FIGURES

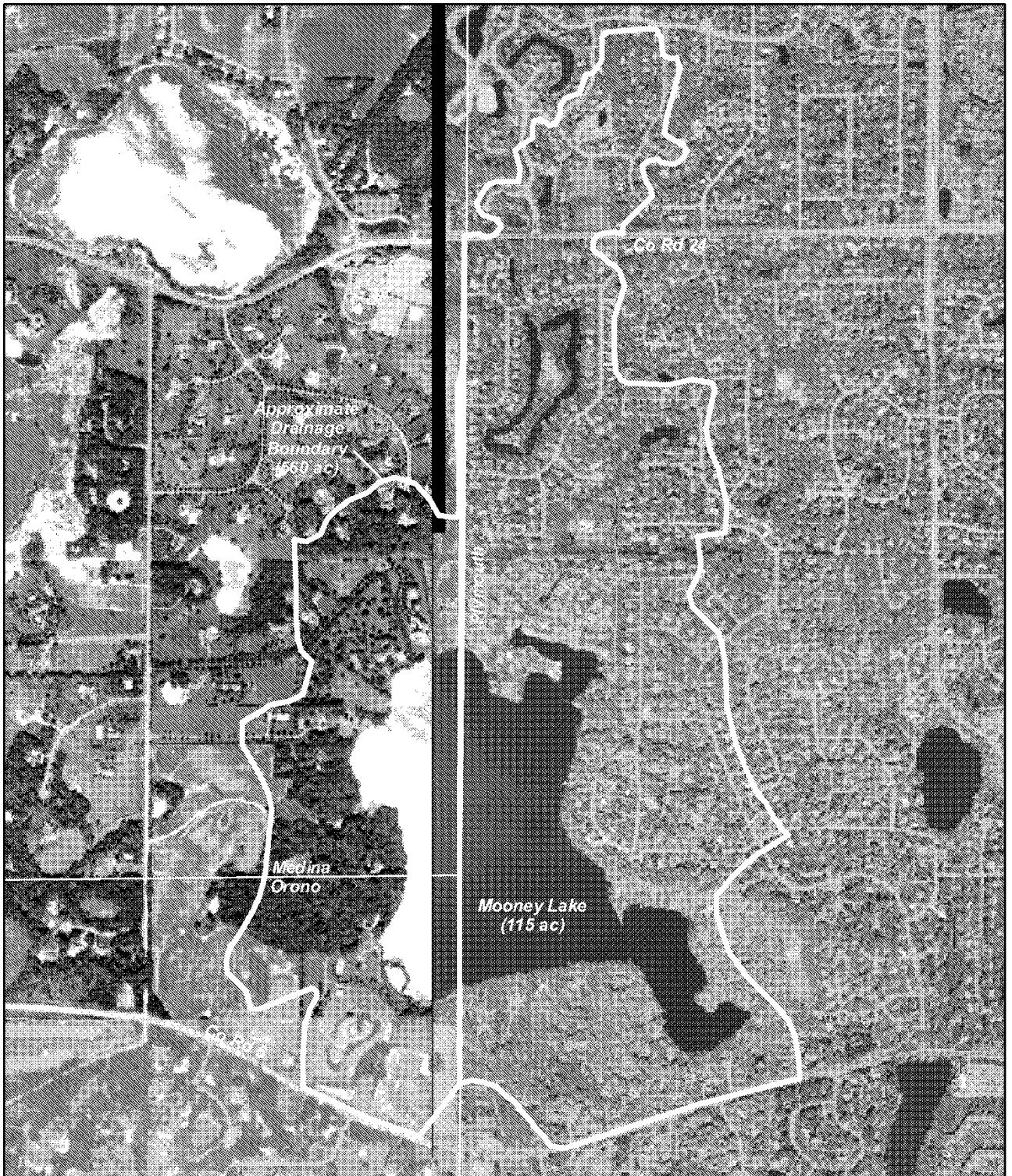
DRAFT



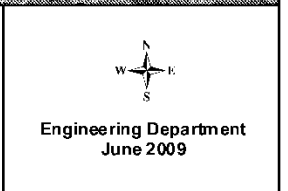


**Minnehaha Creek Watershed District**  
**Mooney Lake Location Map**  
**Figure 1**

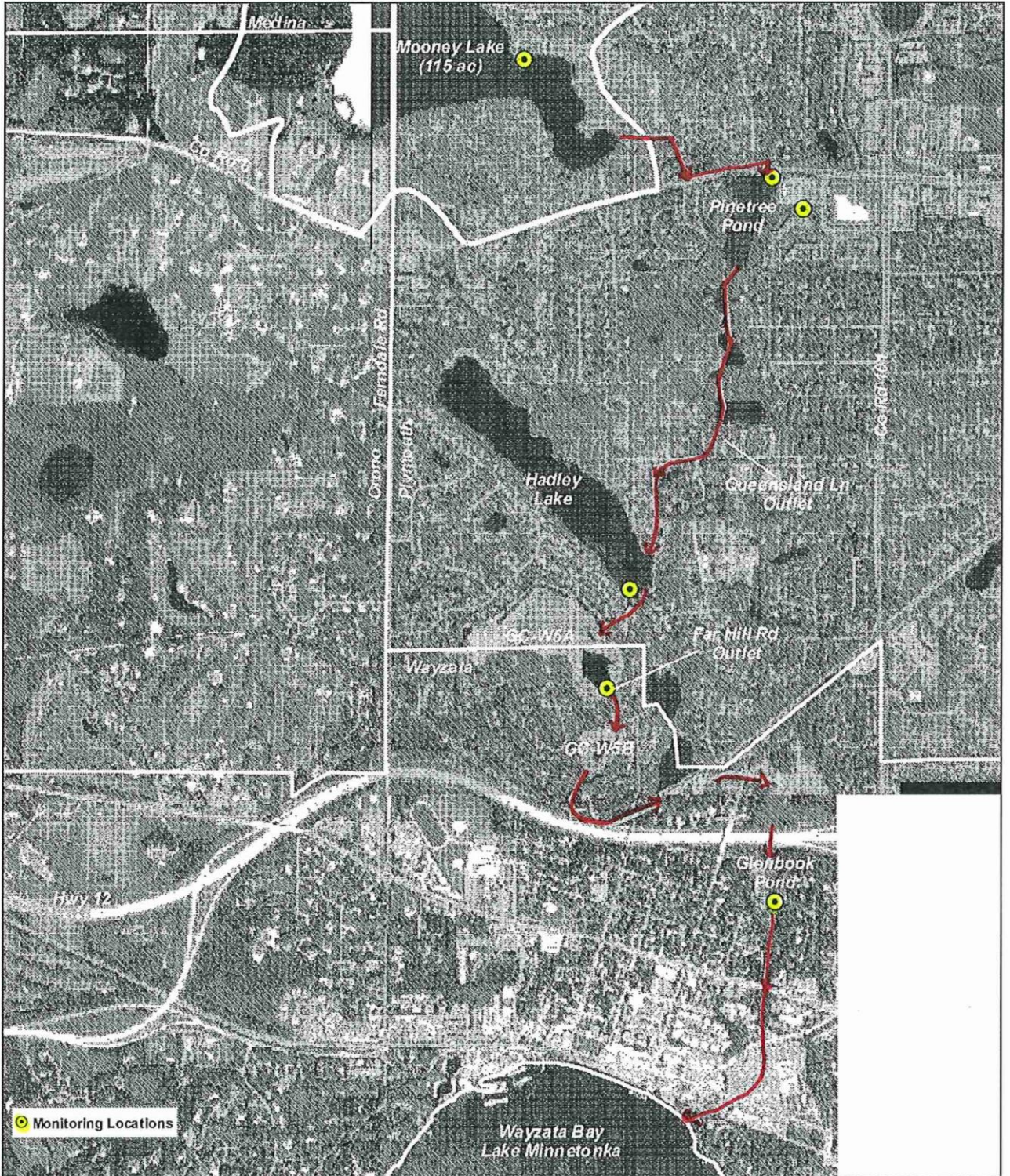




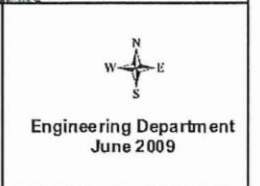
**Minnehaha Creek Watershed District  
Mooney Lake Drainage Area  
Figure 2**







**Minnehaha Creek Watershed District  
Flow Path & Water Level Monitoring Locations  
Figure 3**





# APPENDIX A

## **Pinetree Pond – Plymouth**

Pinetree Pond is located just south of County Road 6 and is the first open waterbody that the discharge from Mooney Lake will enter. The pond level is controlled at its outlet by an approximate 30-foot long earthen berm reinforced with riprap with an overflow elevation of 976.0976.68. Downstream of this weir, water flows through a series of open water wetlands/ponds that are controlled with water flowing to Hadley Lake by through a 30-inch concrete arch pipe near Queensland Avenue Lane with an invert elevation of 976.38. The controlling elevation is 976.2, therefore the entire chain is controlled by the Queensland outlet. The estimated increase in water surface elevation due to discharges from Mooney Lake pumping for both Pinetree Pond and the pond/wetland chain above Queensland Avenue is approximately 4 inches.

## **Hadley Lake – Plymouth**

Hadley Lake receives Mooney Lake discharge from the Pinetree Pond/Queenland Avenue system and the surrounding watershed, a total of 816 acres. The fall in elevation between Pinetree Pond/Queenland Avenue and Hadley Lake is significant, at 16 feet. Hadley Lake is controlled by an outlet structure that combines an 8-inch orifice at lower elevations with an overflow into a box structure for wet conditions. The water levels in Hadley Lake resulting from Mooney Lake discharges could increase by as much one foot from normal conditions at a pumping rate of 1.7 cfs. This is the highest estimated increase for any downstream waterbody. Although more elevation change occurs on Hadley Lake than other waterbodies, it is well within the operating range of the structure.

## **Far Hill Road Wetland Outlet – Wayzata**

Hadley Lake discharges to a wetland complex that straddles the border of Plymouth and Wayzata. In Plymouth, the identifier is HLP8, in Wayzata it is GC-W5A. The wetland discharge is controlled by a primary structure along Far Hill Road, with a small orifice and overflow, similar to Hadley Lake outlet structure. A secondary structure (standpipe) is located in a catch basin on the south side of Far Hill Road, just across the road from the primary structure, and controls the normal elevation of the wetland. The estimate maximum increase in wetland elevation is 10 inches at a pumping rate of 1.7 cfs from Mooney Lake. From discussions with the City of Wayzata, site visits, and a review of storm sewer maps and construction drawing, flow capacity increases downstream of this point.



## Minnesota Department of Natural Resources

Central Region Waters - 1200 Warner Road, St. Paul, MN 55106-6793

Telephone: (651) 259-5845 Fax: (651) 772-7977

November 26, 2007

Eric Evenson  
Minnehaha Creek Watershed District  
18202 Minnetonka Blvd.  
Deephaven, MN 55391

RE: DNR Permit No. 2008-0278, Mooney Lake (27-134P) Water Control Structure, City of Plymouth, Hennepin County and Termination of Water Appropriation Permit No. 2003-3138

Dear Mr. Evenson:

Enclosed is DNR Permit No. 2008-0278, authorizing the installation of a 12" HDPE gravity pipe at invert elevation of 988.0 feet to serve as a pumped lake outlet-intake structure as shown and described in the permit application.

We have also incorporated the provisions of existing Water Appropriation Permit #2003-3138 (authorizing the appropriation of surface water in accordance with the "Mooney Lake Emergency Pumping Plan") into this permit by virtue of Condition #16. Therefore, with the issuance of Permit # 2008-0278, Permit #2003-3138 is hereby terminated.

Please read all of the Conditions of the permit carefully, and upon completion of this project, submit an as-built survey to this office as noted in Condition #14.

If you have questions about this permit, you may contact Area Hydrologist Kate Drewry at 651-259-5753.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale E. Homuth".

Dale E. Homuth  
Regional Hydrologist

Enclosure

c; Michael Panzer, Wenck Associates, Inc.  
City of Plymouth, Bob Moberg  
Hennepin Conservation District, Stacey Lijewski  
Hennepin County Environmental Services, Joel Settles  
U.S. Army Corps of Engineers, Joe Yanta  
DNR Conservation Officer, Todd Kanieski  
DNR Ecological Services, Wayne Barstad  
DNR Fisheries, Daryl Ellison  
DNR Wildlife, Bryan Lueth  
Area Hydrologist, Kate Drewry  
Central Office SWUDS and Appropriation Permits

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929





# PUBLIC WATERS WORK PERMIT

**Permit Number**  
**2008-0278**

Pursuant to Minnesota Statutes, Chapter 103G, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant and other supporting data, all of which are made a part hereof by reference, **PERMISSION IS HEREBY GRANTED** to the applicant to perform the work as authorized below:


<b>Public Water Name</b> Mooney Lake (# 27-134P)	<b>County</b> Hennepin (27)
<b>Name of Permittee</b> Minnehaha Creek Watershed District and City of Plymouth Agent: Michael Panzer, Wenck Associates, Inc	<b>Telephone Number (Include Area Code)</b> 763-479-4207
<b>Address (No. &amp; Street, RFD, Box No., City, State, Zip Code)</b> 1800 Pioneer Creek Center, Maple Plain, Minnesota 55359	
<b>Authorized Work:</b> Place a 12" HDPE gravity pipe at invert elevation of 988.0 feet to serve as a pumped lake outlet-intake structure; all as shown and described in permit application and supporting materials received September 28, 2007; and the Conditions of this permit.	
<b>Purpose of Permit</b> Water Control Structure (Use Code 130)	<b>Expiration Date of Permit</b> April 1, 2008
<b>Property Described As:</b> PID# 20-118-24-34-0001 NW¼ Section 30, T118N-R23W, Hennepin County UTM : Easting 459538, Northing 4982712	

This permit is granted **subject to** the following **CONDITIONS**:

1. The **permittee** is not released from any rules, regulations, requirements, or standards of any applicable federal, state or local agencies; including, but not limited to, the U.S. Army Corps of Engineers, Board of Water and Soil Resources, MN Pollution Control Agency, watershed districts, water management organizations, county, city and township zoning. This permit does not release the **permittee** of any permit requirement of the St. Paul District, U.S. Army Corps of Engineers, Army Corps of Engineers Centre, 190 Fifth Street East, St. Paul, MN 55101-1638.
2. This permit is not assignable by the **permittee** except with the written consent of the Commissioner of Natural Resources.
3. The **permittee** shall notify the Area Hydrologist at least five days in advance of the commencement of the work authorized hereunder and notify him/her of its completion within five days. The Notice of Permit issued by the Commissioner shall be kept securely posted in a conspicuous place at the site of operations.
4. The **permittee** shall make no changes, without written permission previously obtained from the Commissioner of Natural Resources, in the dimensions, capacity or location of any items of work authorized hereunder.
5. The **permittee** shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.
6. This permit may be terminated by the Commissioner of Natural Resources at any time deemed necessary for the conservation of water resources of the state, or in the interest of public health and welfare, or for violation of any of the Conditions or applicable law of this permit, unless otherwise provided in the Conditions.
7. Construction work authorized under this permit shall be completed on or before the date specified above. The **permittee** may request an extension of time to complete the project, stating the reason thereof, upon written request to the Commissioner of Natural Resources.
8. In all cases where the **permittee** by performing the work authorized by this permit shall involve the taking, using, or damaging of any property rights or interests of any other person or persons, or of any publicly owned lands or improvements thereon or interests therein, the **permittee**, before proceeding, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests needed for the work.

9. This permit is permissive only. No liability shall be imposed by the State of Minnesota or any of its officers, agents or employees, officially or personally, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the **permittee** or any of its agents, employees, or contractors. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the **permittee**, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the **permittee**, its agents, employees, or contractors for violation of or failure to comply with the permit or applicable provisions of law.
10. Any extension of the surface of protected waters from work authorized by this permit shall become protected waters and left open and unobstructed for use by the public.
11. Where the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations, the **permittee** shall not initiate any work under this permit until the **permittee** has obtained official approval from the responsible local government unit as required by the Minnesota Wetland Conservation Act.
12. Erosion control measures shall be adequately designed for the site characteristics. They may include staked haybales, diversion channels, sediment ponds, or sediment fences. They shall be installed in accordance with "The Minnesota Stormwater Manual", MPCA, November 2005 (and as revised in the future), prior to commencement and maintained throughout the project. All exposed soil shall be stabilized as soon as possible and no later than 72 hours after the completion of the project. Topsoil should be used to re-dress disturbed soil areas and indigenous plant species should be used to revegetate disturbed areas whenever possible.
13. The **permittee** is authorized to maintain the approved work to the dimensions herein described. Prior to commencing any maintenance work, the **permittee** shall advise the Department of Natural Resources of the extent and method of maintenance. Maintenance work shall not be commenced until permittee receives written approval from the Department.
14. Upon completion of the authorized work, the **permittee** shall submit representative photographs and an as-built survey of the project area to DNR Metro Region Waters (1200 Warner Road, St. Paul, MN 55106).
15. **No activity** affecting the bed of the protected water may be conducted between **April 1 and June 30**, to minimize impacts on fish spawning and migration. If work during this time is essential, it shall be done only upon written approval of the Area Fisheries Manager, at 952-826-6756.
16. This permit also authorizes the appropriation of Lake Mooney surface water at a rate not to exceed 800 gallons per minute with the total volume appropriated not to exceed 200 million gallons per year, and in accordance with the provisions of the Mooney Lake Emergency Pumping Plan dated February 2003. Five days notice shall be given to the DNR area hydrologist at 651-259-5753 prior to initiating pumping.
17. All pump intakes must be screened to prevent fish from being drawn into the system. DNR Waters may require the suspension of appropriations during periods of low flows and low water levels in order to maintain minimum flows and water levels within the watershed. This permit is not valid for appropriations from surface water sources that are infested with exotic species (Minnesota Rules 6216.0500).

c: Micheal Panzer, Wenck Associates, Inc.  
 City of Plymouth, Bob Moberg (with permit card)  
 Hennepin Conservation District, Stacey Lijewski  
 Hennepin County Environmental Services, Joel Settles  
 U.S. Army Corps of Engineers, Joe Yanta  
 DNR Conservation Officer, Todd Kanieski  
 DNR Ecological Services, Wayne Barstad  
 DNR Fisheries, Daryl Ellison  
 DNR Wildlife, Bryan Lueth  
 Area Hydrologist, Kate Drewry  
 Mooney Lake file (#27-0134P)

Authorized Signature	Title	Date
Dale E. Homuth 	Regional Hydrologist	11-26-2007



## PERMIT APPLICATION CHECKLIST AND RECOMMENDATION

PA #: 2008 - 0278 APPL. TYPE (A or P): P TODAY'S DATE: 11/20/08

Appl. Name: Minnehaha Creek and City of Plymouth Res. Name & ID#: Mooney Lake (27-134P)

Brief Description of Project : Construct gravity pipe to serve as an emergency pumped outlet

Field Inspection Made: No Mitigation Involved: No

- Comments from Local Units have been received and considered or 30 days has expired.
- Comments from DNR Fish & Wildlife, PCA, Met Council, COE, etc. have been considered.
- Permit Rules have been reviewed as to how they relate to this application.
- Local Zoning and Water Planning requirements and issues have been considered.
- Environmental Review (EAW, EIS, AUAR) is either not needed or the process has been completed.
- The Permit is being issued to the Owner of the property, or appropriate leases have been obtained.
- If the project involves a structure, a recorded permit is not required.
- If the project involves roadway fill, a waiver from the Commissioner is not required.
- The project does not require legislative approval (Appropriation).
- All necessary fees have been received.
- I have reviewed the Delegation Order and the draft permit is prepared for the correct signature.

