



**CITY OF NORTH OAKS**

**Regular City Council Meeting**  
**Thursday, October 12, 2023**  
**7:00 PM, Community Meeting Room, 100 Village Center Drive**  
**MEETING AGENDA**

**Remote Access** - *City Council members will participate in person in Council Chambers (Community Room, 100 Village Center Drive, Suite 150, North Oaks, MN) during the meeting. Members of the public are welcome to attend. Any person wishing to monitor the meeting electronically from a remote location may do so by calling the following Zoom meeting videoconference number: 1-312-626-6799, Webinar ID: 865 7599 4590 or by joining the meeting via the following link:  
<https://us02web.zoom.us/j/86575994590>.*

**1Call to Order**

**2Roll Call**

**3Pledge of Allegiance**

**4Citizen Comments** - *Members of the public are invited to make comments to the Council during the public comments section. Up to four minutes shall be allowed for each speaker. No action will be taken by the Council on items raised during the public comment period unless the item appears as an agenda item for action.*

**5Approval of Agenda**

**6Consent Agenda** - *These are items that are considered routine and can be acted upon with one vote.*

Approval of Special City Council Meeting Minutes of 9.20.2023 - Security Initiatives  
[09.20.2023 Special City Council Minutes.pdf](#)

Approval City Council Meeting Minutes of 9.21.2023  
[09.21.2023 City Council Minutes.pdf](#)

**7Petitions, Requests & Communications**

Security Update - Ramsey County Deputy Matt Lassegard

Appearance by State Senator Heather Gustafson

Mark Rehder Forestry Update: Seedling Request, potential fall Brush pick up, status of storm clean-up: downed brush on Streets / trails

**8Unfinished Business**

8aDiscussion and possible action on LJFD Fire District

[LJFD district discussion.pdf](#)

8bUpdate on Master Infrastructure Plan

[Road Standards Memo.pdf](#)

8cConsider Joint Powers Agreement with WBT for municipal water and sewer system connections

**9New Business**

9aDiscussion and possible action on withdrawal request for Comprehensive Plan amendment to allow water for Red Forest Way South Phase II

[2023-10-12 RFWS CPA CC Packet.pdf](#)

9bConsider Ordinance amending City Code Title XV, Chapter 151, regarding solar energy systems ordinance

[2023-10-12 CC Packet\\_solar ordinance.pdf](#)

9cConsider Ordinance amending Chapter 151 of the City Code regarding signs in the RSM-Residential Single-Family Medium Density District

[2023-10-12 CC packet\\_Sign ordinance.pdf](#)

**10Council Member Reports**

**11City Administrator Reports** - *Road striping, CLCA, security, deer program, Cty Rd J*

**12City Attorney Reports**

**13Miscellaneous**

**14Adjournment** - *The next meeting of the City Council is November 9, 2023.*

**North Oaks City Council  
Special Meeting Minutes  
North Oaks City Council Chambers  
September 20, 2023**

**1. CALL TO ORDER**

Mayor Wolter called the meeting to order at 5:05 p.m.

**2. ROLL CALL**

Present: Mayor Krista Wolter, Councilor Sara Shah in Community Room, Councilors John Shuman & Mark Azman via zoom. (Azman joined at 5:42 p.m.)

Absent: Councilor Tom Watson

Staff Present: Administrator Kevin Kress, Attorney Bridget Nason

Others Present: Videographer Kenny Ronnan.

A quorum was declared present.

**3. Presentations and Discussion on North Oaks Security Initiatives Phase 1**

Resident Nancy Hans, 10 Don Bush Road, asked what the cameras are going to improve for North Oaks as far as safety. She does not believe cameras are a solution to the problem, the issue is with lack of enforcement. Some of the vandalism in the community has been committed by North Oaks teens, and other crime has been others juveniles outside of North Oaks that are not going to be prosecuted. North Oaks is no different than any other community, crime is happening everywhere.

Resident Manny Steil, 25 Robb Farm Road, started by complimenting the Council and NOHOA for the work that they are putting in and how they are working together. He believes that multiple solutions, as the Council and NOHOA are proposing, will be effective in reducing crime. He is in favor of gates at some point in time as well. He recommends that the no trespassing sign is moved by the Gilfillan entrance so it is more visible.

Aaron Harkins, 21 Evergreen Road, moved to North Oaks three years ago because of low crime. He is in favor of cameras and future security measures, including potentially gates. He thanked the City and NOHOA for looking into these options.

Julia Huppert, NOHOA Board Member, stated NOHOA shares the similar goal of safety and security. The NOHOA Safe committee has questions on data privacy and storage. They would like to see more visible “No trespassing signs” at the entrances. She also mentioned the annual road stop and check car program. Last year they stopped about 100 vehicles to check for residency, with about 10 being turned around and asked to leave as not invited or guest of community.

Councilor Shuman spoke to the concern of stolen cars not being picked up by license plate readers. This doesn’t diminish the value of the readers. Finding the source of stolen vehicle, and continuing investigation from there is still important and effective license plate reader.

Mayor Wolter, stated she's heard rumor that they are teenagers in our community involved. She has no report of this from Police. Having video of any piece of crime helps in the enforcement of the crime. Prosecution of criminals once caught is a whole another issue. Cameras help deter criminals from coming in.

In the East Gilfillan incident last month, 1 perpetrator was found to be from Lino Lakes. In a separate incident, a fully masked person in the MEWS at Waverly Gardens walked in the apartment of person, stole wallet and went into hallways and stole a purse from another, then walked out from the underground parking garage. They had a camera that showed who was walking out with the purse and wallet, which prevented a Waverly Garden employee from being incorrectly charged.

She noted that Council is here to answer questions, and thankful to NOHOA board that is willing to work with the Council on solutions.

Emily Viau, representative from Convirgent Systems, stated they focus on security technology such as security access system, card readers, and cameras systems. Genetec is the technology and Convirgent would install it, but the housing of the storage of the data is handled by Genetec. The owner of the system is the only one who can grant access to the Ramsey County Sheriff.

Attorney Bridget Nason stated there are 3 different levels of request for data: civil, criminal with a search warrant, or data practices piece which could classify it as government data. Typically, this data would be considered classified security data, however could be requested. Private property cameras are property of that owner, and typically is given to Police upon request. But owner can also say no. If the data is "government data" it would be maintained by the city under data practices and subject to regulations of government regulations.

Nancy Hans, 10 Don Bush Road, asked if the cameras are license plate readers or if they are on metal poles, examples of where have they been installed, what is the success rate and what is the vandalism issues which may incur a cost.

Courtney, account executive for Genetec, introduced their staff participating in the meeting. Aaron Wienken, executive from Genetec, is able to answer questions on the reader technology perspective. He stated the cameras have been deployed all over the world and in every single state of U.S. There have been only 3 instances of vandalism in U.S. that impacted the system: gun shot, baseball bat. From a data standpoint, it resides with the purchasers of the camera. Genetec has no access to it. It will be in cloud, and upon request be transferred to a specific user.

Nason stated if NOHOA contracts with vendor it would be NOHOA data, therefore would not be government data. If City is contracting party, the data would be government data under data practices act. Security Data is not public data. Issue to be discussed is of how City could contract with NOHOA to provide Security services. City would provide funds to NOHOA to enter vendor contract.

Shuman confirmed that is the intent for the City to bring forth the technology and connections, and NOHOA take it from there.



Wolter asked Nason if better to be under Data Privacy act? If goal is to keep data secure, would it be better as a private contract such as NOHOA as a private party.

Bill Long, 19 Evergreen Road, spoke as secretary of NOHOA. He stated the security of North Oaks is not in the purview of NOHOA, it is the City. It is something he feels need much further review by NOHOA since this is something NOHOA is not set up for historically.

Wolter reminded everyone that we are private community because we both own to middle of road.

Resident Nancy Hans referenced John's letter dated August 7, 2023, to "ensure data privacy the officer would only be accessed by Ramsey County Sherriff's office with specific reason. " Shuman restated that Sheriff Rammiker stated in last Council meeting that license plate readers are an important part of investigations. Those coming into our community with intent of committing a crime would have reason to take pause before doing so. Deterrent on the front end with signs and cameras. On the back end it is an important and powerful tool to help bring those responsible to justice.

Weinken stated data is encrypted, scrambled, encrypted and virtually un-hackable.

Wolters asked how the technology works. He stated the camera works by taking a color context image of the vehicle and takes overview of the entire scene, and runs the license plate. IF we choose, it could cross connect to server than could run it against the system. The job is to take the images, and give the key metadata to server in the Cloud. The Genetec system can also set up other product video cameras if desired for visual of things other than cars and tie it together.

Resident Ilya Berchenko, 2 Island Road, asked if it picks up motorcycles and bikes and if it is motion activated. Genetec confirmed that it would pick up motorcycle plates and even temporary tags, but not bicycles. The other standard camera would pick up license plates, you would need regular camera to get a video of a bike.

Mark Houge, North Oaks Company, noted that in his research the total installation costs powered by solar and communicated via wireless is less than initial cost. The cloud runner setup on pole & registered via solar power, has less installation cost.

Genetec confirmed the cost structure to connect via wires has infrastructure costs, and subscription based. Need power and cable to go back to switch and server. It's a different architecture.

Shuman stated that we are looking at a phase 1 pilot with the LDP CCR cameras easily at a minimal cost using solar. He feels a vast majority of those criminals are not coming in on bike. Recommends focus on: home burglary, car theft, home invasion which come via car. Lesser issue is bike and walkers trespassing to get to trails.

Councilor Shah asked if you can opt out. Genetec stated you can only opt out of a database match, however everything else is anonymous and just reads every single plate.

The data is retained by default by Genetic for 15 days. There is option to retain for up to 5 years if wish to pay for more storage. Most organizations choose 30 – 90 days.

Shuman would like to bring Sheriff into the conversation about how long to retain information.

Councilor Azman asking Attorney Nason for clarification for data. Attorney Nason stated it depends how the contracted with NOHOA is structured. Need language to be specific if contract for “general services” and to promote security, or if just for products. If City contracts with any entity to perform services, then essentially it could be government data.

Resident Ilya Berchenko, Island Road, feels it could be beneficial for other issues such as extreme excessive speed, finding cars. He asked how matching with National database works, and if it would show immediate notification to Sherriff. Genetec stated it will match, but it depends on if the Sherriff subscribes to it. If so they would get alerted by a match right away. He stated that he has reviewed results from a similar system with the President of a HOA in Houston and they showed a 70% reduction in crime. He confirmed that there was positive results as noted by the Genetec.

Bill Long, 19 Evergreen Rd, asked if there are studies that show a reduction in crime from before to after cameras. Aaron from Genetec stated they have published studies done that are on their website and that he can share with the community.

Mayor Wolter noted that Sherriff Fletcher stated it would definitely help speed up investigations. She stated that the signage piece was an important component as deterrent.

Kress asked Mr. Long if there are other reasons that NOHOA and North Oaks Company are not interested in owning the system, as they both own the easements.

Bill Long stated that they would just need to look closely at it. The NOHOA board is in favor of increasing safety and security in North Oaks.

Mark Houge, North Oaks company, wondered what if they put the signs and poles up and not actually record to see if helpful as test pilot. Hill Farm Condo’s would be willing to follow the lead and either install the license plate reader camera, and also install gates as they have a good queuing area. They may be open to capturing the data and holding the data if it doesn’t create a new liability. Eventually the data would be the Condo sub-association.

Paul Germscheid, 3 Summit Court, asks if states there is no requirement for front license plate. Does it read both front and back, and does it read those that are screened? Genetec stated the system prefers to capture the back as that is where most plates reside. They could put a 2<sup>nd</sup> camera facing the other way but usually redundant. Some plates has a reflective cover designed to smear the flashing light, however the Genetec system allows the camera to tone it down and

still capture the number. For 75% of the plate covers, the IR light still can see them in the view because it can see through the cover.

**13. MISCELLANEOUS**

None.

**14. ADJOURNMENT**

**MOTION by Wolter, seconded by Shah, to adjourn the meeting at 6:26 p.m. Motion carried unanimously by roll call.**

\_\_\_\_\_  
Kevin Kress, City Administrator

\_\_\_\_\_  
Krista Wolter, Mayor

Date approved \_\_\_\_\_

**North Oaks City Council  
Meeting Minutes  
North Oaks City Council Chambers  
September 21, 2023**

**1. CALL TO ORDER**

Mayor Wolter called the meeting to order at 7:00 p.m.

**2. ROLL CALL**

Present: Mayor Krista Wolter. Council Members Mark Azman, John Shuman, Sara Shah, Tom Watson.

Staff Present: Administrator Kevin Kress, Attorney Bridget Nason.

Others Present: Videographer Kenny Ronnan.

A quorum was declared present.

**3. PLEDGE OF ALLEGIANCE**

Mayor Wolter led the Council in the Pledge of Allegiance.

**4. CITIZEN COMMENTS**

None

**5. APPROVAL OF AGENDA**

**MOTION by Watson, seconded by Shah, to approve the Agenda. Motion carried unanimously by roll call vote.**

**6. CONSENT AGENDA**

**a. Approval of Licenses:**

**Mechanical: Krinkies Heating & A/C Company; O'Boys Heating & Air; Total Mechanical Solutions**

**b. Approval of City Council Meeting Minutes of August 24, 2023**

**c. Approval of City Financials for the month of September 2023**

**EFT's: 000740E – 000751E**

**Check #15038 - 15072**

**d. City Auditor Agreement - 3-year Engagement**

**e. Resolution #1492 Consenting to an Amendment to the City's Senior Housing Revenue Refunding Note (Shoreview Senior Residence Project) Series 2015**

**f. Approve CUP resolution for excess garage space over 1,500 square for property located at 12 Columbine Lane**

**g. Gambling Permit for the Children's Hospital Association Raffle at the North Oaks Golf Club**

**MOTION by Shuman, seconded by Azman to approve the Consent Agenda.**

Member Watson suggested holding a discussion on having a new auditor in a given period of time.

**MOTION by Shuman, seconded by Azman to approve the Consent Agenda as amended. Motion carried unanimously by roll call vote.**

## **7. PETITIONS, REQUESTS & COMMUNICATIONS**

### **a. Deputy Matt Lassegard Report**

Deputy Lassegard gave a summary of the written report noting there was 214 calls for service in August. He stated there was two burglaries on August 14, 2023. He encouraged residents to lock doors to avoid burglaries as well as to watch out for children and slow down while driving since school has begun. He added not to call him for immediate issues but to call 911 instead.

Deputy Lassegard stated a Block Captain informational meeting is on October 17, 2023 at 6:30 p.m. at the patrol station. He provided a reminder of recreational fire rules such as not burning leaves, having the fire 25 feet away from structures, and only having fires when the wind speed is below 10 mph. He noted that he provides updates in the *North Oaks News*.

## **8. UNFINISHED BUSINESS**

### **a. Discussion and possible action on North Oaks security initiatives**

Member Shuman provided a review of the North Oaks security initiative ideas. He emphasized the importance of having neighborhood watches and getting to know neighbors. He asked the Council to support an ear marker of \$5,000 for the ENS notification system and empower Administrator Kress to begin discussions with Rave Mobile Security about contracts. He proposed earmarking \$40,000 for the license plate recognition initiative with conditions of the task force having their questions and concerns answered, ensure the vendor is capable of supplying the product, and having clear direction from Staff on who will own the system and how the data will be stored.

**MOTION by Shuman, seconded by Wolter, to approve \$45,000 for the two initiatives conditioned on the following:**

- **The task force has all questions and concerns answered**
- **Ensure the vendor is capable of supplying the product**
- **Have clear direction from Staff on ownership of the system and how the data will be stored.**

Member Shah asked if it would be a pilot and for how long. Member Shuman agreed that it would be a pilot for 1 year and then will reevaluate after the pilot is completed.

Member Shah asked why the six locations were chosen for the pilot. Member Shuman replied that it was based on the volume of traffic that goes through the entrances. He explained that the system allows additional pilots to be included if needed.

Member Watson suggested having the proposal include specific prices on what is included in the \$40,000.

Member Azman asked where the cameras would go. Member Shuman replied that NOHOA and North Oaks Company have granted permission to be on any land they control. Mayor Wolter noted that they would need to figure out who is paying for each portion.

Bill Long, NOHOA Secretary, clarified that NOHOA passed a resolution that stated the task force would decide the best option moving forward but did not remember passing anything that authorized cameras to be placed on NOHOA land.

Member Shuman noted that Andrew's letter endorsed his letter that specifically stated it was allowed to put cameras on NOHOA land.

Member Watson stated he would be in favor of having the money in the budget.

Member Shah asked who would be involved in the messaging of the Rave Mobile service. Member Shuman replied that it would be a select number of Staff and would be careful on who has administrative rights.

Member Shah expressed her concerns on how to handle the privacy aspect. Member Shuman agreed.

Member Watson suggested Administrator Kress come back to the Council with an update from the task force. The Council agreed.

**Motion carried unanimously.**

## **9. NEW BUSINESS**

**a. Public Hearing regarding interim Ordinance prohibiting establishment and operation of cannabis businesses. Consider adoption of ordinance and summary publication resolution**

**MOTION by Wolter, seconded by Shah to open the public hearing at 8:01 p.m. Motion carried unanimously.**

No public comments.

**MOTION by Watson, seconded by Azman to close the public hearing at 8:01 p.m. Motion carried unanimously.**

Attorney Nason gave a presentation regarding the proposed interim Ordinance prohibiting establishment and operation of cannabis businesses.

Attorney Nason asked the Council to consider adopting an interim Ordinance (moratorium) prohibiting the establishment and operation of cannabis businesses until January 1, 2025, unless earlier terminated by Council action and to consider approval of the summary publication resolution.

Member Watson asked if the item was mirroring the role of local government has when it comes to regulating liquor and tobacco sales. Attorney Nason replied that it does not because the City has much more authority to regulate tobacco and liquor than cannabis.

**MOTION by Azman, seconded by Shuman, to adopt Ordinance 2023-146 an interim ordinance authorizing study and imposing a moratorium on the establishment and operations of cannabis businesses within the City of North Oaks and Resolution #1494 approving the publication of the summary of Ordinance 2023-146. Motion carried unanimously.**

**b. Consider Ordinance prohibiting cannabis use in public places**

Member Shah noted she received a question from a resident regarding cannabis use on the beach and park and asked what the best response is for those questions. Administrator Kress replied that if it is in a public place, to inquire with Andrew Hawkins from NOHOA.

**MOTION by Watson, seconded by Azman, to adopt Ordinance 2023-147 amending City Code Title XIII: General offenses, Chapter 130, adding section 130.05 prohibiting the use of cannabis products in public places. Motion carried unanimously.**

**c. Consider Joint Powers Agreement with White Bear Township for municipal water system connections**

Member Watsons gave a summary of the item and explained the letter in the agenda packet is a first draft public version of the proposed JPA White Bear Township agreement. The proposed new agreement is meant to replace the 1999 agreement. The City received a notice from White Bear Township in May to cancel the JPA 1999 agreement in 2024. Residents from White Bear Township complained about giving water the North Oaks.

Member Watson explained that the City would like to continue to be in the JPA. White Bear Township has agreed to withdraw the cancelation, and service all cities that had municipal water in the 1999 JPA. The proposed draft does not include a sewer section but will include the language from the 1999 agreement in the new draft. At the moment, the possibility of onsite septic and wells is removed. He referenced exhibit A and B that display the map of the service area and the cost of service are not included in the first draft yet. He added that the City will show that they will cooperate with any ways to conserve water that White Bear Township does within the service area.

**d. Consider resolution approving 2024 preliminary budget/levy**

Administrator Kress gave a summary of the item and explained he would like to adjust the levy based on the discussion with Member Shuman's proposal. He noted he would like to add an additional \$15,000 to the levy with the understanding that it would be lower eventually. The increase would cause an 11.85 tax rate.

Member Watson stated that he would like a discussion with the Fire Department about services and costs for the City.

Member Watson asked how much underspending occurs on an annual basis. Administrator Kress replied that it varies but it is between \$50,000-\$100,000.

**MOTION by Azman, seconded by Watson, to adopt Resolution #1495 a preliminary 2023 tax levy, collectible in 2024.**

Member Shah agreed with Member Watson's concerns and would be in support of having a work session to discuss possible options and to have questions answers.

**Motion carried unanimously.**

**10. COUNCIL MEMBER REPORTS**

Mayor Wolter shared about the meeting regarding the master infrastructure plan. Sambatek will be working on possible sewer and water solutions and creating an interactive website for residents.

Member Azman shared that Pat Cooke from Ninenorth will be taking a job with the Champlin Community Television and helping replace him.

Member Shah attended the Ramsey County League of Local Government (RCLG) Board meeting. She gave an update on the Fire Department and noted the Safer Grant will help the three cities being serviced with their budget. The Fire Board has asked each city Council to vote to move forward with the fire district.

Member Watson stated that on Saturday there would be a cross country race at Chippewa Middle School.

Member Shuman attended the VLAWMO meeting, and shared that he is working with them to address curly pond leaf causing a smell on the lake when it dies. The Watershed District is working on mechanical removal and laboratory analysis.

**11. CITY ADMINISTRATOR REPORTS**

**a. Status updates: Farm Fest table, PC Solar and Signage Public Hearings, DNR Seedling Order, Deer Management tags**

Administrator Kress shared that there would be two public hearings at the Planning Commission meeting regarding solar and signage. The Planning Commission will also review garage standards. He added that he would begin the process of getting deer management tags but the Council will need to make a decision to authorize the contract.

**12. CITY ATTORNEY REPORTS**

None.

**13. MISCELLANEOUS**

None.



**14. ADJOURNMENT**

**MOTION by Azman, seconded by Shuman, to adjourn the meeting at 9:09 p.m. Motion carried unanimously by roll call.**

\_\_\_\_\_  
Kevin Kress, City Administrator

\_\_\_\_\_  
Krista Wolter, Mayor

Date approved\_\_\_\_\_

**MEMORANDUM**

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**DATE:** July 13, 2023  
**TO:** Honorable Mayor and City Councilmembers  
**FROM:** Kevin Kress, City Administrator  
**SUBJECT:** Fire District Discussion

Budgeted Amount:	Actual Amount:	Funding Source:
N/A	N/A	N/A

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**For Council Consideration**

The Lake Johanna Fire Department Board has requested each City discuss and provide feedback on the concept of a fire district as it relates to the governance of LJFD.

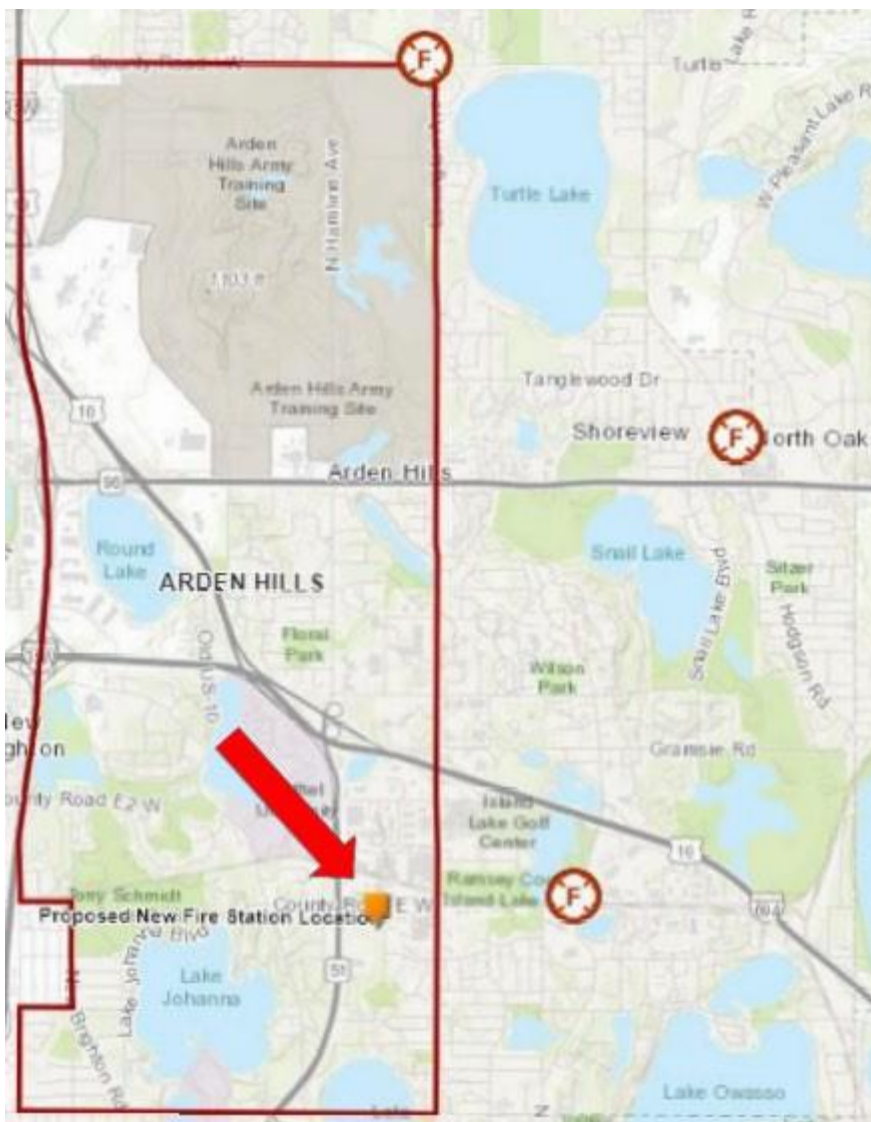
**Background**

The LJFD Board has been considering the possibility of a fire district since a legislative change was made that made it easier to create a fire district. This has been in tandem with reviewing options for additional staffing, as well, as the construction of a new fire station. Tonight’s discussion is intended to be focused on the possibility of a fire district, updates have also been provided regarding staffing and the proposed station.

*Brief History*

In 2018, the LJFD underwent a needs study.

In short, the study indicated a need for a new station for additional spaces for equipment, training, administration, etc. Ideally, the station would be located near County Road E but West of the railroad tracks that make response difficult from the Victoria Station. Following completion of the new station, it is anticipated the Victoria Station would be closed, and the current station on Lexington and County Road I would be converted to a 24/7 staffed station. Today, the Lexington Station is only staffed during the day by command staff, and the Victoria and Hodgson Stations are staffed by 24/7 Duty Crews. The map below shows the location of each station (marked by circled red F’s) and the proposed station (orange marker with red arrow pointing at it).



The new station location will provide better response times to both southern Arden Hills and Shoreview; converting the Lexington Station to 24/7 will also provide better coverage to North Oaks, northern Shoreview, and TCAAP when built. Between 2019 and 2021, the North Oaks City Council, along with the other two cities, passed resolutions of support for the new station, and have also approved a Joint Powers Agreement to facilitate future funding of the new station.

Along with the new station project, the department has also been discussing staffing, specifically hiring at least six new full-time Captains. The board did recommend that the new staffing was their preferred option moving forward. The department previously applied for a SAFER Grant and was unsuccessful at the time, and is pursuing one this year, too. The fire department gave a presentation to the City Council in July and August of 2022, and the City Council was supportive of applying for the SAFER Grant and the associated new positions.

#### *Fire District*

The board has also been discussing the possibility of creating a fire district, which would be its own separate taxing authority. A fire district is viewed as a more efficient form of governance versus the current board as the fire district board could independently approve projects. The fire district would bring the fire department off of each City's tax rolls, but would still have implications to each City. The first being how would the fire department's cost be split amongst the cities. The cities would have the option to split the cost based on a formula, which could be similar to the one we use today. Another option would be to have it based on overall market value. The

market value option would likely increase the cost to North Oaks, while decreasing the cost to both Arden Hills and Shoreview. It is believed that should the cities use a formula with the fire district that the cities would still then be responsible for presenting the fire district's items through our Truth in Taxation process, which may give the optics to residents that the fire district taxes are part of the city's taxes. Another point to consider, is while the fire district would still have one elected from each City for representation, the district would be acting independently at the direction of the fire district board. Attached is information that has been presented to the current board for consideration (see Attachment A); the board has not yet made a recommendation for or against a fire district, but is looking for feedback from the City Councils.

### *Constructing a New Headquarters*

The three cities, via a Joint Powers Authority (JPA), have been awarded approximately \$6.37 million in State funding for the construction of a new headquarters (must be spent or encumbered by 12/31/2027). Recent estimates have put the cost of the station close to \$19 million, which leaves approximately \$13 million to be paid for by the three cities. North Oaks' portion of this would be 14.4 percent, or \$1.87 million. Should the three cities decide to move forward with construction, the City of North Oaks would likely need to bond for its portion of the project. Assuming a 5 percent interest rate, it can be assumed the annual cost to the City would be approximately \$165,600 per year. Our current levy is \$2,182,645, this addition would equate to a 7.58 percent increase in overall levy, respectively. Keep in mind we focus on tax rate more than overall levy increase as this is what is charged to our residents. I won't know what our tax capacity is until late August-September to see what this would do to our tax rate.

### *New Staffing*

The department is seeking to hire additional full-time staffing in the upcoming years. To help offset those costs the department is pursuing a SAFER Grant through the Federal Government, which would pay for the new positions for the first three years (an approximate total value of \$2 million). The cities would be responsible to pay for the positions following the grant period. Regardless if the grant is received or not, the fire department is planning to have six of these new positions in next year's budget. At full cost, the new positions would cost approximately \$900,000, with North Oaks' portion being 14.4 percent, or \$126,941. Not accounting for the future fire station cost increase, this alone represents a 5.8 percent increase to the overall levy, respectively. For 2024, the fire department is anticipate hiring these positions in March and in July, which would result in a cost savings. For 2024, the costs for North Oaks due to the Captains is estimated \$79,808. Keep in mind we focus on tax rate more than overall levy increase as this is what is charged to our residents. I won't know what our tax capacity is until late August-September to see what this would do to our tax rate. I'll have a better idea of impacts in late August-September for overall levy and tax rate once I receive the information from the County.

### **Budget Impact**

The City will need to consider how to balance current spending priorities along with the proposed fire department costs. The City could push out the fire station project and increase the levy in anticipation of construction. The proposed 2024 budget for the department is attached and included in the budget are summary tables that provide for different scenarios with and without the new station.

### **Attachments**

- Attachment A: Fire District Information Presented to the LFJD Board
- Attachment B: Proposed 2024 LJFD Budget

## Lake Johanna Fire Department Board of Directors Fire District Discussion

Revised 6/20/23

### ***Why the interest in creating a Fire District?***

In 2021, the Minnesota State Legislature amended Statute 2020, section 275.066 Special Taxing Districts adding Fire Protection Special Taxing Districts under 2990.01 giving authority for two or more cities municipalities to establish a special taxing district to provide fire protection or emergency medical services within the area of the district.

At a Board of Directors meeting, Arden Hills Councilmember and Board of Directors Representative Dave McClung informed the board members of this new legislation. At that time, it was generally agreed that this might be a good alternative for the cities to consider given significant future operating and capital funding needs in the future.

### ***Current Governance Model***

The Fire Chief reports to the Board of Directors. The Board of Directors consists of seven (7) Board Members allocated as follows:

#### City Representatives

Shoreview – 2 Board Members  
Arden Hills – 1 Board Member  
North Oaks – 1 Board Member

#### Fire Department Representatives

At-Large – 3 Board Members

The Fire Chief serves as the Chief Executive Officer and is responsible for day-to-day operations of the Fire Department, recommends policies and programs, has the authority to hire, discipline and terminate all staff.

The Fire Chief prepares operating and capital budgets for the Board of Directors. Historically, if one city is not in favor of the proposed budget(s), the budgets are adjusted until all three cities are in favor. Historically, the board voting on approving budgets does not occur until all three cities are in favor of the budgets. Once the board approves the operating and capital budgets, each city must individually approve their percentage share of the budgets for the following year.

The Board of Directors has adopted a "Fire Distribution Formula" based on the following criteria: 25% Population, 25% Households, 10% Market Value, and 40% Fire/EMS calls. For 2023, the cities' share of the budget is: Arden Hills 24.9%, North Oaks 14.4%, and Shoreview 60.7%. This formula is also averaged over a five-year period creating stability. For historical purposes, no city has gone up or down more than 1.4% in total between 2015 and 2023. Year over year, no city has gone up or down more than 0.5%.

***Highlights of the Current Governance Model:***

1. Ensuring continuity within the business structure has proven to be difficult which leads to the revisiting of previously "decided" upon items which has led to significant delays to changes to meet today's needs.
2. While the cities do work well together, it can, at times, be difficult to operate by 100% consensus across all three cities and the board (four separate majority votes) which has led to significant delays to change to meet today's needs.
3. Although the history of "why" is known and understood, having subordinates (firefighters) as board members is no longer appropriate for the business. This is not a good business practice for the future.
4. Today, there is not a process to ramp up the budget to prepare for upcoming changes. Committing financially to anything beyond the next 12-month period is absent.

