

**CITY OF SHOREVIEW  
AGENDA  
CITY COUNCIL WORKSHOP  
MARCH 3, 2014  
IMMEDIATELY FOLLOWING REGULAR MEETING**

1. ROLL CALL
2. DISCUSSION REGARDING LAKE IMPROVEMENT DISTRICT  
BACKGROUND INFORMATION
3. OTHER ISSUES
4. ADJOURNMENT

City Council:  
Sandy Martin, Mayor  
Emy Johnson  
Terry Quigley  
Ady Wickstrom  
Ben Withhart



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DATE: February 19, 2014  
TO: Mayor, City Council and City Manager  
FROM: Mark Maloney, Director of Public Works *mm*  
SUBJECT: SLID Background Information

The Turtle Lake Homeowners Association (TLHA) seeks to discuss approaches to addressing lake level concerns with the City Council at the work session scheduled for Monday, March 10, 2014. The idea of lake level augmentation was the subject of a jointly funded concept study completed in 2011 (copy attached). The City Council indicated at that time the need for the TLHA to determine the level of support for the creation of a Lake Improvement District (LID) and a potential lake augmentation project that would be administered similar to the Snail Lake Augmentation Project which was constructed in 1993.

Since the time of the concept study, a number of factors have arisen that potentially complicate the City/TLHA attempting to move forward with a lake augmentation project. The sustained low level of White Bear Lake, media coverage, litigation involving the Minnesota Department of Natural Resources (DNR) and action by the Minnesota Legislature have created an environment that is questioning the use and priorities for water supply resources in the Northeast portion of the Twin Cities. The Met Council and USGS are currently working according to Legislative initiative to better understand these topics. Their work plans, as well as the DNR's, are scheduled over the next few years but it is unclear what bearing their findings will have on the water appropriation permitting necessary to augment a Metro area lake. It is likely that the project approach/assumptions and resulting costs associated with lake augmentation as identified in the 2011 Turtle Lake Concept Study will need significant modifications once more is known. In addition, heightened concerns for potential Turtle Lake water quality degradation and the environmental permitting necessary to augment the lake with raw Mississippi River could complicate the process.

Attached for reference is an outline of the public process during 1991-1994 for the creation of the Snail Lake Improvement District and the resulting project for the installation of the infrastructure necessary to augment the level of Snail Lake. City Council meeting minutes highlight the deliberations during the approval process.

For review, the circumstances leading up to those City actions included:

- According to records, Snail Lake existed as a seasonally flooded wetland prior to 1927.

- In the period 1927-1990, Snail Lake was augmented continuously by Ramsey County using deep groundwater wells, similar to many other water bodies across their jurisdiction. The lake acquired a public value similar to natural lakes that support recreational uses.
- Following a period of severe drought and record low Mississippi River levels, in 1990 the DNR suspended permits for using groundwater for lake augmentation statewide, however Snail Lake was granted a one year extension to give time to study alternatives.
- In 1990, there was State and Local agency agreement that there would be limited or no recreational use capacity for Snail Lake without some form of level stabilization/augmentation.
- In early 1991, the Shoreview City Council ordered the preparation of the Snail Lake Augmentation Report, with stipulations for future cost participation by lakeshore property owners, Ramsey County Parks/Open Space, Union Gospel Mission and the City. The Snail Lake Homeowner's Association was required to escrow half of the estimated cost for the report.

After Shoreview's decision to move forward with the Augmentation Report in February of 1991, there was about 18 months of process to identify LID criteria, hold public hearings and order the creation of the LID (August 1992) after receiving a petition that reflected support of 83% of proposed LID properties. It wasn't until all of the LID structure (Board, bylaws, etc.) was in place that the City ordered the improvement; development of engineering plans and specification, bidding, etc. The construction work for the necessary infrastructure occurred in two phases in 1993, and the assessments for the infrastructure were certified in November of 1994.

Even though more than 20 years have elapsed since Shoreview agreed with the purpose and facilitated the subsequent creation of the Snail Lake Improvement District (SLID), it still stands as the best example of an augmentation-based LID statewide. It definitely benefited from there having been a strong consensus about a lake level issue and it being connected to public benefit; a similar finding has yet to be made regarding Turtle Lake.

## **Snail Lake Augmentation Outline (1991-1994)**

<u><b>Date</b></u>	<u><b>Action</b></u>
02/04/1991	Adopt Res. 91-71 directing preparation of feasibility study, setting cost-sharing for study.
05/06/1991	Approve cost sharing agreement with SLHA (\$20,000 escrow)
11/04/1991	Approve Snail Lake Augmentation report, continue consideration of LID
05/04/1992	Adopt Res. 92-83, support for augmentation, request DNR extension (1992)
05/18/1992	Adopt Res. 92-89, approving LID criteria, call for public hearing
07/06/1992	SLID public hearing
08/03/1992	Approve order creating SLID and board by laws
01/19/1993	Adopt Res. 93-01, order improvement, Authorize SPRWS agreement
03/15/1993	Award contract for 1 <sup>st</sup> phase construction
07/06/1993	Award contract for 2 <sup>nd</sup> phase construction
02/07/1994	Approve final construction and payment – Phase I
06/07/1994	Approve final construction and payment – Phase II
11/07/1994	Adopt assessment roll for Snail Lake Augmentation



# Technical Memorandum

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To: Mark Maloney, City of Shoreview

From: Mark Lobermeier

Date: July 7, 2011

RE: Turtle Lake Augmentation  
SEH File No. 116229

On March 21, 2011 the City of Shoreview authorized SEH Inc. to complete a preliminary concept study for Turtle Lake augmentation in an effort to mitigate extended periods of low waterlevels and diminished (recreational) use. This technical memorandum presents the findings of our analysis to date.

## Objective

The primary objective of the study was to facilitate an informed decision by the City Council and the Home Owners Association (HOA) regarding the formation of a Lake Improvement District (LID) as the legal and fiscal instrument to implement an augmentation solution for Turtle Lake. The key questions to be answered before making a LID decision include:

- What are the options for source water?
- What is the quality of source water?
- How would the augmentation system operate?
- What are the costs related to implementation?
- What are the likely cost recovery scenarios if the project would proceed?
- What is the impact to water quality in Turtle Lake?
- What other permits and/or approvals are required?

## Home Owners Association

Within the last 12 months, the Home Owners Association surveyed its members regarding the potential augmentation process:

- 51.2% of the responses were for the project;
- 19% of the responses were against it;
- 28.8% of the responses wanted more information.

As a comparison, approximately 83% of the Snail Lake homeowners were in favor of the Snail Lake Augmentation project in 1991.

The primary concerns raised by the Turtle Lake HOA include:

- Source(s) of water
- Quality of sources
- Cost to implement and cost split
- Post Expectation (use impairment)

### Source Water Options and Quality

Four potential sources of water were identified. The following identifies each source and discuss the viability of use for augmentation purposes.

1. **Ground Water:** Ground water wells were used to augment Turtle Lake from 1923 to 1989. This source has the best water quality of all the sources considered; however, it is no longer possible to obtain the necessary regulatory approvals to utilize ground water for augmentation purposes.
2. **Twin Cities Army Ammunition Plan (TCAAP):** The TCAAP property directly west of Turtle Lake has operated various groundwater recovery/treatment systems on-site for more than 20 years due to contaminants, primarily volatile organic compounds (VOCs) that had entered the regional ground water system. TCAAP water was considered as a possible source for Snail Lake Augmentation but was eliminated as a viable sourced due to concerns related to the long-term availability of water as well as the high levels of heavy metals and phosphorus. In addition, necessary infrastructure to convey water from TCAAP to Turtle Lake would require City improvements outside of the municipal boundaries. It should be noted that no new, in-depth investigations regarding long term availability or quality of TCAAP water as a source were made as part of this study.
3. **Saint Paul Regional Water Services - Charley Lake:** Charley Lake lies directly east of Turtle Lake in North Oaks. Charley Lake is the discharge point for two 60 inch conduits operated by Saint Paul Regional Water Service (SPRWS) that carry water from the Mississippi River to a series of lakes that also serve as storage reservoirs lying upstream of the St. Paul Water Treatment Plant. SPRWS is able to pump up to 117 million gallons per day (MGD) with two pumps at their Fridley pumping station. SPRWS adds ferric chloride at the river. Ferric chloride acts to bind-up the phosphorus in the river water in a form that algae cannot rapidly assimilate. Algae have no roots and, therefore, must rely on soluble nutrients; that is, particulate forms of phosphorus must chemically or biologically solubilize. Thus, the binding and interception of soluble P can be the major influence in improving water quality.

On contact with water, ferric chloride will react with phosphorus in the water and form a precipitate or floc. Because the floc is heavier than water, it settles out of the water column. As the floc slowly settles out of the water column, phosphorus binds to floc and becomes, in effect, inactivated or unavailable for biological uptake by algae and phytoplankton. Once the alum floc settles on the bottom of the lake it becomes integrated into the sediments and subsequently reacts with phosphorus released from the sediments. However, in deeper lakes, where anoxic conditions may occur, iron phosphate compounds may release the bound phosphorus back into the system. By contrast, aluminum phosphate precipitates are more strongly bound and therefore will not re-release.

The available water quality data for Charley Lake is as follows (MnDNR Lake Finder, 2011):

- 71.2 parts per billion (ppb) Total Phosphorus (TP)
- 15.6 ppb Chlorophyll a
- 1.5 meters Secchi Disk Transparency.

As a comparison, the Guidance Manual for Assessing the Quality of Minnesota Surface Water for Determination of Impairment: 305(b) Report and 303(d) List. 2010 Assessment Cycle. MPCA, October 2009. North Central Hardwood Forest, Class 2b includes the following standards for lakes:

- < 40 ppb Total Phosphorus (TP)
- < 14 ppb Chlorophyll a
- > 1.5 meters Secchi Disk Transparency

Because Charley Lake has a fairly high phosphorus concentration, and because the infrastructure to convey water from Charley Lake to Turtle Lake would require City improvements outside of the municipal boundaries, Charley Lake was eliminated as a potential source of water.

4. **Saint Paul Regional Water Services - Conduit:** The two 60 inch conduits operated by Saint Paul Regional Water Service (SPRWS) that carry water from the Mississippi River to a series of lakes run parallel to and directly adjacent to the north side of County Road I on the north side of Turtle Lake. SPRWS adds ferric chloride at the river. Ferric chloride acts to up the phosphorus in the river water in a form that algae cannot rapidly assimilate. On contact with water, ferric chloride will react with phosphorus in the water and form a precipitate or floc. Because the floc is heavier than water, it settles out of the water column. However, it is like that due to flow velocities in the conduits, the floc may remain in suspension until settling out in Charley Lake.

