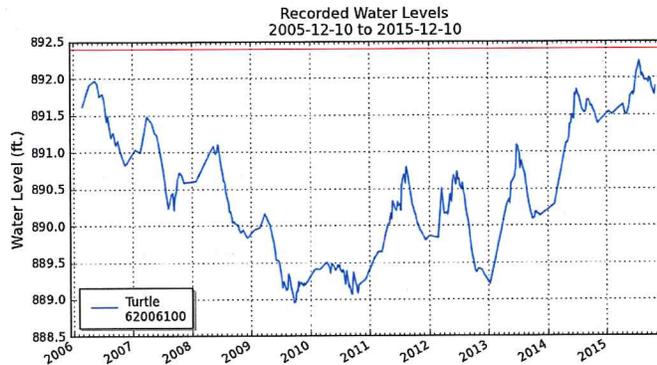


**CITY OF SHOREVIEW
AGENDA
CITY COUNCIL WORKSHOP MEETING
MARCH 14, 2016
7:00 P.M.**

1. MEETING WITH TURTLE LAKE HOMEOWNERS' ASSOCIATION
2. REVIEW OF POTENTIAL PROPERTY ACQUISITION FOR BOBBY THEISEN PARK
3. REVIEW OF WILSON PARK IMPROVEMENTS
4. OTHER ISSUES
5. ADJOURNMENT

TO: MAYOR, CITY COUNCIL, AND CITY MANAGER
FROM: MARK MALONEY, PUBLIC WORKS DIRECTOR
DATE: MARCH 2, 2016
SUBJECT: TURTLE LAKE AUGMENTATION UPDATE

Naturally occurring fluctuations of water levels of Turtle Lake, especially over the past 10 years (see right) has driven significant dialog and technical analysis to examine the concept of lake augmentation. In December 2015, the City Council received and discussed the final Turtle Lake Augmentation Study which had been funded jointly by the State, City and the Turtle Lake Homeowner's Association (TLHA). A summary of the conclusions and recommendations of that report as well as the minutes from that City Council workshop meeting are attached for reference. The City Council at that time discussed the need for a future meeting with the TLHA to further discuss the lake augmentation topic.



As was discussed by the Council at the December workshop meeting, it is important to gauge the level of support of the property owners who would potentially be impacted by the initial assessment of the project costs as well as be subject to annual operational costs. The TLHA has surveyed lake property owners in the past and determined there to be some level of support for managing the lake level via augmentation, but that survey was performed before technical analysis concerning water quality impacts of augmentation was available. Further, the prior attempts at determining the level of support by impacted properties did not have the benefit of project cost data. For that reason it is recommended that the next steps of gauging property owner support for the potential project include a survey that includes clear parameters of project costs and potential special assessments and operating charges.

The most likely scenario of augmentation for Turtle Lake identified in the 2015 study, adjusted for inflation and including normal project contingencies, has an estimated total project cost estimate in the range \$2.0 - \$2.5 million. Per Ramsey County records, there are a total of 207 separate parcels that directly abut Turtle Lake, ownership as follows:

- 203 private residential properties
- 1 City of Shoreview parcel (extension of Birch Lane South)
- 1 Ramsey County parcel (Turtle Lake Park)
- 2 State of Minnesota parcels (public access/parking lot)

For discussion purposes, simply dividing the estimated project costs across the 207 benefitting properties would result in an assessment in the range of \$9,700 -\$12,100/property. For reference, the two public improvement projects that make up the Snail Lake Augmentation system as it currently exists resulted in special assessments per residential property of \$3,000 (1993 original construction) and an additional assessment of \$4,200 in 2010 for invasive species filtering upgrade. The operating costs for augmenting Snail Lake, per residential lot, have averaged about \$120 per year over the past ten years.

The Turtle Lake Homeowner's Association (TLHA) has sent the attached letter to the City Council requesting that the formation of a Lake Improvement District (LID) and an augmentation project move forward. The TLHA letter also requests that a cost sharing and funding approach for the project be developed, and that potential funding partnerships with the County and State be explored.

Based on the discussion at the December workshop meeting, staff believes it is important to determine the level of property owner support for an augmentation project prior to expending any additional City resources on the concept. Staff recommends that information about specific cost and potential assessments be included in any survey and that should occur prior to continuing discussion about cost sharing or LID formation.

Turtle Lake Augmentation Study

Prepared for City of Shoreview

1.0 Conclusions and Recommendations

Conclusions reached by the Turtle Lake Augmentation Feasibility Analysis include:

- Turtle Lake's water levels have varied by a larger magnitude and have been lower on average since augmentation was ceased in 1989.
- Turtle Lake is highly susceptible to changes in precipitation and evaporation due to its low watershed to surface area ratio.
- Groundwater and/or other heretofore unmeasured factors account for a substantial portion of Turtle Lake's water balance.
- Augmentation has successfully been used to raise and maintain lake levels of Turtle Lake historically, and currently is in use on other nearby lakes.
- Several potential augmentation source waters exist in close proximity to Turtle Lake.
- Augmentation of Turtle Lake would require zebra mussel filtration and/or phosphorus removal depending on the source option selected and flow volume pumped per year.
- Costs for piping and pumping infrastructure and phosphorus removal infrastructure would alternately dominate the total cost for an augmentation system depending on the source water option selected.
- Permits required for implementation of an augmentation system would be administered through the Minnesota Department of Natural Resources, and depending on the source water alternative selected may include an invasive species transport permit, a water appropriations permit, and/or a public waters work permit.

Based on the conclusions, it is recommended that:

- Augmentation should be used to manage lake levels to maintain a target elevation range of 891.0 to 892.0 to mimic pre-1989 historic waters levels.
- Phosphorus in augmentation source water should be reduced with mechanical and chemical means to prevent the increase in phosphorus concentrations in the lake.
- Water quality treatment should include the use of rapid sand filtration and aquatic invasive species (zebra mussel) screening to protect lake water quality.
- A Lake Improvement District should be established to implement the initial construction as well as the long term maintenance and operation of the augmentation system.
- Saint Paul Regional Water Service water along Country Road I be approved as the preferred augmentation source water based on low infrastructure costs and the ability to treat source water to protect lake water quality.

2.0 Executive Summary

Lake level fluctuation and lake level control on Turtle Lake have been part of the Lake's history. The constructed outlet for the lake has and continues to allow water to flow from the lake, reduce high water conditions from persisting and causing property damage. From 1928 to 1989, Turtle Lake was augmented in 40 of the 62 years. During this period, lake levels generally fluctuated between elevations 891.0 and 892.0

Turtle Lake has excellent water quality. In-lake conditions are significantly better than the Minnesota Pollution Control Agency's (MPCA's) standards for lakes in the North Central Hardwood Forest Ecoregion. Lake quality is enhanced by the low watershed to lake surface area ratio, which minimizes the impact of storm water runoff.

The water budget for Turtle Lake is a critical consideration for a proposed augmentation system. The water budget, calibrated to historic water level fluctuations defines the volume of water necessary to maintain the target operating water level range for Turtle Lake. The volume of augmentation water in turn dictates the size of the pumps and transmission infrastructure, as well as the design of the water quality and aquatic invasive species (AIS) features to protect lake water quality.

Based on the volume of augmentation to maintain lake levels between 891.0 and 892.0, a 1000 gallon per minute (gpm) pump and transmission infrastructure is recommended. This system would provide an adequate volume of augmentation, based on historical conditions and the water budget, to allow the system to operate during the ice-free months of the year. Based on previous augmentation experience, it is expected that the system will operate two out of every three years, on average.

Four augmentation sources were considered; Saint Paul Regional Water Service (SPRWS) conduits along County Road I, Charley Lake and Pleasant Lake in North Branch, and Snail Lake. The SPRWS is the most economical from an infrastructure standpoint, while Snail Lake has the best water quality and would require no additional treatment before pumping into Snail Lake. The SPRWS source would require water quality treatment measures to remove 47% of the phosphorus in order to protect lake water quality.

The augmentation system would utilize an Aquatic Invasive Species (AIS) screens similar to those in place as part of the Snail Lake system. Because the SPRWS source includes the chemical addition of ferric chloride at the Fridley intake, the screens are able to remove up to 50% of the phosphorus as the ferric chloride induce floc is caught, flushed from the screens and returned to the conduit. The addition of rapid sand filtration and a chemical feed system will enhance phosphorus removal and further protect lake water quality.