***Fire District Governance Model***

State law requires that Fire District Board Members must be made up of elected members of the governing body of the political subdivision and serve at the pleasure of that participant's governing body.

One example of what the Board could look like with the current three-city makeup:

*City Board Representatives*

Arden Hills – 2 Board Members

North Oaks – 2 Board Members

Shoreview – 3 Board Members

The Fire Chief would report to the Fire District Board.

The Fire District Board may elect to form an *Operating Committee*. This committee would likely include the City Managers/Administrators from the member cities. This Operating Committee would meet monthly with the Fire Chief and other staff as needed, and report to the board at each regular meeting.

The Operating Committee would likely have the authority to approve budgeted expenditures during monthly meetings. Non-budgeted expenditures would likely need to be approved by the Board. A list of bills would be provided to each member of the operating committee monthly.

***Special Taxing District***

State Statute allows for two taxing options for the Fire District:

- a.) The Board may levy a tax on the taxable real and personal property in the district. The proceeds of the levy must be used as provided in statute.

- b.) The Board may apportion its levy among the political subdivisions under a formula or method. The amount of the levy allocated to each political subdivision must be added to that political subdivision's levy and spread at the same time and in the same manner as provided by law for other taxes. The proceeds of the levy must be collected and remitted to the district and used as provided in this statute.

***Use of the Levy Proceeds***

The proceeds of the property taxes levied must be used to provide fire protection or emergency medical services to residents of the district and property located in the district, as well as to pay debt issued.

***Debt***

The district may incur debt under chapter 475 when the board determines doing so is necessary to accomplish its duties.

In addition, the board of the district may issue certificates of indebtedness or capital notes to purchase capital equipment.

**Information regarding the potential transition to a fire district**

		<b>Notes</b>
<b>Question 1</b>	What is a realistic timeline to implement a fire district?	
<b>Answer</b>	It would likely take one-year to complete	Opinion of Chief Boehlke
<b>Question 2</b>	Will the fire department need to disband or dissolve?	
<b>Answer</b>	The financial and operational functions can be kept separate or they can both be handled by the Fire District. In other words, two structures could be used: (1) the Fire District could be used merely to levy taxes, manage the budget, and handle the financial aspects only while the fire protection operations are accomplished by the Fire Department; or (2) the Fire District can handle all the financial and operational functions as an entity that directly employs firefighters, owns the fire stations and equipment, and is managed by a single board. The second option, the Fire District operating as a fire department, makes sense because it eliminates the redundancy of administering two boards and maintaining the Fire Department as a separate entity, including corporate and financial recordkeeping and reporting. It would be appropriate to dissolve the Fire Department after the Fire District has been established and the merger is completed. Dissolving a nonprofit corporation such as the Fire Department involves several steps, as outlined below, and takes several months to complete. Thus, you should anticipate an interim period during which the Fire Department will continue to operate in concert with the Fire District until all assets and liabilities of the Fire Department are transferred to the District and the Fire Department is dissolved.	Opinion from attorney Erich Hartmann
<b>Question 3</b>	What would the fire department need to do to become part of the new fire district?	
<b>Answer</b>	An initial overview of the steps to transition from the Fire Department to the Fire District follows: a. Each municipal partner must approve a resolution and an agreement concerning the Fire District, as outlined in Joe Kelly’s December 27, 2021, memo and pursuant to Minn. Stat. § 144F.01. b. The municipal resolution or agreement must specify that the Lake Johanna Firefighters Relief Association pension plan is associated with the Fire District. § 144F.01, Subd. 2(c). c. The Fire District must file the establishing resolution and required agreements (and any amendments) with the Minnesota Department of Revenue. d. Bylaws of the Fire District should be prepared for execution upon formation of the Fire District. e. I anticipate that the Fire Department will dissolve, following this process: a. Prepare resolutions of Fire Department board and members approving the dissolution of the Fire Department and transfer of all its assets to the Fire District. b. Prepare notice of meeting of Fire Department members stating that a purpose of the meeting is to consider dissolving the corporation. c. Hold meetings of board and members. d. Proceed with dissolution (Minn. Stat. § 317A.701(a)(2)): i. Prepare and file Notice of Intent to Dissolve with Secretary of State. ii. Submit Notice of Intent to Dissolve required by Minn. Stat. § 317A.811 with Attorney General. iii. Commence winding up process (§§ 317A.725 and 317A.735). 1. Collect any debts owed to the Fire Department. 2. Pay or make arrangements to pay debts, liabilities, and obligations of the Fire Department. Chief Boehlke April 5, 2023 Page 3 3. Complete § 317A.811 requirements prior to transfer of Fire Department assets to Fire District. 4. Obtain waiver or satisfy 45-day notice period (to AG) in § 317A.811, Subd. 2. 5. Transfer assets in accordance with § 317A.735. a. Confirm adequate insurance is in place for the Fire District. b. Deed the real estate to the Fire District. c. Assign trucks, equipment, and personal property to the Fire District. 6. Submit to Attorney General a list of persons to whom assets were transferred pursuant to § 317A.811, Subd. 4. 7. Prepare and file Articles of Dissolution with Secretary of State.	Opinion from attorney Erich Hartmann
<b>Question 4</b>	What would the governance structure of a fire district be?	
<b>Answer</b>	The bylaws of the fire district would likely determine this; it is unlikely that firefighters would be part of that structure	Statement from Brad Martens
<b>Question 5</b>	Would the fire department be able to keep its tax-exempt status?	
<b>Answer</b>	The Fire District will be exempt from tax as a special taxing district that operates a fire department. I recommend having an initial discussion now with your accountant.	Opinion from attorney Erich Hartmann
<b>Question 6</b>	What would the fire districts' budget and finance controls look like?	
<b>Answer</b>	The bylaws of the fire district would likely determine this.	Statement from Brad Martens
<b>Question 7</b>	What staffing changes would be required for the fire district?	



**Information regarding the potential transition to a fire district**

		<b>Notes</b>
<b>Answer</b>	None are anticipated due to a move to a fire district.	Statement from Brad Martens
<b>Question 8</b>	How would moving to a fire district impact full-time and part-time firefighters day to day operational roles?	
<b>Answer</b>	No changes are anticipated in the day to day operational roles.	Statement from Brad Martens
<b>Question 9</b>	Will the fire district be able to continue to send its part-time firefighters to the Lake Johanna Firefighters Relieve Association for pensions?	
<b>Answer</b>	Yes	Opinion from attorney Erich Hartmann
<b>Question 10</b>	What happens to the fire department owned equipment and station?	
<b>Answer</b>	All fire department equipment and St. 120 would become property of the fire district.	Statement from LJFD Leadership
<b>Question 11</b>	How would the Pine Tree property be transitioned to the fire district?	
<b>Answer</b>	The property would become Fire District property.	Statement from LJFD Leadership
<b>Question 12</b>	How would the tax line item be listed on a property tax statement?	
<b>Answer</b>	The Fire District will show up as an assessment similar to a school district.	Statement from LJFD Leadership
<b>Question 13</b>	Who would vote to approve a fire district levy amount?	
<b>Answer</b>	The Fire District Board of Directors.	Statement from LJFD Leadership
<b>Question 14</b>	What would be the governance structure of the fire district board?	
<b>Answer</b>	This structure would be developed by a group/committee that would be directed with developing this and other details prior to the standing up of the Fire District. Reference Excelsior Fire District regarding their being an "operational committee" or "working group" that may include city staff and/or fire district leadership.	Statement from LJFD Leadership
<b>Question 15</b>	What is the budget impact to cities with a weighted levy compared to a tax capacity levy?	
<b>Answer</b>		
<b>Question 16</b>	What are the alternatives to a fire district?	
<b>Answer</b>	Remain as we are. Transition to a single city department that could contract with others for service.	Statement from LJFD Leadership
<b>Question 17</b>	Are any of the cities interested in taking over the fire department operations?	
<b>Answer</b>		
<b>Question 18</b>	Do two-thirds of the fire fighters need to approve the change to a fire district model?	
<b>Answer</b>		
<b>Question 19</b>	What is the urgency for discussing this topic now?	
<b>Answer</b>	The demonstrated and agreed upon need for costly operational and capital investment is driving this conversation. After a Fire District is established, the vote of that board is final and doesn't need three separate approvals by individual cities. Changing the funding mechanism streamlines the process of making necessary changes to our operation.	Statement from LJFD Leadership
<b>Question 20</b>	What if any deadlines exist for making this decision?	
<b>Answer</b>	There are no official deadlines however there are things that could be impacted by timing such as the ability to accept state funding or when the first "income" check would be received from Ramsey County as it relates to funds to cover operating costs.	Statement from LJFD Leadership
<b>Question 21</b>	What are the legal costs estimated for this process?	
<b>Answer</b>		
<b>Question 22</b>	How would the new building on Pine Tree be funded through a fire district?	
<b>Answer</b>	The Fire District can borrow (bond) for capital projects that would be paid for by direct taxes. The Fire District could also tax over time to save for capital projects.	Statement from LJFD Leadership

**Information regarding the potential transition to a fire district**

**Notes**

<b>Question 23</b>	How would additional staffing be funded through a fire district?	
<b>Answer</b>	Staffing would be paid for through the operating budget which is paid for by taxes.	Statement from LJFD Leadership
<b>Question 24</b>	What would happen if one city did not support moving to a fire district?	
<b>Answer</b>	Not every city needs to participate. To create a fire district, two or more cities are required to participate.	Statement from LJFD Leadership
<b>Question 25</b>	How would CIP purchases be funded in the initial years of a fire district?	
<b>Answer</b>	All three cities have savings for fire department CIP. Those funds need to be transferred to the Fire District. Cloquet Fire District, for example, is still requiring assistance from their cities because they started with a \$0 bank account. The savings already realized by the cities shouldn't become a "bonus" to the cities by transferring that liability to the fire district.	Statement from LJFD Leadership
<b>Question 26</b>	What happens to the Shoreview owned stations?	
<b>Answer</b>	Shoreview, who owns St. 130 and 140, would sell or lease those two stations to the Fire District.	Statement from LJFD Leadership
<b>Question 27</b>		
<b>Answer</b>		
<b>Question 28</b>		
<b>Answer</b>		
<b>Question 29</b>		
<b>Answer</b>		
<b>Question 30</b>		
<b>Answer</b>		

## MEMORANDUM

**DATE:** December 27, 2021  
**TO:** City of Shoreview  
**FROM:** Joe Kelly  
**RE :** Fire Protection District

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### Introduction

On July 2, 2021, the 2021 omnibus tax bill went into effect. Included in the bill was an authorization for local government units to create special taxation districts for fire protection.

In order to create a fire protection special taxation district, the City must do the following:

1. It must enter into an agreement with other municipalities specifying how the liabilities of the district will be handled in the case of the district's dissolution
2. It may address how the tax levy will be apportioned among the participating jurisdictions (if not equal)
3. It must identify which fire relief association or account of in the voluntary statewide volunteer firefighting retirement plan. There can only be one association/plan,

The agreement must be adopted no later than upon passage of the resolution establishing the district. The participating Cities must then adopt a resolution creating the district. There are certain items required to be in the resolution discussed below.

The fire protection district will have a governing body made up exclusively of elected officials from each member jurisdiction's governing body (city council). The District's governing body may be made up with whatever proportion of council members the district wishes, similar to the current Lake Johanna Fireboard with Shoreview, North Oaks, and Arden Hills, but less non-council members.

The resolution creating the district must specify the proportion of each participating municipality's board members.

If the special taxing district includes the operation of a fire department, it must file its resolution establishing the fire protection special taxing district, and any agreements required for the establishment of the special taxing district, with the commissioner of revenue, including any subsequent amendments. If the resolution or agreement does not include sufficient information defining the fire department service area of the fire protection special taxing district, the secretary of the district board must file a written statement with the commissioner defining the fire department service area.

The new law is 144F.01, which merely amended the EMS special taxing district to allow for Fire Protection to be included in the taxing authority.

Once established, the board may levy taxes on real and personal property in the district. In the alternative, the board may apportion its levy among the political subdivision members under a formula similar to how the current Lake Johanna Fire Board funding is completed.

FROM: Erich J. S. Hartmann  
TO: Chief Tim Boehlke  
RE: Fire Protection Special Tax District  
Lake Johanna Fire Department  
Our File No.: 1152-00005  
DATE: April 5, 2023

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This memo provides an overview of the impacts on the Lake Johanna Fire Department (“Fire Department”) if a special fire protection tax district (“Fire District”) is formed by the partner communities.

You asked the following questions:

**1. Will the Fire Department need to disband or dissolve?**

The financial and operational functions can be kept separate or they can both be handled by the Fire District. In other words, two structures could be used: (1) the Fire District could be used merely to levy taxes, manage the budget, and handle the financial aspects only while the fire protection operations are accomplished by the Fire Department; or (2) the Fire District can handle all the financial and operational functions as an entity that directly employs firefighters, owns the fire stations and equipment, and is managed by a single board.

The second option, the Fire District operating as a fire department, makes sense because it eliminates the redundancy of administering two boards and maintaining the Fire Department as a separate entity, including corporate and financial recordkeeping and reporting. It would be appropriate to dissolve the Fire Department after the Fire District has been established and the merger is completed.

Dissolving a nonprofit corporation such as the Fire Department involves several steps, as outlined below, and takes several months to complete. Thus, you should anticipate an interim period during which the Fire Department will continue to operate in concert with the Fire District until all assets and liabilities of the Fire Department are transferred to the District and the Fire Department is dissolved.

## **2. What will the Fire Department need to do to become part of the new Fire District?**

An initial overview of the steps to transition from the Fire Department to the Fire District follows:

- a. Each municipal partner must approve a resolution and an agreement concerning the Fire District, as outlined in Joe Kelly's December 27, 2021, memo and pursuant to Minn. Stat. § 144F.01.
- b. The municipal resolution or agreement must specify that the Lake Johanna Firefighters Relief Association pension plan is associated with the Fire District. § 144F.01, Subd. 2(c).
- c. The Fire District must file the establishing resolution and required agreements (and any amendments) with the Minnesota Department of Revenue.
- d. Bylaws of the Fire District should be prepared for execution upon formation of the Fire District.
- e. I anticipate that the Fire Department will dissolve, following this process:
  - a. Prepare resolutions of Fire Department board and members approving the dissolution of the Fire Department and transfer of all its assets to the Fire District.
  - b. Prepare notice of meeting of Fire Department members stating that a purpose of the meeting is to consider dissolving the corporation.
  - c. Hold meetings of board and members.
  - d. Proceed with dissolution (Minn. Stat. § 317A.701(a)(2)):
    - i. Prepare and file Notice of Intent to Dissolve with Secretary of State.
    - ii. Submit Notice of Intent to Dissolve required by Minn. Stat. § 317A.811 with Attorney General.
    - iii. Commence winding up process (§§ 317A.725 and 317A.735).
      1. Collect any debts owed to the Fire Department.
      2. Pay or make arrangements to pay debts, liabilities, and obligations of the Fire Department.

3. Complete § 317A.811 requirements prior to transfer of Fire Department assets to Fire District.
4. Obtain waiver or satisfy 45-day notice period (to AG) in § 317A.811, Subd. 2.
5. Transfer assets in accordance with § 317A.735.
  - a. Confirm adequate insurance is in place for the Fire District.
  - b. Deed the real estate to the Fire District.
  - c. Assign trucks, equipment, and personal property to the Fire District.
6. Submit to Attorney General a list of persons to whom assets were transferred pursuant to § 317A.811, Subd. 4.
7. Prepare and file Articles of Dissolution with Secretary of State.

**3. Would the Fire Department be able to keep its tax-exempt status?**

The Fire District will be exempt from tax as a special taxing district that operates a fire department. I recommend having an initial discussion now with your accountant.

**4. Will the Fire District be able to continue to send its part-time firefighters to the Lake Johanna Firefighters Relief Association for pensions?**

Yes.

In conclusion, I will say that this is a simplified overview of an extensive process. The intent of this memo is to answer your questions and provide an overall roadmap of the process to merge the Fire Department into the Fire District and dissolve the existing entity. Each step of this process will include an additional set of requirements and conditions, the details of which are beyond the scope of this memo. Careful coordination will be needed at each step between the partner communities, the Fire Department Board of Directors, the Fire Department's accountants, the pension administrator, the LMCIT/risk management, employment/labor counsel, and general counsel. I will be happy to help you as your plans continue to develop.

Feel free to call me if you have any questions.

Thank you.

EJH

**144F.01 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES SPECIAL TAXING DISTRICTS.**

Subdivision 1. **Definitions.** For purposes of this section, the following terms have the meanings given.

(a) "Political subdivision" means a county, a statutory or home rule charter city, or a township organized to provide town government.

(b) "Governing body" means a city council for a city, a county board for a county, and a board of supervisors for a town.

(c) "Emergency medical services" means supporting the providing of out-of-hospital emergency medical services including but not limited to first responder or rescue squads recognized by the district, ambulance services licensed under chapter 144E and recognized by the district, medical control functions set out in chapter 144E, communications equipment and systems, and programs of regional emergency medical services authorized by regional boards described in section 144E.52.

Subd. 2. **Authority to establish.** (a) Two or more political subdivisions may establish, by resolution of their governing bodies, a special taxing district to provide fire protection or emergency medical services, or both, in the area of the district, comprising the jurisdiction of each of the political subdivisions forming the district. For a county that participates in establishing a district, the county's jurisdiction comprises the unorganized territory of the county that it designated in its resolution for inclusion in the district. The area of the special taxing district need not be contiguous or its boundaries continuous.

(b) Before establishing a district under this section, the participating political subdivisions must enter into an agreement that specifies how any liabilities, other than debt issued under subdivision 6, and assets of the district will be distributed if the district is dissolved. The agreement may also include other terms, including a method for apportioning the levy of the district among participating political subdivisions under subdivision 4, paragraph (b), as the political subdivisions determine appropriate. The agreement must be adopted no later than upon passage of the resolution establishing the district under paragraph (a), but may be later amended by agreement of each of the political subdivisions participating in the district.

(c) If two or more political subdivisions that currently operate separate fire departments seek to merge fire departments into one fire department, or if a political subdivision with an existing fire department requests to join a special taxing district with an established fire department, the resolution under paragraph (a) or agreement under paragraph (b) must specify which, if any, volunteer firefighter pension plan is associated with the district. A special taxing district that operates a fire department under this section may be associated with only one volunteer firefighters relief association or one account in the statewide volunteer firefighter plan at one time.

(d) If the special taxing district includes the operation of a fire department, it must file its resolution establishing the fire protection special taxing district, and any agreements required for the establishment of the special taxing district, with the commissioner of revenue, including any subsequent amendments. If the resolution or agreement does not include sufficient information defining the fire department service area of the fire protection special taxing district, the secretary of the district board must file a written statement with the commissioner defining the fire department service area.

Subd. 3. **Board.** The special taxing district established under this section is governed by a board made up initially of representatives of each participating political subdivision in the proportions set out in the establishing resolution, subject to change as provided in the district's charter, if any, or in the district's bylaws.



Each participating political subdivision's representative must be an elected member of the governing body of the political subdivision and shall serve at the pleasure of that participant's governing body.

**Subd. 4. Property tax levy authority.** (a) The district's board may levy a tax on the taxable real and personal property in the district. The proceeds of the levy must be used as provided in subdivision 5. The board shall certify the levy at the times as provided under section 275.07. The board shall provide the county with whatever information is necessary to identify the property that is located within the district. If the boundaries include a part of a parcel, the entire parcel shall be included in the district. The county auditors must spread, collect, and distribute the proceeds of the tax at the same time and in the same manner as provided by law for all other property taxes.

(b) As an alternative to paragraph (a), the board may apportion its levy among the political subdivisions that are members of the district under a formula or method, with factors such as population, number of service calls, costs of providing service, the market value of improvements, or other measures approved by the governing body of each of the participating political subdivisions. The amount of the levy allocated to each political subdivision must be added to that political subdivision's levy and spread at the same time and in the same manner as provided by law for all other property taxes. The proceeds of the levy must be collected and remitted to the district and used as provided in subdivision 5.

**Subd. 5. Use of levy proceeds.** The proceeds of property taxes levied under this section must be used to provide fire protection, emergency medical services, or both, to residents of the district and property located in the district, as well as to pay debt issued under subdivision 6. Services may be provided by employees of the district or by contracting for services provided by other governmental or private entities.

**Subd. 6. Debt.** (a) The district may incur debt under chapter 475 when the board determines doing so is necessary to accomplish its duties.

(b) In addition, the district board may issue certificates of indebtedness or capital notes under section 412.301 to purchase capital equipment. In applying section 412.301, paragraph (e), the following rules apply:

(1) the taxable property of the entire district must be used to calculate the percent of estimated market value; and

(2) "the number of voters at the last municipal election" means the sum of the number of voters at the last municipal election for each of the cities that is a member of the district plus the number of registered voters in each town that is a participating member of the district.

**Subd. 7. Powers.** (a) In addition to authority expressly granted in this section, a special taxing district established under this section may exercise any power that may be exercised by any of its participating political subdivisions that is necessary or reasonable to support the services set out in subdivision 5. These powers include the authority to participate in state programs and to enforce or carry out state laws related to fire protection or emergency medical services, including programs providing state aid, reimbursement or funding of employee benefits, and authorizing local enforcement of state standards including fire protection related programs and political subdivision powers or responsibilities under chapters 299A, 424A, and 477B; sections 6.495, 353.64, and 423A.022; and any other administrative rules related to the fire code, to the extent the special taxing district meets the qualification criteria and requirements of a program.

(b) To the extent the district's authority under this subdivision overlaps with or may conflict with the authority of the participating political subdivision, the agreement under subdivision 2, paragraph (b), must provide for allocation of those powers or responsibilities between the participating political subdivisions and the district, and may provide for resolution of conflicts in the exercise of those powers.

(c) The district may only levy the tax authorized in subdivision 4.

**Subd. 8. Additions and withdrawals.** (a) Additional political subdivisions may be added to a special taxing district established under this section as provided by the board of the district and agreed to in a resolution of the governing body of the political subdivision proposed to be added. The addition of a political subdivision to the district may not cause the district to be out of compliance with subdivision 2, paragraph (c).

(b) A political subdivision may withdraw from a special taxing district under this section by resolution of its governing body. The political subdivision must notify the board of the special taxing district of the withdrawal by providing a copy of the resolution at least two years in advance of the proposed withdrawal. The taxable property of the withdrawing member is subject to the property tax levy under subdivision 4 for the two taxes payable years following the notice of the withdrawal, unless the board and the withdrawing member agree otherwise by action of their governing bodies. If a political subdivision withdraws from a district for which debt was issued under subdivision 6 when the political subdivision was a participating member, and which is outstanding when the political subdivision withdraws from the district, the taxable property of the withdrawing political subdivision remains subject to the special taxing district levy until the outstanding debt has been paid or defeased. If the district's property tax levy to repay debt was apportioned among the political subdivisions under an alternative formula or method under subdivision 4, paragraph (b), the withdrawing political subdivision is subject to the same percentage of the debt levy as applied in the taxes payable year immediately preceding its withdrawal from the district.

(c) Notwithstanding subdivision 2, if the district is comprised of two political subdivisions and one of the political subdivisions withdraws, the district can continue to exist.

**Subd. 9. Dissolution.** The special taxing district may be dissolved by resolution approved by a majority vote of the board. If the special taxing district is dissolved, the assets and liabilities may be assigned to a successor entity, if any, or otherwise disposed of for public purposes as provided in the agreement adopted under subdivision 2, paragraph (b), or otherwise agreed to by each participating political subdivision. A district may not be dissolved until all debt issued under subdivision 6 has been paid or defeased.

**Subd. 10. Reports.** (a) On or before March 15, 2024, and March 15, 2026, the special taxing district shall submit a levy and expenditure report to the commissioner of revenue and to the house of representatives and senate committees with jurisdiction over taxes and property taxes. Each report must include the amount of the district's levies for taxes payable for each of the two previous years and its actual expenditures of those revenues. Expenditures must be reported by general service category and include a separate category for administrative expenses.

(b) On or before March 15, 2024, and March 15, 2026, a political subdivision that has established or joined a special taxing district authorized under this section after June 30, 2021, shall submit a levy and expenditure report to the commissioner of revenue and to the house of representatives and senate committees with jurisdiction over taxes and property taxes. The report must include:

(1) the amount of the political subdivision's levy, and its actual expenditure of the subdivision's levy revenues, including the amount attributable to fire protection and emergency medical services, for taxes payable in each of the two taxes payable years prior to establishing or joining a special taxing district authorized under this section;

(2) the political subdivision's levy, and its actual expenditure of the subdivision's levy revenues, for taxes payable in each of the taxes payable years after establishing or joining a special taxing district authorized under this section, up to and including taxes payable in 2024 and taxes payable in 2026; and

(3) a certification from the political subdivision that the subdivision's levy for each of the taxes payable years after establishing or joining a special taxing district authorized under this section, up to, and including, taxes payable in 2024, and taxes payable in 2026, does not include expenditures for fire protection, emergency medical services, or both, except as provided in subdivision 4, paragraph (b), or those necessary to establish or join a district as provided in this section.

**History:** *1Sp2001 c 5 art 3 s 8; 2005 c 151 art 3 s 19; 2006 c 259 art 4 s 3,20; 2009 c 88 art 2 s 3,40; 2013 c 143 art 14 s 17; 2014 c 308 art 2 s 1; 1Sp2021 c 14 art 6 s 1; 2022 c 55 art 1 s 37*

Proposed

## LAKE JOHANNA FIRE DEPARTMENT 2024 Operating Budget - Recommended (March x3, July x3) Printed 6/14/2023

TOTALS	2024	2023	% Change
DEPARTMENTAL OPERATIONS	\$ 3,140,696	\$ 2,470,459	27.13%
STATION OPERATIONS	\$ 623,213	\$ 566,316	10.05%
<b>GRAND TOTALS</b>	<b>\$ 3,763,909</b>	<b>\$ 3,036,775</b>	<b>23.94%</b>

Grand Total	\$ 3,763,909	\$ 3,036,775
General Fund Contribution (AHATS)	\$ (20,000)	\$ (20,000)
	<b>\$ 3,743,909</b>	<b>\$ 3,016,775</b>

Cost Share - 2024			
<b>ARDEN HILLS (24.9%)</b>	\$ 932,233	\$ 754,194	23.61%
<b>NORTH OAKS (14.4%)</b>	\$ 539,123	\$ 431,399	24.97%
<b>SHOREVIEW (60.7%)</b>	\$ 2,272,552	\$ 1,831,183	24.10%
	<b>\$ 3,743,909</b>	<b>\$ 3,016,775</b>	

Fire Distribution Cost Share History			
Year	Arden Hills	North Oaks	Shoreview
2023	24.9%	14.4%	60.7%
2022	25.0%	14.3%	60.7%
2021	25.0%	14.4%	60.6%
2020	24.8%	14.1%	61.1%
2019	24.5%	13.9%	61.6%

Budget Notes
Lines 31 & 32 - Health physicals annually vs every 3-5 years
Lines 55 & 56 - Reclassification of Deputy Chiefs to Asst. Chiefs
Line 57 - Addition of (6) FT Captains (salary only on this line)
Line 188 - Communicatiosn And Technology increased
Line 205 - General Engineering increased

Line	DEPARTMENT OPERATIONS SUMMARY	2024	2023	% Change
1	Administrative	\$ 16,077	\$ 16,077	0.00%
11	Recognition and Retention	\$ 18,423	\$ 15,818	16.47%
20	Insurance	\$ 103,230	\$ 100,350	2.87%
26	Firefighters Relief Assn.	\$ 102,480	\$ 102,480	0.00%
30	Medical Exams	\$ 11,070	\$ 7,552	46.58%
37	Physical Fitness	\$ 7,800	\$ 7,800	0.00%
41	Public Fire Education	\$ 8,896	\$ 8,554	4.00%
45	Professional Fees	\$ 35,413	\$ 31,661	11.85%
51	Full Time Staff Compensation	\$ 1,385,133	\$ 782,853	76.93%
68	Part Time Staff Compensation	\$ 1,354,304	\$ 1,299,444	4.22%
97	Staff Professional Development	\$ 12,750	\$ 12,750	0.00%
105	Training	\$ 85,120	\$ 85,120	0.00%
	<b>Totals</b>	<b>\$ 3,140,696</b>	<b>\$ 2,470,459</b>	<b>27.13%</b>

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Line	STATION OPERATIONS SUMMARY	2024	2023	% Change
150	Building Maintenance	\$ 156,217	\$ 146,655	6.52%
172	Clothing & Turnout	\$ 99,094	\$ 95,729	3.52%
188	Communications & Technology	\$ 118,186	\$ 105,616	11.90%
204	General Engineering	\$ 233,256	\$ 201,856	15.56%
213	Special Operations	\$ 5,510	\$ 5,510	0.00%
222	Maps	\$ 1,520	\$ 1,520	0.00%
230	SCBA	\$ 9,430	\$ 9,430	0.00%
	<b>Totals</b>	<b>\$ 623,213</b>	<b>\$ 566,316</b>	<b>10.05%</b>

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## LAKE JOHANNA FIRE DEPARTMENT

### 2024 Operating Budget - Recommended (March x3, July x3)

Printed 6/14/2023

		2024	2023	% Change
1	<b>ADMINISTRATIVE BUDGET</b>			
2	Office Supplies	\$ 6,120	\$ 6,120	0.00%
3	Postage Expenses	\$ 1,300	\$ 1,300	0.00%
4	Misc. Extras	\$ 1,168	\$ 1,168	0.00%
5	Flowers/Cards	\$ 875	\$ 875	0.00%
6	Copier Rental	\$ 5,929	\$ 5,929	0.00%
7	Mileage Reimbursement - Office Manager	\$ 400	\$ 400	0.00%
8	Compliance Posters	\$ 285	\$ 285	0.00%
9	<b>Administrative Totals</b>	<b>\$ 16,077</b>	<b>\$ 16,077</b>	<b>0.00%</b>
10	(blank)			
11	<b>RECOGNITION AND RETENTION</b>			
12	Appreciation Event	\$ 10,000	\$ 7,500	33.33%
13	Retirement Plaques	\$ 660	\$ 658	0.30%
14	Steak Fry	\$ 2,813	\$ 2,813	0.00%
15	Christmas Breakfast	\$ 600	\$ 600	0.00%
16	Christmas Ornaments	\$ 1,050	\$ 947	10.88%
17	Annual Mtg. Dinner	\$ 3,300	\$ 3,300	0.00%
18	<b>Events Totals</b>	<b>\$ 18,423</b>	<b>\$ 15,818</b>	<b>16.47%</b>
19	(blank)			
20	<b>INSURANCE</b>			
21	Property, Liability, Auto, W/C & Umbrella Ins	\$ 98,872	\$ 95,992	3.00%
22	Employee Assistance Program	\$ 3,833	\$ 3,833	0.00%
23	State Benefit Assoc. \$8/new, \$4/member	\$ 525	\$ 525	0.00%
24	<b>Insurance Totals</b>	<b>\$ 103,230</b>	<b>\$ 100,350</b>	<b>2.87%</b>
25	(blank)			
26	<b>LJFD RELIEF ASSOCIATION</b>			
27	Relief Assn. Contribution	\$ 102,480	\$ 102,480	0.00%
28	<b>Relief Assn. Totals</b>	<b>\$ 102,480</b>	<b>\$ 102,480</b>	<b>0.00%</b>
29	(blank)			
30	<b>MEDICAL EXAMS</b>			
31	OSHA Physicals - Annual	\$ 4,029	\$ 1,622	148.40%
32	HAZMAT Physicals - Every 3	\$ 1,341	\$ 670	100.15%
33	Psychological Evaluations	\$ 3,395	\$ 3,400	-0.15%
34	New F.F. Physicals	\$ 2,305	\$ 1,860	23.92%
35	<b>Medical Exam Totals</b>	<b>\$ 11,070</b>	<b>\$ 7,552</b>	<b>46.58%</b>
36	(blank)			
37	<b>PHYSICAL FITNESS</b>			
38	Fitness Club Reimbursement	\$ 7,800	\$ 7,800	0.00%
39	<b>Physical Totals</b>	<b>\$ 7,800</b>	<b>\$ 7,800</b>	<b>0.00%</b>
40	(blank)			
41	<b>PUBLIC FIRE EDUCATION</b>			
42	Pub Ed Materials	\$ 8,896	\$ 8,554	4.00%
43	<b>Public Fire Education Totals</b>	<b>\$ 8,896</b>	<b>\$ 8,554</b>	<b>4.00%</b>
44	(blank)			
45	<b>PROFESSIONAL FEES</b>			
46	Accountant Fees	\$ 8,413	\$ 8,413	0.00%
47	Legal Fees/Employment Attorney/HR	\$ 17,000	\$ 13,248	28.32%
48	Payroll Services	\$ 10,000	\$ 10,000	0.00%
49	<b>Professional Fees Totals</b>	<b>\$ 35,413</b>	<b>\$ 31,661</b>	<b>11.85%</b>
50	(blank)			