The proximity of the conduits to Turtle Lake make this option more attractive as there is less infrastructure required to get the water to the lake, and all the improvements would be constructed within City limits.

The SPRWS has limited information on the quality of water in the conduits. Water quality data from the SPRWS monitoring station #33 at the outlet into Charley Lake is available for the period is available from March 29, 1987 to December 6, 1999. The last five years (1995 – 1999) include:

- 62 data points
- 66 ppb Total Phosphorus (TP) (average all readings)

For the purposes of the this study, average 2010 water quality data for Mississippi River obtained from SPRWS water was used. Specifically, a value of 79 ppb TP was assumed (0.079 mg/l in the table below). The table illustrates elevated phosphorus levels in July, August and September. Depending on the year and the operations of a proposed augmentation system, use of the system during periods of higher phosphorus concentrations could be minimized or avoided.

Technical Memorandum  
Turtle Lake Augmentation  
July 7, 2011

MISSISSIPPI RIVER (FRIDLEY)  
2010

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Temperature°C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Odor	4	3	4	3	5	6	5	6	7	6	5	4	5
Turbidity	38.00	1.75	3.99	5.88	5.46	4.13	6.33	8.08	6.11	4.15	6.36	14.37	8.72
Color	173	23	40	42	77	67	132	106	90	84	129	172	94
Alkalinity-Total	8	174	190	179	143	165	173	154	155	188	146	201	156
ph Hydrogen ion	9.10	8.10	8.21	8.27	8.00	8.33	8.35	8.62	8.26	8.27	8.10	7.74	8.28
Dissolved Oxygen	0.00	8.10	8.70	9.50	7.10	9.60	8.50	7.80	8.40	9.40	10.00	7.60	7.89
Total Organic Carbon	8.31	7.57	7.61	9.73	13.80	9.26	10.58	9.80	9.01	7.92	7.29	8.81	9.14
Total Phosphorus	<0.013	0.091	0.076	0.051	0.046	0.036	0.110	0.195	0.111	0.049	0.066	0.043	0.079
Ammonia-N	1.185	0.040	<0.010	0.158	<0.010	0.054	<0.010	0.052	0.045	0.293	0.081	0.037	0.216
Nitrate-Nitrite-N	2.021	1.191	1.064	0.228	0.535	0.338	0.714	0.275	0.267	0.369	0.600	0.704	0.692
Total Nitrogen-N	N/A	N/A	1.5135	1.3125	1.043	0.783	1.653	1.2843	1.31	1.4897	1.595	1.2005	1.3184
Dissolved Solids	276	2	316	202	299	401	300	275	266	276	202	284	258
Volatile	129	298	152	106	168	233	144	152	141	136	111	133	159
Non-Volatile	147	128	164	96	131	168	156	123	125	140	91	151	135
Silicon-Si	1.8	170.0	4.3	5.2	2.4	2.2	5.9	9.8	6.8	3.5	5.8	4.9	18.6
Copper-Cu	<0.0001	<0.013	<0.013	0.073	0.069	<0.013	0.017	0.015	<0.013	<0.013	<0.013	<0.013	<0.013
Lead-Pb	0.0010	0.084	<0.0004	0.0026	0.0011	0.0016	0.0008	0.0085	<0.0015	<0.0015	<0.0015	0.0056	<0.0004
Zinc-Zn	0.143	0.001	0.078	0.524	0.073	<0.010	<0.010	0.379	<0.010	0.341	0.071	0.217	0.203
Manganese-Mn	<0.020	0.000	<0.020	0.706	0.092	0.041	0.032	0.480	0.034	3.750	0.126	0.162	0.061
Iron-Fe	0.223	0.003	0.177	0.713	0.365	<0.024	0.120	1.694	<0.024	1.171	0.809	2.898	0.116
Aluminum-Al	0.058	0.216	0.031	0.016	0.015	0.008	0.029	0.090	0.094	0.038	0.079	0.017	0.004
Arsenic-As	<0.001	10.680	<0.001	0.001	0.003	<0.001	0.002	0.001	<0.001	0.001	0.001	<0.001	0.001
Tin-Sn	#REF!	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	<0.010
Chloride	21	0	43	27	17	24	30	25	26	28	26	25	24
Calcium-Ca	64	23	66	46	36	41	43	37	39	45	35	45	43
Magnesium-Mg	25	64	23	23	18	22	24	22	16	24	18	24	25
Sulphur-S	6.4	20.6	6.7	6.9	4.6	7.8	14.7	8.0	3.3	8.7	1.7	6.7	8.0
Sodium-Na	10.2	0.2	17.6	18.7	9.2	13.0	10.4	10.7	8.6	9.4	7.3	14.3	10.8
Carbonate Hardness	173	7	190	179	143	165	173	154	155	188	146	201	156
Non-Carbonate	92	174	71	32	24	28	35	29	9	25	15	9	45
Total Hardness	265	247	261	211	167	193	208	183	164	213	161	210	207
Total Coliform Count 35°C/100 ml													
Fecal Coliform Count 35°C/100 ml													

NOTE: Chemical contents expressed in milligrams per liter

Source: Saint Paul Regional Water Services

### Invasives

Invasive species in the source water are a valid concern. Invasive species of concern include invasive aquatic plants (Eurasian water milfoil, curlyleaf pondweed) and zebra mussels. In 2008, zebra mussels were found in Sucker Lake which is the source water for the Snail Lake Augmentation system. The DNR was forced to shut down the system until a solution could be found. Ultimately, a screening system was installed utilizing 20 micron screens to eliminate the risk of zebra mussel infestation due to augmentation. A similar screening system would likely be utilized for the Turtle Lake project.

## Augmentation System Operations

The objective for the augmentation system operation is to minimize the extremely low water level periods and allow the lake to fluctuate “normally” within an established operating range.

## Augmentation History

Source: Terry Noonan, Ramsey – Correspondence July 10, 1991:

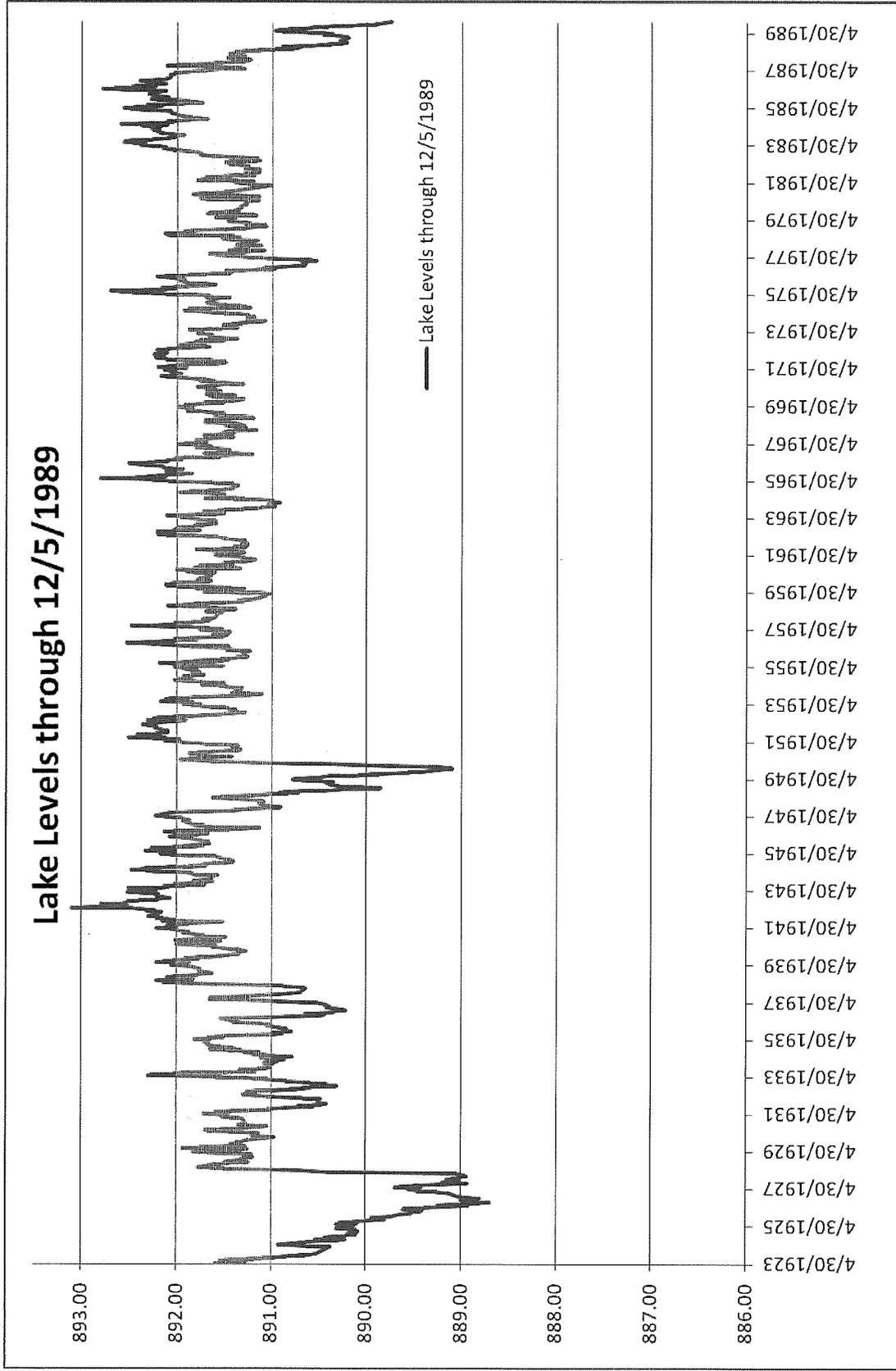
- Turtle Lake was augmented 40 out of 68 years since 1923 until pump shut-off in 1989 (about 59% of the time).
- Water from the St. Paul Water Utility (SPWU) (now Saint Paul Regional Water Services or SPRWS) was used as a source for augmentation starting in 1928 in conjunction with a 910 gpm County ground water pump.
- The County ground water pump was discontinued in 1934.
- SPWU was only source of water between 1934 and 1950.
- In 1950, Ramsey County installed a new 2200 gpm ground water pump
- The last year of augmentation was 1989