### RECOMMENDATION, DISCUSSION, AND RATIONALE FOR RECOMMENDATION:

Applicants propose to place a 12-inch HDPE Gravity pipe at elevation 988.0 (the OHW of the basin) to serve as the intake for an emergency pumped outlet. Pipe will drain to a lift station where water can be lifted by temporary pumps to discharge to the City stormsewer system. Pumping would be activated only under emergency high water conditions (when water levels reach 889), per the submitted Emergency Pumping Plan. The project was designed and is being implemented jointly by the watershed district and the city.

No comments adverse to the project were received, and I recommend that he permit be issued.

Kate Drewry

Area Hydrologist



**From:** "Yanta, Joseph J MVP" <joseph.j.yanta@usace.army.mil>  
**To:** "Kate Drewry" <Kate.Drewry@dnr.state.mn.us>  
**Date:** 10/24/2007 10:07 AM  
**Subject:** RE: DNR Permit Application 2008-0278, Mooney Lake Outlet, Comment Request

No objection: this work should be covered under one of our general permits.

-----Original Message-----

From: Kate Drewry [mailto:Kate.Drewry@dnr.state.mn.us]  
Sent: Thursday, October 18, 2007 11:38 AM  
To: publicworks@ci.plymouth.mn.us; joel.settles@co.hennepin.mn.us;  
Stacey.Lijewski@co.hennepin.mn.us; Bryan Lueth; Daryl Ellison; Wayne Barstad;  
James Wisker; Yanta, Joseph J MVP  
Cc: mike.panzer@wenck.com  
Subject: DNR Permit Application 2008-0278, Mooney Lake Outlet, Comment Request

Attached for your review is a DNR public waters permit application for construction of an emergency outlet pipe in Mooney Lake. The applicant has requested expedited review of this application in order to complete the work yet this fall/winter. I would therefor appreciate having your comments as soon as possible.

If you have trouble with the attachments or have other questions, please contact me.

Thank you,

Kate Drewry, Area Hydrologist  
North Metro, Central Region 3  
Mn Department of Natural Resources-Waters 1200 Warner Road St. Paul, MN  
55106-6793

(651) 772-7919  
(651) 772-7977 fax  
kate.drewry@dnr.state.mn.us

**From:** Bryan Lueth  
**To:** Drewry, Kate  
**Date:** 10/18/2007 1:02 PM  
**Subject:** Re: DNR Permit Application 2008-0278, Mooney Lake Outlet, Comment Request

I see little potential for significant long-term impacts to wildlife resources.

Bryan K. Lueth  
Area Wildlife Manager  
Minnesota DNR  
5463-C W Broadway  
Forest Lake MN 55025  
(651) 296-3779  
[bryan.lueth@dnr.state.mn.us](mailto:bryan.lueth@dnr.state.mn.us)

>>> Kate Drewry 10/18/2007 >>>

Attached for your review is a DNR public waters permit application for construction of an emergency outlet pipe in Mooney Lake. *The applicant has requested expedited review of this application in order to complete the work yet this fall/winter. I would therefore appreciate having your comments as soon as possible.*  
If you have trouble with the attachments or have other questions, please contact me.

Thank you,

Kate Drewry, Area Hydrologist  
North Metro, Central Region 3  
Mn Department of Natural Resources-Waters 1200 Warner Road St. Paul, MN  
55106-6793

(651) 772-7919  
(651) 772-7977 fax  
[kate.drewry@dnr.state.mn.us](mailto:kate.drewry@dnr.state.mn.us)



# REQUEST FOR REVIEW AND COMMENTS

MINNESOTA DNR PERMIT APPLICATION NUMBER:

2008- 0278

DATE OF REQUEST:

October 18, 2007

(Note: Comments on this application are Due 30 days from receipt of this notice. Return Comments to: DNR Waters, Metro Region, 1200 Warner Road, St. Paul, MN 55106.)

FROM: Kate Drewry, Area Hydrologist

PHONE: 651. 772. 7919 E-MAIL: kate.drewry@dnr.state.mn.us

TO:

City City of Plymouth, Bob Moberg (Co-applicant)

Watershed Authority Minnehaha Creek Watershed District (Co-Applicant)

Cons. District (SWCD) Hennepin Conservation District, Stacy Lijewski

Corps of Engineers Joe Yanta

DNR Wildlife Bryan Lueth

DNR Fisheries Daryl Ellison

DNR Eco. Services Wayne Barstad

Hennepin County Joel Settles

## PROPOSAL INFORMATION

Applicant: Minnehaha Creek Watershed District and City of Plymouth

Protected Water: Mooney Lake

DNR ID#: 27-134P

County: Hennepin

Project Description: **Applicant proposes to place a 12-inch HDPE Gravity pipe at elevation 988.0 (the OHW of the basin) to serve as the lake outlet intake structure. Pipe will drain to a lift station where water can be lifted by temporary pumps to discharge to the City stormsewer system. Pumping would be activated only under emergency high water conditions (when water levels reach 889), per the attached Emergency Pumping Plan.**

## COMMENTS ON PROPOSAL

Comments on Project by Reviewer (attach separate sheet if needed):

Recommendation of Reviewer:

Name of Reviewer:

Title:

Date:



Wenck Associates, Inc.  
1800 Pioneer Creek Ctr.  
P.O. Box 249  
Maple Plain, MN 55359-0249

(763) 479-4200  
Fax (763) 479-4242  
E-mail: wenckmp@wenck.com

September 24, 2007

Ms. Julie Ekmund  
Minnesota Department of Natural Resources  
500 Lafayette Road  
Saint Paul, MN 55155-4025

RE: Mooney Lake Emergency Pumping Infrastructure Project  
Minnesota Department of Natural Resources Permit to Work in Public Waters

Dear Julie:

I am transmitting with this letter a permit application to construct the public infrastructure to safely respond to occasional high water on Mooney Lake in Hennepin County. This project is being implemented jointly by the Minnehaha Creek Watershed District and the City of Plymouth under a cost and responsibility sharing agreement. Minnehaha Creek Watershed District has designed the project. The City of Plymouth is soliciting bids and will construct the project beginning late 2007, with final site restoration activities scheduled for next spring. The City of Plymouth will be responsible for operation and future O&M costs.

Attachments to the application explain the history and need for the project.

There are no jurisdictional wetlands or DNR protected wetlands impacted by the proposed work. The new outlet intake will be located in the bed of Mooney Lake at the OHW of 988.0. Pumping is controlled by the lake level and described in the attached "Mooney Lake Emergency Pumping Plan" dated February 2003, mutually approved by Minnehaha creek watershed District and the City of Plymouth.

If you have questions please direct them to:

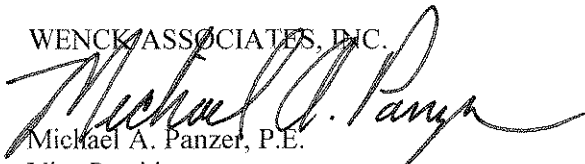
Design and Permit Application Attachments  
– Mike Panzer, Wenck Associates, Inc. 763-479-4207

MCWD  
– Renae Clark, 952-471-0590, ext 208

Plymouth  
– Bob Moberg, City Engineer 763-509-5000 (main switchboard)

Sincerely,

WENCK ASSOCIATES, INC.

  
Michael A. Panzer, P.E.  
Vice President

Enclosures

c: Renae Clark (w/attachments)  
Bob Moberg (w/attachments)

RECEIVED

SEP 28 2007

DNR  
Waters

# Minnesota Local/State/Federal Application Form for Water/Wetland Projects

For Internal Use Only

Application No.	Field Office Code	Date Initial Application Received	Date initial Application Deemed Complete
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## PART I: BASIC APPLICATION

"See HELP" directs you to important additional information and assistance in Instructions, Page 1.

### 1. LANDOWNER/APPLICANT CONTACT INFORMATION (See Help 1)

Name: Minnehaha Creek Watershed District Phone: 952-471-0590  
 Complete mailing address: (Renae Clark) 18202 Minnetonka Blvd., Deephaven, MN 55391

RECEIVED

SEP 28 2007

DNR Waters

### 1A. AUTHORIZED AGENT (See Help 1A) (Only if applicable; an agent is not required)

Name: Mike Panzer, District Engineer Phone: 763-479-4207  
 Complete mailing address: Wenck Associates, Inc., 1800 Pioneer Creek Center, Maple Plain, MN 55359

### 2. NAME, TYPE AND SIZE OF PUBLIC WATERS or WETLANDS IMPACTED (Attach Additional Project Area sheets if needed)

Name or I.D. # of Waters Impacted (if applicable; if known): PW 27-134 Mooney Lake  
 (Check all that apply):  Lake  River  Wetland type  1  1L  2  3  4  5  6  7  8  
 Indicate size of entire lake or wetland (check one):  Less than 10 acres (indicate size: )  10 to 40 acres  Greater than 40 acres

### 3. PROJECT LOCATION (Information can be found on property tax statement, property title or title insurance):

Project street address: see attached SITE LOCATOR MAP UTM# 459,538 Fire #: City  
 (if applicable): Plymouth UTM# 4,982,712  
 1/4 Section: Section: 30;25 Township #: 118 Range #: 22;23 County: Hennepin  
 Lot #: Block: Subdivision: Watershed (name or #) UTM location: N E

Attach a simple site locator map. If needed, include on the map written directions to the site from a known location or landmark, and provide distances from known locations. Label the sheet SITE LOCATOR MAP.

### 4. TYPE OF PROJECT: Describe the type of proposed work. Attach TYPE OF PROJECT sheet if needed.

Construction of storm sewer and storm water pumping station. use code 130 - Water Control Structures

### 5. PROJECT PURPOSE, DESCRIPTION AND DIMENSIONS: Describe what you plan to do and why it is needed, how you plan to construct the project with dimensions (length, width, depth), area of impact, and when you propose to construct the project. This is the most important part of your application. See HELP 5 before completing this section; see What To Include on Plans (Instructions, page 1). Attach PROJECT DESCRIPTION sheet.

See attached PROJECT DESCRIPTION, Construction Drawings and Pumping Plan  
 Footprint of project: acres or square feet drained, filled or excavated.

### 6. PROJECT ALTERNATIVES: What alternatives to this proposed project have you considered that would avoid or minimize impacts to wetlands or waters? List at least TWO additional alternatives to your project in Section 5 that avoid wetlands (one of which may be "no build" or "do nothing"), and explain why you chose to pursue the option described in this application over these alternatives. Attach PROJECT ALTERNATIVES sheet if needed.

No wetland is impacted by this project. Alternative plans for a gravity outlet and a no action were considered but rejected. A gravity outlet is more costly because of excavation costs.

### 7. ADJOINING PROPERTY OWNERS: For projects that impact more than 10,000 square feet of water or wetlands, list the complete mailing addresses of adjacent property owners on an attached separate sheet. (See HELP 7)

### 8. PORTION OF WORK COMPLETED: Is any portion of the work in wetland or water areas already completed? Yes No. If yes, describe the completed work on a separate sheet of paper labeled WORK ALREADY COMPLETED. (See HELP 8)

### 9. STATUS OF OTHER APPROVALS: List any other permits, reviews or approvals related to this proposed project that are either pending or have already been approved or denied on a separate attached sheet. See HELP 9.

### 10. I am applying for state and local authorization to conduct the work described in this application. I am familiar with the information contained in this application. To the best of my knowledge and belief, all information in Part I is true, complete, and accurate. I possess the authority to undertake the work described, or I am acting as the duly authorized agent of the applicant.

Renae Clark 9-20-07 Michael C. Panzer 09/20/07  
 Signature of applicant (Landowner) Date Signature of agent (if applicable) Date

This block must be signed by the person who desires to undertake the proposed activity and has the necessary property rights to do so. If only the Agent has signed, please attach a separate sheet signed by the landowner, giving necessary authorization to the Agent.

The public burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of these addresses. Completed applications must be submitted to the District engineer having jurisdiction over the location of the proposed activity.

**PRIVACY ACT STATEMENT:** Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal purpose: Information provided on this form will be used in evaluating the application for a permit. Routine uses: This information may be shared with the Department of Justice and other Federal, state, and local government agencies. Submission of requested information is voluntary; however, if information is not provided, the permit application cannot be evaluated nor can a permit be issued.

**ITEMS 1 THROUGH 4 TO BE FILLED IN BY THE CORPS**

- |                    |                      |                  |                               |
|--------------------|----------------------|------------------|-------------------------------|
| 1. APPLICATION NO. | 2. FIELD OFFICE CODE | 3. DATE RECEIVED | 4. DATE APPLICATION COMPLETED |
|--------------------|----------------------|------------------|-------------------------------|

**YOU DO NOT NEED TO COMPLETE ITEMS 6-10 and 12-25 in the SHADED AREAS.**  
 All applicants must complete non-shaded items 5 and 26. If an agent is used, also complete items 8 and 11. This optional Federal form is valid for use *only* when included as part of this entire state application packet.

5. APPLICANT'S NAME Minnehaha Creek Watershed District	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) Michael A. Panzer, VP, Wenck Associates, Inc.
6. APPLICANT'S ADDRESS	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NO.	10. AGENT'S PHONE NO.

**11. STATEMENT OF AUTHORIZATION** (if applicable; complete only if authorizing an agent)  
 I hereby authorize Michael A. Panzer to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE: *Ben Clark* DATE: 9-20-07

12. PROJECT NAME OR TITLE (see instructions)	
13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
15. LOCATION OF PROJECT	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)	
17. DIRECTIONS TO THE SITE	18. NATURE OF ACTIVITY
19. PROJECT PURPOSE	20. REASON(S) FOR DISCHARGE
21. TYPES OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS	
22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED	
23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES _____ NO _____ IF YES, DESCRIBE COMPLETED WORK.	
24. ADDRESSES OF ADJOINING PROPERTY OWNERS.	
25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION:	

**RECEIVED**  
 SEP 28 2007  
 DNR  
 Waters

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

*Ben Clark* 9-20-07  
 Signature of applicant Date

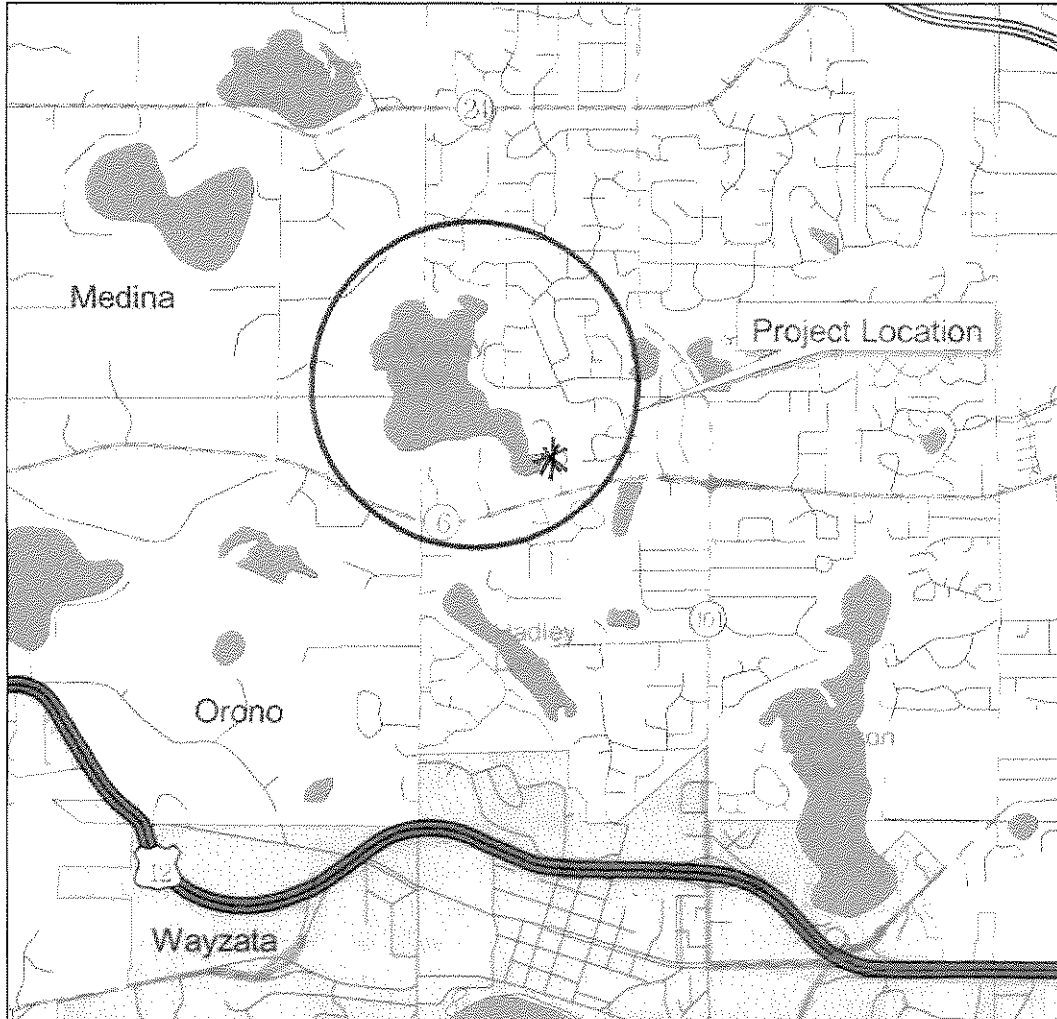
*Michael A. Panzer* 09/20/07  
 Signature of agent (if any) Date