Proposed

**LAKE JOHANNA FIRE DEPARTMENT**  
**2024 Operating Budget - Recommended (March x3, July x3)**  
**Printed 6/14/2023**

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## LAKE JOHANNA FIRE DEPARTMENT

### 2024 Operating Budget - Recommended (March x3, July x3)

Printed 6/14/2023

51	<b>FULL TIME STAFF COMPENSATION</b>	2024	2023	% Change
52	Fire Chief	\$ 156,021	\$ 151,486	2.99%
53	Assistant Fire Chief	\$ 129,126	\$ 125,362	3.00%
54	Officer Manager	\$ 87,131	\$ 84,594	3.00%
55	Deputy Chief/E.M.	\$ 129,126	\$ 110,843	16.49%
56	Deputy Chief/F.M.	\$ 124,966	\$ 107,266	16.50%
57	Captain (x3+3 positions)	\$ 373,752	\$ -	n/a
58	Medicare ( 1.45% )	\$ 14,502	\$ 8,403	72.57%
59	Social Security ( 6.2% )	\$ 5,402	\$ 5,245	3.00%
60	State Unemployment ( .47% )	\$ 4,701	\$ 2,724	72.57%
61	Long-Term Disability FT staff	\$ 5,300	\$ 2,300	130.43%
62	PERA: P&F (17.70%)	\$ 161,599	\$ 87,607	84.46%
63	PERA: Coordinated Plan (7.5%)	\$ 6,535	\$ 6,345	3.00%
64	Medical, Dental, Life, Work Comp, HSA	\$ 186,972	\$ 90,678	106.19%
65				
66	<b>Full Time Staff Compensation Totals</b>	<b>\$ 1,385,133</b>	<b>\$ 782,853</b>	<b>76.93%</b>

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68	<b>PART TIME STAFF COMPENSATION</b>	2024	2023	% Change
69	Weekday Shifts	\$ 325,281	\$ 315,806	3.00%
70	Evening/Weekend Shifts	\$ 739,496	\$ 717,957	3.00%
71	Callback Run Compensation	\$ 39,717	\$ 38,560	3.00%
72	Prob. FF Shift Pay	\$ 16,886	\$ 16,400	2.96%
73	Training Compensation (Training/FF1/EMT/Classes)	\$ 108,030	\$ 92,316	17.02%
74	Public Fire Education	\$ 12,968	\$ 11,081	17.02%
75	Hazmat/ATR	\$ 4,718	\$ 4,581	3.00%
76	Fire Inspector	\$ 2,383	\$ 2,314	2.98%
77	Committee	\$ 1,390	\$ 1,188	17.01%
78	Board of Directors	\$ 1,725	\$ 1,650	4.55%
79	Medicare (1.45%)	\$ 18,162.60	\$ 17,426.88	4.22%
80	Social Security (6.2%)	\$ 77,661	\$ 74,515	4.22%
81	State Unemployment (.47%)	\$ 5,887	\$ 5,649	4.22%
82	<b>Total FT &amp; PT Staff Compensation</b>	<b>\$ 1,354,304</b>	<b>\$ 1,299,444</b>	<b>4.22%</b>

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84	<b>Pay Rates - Part Time</b>	2024	2023	% Change
85	Firefighter/Operator/Callback/Training/ PubEd/Inspector/Committee	\$19.86	\$19.28	3.00%
86	Officer/Lead	\$21.85	\$21.21	3.00%
87	Probationary	\$15.30	\$14.85	3.00%
88	Incentive Pay FF	\$29.79	\$28.92	3.00%
89	Incentive Pay Officer	\$32.76	\$31.81	3.00%
90	Training	\$19.86	\$16.97	17.02%
91	Pub Ed	\$19.86	\$16.97	17.02%
92	Fire Inspector	\$19.86	\$19.28	3.00%
93	Committee	\$19.86	\$16.97	17.02%
94	Instructor/HazMat/ATR	\$26.21	\$25.45	3.00%
95	HazMat/ATR	\$26.21	\$25.45	3.00%

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## LAKE JOHANNA FIRE DEPARTMENT

### 2024 Operating Budget - Recommended (March x3, July x3)

Printed 6/14/2023

97	<b>STAFF PROF. DEVELOPMENT</b>	2024	2023	% Change
98	Fire Chief Training	\$ 3,000	\$ 3,000	0.00%
99	Assistant Chief Training	\$ 3,000	\$ 3,000	0.00%
100	Office Manager Classes	\$ 750	\$ 750	0.00%
101	Deputy Chief/E.M. Training	\$ 3,000	\$ 3,000	0.00%
102	Deputy Chief/F.M. Training	\$ 3,000	\$ 3,000	0.00%
103	<b>Professional Development Totals</b>	<b>\$ 12,750</b>	<b>\$ 12,750</b>	<b>0.00%</b>
104	(blank)			
105	<b>TRAINING</b>	2024	2023	% Change
106	Online Training	\$ 9,100	\$ 9,100	0.00%
107	Training Equipment & Props	\$ 2,000	\$ 2,000	0.00%
108	Fire Training/Century College	\$ 17,000	\$ 17,000	0.00%
109	EMS Training	\$ 21,250	\$ 21,250	0.00%
110	(blank)			
111	<b>New Member Training</b>			
112	FF1/II/Hazmat Ops @ \$1400/FF ( 4 )	\$ 5,600	\$ 5,600	0.00%
113	FF I&II State Cert. Test @ \$300/FF (4)	\$ 1,200	\$ 1,200	0.00%
114	Mileage \$0.55 per mile 840 miles ea. (4)	\$ 1,850	\$ 1,850	0.00%
115	Books @ \$300/FF (4)	\$ 1,200	\$ 1,200	0.00%
116	EMT -B Registration/Books (4) @ \$1550	\$ 6,200	\$ 6,200	0.00%
117	NREMT Certification Testing @ \$100/FF (4)	\$ 400	\$ 400	0.00%
118	Mileage @ \$0.55 per mile 500 miles ea. (4)	\$ 1,100	\$ 1,100	0.00%
119	(blank)			
120	<b>Sectional Schools 7 FF</b>			
121	Class Registration \$175 / FF	\$ 1,225	\$ 1,225	0.00%
122	Hotel Expenses @ \$150 /night	\$ 2,000	\$ 2,000	0.00%
123	2 Days Per Diem @ \$50 / Day	\$ 1,000	\$ 1,000	0.00%
124	Mileage \$ 0.55 per mile 200 miles ea. (16)	\$ 1,100	\$ 1,100	0.00%
125	(blank)			
126	<b>Officer Training</b>			
127	Conference Registration	\$ 300	\$ 300	0.00%
128	Hotel Expense	\$ 600	\$ 600	0.00%
129	3 Days Per Diem @ \$50 / Day	\$ 300	\$ 300	0.00%
130	Mileage 0.55 per mile 200 mile ea. (9)	\$ 125	\$ 125	0.00%
131	(blank)			
132	<b>Fire Chiefs Conference 7 Chiefs/Officers</b>			
133	Conference Registration	\$ 1,750	\$ 1,750	0.00%
134	Hotel Expense	\$ 3,500	\$ 3,500	0.00%
135	3 Days Per Diem @ \$50 / Day	\$ 1,200	\$ 1,200	0.00%
136	Mileage 0.55 per mile 280 mile ea.(7)	\$ 1,078	\$ 1,078	0.00%
137	(blank)			
138	<b>Fire Inspector/Investigation Training</b>			
139	Conference Registration	\$ 150	\$ 150	0.00%
140	Hotel Expense	\$ 300	\$ 300	0.00%
141	3 Days Per Diem @\$50/Day	\$ 300	\$ 300	0.00%
142	Mileage 0.55 per mile 120 miles ea. (2)	\$ 132	\$ 132	0.00%
143	(blank)			
144	<b>In Town Trng/Sectional schools</b>			
145	Conference Registration	\$ 2,000	\$ 2,000	0.00%
146	2 Days Per Diem @ \$50 / Day	\$ 500	\$ 500	0.00%
147	Mileage 0.55 per mile 60 miles ea. (20)	\$ 660	\$ 660	0.00%
148	<b>Training Totals</b>	<b>\$ 85,120</b>	<b>\$ 85,120</b>	<b>0.00%</b>
149	(blank)			



**LAKE JOHANNA FIRE DEPARTMENT**  
**2024 Operating Budget - Recommended (March x3, July x3)**  
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150	<b>BUILDING MAINTENANCE</b>	2024	2023	% Change
151	Fertilizer/Mowing/Snowplow/Irrigation	\$ 28,645	\$ 26,523	8.00%
152	Furnace Maintenance	\$ 1,920	\$ 1,920	0.00%
153	Supplies	\$ 17,000	\$ 17,000	0.00%
154	Water softener salt	\$ 1,500	\$ 1,500	0.00%
155	Kitchen Supplies	\$ 1,100	\$ 1,100	0.00%
156	Window Cleaning- all stations	\$ 2,900	\$ 2,900	0.00%
157	Taxes	\$ 129	\$ 129	0.00%
158	Internet/Cable TV	\$ 7,828	\$ 7,828	0.00%
159	First Aid	\$ 1,066	\$ 1,066	0.00%
160	Building Sprinkler Annual Inspection	\$ 524	\$ 524	0.00%
161	Fire Extinguisher inspection	\$ 1,346	\$ 1,250	7.68%
162	Disposal	\$ 8,749	\$ 8,749	0.00%
163	Sewer & Water	\$ 14,106	\$ 14,106	0.00%
164	Telephone	\$ 3,000	\$ 3,000	0.00%
165	Utilities	\$ 54,144	\$ 46,800	15.69%
166	Generator Maintenance	\$ 1,800	\$ 1,800	0.00%
167	Pop and Food (dinner meetings)	\$ 2,000	\$ 2,000	0.00%
168	Scene Refreshments	\$ 1,250	\$ 1,250	0.00%
169	Contractors/Repairs	\$ 7,210	\$ 7,210	0.00%
170	<b>Building Maintenance Totals</b>	<b>\$ 156,217</b>	<b>\$ 146,655</b>	<b>6.52%</b>
171	(blank)			

172	<b>CLOTHING &amp; TURNOUT</b>	2024	2023	% Change
173	Badges, Emblems & Tags	\$ 824	\$ 824	0.00%
174	Turnout Gear/Helmet/Boots/Gloves New FF's (6)	\$ 30,000	\$ 30,000	0.00%
175	Uniform clothing New Fire Fighters (6) \$1735	\$ 11,365	\$ 11,365	0.00%
176	Replacement Turnout Gear (6) \$3,612 ea.	\$ 21,675	\$ 21,675	0.00%
177	Helmets (4) @ \$503ea.	\$ 2,012	\$ 2,012	0.00%
178	Leather Helmet Fronts 8 @ \$50ea.	\$ 412	\$ 412	0.00%
179	Charcoal Hoods (2) @ \$100 ea.	\$ 206	\$ 206	0.00%
180	Fire Boots (8) @ \$593 ea.	\$ 4,745	\$ 4,745	0.00%
181	Fire Gloves (20) @ \$65 ea.	\$ 1,300	\$ 1,300	0.00%
182	Gear Bag/Gear Belt 4 @ \$50	\$ 200	\$ 200	0.00%
183	Fulltime Staff Clothing Allowance (\$400 ea.)	\$ 4,400	\$ 2,000	120.00%
184	Misc. Clothing items	\$ 1,700	\$ 1,700	0.00%
185	Clothing Allowance	\$ 20,255	\$ 19,290	5.00%
186	<b>Clothing Totals</b>	<b>\$ 99,094</b>	<b>\$ 95,729</b>	<b>3.52%</b>
187	(blank)			

188	<b>COMMUNICATIONS &amp; TECHNOLOGY</b>	2024	2023	% Change
189	Pagers	\$ 7,700	\$ 7,700	0.00%
190	Pager/Portable Batteries	\$ 400	\$ 400	0.00%
191	Google Cloud Platform	\$ 700	\$ 700	0.00%
192	Target Vector Solutions	\$ 1,000	\$ 1,000	0.00%
193	Fire Manager	\$ 3,300	\$ 3,300	0.00%
194	Metro-Inet	\$ 64,500	\$ 60,000	7.50%
195	Website Services	\$ 3,600	\$ 1,530	135.29%
196	Comcast Data Sta. 120, 130,140	\$ 19,427	\$ 19,427	0.00%
197	Lexipol - Policy Maintenance	\$ -	\$ -	#DIV/0!
198	Software Annual Maintenance	\$ 1,644	\$ 1,644	0.00%
199	Quickbooks Pro Upgrade	\$ 415	\$ 415	0.00%
200	Pager/Radio Repair	\$ 3,500	\$ 3,500	0.00%
201	Cell Phone Reimbursement	\$ 12,000	\$ 6,000	100.00%
202	<b>Communications &amp; Technology Totals</b>	<b>\$ 118,186</b>	<b>\$ 105,616</b>	<b>11.90%</b>
203	(blank)			

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**LAKE JOHANNA FIRE DEPARTMENT**  
**2024 Operating Budget - Recommended (March x3, July x3)**  
**Printed 6/14/2023**

## LAKE JOHANNA FIRE DEPARTMENT

### 2024 Operating Budget - Recommended (March x3, July x3)

Printed 6/14/2023

204	<b>GENERAL ENGINEERING</b>	2024	2023	% Change
205	Aerial & Ground Ladder Testing (Annual)	\$ 3,000	\$ 3,000	0.00%
206	Equipment Testing/Inspections	\$ 30,000	\$ 19,100	57.07%
207	Fuel	\$ 45,000	\$ 45,000	0.00%
208	Routine Maintenance Repairs	\$ 138,000	\$ 120,000	15.00%
209	First Aid Equip/Supplies	\$ 10,000	\$ 7,500	33.33%
210	Shop Supplies, Tools & Floor Dry & Foam	\$ 7,256	\$ 7,256	0.00%
211	<b>General Engineering Totals</b>	<b>\$ 233,256</b>	<b>\$ 201,856</b>	<b>15.56%</b>
212	(blank)			
213	<b>SPECIAL OPERATIONS</b>	2024	2023	% Change
214	Hazmat Equipment	\$ 500	\$ 500	0.00%
215	1 Person to Tech. Level II	\$ 660	\$ 660	0.00%
216	ATR Training/Instructors	\$ 2,700	\$ 2,700	0.00%
217	Haz Mat Instructors	\$ 250	\$ 250	0.00%
218	General Equipment Maintenance	\$ 400	\$ 400	0.00%
219	Confined Space Tech level training	\$ 1,000	\$ 1,000	0.00%
220	<b>Special Operations Totals</b>	<b>\$ 5,510</b>	<b>\$ 5,510</b>	<b>0.00%</b>
221	(blank)			
222	<b>MAPS</b>	2024	2023	% Change
223	General Production	\$ 1,520		0.00%
224	3 x 3 Lam. Map 20 @ \$14.25 Ea.		\$ 285	0.00%
225	Production/Layout		\$ 190	0.00%
226	Notebook Map 38/Sta. @ \$14.25		\$ 541	0.00%
227	Wall Maps 7 @ \$72 ea.		\$ 504	0.00%
228	<b>Maps Totals</b>	<b>\$ 1,520</b>	<b>\$ 1,520</b>	<b>0.00%</b>
229	(blank)			
230	<b>SCBA</b>	2024	2023	% Change
231	Parts & Repairs	\$ 1,600	\$ 1,600	0.00%
232	Annual Flow Testing	\$ 5,500	\$ 5,500	0.00%
233	SCBA Batteries	\$ 620	\$ 620	0.00%
234	Mask Cleaning Solution	\$ 250	\$ 250	0.00%
235	Compressed Air Quality Testing	\$ 630	\$ 630	0.00%
236	Air Compressor maMntenance	\$ 830	\$ 830	0.00%
237	<b>SCBA TOTALS</b>	<b>\$ 9,430</b>	<b>\$ 9,430</b>	<b>0.00%</b>
238	(end)			

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**LAKE JOHANNA FIRE DEPARTMENT**  
**2024 Operating Budget - Recommended (March x3, July x3)**  
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**Hire Three Captains March 1, 2024 and Three Captains July 1, 2024**

Current Operating Budget Only								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,209,688	\$3,370,172	\$3,538,681	\$3,715,615	\$3,901,396	\$4,096,466	\$4,301,289
Arden Hills (24.9%)	\$756,157	\$799,212	\$839,173	\$881,132	\$925,188	\$971,448	\$1,020,020	\$1,071,021
North Oaks (14.4%)	\$437,296	\$462,195	\$485,305	\$509,570	\$535,049	\$561,801	\$589,891	\$619,386
Shoreview (60.7%)	\$1,843,324	\$1,948,281	\$2,045,695	\$2,147,979	\$2,255,378	\$2,368,147	\$2,486,555	\$2,610,882
Percentage Over Previous Year	n/a	5.69%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

Direct Costs Due To Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
Wages	\$0	\$373,752	\$644,586	\$694,098	\$745,944	\$800,304	\$824,346	\$849,078
Employer Paid PERA	\$0	\$66,154	\$114,092	\$122,855	\$132,032	\$141,654	\$145,909	\$150,287
Other Benefits: Family Medical, Life-Dental Reimb, Work Comp, LTD, HAS, Clothing Allow, Medicare	\$0	\$100,160	\$105,168	\$110,426	\$115,948	\$121,745	\$127,832	\$134,224
Other Costs: Cell Phone, IT Services, etc.	\$0	\$14,155	\$17,690	\$18,575	\$19,503	\$20,478	\$21,502	\$22,577
<b>Overall (100%)</b>	\$0	\$554,221	\$881,536	\$945,954	\$1,013,427	\$1,084,181	\$1,119,590	\$1,156,166
Arden Hills (24.9%)	\$0	\$138,001	\$219,502	\$235,543	\$252,343	\$269,961	\$278,778	\$287,885
North Oaks (14.4%)	\$0	\$79,808	\$126,941	\$136,217	\$145,933	\$156,122	\$161,221	\$166,488
Shoreview (60.7%)	\$0	\$336,412	\$535,092	\$574,194	\$615,150	\$658,098	\$679,591	\$701,793

Overall Operating Budget w/ Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,763,909	\$4,251,708	\$4,484,635	\$4,729,042	\$4,985,577	\$5,216,056	\$5,457,455
Arden Hills (24.9%)	\$756,157	\$937,213	\$1,058,675	\$1,116,674	\$1,177,531	\$1,241,409	\$1,298,798	\$1,358,906
North Oaks (14.4%)	\$437,296	\$542,003	\$612,246	\$645,787	\$680,982	\$717,923	\$751,112	\$785,874
Shoreview (60.7%)	\$1,843,324	\$2,284,693	\$2,580,787	\$2,722,174	\$2,870,529	\$3,026,245	\$3,166,146	\$3,312,675
Percentage Over Previous Year	n/a	23.94%	12.96%	5.48%	5.45%	5.42%	4.62%	4.63%

**Hire Three Captains March 1, 2024 and Three Captains July 1, 2024**

Current Operating Budget Only								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,209,688	\$3,370,172	\$3,538,681	\$3,715,615	\$3,901,396	\$4,096,466	\$4,301,289
Arden Hills (24.9%)	\$756,157	\$799,212	\$839,173	\$881,132	\$925,188	\$971,448	\$1,020,020	\$1,071,021
North Oaks (14.4%)	\$437,296	\$462,195	\$485,305	\$509,570	\$535,049	\$561,801	\$589,891	\$619,386
Shoreview (60.7%)	\$1,843,324	\$1,948,281	\$2,045,695	\$2,147,979	\$2,255,378	\$2,368,147	\$2,486,555	\$2,610,882
Percentage Over Previous Year	n/a	5.69%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

Direct Costs Due To Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
Wages	\$0	\$373,752	\$644,586	\$694,098	\$745,944	\$800,304	\$824,346	\$849,078
Employer Paid PERA	\$0	\$66,154	\$114,092	\$122,855	\$132,032	\$141,654	\$145,909	\$150,287
Other Benefits: Family Medical, Life-Dental Reimb, Work Comp, LTD, HAS, Clothing Allow, Medicare	\$0	\$100,160	\$105,168	\$110,426	\$115,948	\$121,745	\$127,832	\$134,224
Other Costs: Cell Phone, IT Services, etc.	\$0	\$14,155	\$17,690	\$18,575	\$19,503	\$20,478	\$21,502	\$22,577
<b>Overall (100%)</b>	\$0	\$554,221	\$881,536	\$945,954	\$1,013,427	\$1,084,181	\$1,119,590	\$1,156,166
Arden Hills (24.9%)	\$0	\$138,001	\$219,502	\$235,543	\$252,343	\$269,961	\$278,778	\$287,885
North Oaks (14.4%)	\$0	\$79,808	\$126,941	\$136,217	\$145,933	\$156,122	\$161,221	\$166,488
Shoreview (60.7%)	\$0	\$336,412	\$535,092	\$574,194	\$615,150	\$658,098	\$679,591	\$701,793

Overall Operating Budget w/ Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,763,909	\$4,251,708	\$4,484,635	\$4,729,042	\$4,985,577	\$5,216,056	\$5,457,455
Arden Hills (24.9%)	\$756,157	\$937,213	\$1,058,675	\$1,116,674	\$1,177,531	\$1,241,409	\$1,298,798	\$1,358,906
North Oaks (14.4%)	\$437,296	\$542,003	\$612,246	\$645,787	\$680,982	\$717,923	\$751,112	\$785,874
Shoreview (60.7%)	\$1,843,324	\$2,284,693	\$2,580,787	\$2,722,174	\$2,870,529	\$3,026,245	\$3,166,146	\$3,312,675
Percentage Over Previous Year	n/a	23.94%	12.96%	5.48%	5.45%	5.42%	4.62%	4.63%

Capital Improvement Plan (No Headquarters)								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$159,700	\$2,066,614	\$1,287,911	\$1,028,501	\$1,131,300	\$849,000	\$1,150,700	\$393,000
Arden Hills (24.9%)	\$39,765	\$514,587	\$320,690	\$256,097	\$281,694	\$211,401	\$286,524	\$97,857
North Oaks (14.4%)	\$22,997	\$297,592	\$185,459	\$148,104	\$162,907	\$122,256	\$165,701	\$56,592
Shoreview (60.7%)	\$96,938	\$1,254,435	\$781,762	\$624,300	\$686,699	\$515,343	\$698,475	\$238,551

Overall Expenditures								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$159,700	\$2,066,614	\$1,287,911	\$1,028,501	\$1,131,300	\$849,000	\$1,150,700	\$393,000
Arden Hills (24.9%)	\$39,765	\$514,587	\$320,690	\$256,097	\$281,694	\$211,401	\$286,524	\$97,857
North Oaks (14.4%)	\$22,997	\$297,592	\$185,459	\$148,104	\$162,907	\$122,256	\$165,701	\$56,592
Shoreview (60.7%)	\$96,938	\$1,254,435	\$781,762	\$624,300	\$686,699	\$515,343	\$698,475	\$238,551

**Hire Three Captains March 1, 2024 and Three Captains July 1, 2024**

Current Operating Budget Only								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,209,688	\$3,370,172	\$3,538,681	\$3,715,615	\$3,901,396	\$4,096,466	\$4,301,289
Arden Hills (24.9%)	\$756,157	\$799,212	\$839,173	\$881,132	\$925,188	\$971,448	\$1,020,020	\$1,071,021
North Oaks (14.4%)	\$437,296	\$462,195	\$485,305	\$509,570	\$535,049	\$561,801	\$589,891	\$619,386
Shoreview (60.7%)	\$1,843,324	\$1,948,281	\$2,045,695	\$2,147,979	\$2,255,378	\$2,368,147	\$2,486,555	\$2,610,882
Percentage Over Previous Year	n/a	5.69%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%

Direct Costs Due To Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
Wages	\$0	\$373,752	\$644,586	\$694,098	\$745,944	\$800,304	\$824,346	\$849,078
Employer Paid PERA	\$0	\$66,154	\$114,092	\$122,855	\$132,032	\$141,654	\$145,909	\$150,287
Other Benefits: Family Medical, Life-Dental Reimb, Work Comp, LTD, HAS, Clothing Allow, Medicare	\$0	\$100,160	\$105,168	\$110,426	\$115,948	\$121,745	\$127,832	\$134,224
Other Costs: Cell Phone, IT Services, etc.	\$0	\$14,155	\$17,690	\$18,575	\$19,503	\$20,478	\$21,502	\$22,577
<b>Overall (100%)</b>	\$0	\$554,221	\$881,536	\$945,954	\$1,013,427	\$1,084,181	\$1,119,590	\$1,156,166
Arden Hills (24.9%)	\$0	\$138,001	\$219,502	\$235,543	\$252,343	\$269,961	\$278,778	\$287,885
North Oaks (14.4%)	\$0	\$79,808	\$126,941	\$136,217	\$145,933	\$156,122	\$161,221	\$166,488
Shoreview (60.7%)	\$0	\$336,412	\$535,092	\$574,194	\$615,150	\$658,098	\$679,591	\$701,793

Overall Operating Budget w/ Captains								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,036,777	\$3,763,909	\$4,251,708	\$4,484,635	\$4,729,042	\$4,985,577	\$5,216,056	\$5,457,455
Arden Hills (24.9%)	\$756,157	\$937,213	\$1,058,675	\$1,116,674	\$1,177,531	\$1,241,409	\$1,298,798	\$1,358,906
North Oaks (14.4%)	\$437,296	\$542,003	\$612,246	\$645,787	\$680,982	\$717,923	\$751,112	\$785,874
Shoreview (60.7%)	\$1,843,324	\$2,284,693	\$2,580,787	\$2,722,174	\$2,870,529	\$3,026,245	\$3,166,146	\$3,312,675
Percentage Over Previous Year	n/a	23.94%	12.96%	5.48%	5.45%	5.42%	4.62%	4.63%

Capital Improvement Plan (No Headquarters)								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$159,700	\$1,991,200	\$1,247,100	\$1,028,501	\$1,131,300	\$849,000	\$1,150,700	\$393,000
Arden Hills (24.9%)	\$39,765	\$495,809	\$310,528	\$256,097	\$281,694	\$211,401	\$286,524	\$97,857
North Oaks (14.4%)	\$22,997	\$286,733	\$179,582	\$148,104	\$162,907	\$122,256	\$165,701	\$56,592
Shoreview (60.7%)	\$96,938	\$1,208,658	\$756,990	\$624,300	\$686,699	\$515,343	\$698,475	\$238,551

Headquarters Debt Service Guess (\$21M-\$6.4M=\$14.6M)								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$0	\$0	\$575,000	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000	\$1,150,000
Arden Hills (24.9%)	\$0	\$0	\$143,175	\$286,350	\$286,350	\$286,350	\$286,350	\$286,350
North Oaks (14.4%)	\$0	\$0	\$82,800	\$165,600	\$165,600	\$165,600	\$165,600	\$165,600
Shoreview (60.7%)	\$0	\$0	\$349,025	\$698,050	\$698,050	\$698,050	\$698,050	\$698,050

Overall Expenditures								
	2023	2024	2025	2026	2027	2028	2029	2030
<b>Overall (100%)</b>	\$3,196,477	\$5,755,109	\$6,073,808	\$6,663,136	\$7,010,342	\$6,984,577	\$7,516,756	\$7,000,455
Arden Hills (24.9%)	\$795,923	\$1,433,022	\$1,512,378	\$1,659,121	\$1,745,575	\$1,739,160	\$1,871,672	\$1,743,113
North Oaks (14.4%)	\$460,293	\$828,736	\$874,628	\$959,492	\$1,009,489	\$1,005,779	\$1,082,413	\$1,008,066
Shoreview (60.7%)	\$1,940,262	\$3,493,351	\$3,686,802	\$4,044,524	\$4,255,278	\$4,239,638	\$4,562,671	\$4,249,276

## LAKE JOHANNA FIRE DEPARTMENT 2024 Capital Budget

Printed 6/21/2023

Formulas  
Enter data

Ladder (1996)  
 Tahoe (2017)  
 Rescue (2014)  
 Engine (2008)  
 Rescue (2017)  
 Tahoe (2019)  
 Engine (L143)  
 Rescue (New)  
Tahoe (2019)  
Tanker (2001)

Line	General Equipment	2024	2025	2026	2027	2028	2029	2030
1	Engine/Ladder Replacement	1,844,000			960,000		1,060,000	
2	Rescue Replacement			300,000		330,000		363,000
3	Tahoe/Command Replacement		100,000		105,000			
4	Tanker/Utility Replacement					400,000		
5	SCBA Replacement			720,000				
6	Tire replacement	8,000	8,500	8,500	9,000	9,000	9,500	9,500
7	Computer Replacement	5,000	11,200		3,000			20,500
8	Mobile Tablet Replacement	58,500					81,200	
9	Network Access Devices (all Stations)		2,400		8,000			
10	Fire Hose 1-3/4" and 4" hydrant							
11	800MHz Radio Optimization				4,300			
12	Hydro Test of SCBA Bottles 122 x\$26	5,500						
13	Graphics (1999 Utility & 2007 Ladder)							
14	Thermal Imaging Camera							
15	Medical Supplies/Bags							
16	Rehab Equipment							
17	Gas Monitors (CO)							
18	Hydraulic Rescue Tool (New Apparatus)	14,000			42,000			
19	Lifting Air Bags Replacement							
20	Second Set Of Gear							
21	Portable Monitor/Nozzle	7,000						
22	New Ladder Equipment	24,000						
23	2007 Utility Center Console	2,000						
24	Lexipol - Policy Manual	27,914	10,811					
25	Set of Irons	3,500						
<b>Totals</b>		<b>\$ 1,999,414</b>	<b>\$ 132,911</b>	<b>\$ 1,028,500</b>	<b>\$ 1,131,300</b>	<b>\$ 849,000</b>	<b>\$ 1,150,700</b>	<b>\$ 393,000</b>

**Cities' Share of Capital Budget**

Arden Hills	24.9%	\$ 497,854	\$ 33,095	\$ 256,097	\$ 281,694	\$ 211,401	\$ 286,524	\$ 97,857
North Oaks	14.4%	\$ 287,916	\$ 19,139	\$ 148,104	\$ 162,907	\$ 122,256	\$ 165,701	\$ 56,592
Shoreview	60.7%	\$ 1,213,644	\$ 80,677	\$ 624,300	\$ 686,699	\$ 515,343	\$ 698,475	\$ 238,551
<b>Total</b>	<b>100.0%</b>	<b>\$ 1,999,414</b>	<b>\$ 132,911</b>	<b>\$ 1,028,501</b>	<b>\$ 1,131,300</b>	<b>\$ 849,000</b>	<b>\$ 1,150,700</b>	<b>\$ 393,000</b>



## LAKE JOHANNA FIRE DEPARTMENT 2024 Capital Budget

Printed 6/21/2023

Station 120	2024	2025	2026	2027	2028	2029	2030
1 Interior Painting							
2 Exterior Concrete repairs							
3 Landscaping/Rock							
4 Commercial Stove/Oven							
5 BBQ Grill							
6 Station Security; Access & Cameras							
7 Gutters & Gutter Guards - NE Corner	\$ 20,000						
8 Exterior Lighting to LED							
9 Bottle Filler Drinking Fountain	\$ 2,500						
10 Station Air Compressor							
<b>Station 2, Total</b>	<b>\$ 22,500</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Station 130	2024	2025	2026	2027	2028	2029	2030
1 BBQ Grill							
2 Stucco Redashing		\$ 50,000					
3 Upgrade space for FF Staffing Step #1	\$ 40,000						
4 Remodel/Addition for 24/7 Staffing- Step #2		\$ 1,000,000					
5 Ice Machine							
6 Station Security; Access & Cameras							
7 Exterior Lighting to LED							
8 Bottle Filler Drinking Fountain	\$ 3,000						
9 EV Charging Infrastructure		\$ 30,000					
10 Conference Room A/V Upgrade	\$ 1,200						
<b>Station 3, Total</b>	<b>\$ 44,200</b>	<b>\$ 1,080,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Station 140	2024	2025	2026	2027	2028	2029	2030
1 Interior painting							
2 BBQ Grill							
3 Station Security; Access & Cameras							
4 Roof		\$ 75,000					
5 Retaining Wall Repair							
6 Bottle Filler Drinking Fountain	\$ 2,500						
7 Garage door thresholds							
<b>Station 4, Total</b>	<b>\$ 2,500</b>	<b>\$ 75,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Stations</b>	<b>\$ 69,200</b>	<b>\$ 1,155,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
Total Station Cost by City	2024	2025	2026	2027	2028	2029	2030
Arden Hills	24.9%	\$ 17,231	\$ 287,595	\$ -	\$ -	\$ -	\$ -
North Oaks	14.4%	9,965	166,320	-	-	-	-
Shoreview	60.7%	42,004	701,085	-	-	-	-
		<b>\$ 69,200</b>	<b>\$ 1,155,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

## LAKE JOHANNA FIRE DEPARTMENT 2024 Capital Budget

Printed 6/21/2023

	2024	2025	2026	2027	2028	2029	2030
<b><u>From General Equipment</u></b>							
Arden Hills	\$ 497,854	\$ 33,095	\$ 256,097	\$ 281,694	\$ 211,401	\$ 286,524	\$ 97,857
North Oaks	\$ 287,916	\$ 19,139	\$ 148,104	\$ 162,907	\$ 122,256	\$ 165,701	\$ 56,592
Shoreview	\$1,213,644	\$ 80,677	\$ 624,300	\$ 686,699	\$ 515,343	\$ 698,475	\$238,551

	2024	2025	2026	2027	2028	2029	2030
<b><u>From Station Capital</u></b>							
Arden Hills	\$ 17,231	\$ 287,595	\$ -	\$ -	\$ -	\$ -	\$ -
North Oaks	\$ 9,965	\$ 166,320	\$ -	\$ -	\$ -	\$ -	\$ -
Shoreview	\$ 42,004	\$ 701,085	\$ -	\$ -	\$ -	\$ -	\$ -

	2024	2025	2026	2027	2028	2029	2030
<b><u>Reimbursements/Credits</u></b>							
Arden Hills	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
North Oaks	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Shoreview	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

	2024	2025	2026	2027	2028	2029	2030
<b>Overall Capital Budget</b>							
<i>( Sum of General Equipment , Stations and Reimbursement/Credit)</i>							
Arden Hills	\$ 515,085	\$ 320,690	\$ 256,097	\$ 281,694	\$ 211,401	\$ 286,524	\$ 97,857
North Oaks	\$ 297,881	\$ 185,459	\$ 148,104	\$ 162,907	\$ 122,256	\$ 165,701	\$ 56,592
Shoreview	\$1,255,648	\$ 781,762	\$ 624,300	\$ 686,699	\$ 515,343	\$ 698,475	\$238,551
	\$2,068,614	\$1,287,911	\$ 1,028,501	\$1,131,300	\$ 849,000	\$1,150,700	\$393,000

October 12, 2023

Kevin Kress, Administrator  
City of North Oaks  
100 Village Center Drive, #230  
North Oaks, MN 55127

Dear Mr. Kress

WE have been asked to provide some information regarding roadway design and construction standards for the City of North Oaks.