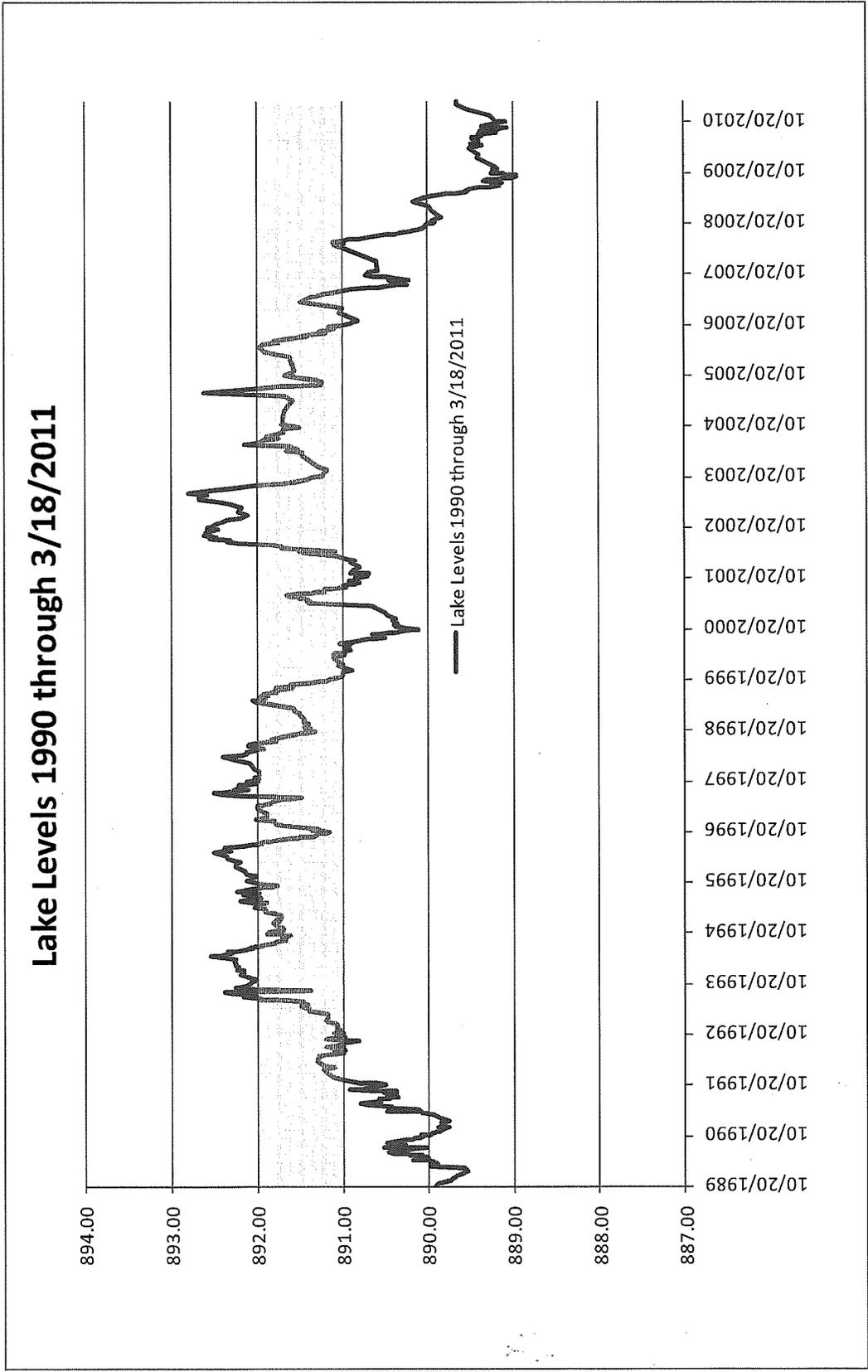
Days of Augmentation	Number of years (68)	Percent of total years
0 – 25 days	39	57%
26 – 50 days	12	18%
51 – 75 days	5	7%
76 – 100 days	7	10%
> 100 days	5	7%

## Physical Conditions

For the purposes of this study, it is assumed that lake levels will be managed so as to mimic lake level fluctuations prior to 1989. The table below summarizes important lake level information.

Highest	893.1	5/31/1942
Lowest	888.7	8/14/1926
	889.19	10/27/2010
	889.53	1/20/2011
	890.28	6/1/2011
Average – period of record	891.39	Ave 2760 Readings ending 3/18/2011
Average during Augmentation	891.47	Ave 2065 Readings ending 12/5/1989
Average post Augmentation	891.12	Average 695 Readings 1/9/1990 – 3/18/2011
Ordinary High Water Level	892.4	
Lowest early June Post Augmentation	889.39	6/4/2010
Lowest early January Post Augmentation	889.34	1/11/2010
Highest early June Post Augmentation	892.62	6/15/2005
Highest early January Post Augmentation	892.16	1/5/1994





Technical Memorandum  
Turtle Lake Augmentation  
July 7, 2011

The tentative operating range for the lake would be 891 – 892, or a one foot “normal” fluctuation. Augmentation would be used to keep the lake within this operating range, but not at a fixed or static elevation. In other words the lake would be allowed to fluctuate somewhat; it would not be operated like a bath tub.

### Simple Annual Water Budget

In order to understand the required volumes of water to maintain Turtle Lake within a desired operating range of elevations, a water budget is needed. The water budget looks at all the inflows and outflows, and then uses augmentation volumes to make up for any deficiencies.

$$\Delta d = (R + P + A - E + GW)$$

Where  $\Delta d$  is the change in water level, R = runoff, P = precipitation on water body, A = augmentation, E = evaporation, and GW = groundwater fluctuation.

For the purposes of this calculation, the surface area of the lake is 450 acres and the contributing non-lake area watershed is 300 acres estimated from the 2005 Drainage Area Boundaries Map, 2005 City of Shoreview Surface Water Management Plan – Figure 12A.

$$R = + 5.5'' \text{ over } 300 \text{ acres} = 5.5 * 300 = 1650 \text{ acre-in} / 450 \text{ acres} = 3.6''$$

$$P = + 32.3''$$

$$A = 0'' \text{ (No augmentation)}$$

$$E = (-38.7)''$$

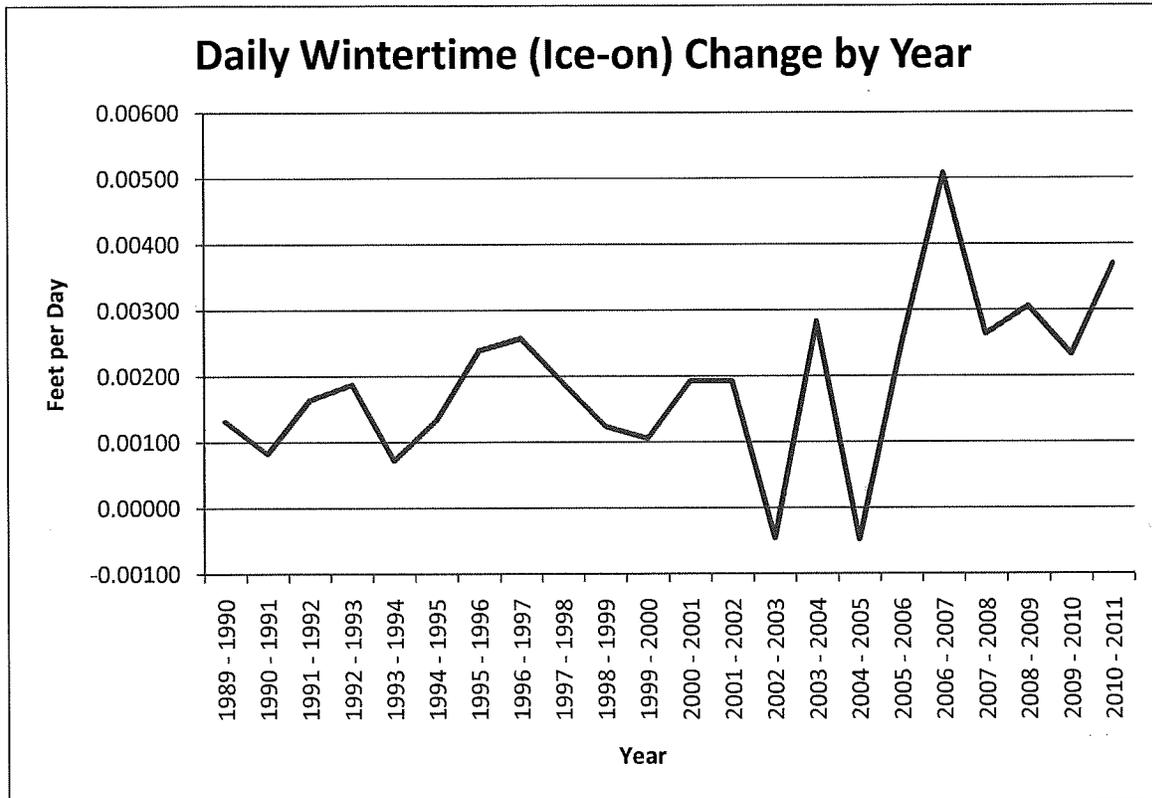
$$GW = + 8.3'' - \text{Average wintertime fluctuation approximates ground water interaction.}$$

The ground water values above were of particular surprise. The chart on the following page illustrates that in all but two years in the post-augmentation period, the water levels actually increase during the winter (ice-on). In Snail Lake, a similar analysis in 1991 shows daily losses in water as opposed to gains in Turtle Lake.

The average simple annual water budget shows a net annual increase in water levels (not including the outlet in the northwest corner of the lake).

$$\Delta d = (3.6 + 32.3 + 0 - 38.7 + 8.3) = +5.5'' \text{ per year}$$

The conclusion to be drawn from this analysis is that augmentation is likely needed in periods of low precipitation and would not be required on an annual basis. This conclusion is supported by the augmentation history discussion, recalling that Turtle Lake was augmented on about 60% of the time from 1923 through 1989.



## Engineering

From an engineering standpoint, the strategy is to build a cost-effective system to deliver the desired water volume to Turtle Lake while providing screening for invasives – particularly zebra mussels. For the purposes of developing a project cost estimate, we utilized available design and cost information from the recently complete screening project for the Snail lake Augmentation project as well as the 2011 Lake Gilfillan Augmentation Project in North Oaks.

## Location

One of the first considerations for the system was location. The ideal location would place the augmentation system on City of Shoreview property with the shortest distance possible to Turtle Lake and with the least amount of land acquisition as possible.

### *McCullough Park*

The first choice was to locate the system in/near McCullough Park. This location offers the advantage of the system being on public property, however, there is a significant length of force main require to convey water from the park area to Turtle Lake. In addition, easements would be required for the new force main.