The application must be signed by the person who desires to undertake the proposed activity (applicant), or it may be signed by a duly authorized agent if the statement in Block 11 has been filled out and signed. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up with any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

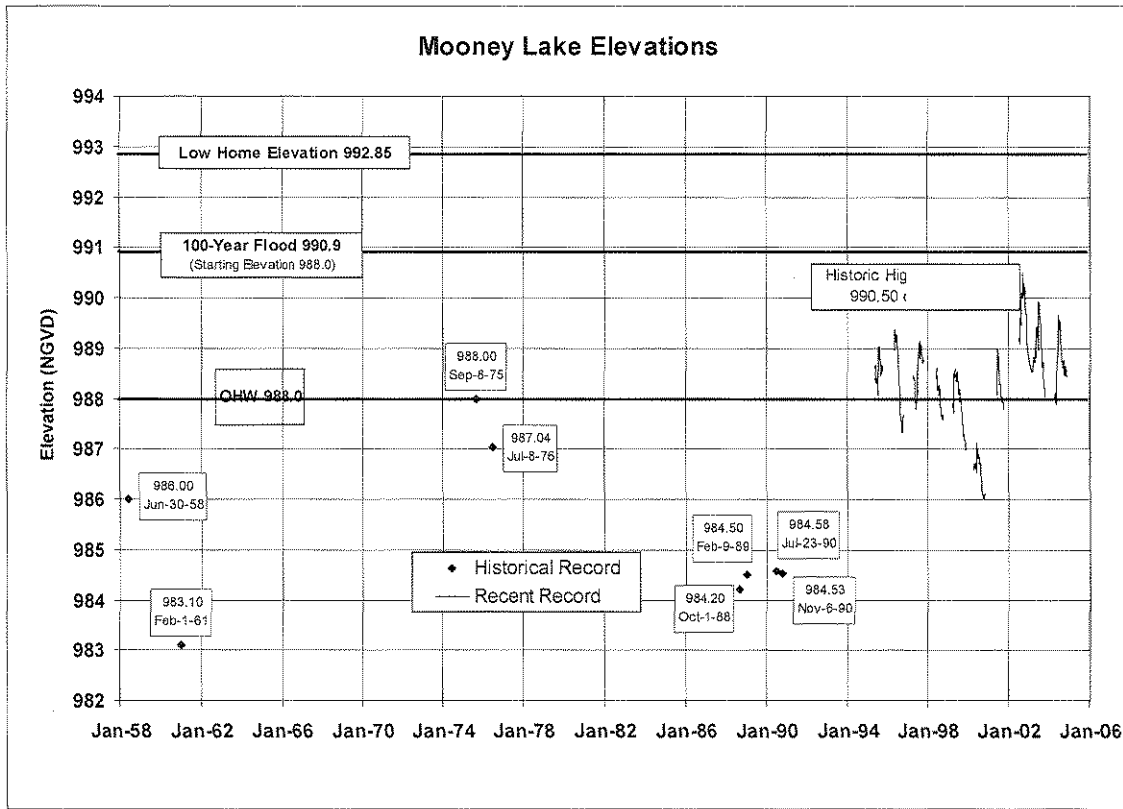
## Project Description

### Background

Mooney Lake is landlocked and has no outlet. Issues concerning high water date back to the 1970's.



In 1998 City of Orono and the City of Plymouth jointly petitioned Minnehaha Creek Watershed District to conduct a feasibility study for a lake outlet. The lake level reached its highest known elevation in the fall of 2002.



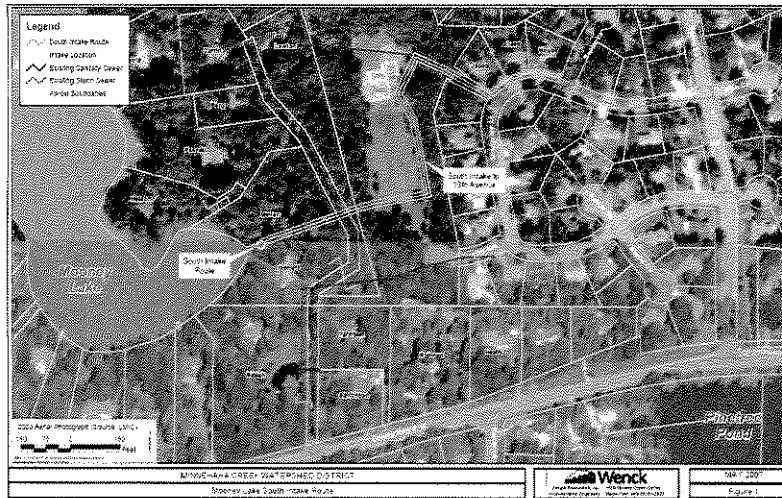
Emergency pumping of Mooney Lake was conducted by Minnehaha Creek Watershed District under a cost sharing agreement with the City of Plymouth to lower the lake level in late 2002. The pumping system consisted of submersible pumps lowered into the lake and temporary pipes laid on the ground with discharge into the Pine Tree Pond drainage system in Plymouth. The Pine Tree Pond drainage system ultimately drains to Hadley Lake and Wayzata Bay on Lake Minnetonka. The emergency pumping was performed to alleviate the risk of flooding improved structures (homes) on Mooney Lake and was approved by MDNR. Pumping occurred from September 30<sup>th</sup> until December 3<sup>rd</sup>, 2002 and the Lake level receded 1.2 feet over the pumping period, lowering the annual flood risk to less than 1%. Over the 64-day period, 45 million gallons were pumped.

The emergency pumping was necessary to protect structures from flood risk, but presented inefficient use of public resources, the use of private lands to temporarily locate drainage pipes, and required daily monitoring of potential public safety issues.

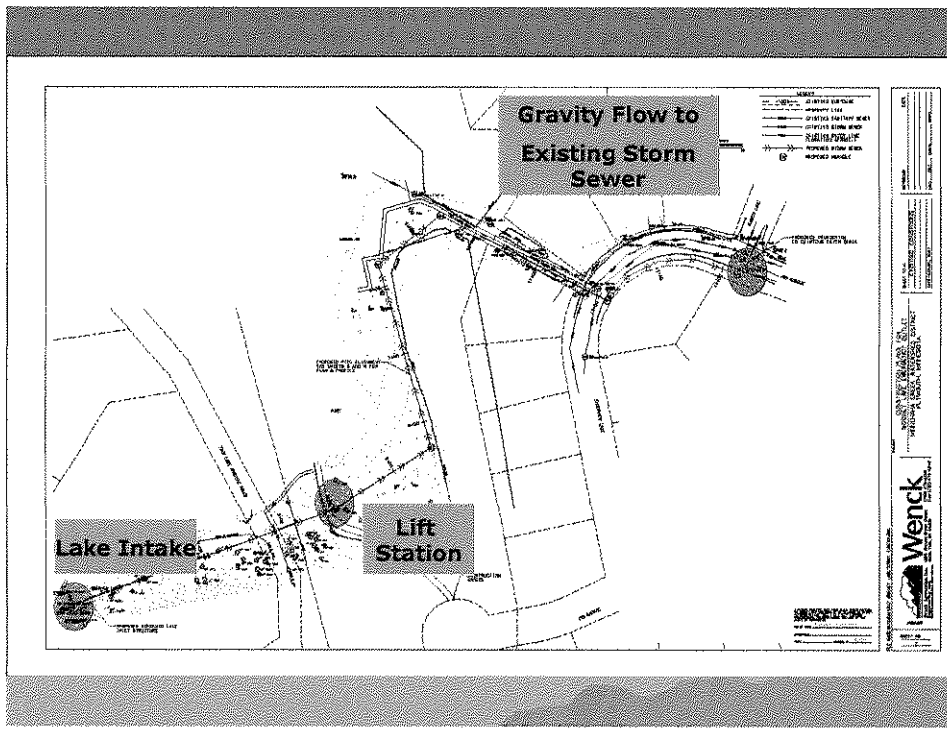
The petitioned feasibility study led the Minnehaha Creek Watershed District to conclude that pumping may only be necessary under prolonged wet periods, and that a permanent gravity outlet was too costly for occasional use. The petition was dismissed by Minnehaha Creek Watershed District. Subsequently, Minnehaha Creek Watershed and the City of Plymouth agreed on a cost-sharing basis to construct the infrastructure needed (see location below) to conduct occasional emergency pumping, which was less costly than a gravity outlet, and to utilize the improvements only when necessary to maintain an



acceptable risk of structural flooding. An emergency pumping plan was developed that described the conditions under which pumping could occur.

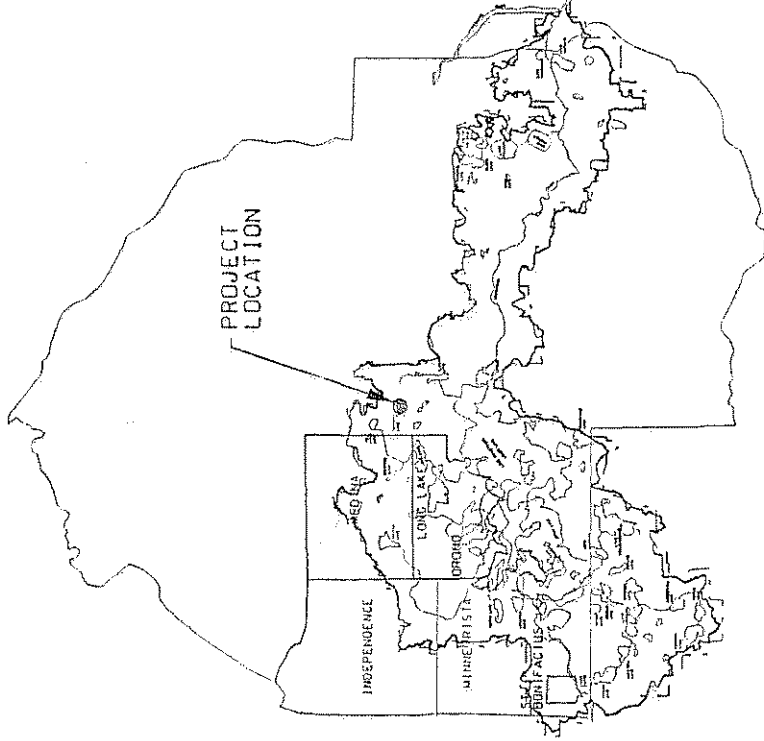
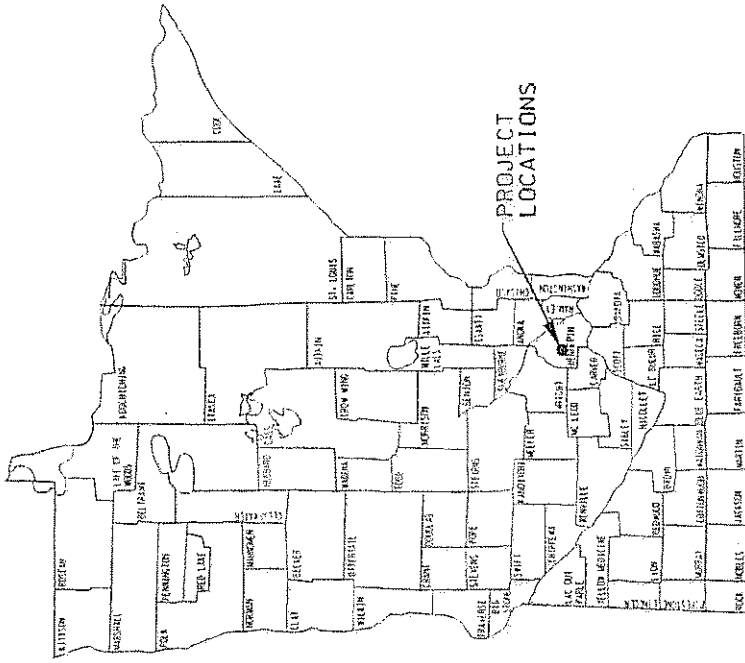


Both Minnehaha Creek Watershed District and the City of Plymouth included this project into their respective Capital Improvement Plans. The project consists of a 12-inch (Outside Diameter) HDPE gravity pipe set at elevation 988.0 (the OHW of Mooney Lake) that drains to a lift station where water can be lifted by temporary pumps into a new gravity line at a higher elevation, which is connected to existing City of Plymouth storm sewer.



The project design has been approved by Minnehaha Creek Watershed District and the City of Plymouth and is scheduled to be constructed in the winter of 2007-2008. After construction, the project will be owned and operated by the City of Plymouth in accordance with the pumping plan included with the MDNR permit application.

# CONSTRUCTION PLANS FOR MOONEY LAKE EMERGENCY OUTLET MINNEHAHA CREEK WATERSHED DISTRICT CITY OF PLYMOUTH PROJECT NO. 7111



## INDEX

1. TITLE SHEET
2. EXISTING CONDITIONS
3. PLAN & PROFILE STA. 0+00-STA. 7+00
4. PLAN & PROFILE STA. 7+00-STA. 14+07
5. DETAILS

### BOARD OF MANAGERS

- JIM CALKINS, PRESIDENT
- PAMELA BLIXT, VICE PRESIDENT
- LEE KEELEY, SECRETARY
- RICHARD MILLER, TREASURER
- JEFF CASALE, MANAGER
- BRIAN SHEKLETON, MANAGER
- MIKE KLINGELHUTZ, MANAGER



Improving Quality of Water, Quality of Life

2008-02-78

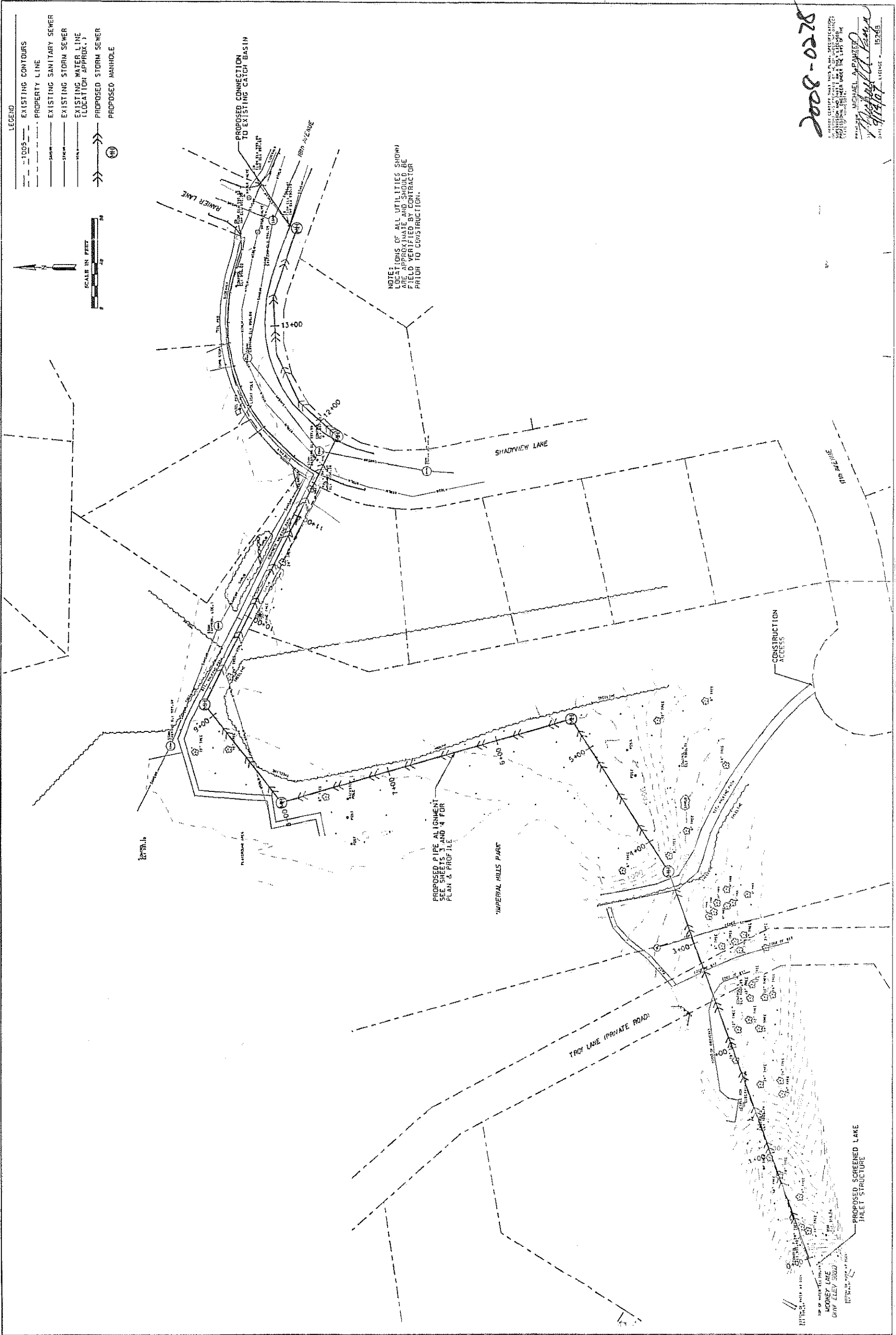
MICHAEL A. BANGE  
Professional Engineer  
No. 152766  
94407 Avenue S.  
Plymouth, MN 55442