Roadway standards are set by statute in section 8820 of state statute.

In general roadway standards consider travel volume and design speed for determining lane width and shoulder width.

Attached are copies of the standard for Rural and Suburban undivided reconditioning and new or reconstruction projects.

Reconditioning projects allow for lane widths to vary from 10-11 feet and shoulder widths to vary from 1-3-feet. When a shared use with pedestrians is anticipated additional consideration regarding width is required.

Reconstruction projects allow for lane widths to vary from 11-12 feet and shoulder widths vary from 1-6 feet. In addition to lane and shoulder widths, ditch inslopes, clear zones, design speed and structural strengths are recommended.

As part of the process in determining the standards, for the city I recommend reviewing the roadway usage to determine which streets function as Major Collectors, Collectors and Local Streets and applying the recommendations for standards.

I recommend setting up a workshop to discuss issues related to road standards to determine the proper balance between road width, drainage requirements and tree preservation.

Sincerely,  
**Sambatek, LLC**



Mike Nielson, PE  
City Engineer

Attachments: 8820.9920 & 8820.9926

**8820.9920 MINIMUM DESIGN STANDARDS; RURAL AND SUBURBAN UNDIVIDED; NEW OR RECONSTRUCTION PROJECTS.**

When the road authority has determined that the roadway will be specifically designed to include on-road bicycle facilities, and only if the roadway surface is paved, the appropriate design criteria in the current MnDOT Bikeway Facility Design Manual are recommended for design to accommodate the bicycle facility.

New or reconstruction projects for rural and suburban undivided roadways must meet or exceed the minimum dimensions indicated in the following design chart. Where two dimensions are indicated, the larger values within the ranges are desirable.

Projected ADT (a)	Lane Width (b)	Shoulder Width	In-slope (c)	Clear Zone (d)	Minimum Design Speed (e)	Sur-facing	Structural Design Strength	Bridges to Remain (f) Width Curb to Curb
	feet	feet	rise: run	feet	mph		tons	feet
0-49	11-12	1	1:3	7	30	Agg.		22
50-149	11-12	3	1:4	9	40	Agg.		22
150-299	11-12	4	1:4	15	40	Agg./ Paved	7-ton/ 10-ton Staged (h)	28
300-749	11-12	4	1:4	15	40	Paved	10-ton Staged (h)	28
750-1499	11-12	4	1:4	25	40	Paved	10-ton Staged (h)	28
1500 and over	11-12	6(g)	1:4	30	40	Paved	10	30

Engineering judgment should be used to choose a lane-width, on-road bicycle facility, or shoulder-width dimension other than the widths indicated in the chart for roadways. Factors to consider include safety, speed, population/land use, benefit/cost analysis, traffic mix, peak hourly traffic, farm equipment, environmental impacts, terrain limitations, bicycle traffic, pedestrian traffic, on-street parking, intersection and driveway spacing, rights-of-way constraints, vehicle turn lane configuration, sight distance, sight lines, bus routes, other nonmotorized uses, functional classification, or other factors. Dimensions less than those indicated in the chart require a variance in accordance with parts 8820.3300 and 8820.3400.

For rural divided roadways, use the geometric design standards of the Mn/DOT Road Design Manual, with a minimum ten tons structural design and minimum 40 mph design speed.

(a) Use the existing traffic for highways not on the state-aid system.

(b) The state-aid engineer may approve lane widths of ten feet on roads classified as local or collector if truck and bus volumes are relatively low, rights-of-way are constrained, design speeds are 35 mph or less, and ADT is less than 1,500.

(c) Applies to inslope within the clear zone only. Approach roadway sideslopes in the clear zone must be 1:4 or flatter. Mn/DOT Road Design Manual clear zone may be used.

(d) Culverts with less than 30-inch vertical height allowed without protection in the clear zone. Mn/DOT Road Design Manual clear zone widths may be used in lieu of the values in the table in this part.

Guardrail is required to be installed at all bridges where the design speed exceeds 40 mph, and either the existing ADT exceeds 400 or the bridge clear width is less than the sum of the lane and shoulder widths.

Mailbox supports must be in accordance with chapter 8818.

For roadways in suburban areas as defined in part 8820.0200, the clear zone may be reduced to a width of ten feet for projected ADT under 1,000 and to 20 feet for projected ADT of 1,000 or over. Wherever the legal posted speed limit is 45 mph or less, the clear zone may be reduced to a width of ten feet.

(e) Subject to terrain. In suburban areas, the minimum design speed may be equal to the current legal posted speed where the legal posted speed is 30 mph or greater.

(f) Bridges to remain must have a load rating factor of at least 0.75 using the AASHTO Manual for Bridge Evaluation, LRF (load and resistance factor rating) for inventory level. A bridge narrower than these widths may remain in place if the bridge is not deficient structurally or hydraulically.

(g) Shoulders are required to be a minimum width of eight feet for highways classified as minor arterials and principal arterials with greater than 1,500 ADT projected, at least two feet of which must be paved.

(h) Except within municipal corporate limits, ten-ton staged structural design must be able to carry ten-ton axle loads except during spring load-restriction periods, or year-round if needed for system continuity. Roadbed width must accommodate ultimate ten-ton pavement overlay thickness and ultimate 1:4 sideslope. Within municipal corporate limits, minimum structural design must support nine-ton axle strength.

HL-93 loading in the AASHTO LRFD (load and resistance factor design) Specifications is required for new or reconstructed bridges. Rehabilitated bridges must have a load rating factor of at least 0.9 using the AASHTO Manual for Bridge Evaluation, LRF (load and resistance factor rating) for inventory level. The curb-to-curb minimum width for new or reconstructed bridges must be equal to the proposed lane plus shoulder widths, but in no case less than the minimum lane widths plus four feet, and in no case less than required per Minnesota Statutes, section 165.04.

**Statutory Authority:** *MS s 14.386; 14.389; 162.02; 162.09; 162.155*

**History:** 20 SR 1041; 23 SR 1455; 24 SR 1885; 29 SR 449; 32 SR 608; 36 SR 925; 37 SR 697;  
42 SR 485

**Published Electronically:** *November 20, 2017*

**8820.9926 MINIMUM DESIGN STANDARDS: RURAL AND SUBURBAN UNDIVIDED; RECONDITIONING PROJECTS.**

Subpart 1. **Minimum reconditioning standards.** Reconditioning projects for rural or suburban undivided roadways must meet or exceed the minimum dimensions indicated in the following design chart. See part 8820.0200, subpart 30, for the description of activities allowed.

Existing ADT	Statutory or Regulatory Posted Speed	Lane Width (Paved)	Combined Lane (Paved) and Shoulder Width
1-749	45 mph or less	10 feet	11 feet
1-749	50 mph or over	10 feet	12 feet
750 and over	45 mph or less	10 feet	12 feet
750 and over	50 mph and over	11 feet	14 feet

When the road authority has determined that the roadway will be specifically designed to include on-road bicycle facilities, and only if the roadway surface is paved, the appropriate design criteria in the current MnDOT Bikeway Facility Design Manual are recommended for design purposes.

Engineering judgment should be used to choose a lane-width, on-road bicycle facility, or shoulder width dimension other than the widths indicated in the chart. Factors to consider include safety, speed, population/land use, benefit/cost analysis, traffic mix, peak hourly traffic, farm equipment, environmental impacts, terrain limitations, bicycle traffic, pedestrian traffic, on-street parking, intersection and driveway spacing, rights-of-way constraints, vehicle turn lane configuration, sight distance, sight lines, bus routes, other nonmotorized uses, functional classification, or other factors. Dimensions less than those indicated in the chart require a variance in accordance with parts 8820.3300 and 8820.3400.

Widths of bridges to remain in place must equal roadway pavement width. Bridges narrower than these widths may remain in place provided that the bridge does not qualify for federal-aid bridge funds. Bridges to remain must have a load rating factor of at least 0.75 using the AASHTO Manual for Bridge Evaluation, LRFR (load and resistance factor rating) for inventory level.

Any highway that was previously built to state-aid or state standards, that was granted a variance to standards in effect at the time of construction or reconstruction, or that is a trunk highway turnback, may be reconditioned.

The proposed structural design strength must accommodate a minimum of seven tons per axle.

Subp. 2. [Repealed, 23 SR 1455]

**Statutory Authority:** *MS s 14.386; 162.02; 162.09; 162.155*

**History:** *20 SR 1041; 23 SR 1455; 24 SR 1885; 29 SR 449; 37 SR 697; 42 SR 485*

**Published Electronically:** *November 20, 2017*

## PLANNING REPORT

TO: North Oaks City Council

FROM: Kendra Lindahl, City Planner  
Kevin Kress, City Administrator  
Bridget McCauley Nason, City Attorney  
Michael Nielson, City Engineer

DATE: October 5, 2023

RE: Request to Withdraw the request for a Comprehensive Plan amendment to allow water for Red Forest Way South Phase II

## SUMMARY

In February 2023, North Oaks Company, LLC requested approval of a Comprehensive Plan Amendment to expand the Metropolitan Urban Service Area (MUSA) to add the properties in Red Forest Way South Phase 2 and part of Red Forest Way South Phase 1 developments. This would modify Maps 1, 16, 17 and 18 in the 2040 Comprehensive Plan and allow some of these properties to connect to sanitary sewer and water. The original areas proposed to be added to Maps 16, 17 are Tracts A through R of RLS 640.

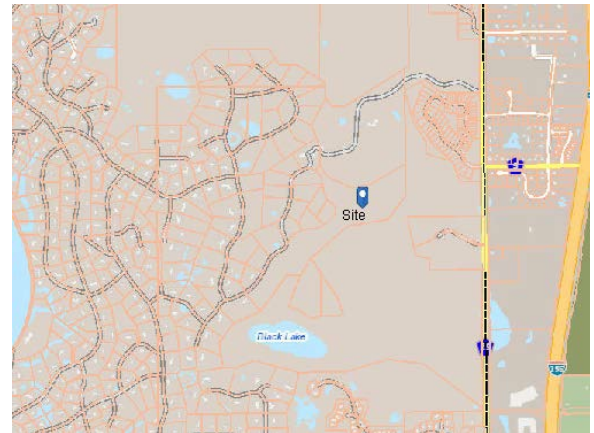


Figure 1 - Location Map

The areas proposed to be added to Maps 1 (community designations) and 18 (water service) are Tracts C - R of RLS 640 and Tracts F and H of RLS 561.

The applicant requested that Maps 16 and 17 (sanitary sewer) only include the parcels that could be immediately provided with sanitary sewer (Tracts D, F, G, H, I, and R of RLS 640 and Tracts F (two connections) of RLS 561).

The request was approved by the City Council on May 31, 2023 and was submitted to the Metropolitan Council for review as required by statute. The Metropolitan Council has deemed the application incomplete until the Joint Powers Agreement (JPA) with White Bear Township is amended to confirm that water will be provided. The City and Township have not yet amended the JPA.



The applicant has submitted a written request to withdraw the comprehensive plan amendment to allow municipal water service. This would mean that Map 1 would be modified to show only the expanded Sanitary Sewer service area and Map 18 would not be modified as part of the comprehensive plan amendment.

Red Forest Way South includes a total of 34 parcels. The approved comprehensive plan amendment will allow for sanitary sewer service to only 23 parcels (24 connections). The applicant has provided information to show that additional parcels in Red Forest Way South phase 1 could potentially connect to sanitary sewer in the future.

**Attached for reference:**

- Exhibit A: Applicant Letter dated October 4, 2023
- Exhibit B: Amended Map 1 – Community Designation
- Exhibit C: Amended Map 16 – Sanitary Sewer
- Exhibit D: Amended Map 17 – Municipal Sewer and SSTS
- Exhibit E: Amended Map 18 – Common Water Service
- Exhibit F: Resolution No. 1482
- Exhibit G: Resolution Approving Amended Comprehensive Plan Amendment Request

**PLANNING ANALYSIS**

The applicant's request to withdraw the water extension portion of the comprehensive plan amendment will allow the remainder of the comprehensive plan amendment approved by Resolution No. 1482 (to allow sanitary sewer for the affected lots) to proceed for Metropolitan Council review.

Should the JPA be amended to allow for municipal water service in the future, the applicant could submit a new comprehensive plan amendment request to allow water service and modify Maps 1 and 18. Staff recommends approval of Resolution Approving Amended Comprehensive Plan Amendment Request.





**ACTION REQUESTED**

Move to adopt the Resolution Approving Amended Comprehensive Plan Amendment Request to withdraw the request for a comprehensive plan amendment to add additional properties within the Metropolitan Urban Service Area (MUSA) for water in Red Forest Way South.





October 4, 2023

Mr. Kevin Kress  
City Administrator  
City of North Oaks  
100 Village Center Drive, Suite 150  
North Oaks, Minnesota 55127

Re: Amendment to 2040 Comprehensive Plan

Dear Kevin,

This letter is a formal request to withdraw the previous request for a comprehensive plan amendment to allow municipal water for the 34 parcels on 121.96 acres (legally described as Tracts C - R of RLS 640 and Tracts F and H of RLS 561).

It is our understanding that the City will move forward with the process to update the 2040 Comprehensive Plan to modify Maps #1, #16, and #17 to allow for sanitary sewer to be installed in the areas known as Red Forest Way South – Phase 1 & 2.

Please let us know if this request requires any further action by the City of North Oaks (City) to amend its approval of the Preliminary Plan for the subdivision of Site K - Red Forest Way South – Phase 2 (Site). North Oaks Company LLC (Company) will continue its ongoing work to complete grading and installation of all sanitary sewer utilities in Phase 2. In addition, we will coordinate with the City Engineer to modify the design of the proposed water lines and obtain approval to install a limited amount of water lines at the Company's risk, should the City request water distribution through the Site in the future.

Please call me with any questions and concerns.

Sincerely  
**North Oaks Company LLC,**


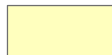
Mark Houge  
President

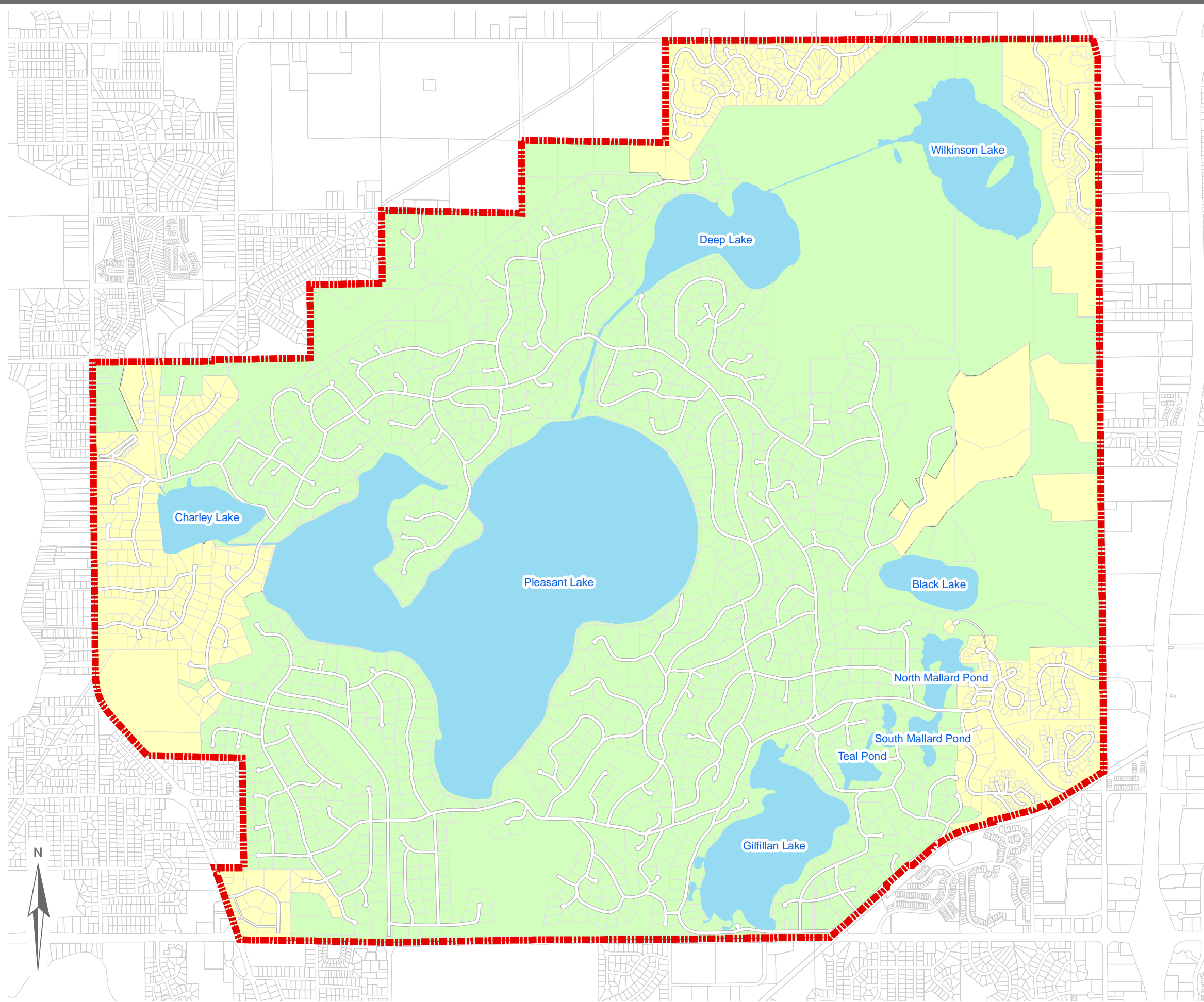
cc: City Planner  
City Engineer  
City Attorney  
Lauren Grouws, North Oaks Company LLC



# MAP 1 Metropolitan Council Community Designation

## Community Designation

-  Rural Residential
-  Emerging Suburban Edge







# MAP 16

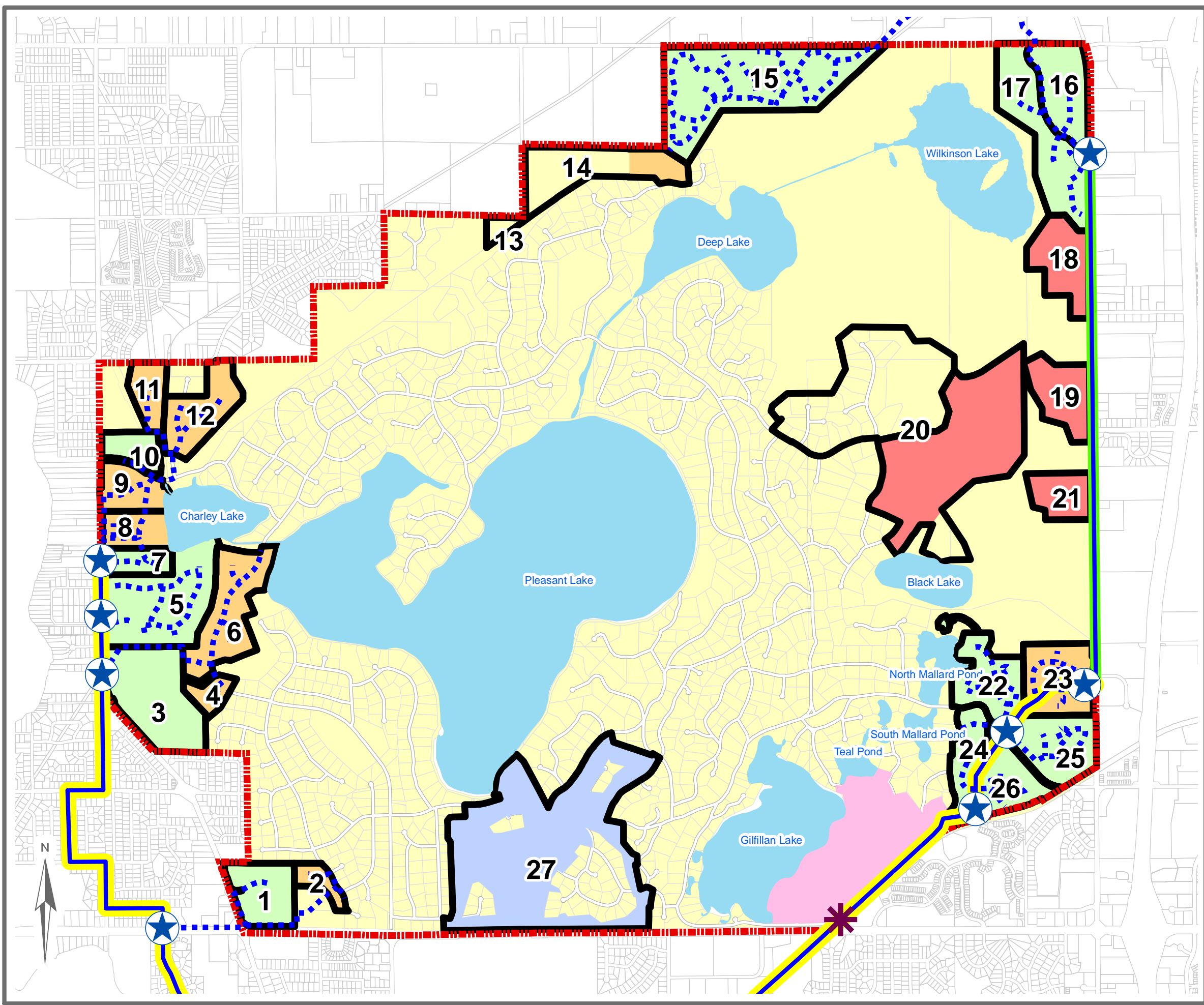
## 2017 North Oaks Neighborhoods with Common Utilities

- |                               |                              |
|-------------------------------|------------------------------|
| 1) Village Center             | 13) East Preserve            |
| 2) Southpointe                | 14) Nord                     |
| 3) Institutional District     | 15) Rapp Farm                |
| 4) Capaul Woods               | 16) Waverly Gardens          |
| 5) Charley Lake Preserve      | 17) Villas of Wilkinson Lake |
| 6) West Pleasant Lake         | 18) Anderson Woods           |
| 7) Red Pine Farm              | 19) Gate Hill                |
| 8) Lake Estates               | 20) Red Forest               |
| 9) South Wildflower           | 21) Island Field             |
| 10) Charley Lake Condominiums | 22) The Pines                |
| 11) Creekside                 | 23) Deer Hills               |
| 12) Peterson Place            | 24) Ski Hill                 |
|                               | 25) South East Pines         |
|                               | 26) Summits                  |
|                               | 27) North Oaks Golf Course   |

- Sanitary Sewer Connection Points
- Met Council Meter Locations
- Centerville Trunk Line
- Private sewer line
- Regional Interceptor
- North Oaks Boundary

- Service Types**
- Future Service Area
  - Sewer Only
  - Sewer and Water
  - Water Only
  - Not served by common utilities
  - Future Sewer

Updated 8/7/23  
Source: Sambatek/HR Green







# MAP 17

## Areas Served by Municipal Sewer and Sub Surface Treatment Systems (SSTS)

### Service Types

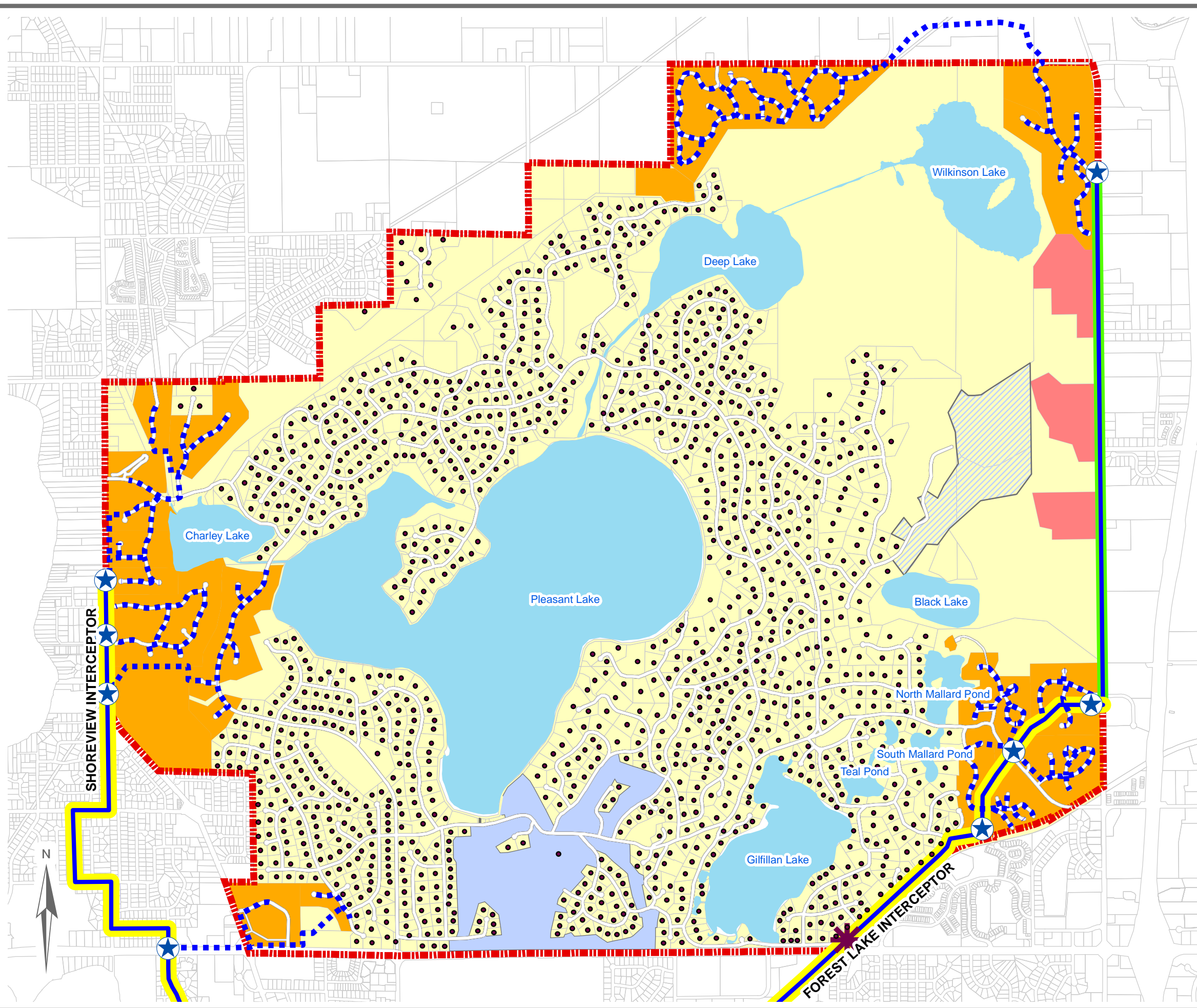
- Served by Sewer
- Future Service Area
- Not Served by Sewer
- Future Sewer
- Private sewer line
- Centerville Trunk Line
- Regional Interceptor

Alignments as shown are approximate.  
Please refer to record drawings for actual utility locations.

- SSTS Sites (1230)
- Sanitary Sewer Connection Points
- MetCouncilMeterLocations



Updated 8/7/23  
Source: Sambatek/HR Green


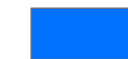






# MAP 18

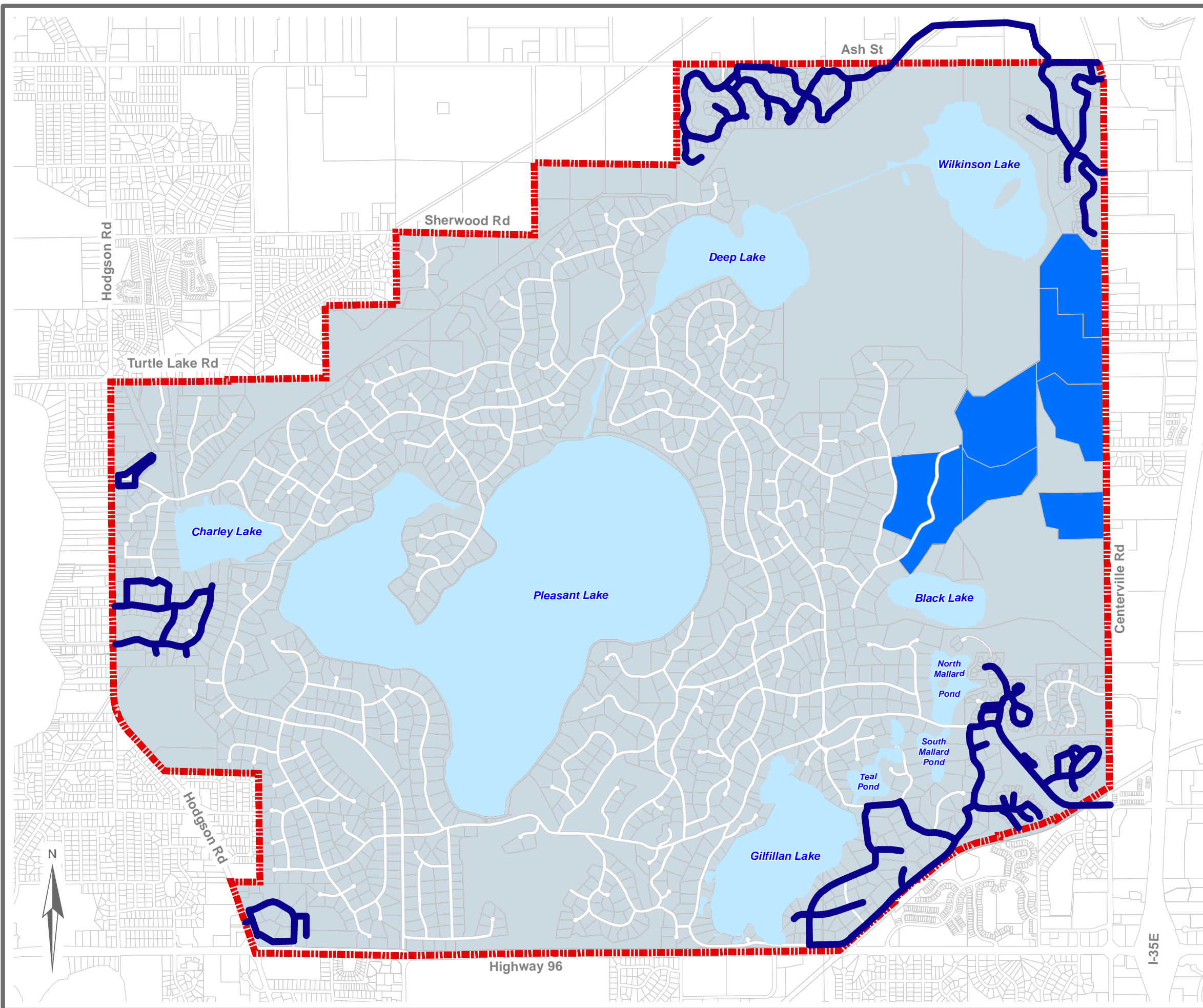
## Areas Served by Common Water Service

-  Existing Water Main
-  Future Water Service Areas

Alignments as shown are approximate.  
Please refer to record drawings for actual utility locations.