### *Carlson Road*

An alternative suggested during the Open House meeting with the Home Owners Association in May would locate the system near the intersection of County Road I and Carlson Road near the northeast

corner of Turtle. There is some public land available in this area within which to locate the equipment (to be delineated in the future). The force main could discharge to a catch basin in the north gutter line of County Road I, taking advantage of the existing storm sewer system that flows west to Carlson Road and that south along Carlson Road to an existing outfall into Turtle Lake.



#### **Conduit Connection**

The proposed conduit connection would be similar to the Gilfillan project. A “hot tap” connection would be made directly with one of the two 60 inch SPRWS conduits that parallel County Road I. According to the SPRWS staff, the north conduit is made of steel, while the south conduit is concrete. SPRWS has suggested that it may be advantageous to connect to the steel conduit because it would be easier to make a connection, and because the steel conduit is in service more often than the concrete conduit. Both conduits would be expected to run full when SPRWS is pumping. Neither conduit operates under much pressure according to SPRWS staff.

#### **System Schematic**

From the hot tap connection with the conduit, water will be pumped through a screening system before discharging to a force main and ultimately into Turtle Lake. The screening system will include a backwash feature to minimize plugging of the screen, similar to the Snail Lake and Gilfillan designs.

Backwash water will be returned to the conduit. A meter will be installed as part of the project to measure the augmentation volumes.

One design issue that will require further analysis is the performance of the screen with the river water that has been treated with ferric chloride. As mentioned earlier in this document, ferric chloride will react with phosphorus in the water and form a precipitate or floc. Because the floc is heavier than water, it settles out of the water column. The floc is likely to stay in suspension due to constant flow in the conduit. It is possible that the floc could impact the performance of the screen unless properly accounted for in design. This analysis was beyond the scope of the initial study.

Based on the water budget analysis, we have assumed a 1000 gallon per minute (gpm) pump.

## Implementation Costs

### Construction Costs

#### **Sitework and Facility: \$470,000.**

This item includes \$295,000 for skid-mounted screening equipment, including backwash and structure (furnished and installed), as well as \$75,000 for easements.

#### **Pump and Foremain: \$190,500**

This includes 1000 gpm pump and 1000 feet of force main. If the Carlson Road connection is made, the force main quantity may drop to around 75 feet.

#### **Electrical and controls: \$50,000**

#### **Miscellaneous expenses: \$3786**

### Opinion of Total Probable Cost

Estimated Construction Cost	\$714,286
Construction Contingency (15%)	\$107,143
Legal, Fiscal, Administrative and Engineering (25%)	\$178,572
<b>Total</b>	<b>\$1,000,000</b>

### Cost Recovery

The cost recovery can be expected to follow the process used for Snail Lake. The initial project costs will most likely be applied as assessments to the riparian property owners. Operating costs would be billed through existing utility billings. The City would use storm water utility revenues to offset the City share of augmentation operations. The City has not committed to a cost sharing approach at this time.

Operating costs would be similar to Snail Lake which incurs an annual cost of approximately \$16,000.

### Lake Improvement District Formation

The Snail Lake Lake Improvement District (LID) was formed in 1991/1992 to provide the legal basis to assessing the cost to construct and operate the augmentation system to the riparian property owners. It is assumed that a new LID would be formed for Turtle Lake for the same purpose. The process for LID formation is spelled out in Minnesota State Statutes 103B.501 – 103B.581 and in Minnesota Rules 6615.0900 – 6115.0980. It is interesting to note that according to the DNR, since 2004, all LID formation have been based on managing invasive aquatic plants. The Turtle Lake HOA has been spending as much as \$15,000 - \$20,000 per year on weed abatement. These costs could be included in the LID as well.

The City's legal counsel will take the lead in LID formation should the project proceed.

### Water Quality Impacts to Turtle Lake

Of primary concern to the HOA as well as all the resource agencies is the potential adverse impact of this project on the water quality of Turtle Lake. The Table below illustrates the current water quality parameters for Turtle Lake compared to Snail Lake both pre- and post-augmentation, and to the MPCA standard.

Parameter	Turtle <sup>1</sup>	Snail <sup>1</sup>	Snail <sup>2</sup>	Standard <sup>3</sup>
Total Phosphorus (ppb)	17.6	19.1	28.0	<40
Chlorophyll <u>a</u> (ppb)	5.0	4.1	6.0	<14
Secchi disc Transparency (m)	2.3	3.0	3.1	>1.4

1 MnDNR Lake Finder, 2011

2 Snail Lake Augmentation Study, September 30, 1991. SEH Inc. Summer Mean Value

3 Guidance Manual for Assessing the quality of Minnesota Surface Water for Determination of Impairment: 305(b) Report and 303(d) List. 2010 Assessment Cycle. MPCA, October 2009. North Central Hardwood Forest, Class 2b

Both Turtle Lake and Snail Lake are considered to be Mesotrophic which indicates high water quality compared to other lakes in the metropolitan area.

### Water Quality Response

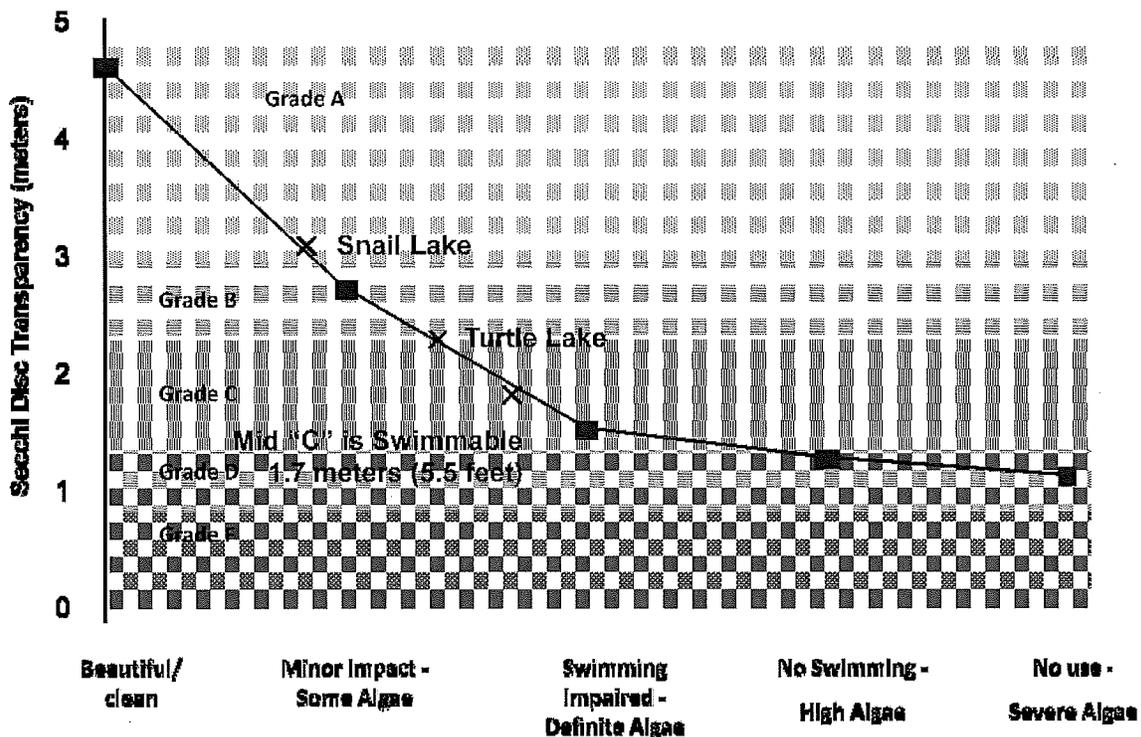
In May 15, 1991 an annual lake simulation was made for Turtle Lake using the LEMS- Lake Evaluation Model Spreadsheet (SEH) to predict post-augmentation total phosphorus concentrations. The model predicted a modest increase in the in-lake total phosphorus concentration. The 1991 simulation assumed an average in-lake total phosphorus concentration of 22 ppb, and 86 ppb in SPWU source water (128 ppb for TCAAP source water). The model predicted that in-lake concentrations could increase to 31-40 ppb (still within the MPCA standard above). The recommendation in 1991 was to complete a more comprehensive continuous simulation. Such a continuous simulation was performed for Snail Lake in 1991 using MINLAKE. The model showed only minor impacts from SPWU source water, predicting a 17% increase in chlorophyll a. (SEH, 1991. Snail Lake Augmentation Study). It is interesting to note that 20 years later, the chlorophyll a levels are within the predicted values, and well below the MPCA standard.

For this study, a mass loading approach to predicting water quality impacts was used to develop a preliminary estimate of future water quality impacts. Assuming a starting total phosphorus concentration of 17.6 ppb, a source water total phosphorus concentration of 79.0 ppb and an augmentation volume of 450 acre ft (a one-foot increase in water levels), in-lake total phosphorus concentrations could be in the 22 – 25 ppb level. A continuous simulation of water quality impacts is recommended especially as it relates to the impact of ferric chloride “floc” (see page 2). The Rice Creek Watershed has an existing BATHTUB model for Turtle Lake that could be utilized for further analysis.

The ultimate test regarding water quality impacts relates to citizen perceptions of lake quality as it relates to desired use. The following graph is taken from the Minnesota Lake Water Quality Assessment (MPCA, 1990) and illustrates current conditions.

The principal goal of the augmentation project is to minimize the water quality impact and to maintain the use of the lake as defined by the City and the HOA. Additional modeling of lake response would be expected in the next phase of the project.

### Recreational Suitability and Lake Grades



## **Permits/Agreements**

An agency meeting was conducted in early May 2011 to identify permits and approval that would be required for the augmentation project. Assuming the SPRWS is the source water, there is no requirement for a MnDNR Water Permit – as the appropriation is already covered under the SPRWS existing permit. MnDNR will issue a Public Waters Permit, which will cover invasives, similar to that issued for Gilfillan in June 2011. At this time, there appear to be no other permits required unless the Carlson Road outfall requires modification.

An agreement with SPRWS will be required for the purchase of water. SPRWS staff expects that the agreement will be similar to the 16<sup>th</sup> Rider Agreement that was executed for the Snail Lake Project in 1991.

## **Schedule**

The tentative project schedule assumes approval of the project and the formation of an LID.

- July 11, 2011 – Council Workshop
- HOA Open House
- Agency Meeting
- August 8, 2011 Council Workshop
- August 15, 2011 – Council Decision
- December 5, 2011– Complete LID
- December 5, 2011– Complete Feasibility
- February 2012 – Complete SPRWS Agreement
- March 2012 – Complete Plans and Specification
- May 2012 – Award bid and commence construction
- September 2012 – begin pumping (earliest)

Councilmember Soucheray asked why a clause restricting the size and appearance of the buildings on Tanglewood Drive exists since other wording makes the same restrictions. Campbell replied that it is an attempt to define compatibility issues within the neighborhood.