While there are no specific permits required based on input from a variety of regulatory agencies, implementation will be coordinated with those same agencies to ensure the long term viability of the improvements. A water purchase agreement would be developed with the SPRWS, similar to the agreement in place for the Snail Lake system. A Lake Improvement District would be used to support the cost of system implementation as well as ongoing operation and maintenance.

**CITY OF SHOREVIEW
MINUTES
CITY COUNCIL WORKSHOP MEETING
December 14, 2015**

CALL TO ORDER

Mayor Martin called the workshop meeting of the Shoreview City Council to order at 8:00 p.m. on December 14, 2015.

ROLL CALL

The following attended the meeting:

City Council: Mayor Martin; Councilmembers Johnson, Quigley, and Springhorn

Councilmember Wickstrom was absent.

Staff: Terry Schwerm, City Manager
Rebecca Olson, Asst. to City Manager
Mark Maloney, Public Works Director

Morris and Leatherman Company Dr. Bill Morris
Peter Leatherman

SEH Mr. Mark Obermeier

The City Council met with Dr. Morris and Mr. Leatherman to discuss results of the Community Survey.

Mayor Martin noted the drop in satisfaction with building inspections. She asked if there is a better way to analyze that question. City Manager Schwerm responded that one factor is that sometimes there are more people dealing with building permits and inspections due to storm damage. In the last two years building activity has been less.

Councilmember Quigley also suggested that residents in the SHINE program look at code enforcement as inspections.

Mayor Martin asked the reason a higher number of people call City Hall in comparison to other cities, whether it is a good thing in that staff is accessible, or because there are more problems. Dr. Morris explained that the interaction with City Hall is positive. People do not shy away from calling. Mr. Schwerm added that some people do not distinguish between the Community Center and City Hall because they are located in the same building.

Councilmember Johnson noted membership usage of the Community Center at 40%. She would like to see usage year by year, especially with plans for expansion. Mr. Schwerm stated that there are approximately 3000 memberships of which 2000 are Shoreview based. He also feels that question is overstated. In the last survey it was 53%, and there are not that many memberships. Mr. Leatherman explained of that 50%, 40% are current members. Overall, there are 80 members out of the sample of 400 residents interviewed, which is 20% and closer to the actual number of members.

Councilmember Johnson stated that 56% of residents are aware of the Housing Resource Center (HRC) and that high number leads her to believe those residents are using HRC services. Staff has done a great job promoting the HRC, and usage is increasing.

Councilmember Springhorn asked if more people are concerned about break-ins because there is so little concern with violent crime. Dr. Morris agreed that violent crime is not a concern in the City. Mr. Schwerm noted that for several years the Sheriff's Department has had a sweep program that leaves information flyers on the windshield of cars if they notice that valuables are left in plain sight inside the car. The flyer advises drivers that by leaving valuables in sight, they are at risk for a break-in.

Mayor Martin asked if the 84% having internet at home is higher from other years. Dr. Morris stated that it has been 86%. That number has been fairly static in the last five years. The average expected in northern suburbs is 85%.

Councilmember Springhorn noted that email and social media is not high as a primary source of information, although the City's participation in social media has increased. Dr. Morris noted that there have been a number of communities who have tried to get people to use a website rather than a newsletter. That has been met with great resistance.

Councilmember Quigley asked if a component of the City's demographic is being missed by asking the same questions with each survey. Dr. Morris explained that after many years of receiving the *ShoreViews*, people are used to receiving detailed information in that format. Putting that same detail of information on social media does not work well and is off putting to many people. Social media is at 2% or 3% of people who consider that a source of information. It has been found that people over age 45 do not want to receive information by social media.

Looking at demographics, Mr. Leatherman noted that it is important to realize that of those over age 65, only 68% have access to the internet.

REVIEW OF TURTLE LAKE AUGMENTATION STUDY

Public Works Director Mark Maloney stated that the study was funded by the state, the homeowners' association and the city. The purpose of this report is to present the technical information from the study to the Council.

Mr. Mark Obermeier summarized the findings from the feasibility study. The lake level has had a history of fluctuation. During the period of augmentation, fluctuation was not as extreme as when there is no augmentation.

Objectives of the Feasibility Study:

- Reduce cyclical low water levels on Turtle Lake between periods of normal to above normal rainfall through augmentation.
- Mimic the historic water level fluctuation during past periods of augmentation, which was 1928 to 1989 - before 1989, the level was between 891 to 892
- Treat augmentation source water to preserve current lake water quality
- Implement cost-effective infrastructure to support augmentation
- Outline next steps, including formation of a LID (Lake Improvement District)

Natural recovery through rainfall has addressed the level of Turtle Lake from 2013 to 2015. If augmentation had been used, the low levels would have been avoided and the lake level would have been kept at 891 to 892 feet.

The Feasibility Study considered the following:

- A complete water budget to predict fluctuation - where water comes in and leaves the lake and ground water interaction
- Calculate augmentation volume to maintain the one foot operating range
- Identify infrastructure needed for augmentation
- Identify augmentation source quality
- Determine water quality treatment to prevent a negative lake response to augmentation
- Estimate construction costs

The DNR sets the high water mark for lakes. All lakes have outlets and the purpose of a high water mark is to prevent overflow that would damage property.

The water budget calibrates the model to the true lake level. That information is then used to calculate the augmentation volume needed. Volume was calculated for an average year and a maximum year when the lake level is low. The lake would not be pumped every year but two out of every three years based on historical levels of augmentation. Augmentation volume would range from 174 million gallons (17.0 inches in depth) in an average year to 195 million gallons (19.1 inches in depth) in a maximum year. These amounts represent 10% to 12% of the total lake volume for Turtle Lake. The volume determines the size infrastructure needed.

There are four sources for potentially bringing in water:

- St. Paul Water Authority using conduits north of County Road I
- Charley Lake which is close to Turtle Lake
- Pleasant Lake has better water quality than Charley Lake
- Snail Lake - water from Sucker Lake is pumped into Snail Lake so there is some infrastructure already in place

Proposed augmentation infrastructure would include:

- A 1000 gallon per minute pump to operate May through November
- Augmentation transmission piping to force water to the lake which involves turf, pavement, utility
- Zebra mussel screening system which means putting in a screening facility with electrical, plumbing, HVAC, chemical and mechanical features

The backwash water from screening zebra mussels goes back into the St. Paul regional water system and not discharged back into the lake. The zebra mussel screens could remove up to 50% of phosphorus from the source water.

Focus was given to screening water phosphorus because it is the limiting nutrient for water quality in lakes. The more phosphorus in a lake, the more algae is produced. The amount of treatment for phosphorus was considered from the four potential water sources. It was found that no treatment for phosphorus would be needed from Snail Lake and Pleasant Lake. The model for lake quality is established by the Rice Creek Watershed. Charley Lake would require approximately 37% to 38% phosphorus removal for average to maximum augmentation years; the St. Paul Regional Water System would require 46.7% to 47.4% phosphorus removal.

Councilmember Quigley noted there could be complications with using Snail Lake as a water source because it is already being augmented. Augmentation for Snail Lake would likely have to be increased.

A comparison of estimated augmentation construction costs from the four water sources was presented:

St. Paul Regional Water System

Estimated Construction:	\$ 972,000
With 47.4% phosphorus removal	\$1,737,000

Charley Lake

Estimated Construction	\$1,783,000
With 38.3% phosphorus removal	\$2,548,000

Because the water from Charley Lake and the St. Paul Regional Water System is more polluted, sand filter system was added to infrastructure to screen out more pollutants.

Pleasant Lake

Estimated Construction	\$1,966,000
No phosphorus removal needed	

Snail Lake

Estimated Construction	\$3,450,000
No phosphorus removal needed	

Mr. Maloney stated that costs could be recouped from property owners as authorized by the City Council.

Recommendations from the Feasibility Study:

- The St. Paul Regional Water System looks to be the best source to use for augmentation of Turtle Lake. It is a close source so infrastructure would be small and non-invasive to property owners.
- The Carlson Road storm sewer would be used that would eliminate a lot of additional piping.
- A rapid sand filter and zebra mussel screening would be installed to protect water quality.
- The cost allocation for construction is approximately \$1,740,000.
- A Lake Improvement District (LID) would be the implementation mechanism for augmentation.

A structure measuring approximately 30 feet by 36 feet would be needed for above the installation of the augmentation pump and screening filters.