 North Oaks Boundary

Updated 8/7/23  
Source: Sambatek/HR Green



**CITY OF NORTH OAKS  
RAMSEY COUNTY, MINNESOTA  
RESOLUTION NO. 1482**

**RESOLUTION APPROVING A COMPREHENSIVE PLAN AMENDMENT TO  
ADD ADDITIONAL PROPERTIES WITHIN THE METROPOLITAN URBAN  
SERVICE AREA (MUSA) FOR WATER AND SEWER SERVICE**

---

**WHEREAS**, North Oaks Company, LLC has submitted an application to amend the City’s 2040 Comprehensive Plan (“2040 Plan”) to modify Maps 1, 16, 17 and 18 for the properties described as Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 (collectively, “Properties”) to classify the Properties as being within the Metropolitan Urban Service Area (MUSA) (collectively, the “Application”); and

**WHEREAS**, the Properties are located within the area subject to the East Oaks PDA, in and adjacent to the Red Forest Way South subdivision; and

**WHEREAS** the Applicant made the request so that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 could connect to a public water system; and

**WHEREAS** the Applicant made the request so that Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 could connect to a public sanitary sewer system; and

**WHEREAS** a public hearing concerning the Application was held before the North Oaks Planning Commission in accordance with Minnesota Statutes, Section 462.357, subd. 3, on April 12, 2023 after which hearing the Planning Commission voted unanimously to recommend approval of the Comprehensive Plan amendment Application to the City Council.

**NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS**, that a Comprehensive Plan amendment to add additional properties within the MUSA for water and sewer service is approved subject to the following conditions:

1. Contingent on review and comment by the Metropolitan Council for compatibility with metropolitan system plans, maps 1, 16, 17 and 18 of the City’s 2040 Comprehensive Plan are modified to show that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 could connect to a public water system, and Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 could connect to a public sanitary sewer system. This modification will result in the properties being within the Metropolitan Urban Service Area (MUSA) as shown in the staff report dated May 31, 2023.



2. The Red Forest Way Phase 1 Development Agreement must be revised to reflect that public water and sanitary sewer are to be constructed and provided for certain lots in Phase 1.
3. The applicant must work with the City to amend the Joint Powers Agreement with White Bear Township to provide the sanitary sewer and water services.
4. Approval from White Bear Township, the Minnesota Department of Health and the MPCA (Minnesota Pollution Control Agency) is required prior to construction of sanitary sewer and water.

Adopted by the City Council of the City of North Oaks this 31<sup>st</sup> day of May, 2023.

By: *Krista Wolter*  
Krista Wolter  
Its: Mayor

Attested:

By: *Kevin Kress*  
Kevin Kress  
Its: City Administrator

**EXHIBIT A**  
**LEGAL DESCRIPTION OF PROPERTY**

Real property located in Ramsey County, Minnesota legally described as follows:

Tract C, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140019  
Torrens Property

and

Tract D, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022410010  
Torrens Property

and

Tract E, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140020  
Torrens Property

and

Tract F, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140021  
Torrens Property

and

Tract G, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140022  
Torrens Property

and

Tract H, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 093022230005  
Torrens Property

and

Tract I, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140023  
Torrens Property

and

Tract J, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140024  
Torrens Property

and

Tract K, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140025  
Torrens Property

and

Tract L, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140026  
Torrens Property

and

Tract M, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140027  
Torrens Property

and

Tract N, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140028  
Torrens Property

and

Tract O, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140029  
Torrens Property

and

Tract P, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022140030  
Torrens Property

and

Tract Q, Registered Land Survey No. 640 Ramsey County, Minnesota.  
PID: 083022110024  
Torrens Property

and

Tract R, Registered Land Survey No. 640 Ramsey County, Minnesota.

PID: 093022230006

Torrens Property

and

Tract F, Registered Land Survey No. 561, Ramsey County, Minnesota.

PID: 093022220001

Torrens Property

And

Tract H, Registered Land Survey No. 561, Ramsey County, Minnesota.

PID: 043022340001

Torrens Property

**CITY OF NORTH OAKS  
RAMSEY COUNTY, MINNESOTA  
RESOLUTION NO. \_\_\_\_**

**RESOLUTION APPROVING AMENDED COMPREHENSIVE PLAN REQUEST  
TO ADD ADDITIONAL PROPERTIES WITHIN THE METROPOLITAN  
URBAN SERVICE AREA (MUSA) FOR SEWER SERVICE**

---

**WHEREAS**, North Oaks Company, LLC (Applicant) previously submitted an application to amend the City’s 2040 Comprehensive Plan (“Comprehensive Plan”) to modify maps 1, 16, 17 and 18 for the properties described as Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 (collectively, “Properties”) to classify the Properties as being within the Metropolitan Urban Service Area (MUSA) (collectively, the “Application”); and

**WHEREAS** the Applicant made the request so that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 could connect to a public water system; and

**WHEREAS** the Applicant made the request so that Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 could connect to a public sanitary sewer system; and

**WHEREAS**, on May 31, 2023, the City Council approved Resolution No. 1482 approving the modification of maps 1, 16, 17 and 18 of the City’s 2040 Comprehensive Plan to provide that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 could connect to a public water system, and Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 could connect to a public sanitary sewer system; this modification would result in the properties being within the Metropolitan Urban Service Area (MUSA) as shown in the staff report dated May 31, 2023; and

**WHEREAS**, the City subsequently submitted the comprehensive plan amendment to the Metropolitan Council for its review; and

**WHEREAS**, the Metropolitan Council received the City’s comprehensive plan amendment and began its review; the Metropolitan Council subsequently deemed the amendment to be incomplete; and

**WHEREAS**, the Applicant has now submitted a written request to the City to withdraw that portion of its comprehensive plan amendment application which requests inclusion of Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 within the MUSA for the purpose of connecting to a public water system; and

**WHEREAS**, the Applicant wishes to proceed only with its application for a comprehensive plan amendment regarding sanitary sewer, namely the amendment of maps 1, 16, 17 and 18 of the City's 2040 Comprehensive Plan to show that Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 to allow these properties to connect to a public sanitary sewer system. This modification will result in the properties being within the Metropolitan Urban Service Area (MUSA) as shown in the staff report dated May 31, 2023, only for sanitary sewer service; and

**WHEREAS**, the City Council supports the amendment of this previously-submitted comprehensive plan amendment request to remove the request related to inclusion of those properties identified above within the MUSA for the purpose of connecting to a public water system.

**NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH OAKS** as follows:

1. The Applicant's request to withdraw that portion of its comprehensive plan application requesting that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 be included within the MUSA for purposes of connection to a public water system is hereby approved.
2. The Comprehensive Plan Amendment submitted by the City to the Metropolitan Council is hereby modified to remove the previously-submitted request that Tracts C - R of Registered Land Survey 640 and Tracts F and H of Registered Land Survey 561 be included within the MUSA for purposes of connection to a public water system; the remainder of the Comprehensive Plan Amendment, namely that maps 1, 16 and 17 of the City's 2040 Comprehensive Plan are modified to show that Tracts D, F, G, H, I, and R of Registered Land Survey 640 and Tract F of Registered Land Survey 561 could connect to a public sanitary sewer system, which will result in the properties being within the Metropolitan Urban Service Area (MUSA) as shown in the staff report dated May 31, 2023 shall not be impacted by the modification described above.
3. The Red Forest Way Phase 1 Development Agreement must be revised to reflect that public sanitary sewer are to be constructed and provided for certain lots in Phase 1 following once the Comprehensive Plan Amendment becomes effective.
4. The applicant must work with the City to amend the Joint Powers Agreement with White Bear Township to provide the sanitary sewer service to the property identified above.

5. Approval from White Bear Township, the Minnesota Department of Health and the MPCA (Minnesota Pollution Control Agency) is required prior to construction of sanitary sewer.
6. This Resolution shall modify the comprehensive plan amendment approvals previously granted in Resolution No. 1482 to the extent necessary to effect the intent of this Resolution.
7. Staff are directed to continue to work with the Metropolitan Council to complete the necessary review of this amended comprehensive plan amendment request.

Adopted by the City Council of the City of North Oaks this 12<sup>th</sup> day of October, 2023.

By: \_\_\_\_\_  
Krista Wolter  
Its: Mayor

Attested:

By: \_\_\_\_\_  
Kevin Kress  
Its: City Administrator

## PLANNING REPORT

TO: North Oaks City Council

FROM: Kendra Lindahl, City Planner  
Kevin Kress, City Administrator  
Bridget Nason, City Attorney

DATE: October 5, 2023

RE: An Ordinance Amending City Code Title XV, Chapter 151, Regarding Solar Energy Systems

## BACKGROUND

At the July 13, 2023 City Council meeting representatives from Incarnation Lutheran Church spoke about the potential of installing a solar array in the northeast corner of their existing parking lot at 4880 Hodgson Road. The property is zoned RSM.

A subcommittee made up of Chair Cremons, Council member Azman and staff met to develop the ordinance amendments.

The Planning Commission reviewed a draft ordinance at the August 31<sup>st</sup> meeting. The Commission asked staff to provide additional information about how Gem Lake, Sunfish Lake and Grant address solar and staff has added those cities to the summary of other City standards attached to this report. The Commission directed staff to change the draft ordinance to require a minimum of 10 acres for any site proposing ground mounted solar. The draft ordinance reflects this change.

The Planning Commission held a public hearing on September 28, 2023. There was no one present to speak on this item. The Commission had a robust discussion about the draft ordinance. There was some support from Commissioners to reduce the minimum lot size from 10 acres to 3.5 acres and expand the areas where ground mounted solar arrays are allowed to the RSL district, but the majority of the Commission felt that this was a good first step to allowing solar. The Commission voted 5-1 (Sayre nay) to recommend approval of the ordinance as drafted.

## ISSUES AND ANALYSIS

Ground mounted solar arrays are not currently permitted in the City. Section 151.022 of the City Code states that "In any zoning district whenever a use is neither specifically permitted nor denied, the use shall be considered prohibited."



p 651-792-7750  
f 651-792-7751



northoaks@northoaksmn.gov  
www.northoaksmn.gov



100 Village Center Drive, Suite 230  
North Oaks, MN 55127



Building mounted solar arrays have been permitted as part of a building permit because such arrays are part of the structure. However, the Zoning Ordinance would need to be amended to allow this type of freestanding solar array. The City Council discussed this issue and directed staff to prepare an ordinance amendment for consideration in the RSM zoning district. The Council indicated that they supported this type of use as a conditional use accessory to a principal use if adequate screening can be provided.

The draft ordinance was prepared using information from the Minnesota Solar Model Ordinance and a number of individual cities. The model ordinance and a spreadsheet summarizing other ordinances is attached for reference. The ordinance formalizes the approval process for building-mount solar (which has been permitted) and adds ground-mount solar arrays as a conditional use.

The draft ordinances show underlined text for the proposed additions to the City Code and ~~struck through~~ text for the deletions.

The draft ordinance allows accessory ground-mount solar as a conditional use in the RSM zoning district only in the side or rear yard on parcels at least 10 acres in size. The parcels zoned RSM are located generally on the perimeter of the City. The Planning Commission discussed whether the minimum lot size should be 10 acres or something smaller. There are only three parcels in the City that are zoned RSM and are at least 10 acres in size. Staff has provided a graphic (Exhibit F) showing parcels zoned RSM at least 3.5 acres in size.

The subcommittee intentionally left the landscape requirements less prescriptive so that the screening and buffering requirements could be evaluated on a case-by-case basis as part of the conditional use permit application.

The request tonight is to amend the ordinance to allow ground-mount solar arrays as a conditional use within the RSM zoning district. If approved, Incarnation Lutheran Church could submit an application for a conditional use permit. The conditional use permit would require a public hearing at the Planning Commission and City Council action. While the specific request from Incarnation is not on the agenda this evening, a concept plan is included in this packet for informational purposes only.



**Attached for reference:**

- Exhibit A: Zoning Map
- Exhibit B: Transportation Map
- Exhibit C: MN Solar Model Ordinance
- Exhibit D: Summary of Other City Standards
- Exhibit E: Concept from Incarnation Lutheran Church
- Exhibit F: Parcels in the RSM district 3.5 acres or more
- Exhibit G: Ordinance amending Chapter 151
- Exhibit H: Resolution for Summary Publication

**STAFF RECOMMENDATION**

Based on the preceding review, Staff recommends approval of the ordinance amendment.

**ACTION REQUESTED**

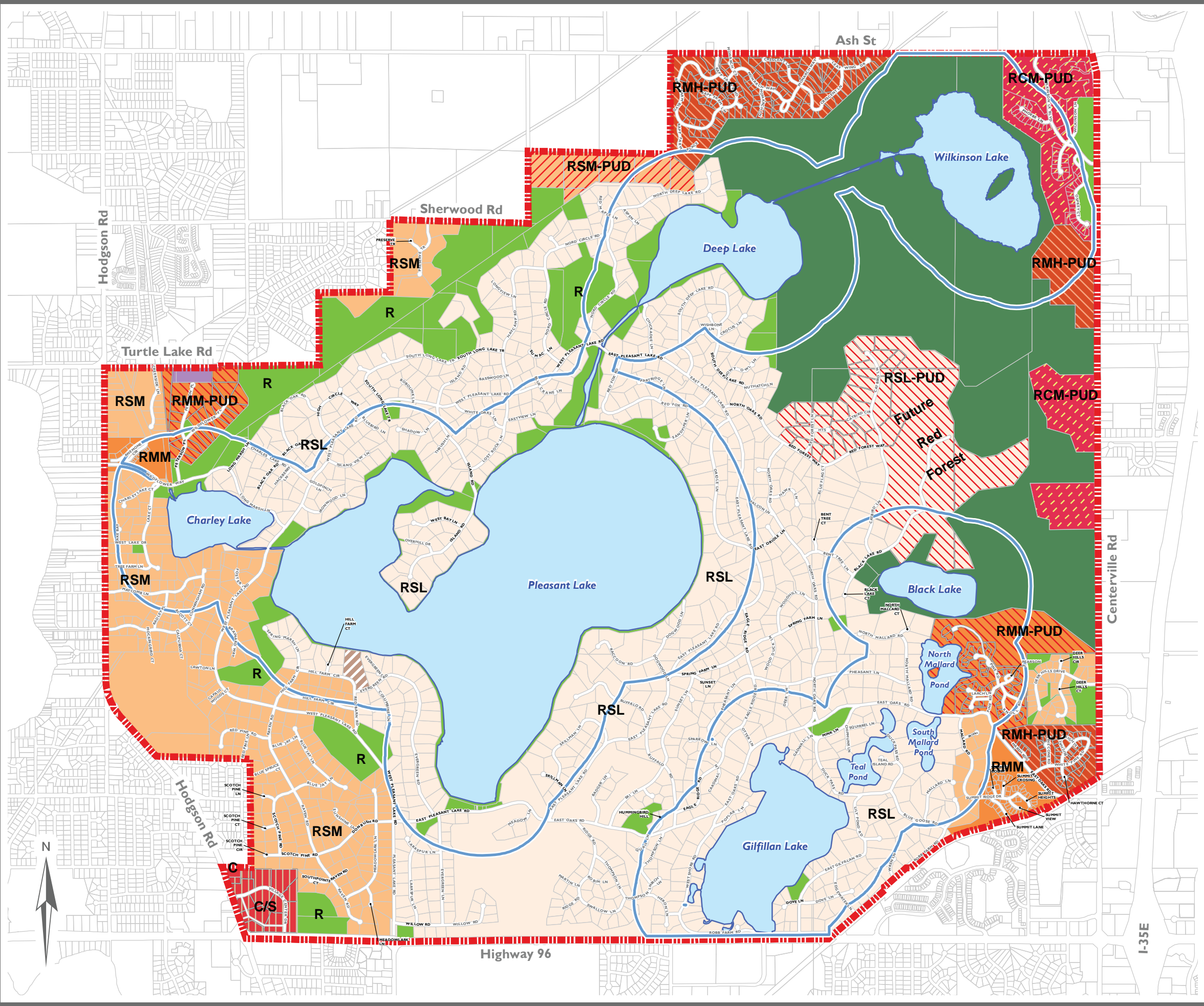
Move to adopt the Ordinance Amendment, as recommended by the Planning Commission.





# MAP 8

## Existing Zoning Districts Map



- OS (Open Space)
- RSL (Residential Single Family - Low Density)
- RSL-PUD (Residential Single Family - PUD)
- RSM (Residential Single Family - Medium Density)
- RSM-PUD (Res. Single Fam. - Med. Density - PUD)
- RMM (Residential Multiple Family Medium Density)
- RMM-PUD (Residential Multiple Family Medium Density - PUD)
- RMH-PUD (Residential Multiple Family High Density - PUD)
- RCM-PUD (Residential-Commercial Mixed-PUD)
- C (Commercial)
- C/S (Commercial/Service)
- LI (Limited Industrial)
- R (Recreation)
- HP (Historic Preservation)
- Shoreland District Boundaries

North Oaks Boundary

Source: City Zoning Map as of 5 - 10 - 21







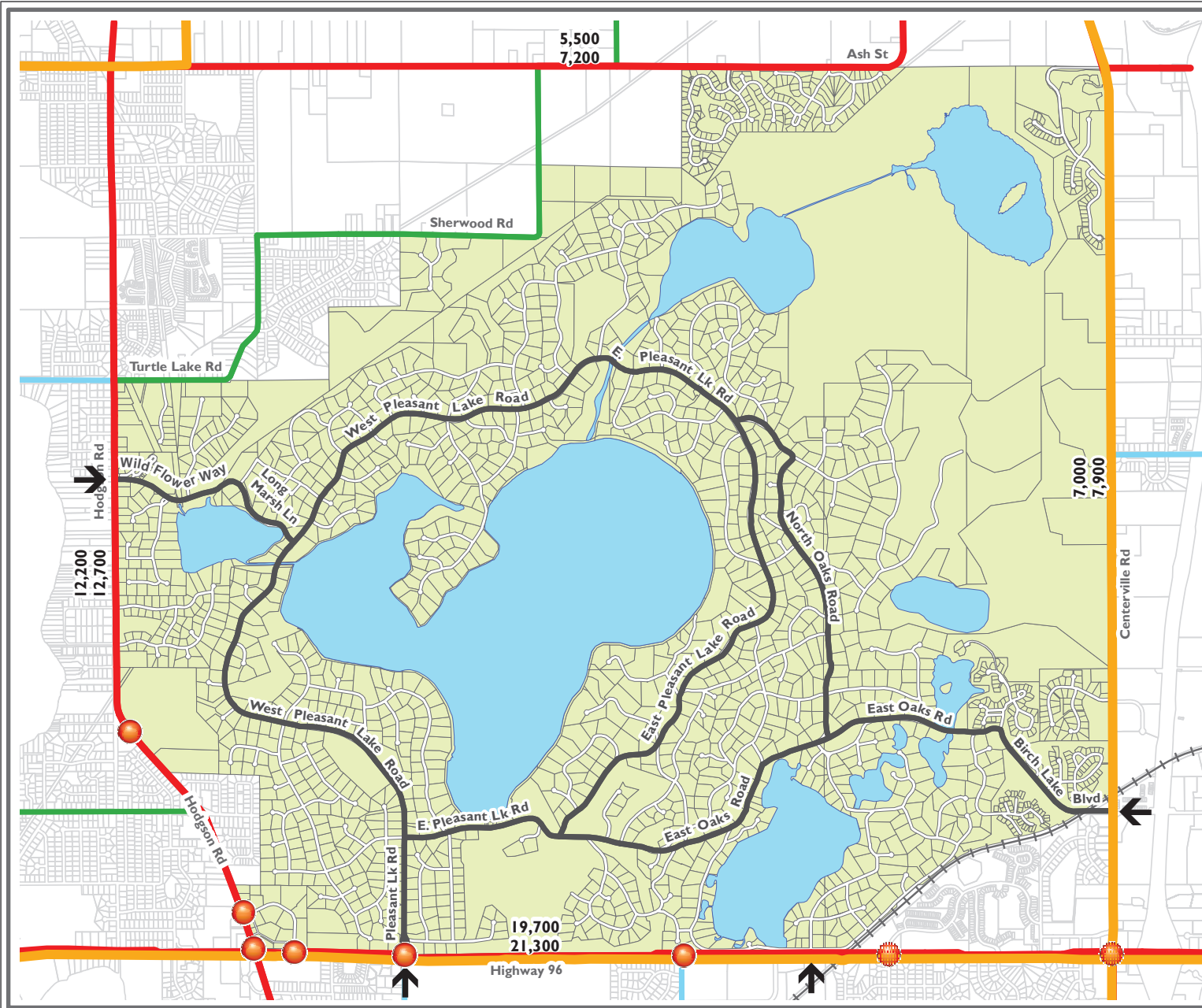
# MAP 14 Transportation Features

- 'A' Minor Expander
- Collector
- Minor Collector
- Other Arterial
- Regional Bicycle Transportation Network (RBTN) Tier 2
- Rail Lines (Freight)
- Signalized Intersection
- Primary City Access Points

2040 Traffic Volumes  
 Top number = current volumes  
 Bottom number = 2040 projections



5-10-21



# Minnesota Solar Model Ordinance

---



*Photo by Katharine Chute*

*Prepared by Great Plains Institute with support from Sunshot and the Energy Foundation*

# Model Solar Ordinance – Minnesota

## Introduction

Minnesota’s solar energy resources are high quality and cost effective—as good as many states to our south and consistently available across the entire state. As solar energy system components have become more efficient and less costly, an increasing number of solar energy systems have been installed in Minnesota. Market opportunities for solar development have dramatically increased in Minnesota over the last five years, such that communities must now address solar installations as land use and development issues. Solar energy components continue to improve in efficiency and decline in price; large-scale solar energy is expected to become the least expensive form of electric energy generation within a few years, surpassing wind energy and natural gas in leveled cost of energy.

### *Model Solar Energy Standards*

*This ordinance is based on the model solar energy ordinance originally created for Solar Minnesota, under a Million Solar Roofs grant from the U.S. Department of Energy. It has been substantially updated several times to reflect address additional issues and opportunities for Minnesota communities and the evolving solar industry, last updated May 2020*

But solar energy is much more than just low-cost energy generation. Households and businesses seeking to reduce their carbon footprint see solar energy as a strong complement to energy efficiency. Agricultural producers see their solar energy as an economic hedge against price volatility in commodity crops. Utilities see solar’s declining cost, high reliability, and free fuel as a means to put downward pressure on electric rates. Corporate, institutional, and municipal buyers are actively acquiring carbon-free solar generation to meet climate and clean energy goals. And innovative solar site designs are capturing habitat and water quality co-benefits by using solar with habitat-friendly ground cover to restore eco-system functions.

## Solar Energy Issues

Local governments in Minnesota are seeing increasing interest by property owners in solar energy installations and are having to address a variety of solar land uses in their development regulation. Given the continuing cost reductions and growing value of clean energy, solar development will increasingly be a local development opportunity, from the rooftop to the large-scale solar farm. Three primary issues tie solar energy to development regulations:

1. ***Land use conflicts and synergies.*** Solar energy systems have few nuisances. But solar development can compete for land with other development options, and visual impacts and perceived safety concerns sometimes create opposition to solar installations. Good design and attention to aesthetics can address most concerns for rooftop or accessory use systems. Good siting and site design standards for large- and community-scale solar can similarly resolve conflicts and create co-benefits from solar development, such as restoring habitat, diversifying agricultural businesses, and improving surface and ground waters.
2. ***Protecting access to solar resources.*** Solar resources are a valuable component of property ownership. Development regulations can inadvertently limit a property owner’s ability to access their solar resource. Communities should consider how to protect and develop solar resources in zoning, subdivision, and other development regulations or standards.
3. ***Encouraging appropriate solar development.*** Local government can go beyond simply removing regulatory barriers and encourage solar development that provides economic development, climate protection, and natural resources co-benefits. Local governments have a variety of tools to encourage appropriately sited and designed solar development to meet local goals.



## Components of a Solar Standards Ordinance

Solar energy standards should:

1. *Create an as-of-right solar installation path for property-owners.* Create a clear regulatory path (an as-of-right installation) to solar development for accessory uses and - if appropriate - for principal uses such as large-scale solar and ground-mount community shared solar installations.
2. *Enable principal solar uses.* Define where community- and large-solar energy land uses are appropriate as a principal or primary use, set development standards and procedures to guide development, and capture co-benefit opportunities for water quality, habitat, agriculture.
3. *Limit regulatory barriers to developing solar resources.* Ensure that access to solar resources is not unduly limited by height, setback, or coverage standards, recognizing the distinct design and function of solar technologies and land uses for both accessory and principal uses.
4. *Define appropriate aesthetic standards.* Retain an as-of-right installation pathway for accessory uses while balancing design concerns in urban neighborhoods and historic districts. Set reasonable aesthetic standards for solar principal uses that are consistent with other principal uses that have visual impacts.
5. *Address cross-property solar access issues.* Consider options for protecting access across property lines in the subdivision process and in zoning districts that allow taller buildings on smaller (urban density) lots.
6. *Promote “solar-ready” design.* Every building that has a solar resource should be built to seamlessly use it. Encourage builders to use solar-ready subdivision and building design.
7. *Include solar in regulatory incentives.* Encourage desired solar development by including it in regulatory incentives: density bonuses, parking standards, flexible zoning standards, financing/grant programs, promotional efforts.

## Different Community Types and Settings

The model ordinance language addresses land use concerns for both urban and rural areas, and thus not all the provisions may be appropriate for every community. Issues of solar access and nuisances associated with small or accessory use solar energy systems are of less consequence in rural areas, where lot sizes are almost always greater than one acre. Large-scale and community- scale solar (principal solar land uses) are much more likely to be proposed in rural areas rather than developed cities. However, urban areas should consider where community- or large-scale solar can add value to the community and enable economic development of a valuable local resource. Rural communities should address rooftop and accessory ground-mount development, although the standards used in this model are designed more for the urban circumstances.

This ordinance includes language addressing solar energy as an accessory use to the primary residential or commercial use in an urban area and language for principal solar uses more typically seen in rural communities. Communities should address both types of solar development.

### **Solar development is not one thing**

*Communities would not apply the same development and land use standards to an industrial facility and a single family home, merely because both are buildings. Community and large-scale solar development is a completely different land use than rooftop or backyard solar. Standards that are appropriate for large-scale solar may well be wholly inappropriate for rooftop solar and may unnecessarily restrict or stymie solar development opportunities of homes and business owners.*

## Model Ordinance

I. **Scope** - This article applies to all solar energy installations in Model Community.

II. **Purpose** - Model Community has adopted this regulation for the following purposes:

A. **Comprehensive Plan Goals** - To meet the goals of the Comprehensive Plan and preserve the health, safety and welfare of the community by promoting the safe, effective and efficient use of solar energy systems. The solar energy standards specifically implement the following goals from the Comprehensive Plan:

1. **Goal** – Encourage the use of local renewable energy resources, including appropriate applications for wind, solar, and biomass energy.
2. **Goal** – Promote sustainable building design and management practices to serve current and future generations.
3. **Goal** – Assist local businesses to lower financial and regulatory risks and improve their economic, community, and environmental sustainability.
4. **Goal** – Implement the solar resource protection element required under the Metropolitan Land Planning Act.

B. **Climate Change Goals** - Model Community has committed to reducing carbon and other greenhouse gas emissions. Solar energy is an abundant, renewable, and nonpolluting energy resource and its conversion to electricity or heat reduces dependence on nonrenewable energy resources and decreases the air and water pollution that results from the use of conventional energy sources.

C. **Infrastructure** - Distributed solar photovoltaic systems will enhance the reliability and power quality of the power grid and make more efficient use of Model Community’s electric distribution infrastructure.

D. **Local Resource** - Solar energy is an underused local energy resource and encouraging the use of solar energy will diversify the community’s energy supply portfolio and reduce exposure to fiscal risks associated with fossil fuels.

E. **Improve Competitive Markets** - Solar energy systems offer additional energy choice to consumers and will improve competition in the electricity and natural gas supply market.

### Comprehensive Plan Goals

*Tying the solar energy ordinance to Comprehensive Plan goals is particularly important for helping users (both Planning Commission and community members) understand why the community is developing and administering regulation.*

*The language here provides examples of different types of Comprehensive Plan goals, and other policy goals that the community may have that are served by enabling and encouraging solar development. The community should substitute its policy goals for these examples.*

*If the Comprehensive Plan does not include goals supporting local solar development, the community should consider creating a local energy plan or similar policy document to provide a policy foundation for solar development regulation (as noted in II.B) .*

### Metropolitan Land Planning Act

*Minnesota local governments subject to the Metropolitan Land Planning Act are required in their comprehensive plans to plan for the protection and development of solar resources. Communities must then incorporate Plan goals in their local controls. This ordinance implements that required Comprehensive Plan element.*



### III. Definitions

**Agrivoltaics** – A solar energy system co-located on the same parcel of land as agricultural production, including crop production, grazing, apiaries, or other agricultural products or services.

**Building-integrated Solar Energy Systems** – A solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

**Community-Scale Solar Energy System** – A commercial solar energy system that converts sunlight into electricity for the primary purpose of serving electric demands off-site from the facility, either retail or wholesale. Community-scale systems are principal uses and projects typically cover less than 20 acres.

**Community Solar Garden** – A solar energy system that provides retail electric power (or a financial proxy for retail power) to multiple community members or businesses residing or located off-site from the location of the solar energy system, consistent with Minn. Statutes 216B.1641 or successor statute. A community solar garden may be either an accessory or a principal use.

**Grid-intertie Solar Energy System** – A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.

**Ground-mount** – A solar energy system mounted on a rack or pole that rests or is attached to the ground. Ground-mount systems can be either accessory or principal uses.

**Large-Scale Solar Energy System** – A commercial solar energy system that converts sunlight into electricity for the primary purpose of wholesale sales of generated electricity. A large-scale solar energy system will have a project size greater than 20 acres and is the principal land use for the parcel(s) on which it is located.

**Off-grid Solar Energy System** – A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility company.

**Passive Solar Energy System** – A solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.

**Photovoltaic System** – A solar energy system that converts solar energy directly into electricity.

**Renewable Energy Easement, Solar Energy Easement** – An easement that limits the height or location, or both, of permissible development on the burdened land in terms of a structure or vegetation, or both, for the purpose of providing access for the benefited land to wind or sunlight passing over the burdened land, as defined in Minn. Stat. 500.30 Subd. 3 or successor statute.

#### *Solar Definitions*

*Not all these terms are used in this model ordinance, nor is this a complete list of solar definitions. As a community develops its own development standards for solar technology, many of the concepts defined here may be helpful in meeting local goals. For instance, solar daylighting devices may change the exterior appearance of the building, and the community may choose to distinguish between these devices and other architectural changes.*

#### *Differentiating Solar Uses by Size*

*Community-scale and Large-scale systems are defined here as occupying less than 20 acres and greater than 20 acres respectively. Some communities will use a lower number (ten acres) and some a higher number (up to 50 acres). An ex-urban city would use a lower number and a rural county could use a higher number. Community-scale is generally a size that can fit into the land use fabric of the community without assembly of separate parcels. Some communities have chosen not to distinguish between community- and large-scale, but use a single large-scale designation.*

**Roof-mount** – A solar energy system mounted on a rack that is fastened to or ballasted on a structure roof. Roof-mount systems are accessory to the principal use.