Motion by Councilmember Soucheray, seconded by Councilmember Martin, to approve Resolution 91-15 for a Policy Development Area (PDA) statement to supplement the Land Use Plan map designation of Natural/Residential Medium Density for the 16.2 acre parcel located southeast of Lexington Avenue and Tanglewood Drive. This amendment shall not take effect until accepted by the Metropolitan Council.

ROLL CALL:        AYES:        5                    NAYS:        0

Motion by Councilmember Soucheray, seconded by Councilmember Martin, to adopt Resolution 91-16 amending the Land Use Plan map from Natural to Natural/Residential Medium Density for the 16.21 acre parcel at the southeast corner of Lexington Avenue and Tanglewood Drive. This amendment shall not take effect until approved by the Metropolitan Council.

ROLL CALL:        AYES:        5                    NAYS:        0

Motion by Councilmember Soucheray, seconded by Councilmember Martin, to remove this site from the moratorium on development activity adopted by the City Council on November 5, 1990.

ROLL CALL:        AYES:        5                    NAYS:        0

SNAIL LAKE AUGMENTATION--CITY PROJECT 90-16--CONSIDERATION OF FINANCING ALTERNATIVES--RESOLUTION 91-17

Ahl presented pertinent information.

Motion by Councilmember Withhart, seconded by Councilmember Ryden, to have Resolution 91-17 prepared directing the City Engineer or his assigns to prepare a report advising the Council as to whether Snail Lake Augmentation, City Project 90-16, is feasible; as to the best method of construction; as to the estimated cost of the improvement as recommended; and with the following percentages to be used for financing any future improvements, unless revised by City Council resolution:

Lakeshore owner assessments	38.3%
Ramsey County Parks	11.7%
Ramsey County Open Space	1.2%
Union Gospel Mission	6.6%
City of Shoreview	42.2%

and that the Shoreview share of the project shall be paid from the Completed Construction Fund, a charge to the Grass Lake Storm Sewer Tax District, or to the Surface Water Utility, if one is adopted by this Council; and that the cost of Phase I, the Feasibility Report, shall not exceed a cost of \$40,000, contingent upon receiving a \$20,000 advance from homeowners, intended to be a credit on assessments if the project proceeds.

Councilmember Withhart said the probable cost is saving the lake, public park, and property values of the lakeshore. Councilmember Ryden agreed wholeheartedly. Councilmember Martin said she has talked with residents who feel that the study is too expensive. She agreed that the study and project are important but do not justify the expenditure. Councilmember Soucheray stated her approval of the study. Mayor Wedell suggested that the cost of the study should be viewed as a research and development investment. Martin said the area is still in a drought and in a few years the augmentation may not be necessary.

Councilmember Soucheray clarified that the City's cost would be \$17,000 for the study if the project goes through. Councilmember Martin recalled that Lake Owasso residents had contributed \$300,000 to improve their lake and asked to see the same type of contribution from Snail Lake property owners. The Council possible contributions needed from homeowners and decided that this issue should be pursued. Councilmember Ryden asked how the public will be made aware of this. Ahl said neighborhood informational meetings will be scheduled.

Councilmember Withhart amended the motion to say the study will be contingent upon receiving \$20,000 in advance from homeowners on the lake as matching funds for the City, intended to be a credit on assessments if the project proceeds. Councilmember Ryden agreed with this amendment.

ROLL CALL:       AYES:       5               NAYS:       0

HUMANE SOCIETY OF RAMSEY COUNTY--RENEWAL OF CHARITABLE GAMBLING LICENSE

Mayor Wedell noted that the Humane Society they must spend all of their profits in Shoreview or neighboring cities.

Miller reviewed the applicable ordinance to ensure that all is in order.

Ron Tschida of the Ramsey County Humane Society was present to answer questions from the Council. There were none.

2/4/91

Councilmember Ryden suggested an amendment to the motion revising the statement regarding the timing of the project so that alternative plans are not pursued until a later date. This would allow time for the environmental assessment worksheet. Ahl noted that that work on the project is questionable by summer's end in any case.

Motion by Councilmember Ryden, seconded by Councilmember Soucheray, to direct that the Snail Lake Trail Project proceed with planning, property acquisition and design according to Alternative #6A; however, construction and contract awards shall await review of installation of a traffic signal at Highway 96 and Victoria Street, and coordination with the development of the Christianson property. Trail development shall not occur until more information is attained. This issue shall be reevaluated in 1992 or before if information becomes available sooner; and further, to direct staff to prepare an investigative study on the feasibility of constructing a trail along Hodgson Road from Turtle Lake Park to County Road I as part of the 1991 project.

Councilmember Soucheray suggested that the motion should include the provision of an environmental assessment worksheet to save time on the project. Councilmember Ryden accepted this.

ROLL CALL:        AYES:        4                NAYS:        0

(Councilmember Withhart was absent.)

SNAIL LAKE AUGMENTATION--CITY PROJECT--90-16--APPROVE HOMEOWNER'S AGREEMENT

Ahl reported to the Council.

Mayor Wedell asked about basing the project on a lake improvement district which is still to be formed. Ahl explained that this group will accumulate funds to be used. Mayor Wedell noted that this is separate from the Grass Lake District.

Ahl said the City Council will establish the authority held by the district board. Mayor Wedell asked about the City's commitment. Ahl stated that it is an equal split with the Snail Lake Homeowners' Association, amounting to \$20,000.

Councilmember Martin asked for clarification of the details of the agreement regarding funding. Ahl explained. Martin expressed concern about the growing costs of the project as described in the proposed agreement.

Councilmember Soucheray asked why the Turtle Lake study was not included in the original proposal. Ahl said that at that time Turtle Lake was not proposed as part of the project.

5/6/91

Councilmember Martin asked if the recent water quality study could be helpful in assessing the feasibility of involving Turtle Lake. Ahl responded that the new study is needed because little information exists on Turtle Lake. Councilmember Soucheray asked what will be included in the study. Ahl described this process.

Johnson noted that the funds for the proposed study will not come from property taxes. Ahl expressed confidence that the project will proceed and use project funds. He added that those benefitted by the project will be assessed through the lake improvement district.

Filla asked if Ahl anticipates creating another lake improvement district with Turtle Lake included if the study is approved. Ahl said no. Filla asked why the study cost is so high if water quality is the greatest issue. Ahl replied that much of the cost can be attributed to the displacement which will occur.

Councilmember Martin commented that this is not an engineering issue, but an environmental impact question.

Councilmember Soucheray clarified that the City is being asked to spend the \$12,000 study cost now to possibly save \$80,000 in the future, or spend the \$12,000 and not use Turtle Lake in the project.

Filla suggested that Turtle Lake property owners be consulted before the money is spent on the study. Ahl said that it is likely, based upon water quality data, that Turtle Lake will be involved in the Snail Lake project. He added that if the study is not done, sufficient information will not be available to present to the Turtle Lake homeowners. Councilmember Martin concurred with Filla, emphasizing the importance of contacting these residents first.

Councilmember Soucheray said that the Snail Lake project should not be held up by Turtle Lake issues. Councilmember Ryden noted that Snail Lake residents are in a crisis and agreed with Soucheray. Mayor Wedell expressed concern that the money will be spent on the study and, after this expense, Turtle Lake will not become involved after all.

Mayor Wedell asked for public comment.

Judy Sandberg, 4322 Lake Point Court, reminded the Council that this is a joint project with funding from Snail Lake homeowners as well as the City, with equal opportunity for loss if the project does not go through.

Mark Satt, 4340 Reiland Lane, President of the Snail Lake Improvement Association, urged the Council to move ahead with the study and stressed the importance of equal investment from Turtle Lake homeowners if they are included. He added that he is unsure Snail Lake would have agreed to the project and the investment if they knew Turtle Lake would be included. Mayor Wedell agreed that this is a valid concern.

Motion by Councilmember Martin, seconded by Councilmember Soucheray, to approve the agreement with the Snail Lake Homeowners' Association for the deposit of \$20,000 toward the study of Snail Lake Augmentation, City Project 90-16, and authorizing the Mayor and City Manager to execute said agreement.

ROLL CALL:        AYES:        4                NAYS:        0

(Councilmember Withhart was absent.)

The Council directed that a Turtle Lake homeowners meeting be held during which the augmentation proposal will be explained and homeowner input assessed. Staff is then to return to the Council with this information so that they may consider the additional funding for a proposed water quality study.

PLAN AMENDMENTS AND REZONINGS--ORDINANCES 566, 567 AND 568 AND RESOLUTIONS 91-109, 91-110, 91-111, 91-112, 91-113 AND 91-126

SINNA--710 HIGHWAY 96--ORDINANCE 568 AND RESOLUTION 91-126

Campbell presented the pertinent information to the Council.

Councilmember Martin asked Planning Commissioner Larry Feldsien for his comments. Feldsien explained that the dissenting vote on the proposed rezoning was based on an idea that zoning should be reexamined all along Highway 96 to the east of the parcel. Mayor Wedell asked if this land use conflicts with adjacent parcels. Feldsien responded that the use is consistent.

John Dobney, attorney for Sinna, approached the podium. Mayor Wedell noted that Dobney, at age 32, was the youngest mayor in St Paul history. Dobney acknowledged this, and then stated that this rezoning is a correction of an oversight.

Motion by Councilmember Ryden, seconded by Councilmember Soucheray, to approve Resolution 91-126 amending the land use plan map for property located at 710 Highway 96 from Open Space to Low Density Residential, subject to review by the Metropolitan Council.

ROLL CALL:        AYES:        4                NAYS:        0

(Councilmember Withhart was absent.)

5/6/91

PUBLIC HEARINGS

SNAIL LAKE AUGMENTATION--CITY PROJECT 90-16--7:00 P.M.

City Attorney Jerry Filla noted that proper legal notice was given. Mayor Wedell opened the public hearing.

Ahl reported to the Council on the proposed project, noting that this is not a statute-required public hearing but is appropriate in view of resident interest.

Mark Lobermeier of SEH, presented background information and noted that a severe seepage problem was identified in Snail Lake during the 1920s. He detailed its lengthy history of augmentation, beginning in 1927 when precipitation was low. He identified current reasons for implementing augmentation, including the maintenance of property values and recreational uses, and outlined viable alternatives for management of the lake such as bottom sealing and augmenting from various sources. He explained that using Turtle Lake for augmentation purposes was ruled out after meetings with Turtle Lake residents and that there were four alternative sources being considered and at this point the recommendation is to choose the option of augmentation through Sucker Lake to Snail Lake at an estimated cost of \$341,000 with an anticipated yearly operating cost of \$15,000. He named the many parties who would be involved in the project such as DNR and Vadnais Heights, and reviewed the tentative schedule.