Factors to consider should an augmentation project move forward would be:

- Formation of a Lake Improvement District as described by statute
- Property acquisition
- Permits, approvals, agreements
- Final design, including treatment elements
- Final project costs, including engineering, legal, administrative, operations and maintenance
- Cost recovery through the Lake Improvement District
- Construction

Mayor Martin stated that the study has provided the information needed to determine that a project is possible. Her question is what the prevailing reason would be to consider such a project. There is no money in the City's CIP for this project. The only reason to consider this project would be to even out the fluctuation of lake levels. It is unknown whether there is Homeowners Association consensus regarding a response to this study.

Mr. Schwerm stated that water quality is a concern of homeowners and agencies involved in regulating Turtle Lake. There are approximately 200 homeowners on Turtle Lake. The City would need indication of the level of support for the project assuming a certain level of cost participation.

Councilmember Johnson noted that when the lake water levels were down, there was a lot of feedback from homeowners. She asked what feedback has been received since water levels have risen.

Mayor Martin stated that she has not received any communication, but homeowners know that any decision was waiting on the completion of this feasibility study. Some people have questioned an augmentation system now that the lake level is so high.

Ms. Marsha Soucheray, Turtle Lake Home Association member, asked if the three water sources not included in the recommendation would be eliminated from consideration. Mayor Martin answered that all water sources can be considered. It would depend on what the Council hears back from the Homeowners Association.

Mr. Obermier stated that the recommended water source is based on cost. Mr. Maloney added that all four sources would deliver the same water quality to the lake. There are more complications in terms of distance, land acquisition that add to the cost with the other water sources presented.

Mr. Tim Krinkie asked how the homeowners association should move forward. Mr. Schwerm suggested the Council have a discussion with the Homeowners Association Board at a future meeting. The survey used by the Homeowners Association stated “reasonable cost” to homeowners. Reasonable cost needs to be defined. A fairly large assessment to homeowners would be needed for this project. In order to assess homeowners, the City has to prove benefit to homeowners’ properties. A substantial number of homeowners need to support the project. Otherwise costs could rise with legal challenges to assessments.

Councilmember Quigley stated that he does not see a project moving forward without a survey of homeowners that firmly support moving the project. An outline of responsibilities for the City and Homeowners Association should be documented and become part of a future project.

Mayor Martin stated that a future survey to homeowners needs to insure that questions are based on the information presented in the Feasibility Study. She cautioned trying to create a LID without substantial support similar to the Snail Lake consensus because it is expensive to set up.

It was the consensus of the Council to accept the report and plan a meeting with the Homeowners Association Board to discuss whether a project should be planned.

OTHER ISSUES

Mayor Martin stated that Planning Commission applications have been received and the Council needs to determine who to interview and when to conduct the interviews. It was the consensus of the Council to interview three candidates.. Interviews will be immediately prior to the January 11, 2016 workshop meeting.

The meeting adjourned.

Tim Krinke
President
Turtle Lake Homeowners Association
855 Village Center Drive, #315, St. Paul, MN 55127

January 28, 2016

Sandy Martin, Mayor
Emy Johnson, Councilmember
Terry Quigley, Councilmember
Ady Wickstrom, Councilmember
Cory Springhorn, Councilmember
City of Shoreview
4600 Victoria St. N.
Shoreview, MN 55126

Dear Mayor Martin and Councilmembers:

The City's lakes are an important asset to all of the residents of the City of Shoreview. This fact is documented in the 2013 City of Shoreview Residence Survey. In that Survey, 54% of non-lakefront homeowners reported using the lakes in the City for recreational purposes. That percentage happened to be higher than the usage of the Community Center or the Shoreview Library, which are two assets that are heavily supported by the City. As the level of Turtle Lake continues to fluctuate the impact to non-homeowners is significant. In times of low water, the Turtle Lake beach is not used and boat traffic from non-homeowners is significantly reduced.

The TLHA Board believes that, as instructed by the homeowners, we have found a feasible solution to fix the water level problems of Turtle Lake while not affecting the water quality of the lake. Given those findings, the homeowners also instructed us to move forward with the formation of a LID to execute the capital project for augmentation. The next steps in this process is to define the cost sharing and financing parameters of the project. We therefore are officially requesting the City to move forward in partnership with the TLHA board to determine the cost sharing for the augmentation project.

Therefore, we request that Shoreview advocate and work to obtain any possible funding from County and State sources, just as is being done for White Bear Lake by their city leadership. In addition, we request that the City of Shoreview define the amount that the City would be willing to contribute to the augmentation project. We will be working to educate the homeowners by email, web, and in-person meetings. We will present information to the homeowners at our annual meeting in May. We anticipate surveying the homeowners after the annual meeting.

Thank you for considering the above requests.

Sincerely,



TLHA President

CONCERNED TURTLE LAKE HOMEOWNERS

March 10, 2016

City Council,

We are grateful for the commitment of the City Council to follow the appropriate process in addressing the significant long-term consequences of deciding whether or not to augment Turtle Lake. You have scheduled the upcoming Workshop with the TLHA Board regarding its request for your support in proceeding with augmentation and the formation of a LID. There is a growing contingent of lakeshore homeowners concerned that critical issues and the current desires of all homeowners will not be considered in the decision-making process. As homeowners, we are concerned a Board member with a dissenting opinion will not speak up at the Workshop or homeowner meetings. Therefore, we feel it is imperative that the evaluation process at the Workshop honor the perspective of homeowners who are deeply concerned about the necessity, water quality, and cost of an augmentation project.

Fair and objective handling of the augmentation issue is the principal concern. The TLHA resolution previously approved had two required conditions to satisfy prior to proceeding with augmentation. The resolution was in essence a request to secure more information before deciding whether to proceed. First, the augmentation must “*ensure our water quality, clarity and water color is not compromised*”. Although the Augmentation Study was recently posted on the TLHA website, all homeowners have not received a copy to evaluate and ask questions as to whether water quality will be compromised. The options proposed, options not considered, and issues previously raised in SEH’s July 1, 2011 Technical Memorandum and the DNR all need to be evaluated.

Preserving water quality remains a critical issue despite the Study. It is a difficult task for SEH to remain objective in evaluating a prospective project that would likely employ its engineering services. The study fails to adequately address serious issues and risks identified on the enclosed *Water Quality Issues*. Remembering that previous lake augmentation was with pure well water, it would be a serious travesty to have pristine Turtle Lake compromised by pumping Mississippi River water into it. We would be left with a polluted lake that cannot be restored and it is unlikely that SEH would accept responsibility for any unanticipated or unintended consequences for the failure of this experimental system. We request your diligent review of these *Issues* and the remedies, liabilities, and warranties available should the existing high water quality of Turtle Lake be polluted by the failure of the system to perform as represented.

The second required condition in the resolution is that the system “*be done in a reasonable and affordable way*”. As Jason Moeckel of the MN DNR commented regarding the White Bear Lake project, actual costs will be higher than homeowners believe because “*there really is a difference between a professional engineer costing it out, vs. a contractor’s back-of-the-envelope estimate*”. (1/30/16 Star Tribune) Homeowners need to be advised of and approve realistic construction, annual maintenance, and water purchase costs. Therefore, without satisfying either of these required conditions of the resolution, it is premature for the City Council to approve, fund or seek funding from County or State sources for the augmentation of Turtle Lake without conducting a new survey after full disclosure is made concerning these issues.

Turtle Lake has now recovered twice from temporary low levels without any man-made assistance or augmentation. If the City Council still decides to proceed with a survey of homeowners, we have attached a list of *Survey Items to Consider* that we request the City Council adopt regarding any prospective survey. It is important because those concerned about augmentation of Turtle Lake have limited representation at the Workshop. We are grateful for the City Council continuing to give this matter your serious evaluation as you strive both to represent all your constituents and to preserve the irreplaceable quality of Shoreview's most valuable natural resource, Turtle Lake.