**Roof Pitch** – The final exterior slope of a roof calculated by the rise over the run, typically but not exclusively expressed in twelfths such as 3/12, 9/12, 12/12.

**Solar Access** – Unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.

**Solar Carport** – A solar energy system of any size that is installed on a carport structure that is accessory to a parking area, and which may include electric vehicle supply equipment or energy storage facilities.

**Solar Collector** – The panel or device in a solar energy system that collects solar radiant energy and transforms it into thermal, mechanical, chemical, or electrical energy. The collector does not include frames, supports, or mounting hardware.

**Solar Daylighting** – Capturing and directing the visible light spectrum for use in illuminating interior building spaces in lieu of artificial lighting, usually by adding a device or design element to the building envelope.

**Solar Energy** – Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

**Solar Energy System** – A device, array of devices, or structural design feature, the purpose of which is to provide for generation or storage of electricity from sunlight, or the collection, storage and distribution of solar energy for space heating or cooling, daylight for interior lighting, or water heating.

**Solar Hot Air System** (also referred to as Solar Air Heat or Solar Furnace) – A solar energy system that includes a solar collector to provide direct supplemental space heating by heating and re-circulating conditioned building air. The most efficient performance includes a solar collector to preheat air or supplement building space heating, typically using a vertically-mounted collector on a south-facing wall.

**Solar Hot Water System** – A system that includes a solar collector and a heat exchanger that heats or preheats water for building heating systems or other hot water needs, including residential domestic hot water and hot water for commercial processes.

**Solar Mounting Devices** – Racking, frames, or other devices that allow the mounting of a solar collector onto a roof surface or the ground.

**Solar Resource** – A view of the sun from a specific point on a lot or building that is not obscured by any vegetation, building, or object for a minimum of four hours between the hours of 9:00 AM and 3:00 PM Standard time on all days of the year, and can be measured in annual watts per square meter.

#### **Solar Resource**

*Understanding what defines a “solar resource” is foundational to how land use regulation affects solar development. Solar energy resources are not simply where sunlight falls. A solar resource has minimum spatial and temporal characteristics, and needs to be considered not only today but also into the future. Solar energy systems are economic only if the annual solar resource (measured in annual watts per square meter) are sufficiently high to justify the cost of installation. The resource is affected by the amount of annual shading, orientation of the panel, and typical atmospheric conditions. Solar resources on a particular site can be mapped and quantified, similar to quantifying other site resources that enhance property value; mineral resources, prime soils for agriculture, water, timber, habitat.*

**IV. Permitted Accessory Use** - Solar energy systems are a permitted accessory use in all zoning districts where structures of any sort are allowed, subject to certain requirements as set forth below. Solar carports and associated electric vehicle charging equipment are a permitted accessory use on surface parking lots in all districts regardless of the existence of another building. Solar energy systems that do not meet the following design standards will require a conditional use permit.

**A. Height** - Solar energy systems must meet the following height requirements:

1. Building- or roof- mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For purposes for height measurement, solar energy systems other than building-integrated systems shall be given an equivalent exception to height standards as building-mounted mechanical devices or equipment.
2. Ground- or pole-mounted solar energy systems shall not exceed 15 feet in height when oriented at maximum tilt.
3. Solar carports in non-residential districts shall not exceed 20 feet in height.

#### **Height - Rooftop System**

*This ordinance notes exceptions to the height standard when other exceptions for rooftop equipment are granted in the ordinance. Communities should directly reference the exception language rather than use the placeholder language here.*

**B. Set-back** - Solar energy systems must meet the accessory structure setback for the zoning district and primary land use associated with the lot on which the system is located, except as allowed below.

1. **Roof- or Building-mounted Solar Energy Systems** – The collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side-yard exposure. Solar collectors mounted on the sides of buildings and serving as awnings are considered to be building-integrated systems and are regulated as awnings.
2. **Ground-mounted Solar Energy Systems** - Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt, except as otherwise allowed for building mechanical systems.

#### **Height - Ground or Pole Mounted System**

*This ordinance sets a 15-foot height limit, which is typical for residential accessory uses. Some communities allow solar to be higher than other accessory uses in order to enable capture of the lot's solar resource when lots and buildings are closer together. An alternative is to balance height with setback, allowing taller systems if set back farther—for instance, an extra foot of height for every extra two feet of setback. In rural (or large lot) areas, solar resources are unlikely to be constrained by trees or buildings on adjacent lots and the lot is likely to have adequate solar resource for a lower (10-15 foot) ground-mount application.*

**C. Visibility** - Solar energy systems in residential districts shall be designed to minimize visual impacts from the public right-of-way, as described in C.1-3, to the extent that doing so does not affect the cost or efficacy of the system. Visibility standards do not apply to systems in non-residential districts, except for historic building or district review as described in E. below.

#### **Visibility and Aesthetics**

*Aesthetic regulation should be tied to design principles rather than targeted at a specific land use. If the community already regulates aesthetics in residential districts, this model language provides guidance for balancing between interests of property owners who want to use their on-site solar resources and neighbors concerned with neighborhood character. Substantial evidence demonstrates that solar installations have no effect on property values of adjacent properties. But where aesthetic regulation is used to protect community character, these standards provide balance between competing goals.*

1. **Building Integrated Photovoltaic Systems** - Building integrated photovoltaic solar energy systems shall be allowed regardless of whether the system is visible from the public right-of-way, provided the building component in which the system is integrated meets all required setback, land use, or performance standards for the district in which the building is located.
2. **Aesthetic restrictions** – Roof-mount or ground-mount solar energy systems shall not be restricted for aesthetic reasons if the system is not visible from the closest edge of any public right-of-way other than an alley, or if the system meets the following standards.
  - a. Roof-mounted systems on pitched roofs that are visible from the nearest edge of the front right-of-way shall have the same finished pitch as the roof and be no more than ten inches above the roof.
  - b. Roof-mount systems on flat roofs that are visible from the nearest edge of the front right-of-way shall not be more than five feet above the finished roof and are exempt from any rooftop equipment or mechanical system screening.
3. **Reflectors** - All solar energy systems using a reflector to enhance solar production shall minimize glare from the reflector affecting adjacent or nearby properties.

**D. Lot Coverage** - Ground-mount systems total collector area shall not exceed half the building footprint of the principal structure.

1. Ground-mount systems shall be exempt from lot coverage or impervious surface standards if the soil under the collector is maintained in vegetation and not compacted.
2. Ground-mounted systems shall not count toward accessory structure limitations.
3. Solar carports in non-residential districts are exempt from lot coverage limitations.

**E. Historic Buildings** - Solar energy systems on buildings within designated historic districts or on locally designated historic buildings (exclusive of State or Federal historic designation) must receive approval of the community Heritage Preservation Commission, consistent with the standards for solar energy systems on historically designated buildings published by the U.S. Department of Interior.

**F. Plan Approval Required** - All solar energy systems requiring a building permit or other permit from Model Community shall provide a site plan for review.

**Building Integrated PV**  
*Building integrated solar energy systems can include solar energy systems built into roofing (existing technology includes both solar shingles and solar roofing tiles), into awnings, skylights, and walls.*

**Roof-Mounted Solar Energy Systems**  
*This ordinance sets a threshold for pitched roof installations that they not be steeper than the finished roof pitch. Mounted systems steeper than the finished roof pitch change the appearance of the roof, and create additional considerations in regard to the wind and drift load on structural roof components. If the aesthetic impacts are not a concern to the community, the structural issues can be addressed in the building permit, as described in this Toolkit.*

**Reflectors**  
*Unlike a solar collector, reflector systems do create a potential glare nuisance. While reflector systems are unusual, communities may want to include this reference as a precaution.*

**Impervious Surface Coverage**  
*Rather than consider the solar panel for a ground-mount system as a roof, this provision recognizes that the ground under the panel can mitigate stormwater risks if it is kept in vegetation so that rain water can infiltrate. Any effects are de minimus for a small array if the lot is otherwise within coverage ratios.*

**Roof Coverage**  
*National Fire Code standards recommend keeping solar arrays well away from roof edges and peak in order to enable some fire fighting access. Different fire departments have addressed this in different ways. Recommendations for solar friendly permitting that accommodate Fire Code recommendations can be found in the Solar America Board of Codes and Standards.*

**Plan Approval**  
*This process is generally part of the process for obtaining a building permit. If the community does not issue building permits, it can be tied to a land use permit instead. For rural areas or cities without standards for rooftop systems, the plan approval section may be eliminated.*

1. **Plan Applications** - Plan applications for solar energy systems shall be accompanied by to-scale horizontal and vertical (elevation) drawings. The drawings must show the location of the system on the building or on the property for a ground-mount system, including the property lines.
  2. **Plan Approvals** - Applications that meet the design requirements of this ordinance shall be granted administrative approval by the zoning official and shall not require Planning Commission review. Plan approval does not indicate compliance with Building Code or Electric Code.
- G. Approved Solar Components** - Electric solar energy system components must have a UL or equivalent listing and solar hot water systems must have an SRCC rating.
- H. Compliance with Building Code** - All solar energy systems shall meet approval of local building code officials, consistent with the State of Minnesota Building Code, and solar thermal systems shall comply with HVAC-related requirements of the Energy Code.
- I. Compliance with State Electric Code** - All photovoltaic systems shall comply with the Minnesota State Electric Code.
- J. Compliance with State Plumbing Code** - Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.
- K. Utility Notification** - All grid-intertie solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.



**V. Principal Uses** – Model Community encourages the development of commercial or utility scale solar energy systems where such systems present few land use conflicts with current and future development patterns. Ground-mounted solar energy systems that are the principal use on the development lot or lots are conditional uses in selected districts.

### A. Principal Use General Standards

#### 1. Site Design

a. **Set-backs** – Community- and large-scale solar arrays must meet the following setbacks:

1. Property line setback for buildings or structures in the district in which the system is located, except as other determined in 1.a.5 below.
2. Roadway setback of 150 feet from the ROW centerline of State highways and CSAHs, 100 feet for other roads, except as other determined in 1.a.5 below.
3. Housing unit setback of 150 feet from any existing dwelling unit, except as other determined in 1.a.5 below.
4. Setback distance should be measured from the edge of the solar energy system array, excluding security fencing, screening, or berm.
5. All setbacks can be reduced by 50% if the array is fully screened from the setback point of measurement.

b. **Screening** – Community- and large-scale solar shall be screened from existing residential dwellings.

1. A screening plan shall be submitted that identifies the type and extent of screening.
2. Screening shall be consistent with Model Community’s screening ordinance or standards typically applied for other land uses requiring screening.
3. Screening shall not be required along property lines within the same zoning district, except where the adjoining lot has an existing residential use.
4. Model Community may require screening where it determines there is a clear community interest in maintaining a viewshed.

#### Community-Scale Solar or Solar Gardens

*Community solar systems differ from rooftop or solar farm installations primarily in regards to system ownership and disposition of the electricity generated, rather than land use considerations. There is, however, a somewhat greater community interest in community solar, and thus communities should consider creating a separate land use category.*

*This language limits the size of the garden to ten acres, which is an installation of no more than one MW of solar capacity. Communities should tailor this size limit to community standards, which may be smaller or larger.*

#### Appropriate Setbacks

*The community should consider balancing set-back requirements and screening requirements for principal use solar. Since the primary impact to neighbors of large-scale solar is visual, screening becomes less useful, as the setbacks get larger (and vice versa).*

*The setback distances provided here are general examples that should be modified to be consistent with other setbacks already in the ordinance. Excessive setbacks that are unique to solar land uses, or that are similar to high nuisance land uses such as industrial uses or animal agriculture, are unjustified given the low level of risk or nuisance posed by the system.*

#### Screening

*The community should consider limiting screening of community- or large-scale solar to where there is a visual impact from an existing use, such as adjacent residential districts or uses. Solar energy systems may not need to be screened from adjacent lots if those lots are in agricultural use, are non-residential, or have low-intensity commercial use.*

c. **Ground cover and buffer areas** - The following provisions shall be met related to the clearing of existing vegetation and establishment of vegetated ground cover. Additional requirements may apply as required by Model Community.

1. Large-scale removal of mature trees on the site is discouraged. Model Community may set additional restrictions on tree clearing or require mitigation for cleared trees.
2. The project site design shall include the installation and establishment of ground cover meeting the beneficial habitat standard consistent with Minnesota Statutes, section 216B.1642, or successor statutes and guidance as set by the Minnesota Board of Water and Soil Resources (BWSR).
3. The applicant shall submit a planting plan accompanied by a completed “Project Planning Assessment Form” provided by BWSR for review by BWSR or the County SWCD.
4. Beneficial habitat standards shall be maintained on the site for the duration of operation, until the site is decommissioned. The owner of the solar array shall complete BWSR’s “Established Project Assessment Form” at year 4 and every 3 years after that, and allow the County SWCD to conduct a site visit to verify compliance.
5. Model Community may require submittal of inspection fee at the time of the initial permit application to support ongoing inspection of the beneficial habitat ground cover.
6. The applicant shall submit a financial guarantee in the form of a letter of credit, cash deposit or bond in favor of the Community equal to one hundred twenty-five (125) percent of the costs to meet the beneficial habitat standard. The financial guarantee shall remain in effect until vegetation is sufficiently established.

d. **Foundations** - A qualified engineer shall certify that the foundation and design of the solar panel racking and support is within accepted professional standards, given local soil and climate conditions.

e. **Power and communication lines** - Power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by Model Community in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the zoning administrator.

#### **Ground Cover Standards**

*Minnesota has created a “beneficial habitat” certification, administered by the Board of Soil and Water Resources (BWSR) to enable local governments and solar developers to certify principal use solar as having achieved the co-benefits of using the site as pollinator habitat.*

*Establishing and maintaining native ground cover creates important co-benefits to the community or the property owner. Native grasses can be harvested for forage and wildflowers and blooming plants can create pollinator and bird habitat, and maintaining the site in native vegetation will build soils that can be turned back into agriculture at the end of the solar farm’s life.*

#### **Site Design in Conditional Use Permit**

*Certain site design elements may be included in a community’s conditional use permit for community- and large-scale solar. Best practices for habitat-friendly solar site design include, for instance, that:*

- panels be at least 36 inches off the ground to allow mowing and other maintenance,
- panels be spaced to allow vegetation to be self-sustaining,
- maintenance standards limit or prevent pesticide use.

#### **Financial Surety**

*Communities frequently require bonds or similar financial guarantees when infrastructure improvements are required for a development project. The beneficial habitat installation can be considered in a similar light. Establishing a self-sustaining pollinator or native habitat ground cover requires maintenance over the first 2-3 years, and some maintenance over the life of the project.*

2. **Stormwater and NPDES** - Solar farms are subject to Model Community's stormwater management and erosion and sediment control provisions and NPDES permit requirements. Solar collectors shall not be considered impervious surfaces if the project is certified as beneficial habitat solar, as described in A.1.c.2. of this ordinance.
3. **Other standards and codes** - All solar farms shall be in compliance with all applicable local, state and federal regulatory codes, including the State of Minnesota Uniform Building Code, as amended; and the National Electric Code, as amended.
4. **Site Plan Required** - A detailed site plan for both existing and proposed conditions must be submitted, showing location of all solar arrays, other structures, property lines, rights-of-way, service roads, floodplains, wetlands and other protected natural resources, topography, electric equipment, and all other characteristics requested by Model Community. The site plan should show all zoning districts and overlay districts.
5. **Aviation Protection** - For solar farms located within 500 feet of an airport or within approach zones of an airport, the applicant must complete and provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the Airport Traffic Control Tower cab and final approach paths, consistent with the Interim Policy, FAA Review of Solar Energy Projects on Federally Obligated Airports, or most recent version adopted by the FAA.
6. **Agricultural Protection** - Solar farms must comply with site assessment or soil identification standards that are intended to identify agricultural soils. Model Community may require mitigation for use of prime soils for solar array placement, including the following:
  - a. Demonstrating co-location of agricultural uses (agrivoltaics) on the project site.
  - b. Using an interim use or time-limited CUP that allows the site to be returned to agriculture at the end of life of the solar installation.
  - c. Placing agricultural conservation easements on an equivalent number of prime soil acres adjacent to or surrounding the project site.
  - d. Locating the project in a Drinking Water Supply Management Area or wellhead protection area.

#### **Stormwater and Water Quality Standards**

*Perennial grasses and wildflowers planted under the panels, between arrays, and in setback or buffer areas will substantially mitigate the stormwater risks associated with solar arrays, and result in less runoff than typically seen from many types of agriculture. The ground cover standards in Section A.3. will mitigate many stormwater risks, although soil type and slope can still affect the need for additional stormwater mitigation.*

*Solar with native perennial ground cover can provide multiple water quality benefits when converting from most agricultural crop uses. Both groundwater (limiting nitrate contamination) and surface waters (reducing phosphorus and sediment loading) can benefit if the system is appropriately designed.*

#### **Site Plan**

*Solar farm developers should provide a site plan similar to that required by the community for any other development. Refer to your existing ordinance to guide site plan submittal requirements.*

#### **Aviation Standards, Glare**

*This standard was developed for the FAA for solar installations on airport grounds. It can also be used for solar farm and garden development in areas adjacent to airports. This standard is not appropriate for areas where reflected light is not a safety concern.*

#### **Agricultural Protection**

*If the community has ordinances that protect agricultural soils, this provision applies those same standards to solar development. Communities should understand, however, that solar farms do not pose the same level or type of risk to agricultural practices as does housing or commercial development. Solar farms can be considered an interim use that can be easily turned back to agriculture at the end of the solar farm's life (usually 25 years.)*



7. **Decommissioning** - A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life.

a. Decommissioning of the system must occur in the event the project is not in use for 12 consecutive months.

b. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and assurances that financial resources will be available to fully decommission the site.

c. Disposal of structures and/or foundations shall meet the provisions of the Model Community Solid Waste Ordinance.

d. Model Community may require the posting of a bond, letter of credit or the establishment of an escrow account to ensure proper decommissioning.

**B. Community-Scale Solar** – Model Community permits the development of community-scale solar, subject to the following standards and requirements:

1. **Rooftop gardens permitted** - Rooftop community systems are permitted in all districts where buildings are permitted.

2. **Community-scale uses** - Ground-mount community solar energy systems must cover no more than ten acres (project boundaries), and are a permitted use in industrial and agricultural districts, and permitted with standards or conditional in all other non-residential districts. Ground-mount solar developments covering more than ten acres shall be considered large-scale solar.

3. **Dimensional standards** - All structures must comply with setback, height, and coverage limitations for the district in which the system is located.

4. **Other standards** - Ground-mount systems must comply with all required standards for structures in the district in which the system is located.

#### **Prime Farmland and Agrivoltaics**

*Minnesota Admin. 7850.4400 Subd. 4 has provisions for the protection of prime farmland when large electric power generating plants are located on lands designated as prime farmland.*

*There are a number of mitigation opportunities for solar sited on prime farmland, such as co-locating agricultural uses within solar arrays (also called agrivoltaics). Groundcover that includes pollinator-friendly plantings may enhance surrounding agricultural opportunities, or in the case of protecting drinking water or wellhead protection areas as described below.*

#### **Defining Community-Scale Solar**

*The acreage size for community-scale solar garden written here (10 acres) is the high end of project size for a one megawatt system, which is the maximum size of community solar gardens within Xcel Energy's program. But other utilities have other size limitations, and community-scale could be defined as high as 10 megawatts (100 acre project size). Community-scale solar is the size that can fit in to the landscape.*

#### **Drinking Water Protection**

*In identifying preferred sites for solar principal uses the community should consider co-benefits of solar energy development. One such potential co-benefit is protection of drinking water supplies. Solar energy development may be intentionally sited within vulnerable portions of Drinking Water Supply Management Areas (DWSMAs) as a best management practice to restore and protect native perennial groundcover that reduces nitrate contamination of ground water supplies.*

**C. Large-Scale Solar** - Ground-mount solar energy arrays that are the primary use on the lot, designed for providing energy to off-site uses or export to the wholesale market, are permitted under the following standards:

1. **Conditional use permit** – Solar farms are conditional uses in agricultural districts, industrial districts, shoreland and floodplain overlay districts, airport safety zones subject to A.1.5. of this ordinance, and in the landfill/brownfield overlay district for sites that have completed remediation.

**Large-Scale Solar Conditional Uses**

*Large -scale solar should require a conditional use or interim use permit in order for the community to consider the site-specific conditions. The districts listed here are examples. Each community needs to consider where large scale solar is suitable in the context of its zoning districts and priorities.*

**Example Use Table**

Use Type	Residential	Mixed Use	Business	Industrial	Agricultural, Rural, Landfill	Shoreland	Floodplain	Special (Conservation, Historic Districts)
Large-scale solar				C	C	C	C	C
Community-scale solar	C	C	C	P	P	PS	PS	PS
Accessory use ground-mounted solar	P	P	P	P	P	P	C	C
Rooftop solar	P	P	P	P	P	P	P	PS

P = Permitted

PS = Permitted Special (additional separate permit or review)

C = Conditional

Blank Cell = Prohibited

**Solar as a Land Use**

*The above use table shows four types of solar development that are distinct types of land uses (two kinds of accessory uses, two principal uses), and a group of districts or overlays that are commonly used in Minnesota.*

- Rooftop system are permitted in all districts where buildings are permitted, with recognition that historic districts will have special standards or permits separate from the zoning permits.
- Accessory use ground-mount are conditional where potentially in conflict with the primary district or overlay goal.
- Community-scale solar principal uses are conditional where land use conflicts or opportunity conflicts are high, permitted where a 10 acre development can be integrated into the landscape, and requiring special consideration in shoreland and floodplain overlay districts.
- Large-scale is prohibited in higher density districts and conditional in all other districts.

*Both community- and large-scale solar is allowed in shoreland and floodplain overlay districts, because the site design standards requiring beneficial habitat ground cover not only ensure a low-impact development but in most cases result in a restoration of ecosystem services from the previous (usually agricultural) use.*

**VI. Restrictions on Solar Energy Systems Limited** – As of (adoption date for this ordinance) new homeowners’ agreements, covenant, common interest community standards, or other contract between multiple property owners within a subdivision of Model Community shall not restrict or limit solar energy systems to a greater extent than Model Community’ solar energy standards.

**VII. Solar Access** - Model Community encourages protection of solar access in all new subdivisions.

**A. Solar Easements Allowed** - Model Community allows solar easements to be filed, consistent with Minnesota State Code 500. Any property owner can purchase an easement across neighboring properties to protect access to sunlight. The easement can apply to buildings, trees, or other structures that would diminish solar access.

**B. Easements within Subdivision Process** - Model Community requires new subdivisions to identify and create solar easements when solar energy systems are implemented as a condition of a PUD, subdivision, conditional use, or other permit, as specified in Section 8 of this ordinance.

#### **Solar Easements**

*Minnesota allows the purchase and holding of easements protecting access to solar and wind energy. The easement must specify the following information:*

*Required Contents - Any deed, will, or other instrument that creates a solar or wind easement shall include, but the contents are not limited to:*

*(a) A description of the real property subject to the easement and a description of the real property benefiting from the solar or wind easement; and*

*(b) For solar easements, a description of the vertical and horizontal angles, expressed in degrees and measured from the site of the solar energy system, at which the solar easement extends over the real property subject to the easement, or any other description which defines the three dimensional space, or the place and times of day in which an obstruction to direct sunlight is prohibited or limited;*

*(more provisions, see Statute)*

*Source: Minnesota Stat. 500.30 Subd. 3.*

## VIII. Renewable Energy Condition for Certain Permits

### A. Condition for Planned Unit Development (PUD) Approval

- Model Community may require on-site renewable energy systems, zero-net-energy (ZNE) or zero-net-carbon (ZNC) building designs, solar-synchronized electric vehicle charging or other clean energy systems as a condition for approval of a PUD permit to mitigate for:

1. Impacts on the performance of the electric distribution system,
2. Increased local emissions of greenhouse gases associated with the proposal,
3. Need for electric vehicle charging infrastructure to offset transportation-related emissions for trips generated by the new development,
4. Other impacts of the proposed development that are inconsistent with the Model Community Comprehensive Plan.

B. **Condition for Conditional Use Permit** - Model Community may require on-site renewable energy systems or zero net energy construction as a condition for a rezoning or a conditional use permit.

**IX. Solar Roof Incentives** - Model Community encourages incorporating on-site renewable energy system or zero net energy construction for new construction and redevelopment. Model Community may require on-site renewable energy or zero-net-energy construction when issuing a conditional use permit where the project has access to local energy resources, in order to ensure consistency with Model Community's Climate Action Plan.

A. **Density Bonus** - Any application for subdivision of land in the \_\_\_ Districts that will allow the development of at least four new lots of record shall be allowed to increase the maximum number of lots by 10% or one lot, whichever is greater, provided all building and wastewater setbacks can be met with the increased density, if the applicant enters into a development agreement guaranteeing at least three (3) kilowatts of PV for each new residence that has a solar resource.

B. **Financial Assistance** – Model Community provides financial assistance to certain types of development and redevelopment. All projects that receive financial assistance of \$ \_\_\_\_\_ or greater, and that have a solar resource shall incorporate on-site renewable energy systems.

### *Renewable Energy Conditions, Incentives*

*The community can use traditional development tools such as conditional use permits, PUDs, or other discretionary permits to encourage private investment in solar energy systems as part of new development or redevelopment. This model ordinance notes these opportunities for consideration by local governments. In most cases, additional ordinance language would need to be tailored to the community's ordinances.*

*For instance, a provision that PUDs (or other special district or flexible design standard) incorporate solar energy should be incorporated into the community's PUD ordinance rather than being a provision of the solar standards.*

*Conditional use permits generally include conditions, and those conditions can include renewable energy or zero net energy design, but only if the conditions are clearly given preference in adopted policy or plans. Explicit reference to climate or energy independence goals in the ordinance and explicit preference for such conditions will set a foundation for including such conditions in the permit.*

### *Solar Roof Incentives*

*This section of the model ordinance includes a series of incentives that can be incorporated into development regulation. Most cities and many counties use incentives to encourage public amenities or preferred design. These same tools and incentives can be used to encourage private investment in solar energy. Communities should use incentives that are already offered, and simply extend that incentive to appropriate solar development.*

*Some of the incentives noted here are not zoning incentives, but fit more readily into incentive programs offered by the community (such as financing or incentive-based design standards).*

- C. **Solar-Ready Buildings** – Model Community encourages builders to use solar-ready design in buildings. Buildings that submit a completed U.S. EPA Renewable Energy Ready Home Solar Photovoltaic Checklist (or other approved solar-ready standard) and associated documentation will be certified as a Model Community solar ready home, and are eligible for low-cost financing through Model Community’s Economic Development Authority. A designation that will be included in the permit home’s permit history.
- D. **Solar Access Variance** – When a developer requests a variance from Model Community’s subdivision solar access standards, the zoning administrator may grant an administrative exception from the solar access standards provided the applicant meets the conditions of 1. and 2. below:
1. **Solar Access Lots Identified** - At least \_\_\_% of the lots, or a minimum of \_\_\_ lots, are identified as solar development lots.
  2. **Covenant Assigned** - Solar access lots are assigned a covenant that homes built upon these lots must include a solar energy system. Photovoltaic systems must be at least three (3) KW in capacity.
  3. **Additional Fees Waived** - Model Community will waive any additional fees for filing of the covenant.

#### **Solar Ready Buildings**

*New buildings can be built “solar-ready” at very low cost (in some cases the marginal cost is zero). Solar energy installation costs continue to decline in both real and absolute terms, and are already competitive with retail electric costs in many areas. If new buildings have a rooftop solar resource, it is likely that someone will want to put a solar energy system on the building in the future. A solar ready building greatly reduces the installation cost, both in terms of reducing labor costs of retrofits and by “pre-approving” most of the installation relative to building codes.*

*A community’s housing and building stock is a form of infrastructure that, although built by the private sector, remains in the community when the homeowner or business leaves the community. Encouraging solar-ready construction ensures that current and future owners can take economic advantage of their solar resource when doing so makes the most sense for them.*

#### **Solar Access Subdivision Design**

*Some communities will require solar orientation in the subdivision ordinance, such as requiring an east-west street orientation within 20 degrees in order to maximize lot exposure to solar resources. However, many such requirements are difficult to meet due to site constraints or inconsistency with other requirements (such as connectivity with surrounding street networks). Rather than simply grant a variance, the community can add a condition that lots with good solar access actually be developed as solar homes.*

## SOLAR STANDARDS RESEARCH

DATE	9/5/23
PROJECT NAME	Ordinance Amendments - Solar Research
PROJECT NUMBER	CNO23005
PROJECT LOCATION	North Oaks, MN
PREPARED BY	Nicholas Ouellette

CITY	RESIDENTIAL DISTRICTS				COMMERCIAL/INDUSTRIAL DISTRICTS				STANDARDS		NOTES
	ROOF MOUNTED		GROUND MOUNTED		ROOF MOUNTED		GROUND MOUNTED		ROOF MOUNTED	GROUND MOUNTED	
Andover	R1, R2, R3, R4, R5, RR, M1, M2, M3	Permitted Accessory Use	RR, R-1	Permitted Accessory Use	NB, SC, GB, I	Permitted Accessory Use	NB, SC, GB, I	Prohibited Use	Comply with maximum height standards. Panels and equipment flush with roof. May not extend beyond perimeter of exterior walls. Visibility to commercial/industrial solar on flat roofs should be limited.	Not permitted in front yard. 30 ft. setback to interior side/rear lot lines. 15 ft. maximum height. Max. ground coverage limited based on parcel/lot area. Lots less than 3 acres may not exceed 400 sq. ft. ground cover. Lots 3 acres or more the max. coverage may not exceed the foundation area of the residence or 1,200 sq. ft. whichever is less.	
Chanhassen	A2, RR, RSF, R4, RLM, R8, R12, R16	Permitted Accessory Use	A2, RR, RSF, R4, RLM, R8, R12, R16	Accessory	BN, BH, CBD, CC, BG, BF, OI, IOP	Permitted Accessory Use	BN, BH, CBD, CC, BG, BF, OI, IOP	Permitted Accessory Use	Comply with district height standards. Orient glare away from neighboring windows. Mounted flush to roofs. Not to extend beyond perimeter of walls. Colors should be dark or blend with the building.	Comply with accessory structure height standards for district. Exterior lines shall be underground. Screen with walls, fences or landscaping. Setbacks: - Non-residential comply with district setbacks. - Residential only permitted in rear yards with a min. 10 ft. setback.	
Cottage Grove	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	Pitched roof panels must be flush, flat roof panels may be angled. Colors shall blend with building. Comply with max. height for zoning district. Glare away from neighboring windows. Systems may not extend beyond perimeter of building.	Only permitted on properties 5 or more acres in size. Not to exceed 15 ft. Prohibited in front yard of properties in MUSA. Comply with district setback standards.	Standards for decommissioning. Wall-mounted systems permitted. Heliostats prohibited.
Eagan	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	Must comply with zoning district regulations. Residential setback up to 1 ft. from edge of roof. Commercial/Ind./Inst. setback 10 ft. from edge of roof. Subject to district height standards. Reduce glare to other structures, screening may be required. Max 80% roof-surface coverage on south facing roof or entire surface of flat roof.	Must comply with zoning district regulations. Must comply with accessory structure standards. Ground coverage not to exceed: - 30% of residential lot area. - 70% of commercial/ind./inst. lot area. Landscape screening from ROW's and adjacent lots to soften view. Height limited to 12 ft. and may extend an addition 1 ft. in height for every additional 2 ft. of setback (up to 15 ft. total height).	Community solar standards. Color does not need to match.
Gem Lake											Solar not permitted
Grant	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	None specified	None specified	None specified	None specified	Must comply with structure setback (attached to principal or accessory buildings). Height not to extend 5 ft. above roof. Maximum 80% roof coverage. Reduce glare to adjacent properties and ROWs. Solar on pitched roofs facing roadways shall not have a pitch greater than 5% steeper than the roof.	Only allowed use on parcel with existing principal structure. Setback 100 ft. from property line with an adjacent home. Must meet all other applicable structure setbacks for district. Not allowed in wetland or shoreland overlay. Footprint not to exceed 1,000 sq. ft. Landscaping screening may be required. Minimize glare to traffic and other properties.	Certificate of compliance required. No commercial/industrial solar energy system standards are provided.