Councilmember Withhart inquired about public response to the proposal. Lobermeier stated that in general discussion with all the parties involved, there has been no opposition expressed thus far. Councilmember Martin asked about specifics on the variations of lake levels. Lobermeier explained that the level is affected by many factors and that the seepage of the lake is determined by a complex formula, and that the possibility of "sealing" the lake to prevent seepage is felt to be fairly ineffective.

Ahl briefly detailed procedures which have involved residents in the process, and outlined the areas which would be benefitted by any improvements. He described the possible breakdown of financing this project and noted that it is likely the project will cost in the area of \$400,000, according to the consultant and how that cost will be divided is something to be determined sometime in the future should the project actually go forward.

Councilmember Withhart asked for comments from Ramsey County's Greg Mack on their proposed level of contribution. Mack responded that the County is agreeable to its proposed share of the contribution, but that timing is not ideal and they have commitments to some road funds; however, he added some arrangements can be made with the City.

Councilmember Martin asked if the possibility of changing water rates throughout the City has been considered. Ahl reported that staff has talked with the St. Paul Water Utility, and noted that the Department of Natural Resources has given approval for the water from the Mississippi River. Councilmember Martin inquired if this is guaranteed each year, concerned about a possible repeat of the 1988 drought. Ahl agreed that this will need to be established before any agreements are finalized.

Mayor Wedell wondered if bringing water into Snail Lake from another source such as the Mississippi River could also bring in unwanted pests such as Eurasian milfoil and zebra mussels. Terry Noonan, Ramsey County Public Works stated that very few such organisms exist in the river water.

Councilmember Ryden asked if the Lake Improvement District could act without Council approval. Ahl confirmed they could be given that authority. She also wondered if the District would participate in the cost and if the property owners around the lake need a two-thirds majority vote in favor of the project. Ahl said that presently the step needed is to simply form the Lake Improvement District and he explained the process and schedule which may take place after establishment of the District.

Councilmember Ryden said she thought the lake owners were the ones who wanted to form the district. Ahl reported that some lakeshore owners have asked why the district must be formed and why the City cannot complete the project and then assess them. Councilmember Ryden commented that other similar groups were requested and approved by residents via petition and were not organized by a governing agency. Ahl agreed, but explained that the government unit may also take the initiative to organize a district, which is approved by referendum after involved property owners petition for such a referendum.

Councilmember Martin asked when the actual engineering specifications are begun. Ahl responded that this will not take place until after the public hearing in the spring, which comes after actual initial design stages late in the winter. Councilmember Martin clarified that this would happen after the formation of the district.

Mayor Wedell called for public comment.

Ed Jakubowski, 4411 Snail Lake Road, suggested that financial assistance be given to homeowners who must pay the extra tax for the project.

Herbert Christensen, 4346 North Vivian Avenue, noted that part of the lake as illustrated on the map is now a swamp. Ahl stated that some areas along the swampy area would see some indirect benefit from their proximities to the water. Christenson disagreed, wondering why the rest of the swampy area is not included as well. He noted that the property owners along the water are the only ones with lake frontage and should be the only ones paying the price for the improvement.

Jim Eastman, 4311 Reiland Lane, agreed that the swampy area should not be considered part of the project and asked Ahl to describe the indirect benefits to it. Ahl note that property values along the swamp will drop if the lake levels drop because of their close proximity to the portion of the lake used for recreation.

Frank Sandberg, 4322 Lake Point Court, emphasized the great variety of recreational uses on the lake and cited the high attendance at the park and on the beach. He emphasized that the entire community uses the lake and that the augmentation is necessary not only for homeowners but for the community.

Tente asked whether the assessments would be levied separately from the Surface Water Utility. Ahl replied that the money would be put into the general tax statement throughout the City for capital improvements and emphasized that it is not tied to the Surface Water Utility. Councilmember Withhart agreed that the costs should be incorporated into general operating costs.

Eastman asked if the DNR has studied the lake, comparing levels to 30 years ago. Ahl said that the DNR has a representative working on the project and they have been examining existing data. He also noted that the Lake Improvement District will also be responsible for other projects such as lake maintenance.

Mike Baker, 4350 Reiland Lane, agreed that the project should begin but only in the interest of saving the lake for the community's recreational users, not for the homeowners.

Mark Satt, 4340 Reiland Lane, President of Snail Lake Improvement Association, restated the group's views on the augmentation and emphasized that the lake is an asset to the community and the region, asserting that it should be augmented for everyone's benefit. He argued with those who argue the lake should be left alone to go its "natural course", noting that this was interrupted by development in the area, including the lake's ability to maintain a proper water level. He urged the Council to approve the project.

Councilmember Soucheray inquired how many lakeshore property owners contributed the funds for the study. Satt responded that 90% of them contributed, and that those who did not could not meet the financial obligation. He added that he does not recall any property owner on the lake who was not in support of the proposed augmentation project.

Clyde Rehbein, 4320 Lake Point Court, emphasized that there is recreational use of the lake by non-lakeshore property owners as well.

Jerry Filla commented that it is important to understand the intent of the Lake Improvement District and that there is a variety of financing options besides the 429 special assessments and that the City will probably decide in the spring of 1992 whether to go forward with the project and how costs will be paid. He added that once the District is in place they can have the power to decide on appropriate types of projects.

Councilmembers Soucheray and Councilmember Withhart asked about the possibility of referendum dealing with this issue. Filla stated that a referendum is possible or Council could form the Lake Improvement District on the condition of a referendum in order to receive community input. Councilmember Withhart clarified that approving the study at this point makes no commitment whatsoever by the City to any future obligation to the project.

Motion by Councilmember Martin, seconded by Councilmember Ryden, to close the public hearing.

ROLL CALL:        AYES:        5                NAYS:        0

Motion by Councilmember Soucheray, seconded by Councilmember Ryden, to approve the Snail Lake Augmentation Study Report, City Project 90-16, and to select Alternative #1 from within the report to proceed with the augmentation of Snail Lake. This will involve the consideration of creating a Lake Improvement District to finance a portion of the costs, assessing to benefitted properties through the Lake Improvement District. The City Engineer is directed to begin procedures for consideration of the Lake Improvement District.

ROLL CALL:        AYES:        5                NAYS:        0

Filla stated that if the Council does wish to proceed with taking a look at Lake Improvement Districts for this area, the next appropriate step would be for staff to draft a resolution including establishing a date for the hearing. Ahl added that first, they would need to talk to the Commission of the DNR to get their input and he felt this item would be before Council again for that next step sometime before the end of January, 1992.

SNAIL LAKE AUGMENTATION -- CITY PROJECT 90-16 -- SUPPORT 1992  
AUGMENTATION REQUEST

Ahl referred to his April 28, 1992 report and stated that the Snail Lake Homeowners Association and Ramsey County plan to seek authority from the DNR for a one-year appropriation for augmentation of Snail Lake in order to provide time for the Snail Lake Improvement District to be established. Council action being requested is to support this step via passage of a resolution. Ahl added that the DNR has indicated willingness to consider this temporary measure as long as an alternative augmentation solution is being sought.

Council reviewed Resolution 92-83 which would state support of this measure. Councilmember Soucheray suggested that the "Official Intent" paragraph of the resolution be revised to read "Official Intent - The City is investigating and pursuing a long-term solution alternative for the augmentation of Snail Lake."

Councilmember Soucheray also asked if the resolution should specifically state that the City supports augmenting Snail Lake with existing groundwater during 1992 only. Decision was made not to state "1992 only" just in case establishing alternative augmentation could not be completed during that timeframe.

Councilmember Martin commented that she has always opposed augmentation from groundwater and she would not favor replenishing Snail Lake when the City encourages water conservation. She stated that although she realizes the needs of the lake, she doesn't feel groundwater augmentation is justified.

Councilmember Withhart commented that though he would not typically support groundwater augmentation, he would support this temporary measure given the fact that the lake has been augmented for many years. He said it would be a pity to create problems for the lake when hopefully a permanent solution is so close.

Ahl advised that legislation regarding augmentation was recently passed which did not provide a "phase-out period" so Snail Lake was without augmentation for one year after that legislation was passed. He added that a permanent solution would require the cooperation of many agencies. He said he would make sure that all the agencies involved understand the time constraint in hopes that their review/approval processes can be handled simultaneously.

Motion by Councilmember Withhart, seconded by Councilmember Holmstrom, to approve Resolution 92-83 indicating the City's intent to pursue a long-term solution alternative for the augmentation of Snail Lake, and requested that the DNR grant Ramsey County an exemption to allow the groundwater augmentation of Snail Lake for 1992.

ROLL CALL:       AYES:       4                   NAYS:       1  
(Martin voted nay.)

Motion by Councilmember Soucheray, seconded by Councilmember Withhart, to indicate that if significant forward progress toward alternative augmentation is not accomplished by the end of 1992, it is Council's intent not to do further groundwater augmentation. 1992.

ROLL CALL:       AYES:       4                   NAYS:       1  
(Holmstrom voted nay.)

1991 INTERFUND TRANSFERS AND INTERFUND LOANS

Finance Director, Jeanne Haapala stated that Council is being asked to approve 1991 interfund transfers and loans. She explained that the procedure of transferring and loaning funds between accounts is an acceptable accounting practice done regularly. She referred to her April 27, 1992 report which outlined which funds were affected either by closing, transfer or loan during 1991 and why the actions were necessary. She reported that every year this type of activity occurs, but in 1991 there was less transfer movement than in years past.

Mayor Chalmers referred specifically to the interfund loan involving the Community Center Operations Fund and Recreation Fund and asked when payback is anticipated. Haapala stated that payback with interest is expected within three years, that those funds balances are substantially up now. City Manager Johnson provided a report outlining community center usage in 1992 compared to 1991 which indicated a trend which he felt would provide the ability to pay back the fund earlier than the expected three years.

Park and Recreation Director, Jerry Haffeman, commented that now that some benchmarks are established, the Park and Rec Department is trying to do a better job of recovering costs.

Councilmember Soucheray asked why interfund lending requires pay back with interest. Haapala explained that interest is added in order to compensate the "borrower" for lost interest which would be gained if the money were in the investment pool.

Councilmember Martin asked if the water patrol specifically checks for boating while under the influence of alcohol. Olson stated that water patrol watches for alcohol influence, reckless driving, speed, lack of life preservers, etc.

Councilmember Withhart asked if there are any studies or surveys determining the impact of increased water patrol. Olson said there is no actual survey, but the increased water patrol has definitely had a positive influence on lake users. He described some other correction actions the committee has taken to improve lake use.