REVIEWED AND APPROVED BY THE CITY OF PLYMOUTH  
ROBERT HOBBERG  
SIGNATURE  
DATE

DATE: SEPTEMBER, 2007  
SHEET TITLE: TITLE SHEET

CONSTRUCTION PLANS FOR  
MOONEY LAKE EMERGENCY OUTLET  
MINNEHAHA CREEK WATERSHED DISTRICT  
PLYMOUTH, MINNESOTA

**Wenck**  
Environmental Engineers  
1830 Pioneer Creek Center  
(763) 479-4200  
Fax: (763) 479-4242



2008-0228  
 MICHAEL MAZUR  
 11000 15th Avenue S, #1208  
 Minneapolis, MN 55426

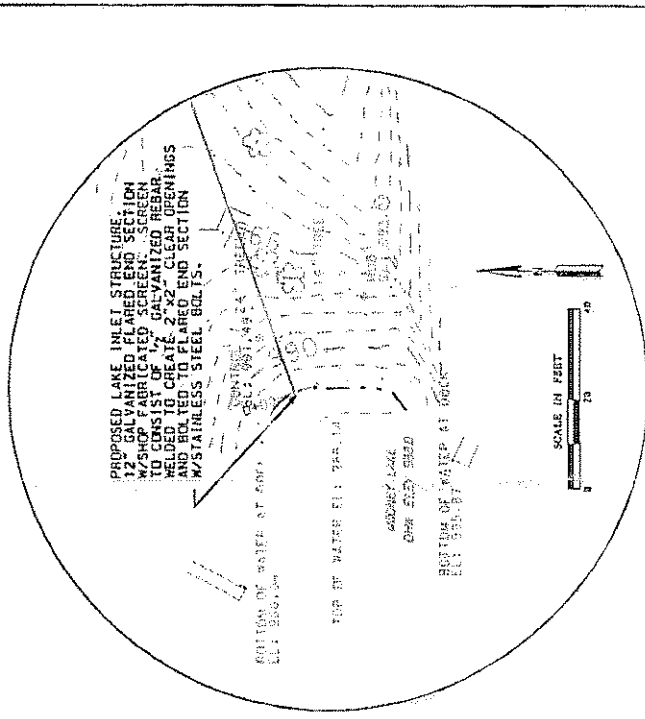
REVIEWED AND APPROVED BY THE CITY OF PLYMOUTH  
 ROBERT NOBBERG  
 SIGNATURE  
 DATE  
 DWG. JMT C&D  
 APP'D

DATE: SEPTEMBER, 2007  
 SHEET TITLE  
 PLAN & PROFILE  
 STA. 0+00 - STA. 7+00

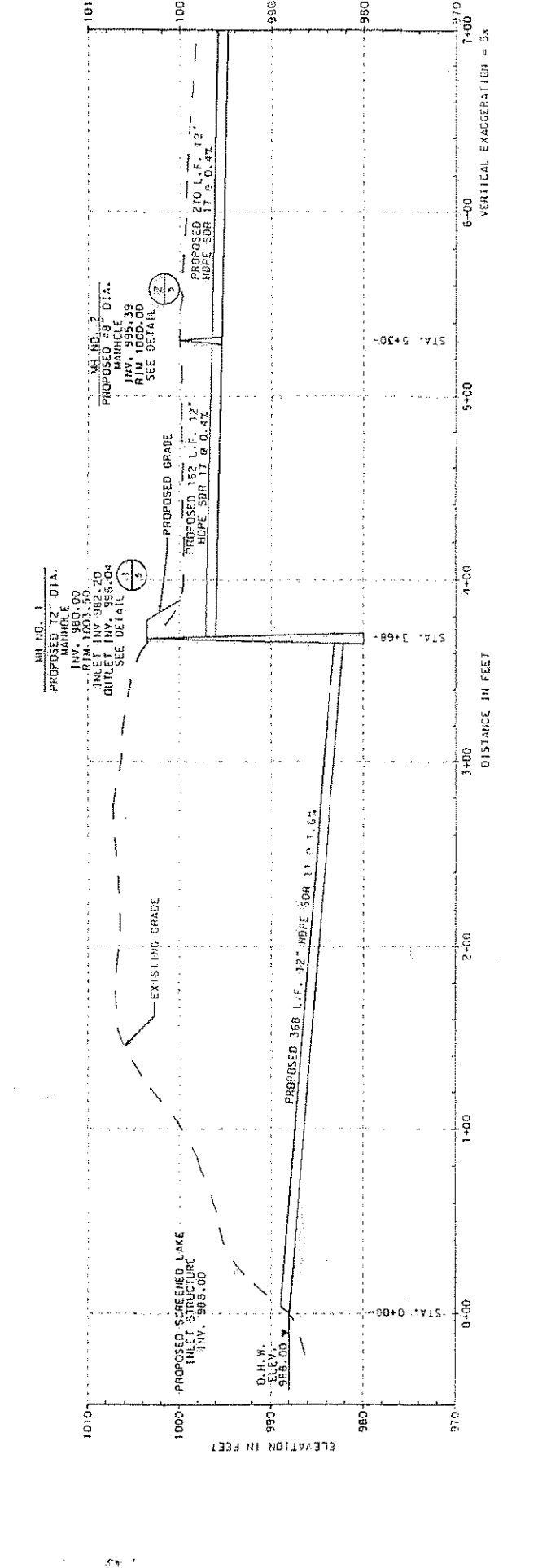
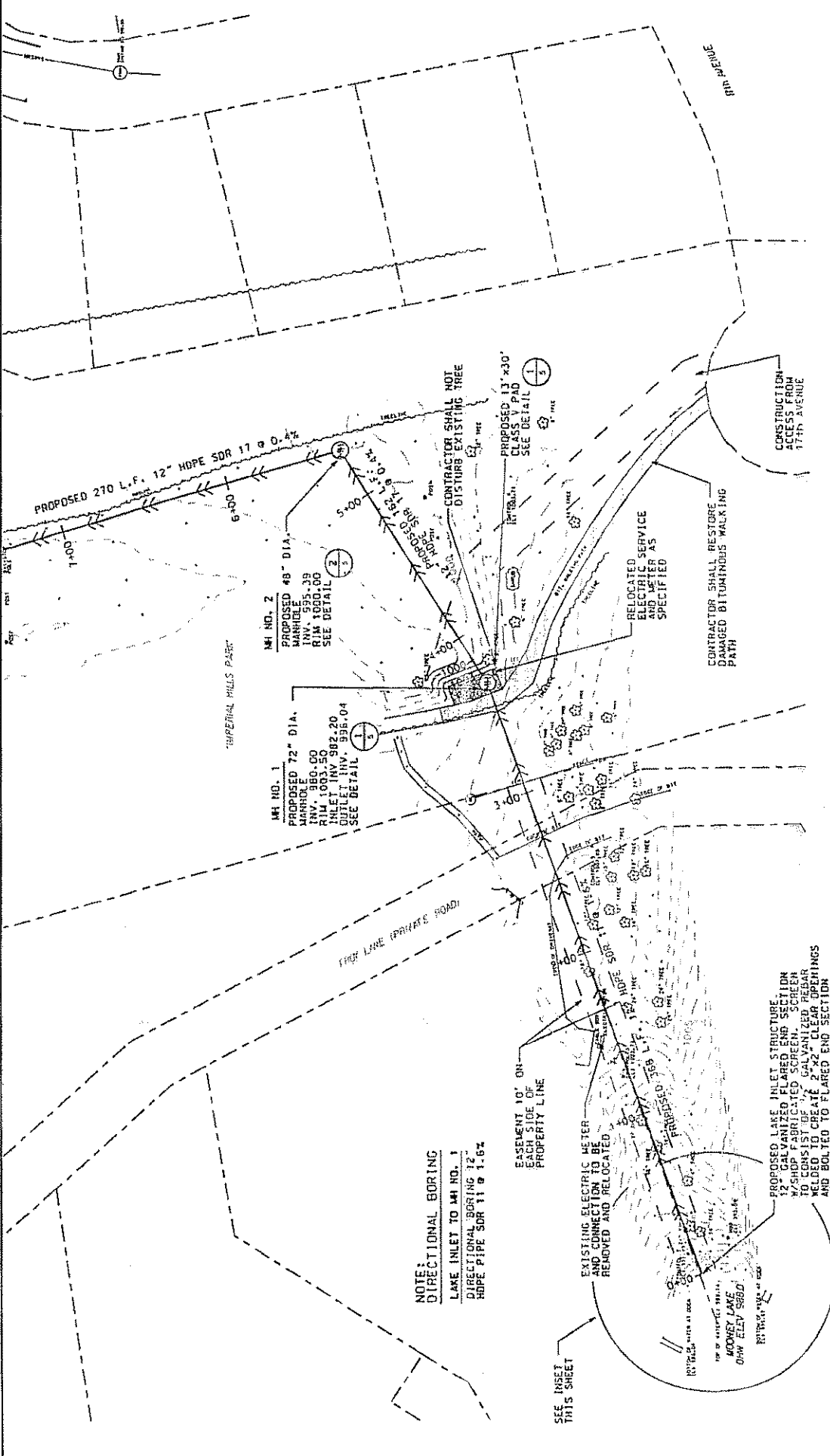
CONSTRUCTION PLANS FOR  
 MOONEY LAKE EMERGENCY OUTLET  
 MINNEHAHA CREEK WATERSHED DISTRICT  
 PLYMOUTH, MINNESOTA

**Wenck**  
 Environmental Services  
 1800 Parkers Creek Center  
 12031 479-4300  
 Fax: (763) 479-4242

**LEGEND**  
 EXISTING CONTOURS  
 PROPOSED CONTOURS  
 PROPERTY LINE  
 EXISTING SANITARY SEWER  
 EXISTING STORM SEWER  
 EXISTING WATER LINE (LOCATION APPROX.)  
 PROPOSED STORM SEWER  
 PROPOSED MANHOLE



**NOTES:**  
 LOCATIONS OF ALL UTILITIES SHOWN  
 ON THIS PLAN SHALL BE  
 FIELD VERIFIED BY CONTRACTOR  
 PRIOR TO CONSTRUCTION.  
 AREAS DISTURBED ON PRIVATE  
 PROPERTY SHALL BE RESTORED  
 TO ORIGINAL CONDITION  
 W/ROOT STANDARD SPECIFICATIONS  
 FOR CONSTRUCTION 3877 & 3878.



2008-0278  
 STA. 0+00 - STA. 7+00  
 PROJECT: MOONEY LAKE EMERGENCY OUTLET  
 DATE: 9/11/07  
 DRAWN BY: MICHAEL A. PANZER  
 CHECKED BY: MICHAEL A. PANZER  
 SCALE: 1" = 40'

REVIEWED AND APPROVED BY THE CITY OF PLYMOUTH  
 ROBERT ROBERTS  
 SIGNATURE  
 DATE  
 DWG. JMT CHKD. APPD.

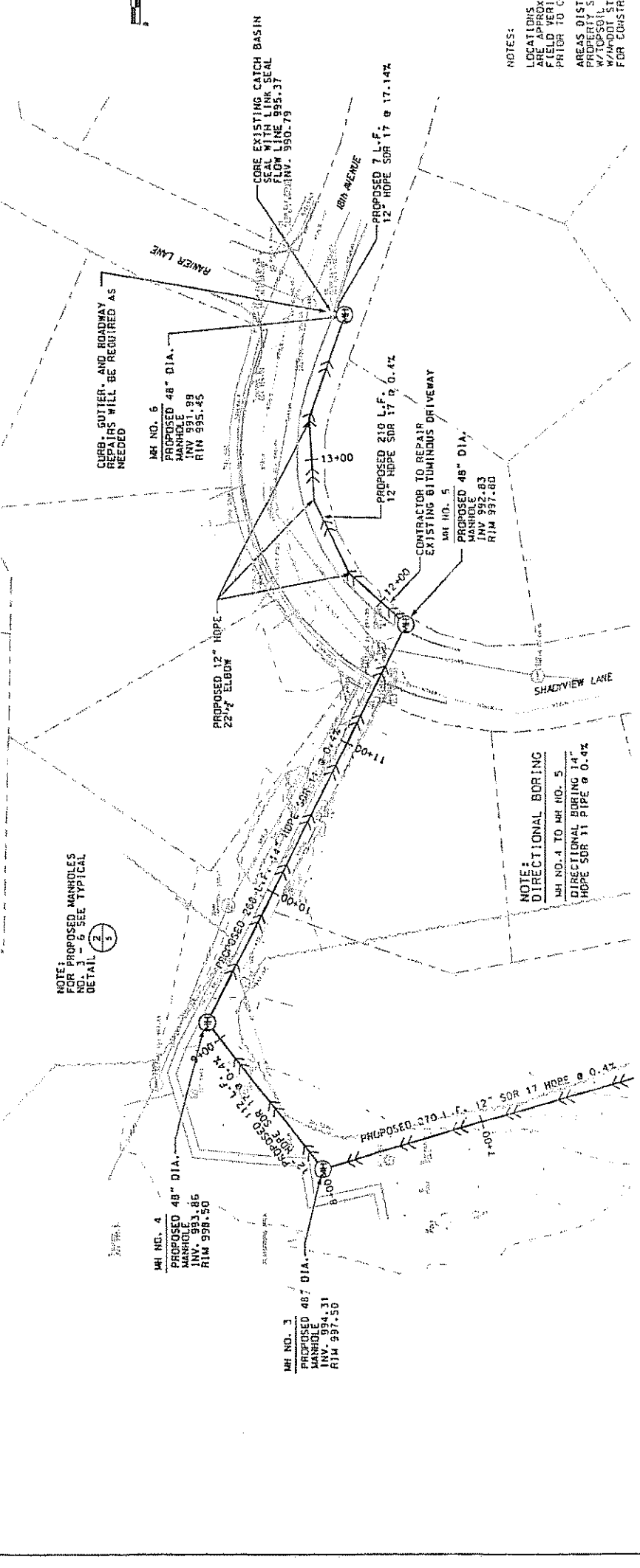
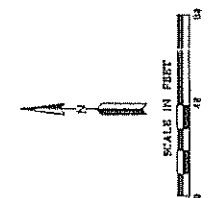
SHEET TITLE  
 PLAN & PROFILE  
 STA. 7+00 - STA. 14+07  
 DATE: SEPTEMBER, 2007

CONSTRUCTION PLANS FOR  
 MOONEY LAKE EMERGENCY OUTLET  
 MINNEHAHA CREEK WATERSHED DISTRICT  
 PLYMOUTH, MINNESOTA

**Wenck**  
 Environmental Services  
 1800 Proctor Creek Center  
 Plymouth, MN 55441  
 Phone: (763) 479-4200  
 Fax: (763) 479-4242

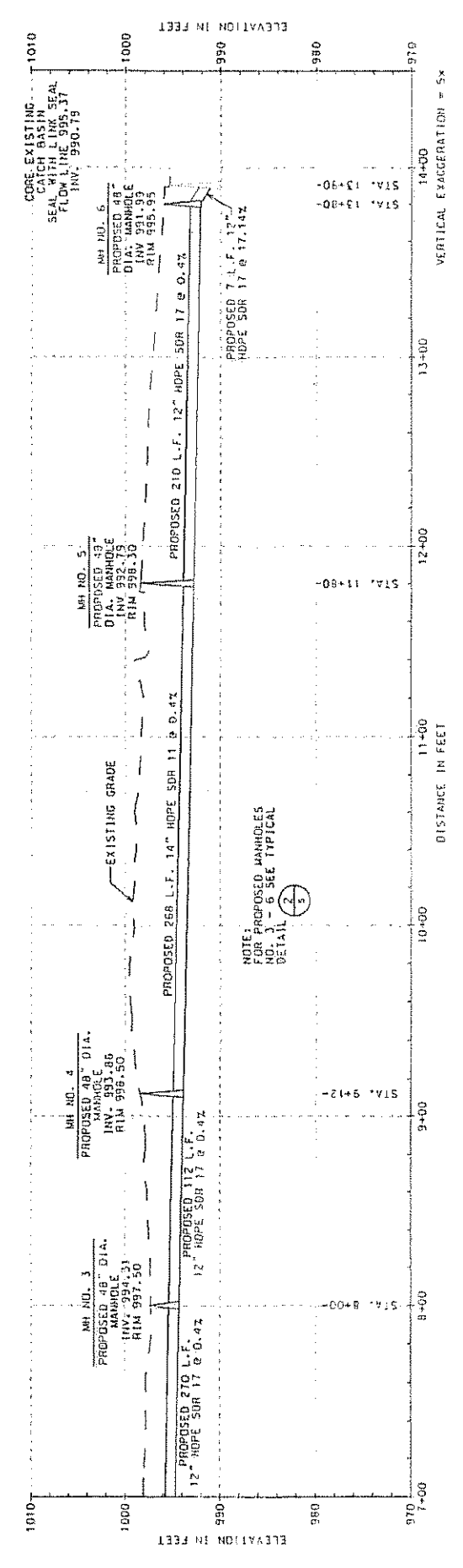
**LEGEND**

- EXISTING CONTOURS
- EXISTING CURB
- PROPERTY LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE (LOCATION APPROX.)
- PROPOSED STORM SEWER
- PROPOSED MANHOLE



**NOTES:**  
 LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

**NOTE:**  
 AREAS DISTURBED ON PRIVATE PROPERTY SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR CONSTRUCTION 3877 & 3878.