CITY	RESIDENTIAL DISTRICTS				COMMERCIAL/INDUSTRIAL DISTRICTS				STANDARDS		NOTES
	ROOF MOUNTED		GROUND MOUNTED		ROOF MOUNTED		GROUND MOUNTED		ROOF MOUNTED	GROUND MOUNTED	
Lake Elmo	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	All districts	Permitted Accessory Use	Permitted in all districts where buildings are permitted. Commercial rooftop solar shall be placed to limit visibility from the ROW or blend into roof design.	Permitted in all districts where buildings are permitted. Comply with accessory setback, height and lot coverage restrictions. Any foundation, compacted soil or component of solar resting on ground counts to impervious surface coverage. Solar systems 6 sq. ft. or less are exempt from zoning district setback requirements.	
Minnetonka	All districts	Permitted Accessory Use	All districts	Conditional Use Permit	All districts	Permitted Accessory Use	B1, B2, B3, I-1, PID	Permitted Accessory Use in parking lot	Must comply with all location, setback, size and height requirements of the attached structure.	Must follow parking lot setback requirements and not disrupt required parking lot design. Height: drive aisle clearance of 13.5 ft. not to exceed 20 ft. in height or the principal structure height. Structures may not have enclosed walls.	Glare should be minimized, may required plant materials. City owned solar may be installed within the ROW and are exempt from other standards in solar section. Abandonment standards.
St. Louis Park	All districts	Permitted Accessory Use	All districts	Permitted Accessory Structure	All districts	Permitted Accessory Use	All districts	Permitted Accessory Structure	Must comply with dimensional standards applicable to the attached structure. May extend no more than 3 ft. beyond height of roof. (10 ft. for flat roof). Setback 1 ft. from perimeter of roof (3 ft. for flat roof with no parapet).	Not permitted in front yard or side yard abutting public street, unless situated over parking areas. Setback 3 ft. from non-residential lot lines. Max. 20 ft. in height. Area for solar system to be included in max. allowed size for accessory structures. Frame shall be constructed of permanent materials.	Abandonment standards. Minimize glare to adjacent/nearby properties.



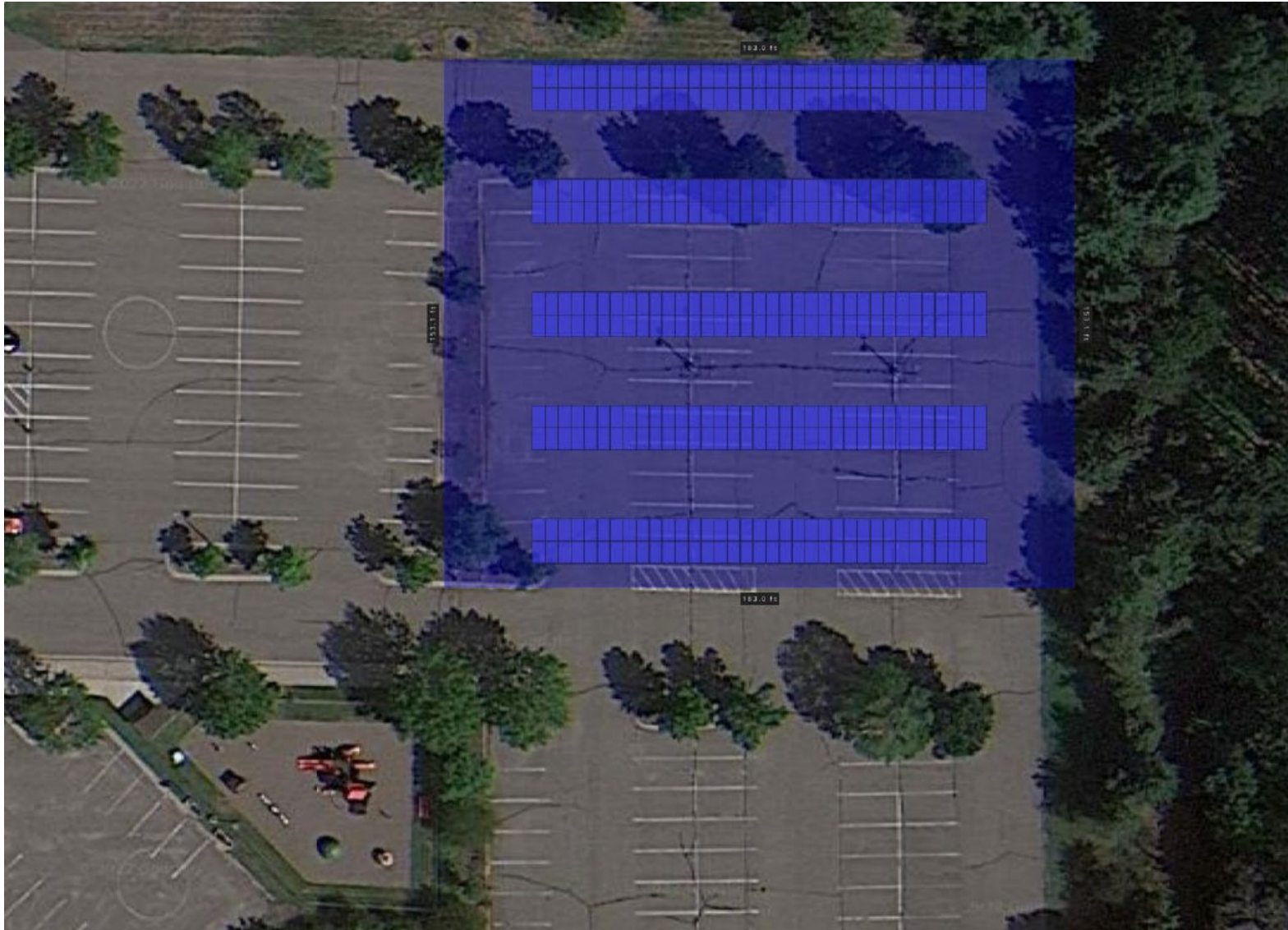
Cedar Creek Energy  
 3155 104<sup>th</sup> Ln NE  
 Blaine, MN 55449  
 763-432-5261





**Cedar Creek Energy**  
3155 104<sup>th</sup> Ln NE  
Blaine, MN 55449  
763-432-5261

DATE.REV



**Cedar Creek Energy**  
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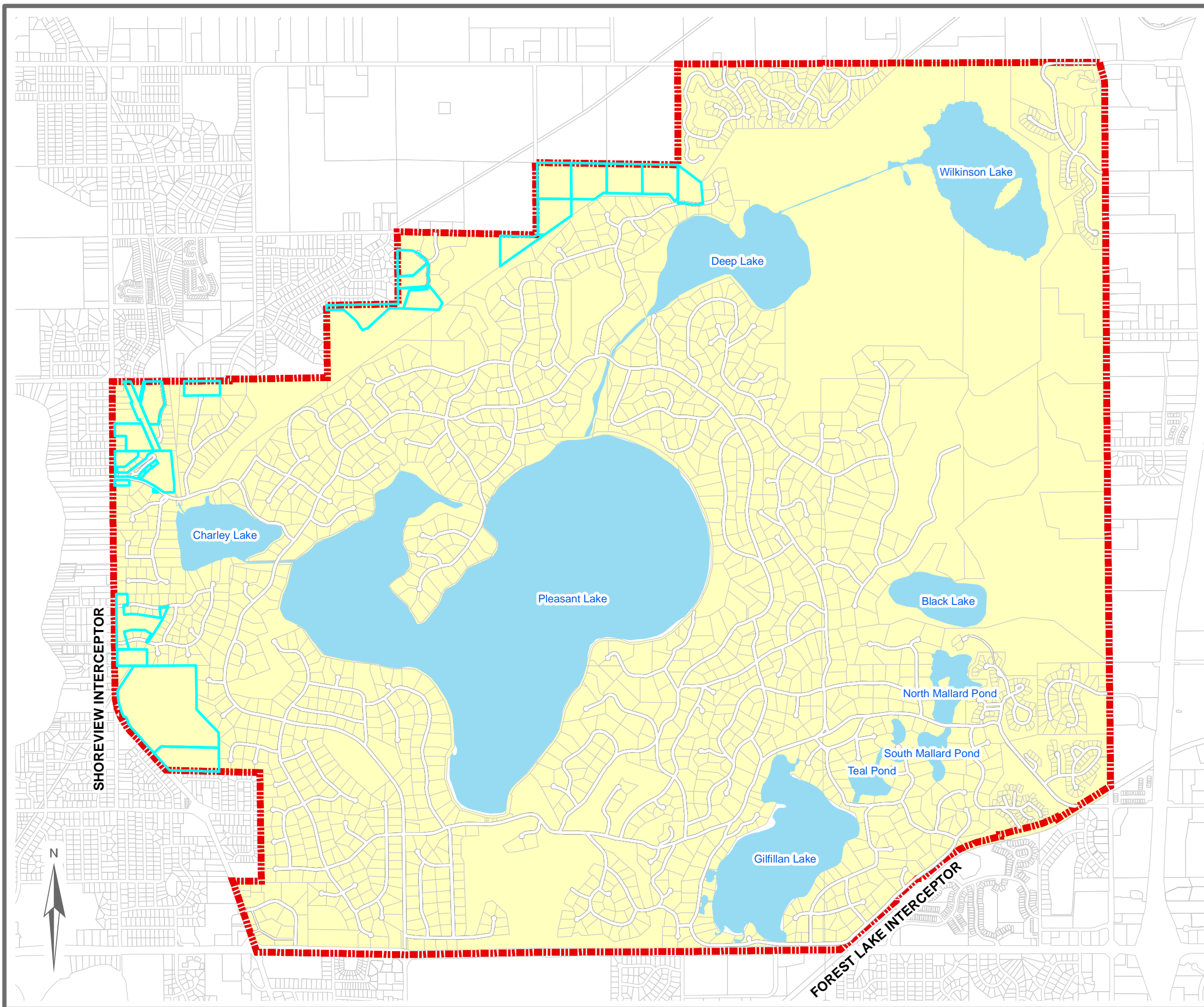




# MAP

## RSM Parcels Greater than 3.5 Acres

 Parcels



**CITY OF NORTH OAKS  
RAMSEY COUNTY, MINNESOTA**

**ORDINANCE NO. \_\_\_\_**

**AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING  
SOLAR ENERGY SYSTEMS**

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THE CITY COUNCIL OF THE CITY OF NORTH OAKS ORDAINS AS FOLLOWS:

**Section One.** Title XV, Chapter 151, Section 151.051 Amendment: Title XV, Chapter 151, Section 151.051 of the North Oaks City Code is hereby amended to add Section 151.051(D)(3) as follows. The underlined text shows the added language:

§ 151.051 RSM - RESIDENTIAL SINGLE-FAMILY MEDIUM DENSITY DISTRICT. (D) Conditional uses. The following conditional uses may be permitted, but only after securing a conditional use permit in accordance with § 151.076:

(3) Ground Mounted Solar Energy Systems that meet the performance standards found in § 151.035.

**Section Two.** Title XV, Chapter 151, Section 151.052 Amendment: Title XV, Chapter 151, Section 151.052 of the North Oaks City Code is hereby amended as follows. The underlined text shows the added language.

(D) Conditional uses. The following conditional uses may be permitted, but only after securing a conditional use permit in accordance with § 151.076: all uses that are permitted conditional uses in the Residential Single-Family Medium Density District in § 151.051(D), except for Ground Mounted Solar Energy Systems.

**Section Three.** Title XV, Chapter 151 Amendment Adding Section 151.035: Title XV, Chapter 151, of the North Oaks City Code is hereby amended to add § 151.035 as follows. The underlined text shows the added language.

**§151.035 Solar Energy Systems**

(A) **Purpose.** The purpose of this section is to regulate the placement, construction and modification of solar energy systems in order to protect the health, safety and welfare of the public, while not unreasonably interfering with the development of solar energy systems in the City. Specifically, the purposes of this section are:

- (1) To meet the goals of the Comprehensive Plan and preserve the health, safety and welfare of the community by promoting the safe, effective and efficient use of solar energy systems.
- (2) To regulate the location of solar energy systems.
- (3) To protect residential areas and land uses from potential adverse impacts of solar energy systems.
- (4) To minimize adverse visual impacts of solar energy systems and facilities through design, siting, landscaping, and screening.
- (5) To avoid adverse impacts to adjacent properties caused by solar energy systems by ensuring that those structures are soundly and carefully designed, constructed, modified, maintained and promptly removed when no longer used.
- (6) To ensure that solar energy systems are compatible with surrounding land uses.

(B) **Definitions.**

**BUILDING-INTEGRATED SOLAR ENERGY SYSTEM.** A solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.

**GRID-INTERTIE SOLAR ENERGY SYSTEM.** A photovoltaic solar energy system that is connected to an electric circuit served by an electric utility company.

**GROUND MOUNTED SOLAR ENERGY SYSTEM.** A solar energy system mounted on a rack or pole that rests on or is attached to the ground. Ground-mount systems are accessory to the principal use and allowed only with a conditional use permit.

**PHOTOVOLTAIC SYSTEM.** A solar energy system that converts solar energy directly into electricity.

**ROOF MOUNTED SOLAR ENERGY SYSTEM.** A solar energy system mounted on a rack that is fastened to or ballasted on the roof of a structure.

**SOLAR ACCESS.** Unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.

**SOLAR COLLECTOR.** The panel or device in a solar energy system that collects solar radiant energy and transforms it into thermal, mechanical, chemical, or electrical energy. The collector does not include frames, supports, or mounting hardware.

**SOLAR ENERGY.** Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.

**SOLAR ENERGY SYSTEM.** A device, array of devices, or structural design feature, the purpose of which is to provide for generation or storage of electricity from sunlight, or the collection, storage and distribution of solar energy for space heating or cooling, daylight for interior lighting, or water heating.

**(C) Permitted Accessory Use.**

- (1) Roof Mounted and Building-Integrated Solar Energy Systems are a permitted accessory use in all zoning districts where structures of any sort are allowed subject to the following standards:
  - (a) Such systems must comply with the building code and current City ordinances and regulations.
  - (b) Building-Integrated or Roof Mounted Solar Energy Systems shall not exceed the maximum allowed height for a building or roof in any zoning district.
- (2) Solar Collector devices less than two (2) square feet in area and generally used for garden decoration, exterior accent lighting, lawns, and flagpoles, are allowed in all zoning districts.

**(D) Ground-Mounted Solar Energy Systems.** Ground Mounted Solar Energy Systems are a conditional use in the RSM zoning district, subject to the following standards:

1. **Location and Lot Size Requirements.**

- (a) The lot is a minimum of 10 acres in size.
- (b) Ground Mounted Solar Systems must be located entirely in the side or rear yard of the lot.
- (c) Ground Mounted Solar Systems may be located within a parking lot provided the applicant can provide evidence that adequate on-site parking is available to serve the property and the structure will not disrupt required parking lot spaces or drive aisles.

2. **Setbacks.** Ground Mounted Solar Energy Systems must comply with the required 30-foot minimum structure setback from all property lines. Ground Mounted Solar Energy Systems may not extend into the side or rear yard setback when oriented at minimum design tilt.
3. **Height.** Ground Mounted Solar Energy Systems shall not exceed 12 feet in height. Height shall be measured from the top of the grade to the highest point of the structure at its maximum designed height.
4. **Visibility.** Ground Mounted Solar Energy Systems shall be designed to minimize visual impacts from the public right-of-way and adjacent property.
5. **Glare.** All solar energy systems shall minimize glare affecting adjacent or nearby properties. Where necessary, screening may be required to address glare.
6. **System Size.** The total collector area of Ground Mounted Solar Energy Systems shall not be larger than half the building footprint of the principal structure.
7. **Lot Coverage.** Ground Mounted Solar Energy Systems shall be exempt from lot coverage limitations if the soil under the Solar Collector is maintained in vegetation.
8. **Accessory Structure Exemption.** Ground Mounted Solar Energy Systems shall not be considered an accessory structure for the purpose of accessory structures size and number limitations.
9. **Landscaping.**
  - (a) Where possible, a mix of pollinator and native groundcover mix should be provided beneath the solar collectors to provide native perennial vegetation and foraging habitat beneficial to gamebirds, songbirds, and pollinators and reduce stormwater runoff and erosion at the solar generation site, subject to the standards of Minnesota State Statutes §216B.1642.
  - (b) A mix of deciduous and evergreen trees and shrubs shall be provided to buffer the panels from adjacent properties. Natural looking and effective screening is desired, however, as part of the conditional use permit, the City may permit fences in addition to or in lieu of landscaping to provide appropriate screening from adjacent public rights-of-way and neighboring properties.
10. **Conditional Use.** The conditional use permit shall be subject to the procedures and standards in Section 151.076 (Conditional Use Permits) of the City Code.



(E) **Plan Approval Required.** All Building-Integrated or Roof Mounted Solar Energy Systems shall require a building permit. All Ground Mounted Solar Energy Systems shall require a conditional use permit and a building permit.

- (1) **Plan Applications.** Plan applications for solar energy systems shall be accompanied by to-scale horizontal and vertical (elevation) drawings. The drawings must show the location of the system on the building for Building-Integrated or Roof Mounted Solar Energy Systems and a site plan showing all property lines and setbacks must be provided for Ground Mounted Solar Energy Systems.
- (2) **Plan Approvals.** Applications for Building-Integrated or Roof Mounted systems that meet the design requirements of this section may be administratively approved by the City's zoning official provided such systems comply with all requirements of this section. A building permit is still required for all such systems.
- (3) **Approved Solar Components.** Electric solar energy system components must have a UL or equivalent listing and solar hot water systems must have an SRCC rating.
- (4) **Compliance with Building Code.** All solar energy systems shall comply with the State of Minnesota Building Code, as applicable, and solar thermal systems shall comply with HVAC-related requirements of the Energy Code.
- (5) **Compliance with State Electric Code.** All photovoltaic systems shall comply with the Minnesota State Electric Code.
- (6) **Compliance with State Plumbing Code.** Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.
- (7) **Utility Notification.** All grid-intertie solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.
- (8) **Expiration.** If any solar energy system remains nonfunctional or inoperative for a continuous period of twelve (12) months, the system shall be deemed to be abandoned and shall constitute a public nuisance. The owner must remove the abandoned system at their expense. Removal shall include the entire structure, including transmission equipment and footings.

**Section Four. Effective Date.** This Ordinance shall be in full force and effect upon its adoption and publication as provided by law.

Passed in regular session of the City Council on the 12<sup>th</sup> day of October, 2023.

**CITY OF NORTH OAKS**

By: \_\_\_\_\_

Krista Wolter, Mayor

Attested:

By: \_\_\_\_\_

Kevin Kress  
City Administrator/City Clerk

(Published in the Shoreview Press on \_\_\_\_\_, 2023)

**CITY OF NORTH OAKS**  
**RAMSEY COUNTY, MINNESOTA**  
**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION APPROVING THE PUBLICATION OF A SUMMARY OF ORDINANCE  
NO. 2023-\_\_\_, AN ORDINANCE AMENDING NORTH OAKS CITY CODE TITLE XV,  
CHAPTER 151, REGARDING SOLAR ENERGY SYSTEMS**

**WHEREAS**, on October 12, 2023, the City Council of the City of North Oaks, Ramsey County, Minnesota (“City”) adopted Ordinance No. 2023-\_\_\_\_\_, an Ordinance Amending City Code Title XV, Chapter 151, Regarding Solar Energy Systems; and

**WHEREAS**, pursuant to Minn. Stat. Sec. 412.191, subd. 4, the Council may, by a 4/5ths vote, direct that only the title and a summary of the ordinance be published; and

**WHEREAS**, the City Council for the City of North Oaks has reviewed the summary of Ordinance No. 2023-\_\_\_\_\_ which is attached hereto as **Exhibit A**; and

**WHEREAS**, the City Council for the City of North Oaks has determined that publication of the title and a summary of Ordinance No. 2023-\_\_\_ would clearly inform the public of the intent of the ordinance; and

**WHEREAS**, due to the length of Ordinance No. 2023-\_\_\_\_\_ the City Council desires to publish a summary of the Ordinance.

**NOW THEREFORE BE IT RESOLVED**, by a vote of at least 4/5ths of its members, that the City Council of the City of North Oaks hereby:

1. Approves the text of the summary of Ordinance No. 2023-\_\_\_ attached as **Exhibit A** and authorizes the publication of the summary shown in **Exhibit A** in lieu of publication of the entirety of Ordinance No. 2023-\_\_\_\_\_ in the City’s official newspaper.
2. Directs the City Clerk to ensure that a full and complete printed copy of Ordinance No. 2023-\_\_\_\_\_ is available for inspection during regular business hours at the office of the North Oaks City Clerk, by standard mail, or by electronic mail.
3. Directs the City Clerk to file the executed Ordinance No. 2023-\_\_\_\_\_ upon the books and records of the City along with proof of publication.

This resolution is passed and adopted by the City Council of the City of North Oaks, Ramsey County, Minnesota this 12<sup>th</sup> day of October, 2023.

**CITY OF NORTH OAKS**

By: \_\_\_\_\_  
Krista Wolter  
Its: Mayor

Attested:

By: \_\_\_\_\_  
Kevin Kress  
Its: City Administrator/City Clerk

(Published in the *Shoreview Press* on \_\_\_\_\_, 2023.)

**EXHIBIT A**

**SUMMARY PUBLICATION  
ORDINANCE NO. 2023-\_\_**

**A RESOLUTION APPROVING THE PUBLICATION OF A SUMMARY OF ORDINANCE NO.  
2023- AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING  
SOLAR ENERGY SYSTEMS**

On October 12, 2023, the City Council of the City of North Oaks (“City”) adopted Ordinance No. 2023-\_\_\_\_, (“Ordinance”) an Ordinance Amending City Code Title XV, Chapter 151, Regarding Solar Energy Systems.

The Ordinance adds ground mounted solar energy systems as a conditional use within the RSM zoning district and adds section 151.035, Solar Energy Systems, to the zoning ordinance. Section 151.035 adds various definitions and performance standards for a variety of solar energy systems.

It is hereby determined that publication of this title and summary will clearly inform the public of the intent and effect of Ordinance No. 2023-\_\_ and it is directed that only the above title and summary of Ordinance No. 2023-\_\_ conforming to Minn. Stat. Sec. 331A.01 be published, with the following:

**NOTICE**

A printed copy of the full text of Ordinance No. 2023- is available for public inspection by any person during regular office hours at the office of the North Oaks City Clerk, 100 Village Center Drive, # 230, North Oaks MN 55127, by standard mail, or by electronic mail, and at any other public location which the Council designates.

## PLANNING REPORT

TO: North Oaks City Council

FROM: Kendra Lindahl, City Planner  
Kevin Kress, City Administrator  
Bridget Nason, City Attorney



DATE: October 4, 2023

RE: An Ordinance Amending City Code Title XV, Chapter 151, Regarding Sign Definitions And Signs In The RSM- Residential Single-Family Medium Density District

## BACKGROUND

At the July 13, 2023 City Council meeting representatives from Peace United Methodist Church at 5050 Hodson Road spoke about a request to replace their existing sign with a new electronic message sign. The property is zoned RSM.

The current sign is lit by external ground lights. They would like to install a monument sign with a digital display similar to the one at Incarnation Church. The Code prohibits moving or flashing parts on signs in the RSL district (and others), which prohibits electronic message center (ECM) signs. It is unclear how the Incarnation Church sign was permitted given these restrictions as the City has no record of a permit for that electronic message sign.

Existing Sign	Example Proposed sign
	

The City prohibits this type of sign and an ordinance amendment would be required to allow this type of sign. The Council directed staff to work with the subcommittee to draft



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North Oaks, MN 55127



an ordinance to allow this type of sign only in limited locations on the perimeter of the community.

A subcommittee made up of Chair Cremons, Council member Azman and staff met to develop the ordinance amendment.

The Planning Commission reviewed the draft ordinance at their August 31<sup>st</sup> meeting. The Commission was generally supportive of the draft language but asked for more information about how the sign brightness would be calculated and measured.

The Planning Commission held a public hearing on the draft ordinance at their September 28<sup>th</sup> meeting. There was no one present to speak at the public hearing. Representatives of Peace United Methodist Church were present to answer questions. The Planning Commission voted 6-0 to recommend approval.

## **ISSUES AND ANALYSIS**

Signs are very limited in the residential zoning districts of the City. The church is located in the RSM zoning district. The sign standards for the RSM zoning district refer back to the RSL – Residential Single-Family Low Density district, which allows the following signs by conditional use permit:

- (4) *Non-neon signs and non-neon informational visual communication devices, provided that:*
- (a) *The height of the sign or device does not exceed the height of the principal structure or the structure to which it is affixed;*
  - (b) *The architectural style and design shall not be so dissimilar to the surrounding buildings or area so as to adversely impact other land;*
  - (c) *There are no moving or flashing parts and any illumination shall be in compliance with § 151.031;*
  - (d) *The sign or device is permanently fixed to the land or to a building or structure;*
  - (e) *The sign or device is not a billboard and is associated with the principal use of the land; and*
  - (f) *Section 151.083 is complied with.*

Sign ordinances must be content-neutral, meaning cities can regulate the size, style and location of signs but not content. This means the code cannot say that churches in the RSM district can have one size or type of a sign that other uses in the district cannot. Therefore, we must establish standards based on the property itself and the zoning district.



The draft ordinance was prepared using ordinances from a number of individual cities. A spreadsheet summarizing other ordinances is attached for reference. In order to allow the type of sign requested, we have revised the RSM zoning district standards and added definitions to the definitions section of the chapter. The draft ordinances show underlined text for the proposed additions to the City Code and ~~struck-through~~ text for the deletions.

The draft ordinance allows electronic message centers (ECM) in the RSM district with a number of restrictions:

- (1) The parcel is a minimum of 3.5 acres in size. This limits the number of parcels in the RSM district that would be eligible for this type of sign.

There are 20 parcels zoned RSM in the City that are 3.5 acres or larger. The attached map and spreadsheet identify these parcels.

- (2) The parcel has frontage on an arterial or collector roadways, as designated by the Comprehensive Plan. This further limits the parcels that are eligible to have this type of sign to those on the perimeter of North Oaks.

Highway 96, Highway 49 (Hodgson Road), Centerville Road and County Road J (Ash Street) are classified as A Minor-Arterials Expanders. The Turtle Lake/Sherwood Road connection on the north side of the City are Collectors. All other streets are classified as Minor Collectors or local streets.

- (3) Display messages must be held for a minimum of 8 seconds to minimize distractions to residents and drivers.
- (4) Lighting standards must be met and signs are only allowed to be lit during certain hours.

The draft ordinance uses the lighting standards from the City of Shoreview and limits light level to a maximum of 0.3 footcandles based on a formula. For a 16 square foot sign ECM like the one proposed by Peace it would be:  $\sqrt{(16 \times 100)} = 40$ . Meaning the maximum brightness allowed would be 0.3 footcandles measured 40 feet from the sign.

While North Oaks does not establish a footcandle limit in the general lighting standards (Section 151.031), many cities have general lighting limits. For reference, the City of Corcoran ordinance says that any “Any light or combination of lights shall not exceed one foot-candle (meter reading) as measured from the property line or the centerline of a public street.” The brightness of the sign under

this ordinance would be less than some cities would allow for building or parking lot lighting.

Following the Planning Commission meeting, staff reached out to Matthew Duffy at Think Digital Signs. His firm provided the sign at Incarnation Church and is working with Peace United Methodist Church on their sign. He provided some information from the International Sign Association (ISA) on night-time brightness and provided detailed information about the proposed church sign.

The information suggests that while the sign industry uses NIT (a photometric unit of measurement referring to luminance. One nit is equal to one candela per square meter) to measure brightness. Cities often use footcandles to measure brightness because it can account for ambient light and can be measured with less expensive equipment than the alternative. The ISA suggests using footcandles as the enforcement tool for those reasons and others summarized in the attached report.

- (5) The total sign area is limited to 32 sq. ft. and no more than ½ of that area can be EMC.

Staff reached out to the sign vendor to confirm that the Peace United Methodist sign would conform to the draft standards. He confirmed that it would.

Staff also asked for information about the existing non-conforming sign at Incarnation Lutheran Church. It appears that the sign is approximately 45 sq. ft. in area where 32 sq. ft. is permitted. The Church would need to provide information showing that the sign received City approval or apply for an after-the-fact conditional use permit for the electronic sign and provide detailed information to show that the sign complies with ordinance standards.

#### *Existing Uses at Peace United Methodist*

Staff notes that our review of the proposed Peace United Methodist Church request brought to our attention that there appear to be several businesses and non-profits operating out of the church. Commercial operations are not permitted in the RSM zoning district and staff met with the pastor of the church to address that issue separately from the signage issue. The ordinance subcommittee has discussed potentially rezoning the church and school properties to a public-institutional zoning district to more accurately reflect the uses on those parcels. However, that is not part of this proposal and could be addressed in the future.

The name of uses permitted on the site may displayed on the non-EMC portion of the on-premises sign. Peace United Methodist had indicated that Musical Montessori

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Preschool and Childcare functions as a second principal use on site and they would like to have the school listed on the static portion of the sign with the church. Preschools are a conditional use in the RSM district, but there is no record of approval for the preschool in either Peace United Methodist Church or Incarnation Lutheran Church (although the 1981 CUP for Incarnation suggested the possibility of a future preschool). Both churches have preschools currently operating and the existing sign at Incarnation includes the name of the preschool. The draft language allows permitted businesses to be displayed on the on-premises sign.

**Attached for reference:**

- Exhibit A: Zoning Map
- Exhibit B: Transportation Map
- Exhibit C: Map showing RSM parcels 3.5-acres or larger and ownership spreadsheet
- Exhibit D: Summary of other City Standards
- Exhibit E: Concept from Peace United Methodist Church
- Exhibit F: Concept from Incarnation Lutheran Church
- Exhibit G: September 13, 2023 email from Matthew Duffy
- Exhibit H: ISA Night-time Brightness Level Recommendations for On-Premise Electronic Message Centers
- Exhibit I: OAAA Recommended Brightness Guidelines
- Exhibit J: Ordinance amending Chapter 151
- Exhibit K: Resolution for Summary Publication



### **STAFF RECOMMENDATION**

Based on the preceding review, Staff recommends approval of the ordinance amendment.