Council thanked Olson for his report and the work of his committee.

#### PUBLIC SAFETY COMMITTEE

Glenn Wilmot, Chairperson for the Public Safety Committee, appeared before Council to report on the activities of this committee. He stated that the committee is involved in services relating to crime, traffic control, water patrol, fire, ambulance, civil defense, and animal control. He added that the committee is working on implementing severe weather training and education also.

Wilmot updated as to computerization of Sheriff's, fire, and ambulance dispatch. He specifically noted concern that Fire Station 2 is becoming inadequate for the types of fire fighting vehicles and equipment stored.

Wilmot reported that the committee currently has two vacancies and he encouraged the addition of women to the committee for gender balance. He added that public education expertise could be well utilized.

Councilmember Martin said she was impressed with the scope of this committee's work and announced to the public that applications are being accepted for the vacancies.

#### PUBLIC HEARINGS

There were no public hearings.

#### GENERAL BUSINESS

#### SNAIL LAKE AUGMENTATION -- CITY PROJECT 90-16 -- ADOPT LAKE IMPROVEMENT DISTRICT CRITERIA

Public Works Director, Chuck Ahl, referring to his May 13, 1992 report, outlined the properties proposed to be included within the Lake Improvement District (LID) boundaries. He explained that the Board of Directors would served as a recommending body to Council and consist of residents within the LID, and the main function of

the LID would be to assist financing of the Snail Lake augmentation process. He added that a water quality program is planned to assure appropriate impacts on the lake.

Using color-coded maps, Ahl illustrated the property owners who support the proposed LID via petition. He reviewed the project schedule indicating the earliest possible construction would begin mid-October, 1992. Council reviewed a long list of agencies which must review/approve the LID and anticipated dates of their respective approvals. Staff recommendation was to adopt Resolution 92-89 approving the LID and call a public hearing on this matter.

Councilmember Martin asked Ahl to explain why the properties on the west and southwest of the lake are not included within the LID boundaries. Ahl explained that portion of the lake (known as "Little Snail") is wetland and does not function as a recreational area of the lake, therefore it is not appropriate to include those properties.

Councilmember Soucheray inquired as to why two properties on the east side of the lake are included in proposed boundaries when they do not have lake frontage. Ahl stated that the boundaries outlined are proposed and Council will make final decision at a later time as to exact boundaries; boundaries can be a less than what is proposed but not more, therefore the two non-lakefront properties are included at this time.

Councilmember Soucheray asked what process would be followed for nominations to the Board of Directors. Ahl stated the City will send LID property owners a notice of vacancies and request for nominations.

There was brief discussion as to potential adverse impacts created by the LID.

Joel Jamnick, 4355 Snail Lake Boulevard, representing the Lake Association, commended staff for their efforts toward establishment of the LID. He stated that he is not aware of any significant opposition to establishment of the LID, but said boundaries will need review before finalization.

Motion by Councilmember Martin, seconded by Councilmember Withhart, to approve Resolution Number 92-89 approving the Lake Improvement District Criteria for Snail Lake, specifying the boundaries of the District as shown on Exhibit #1 of the Criteria, and calling for a public hearing on the establishment and administration of a Lake Improvement District for Snail Lake on July 6, 1992 at 7:00 p.m.

ROLL CALL:           AYES:           5                   NAYS:           0

City Manager Dwight Johnson reminded Council that yet another option would be to construct a trail along the south side of the funeral home, that option being contingent upon the development agreement involving the funeral home.

Councilmembers Martin and Soucheray commented that in light of other trail possibilities in the vicinity, vacating this easement behind Mackubin Circle residents would be acceptable if the funeral home project become a reality.

Motion by Councilmember Martin, seconded by Councilmember Holmstrom, to close the public hearing on the vacation of the trail easement.

ROLL CALL:           AYES:       5                           NAYS:       0

Motion by Councilmember Martin, seconded by Councilmember Soucheray, to adopt Resolution No. 92-103 vacating an easement for trail purposes centered along the south line of Block 1, Willow Pond Fourth, with the condition that the Resolution not be sent to Ramsey County until all funeral home agreements are executed.

ROLL CALL:           AYES:       5                           NAYS:       0

SNAIL LAKE AUGMENTATION--C.P. 90-16--LAKE IMPROVEMENT DISTRICT

Public hearing was opened; Attorney Miller advised that public and individual notice of this public hearing was accomplished.

Public Works Director Ahl stated the purpose of this public hearing is to discuss establishing an Lake Improvement District (LID) for the purpose of augmentation of Snail Lake; this is not a hearing for the actual improvement project.

Ahl outlined the area which contributes drainage to Snail Lake and stated all the property owners within that area were notified of this meeting. He explained that riparian property owners along the lakeshore are proposed to be included in the LID, and a determination must be made whether to include three additional non-riparian property owners (which do not have lake shore property and are located along Snail Lake Boulevard).

Ahl advised that State statute requires that Council take action on establishing the LID no less than 10 days and no more than 30 days from this evening's public hearing.

With regard to financing the LID, Ahl explained that an assessment process, ad valorem taxing power, service charges, or other options approved by Council may be used. He added that after the project is done, there are also annual costs involved.

07/06/92

Ahl advised that 83% of the properties involved have petitioned for the LID, and the Environmental Quality Committee also recommended establishment of the LID.

Ahl and Dwight Johnson stated that the proposed LID is to be headed by a five-member Board of Directors to be appointed by City Council which would serve as a recommending body to City Council, with no spending authority, and operate in much the same manner as the City's Planning Commission.

In accordance with law, Ahl read aloud a letter dated July 1, 1992 from the Minnesota Department of Natural Resources regarding "Establishment of Snail Lake Improvement District". A June 25, 1992 letter from the State Health Department regarding "Proposed Snail Lake Improvement District per Minnesota Statute 103B.501 and 459.20 and DNR Rule 6115.0970, Shoreview, Ramsey County, Minnesota" was also entered into record.

Councilmembers Martin and Withhart agreed with a suggestion made by resident Tom Olmscheid that the Board of Directors consist of one member outside the district. Attorney Miller advised that according to Statute, members outside the district would be allowed, but a majority must be within the district.

Mark Satt, 4340 Reiland Lane, President of the Snail Lake Homeowners Association, stated that the Association supports the establishment of the LID as soon as possible, that without augmentation the lake will not continue to be a multi-use lake. He stated that the owners realize there is a potential assessment and they also support placing the pipe as part of the Snail Lake Boulevard Reconstruction Project.

Ahl stated that assessments are estimated at \$2,666 per lot, the per lot basis assumes potential future lot subdivision. He added that the DNR has provided staff support on the concept of a LID since initial discussions, so he does not anticipate any problems meeting DNR rules or achieving permits.

Tom Olmscheid, 4262 Snail Lake Boulevard, stated he supports establishment of the LID.

In response to Councilmember Martin's question, Ahl showed where the outlet from Snail Lake would be located at the south end of the Lake and stated water from the outlet would eventually flow into Grass Lake.

Council discussed whether to include in the LID the three non-riparian owners located along Snail Lake Boulevard. Councilmember Withhart took the position that since those three property owners do not have lakeshore frontage, they have no greater ability than

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anyone else in the public to access the lake, and therefore should not be included in the LID.

Motion by Councilmember Soucheray, seconded by Councilmember Martin, to close the public hearing on the matter of Establishment of Snail Lake Improvement District.

ROLL CALL:           AYES:           5                           NAYS:           0

Motion by Councilmember Withhart, seconded by Councilmember Soucheray, to direct staff to exclude from the LID the three non-riparian lots on Snail Lake Boulevard.

ROLL CALL:           AYES:           5                           NAYS:           0

Motion by Councilmember Withhart, seconded by Councilmember Soucheray, to mandate at least one member of the LID Board of Directors be from outside the LID.

ROLL CALL:           AYES:           5                           NAYS:           0

Ahl said he anticipates the LID will appear as an item on Council's August 3, 1992 agenda; if Council approves the establishment of the LID at that meeting, it will be effective around September 10, 1992.

Councilmember Soucheray complimented the residents involved stating she is impressed with their positive approach and patience regarding this issue.

GENERAL BUSINESS

SNAIL LAKE BLVD. PHASE II--C.P. 90-30--AWARD TRAIL UNDERPASS CONTRACT

Assistant City Engineer Gray introduced this agenda item explaining that original bids for the Snail Lake Boulevard Reconstruction Project included several bid alternates in order to allow awarding work related to this project in stages. He stated the reason for bids being handled in that manner was that Ramsey County was at that time waiting for approval from the Metropolitan Council with regard to grant money for funding of the improvement.

Gray reminded that on May 18, 1992 Council awarded the major bid alternates as a joint project with Ramsey County, reserving the option to award bid alternates #2 and #3 at a later time. Gray advised that Met Council's grant to Ramsey County, which will fund bid alternates #2 and #3 has now been approved, therefore, Council can award:

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Dahlquist explained that the Conklin property is about 4-1/2 to 5 acres, and the home is located directly in the middle toward the rear of the property and Ms. Conklin does not believe it is appropriate to assume multiple lots for this property ("maximum potential use"), at least not at this time.

Regarding the Easters, Dahlquist stated this property hooked up to sanitary sewer in 1978 and the new configuration of Lexington Avenue changed the shape of the Easter parcel. He requested that the property be considered one unit since it is not believed that the property could have a second buildable parcel.

Gerald Harris, 1122 Lois Court, stated he is President of his neighborhood's Homeowners' Association, and those residents have the following questions/concerns: 1) We consider we were already assessed when we built and paid for our homes, 2) Serene Court is in a like situation and is not proposed to be assessed, and 3) Must all owners file an objection or can Harris do so on behalf of all owners since he represents the Association?

Attorney Filla recommended that all Association residents file objections and Council allow additional time for receipt of those objections, in light of the fact that Mr. Harris appeared this evening. He added that since the nature of all the objections will likely be the same, it is possible that Council's decision will affect all the owners in the Association.

Motion by Councilmember Martin, seconded by Councilmember Soucheray, to close the public hearing in the matter of Street Project 90-25 Lexington Avenue Phase II.

ROLL CALL:            AYES:            4                    NAYS:            0

Motion by Councilmember Martin, seconded by Councilmember Soucheray, to receive all assessment objections and direct staff to present a response to all objections and defer final action to the meeting of August 10, 1992 for the assessments on the Lexington Avenue Reconstruction Phase II, City Project 90-25, and to allow objections from the Lois Court Homeowners' Association to be received within the next 48 hours.