Respectfully,

Brad Cairncross
Linda Dahlby
Ron L. Dykstra
Barb Jandric
Pat Hunziker
Sandy Glas-Sirany
Todd and Cheri Kennedy
Bob and Laurie Kjelden
Scott and Susan Mellanby
Teresa Morris
Rob and Deb Muller
Doug and Kathy Olson
Doug and Phyl Ostergren
Rick and Shelley Renner
Bob and Marlene Rink
David Schifsky
Jay and Lynn Schreyer
Otis and Deb Schultheis
Lanny Stapp
Tom and Patty Stuart
Martha Swenson
Terrance Swor
Jeff and Margie Vest

Water Quality Issues

One of the threshold issues is whether any augmentation system being proposed can maintain the current water quality of Turtle Lake. The SEH Study has not addressed or adequately resolved the issues and risks of the proposed augmentation system include, but are not limited to, the following:

1. Water Intake - Inability to control the activities in Fridley where the Mississippi River water is received to ensure that correct amounts of chemical are utilized per fluctuating phosphorous levels.
2. Phosphorus – Consequences of increased phosphorus levels, permanent presence in the lake.
3. Binding Level – Inability of the ferric chloride to adequately bind with the phosphorous due to velocity of flow in the SPRWS pipeline.
4. Contaminants – Other Mississippi River water chemicals and contaminants not addressed in Study – heavy metals, pathogens, fecal coliform, etc.
5. Invasive Species – Fertilization of weeds, milfoil, algae, and other invasive species.
6. Public Health Safety – Fecal coliform; warning regarding unsafe drinking water at outflow; liability to injured parties.
7. Endangering Wildlife – Effect of water chemicals on amphibians, fish, wildlife.
8. System Design – Filter limitations, chemicals added, maintenance requirements, unproven prototype filter and system.
9. System Effectiveness – Removal of phosphorus (floc), zebra mussels, contaminants.
10. System Selection – The City would need to be the party to select the most effective system design to maximize water quality.
11. Actual Construction Cost – Selected system needs determination of actual construction and maintenance costs.
12. System Failure – Catastrophic consequences, responsible party.
13. Property Values – Decreases in property values to homeowners are an unintended consequence should there be a failure of the system.
14. Warranty – Confirm the extent of warranty coverage provided by SEH or the City regarding the engineering and performance of the system, the proper installation of the system, and the implementation of appropriate maintenance procedures, testing of system performance, and how they will protect against degradation of the current water quality, clarity, and chemistry metrics of Turtle Lake. Homeowners need to be advised of any limitations in the warranty coverage that will be provided.

Survey Items to Consider

If the City Council decides to further consider augmentation of Turtle Lake, we request a survey of the homeowners that considers the following:

1. Survey Method – The City needs to be the party conducting the survey of all lakeshore homeowners to provide confidence in its objectivity and administration.
2. Survey Timing – The homeowner survey needs to come after both the annual meeting, where issues relating to water quality, cost and need for augmentation are discussed, and the determination of realistic construction and maintenances costs to be disclosed in the survey.
3. Response Requirement – A decision of this significance should require that a minimum of eighty-five percent (85%) of homeowners actually respond to the survey and count those not responding as not approving augmentation.
4. Supermajority Approval – In light of historic fluctuations in opinion and the significant permanent impact on Turtle Lake and all lakeshore owners, a supermajority approval of at least seventy-five percent (75%) of all lakeshore owners should be required to proceed with augmentation. This approval level is lower than the requirement previously used to proceed with Snail Lake augmentation which had the support of eighty-three percent (83%) of the homeowners.
5. Survey Question – The appropriate augmentation system and its actual construction cost first need to be established prior to surveying homeowners. The survey question needs to clearly state the estimated cost to each homeowner of construction and maintenance of the augmentation system and be free of subjective standards. A recommended survey question is as follows:

The construction cost to you of an augmentation system for Turtle Lake would be approximately \$_____ and its annual maintenance cost would be approximately \$_____. Should an augmentation system be constructed?

Yes: _____

No: _____

From: Yearwood, Terri L (DNR) [mailto:terri.yearwood@state.mn.us]
Sent: Tuesday, March 10, 2015 3:21 PM
To: Merickel, Thomas D (Taylor)
Cc: Landwehr, Tom (DNR); Skinner, Luke C (DNR); Colvin, Steve E (DNR); Ekman, Julie C (DNR); Daniels, Jeanne M (DNR); Sorensen, Jenifer (DNR); Shodeen, Molly (DNR); Lund, Keegan (DNR); Moeckel, Jason B (DNR); Putzier, Paul (DNR); Hovey, Tom E (DNR); Cramblit, Bernice (DNR)
Subject: Shoreview-Turtle Lake Augmentation Feasibility Study

Dear Mr. Merickel:

Thank you for contacting DNR Commissioner Tom Landwehr regarding the augmentation of Turtle Lake. The Commissioner asked me to respond to your question regarding DNR's potential approval of this project. While augmenting one surface water with water from another surface water is not prohibited by law, the practice is not supported by DNR and we are not aware of any ecological reasons that would warrant augmentation of Turtle Lake. We can't predict what our decision would be on a permit application, but this response to your inquiry points out some of our perspectives and the issues that a project proposer should consider and be prepared to respond to in an application for a permit to augment Turtle Lake.

1. Lake water levels naturally fluctuate, and these fluctuations can be important to aquatic communities that the DNR strives to maintain. In lakes like Turtle Lake with an extensive shallow-water zone near shore, periodic episodes of low water levels are particularly valuable for helping maintain populations of emergent aquatic plants (like bulrushes and cattails) that grow in this near-shore zone. Maintaining healthy emergent plant populations in lakes is a priority for the DNR because of the value these plants provide to fish and wildlife populations, shoreland stability, and supporting good water quality. Emergent plant populations are often adversely impacted by shoreland development, and maintaining water level fluctuations that help sustain their populations is important.

2. Maintaining a healthy aquatic plant community in general should be a high priority as part of any on-going lake management effort in Turtle Lake. An assessment of lake's aquatic plant community conducted in 2002 by DNR's Section of Fisheries found that the community is diverse and contains species that reflect the lake's moderate water quality/water clarity conditions. It is likely that the aquatic plant community helps support current water clarity conditions by incorporating nutrients that would otherwise lead to more algae growth. Data collected by DNR Fisheries also suggests that because much of the lake is less than twenty feet deep, it may not form a stable thermocline that persists throughout the summer. Instead, periods of strong wind may mix the water column from top to bottom, a mixing pattern termed polymictic. Polymictic lakes tend to be more susceptible to increases in nutrient loading than deeper lakes that form a stable, persistent, thermocline through the summer months. If the polymictic nature of Turtle Lake is confirmed, maintaining a healthy aquatic plant population to help dampen changes in nutrient loading is recommended.

3. Page 8 of the Turtle Lake Final Report states that augmentation is likely needed in periods of low precipitation. Periods of low precipitation may contribute to drought conditions or persistent low stream flows. It is during these times that DNR evaluates the need to suspend low priority water uses. The city must decide if the expense is worthwhile considering that the situations when augmentation is most desired corresponds to the situations when DNR might suspend low priority surface water uses in order to protect higher priority uses and ecological needs.

4. The Turtle Lake Final Report points to St. Paul Regional Water Supply (SPRWS) as a potential source for augmentation. This might require an amendment to SPRWS' water appropriation permit from the DNR. SPRWS has capacity to provide additional domestic water supply to communities. Drinking water is the highest priority water use in law and if additional communities seek a water supply from SPRWS the capacity to divert

water to Turtle Lake could be diminished.

5. Depending on the source water, the risk of transferring invasive species exists. It should not be assumed that a filter would successfully prevent the spread of invasive species. As part of a permit application process we might first require a zebra mussel survey in Snail Lake to assess whether filtration there has been successful at preventing the spread of zebra mussels. This would inform what requirements would be needed for a filtration system in Turtle Lake. The city would need to develop a response plan to address a potential failure.

6. Water levels in Turtle Lake have been on the increase overall since the low period in 2010-2011 showing that low water levels are part of the lake's natural fluctuation. If a DNR permit were to be required for this project, the city must demonstrate that the project is reasonable and practical as part of its application.

Please contact Jen Sorensen, Area Hydrologist, at [651-259-5754](tel:651-259-5754) jenifer.sorensen@state.mn.us if you have additional questions.

Sincerely,

Terri Yearwood

Central Region Manager
MN Department of Natural Resources
Division of Ecological & Water Resources
1200 Warner Road
St. Paul MN 55106
[651-259-5766](tel:651-259-5766)
terri.yearwood@state.mn.us

TO: MAYOR AND COUNCILMEMBERS

**FROM: TERRY SCHWERM
CITY MANAGER**

DATE: MARCH 7, 2016

SUBJECT: BOBBY THEISEN PARK—POTENTIAL PROPERTY ACQUISITION

At its February 8, 2016 workshop meeting, the City Council and Parks and Recreation Commission discussed a potential property acquisition to Bobby Theisen Park. A property owner at 910 County Road E had contacted City staff to determine if there was any interest in acquiring their property as an addition to the park. (See attached report from the February 8, 2016 meeting). Prior to making a decision on whether to pursue this property, the Council and Commission asked the staff to contact the two adjacent property owners to 910 County Road E to inquire about their future plans.