2008-0178  
 8170-8002  
 PROJECT: MOONEY LAKE EMERGENCY OUTLET  
 SHEET NO. 1

REVIEWED AND APPROVED BY THE CITY OF PLYMOUTH  
 ROBERT MOBERG  
 SIGNATURE  
 DATE  
 DWG. NO. GHD  
 APP'D

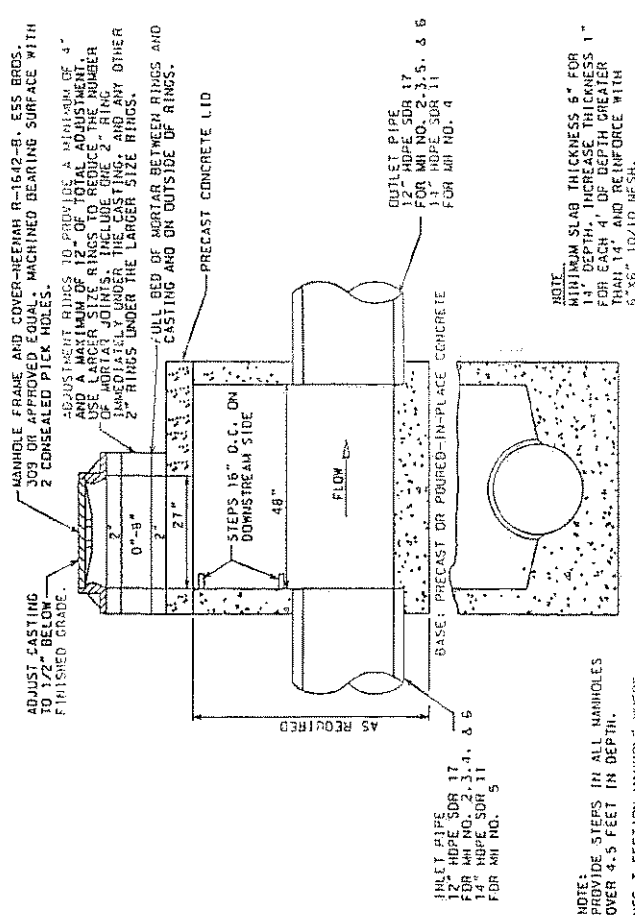
DATE: AUGUST 2007  
 SHEET TITLE: DETAILS

CONSTRUCTION PLANS FOR  
 MOONEY LAKE EMERGENCY OUTLET  
 MINNEHAHA CREEK WATERSHED DISTRICT  
 PLYMOUTH, MINNESOTA

**Wenck**  
 ENGINEERING AND ARCHITECTURE  
 1800 Pioneer Creek Center  
 FORT WORTH, TEXAS 76104  
 PHONE: (817) 499-4200  
 FAX: (817) 499-4242

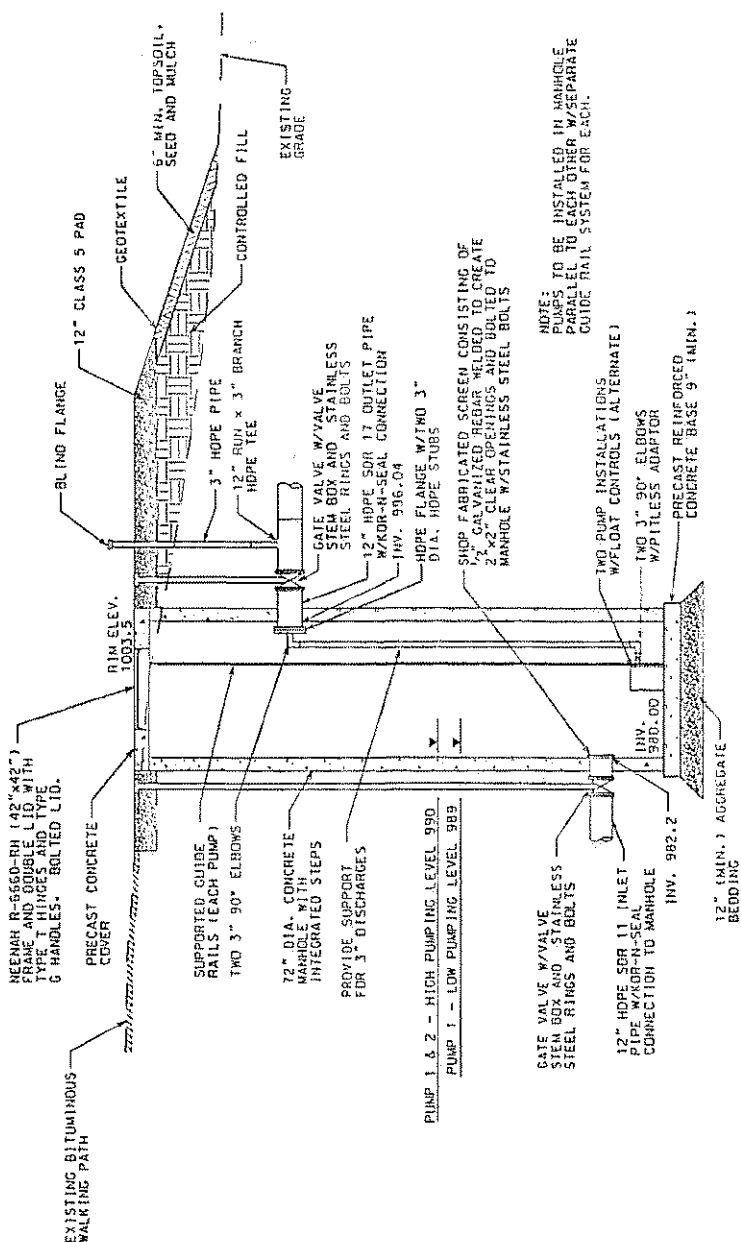
PROJECT NO. 07-1518  
 SHEET NO. 5

8780-80278  
 MICHAEL J. PANZER  
 9/14/07



NOTE: PROVIDE STEPS IN ALL MANHOLES OVER 4.5 FEET IN DEPTH. USE T-SECTION MANHOLE WHERE POSSIBLE (DESIGN 3) WITH OFFSET CONE CONNECTION OR PRECAST SLAB. DOUGHUSES SHALL BE CURED ON BOTH THE OUTSIDE AND INSIDE.

MANHOLE NO. 2-6  
 TYPICAL DETAIL  
 NOT TO SCALE



NOTE: TO BE INSTALLED IN MANHOLE PARALLEL TO EACH OTHER W/SEPARATE GUIDE RAIL SYSTEM FOR EACH.

PROPOSED MANHOLE NO. 1  
 SCALE IN FEET



### **Pending Permits and Approvals**

1. A Minnehaha Creek Watershed District permit is required by MCWD Rule B (erosion control), Rule F (Shoreline and Streambank Improvements) and Rule G (Waterbody Crossings and Structures).
2. A NPDES Construction permit application will be filed.



**Chronology of MCWD Activities Leading to the Implementation of the Mooney  
Lake Emergency Pumping Infrastructure Project**

- 1975** MCWD reviewed high water issues on Mooney Lake and analyzed potential for flooding of improved property.
- 1995** MCWD analyzed water levels and citizen lake level monitoring established. MCWD installed a staff gage (each spring since 1995)
- December -Wenck report on high water concludes potential for flood damage to lowest improved property less than 1% in any given year
- 1998** Plymouth and Orono petition MCWD to investigate feasibility of constructing a gravity outlet because of concerns about high water damage to trees, yards and landscaping.
- 1999** Bonestroo submits draft feasibility study report.
- April – Cities review draft
  - July – Plymouth requests construction of an outlet
- 2000**
- June - Bonestroo submits Feasibility Study to MCWD Board recommending a gravity outlet in response to the 1988 petition
  - July – MCWD orders a tree impact study
  - September – Tree impact study reviewed by MCWD Board and more information is requested
  - October – Bonestroo submits level prediction model to MCWD. Damage to homes is estimated at less than 1% probability in any year. MCWD Board orders Final Engineer’s Report.
  - November – Wenck presents Final Engineer’s Report. Board orders public hearing on June Feasibility Study.
- 2001**
- February 8, 2001 – the MCWD Board dismisses the petition from Orono and Plymouth for a permanent gravity outlet. Emergency pumping for extreme high water was considered a preferable option consistent with the Final Engineer’s Report.
- 2002**
- September 9, 2002 - Plymouth Council passes a resolution requesting MCWD to prepare an Emergency Pumping Plan, to share costs (50-50) in implementing the plan, and to requesting the MCWD Board to reconsider the installation of a permanent gravity outlet.
  - September 12, 2002 – MCWD Board approves the Emergency Pumping Plan.
  - September 30, 2002 – Pumping begins and continues for 64 days, discharging 45 million gallons from the lake.
  - December 3, 2002 – pumps shut down.

**Chronology of MCWD Activities Leading to the Implementation of the Mooney  
Lake Emergency Pumping Infrastructure Project**

(continued)

December 12, 2002 – Wenck recommends installation of the infrastructure necessary to make emergency pumping easier in the future (manhole and buried pipe hook-up to existing Plymouth storm sewer).

**2003**

- January 23, 2003 – MCWD Board authorizes:
  - Engineer to apply for DNR permit renewal
  - Staff to work with Plymouth with 50-50 cost sharing in 2003, if needed, and MCWD share not-to-exceed \$25,000
  - Engineer to study and recommend route for pumping infrastructureMCWD requests Plymouth to investigate infiltration and/or diversion retrofit options
- June – MCWD Board reviews and accepts Wenck pumping infrastructure report and recommendations

**2004** (no activity)

**2005**

- October-November:
  - Heavy rainfall October 4-6, exceeds 4-inches of rain
  - Plymouth and MCWD make preparations for pumping, if needed (contractor quotes, permits etc)
  - Lake level recedes naturally after the event and pumping is not implemented
- November 22-23:
  - MCWD Administrator meets with Commissioner Steele and Plymouth Council member Slavik. Board authorizes inclusion of the emergency pumping infrastructure cost in the 2007 MCWD budget.

**2006** MCWD Board approves the 2007 budget, which includes the emergency-pumping infrastructure. The project is included in the 2006 Comprehensive Water Resources Management Plan (WRMP) Capital Improvements Plan. Implementation in 2007 is contingent upon approval of the WRMP in 2006.



## WATER APPROPRIATION PERMIT

<b>PERMIT NUMBER</b>  <b>2003-3138</b>
<b>COUNTY:</b>  <b>HENNEPIN (27)</b>

IN THE MATTER OF THE APPLICATION FOR APPROPRIATION OF WATERS OF THE STATE, PERMISSION IS HEREBY GRANTED TO:

<b>PERMITTEE</b>  Minnehaha Creek Watershed District Attn: Eric Evenson	<b>Authorized Agent</b>  Dale Claridge, Wenck Associates, Inc.				
<b>Address</b>  18202 Minnetonka Blvd., Deephaven, Minnesota 55391					
<b>Agent's Phone (763) 479-4279</b>					
<b>To appropriate from:</b>  Four (4) portable pumps at 200 gallons per minute each, from Mooney Lake (I.D. No. 27-134P)  SE¼ NE¼ SW¼ Section 30, T118N-R22W					
<b>Purpose:</b>  Emergency pumping for flood control as needed each year. Pumping will start and stop when Mooney Lake water levels are at elevations 990.0' and 989.0' respectively (spring and summer) and at 989.0' and 988.0' respectively (fall), all as described in the <u>Mooney Lake Emergency Pumping Plan</u> dated February 2003 and permit application documents dated February 21, 2003.					
<b>Use Code (261)</b>					
<b>Property described as:</b>  SE¼ NE¼ SW¼ Section 30, Township 118 North, Range 22 West  Mississippi Metro Watershed (20)					
<b>Authorized Signature:</b>  <div style="text-align: center;">            Dale E. Homuth         </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Title</b></td> <td style="width: 50%;"><b>Date</b></td> </tr> <tr> <td style="text-align: center;">Regional Hydrologist</td> <td style="text-align: center;">5-20-2003</td> </tr> </table>	<b>Title</b>	<b>Date</b>	Regional Hydrologist	5-20-2003
<b>Title</b>	<b>Date</b>				
Regional Hydrologist	5-20-2003				

This permit is granted subject to the following **CONDITIONS**:

1. **QUANTITY:**  
 The Permittee is authorized to appropriate water at a rate not to exceed 800 gallons per minute. The total amount of water appropriated shall not exceed 200 million gallons per year.
2. **LIMITATIONS:**
  - (a) Any violation of the terms and provisions of this permit and any appropriation of the waters of the state in excess of that authorized hereon shall constitute a violation of Minnesota Statutes, Chapter 103.
  - (b) This permit shall not be construed as establishing any priority of appropriation of waters of the state.
  - (c) This permit is permissive only. No liability shall be imposed upon or incurred by the State of Minnesota or any of its employees, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the Permittee relating to any matter hereunder. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the Permittee, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the Permittee, for violation of or failure to comply with the provisions of the permit or applicable provisions of law.
  - (d) In all cases where the doing by the Permittee of anything authorized by this permit shall involve the taking, using, or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements thereon or interests therein, the Permittee, before proceeding therewith, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights, and interests necessary therefore.
  - (e) This permit shall not release the Permittee from any other permit requirements or liability or obligation imposed by Minnesota Statutes, Federal Law, or local ordinances relating thereto and shall remain in force subject to all conditions and limitations now or hereafter imposed by law.
  - (f) Unless explicitly specified, this permit does not authorize any alterations of the beds or banks of any public (protected) waters or wetlands. A separate permit must be obtained from the Department of Natural Resources prior to any such alteration.

(over, please)

3. **PERMITTEE'S RESPONSIBILITIES:**

(a) **FLOW METER.**

The Permittee shall equip each installation for appropriating or using water with a flow meter, unless another method of measuring the quantity of water appropriated to within ten (10) percent of actual amount withdrawn is approved by the Department.

(b) **REPORTS.**

Monthly records of the amount of water appropriated or used shall be recorded for each installation. Such readings and the total amount of water appropriated or used shall be reported annually to the Director of DNR Waters, on or before February 15 of the following year, upon forms supplied by the Division. Any processing fee required by law or rule shall be submitted with the records whether or not any water was appropriated during the year. Failure to report shall be sufficient cause for terminating the permit 30 days following written notice.

(c) **TRANSFER OR ASSIGNMENT.**

Any transfer or assignment of rights, or sale of property involved hereunder shall be reported within 90 days thereafter to the Director of DNR Waters. Such notice shall be made by the transferee (i.e., new owner) and shall state the intention to continue the appropriation as stated in the permit. This permit shall not be transferred or assigned except with the written consent of the Commissioner.

(d) **MODIFICATION.**

The Permittee must notify the Commissioner in writing of any proposed changes to the existing permit. This permit shall not be modified without first obtaining the written permission from the Commissioner.

4. **COMMISSIONER'S AUTHORITY:**

(a) The Commissioner may inspect any installation utilized for the appropriation or use of water. The Permittee shall grant access to the site at all reasonable times and shall supply such information concerning such installation as the Commissioner may require.

(b) The Commissioner may, as he/she deems necessary, require the Permittee to install gages and/or observation wells to monitor the impact of the Permittee's appropriation on the water resource and require the Permittee to pay necessary costs of installation and maintenance.

(c) The Commissioner may restrict, suspend, amend, or cancel this permit in accordance with applicable laws and rules for any cause for the protection of public interests, or for violation of the provisions of this permit.

5. **PUBLIC RECORD:**

All data, facts, plans, maps, applications, annual water use reports, and any additional information submitted as part of this permit, and this permit itself are part of the public record and are available for public inspection at the offices of DNR Waters. The information contained therein may be used by the Division as it deems necessary. The submission of false data, statements, reports, or any such additional information, at any time shall be deemed as just grounds for revocation of this permit.

6. **WETLAND CONSERVATION ACT:**

Where the work authorized by this permit involves the draining or filling of wetlands not subject to DNR regulations, the permittee shall not initiate any appropriation under this permit until the permittee has obtained official approval from the responsible governmental unit as required by the Minnesota Wetland Conservation Act.

7. **DISCHARGE EROSION AND SEDIMENTATION CONTROL:**

The Permittee shall ensure that discharge points are adequately protected from erosion and scour. The discharge shall be dispersed over sand bags, plastic sheeling, natural rock riprap, or other approved energy dissipation measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids larger than five microns in size.

8. **ORDINARY HIGH WATER LEVEL:**

This permit does not authorize appropriations from Mooney Lake when water levels are at or below the ordinary high water level of elevation 988.0'.

9. **SURFACE WATER SOURCES:**

All pump intakes must be screened to prevent fish from being drawn into the system. DNR Waters may require the suspension of appropriation during periods of low flows and low water levels in order to maintain minimum flows and water levels within the watershed. This permit is not valid for appropriations from surface water sources that are infested with exotic species (Minnesota Rules 6216.0500).

- c: Wenck Associates, Inc., Dale Claridge
- City of Plymouth, Ron Quanbeck
- City of Medina, Jim Dillman
- City of Orono, Greg Gappa
- City of Wayzata, Mike Kelly
- Hennepin Conservation District, Ali Durgunoğlu
- DNR Conservation Officer, Jim Konrad
- DNR Central Waters: Appropriation Permits & SWUDS
- DNR Region 3 Waters
- Mooney Lake (27-134P) File



# PERMIT APPLICATION CHECKLIST AND RECOMMENDATION

PA #: 2003-3138 APPL. TYPE (A or P): Appropriation TODAY'S DATE: May 14, 2003

Appl. Name: Minnehaha Crk WSD

Res. Name & ID#: Mooney Lake (27-134P)

**Brief Description of Project:** The applicant proposes emergency pumping out of Mooney Lake for flood control on an as needed and permanent basis.

Field Inspection Made:  Yes  No Mitigation Involved:  Yes  No

- Comments from Local Units have been received and considered or 30 days has expired.
- Comments from DNR Fish & Wildlife, PCA, Met Council, COE, etc. have been considered.
- Permit Rules have been reviewed as to how they relate to this application.
- Local Zoning and Water Planning requirements and issues have been considered.
- Environmental Review (EAW, EIS, AUAR) is either not needed or the process has been completed.
- The Permit is being issued to the Owner of the property, or appropriate leases have been obtained.
- If the project involves a structure, a recorded permit is not required.
- If the project involves roadway fill, a waiver from the Commissioner is not required.
- The project does not require legislative approval (Appropriation Permits Only).
- All necessary fees have been received.
- I have reviewed the Delegation Order and the draft permit is prepared for the correct signature.

### RECOMMENDATION, DISCUSSION, AND RATIONALE FOR RECOMMENDATION:

No concerns were expressed in the comments that were received. The MCWSD has been studying this for years. Last year (2002) they pumped for flood control under our General Permit 2000-6117. The reported numbers were that they pumped for 64 days total, with a range of rates from 430 to 625 GPM for a total of 45.4 million gallons or 139.2 acre-feet. They were able to take 14.5 inches off of this 115 acre lake. No problems were encountered with the pumping or discharge route.

Mooney Lake is landlocked. The development of the watershed is suspected as the main cause in the higher lake levels. Several options were investigated and this pumping was chosen at this time over installing an outlet. It may be possible that an outlet will be constructed. At this time there are no plans.