ROLL CALL:            AYES:            4                    NAYS:            0

GENERAL BUSINESS

SNAIL LAKE IMPROVEMENT DISTRICT -- CITY PROJECT 90-16 --  
ESTABLISHING LAKE IMPROVEMENT DISTRICT AND ADOPTING BOARD BYLAWS

Civil Engineer Ahrens stated that a public hearing on the matter of the establishment of the Snail Lake Improvement District for the

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purpose of lake augmentation was conducted on July 6, 1992. He added that since then, by Council direction, staff has revised and the DNR has approved the revision to the boundaries of the District excluding the two non-riparian parcels on Snail Lake Boulevard.

Ahrens presented an updated project schedule calling for the District becoming effective September 11, 1992 assuming Council order the establishment of the District this evening. He added that the City will then be advertising for the District's five-member Board of Directors.

Ahrens explained that the proposed bylaws of the District call for a five-member Board of Directors which will be composed of a majority of members living within the District and up to two members outside the District. In addition, the Shoreview Public Works Department will retain all records and Public Works Director will serve as professional staff.

Attorney Filla added that the duties and functions of the Board are broadly defined and state that the Board acts in an advisory capacity.

Councilmember Soucheray asked why the schedule calls for the first meeting of the Board to occur in July 1993. Ahrens explained that State statute requires the Board have their first annual meeting at that time, but he would recommend that the first regular meeting take place in November 1992.

Councilmember Martin asked to what extent the State dictates the bylaws of the District. Ahrens replied that the State dictates about 50% and they also make recommendations.

In reviewing the proposed bylaws:

- Councilmember Martin referred to the last sentence of item 3 Terms and Compensation, which reads "Board members shall receive compensation as determined from time to time, by Council Resolution." She commented that this sentence should be eliminated so no one gets the impression that there will be compensation for these positions. Council concurred.
- Councilmember Soucheray asked that the language throughout be reviewed for gender neutrality, that "Chairman" be "Chairperson", etc. Council concurred.
- For clarity purposes, Councilmember Soucheray asked that in the second sentence under 6. Meetings and Reports which reads ". . . minutes and reports which shall be reduced in writing . . .", the word "reduced" be removed. Council concurred.
- Under 4. Vacancies, Councilmember Holmstrom asked that the phrase "disability of a Board Member" be changed to "inability of a Board Member". Council concurred.

In reviewing the order establishing the District, Councilmember Soucheray asked that in D.3.a. the word "plan" be changed to "system". Council concurred.

Motion by Councilmember Martin, seconded by Councilmember Soucheray, to:

- Approve the Order Establishing the Snail Lake Improvement District (including one revision noted above); and
- Approve the initial Board Bylaws (including the four revisions noted above) as specified in Exhibit A and B respectively.

ROLL CALL:            AYES:            4                    NAYS:            0

Councilmember Soucheray commented that she was initially skeptical that this District would ever become reality, but she has been impressed with the residents' attitude of cooperation and interest in this matter. Mayor Chalmers concurred.

STAFF AND CONSULTANT REPORTS/RECOMMENDATIONS

COUNTY ROAD J RECONSTRUCTION -- CITY PROJECT 91-27 -- APPROVE PLANS AND SPECIFICATIONS AND APPROVE "NO PARKING" RESOLUTIONS

Gray explained staff is recommending Council take three actions this evening regarding County Road J reconstruction - 1) Approval of plans and specifications, 2) Approval of restricted parking, and 3) Approval of a Cooperative Agreement for the project.

Gray reported that final plans for County Road J appear to incorporate all Shoreview's items of concern discussed previously. He stated the final plans call for the road to be reconstructed to a 52' width, which would allow for four lanes in the future, but would be striped for two lanes until traffic levels warrant four lane striping. With regard to trails, Gray explained that an 8' bituminous trail is to be installed along the south side of Country Road J, except between Grotto Street and St. Albans.

Gray reviewed the project schedule and reported that Anoka County is presently taking bids on the project and anticipates starting construction in September, 1992.

Gray explained that State Aid regulations prohibit parking on County Road J, so Shoreview must approve no parking on the south side. Councilmember Soucheray asked if parking would be allowed on the north side. Gray replied that parking will not be allowed on either side, but Lino Lakes and Circle Pines must take action to prohibit parking on the north side.

Regarding assessments, Gray explained that some Shoreview residents will be subject to assessments for this project. He said he

## EXHIBIT A

### ORDER ESTABLISHING THE SNAIL LAKE IMPROVEMENT DISTRICT

(A) WHEREAS, the Shoreview City Council initiated the establishment of the Snail Lake Improvement District by adopting Resolution No. 92-89 which declared the City's intent to establish the District and which:

1. Specified the boundaries of the proposed District which were as consistent as practical with the natural hydrologic boundaries;
2. Prescribed the water and related land resource management programs to be undertaken within the District;
3. Stated the manner in which proposed programs would be financed;
4. Designated the City officer or agency which would be responsible for supervising the programs;
5. Set a date for a hearing on the establishment of the proposed Lake Improvement District; and
6. Contained all additional information as required by Minnesota Rules 6115.0970, Subpart 1;

(B) WHEREAS, a public hearing, preceded by all notices required pursuant to Minnesota Statutes Chapter 103B.515 and Minnesota Rules 6115.0970, Subpart 3, was held on the 6th day of July, 1992, in order to receive public comment as to whether the Snail Lake Improvement District should be established;

(C) WHEREAS, based upon all data submitted and on all comments received, the Shoreview City Council has determined:

1. That the proposed Lake Improvement District is necessary and that the public welfare will be promoted by the establishment of the Lake Improvement District;
2. That the property to be included within the Lake Improvement District will be benefitted by the establishment of the Lake Improvement District; and
3. That the formation of the Lake Improvement District will not cause or contribute to long range environmental pollution.

(D) NOW, THEREFORE, the Shoreview City Council hereby orders:

1. The name of the Lake Improvement District shall be the "Snail Lake Improvement District".
2. The boundaries of the Snail Lake Improvement District shall be as described on Exhibit 1 attached hereto.

3. The water and related land resources management programs and services to be undertaken shall include the following:
  - a. The construction and operation of an augmentation plan.
  - b. A water quality monitoring program.
4. The manner of financing such programs and services shall initially consist of the levy of special assessments pursuant to Minnesota Statutes, Chapter 429 but may also include the imposition of service charges, the issuance of obligations as provided in Minnesota Statutes, 429.091, the levy of ad valorem taxes solely on property within the Lake Improvement District, or a combination of any of the above financing options.
5. The Board of Directors of the Snail Lake Improvement District shall be an advisory body to the Shoreview City Council. The Board shall make recommendations regarding the implementation of programs, projects and services but shall not have the authority to enter into contracts or levy taxes.

The Board shall consist of five members appointed by the Shoreview City Council. The initial Board shall be appointed to staggered terms so that no more than two Board Members' terms will expire at one time. After the appointment of the initial Board, each Board Member shall serve a three year term subject to removal in the discretion of the City Council. Each Board Member shall reside within the City of Shoreview. A majority of the Board Members shall own property within the Snail Lake Improvement District.

Passed by the Shoreview City Council on the \_\_\_\_\_ day of \_\_\_\_\_, 1992.

BY: \_\_\_\_\_  
James Chalmers, Mayor

ATTEST:

\_\_\_\_\_  
Dwight Johnson, City Manager

EXHIBIT B

SNAIL LAKE IMPROVEMENT DISTRICT

BYLAWS

1. Establishment of Board of Directors. The Snail Lake Improvement District was established pursuant to Order of the City Council dated the 3rd day of August, 1992.
2. Composition of Board of Directors. The Snail Lake Improvement District Board of Directors shall consist of five members appointed by a majority vote of the Shoreview City Council. Board members shall reside within the City of Shoreview. A majority of the board members shall own property within the Snail Lake Improvement District.
3. Terms and Compensation. Board members shall be appointed for a term of three years expiring on December 31st provided that the initial Board of Directors shall be composed of two members whose terms expire on December 31, 1993; two members whose terms expire on December 31, 1994; and one member whose term expires on December 31, 1995. Board Members shall receive compensation as determined, from time to time, by Council Resolution.
4. Vacancies. In the case of a vacancy during the term of a board member, the City Council shall declare the vacancy and appoint a new member to serve for the remainder of the term. A vacancy shall exist if any of the following occur: death, disability, failure to attend meetings, or in the event that a board member moves from the City of Shoreview or ceases to own property within the District.
5. Organization. The Board of Directors shall annually elect one member to serve as chairman. The chairman is responsible for the agenda of the meetings, presiding at meetings, minutes of meetings, and reports and recommendations to the City Council. The Shoreview Department of Public Works shall maintain all records of the Board.
6. Meetings and Reports. The Board of Directors shall hold at least one annual meeting. It shall adopt Rules of Procedure for business and shall keep a public record of all motions, resolutions, findings, minutes and reports which shall be reduced in writing and a copy forwarded to the City Council. The Shoreview Director of Public Works shall be the official advisor attending meetings upon request.
7. Duties and Functions. The Snail Lake Improvement District Board of Directors shall serve in an advisory capacity to the Shoreview City Council and shall make recommendations to the City Council regarding the following:
  - a. The construction and operation of water control structures as approved by the Commissioner of Natural Resources.

- b. The construction of projects to change the course, current or cross-section of the waters of Snail Lake.
- c. The acquisition of property, equipment or other facilities as necessary to improve the navigation of the waters of Snail Lake.
- d. The implementation of research projects to determine the condition and development of the waters of Snail Lake and the waters which enter Snail Lake.
- e. The development and implementation of a comprehensive plan to eliminate pollution of the waters of Snail Lake.
- f. The development and implementation of a comprehensive program to improve and conserve the waters of Snail Lake.
- g. The sources of funding for various projects proposed by the Board of Directors.
- h. An annual budget for the operation of the Snail Lake Improvement District.
- i. The maintenance of public beaches, docks, and other public facilities for access to the waters of Snail Lake.
- j. The adoption of water surface use regulations for Snail Lake.
- k. The amendment of Bylaws for the Snail Lake Improvement District.

8. Amendments. Amendments to the Bylaws for the Snail Lake Improvement District shall be approved by a majority of the City Council.

Passed by the Shoreview City Council on the \_\_\_\_\_ day of \_\_\_\_\_, 1992.

BY: \_\_\_\_\_  
James Chalmers, Mayor

ATTEST:

\_\_\_\_\_  
Dwight Johnson, City Manager

b\city\SNAILLK.LAW

- WATERSHED BOUNDARY

- DISTRICT BOUNDARY



SCALE 1" = 600'

TOWNSHIP 30, RANGE 23

EXHIBIT I