Staff sent a letter to the property owners at 902 County Road E and 950 County Road E informing them that the property owner at 910 had inquired about the possibility of the City acquiring the property for inclusion in the park. Staff did hear back from the owners at 902 County Road E who indicated that they had recently completed a significant investment in their property and are not interested in selling their property to the City for park purposes. The staff has not heard from the property owner at 950 County Road E.

Since acquisition of the property at 910 County Road E would not greatly benefit the park unless the other two adjacent properties are also acquired; and since the ultimate acquisition of these three properties will likely be in the neighborhood of \$600,000, staff would suggest that we not pursue the acquisition of the property at this time. Acquisition of these properties is currently not included in the Capital Improvement Program.

If the Council would like to pursue acquisition of the property at this time, staff would suggest acquiring the property at 910 County Road E now and then waiting until the owners of the other two adjacent properties are ready to sell. If the property is acquired now, staff would suggest that the home either be taken down or explore renting the property until the other homes can be acquired.

**TO: MAYOR AND COUNCILMEMBERS
PARKS AND RECREATION COMMISSION**

**FROM: TERRY SCHWERM
CITY MANAGER**

DATE: FEBRUARY 3, 2016

SUBJECT: DISCUSSION REGARDING POTENTIAL PARK ACQUISITION

BACKGROUND

The property owner who resides at 910 County Road E contacted the City to determine if the City was interested in acquiring their property as an addition to Bobby Theisen Park. As shown on the attached map, this property is the middle property of three single family homes that front on County Road E. These three properties are surrounded by Bobby Theisen Park.

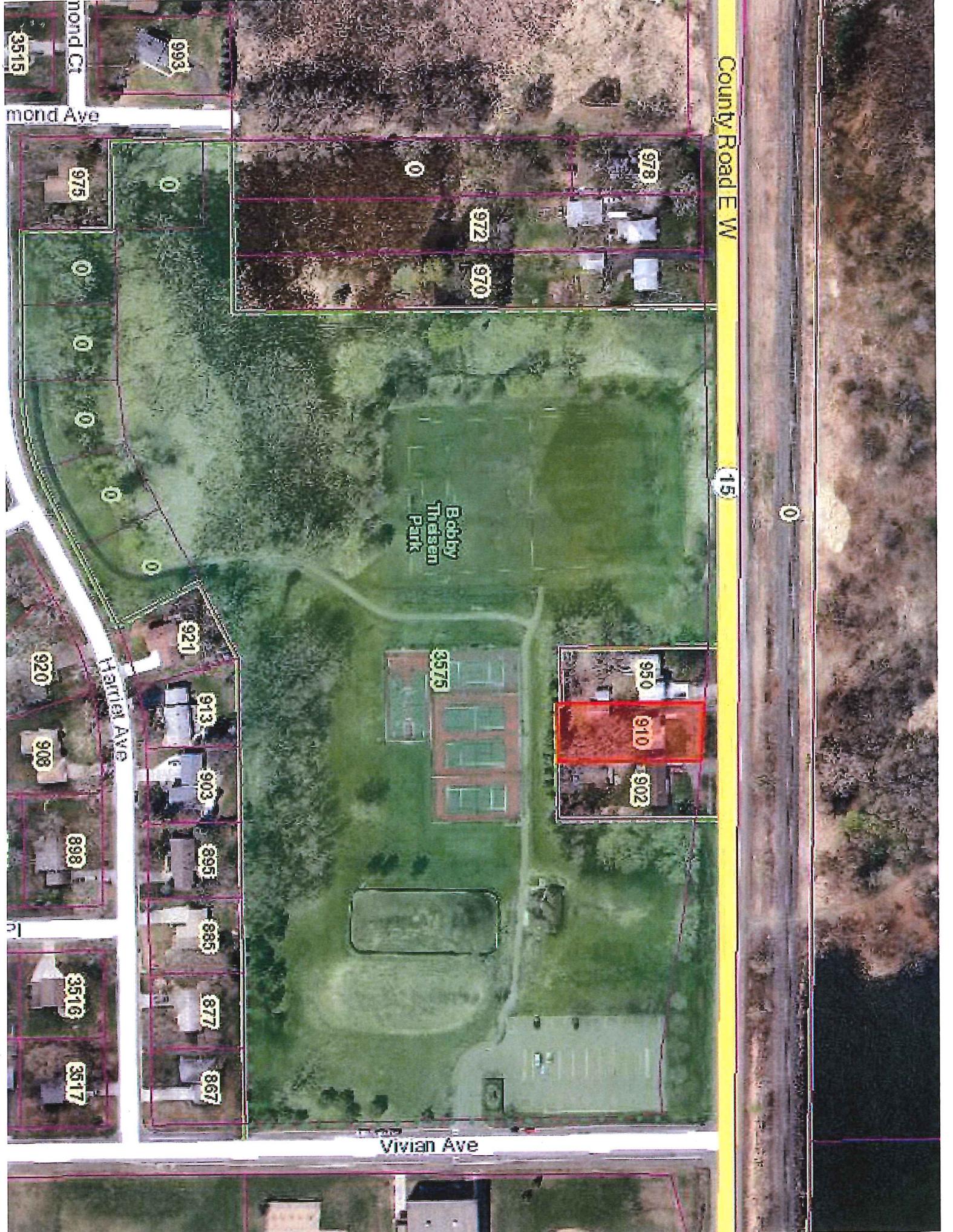
In 1996, the City conducted an Open Space and Park Study. In this study, the three single family homes (902, 910, and 950 County Road E) were identified as potential future additions to Bobby Theisen Park. Enclosed is a copy of the portion of the City's Comprehensive Plan that identifies these properties for potential parkland acquisition.

The property at 910 County Road E is approximately 75' x 200' (.34 acres) and is valued at \$162,500 by Ramsey County. The adjoining properties at 902 County Road E and 950 County Road E are also about 75' x 200'. The values of these two properties are \$158,700 and \$167,100, respectively.

In the mid-2000's, the City completed a needs assessment for all City parks. The park assessment for Bobby Theisen does identify these three in-holding properties for potential acquisition, although it does not identify any type of future use for the property. The City has created a youth size soccer field in the grassy area adjacent to the parking lot. If the three properties were purchased, it could accommodate another youth soccer field.

If the City purchases this property for inclusion in the park, the other two properties should be acquired at the time they are available for sale. The anticipated acquisition of the properties and tear down of the homes would result in a total cost around \$600,000. The City does not have any money identified in the Capital Improvement Program at this time for this acquisition.

Staff is seeking input from the Parks and Recreation Commission and City Council on whether to pursue the acquisition of this property at this time. If the City acquires this property, funding would be from the Community Investment Fund.