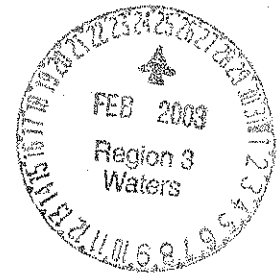
The permit should be issued.

Name of Reviewer: Tom Hovey Approval of Area Hydrologist:

c:

Mr. Tom Hovey  
DNR – Division of Waters  
Metro Region  
1200 Warner Road  
St. Paul, MN 55106-6793

February 20, 2003



Re: DNR Permit Application – Mooney Lake Emergency Pumping

Dear Mr. Hovey,

This letter is intended to provide a written statement from the Mooney Lake Association showing our support of the Minnehaha Creek Watershed District (MCWD) and the City of Plymouth's proposed emergency pumping plan for Mooney Lake. It is our understanding that a water appropriation permit application will be submitted to the DNR this month seeking a permit to authorize emergency pumping this spring as well as to serve as a standing permit to cover future emergency pumping that may be required for flood protection purposes.

The Mooney Lake Association has worked closely with the MCWD and the City of Plymouth to implement emergency pumping last fall to lower water levels on the lake and fully supports additional emergency pumping this spring. We truly hope to implement a "permanent" solution to our ongoing issue of rising lake levels with no natural outlet, to minimize the risk of structural flooding of homes, property damage, tree loss and lakeshore erosion. This is not a new problem, Mooney Lake water levels have been above the OHW mark seven out of the last eight years.

The Mooney Lake Association has 57 active members and represents a strong majority of the 60-shoreline homeowners. I also represent the Bay Pointe Homeowners Association who has 14 lakeshore homeowners on the north end of the lake. The additional 23 members of that Association who also have access to the lake are very supportive of the emergency pumping efforts.

If you remember I first talked to you about these issues last summer and we have made remarkable progress with the support of the MCWD, the City of Plymouth Council and staff as well as with the support of Commissioner

WENCK ASSOCIATES, INC.

MEMORANDUM

**TO:** Eric Evenson, MCWD  
Ron Quanbeck, City of Plymouth  
Joel Settles, Hennepin County  
Jim Dillman, City of Medina  
Greg Gappa, City of Orono  
Mike Kelly, City of Wayzata

**FROM:** Dale Claridge, P.E.  
Wenck Associates, Inc.

**RE:** Mooney Lake Emergency Pumping  
DNR Water Appropriations Permit Application

**DATE:** February 21, 2003

---

Enclosed is a copy of the water appropriations permit application that was submitted to Tom Hovey at the DNR today to cover any additional emergency pumping that may required on Mooney Lake this spring and into the future. Also enclosed is a copy of the emergency pumping plan that has been updated to serve as a contingency plan for 2003 spring/summer pumping. The plan provides background information and addresses the pumping route, operating parameters, permitting requirements, easements, monitoring, operation and maintenance responsibilities, and downstream effects. The proposed pumping system is essentially the same as the one used last fall consisting of submersible pumps and above-ground discharge pipe discharging into Pinetree Pond in Plymouth.

The DNR allows local governmental units 30 days to review and comment on permit applications of this type. Please provide any comments you may have to Tom at the DNR by the end of March or sooner if possible. Tom's telephone number is 651-772-7923.

If you have any questions on this, please free to call me at 763-479-4279 or email me at [dclaridge@wenck.com](mailto:dclaridge@wenck.com). Thanks.

cc: Tom Hovey, DNR

# Mooney Lake Emergency Pumping Plan

Contingency Plan for  
2003 Spring/Summer  
Flood Protection

**Wenck File #0185-04-299d**

Prepared for:

**MINNEHAHA CREEK WATERSHED  
DISTRICT**

18202 Minnetonka Boulevard  
Deephaven, Minnesota 55391



Prepared by:

**WENCK ASSOCIATES, INC.**  
1800 Pioneer Creek Center  
P.O. Box 249  
Maple Plain, Minnesota 55359-0249  
(763) 479-4200

February 2003





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2	Mooney Lake Drainage Area
3	Historical Mooney Lake Elevations
4	Mooney Lake Elevations 1995-2002
5	Pumping Route Options
6	Flow Path and Water Level Monitoring Locations

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- A 2002 Pumping Report
- B DNR General Permit and Notification for Coverage (2002 Pumping)
- C DNR Water Appropriation Permit Application (2003 Pumping)
- D Hennepin County Utility Permit
- E Water Elevation and Precipitation Graphs (2002 Pumping)

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# 1.0 Background

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## 1.1 SCOPE

Emergency pumping of Mooney Lake is prudent to protect structures from potential flooding if downstream impacts to receiving waters are acceptable. The emergency pumping for Mooney Lake is intended to lower the risk of structural flooding of homes in the event lake levels are high again in the spring/summer of 2003. At this time, the pumping system will be temporary; no permanent pump station, pipes, or discharge structure will be installed. This plan provides background information and addresses the pumping route, operating parameters, permitting requirements, easements, monitoring, operations and maintenance responsibilities, and downstream effects. The Minnehaha Creek Watershed District (MCWD) and City of Plymouth have agreed to cooperatively share in the cost of any emergency pumping efforts that may be required with the MCWD responsible for permitting and monitoring and the City of Plymouth responsible for contract management, easements, and operations and maintenance.

## 1.2 HISTORY

The MCWD has worked with lakeshore residents and the communities of Plymouth, Medina, and Orono as early as 1975 in evaluating the potential of high water conditions on Mooney Lake, whose shoreline is shared by the three cities (see Figure 1). The 115-acre lake is located between County Road 6 and County Road 24 in western Hennepin County (see Figure 2) and has a total watershed area of approximately 560 acres (including the lake surface). The majority of the lake's watershed is located within Plymouth. Development within the contributing watershed area has been a concern over the past 25 years due to increased runoff volumes draining into the landlocked lake.

A comprehensive history of studies is contained in the report “Mooney Lake Final Engineers Report, (Wenck, November 2000). This report, and other recent efforts are summarized below.

- 1995--At the request of the Mooney Lake Association, the MCWD performed a water level evaluation for the lake that included establishing a citizen’s lake level monitoring program, surveying of low-lying structures, and performing a flood probability analysis. Lake levels have been monitored consistently since 1995.
- 1998 to 2000--Due to ongoing citizen interest in constructing a permanent outlet for Mooney Lake and in response to petitions filed by the Cities of Plymouth and Orono in 1998, the MCWD performed studies on the feasibility of a pumped outlet and potential impact to existing trees. The Feasibility Study Report and Final Engineers Report were completed in June and November 2000, respectively, while the tree impact assessment was performed in the fall of 2000.
- 2001--MCWD Board considered both reports in the final decision to dismiss the petition for a permanent outlet at their February 8, 2001 meeting, however emergency pumping under extreme conditions was considered a viable option to lower water levels on Mooney Lake.

### **1.3 2002 HIGH WATER CONDITIONS AND EMERGENCY PUMPING**

The record rainfall received in the summer and fall of 2002 (29.9 inches June-October) resulted in the highest water levels ever recorded on Mooney Lake (see Figures 3 and 4) and caused flooding of low-lying properties, but no structures, along the shoreline of the lake. The record rainfall and high water conditions increased the annual probability of structural flooding above 1%. Other lakes in the area also experienced similar problems including Lake Minnetonka, which matched its historic high water level since records were kept beginning in 1914. Flooding of public roads also occurred at various locations. With high water levels on Mooney Lake extending into the fall and with no natural outlet, there was a possibility of even higher water levels in the spring of 2003. To address these concerns, the City of Plymouth and MCWD acted

cooperatively to implement an emergency pumping plan in the fall of 2002 to lower water levels on Mooney Lake as much as possible prior to winter freeze up.

Water was pumped from Mooney Lake over a two-month period from September 30 through December 3, 2002. Water levels on the lake were lowered approximately 1.2 feet (14 inches) to elevation 990.0, which happens to be the point at which the annual risk of structural flooding is less than 1%. A copy of the final pumping report dated September 5, 2002 is provided in Appendix A.

A followup winter water level reading taken on January 21, 2003 showed that Mooney Lake had dropped an additional 1.4 feet (17 inches), but that the lake elevation of 988.6 was still above the Ordinary High Water (OHW) mark of 988.0. Because a wet spring could potentially raise water levels back above elevation 990.0, contingency measures are being put in place to utilize the same emergency pumping system from the 2002 pumping operations in case additional pumping is required in the spring/summer of 2003 to provide the necessary flood protection.

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## 2.0 Route Selection

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### 2.1 ROUTE ANALYSIS

Six routes were evaluated in the fall of 2002 for the most feasible technical route for temporary emergency pumping measures in combination with minimum public inconvenience and minimum impact to downstream receiving waterbodies, many already at high levels. Four of the routes were first presented in the Feasibility Study regarding a permanent system (Bonestroo, June 2000), a fifth route was investigated that discharged to Long Lake in Orono, and a sixth route was added during investigative efforts that involves discharge to the north ditch along County Road 6. Each route is shown on Figure 5.

Options 1 and 4 were removed from consideration since they involved jacking pipe under County Road 6 and timing was a critical consideration. Option 2 was removed from consideration since no easements exist along the drainage path to Hadley Lake, south of County Road 6. Option 3 was strongly considered, but involved laying pipe across trails and driveways. Option 5, which discharges westerly to Long Lake instead of Hadley Lake, was removed from consideration since the drainageway flows toward East Long Lake Road, and this road was under water for a period of time in 2002.

### 2.2 SELECTED ROUTE

The selected route (Option 6), highlighted in blue on Figure 5, involves pumping through an 8-inch pipe from the southeast bay of Mooney Lake easterly under Troy Lane, south down through a city park and private property to the north ditch of County Road 6. The route was selected mutually with City of Plymouth engineering staff. Discharge from the piping will enter the ditch, flow easterly under Peony Lane and enter an existing culvert under County Road 6. The first receiving waterbody is Pinetree Pond, a designated pond for storm water management. Downstream waterbodies consist

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## 3.0 Parameters, Permitting, and Easements

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### 3.1 OPERATING PARAMETERS

Representatives of the MCWD, Hennepin County, and the Cities of Plymouth, Orono, and Medina met on November 19, 2002 and January 3, 2003 to review the progress of last fall's Mooney Lake emergency pumping and to establish target water surface elevations if pumping is required again in the spring/summer of 2003. It was agreed that the following starting and stopping target elevations for Mooney Lake would be used to guide any additional emergency pumping operations:

<b>Spring/Summer Emergency Pumping Mooney Lake Target Elevations</b>	
Start Pumping	990.0
Stop Pumping	989.0

Elevation 990.0 was recommended as the lake level at which emergency pumping would be initiated as it represents the elevation at which the annual risk of structural flooding on Mooney Lake is less than 1%.

The pumping system will run continuously, unless operational problems occur, and have a maximum discharge capacity of 1.7 cfs (750 gpm). Pumping will be maintained during precipitation events, since flow capacity along the County Road 6 ditch is not an issue. The pumping system may be shut down for an indefinite period of time if an extreme event or prolonged wet period results in high water conditions in downstream waterbodies. The City of Plymouth is authorized to reduce pumping rates or shut down the pumps if potential safety hazards, capacity issues, or high water conditions should occur.

### 3.2 PERMITTING

Emergency pumping conducted in the fall of 2002 was covered under DNR General Permit No. 2000-6117 authorizing temporary pumping of up to 50 million gallons over a 12-month period for flood control purposes. Copies of the general permit and notification for coverage that was approved by the DNR on September 24, 2002 for the Mooney Lake emergency pumping is provided in Appendix B. A total of 45.4 million gallons of water was pumped from the lake in 2002. Since any emergency pumping conducted this spring/summer would be done under the same flood protection project and occur within the one-year timeframe from the start of the initial pumping, the 50 million gallon limit allowed under the general permit would quickly be exceeded. Thus an individual water appropriation permit is required from the DNR to authorize any further emergency pumping conducted in the spring/summer of 2003.

A water appropriation permit application was submitted to the DNR on February 21, 2003 to authorize additional emergency pumping this spring/summer and is also intended to serve as a "standing permit" that would cover future emergency pumping that may be required. A copy of the DNR permit application is provided in Appendix C. A 30-day local agency review and comment period is required upon receipt of the permit application. Assuming no significant comments or objections are received, it is anticipated that the DNR permit could be issued around the first of April.

A utility permit application was submitted to Hennepin County on September 25, 2002 to cover temporary discharges to the County Road 6 ditch system from the Mooney Lake emergency pumping activities conducted last fall. A copy of the permit application is provided in Appendix D. On November 19, 2002, Hennepin County was informed of the status of the fall emergency pumping and notified that contingency plans were being prepared for possible spring/summer pumping in 2003. The County did not have any objections to discharging to the ditch again on an emergency basis and advised that they be contacted this year prior to the start



of any emergency pumping to request that the completion date specified in the permit be extended to allow continued pumping under the County's existing permit.

### **3.3 EASEMENTS**

The City of Plymouth will be responsible for securing right of entry agreements from the four affected property owners along the pumping route authorizing the City to temporarily place the discharge pipe on their land.

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## 4.0 Downstream Effects

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### 4.1 SUMMARY OF POTENTIAL IMPACTS

The contingency plan for 2003 spring/summer pumping is similar to the plan that was implemented last fall and would pump water from the southeast bay of Mooney Lake via above-ground pipe and ditch into Pinetree Pond. From Pinetree Pond, the water flows through a conveyance system of ponds, lakes, and wetlands, which are part of the stormwater drainage systems within the cities of Plymouth and Wayzata. Eventually it will reach Wayzata Bay on Lake Minnetonka. Figure 6 shows the flow path, affected downstream waterbodies, and monitoring sites. The potential impact to the downstream drainage system is the loss of storage volume in downstream waterbodies due to a constant discharge of up to 1.7 cfs (750 gpm), which will temporarily raise the elevation of each waterbody. The low, constant discharge is not a risk to the instantaneous conveyance capacity due to the small discharge rate as compared to the large watershed for receiving waterbodies.

A hydraulic analysis was performed that involved reviewing as-built plans and construction drawings for existing downstream outlet structures and storm sewer systems in Plymouth and Wayzata in order to estimate change in water elevations for each waterbody. The system will be closely monitored during the pumping operations to identify any problems.

Estimates on the increase in downstream water surface elevations under maximum pumping rates (1.7 cfs) are as follows:

- Pinetree Pond Less than 4 inches
- Queensland Avenue Pond Less than 4 inches
- Hadley Lake Less than 12 inches
- Far Hill Road Wetland (GC-W5A) Less than 10 inches

- Glenbrook Pond Less than 1 inch

The actual water elevation increase is dependent on the outlet structure characteristics for each waterbody and starting water surface elevation and also assumes that outlets remain clear of debris with unobstructed flow.

Water elevation and precipitation graphs for Mooney Lake and the five downstream waterbodies monitored during the 2-month emergency pumping period last fall (September 30 through December 3, 2002) are provided in Appendix E. Unfortunately, a large amount of rain was received during the first two weeks of the emergency pumping operation (3.7 inches), including a 2-inch storm event that occurred just a few days after the pumping was started. This made it difficult to gauge the actual pumping effects on the downstream waterbodies. Accumulated debris (e.g., leaves, sticks) also restricted flow at the Queensland Avenue Pond outlet on two occasions affecting upstream water levels on Pinetree Pond. There was also a blockage/obstruction in the Hadley Lake outlet pipe that affected water levels on Hadley Lake as well as downstream on Pond HLP8/GC-W5A. However, even when taking these factors into account, there were no reported flooding problems in the downstream drainage system and overall, it appears that last fall's emergency pumping had a minimal impact on downstream water levels.

A brief description of the downstream drainage system is provided below.

## **4.2 PINETREE POND - PLYMOUTH**

Pinetree Pond is located just south of County Road 6 and is the first open waterbody that the discharge from Mooney Lake will enter. The pond level is controlled at its outlet by an approximate 30-foot long earthen berm reinforced with rip rap with an overflow elevation of 976.0. Downstream of this weir, water flows through a series of open water wetlands/ponds that are controlled by a 30-inch concrete arch pipe near Queensland Avenue. The controlling elevation is 976.2, therefore the entire chain is controlled by the Queensland outlet. The

estimated increase in water surface elevations due to discharges from Mooney Lake pumping for both Pinetree Pond and the pond/wetland chain above Queensland Avenue is approximately 4 inches.

#### **4.3 HADLEY LAKE - PLYMOUTH**

Hadley Lake receives Mooney Lake discharge from the Pinetree Pond/Queensland Avenue system and the surrounding watershed, a total of 816 acres. The fall in elevation between Pinetree Pond/Queensland Avenue and Hadley Lake is significant, at 16 feet. Hadley Lake is controlled by an outlet structure that combines an 8-inch orifice at lower elevations with an overflow into a box structure for wet conditions. The water levels in Hadley Lake resulting from Mooney Lake discharges could increase by as much as one foot from normal conditions at a pumping rate of 1.7 cfs. This is the highest estimated increase for any downstream waterbody. Although more elevation change occurs on Hadley Lake than other waterbodies, it is well within the operating range of the structure.

#### **4.4 FAR HILL ROAD WETLAND OUTLET - WAYZATA**

Hadley Lake discharges to a wetland complex that straddles the border of Plymouth and Wayzata. In Plymouth, the identifier is HLP8; in Wayzata, it is GC-W5A. The wetland discharge is controlled by a primary structure along Far Hill Road, with a small orifice and overflow, similar to the Hadley Lake outlet structure. A secondary structure (standpipe) is located in a catch basin on the south side of Far Hill Road, just across the road from the primary structure, and controls the normal elevation of the wetland. The estimated maximum increase in wetland elevation is 10 inches for up to 1.7 cfs of discharge from Mooney Lake.

From discussions with the City of Wayzata, site visits, and a review of storm sewer maps and construction drawings, flow capacity increases downstream of this point.