County Road E W

15

0

Bobby Thiesen Park

950

910

902

3575

972

970

978

0

993

973

0

0

0

0

0

921

913

903

895

885

877

867

920

908

898

3516

3517

Mond Ave

3515

Harrel Ave

Vivian Ave



Bobby
Theisen
Park

3573

910

950

902

921

913

903

895

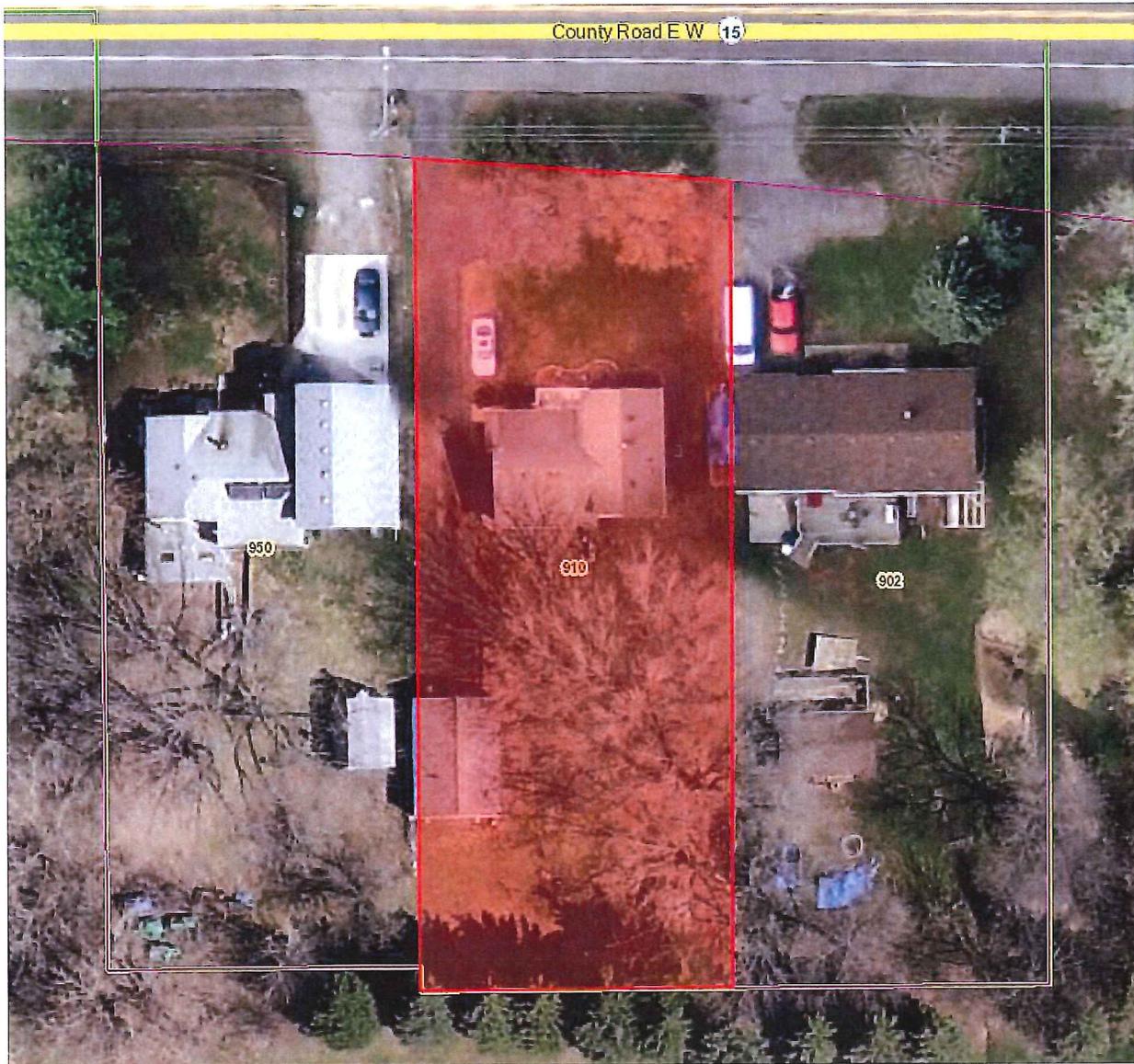
885

877

867

Ramsey County Data:

<u>Address</u>	<u>Acreage</u>	<u>Total Value (Pay 2016)</u>
910 County Road E	.34	\$ 162,500
902 County Road E	.33	\$ 158,700
950 County Road E	.34	\$ 167,100



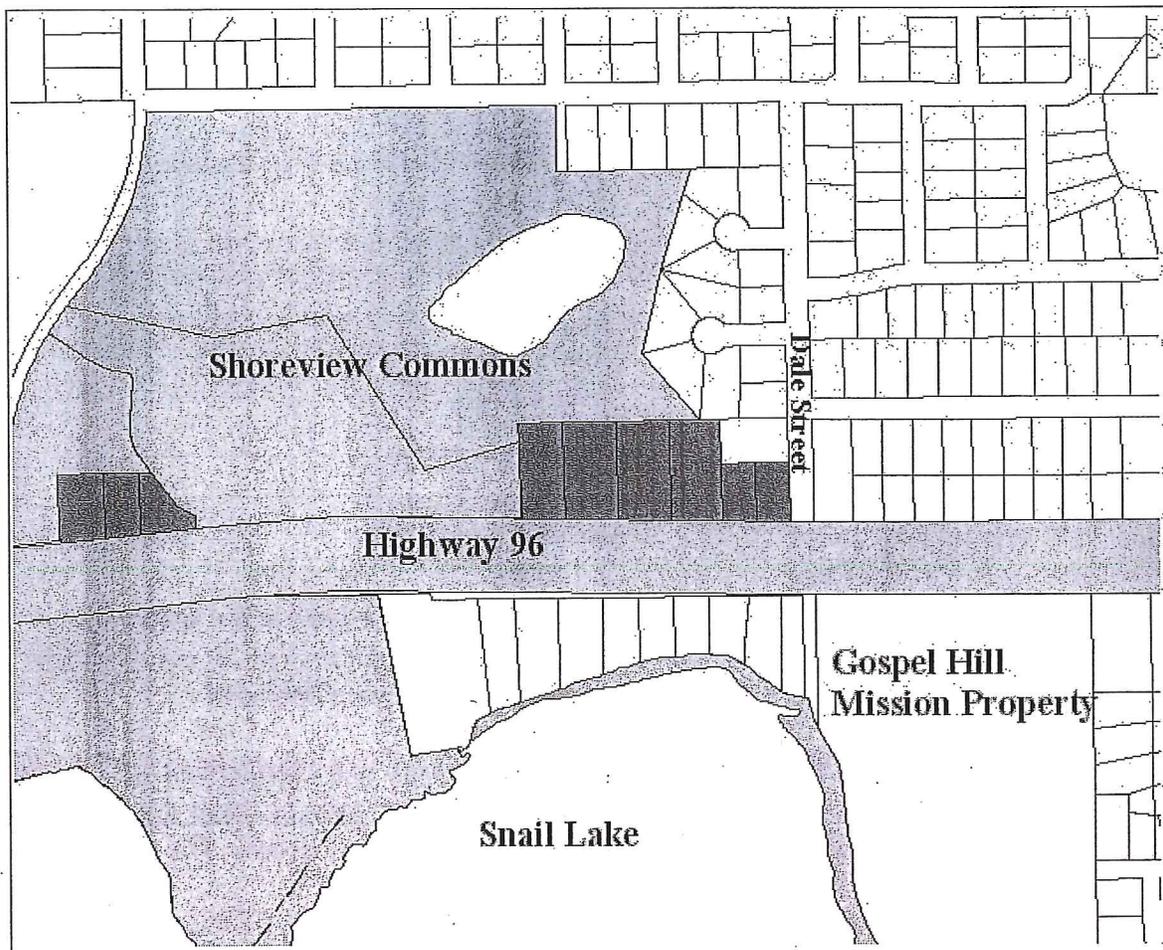
Comprehensive Infrastructure Replacement Plan. In addition to the CIP, the City Council has adopted a Comprehensive Infrastructure Replacement Plan (CHIRP). This plan, like the CIP, addresses the future replacement or reinvestment in City facilities. The CHIRP, however, describes the policies and presents information derived through careful analysis of replacement needs over the next fifty years.

Park Acquisition and System Expansion

The City will continue to implement the recommendations of *the Open Space and Park Land Study*. These recommendations include:

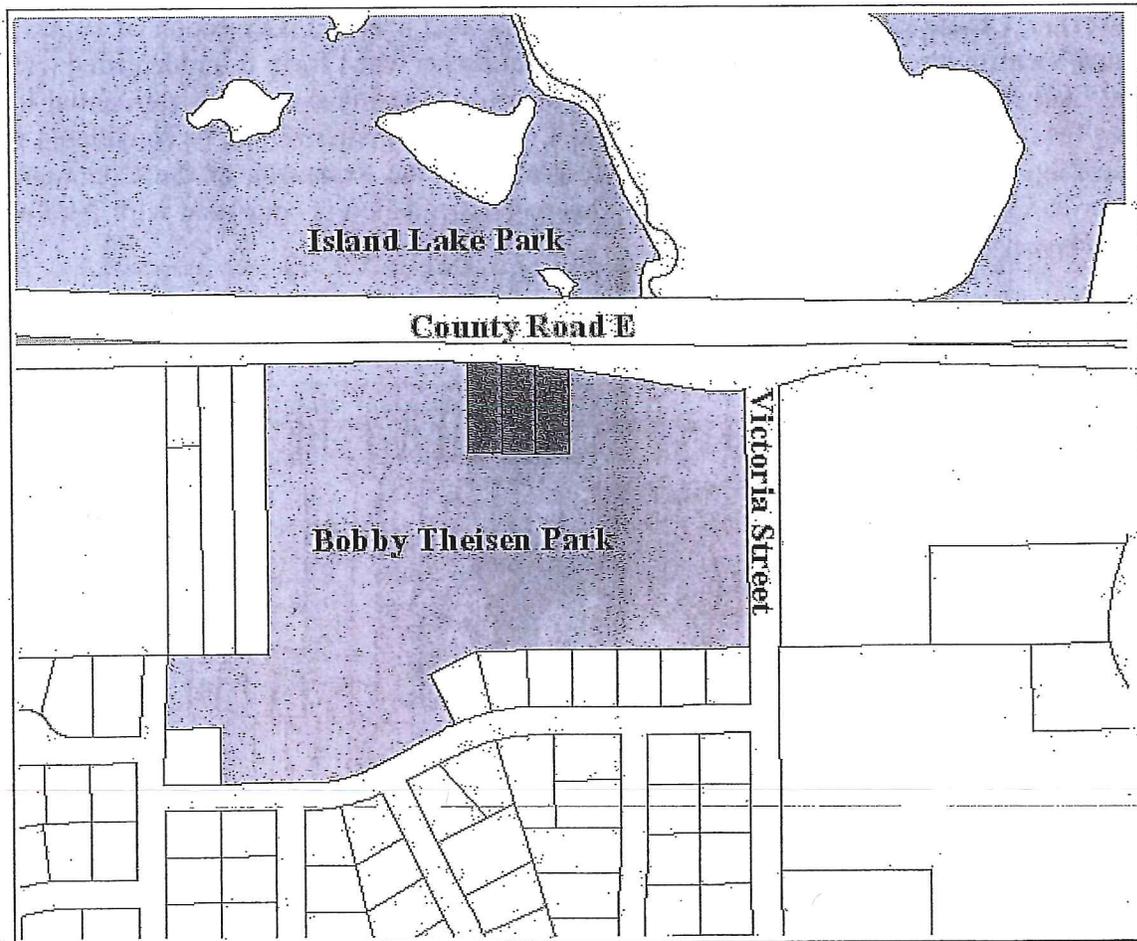
- **Shoreview Commons Park In-Holdings.** Homes located near the intersection of Highway 96 and Victoria Street should be considered for acquisition when there is an identified need; most likely in conjunction with the future expansion of the library. Other residential lots along the north side of Highway 96 east of the Community Center should be considered for acquisition when there is an identified need relating to the expansion of the Community Center or Commons Park Enhancements. This recommendation is consistent with the *Core Area Framework Plan*.

Shoreview Commons In-Holdings



- **Gospel Hill Mission Property.** When an opportunity arises, consider the acquisition of easements along Snail Lake for a public trail with access to the Highway 96 Regional Trail.
- **Bobby Theisen Park In-Holdings.** Three single-family homes on County Road E are surrounded by the park property. Although there is not an immediate need, the City may purchase these properties in the future if recreational needs dictate. This acquisition would enable the City to complete the park boundary and expand the recreational area.

Bobby Theisen Park In-Holdings



- **United Tower Property.** This property lies adjacent to Grass Lake in the Snail Lake Regional Park. At least a portion of this property should be considered for incorporation into Snail Lake Regional Park in the event that the tower use is ever eliminated.
- **Outdoor Educational Classroom.** The abundance of open space throughout the community provides an opportunity to create an outdoor environmental learning center for youth, which could be used to teach children about nature and environmental issues. The City may work

with both the Mounds View School District and Roseville School District and Ramsey County to further explore this idea.

Commons Master Plan

- Explore the construction of an outdoor water play area. The master plan includes the development of an outdoor water play area to replace the current outdated and underutilized wading pool. In the late 1990's, the City designed and bid a custom water play area, however, the bids were rejected because they exceeded the budget estimates. An outdoor water play area would be a significant enhancement and revenue producer.
- Program other key elements of the Master Plan in the City's Capital Improvement Program.

Candidate Areas for New Parks

For those areas identified as Candidate Areas, the City may pursue acquisition for the development of neighborhood parks or mini-parks in these neighborhoods. Acquisition of property may only occur as part of a private decision to develop by the property owners and during the review of development applications.

Athletic Facilities

The City will continue to work with other communities and school district to implement the recommendations of the Athletic Facility Needs Analysis. These recommendations included:

- Closely monitor and evaluate potential for a tournament sports complex on the TCAAP property.
- Evaluate cooperative use agreements with the School Districts for enhanced use and improvements of outdoor youth baseball and soccer fields.

Cooperative Parks Planning Efforts

The City will continue to participate with Ramsey County and the school districts in multi-jurisdictional park planning efforts when opportunities become available to meet the recreational needs of the community.

Parks Programming

The City's parks and recreation program will continue to respond to the changing demographics and needs of the community. The City will continue to evaluate its park facilities and programs in light of the community's recreational needs.

Bobby Theisen Park

Bobby Theisen park is a 15 acre park located at 3575 Vivian Street, at the corner of County Road E and Vivian Street and across the street from Island Lake School. The park consists of roughly three terraced areas, with the first containing the parking lot and hockey area, the second the tennis courts and the third, the soccer field and wetlands. Also at the second terrace are three inholding properties. The adjacent school makes use of the park's open field area, and likewise, the school has a new play structure available to the public for use.

Existing facilities:

- Soccer field/ Football field.
- 4 tennis courts (one use for in-line skating).
- 1 Basketball hard court area.
- Skating rink.
- Open skating.
- Warming house/Picnic shelter (capacity 15).
- Picnic table.
- Parking.
- Connecting trails.
- Open field area.
- Trails.
- Portable restroom.

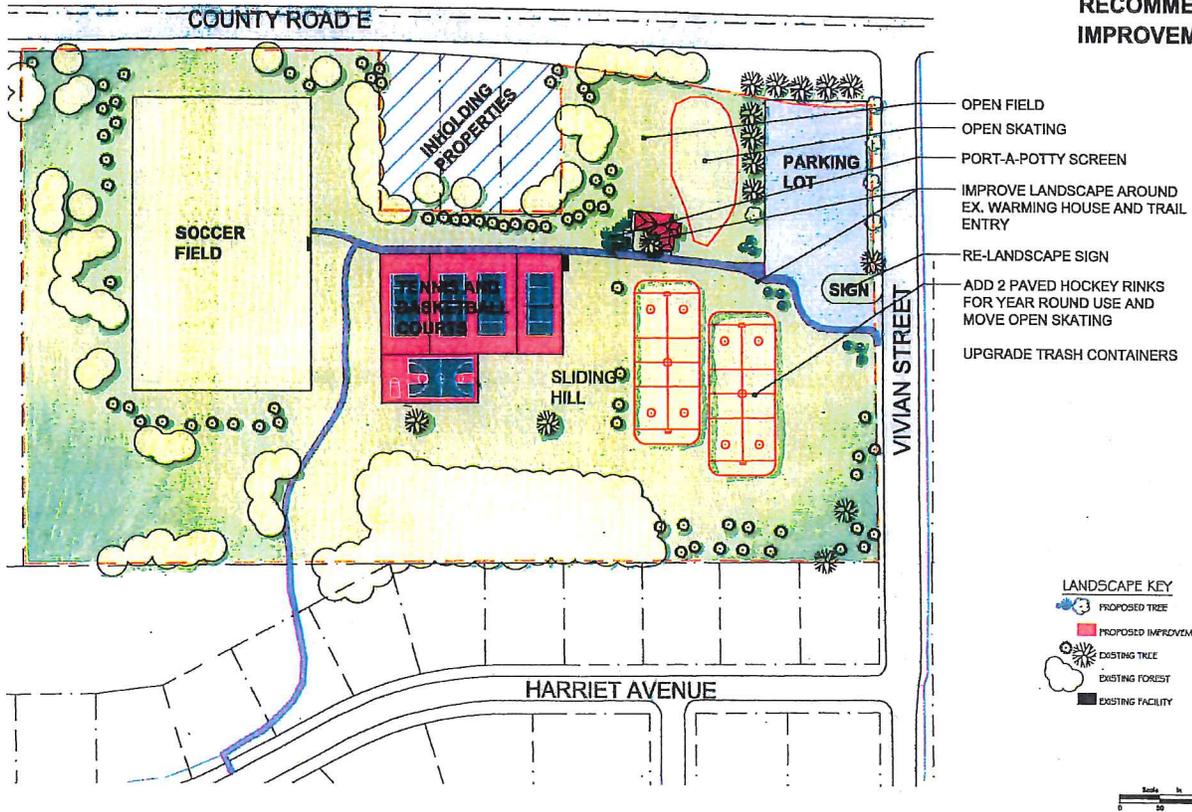
Park issues:

- Heavy clay soils causing heaving and cracking of paving (tennis courts).
- Boards needed around roller hockey rink in tennis court.
- Warming/Shelter house landscaping.
- Park identification sign landscaping.
- Possible use of the three residential inholdings.
- Screening & location of portable restroom.
- General landscape improvements.
- Trail/park sign improvements.
- Under utilized fields.
- Under utilized hockey rinks.