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## **5.0 Monitoring, Operations, and Maintenance**

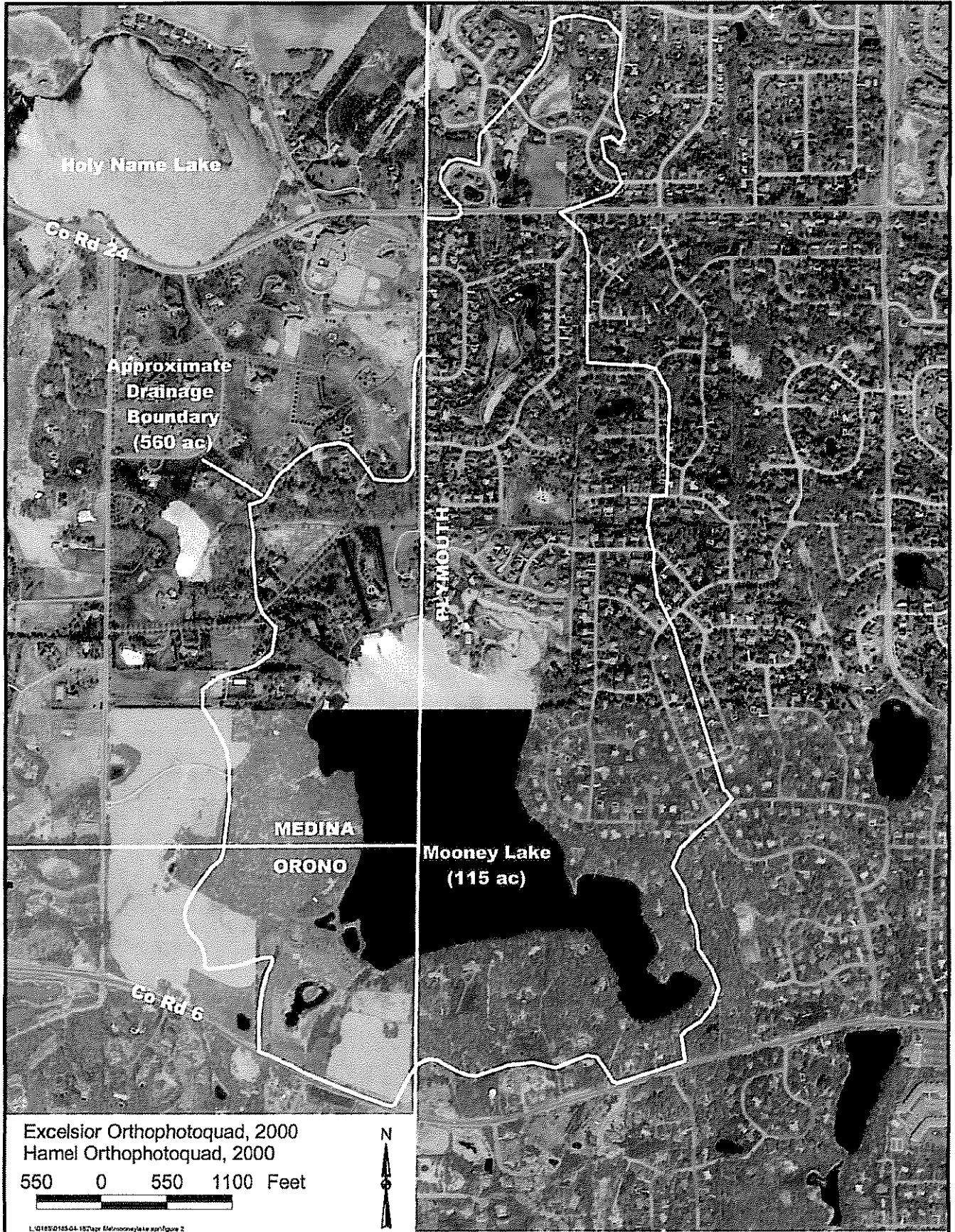
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### **5.1 MONITORING**

Monitoring and followup reporting to the City of Plymouth and the DNR will be the responsibility of the MCWD. Monitoring will involve checking pumping rates, recording water levels on Mooney Lake and downstream waterbodies, inspecting the County Road 6 ditch, and taking water quality samples. The temporary pumping system will be monitored for run time and flow rate to allow for a computation of the total volume of water pumped from Mooney Lake. Water elevations will be monitored daily for the first 5 days, then weekly or immediately after significant runoff events at locations shown on Figure 6. Monthly water quality samples will be taken from the end of the discharge pipe.

### **5.2 OPERATIONS AND MAINTENANCE**

The emergency pumping system will be similar to last fall's system consisting of submersible pumps suspended from a float in the lake and above-ground discharge pipe (a section of the pipe and float basket/screen were left onsite by the dewatering contractor to be utilized again this year if spring pumping is required). The pumps will be powered by electricity provided from the temporary electrical service that was installed on the Mellen property last October to run the pumps. Operations and maintenance of the pumping system will be the responsibility of the City of Plymouth. City staff will be responsible for: daily inspections of the pumping system and cleaning of pump intakes; monitoring pumping rates; periodic inspections of the discharge line, ditch, and downstream outlet structures; erosion control at the discharge point to the County Road 6 ditch and erosion control and reseeding (if necessary) along the 1,000 feet of ditch; and notifying the contractor of any problems or repair needs.



MINNEHAHA CREEK WATERSHED DISTRICT

Mooney Lake Drainage Area

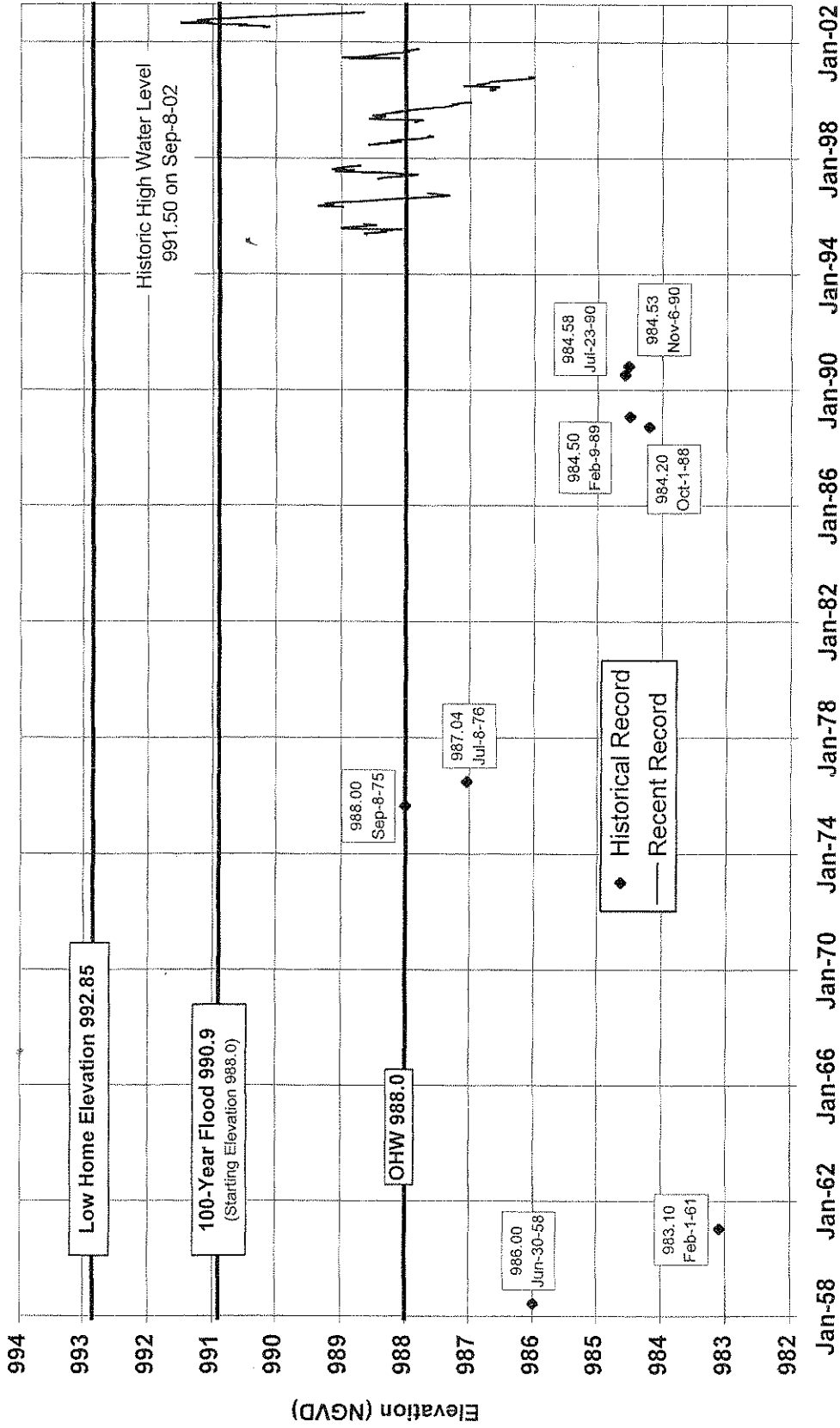


**Wenck**  
 Wenck Associates, Inc. 1800 Pioneer Creek Cir., P.O. Box 249  
 Environmental Engineers Maple Plain, MN 55359-0249

FEB 2003

Figure 2

# Mooney Lake Elevations



MINNEHAHA CREEK WATERSHED DISTRICT

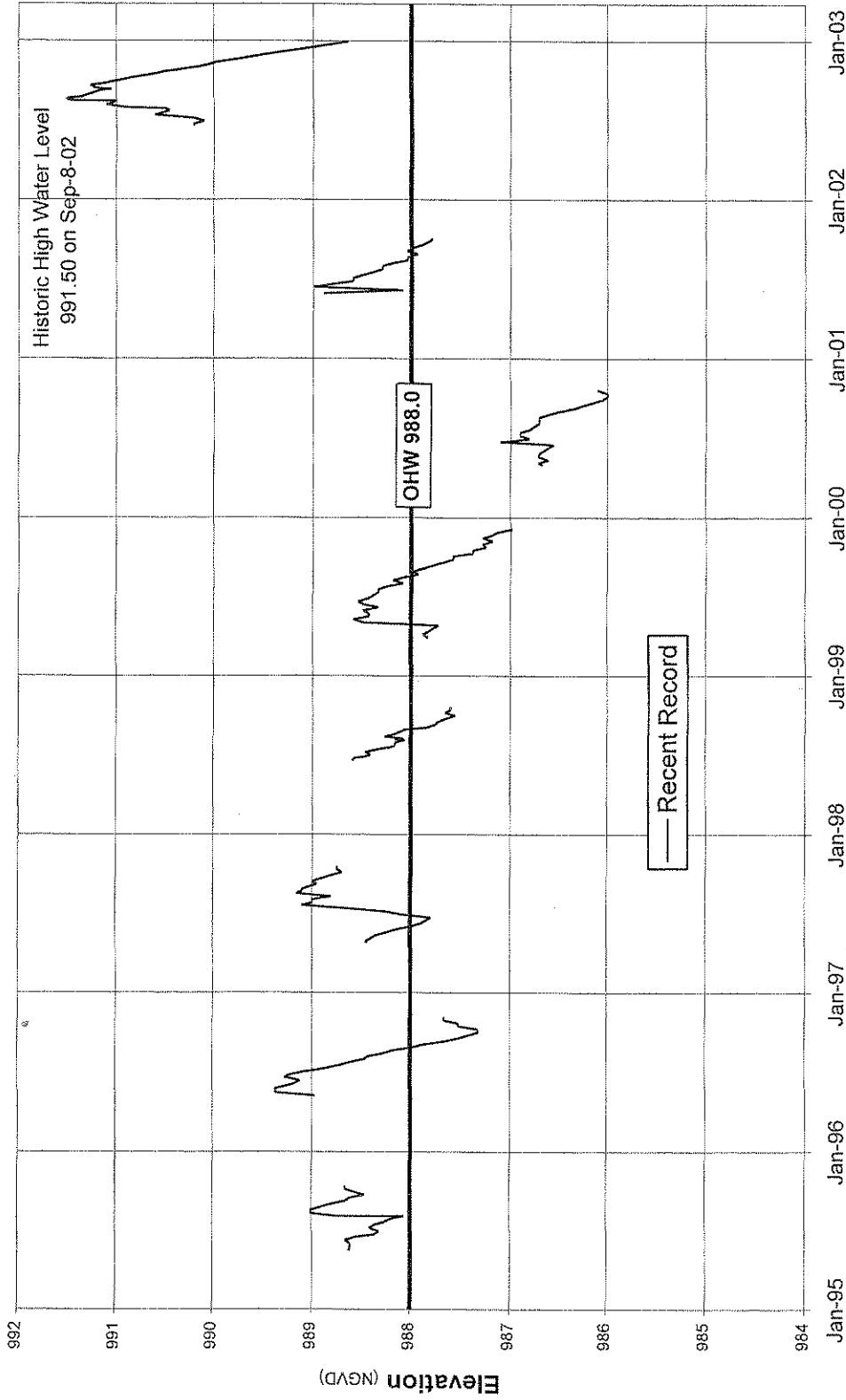
Historical Mooney Lake Elevations



FEB 2003

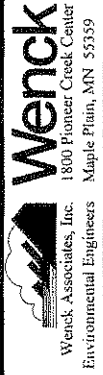
Figure 3

# Mooney Lake Elevations



MINNEHAHA CREEK WATERSHED DISTRICT

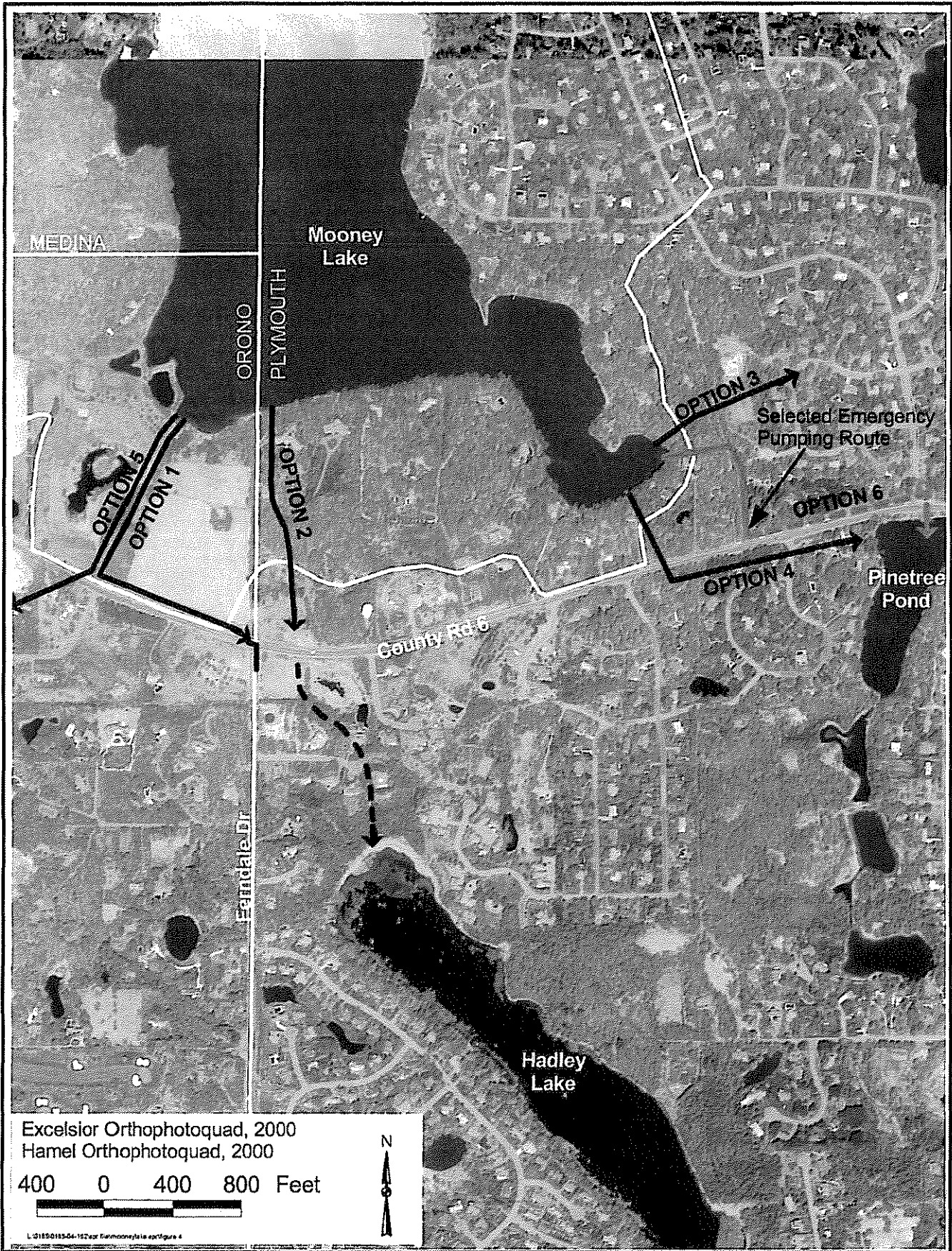
Mooney Lake Elevations 1995 - 2002



FEB 2003

Figure 4





**MINNEHAHA CREEK WATERSHED DISTRICT**

Pumping Route Options

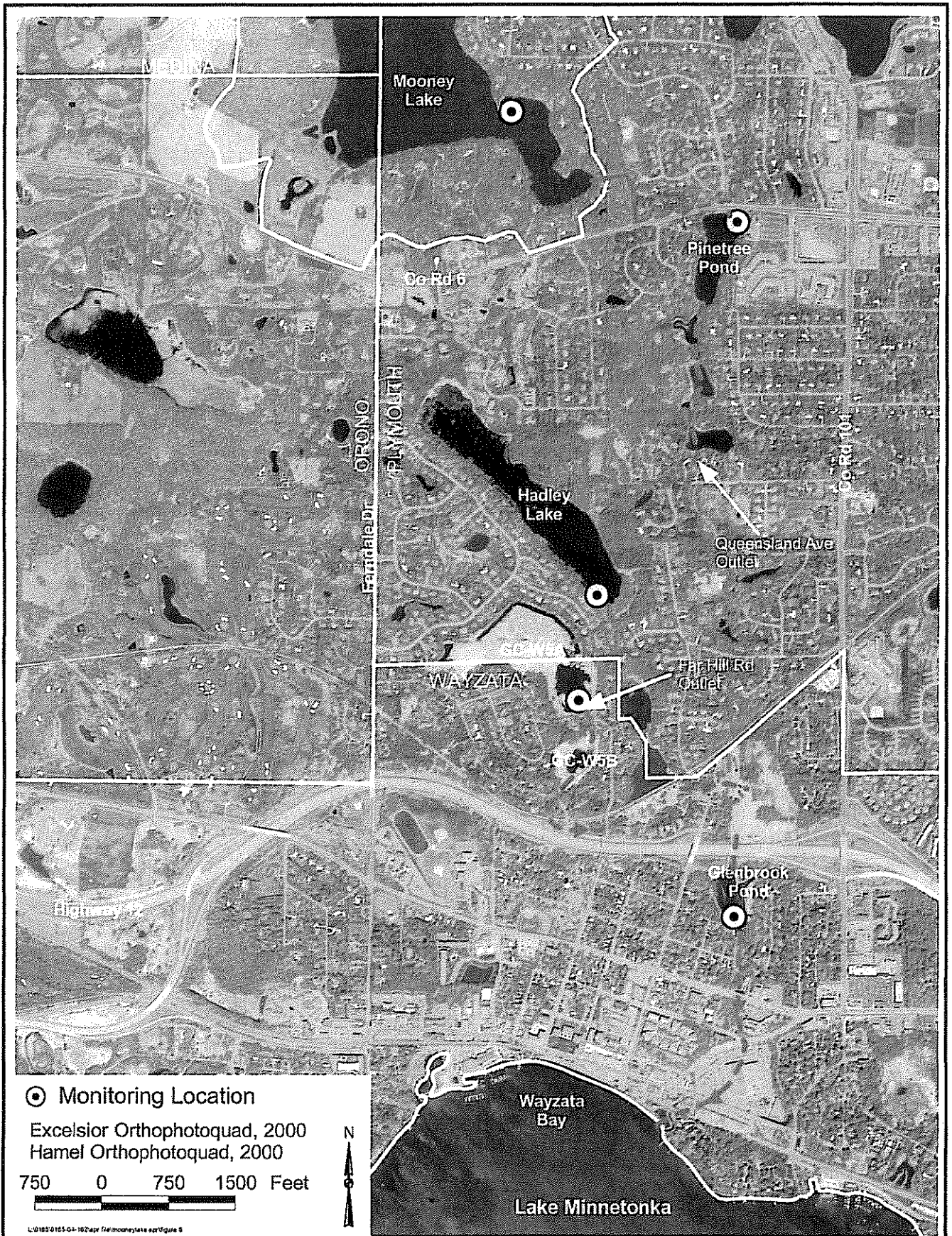
CONTRIBUTOR

**Wenck**

Wenck Associates, Inc. 1800 Pioneer Creek Cir., P.O. Box 249  
Environmental Engineers Maple Plain, MN 55359-0249

FEB 2003

Figure 5



○ Monitoring Location

Excelsior Orthophotoquad, 2000  
Hamel Orthophotoquad, 2000

750 0 750 1500 Feet

L:\0183\0155\04-102\apf\fil\mooneylake.apr\figure 6

MINNEHAHA CREEK WATERSHED DISTRICT

Flow Path and Water Level Monitoring Locations

 **Wenck**  
Wenck Associates, Inc. 1800 Pioneer Creek Cir., P.O. Box 249  
Environmental Engineers Maple Plain, MN 55359-0249

FEB 2003

Figure 6



To: mpanzer@wenck.com  
From: Dale Claridge <dclaridge@wenck.com>  
Subject: December 5 Mooney Lake Pumping Update  
Cc: Eric Evenson, rquanbec@ci.plymouth.mn.us  
Bcc:  
Attached: T:\0185\04\299-Mooney\MooneyGraph.pdf,

Thursday, December 5, 2002

Mike,

The pumps were shut down and removed from Mooney Lake on Tuesday, December 3. The downstream section of pipe on Rohman's property was also removed and hauled offsite. The other sections of pipe and float basket/screen for the pumps were left onsite by the dewatering contractor and will be used again next spring assuming we will be back pumping again.

Overall, I am pleased by the pumping results this fall and the minimal impact it had on downstream water levels, especially considering the large amount of rainfall we received in early October just after the emergency pumping was started. Attached is a graph showing water elevations recorded for Mooney Lake since early September along with daily precipitation received during the 2-month pumping period.

Below is a final summary of the Mooney Lake emergency pumping:

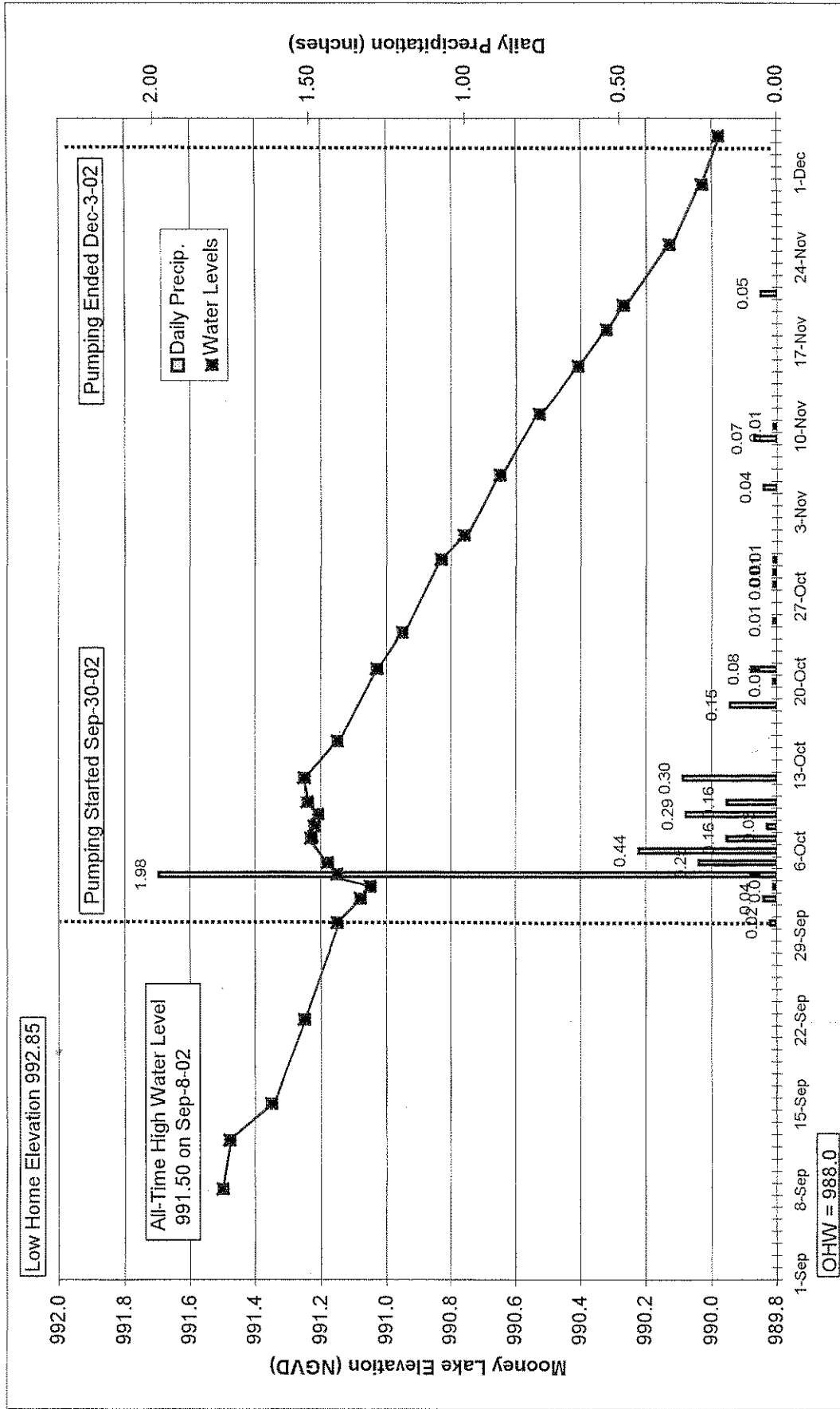
- Pumping was started on September 30
- Pumping was stopped on December 3
- We pumped a total of 64 days
- During the pumping period, the average discharge rates generally varied as follows:
  - 430 gpm/1.0 cfs (September 30 - October 28)
  - 625 gpm/1.4 cfs (October 29 - November 2)
  - 550 gpm/1.2 cfs (November 3 - November 26)
  - 430 gpm/1.0 cfs (November 27-December 3)
- At the above rates, we pumped a total of 45.4 million gallons or 139.2 acre-feet of water from the lake
- At a lake surface area of 115 acres, this volume is equivalent to 14.5 inches of elevation
- The water level of Mooney Lake before pumping started was 991.15 and level at the end of pumping was 989.98, a difference of 14.0 inches
- The current lake elevation of approximately 990.0 is 2.0 feet above the OHW and 2.9 feet below the elevation of the lowest home on the lake where structural flooding would occur
- We received 3.94 inches of rain during the month of October and 0.17 inches of rain/snow in November (Wenck Maple Plain gauge); the 30-year normals for the MSP Airport for the month of October is 2.19 inches and for November is 1.55 inches
- According to a recent article published in the Star Tribune, the month of November was the fourth driest

on record. This was preceded by the wettest five months in Twin Cities history (30 inches of rain), which resulted in record high water levels on Mooney Lake. Bruce Watson, a local meteorologist, predicts near-normal temperatures and a little less snow than usual this winter.

Please let me know if you have any questions.

Dale

# Mooney Lake Elevations and Precipitation





INVOICE

Remit To:

1 of 1

MN Dept of Natural Resources - OMB  
500 Lafayette RD, Box 10  
St Paul MN 55155

MINNEHAHA CREEK WATERSHED  
DISTRICT  
ATTN: RENAE CLARK  
18202 MINNETONKA BLVD  
DEEPHAVEN MN 55391

Invoice #: 202198  
Dated : 31-OCT-2007  
Due : 30-NOV-2007

Description	Quantity	Price	Amount
PUBLIC WATERS PERMIT-APPLICATION FEE FOR CONSTRUCTION OF STORM SEWER AND STORM PUMPING STATION 2008-0278	1	150.00	150.00
Sales Tax			\$0.00
Total Due			\$150.00

*Tran 351  
# 27765 \$150.00*

*NOV 20 2007  
PAID*


For questions regarding this invoice or your account, please call Lois Pichelmann at 651-259-5672. Interest may be charged on past due invoices at the rate determined by the State of Minnesota. Please write invoice number on the check.

MINNEHAHA CREEK  
WATERSHED DISTRICT  
ATTN: RENAE CLARK  
18202 MINNETONKA BLVD  
DEEPHAVEN MN 55391

Invoice #: 202198  
Dated : 31-OCT-2007  
Due : 30-NOV-2007

Internal Note: Waters Invoice  
Please detach and return this portion with payment of \$150.00

TRANSFER ENTERED  
HENNEPIN COUNTY TAXPAYER SERVICES

OCT 31 2007  
HENNEPIN COUNTY MN  
BY  DEPUTY

City Project No. 7111

## DRAINAGE & UTILITY EASEMENT

THIS EASEMENT IS MADE and entered into this 16<sup>th</sup> day of October 2007, by and between Kai Kroll and Sharon Kroll, husband and wife, Grantors, and the CITY OF PLYMOUTH, a Minnesota Municipal Corporation, Grantee.

WITNESSETH that whereas said Grantors are the fee owners of the tract of land in the County of Hennepin, State of Minnesota, described as follows:

DESCRIPTION OF PROPERTY: (PIN 30-118-22-31-0016 and 30-118-22-42-0001)  
Cert. # 1133526

Tracts F and G, Registered Land Survey No. 854, according to the recorded survey on file. Hennepin County, Minnesota.

NOW THEREFORE, Grantors, in consideration of One Dollar and other good and valuable consideration, to it in hand paid by Grantee, receipt of which is hereby acknowledged, hereby grant to said Grantee, its successors and assigns, the following easement with the conditions that in the event the City needs to access the easement area, that no trees are removed without the written consent of the property owner and if a fence has been constructed along the northwest property line and access to the easement requires the fence to be removed, the City will reinstall the fence at no expense to the owner. Also, the owner's boats may occupy the west portion of the 10-foot easement. Centerline of the inlet pipe is to be within 1-foot of property line.

DESCRIPTION OF EASEMENT:

A permanent drainage and utility easement over, under, across and through the northwesterly 10 feet of the above described property.



Doc No 4442802 11/05/2007 02:00 PM  
Certified filed and or recorded on above date:  
Office of the Registrar of Titles  
Hennepin County, Minnesota  
Michael H. Cunniff, Registrar of Titles  
TransID 353634

New cert                      Cert  
   1133526

Deputy 26  
Fees  
\$1.50 AF  
\$10.50 STATEFEE  
\$34.00 TDOC FEE  
\$0.00 TSUR  
\$46.00 Total



TRANSFER ENTERED  
HENNEPIN COUNTY TAXPAYER SERVICES

OCT 31 2007  
HENNEPIN COUNTY MN  
BY \_\_\_\_\_ DEPUTY

City Project No. 7111

**DRAINAGE & UTILITY EASEMENT**

THIS EASEMENT IS MADE and entered into this 12th day of October 2007, by and between David L. Mellen and Shirley A Wirtz Mellen, husband and wife, Grantors, and the CITY OF PLYMOUTH, a Minnesota Municipal Corporation, Grantee.

WITNESSETH that whereas said Grantors are the fee owners of the tract of land in the County of Hennepin, State of Minnesota, described as follows:

DESCRIPTION OF PROPERTY: (PIN 30-118-22-31-0015)

Tract E, Registered Land Survey No. 854, according to the recorded Survey on file. Hennepin County, Minnesota.

NOW THEREFORE, Grantors, in consideration of One Dollar and other good and valuable consideration, to it in hand paid by Grantee, receipt of which is hereby acknowledged, hereby grant to said Grantee, its successors and assigns, the following easement with the conditions that in the event the City needs to access the easement area, that no trees are removed without the written consent of the property owner and if a fence has been constructed along the southeast property line and access to the easement requires the fence to be removed, the City will reinstall the fence at no expense to the owner.

DESCRIPTION OF EASEMENT:

A permanent drainage and utility easement over, under, across and through the southeasterly 10 feet of the above described property.





Doc No 4442803 11/05/2007 02:00 PM  
Certified filed and or recorded on above date:

Office of the Registrar of Titles  
Hennepin County, Minnesota  
Michael H. Cunniff, Registrar of Titles  
TransID 353634

New cert

Cert  
1029505

Deputy 26

Fees

\$1.50 AF

\$10.50 STATEFEE

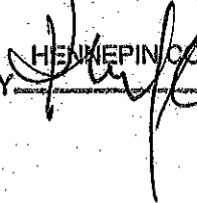
\$34.00 TDOC FEE

\$0.00 TSUR

\$46.00 Total

TRANSFER ENTERED  
HENNEPIN COUNTY TAXPAYER SERVICES

OCT 31 2007

HENNEPIN COUNTY MN  
BY  DEPUTY

City Project No. 7111

**DRAINAGE & UTILITY EASEMENT**

THIS EASEMENT IS MADE and entered into this 1st day of October 2007, by and between Mark A Lawton and Mary Beth M. Lawton, as joint tenants, Grantors, and the CITY OF PLYMOUTH, a Minnesota Municipal Corporation, Grantee.

WITNESSETH that whereas said Grantors are the fee owners of the tract of land in the County of Hennepin, State of Minnesota, described as follows:

DESCRIPTION OF PROPERTY: (PIN 30-118-22-31-0011) Cert. # 841623

Tract A, Registered Land Survey No. 854, according to the recorded Survey on file.  
Hennepin County, Minnesota.

NOW THEREFORE, Grantors, in consideration of One Dollar and other good and valuable consideration, to it in hand paid by Grantee, receipt of which is hereby acknowledged, hereby grant to said Grantee, its successors and assigns, the following easement with the condition that no trees are removed without the written consent of the property owner.

DESCRIPTION OF EASEMENT:

A permanent drainage and utility easement over, under, across and through the southeasterly 10 feet of the above described property.





TRANSFER ENTERED  
HENNEPIN COUNTY TAXPAYER SERVICES

OCT 31 2007

BY  HENNEPIN COUNTY MN DEPUTY

City Project No. 7111

## DRAINAGE & UTILITY EASEMENT

THIS EASEMENT IS MADE and entered into this 24 day of September, 2007, by and between NetCom, Inc., a Minnesota Corporation, Grantor, and the CITY OF PLYMOUTH, a Minnesota Municipal Corporation, Grantee.

WITNESSETH that whereas said Grantor is the fee owner of the tract of land in the County of Hennepin, State of Minnesota, described as follows:

DESCRIPTION OF PROPERTY: (PIN 30-118-22-31-0018) CT. #846848

*FX ok CTX*  
Tract I, Registered Land Survey No. 854, according to the recorded Survey on file. Hennepin County, Minnesota.

NOW THEREFORE, Grantor, in consideration of One Dollar and other good and valuable consideration, to it in hand paid by Grantee, receipt of which is hereby acknowledged, hereby grants to said Grantee, its successors and assigns, the following easement:

DESCRIPTION OF EASEMENT:

A permanent non-exclusive drainage and utility easement over, under, across and through that part of the above described property lying 10-feet either side of the following described centerline:

Beginning at the most southwesterly corner of Tract A, Registered Land Survey No. 854; Thence on an assumed bearing of South 70 degrees 01 minutes 20 seconds West, a distance of 33.35 feet to the most southeasterly corner of Tract E, Registered Land Survey No. 854 and there terminating.







Doc No 4442804 11/05/2007 02:00 PM  
Certified filed and or recorded on above date:

Office of the Registrar of Titles

Hennepin County, Minnesota

Michael H. Cunniff, Registrar of Titles

TransID 353634

New cert

Cert

846848

Deputy 26

Fees

\$1.50 AF

\$10.50 STATEFEE

\$34.00 TDOC FEE

\$0.00 TSUR

\$46.00 Total