Plan considerations:

Plan alternatives considered making converting the inholding properties to recreational uses, however no significant park use was identified for those properties. Plans also considered alternatives for the skating and warming house area and alternative uses for the open field areas such as ballfields and open recreational fields.

**BOBBY THEISEN PARK
RECOMMENDED
IMPROVEMENTS**



Park improvement recommendations:

- Adding a new skating rink.
- Move open skating area adjacent to warming house and parking lot.
- Landscape warming house/picnic shelter and park identification sign.
- General landscaping of park and trail entrances into the park.
- New trash receptacles and recycling area.
- Relocated porta-potty with screen.
- Revitalize tennis courts base and surface.

TO: MAYOR AND COUNCILMEMBERS

**FROM: TERRY SCHWERM
CITY MANAGER**

DATE: MARCH 3, 2016

SUBJECT: WILSON PARK IMPROVEMENTS

INTRODUCTION

The City's current 2016 Capital Improvement Program (CIP) includes projects involving the replacement/rehabilitation of the playground equipment at Wilson Park, as well as the addition of a park shelter. Staff is seeking City Council direction regarding these improvements to Wilson Park.

BACKGROUND

For the past several years, the City's Capital Improvement Program has included a project involving the replacement and relocation of the playground equipment at Wilson Park. The project was initially planned in 2012, however, it has been delayed over the years due to higher funding priorities in the CIP. After inspecting the playground equipment last year, our parks staff is strongly recommending that the playground equipment be replaced in 2016. The staff was originally hoping to rehabilitate the equipment, however, after meeting with the playground manufacturer, it was discovered that the existing equipment could not be rehabbed since they are no longer making parts for the equipment. In addition, the poor soils in the area has exposed some of the footings for the playground equipment and it is no longer possible to repair the existing equipment.

The Wilson Park Master Plan that was completed in the mid-2000's (attached) anticipates that the playground will be moved from the south side of the tennis courts to the north side of the courts. The primary reason for this move is to make it more accessible to park users attending youth baseball games, and to move it away from the backyard of homes on County Road F. The existing hockey rink would then be relocated to the area on the west side of the parking lot adjacent to the pond. The CIP also includes the installation of a park shelter at Wilson Park. Park shelters are typically placed close to the playground areas to create some shade and an area to picnic for park users.

To insure that we develop a practical set of plans to accomplish these projects, staff is suggesting that WSB Associates be hired to prepare more precise layouts of the playground and shelter locations and develop a specification to obtain quotes for the work. The cost of having WSB develop these plans would be somewhere in the \$6,500-\$10,000 range.

Once the plans are completed and playground proposals received, staff will work with the Parks and Recreation Commission and also hold a neighborhood meeting at the park to receive feedback on the playground and shelter plans.

Staff is seeking Council direction to proceed in this manner to replace the playground equipment at Wilson Park.

Wilson Park

Wilson Park is a 13 acre park located at 815 County Road F. A parking lot and trail are accessed off of County Road F with trail connections to Victoria Street N. and West View Ct. to the east and north respectively. The park is square in shape and situated behind residential properties on all four sides.

Existing features:

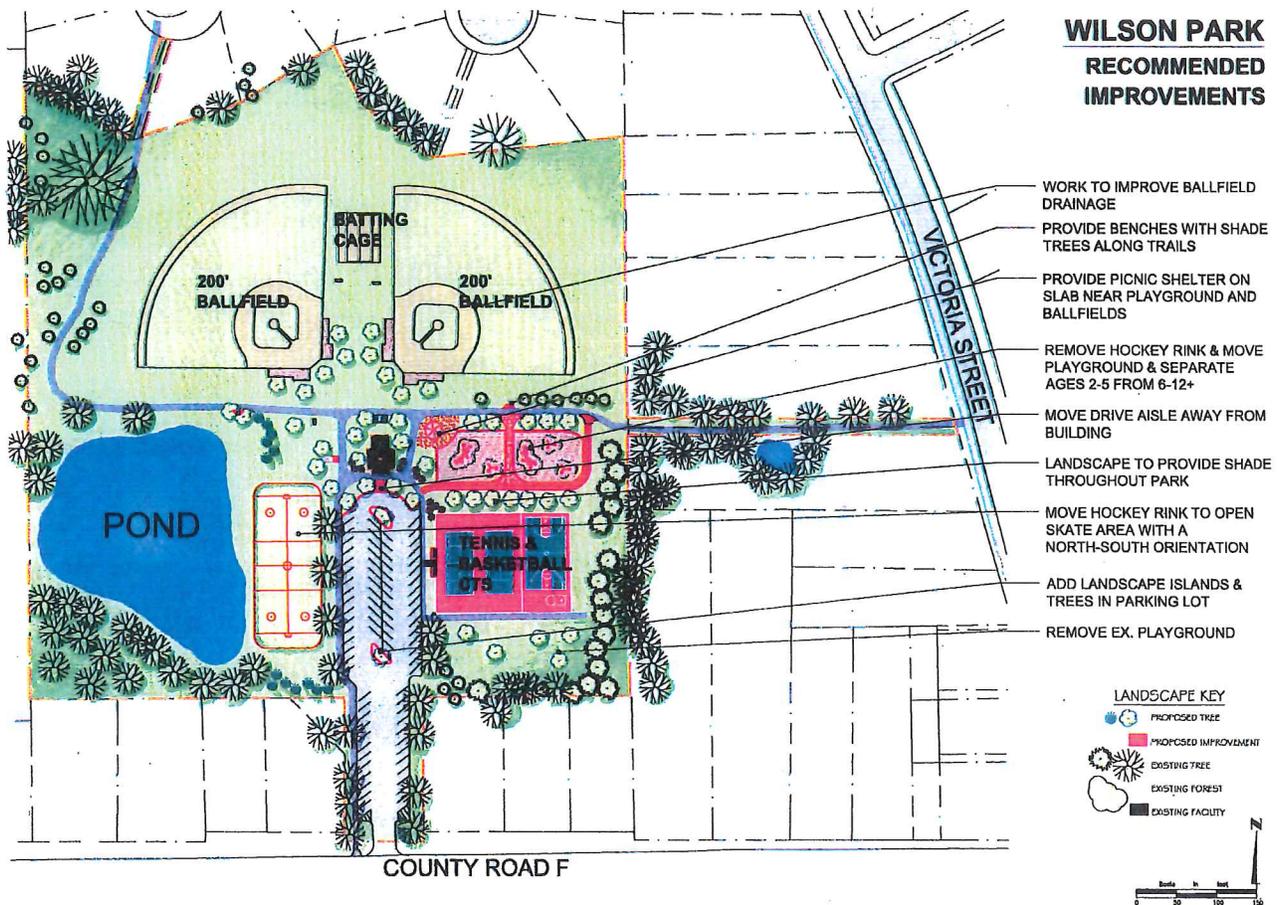
- Warming shelter.
- Hockey rink.
- Skating rink.
- Trails.
- Basketball hard court area.
- 2 tennis courts with lights.
- 2 Little league ballfields.
- Batting Cage .
- Parking lot (88 stalls).
- Portable restrooms.
- Drinking fountain.

Park issues:

- Hockey under used and poorly situated in a east-west configuration .
- Insufficient parking.
- Warming house too close to drop-off.
- Playground poorly located away from ballfields and shelter.
- Portable restrooms unscreened.
- No picnic shelter.
- Lack of shade and landscaping in the park.
- Lack of shad in parking lot.
- Trespassing on private property on the east side of park.
- Poor ballfield drainage.

Park considerations:

Alternative park designs included the removal of the hockey and open skating, expansion of parking onto the open skating area, moving the entrance trail to the east side of the entrance drive.



Park improvement recommendations:

- Move hockey rink to the open skating area.
- Add landscape islands to the parking lot.
- Move drop-off away from warming building and add trail segment.
- Add trail benches.
- Move playground and develop an age separated playground in between the ballfields and tennis courts.
- Add seating area by tennis courts.
- Screen portable toilets with architectural screen and landscaping.
- Add trail to drinking fountain.
- Add shade trees and landscaping.
- New trash receptacles and recycling area.
- Add picnic shelter adjacent to playground.