### **ACTION REQUESTED**

Move to adopt the Ordinance Amendment, as recommended by the Planning Commission.



p 651-792-7750  
f 651-792-7751



northoaks@northoaksmn.gov  
www.northoaksmn.gov



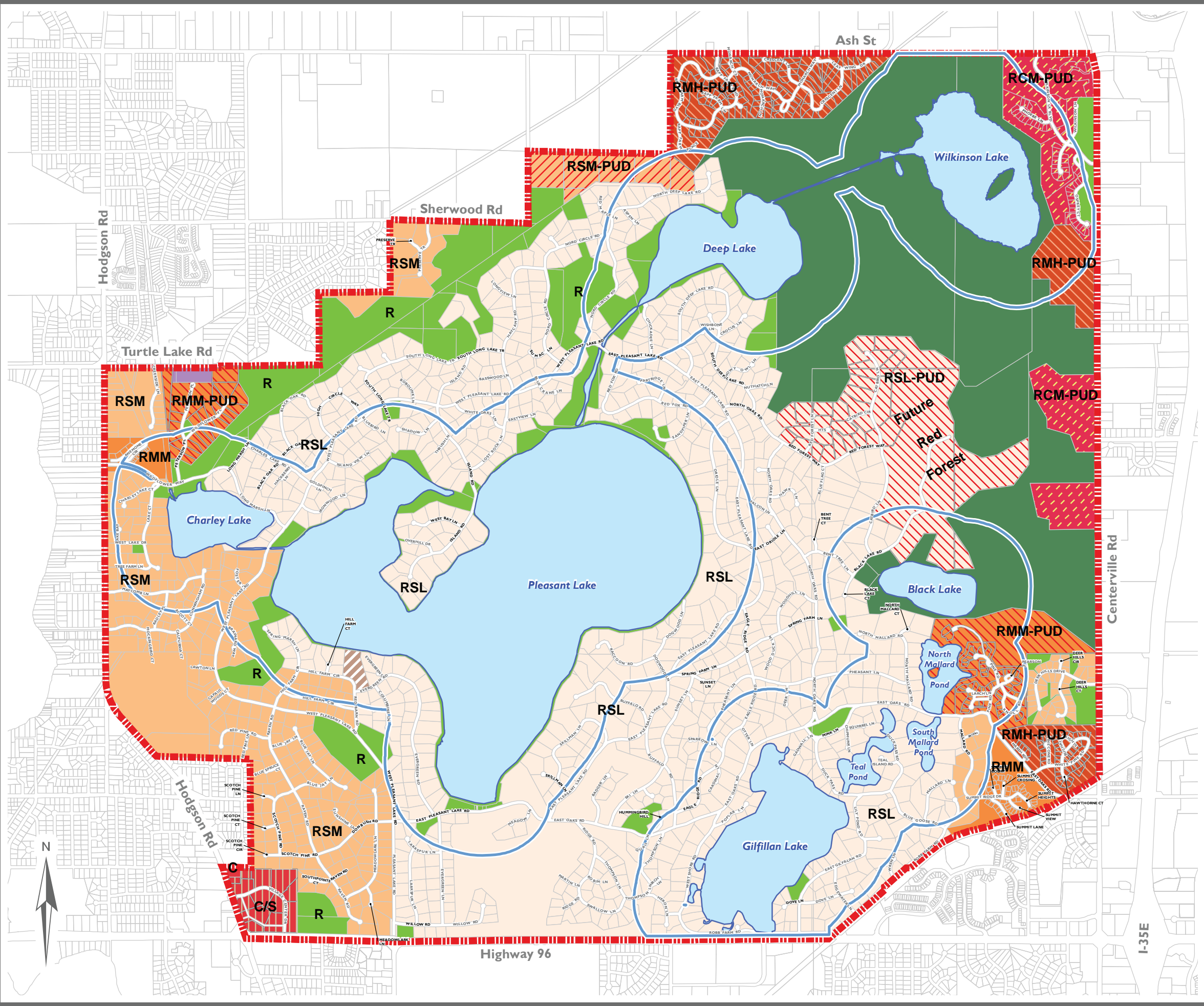
100 Village Center Drive, Suite 230  
North Oaks, MN 55127





# MAP 8

## Existing Zoning Districts Map



- OS (Open Space)
- RSL (Residential Single Family - Low Density)
- RSL-PUD (Residential Single Family - PUD)
- RSM (Residential Single Family - Medium Density)
- RSM-PUD (Res. Single Fam. - Med. Density - PUD)
- RMM (Residential Multiple Family Medium Density)
- RMM-PUD (Residential Multiple Family Medium Density - PUD)
- RMH-PUD (Residential Multiple Family High Density - PUD)
- RCM-PUD (Residential-Commercial Mixed-PUD)
- C (Commercial)
- C/S (Commercial/Service)
- LI (Limited Industrial)
- R (Recreation)
- HP (Historic Preservation)
- Shoreland District Boundaries

North Oaks Boundary

Source: City Zoning Map as of 5 - 10 - 21







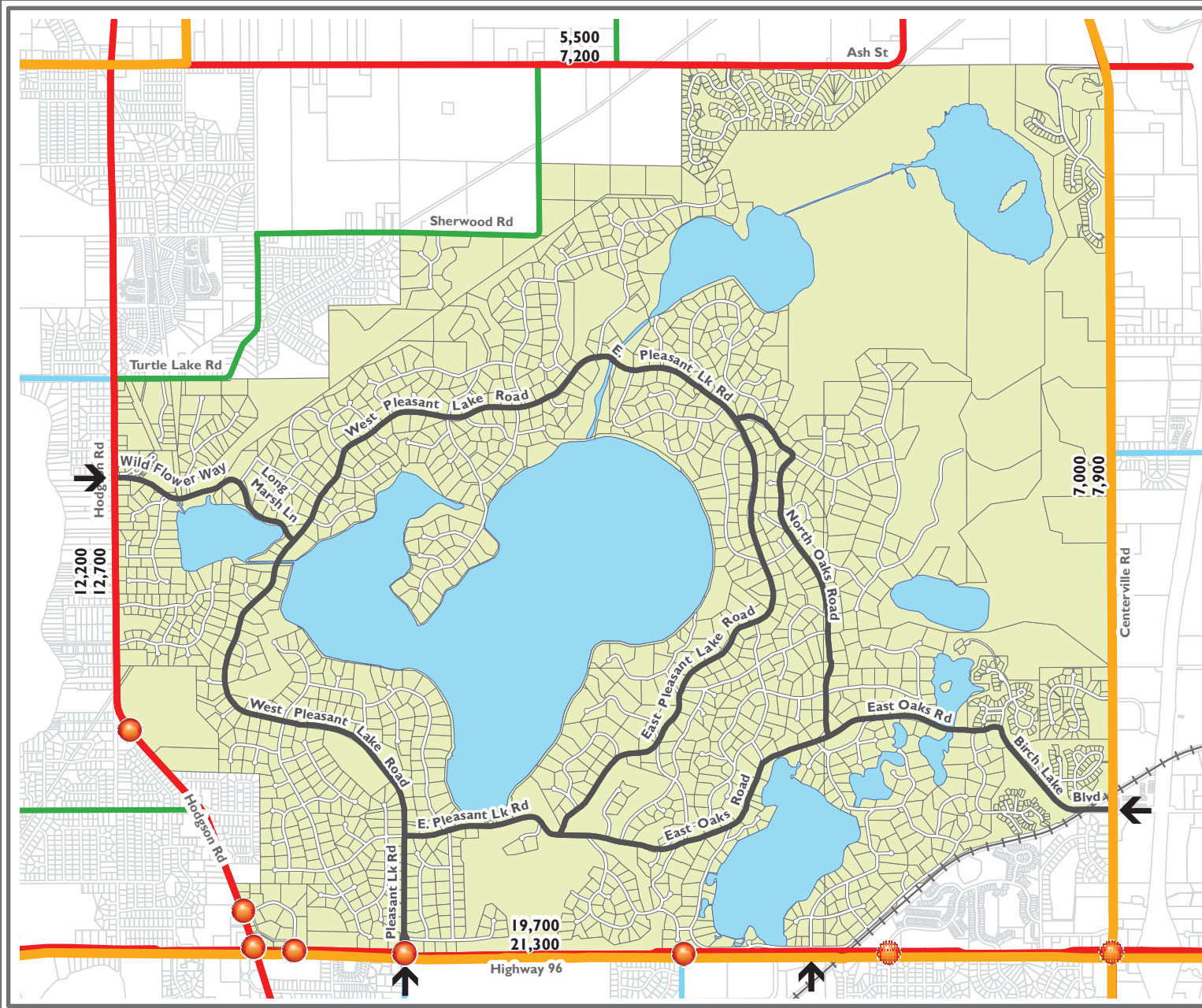
# MAP 14 Transportation Features

- 'A' Minor Expander
- Collector
- Minor Collector
- Other Arterial
- Regional Bicycle Transportation Network (RBTN) Tier 2
- Rail Lines (Freight)
- Signalized Intersection
- Primary City Access Points

2040 Traffic Volumes  
 Top number = current volumes  
 Bottom number = 2040 projections



5-10-21

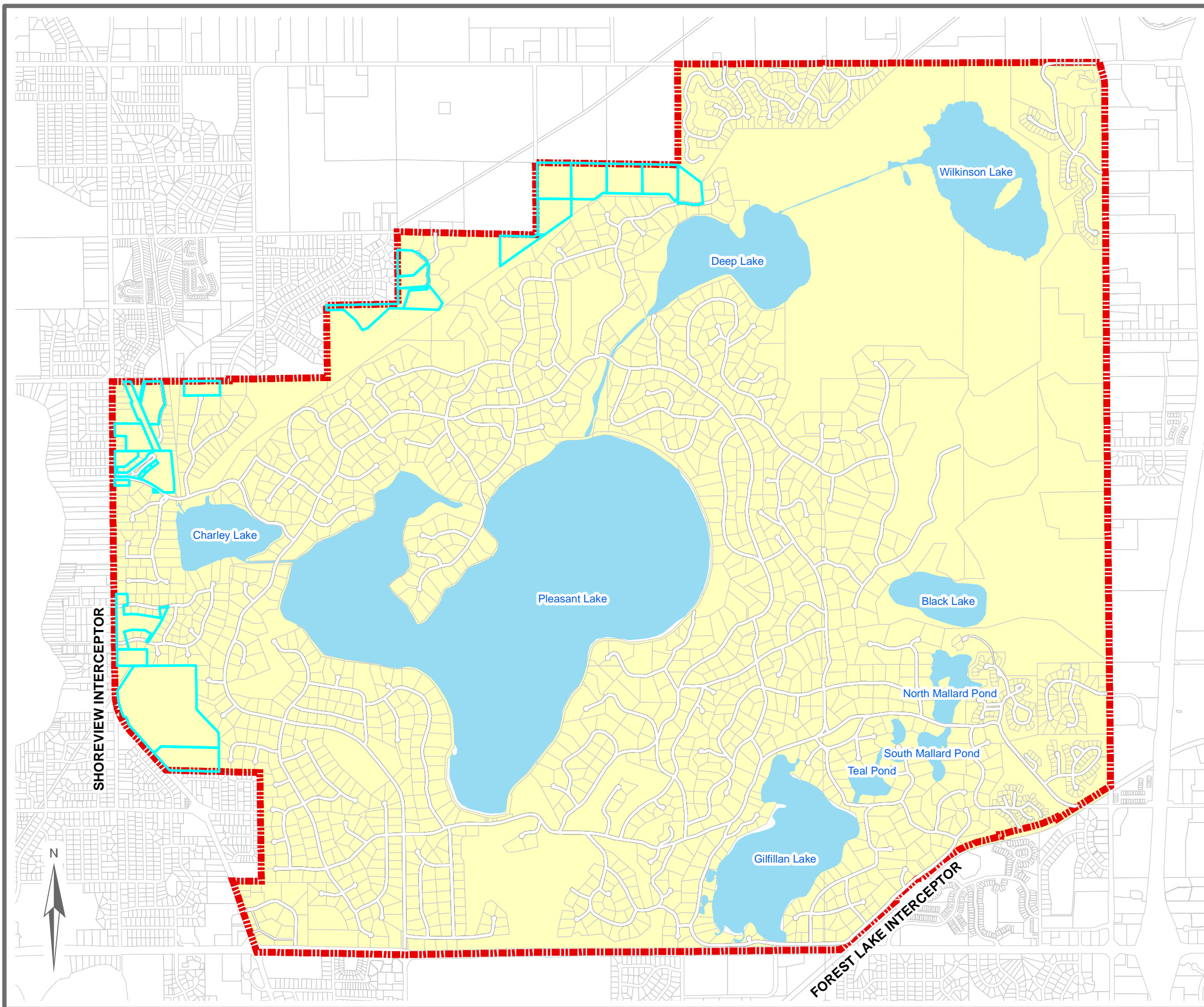




# MAP

## RSM Parcels Greater than 3.5 Acres

 Parcels

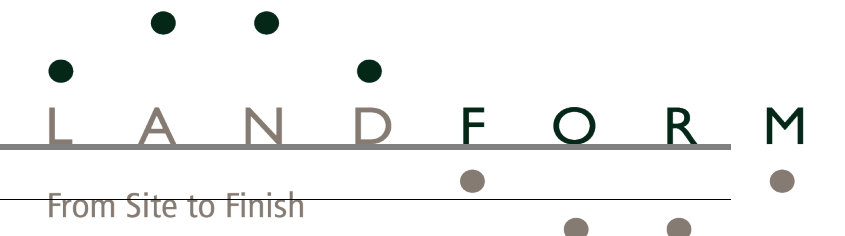


Parcels at least 3.5 acres in size and zone RSM

PIN	PLAT_NAME	BLOCK	LOT	ACRES_DEED	USE1_DESC	OWNER_MORE	OWN_ADD_L1	OWN_ADD_L2	TAX_EXEMPT	XUSE1_DESC	DWELL_TYPE	HOME_STYLE	sewered_name
123-063022130001	REGISTERED LAND SURVEY 268		M	9.5	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				Nord
123-063022140001	REGISTERED LAND SURVEY 268		F	8.13	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				Nord
123-063022130002	REGISTERED LAND SURVEY 268		G	9.57	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				Nord
123-063022320011	REGISTERED LAND SURVEY 549		I	4.95	Res 1 unit	Kris L Nielsen	7 Preserve Trl	Shoreview MN 55126-4789	N		SINGLE FAMILY DWELLING	Two Story	
123-123023220030	CREEKSIDE ADDITION TO NORTH OAKS		Outlo	5.72	T E Misc Co D 10	North Oaks Homeowners Assn In	100 Village Center Dr Ste 240	North Oaks MN 55127-3014	Y	T E Misc Co D 10			
123-123023220033	SECTION 12 TOWN 30 RANGE 23			4.46	Muni Srvc Other	Board Of Water Comm St Paul	1900 Rice St	Maplewood MN 55113-6810	Y	Muni Srvc Other			
123-123023210031	REGISTERED LAND SURVEY 564		Ff	4.51	Commercial	North Oaks Homeowners Assn In	100 Village Center Dr Ste 240	North Oaks MN 55127-3014	N				
123-063022310001	REGISTERED LAND SURVEY 206		TRACT	4.86	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				East Preserve
123-063022130003	REGISTERED LAND SURVEY 268		L	7.43	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				Nord
123-063022140002	REGISTERED LAND SURVEY 268		A	8.46	Res V Land	North Oaks Farms Inc	5959 Centerville Rd Unit 200	St Paul MN 55127-6812	N				Nord
123-053022230020	REGISTERED LAND SURVEY 589		Kk	5.61	Res V Land	North Oaks Company Llc	5959 Centerville Rd Unit 200	North Oaks MN 55127-6812	N				Rapp Farm
123-123023220031	CREEKSIDE ADDITION TO NORTH OAKS		Outlo	6.08	T E Misc Co D 10	North Oaks Homeowners Assn In	100 Village Center Dr Ste 240	North Oaks MN 55127-3014	Y	T E Misc Co D 10			Creekside
123-063022320004	REGISTERED LAND SURVEY 549		B	3.56	Res 1 unit	Robert B Rock	8 Preserve Trl	North Oaks MN 55126-4789	N		SINGLE FAMILY DWELLING	One Story	
123-063022320005	REGISTERED LAND SURVEY 549		C	4.61	Res 1 unit	James B Hare	6 Preserve Trl	North Oaks MN 55126-4789	N		SINGLE FAMILY DWELLING	Two Story	
123-123023330035	CHARLEY LAKE PRESERVE		Outlo	8.81	Res V Land	Mattamy Minneapolis Partnership	7201 Washington Ave Ste 201	Edina MN 55439-2402	N				Charley Lake Preserve
123-013023440011	REGISTERED LAND SURVEY 549		A	8.08	Res V Land	North Oaks Company Llc	5959 Centerville Rd Unit 200	North Oaks MN 55127-6812	N				
123-123023230095	CONDOMINIUM NO. 219 CHARLEY LAKE CONDOMINIUM	1	24	12.47	T E Misc Co D 10	Charlie Lake Homeowners Assoc	Po Box 131053	Roseville MN 55113-0009	Y	T E Misc Co D 10			Charley Lake Condos
123-133023220005	SECTION 13 TOWN 30 RANGE 23			48.46	Schools-Public	Independent Schl Dist 621	350 Highway 96 W	Shoreview MN 55126-1951	Y	Schools-Public			Institutional District
123-133023240072	SECTION 13 TOWN 30 RANGE 23			11.1	Church	Incarnation Luth Ch	4880 Hodgson Rd	St Paul MN 55126-2037	Y	Church			Institutional District
123-123023330006	PEACE CHURCH ADDITION	1	1	3.8	Church	Peace Methodist Church Shorev	5050 Hodgson Rd	North Oaks MN 55126-1226	Y	Church			Charley Lake Preserve



# DYNAMIC SIGN STANDARDS RESEARCH



DATE 9/18/23  
 PROJECT NAME Ordinance Amendments - Solar Research  
 PROJECT NUMBER CNO23005  
 PROJECT LOCATION North Oaks, MN  
 PREPARED BY Nicholas Ouellette

105 South Fifth Avenue Tel: 612-252-9070

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
Anoka	Electronic Variable Message Sign (EVM)	- Changes at reasonable intervals - Solid, colorless background - Engineered for legibility - Glare reducing screens and contact light level  EVMs are permitted which provide public service information or advertise activities conducted on the premises on which the sign is located.	Residential	Canopy/Awning Freestanding  EVM signs restricted to churches, schools, universities, colleges, sanitariums, clubs, libraries, apartment building complexes or other similar uses	1 Identification sign not to exceed 32 sq. ft. in area
			B-1 Highway Business District	Wall Business Nameplate Freestanding Integral roof signs  Illuminated, no flashing	For office buildings, business sign not exceeding 40 sq. ft. or 4% of wall area (whichever is greater).  For multi-tenant centers, freestanding nameplate not exceeding 60 sq. ft. in area.  For single-tenant uses, limited to 200 sq. ft. in area, with not more than 150 sq. ft. of signage attached to the building, and not more than 60 sq. ft. of ground sign.
			B-2 Shopping Center Business District	Freestanding Business Nameplate - Marquee or covered walkway	Freestanding: - Shopping centers are permitted 2 signs not more than 200 sq. ft. in area.  Nameplate: - Not to exceed the sum of 3 sq. ft. for each linear ft. of frontage.
			B-3 General Business District	Business Nameplate	Business signs: The total surface area shall not exceed the sum of 4 sq. ft. per linear foot of lot frontage.  Nameplate Sign: - Surface area shall not exceed 200 sq. ft.
			B-4 Limited Business District	Wall Freestanding Ground-mounted	Wall signs limited to 40 sq. ft. or 4% of wall size, whichever is greater.  Freestanding: - 60 sq. ft. for projects containing more than one building on sites greater than 1 acre. - Business signs which consolidate all tenants are restricted to 40 sq. ft. in area. - Any establishment may have 1 freestanding sign not exceeding 40 sq. ft. in area.
			M-1 Light Industrial District	Business Nameplate Monument	Business/Nameplate: - 2 sq. ft. per linear foot of frontage. - Wall signs not to exceed 4% of wall space or 100 sq. ft. (whichever is less)  Monument: - 1 per business site. - No greater than 60 sq. ft. of building area.
			M-2 General Industrial District	Business Nameplate Billboards	Business Signs: - Total surface area not to exceed 3 sq. ft. for each linear foot of lot frontage. - No business sign shall exceed 200 sq. ft. of surface area.  Monument/Pylon: - Each business site shall be permitted one sign not to exceed 80 sq. ft. in area.  Billboards: - Prohibited within 200 ft. of parks or residential structures. - Shall not exceed 300 sq. ft. of area.

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
Champlin	Electronic Message Sign	<p>Electronic message signs are <b>only permitted by conditional use permit in commercial or industrial districts or in residential districts occupied by a church or school</b>, subject to the following standards: (condensed)</p> <ul style="list-style-type: none"> <li>- May not constitute a traffic hazard (interferes with traffic signs/lights, distracted drivers)</li> <li>- <b>Minimum display duration of 10 seconds</b></li> <li>- Brightness level based on ambient light conditions</li> <li>- Not to exceed 3,500 Nits between sunrise and sunset, not to exceed 500 Nits between sunset and sunrise</li> <li>- Must be 100 ft from any residential district boundary</li> <li>- Electronic message signs shall not exceed 40% of allowable sign area for a given wall or freestanding sign</li> <li>- Electronic signs must be placed below a minimum of 20 sq. ft. of permanent nonelectric signage on freestanding signs.</li> <li>- No more than 1 electronic sign may be permitted per property, except for gas/convenience stores are allowed one additional sign</li> <li>- Church and school electronic signs may only be illuminated from 7AM-9PM</li> </ul>	Commercial (Single Tenant)	Monument Marquee Wall	<p>For all buildings:</p> <ul style="list-style-type: none"> <li>- 1 wall sign per public street frontage not to exceed two wall signs.</li> <li>- Wall signs shall not exceed 10% of front building facade and 5% of any other facade to which it is attached.</li> </ul> <p>For buildings less than 50,000 sq. ft.:</p> <ul style="list-style-type: none"> <li>- 1 freestanding monument sign, max height of 14 ft., max area of 80 sq. ft., minimum 10 ft. setback.</li> </ul> <p>For buildings between 50,000-100,000 sq. ft.:</p> <ul style="list-style-type: none"> <li>- 1 freestanding monument sign, max height of 20 ft., max area of 160 sq. ft., minimum 10 ft. setback.</li> </ul> <p>For buildings greater than 100,000 sq. ft.:</p> <ul style="list-style-type: none"> <li>- 1 freestanding monument, max height of 25 ft., max area of 250 sq. ft., minimum 10 ft. setback.</li> </ul>
			Commercial (Multiple Tenant)	Monument Marquee Wall	<p>Wall signs for all buildings:</p> <ul style="list-style-type: none"> <li>- End-cap tenants allowed wall signs on 3 building elevations.</li> <li>- Internal tenants allowed wall signs on 2 building elevations.</li> <li>- Wall signs not to exceed 10% of the front facade and 5% of any other facade to which it is attached.</li> </ul> <p>Buildings less than 50,000 sq. ft.:</p> <ul style="list-style-type: none"> <li>- One monument sign, max height of 20 ft. and 100 sq. ft. in area.</li> <li>- One monument sign allowed at each frontage, aggregate surface area not to exceed 100 sq. ft.</li> </ul> <p>Buildings greater than 50,000 sq. ft.:</p> <ul style="list-style-type: none"> <li>- One monument sign, max height of 25 ft. and 100 sq. ft. in area.</li> <li>- One monument sign allowed at each frontage, aggregate surface area not to exceed 200 sq. ft.</li> </ul>
			Industrial	Monument Wall	<p>Single tenant building:</p> <ul style="list-style-type: none"> <li>- One monument sign not to exceed 80 sq. ft. in area.</li> <li>- One wall sign not to exceed 10% of the building facade of 200 sq. ft., whichever is less.</li> </ul> <p>Multiple tenant building:</p> <ul style="list-style-type: none"> <li>- One monument sign not to exceed 100 sq. ft. in area.</li> <li>- Individual tenants may have wall signs, the aggregate surface area of the signs is not to exceed 10% of the building facade of 200 sq. ft., whichever is less/</li> </ul>
			Residential - Electronic signs allowed only for church/school	Monument	<p>1 Permanent Monument</p> <ul style="list-style-type: none"> <li>- Max area is 80 sq. ft.</li> <li>- Allowed only for churches/schools</li> </ul>
Chanhassen	Electronic Message Center (EMC) Signs	<p>(Condensed)</p> <ul style="list-style-type: none"> <li>- No EMC may interfere with traffic signals and signs or constitute a traffic hazard.</li> <li>- EMC space used on a sign shall not exceed the following display area: <ul style="list-style-type: none"> <li>(a) Sign area of 0-24 sq. ft./EMC display area 50%</li> <li>(b) Sign area of 25-64 sq. ft./EMC display area 45%</li> <li>(c) Sign area of 65-84 sq. ft./EMC display area 40%</li> </ul> </li> <li>- 5,000 Nits allowed between sunrise and sunset, 500 Nits allowed between sunset and sunrise.</li> <li>- Shall not cause glare or distraction due to excessive brightness.</li> <li>- Nits to be provided at time of application.</li> <li>- No EMC within 50 ft. of a street intersection.</li> <li>- No EMC within 125 ft. of a residential district.</li> <li>- No EMC in Agricultural or Residential districts.</li> <li>- EMC within 500 ft. of single-family residential homes limited to use between 6:00AM and 10:00PM.</li> </ul>	Neighborhood Business Fringe Business Office and Institutional	Ground Wall Monument	<p>Ground:</p> <ul style="list-style-type: none"> <li>- 1 low profile sign not to exceed 24 sq. ft. in area and 5 ft. in height.</li> </ul> <p>Wall:</p> <ul style="list-style-type: none"> <li>- One sign permitted on the street frontage for each business occupant within a building.</li> <li>- Total wall mounted sign area shall not exceed: <ul style="list-style-type: none"> <li>(a) 15% of a wall 0-600 sq. ft. in area</li> <li>(b) 13% of a wall 601-1,200 sq. ft. in area</li> <li>(c) 11% of a wall 1,201-1,800 sq. ft. in area</li> <li>(d) 9% of a wall 1,801-2,400 sq. ft. in area</li> <li>(e) 7% of a wall 2,401-3,200 sq. ft. in area</li> <li>(f) 5% of a wall 3,201-4,500 sq. ft. in area</li> <li>(g) 3%, max of 275 sq. ft., of a wall 4,500+ sq. ft. in area</li> </ul> </li> </ul> <p>Monument:</p> <ul style="list-style-type: none"> <li>- 1 monument sign for each frontage, not to exceed 8 ft. in height and 120 sq. ft. in area.</li> <li>- restricted to public/community signs on property owned/leased and operated by a governmental unit.</li> </ul>
			Highway General Business Central Business	Ground Wall Pylon	<p>Ground:</p> <ul style="list-style-type: none"> <li>- 8 ft. in height and 64 sq. ft. in area allowed for a structure less than 50,000 sq. ft. in area.</li> <li>- 10 ft. in height and 80 sq. ft. in area allowed for a structure greater than 50,000 sq. ft. in area.</li> </ul> <p>Wall:</p> <ul style="list-style-type: none"> <li>- Same as wall standards above.</li> </ul> <p>Pylon:</p> <ul style="list-style-type: none"> <li>- 16 ft. in height and 64 sq. ft. in area allowed for a structure less than 50,000 sq. ft. in area.</li> <li>- 20 ft. in height and 80 sq. ft. in area allowed for a structure greater than 50,000 sq. ft. in area.</li> </ul>

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
			Industrial Office Park	Pylon Ground Wall	Pylon: - 1 pylon sign not to exceed 20 ft. in height and 80 sq. ft. in area.  Ground: - 1 sign per site for each street frontage. - Not to exceed 8 ft. in height and 64 sq. ft. in area.  Wall: - Same as wall standards above.
Corcoran	Dynamic Display	84.04 (7) - 1 dynamic display sign allowed per lot. - Only allowed on freestanding signs. - Dynamic display may occupy no more than 60% of sign area. - <b>6 second minimum time display.</b> - Instant or faded image transition allowed. - Must be equipped to freeze screen in one position if malfunction occurs. - Must comply with brightness standards in this section.	RSF-1 (Single Fam.) RSF-2 (Single Fam.) RSF-3 (Single & Two Fam.) RMF-1 (Medium Density) RMF-2 (Mixed Residential) RMF-3 (High Density) TCR (Transitional Rural Commercial)	Freestanding	Freestanding: - 1 freestanding sign allowed - Max sign area of 32 sq. ft. - Max sign height of 6 ft.
			MP (Manufactured Home Park)	Freestanding	Freestanding: - 1 freestanding sign allowed - Max sign area of 32 sq. ft. - Max sign height of 6 ft.
			CR (Rural Commercial) C-1 (Neighborhood Commercial) C-2 (Community Commercial) GMU (General Mixed Use)	Freestanding (Non-residential use)	Freestanding: - 1 freestanding sign allowed - Max sign area of 64 sq. ft. - Max sign height of 16 ft.
			P-1 (Public/Institutional) BP (Business Park) I (Industrial)	Freestanding	Freestanding: - 1 freestanding sign allowed - Max sign area of 64 sq. ft. - Max sign height of 16 ft.
Elk River	Digital Changeable Copy Signs	Section 30-864 - Changeable Copy Signs: - <b>Any sign larger than 30 sq. ft. requires a CUP.</b> - May only display advertising information for on-site businesses, public service announcements, or non-commercial copy.  Digital Changeable Copy Signs: - Must be static, and the transition from static display to another must be no more than 2 seconds. The images and messages displayed must be complete in themselves and without continuation in content to the next image, message, or any other sign. - <b>May not change more often than every 8 seconds.</b> - Displays must be equipped with automatic dimming technology based on ambient light conditions. - Display must be equipped to freeze the device in one position if a malfunction occurs.	C-1 Central Business	Wall Freestanding Changeable Copy	Wall: - Not to exceed 15% of facade area. - Not permitted on any façade directly adjacent to a residential zone.  Freestanding: - One, not to exceed 64 sq. ft. in area and 20 ft. in height. - The area of freestanding signs may be increased by 25% if the sign is constructed as a monument sign.  Pre-order Board for Drive-Thru - One, not to exceed 20 sq. ft. in area
			C-2 Office District	Wall Monument Changeable Copy	Wall: - Not to exceed 15% of facade area. - Not permitted on any façade directly adjacent to a residential zone.  Monument: - One, not to exceed 40 sq. ft. and 7 ft. in height.
			C-3 Highway Commercial	Wall Freestanding On-Premises Menu & Pre-Order Board Changeable Copy Advertising (Billboards)	Wall: - Not to exceed 15% of facade area. - Not permitted on any façade directly adjacent to a residential zone.  Freestanding: - One, not to exceed 150 sq. ft. in area and 30 ft. in height. - One sign permitted for every 300 ft. of street frontage along a single street. - The area of freestanding signs may be increased by 25% if the sign is constructed as a monument sign.  Menu-Boards: - One menu board per drive-up or walk-up lane. - Max area allowed is 32 sq. ft. each. - One pre-order board is allowed, up to 20 sq. ft.  Billboards: - Prohibited by proximity to highway ROW and other billboards. - Shall be erected with a single pole or mono-pole and wired underground. - Shall not exceed 400 sq. ft. in area and 35 ft. in height. - Shall be considered the principal use of the property until it is devoted to another principal use. - Only allowed in property adjacent to ROWs for Highway 10 and 140



CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
			C-4 Community Commercial	Wall Monument Changeable Copy	Wall: - Not to exceed 15% of facade area. - Not permitted on any façade directly adjacent to a residential zone.  Monument: - One, not to exceed 125 sq. ft. and 10 ft. in height along collector streets and 20 ft. in height along arterial streets.
			DD Downtown District	Wall Monument Changeable Copy	Wall: - One wall sign per each primary façade and one secondary façade. - One sq. ft. of sign area per linear foot of unit width allowed.  Monument: - One sign permitted for each multi-tenant facility. - Height limited to one half the average height of the primary structure, not to exceed 20 ft. - Sign area shall be limited to, in sq. ft., one-third of the primary structure width, not to exceed 80 sq. ft.
			I-1 Light Industrial I-2 Medium Industrial I-3 General Industrial	Wall Freestanding Advertising (Billboard) Changeable Copy	Wall: - Not to exceed 15% of facade area. - Not permitted on any façade directly adjacent to a residential zone.  Freestanding: - One, not to exceed 150 sq. ft. in area and 30 ft. in height. - One sign permitted for every 300 ft. of street frontage along a single street. - The area of freestanding signs may be increased by 25% if the sign is constructed as a monument sign.  Billboards: - Prohibited by proximity to highway ROW and other billboards. - Shall be erected with a single pole or mono-pole and wired underground. - Shall not exceed 400 sq. ft. in area and 35 ft. in height. - Shall be considered the principal use of the property until it is devoted to another principal use. - Only allowed in property adjacent to ROWs for Highways 10 and 169.
Hopkins	Dynamic Signs	Location - must be used on the site of the use identified or advertised by the sign.  Orientation - must be positioned to limit impact on adjacent residential uses.  Type - Limited to ground signs.  Text size and legibility - dependent on speed limit of adjacent road: - 25-34 MPH = 7 in. text size - 35-44 MPH = 9 in. text size - 45-54 MPH = 12 in. text size - 55+ MPH = 15 in. text size  Mode - only allowed to operate in static mode.  Size and Number - size shall not exceed the maximum sign area of a single sign applicable to the zoning district in which the sign is placed.  Minimum display time - The minimum display time shall be 20 minutes before changing. Time, temperature, and date are allowed to change more frequently.  Brightness - shall not exceed a maximum illumination of 5,000 nits during daylight hours and 500 nits during dusk to dawn.  Color - multiple colors allowed, provided they are not a distraction or hazard to public safety.  Operation - All dynamic signs shall be equipped with a means to immediately discontinue use if it malfunctions.  Existing signs - standards shall apply to all existing and future dynamic signs. Any existing dynamic signs that cannot meet the minimum text size as required by speed limit must use the	B-1 B-2	Dynamic Ground Sign	Dynamic signs must be located along a principal arterial or minor reliever road as designated by the comprehensive plan.  Max sign area of 60 sq. ft.
			B-3 B-4	Dynamic Ground Sign	Dynamic signs must be located along a principal arterial or minor reliever road as designated by the comprehensive plan.  Max sign area of 80 sq. ft.
			I-1 I-2	Dynamic Ground Sign	Dynamic signs must be located along a principal arterial or minor reliever road as designated by the comprehensive plan.  Max sign area of 250 sq. ft.
			Institutional	Dynamic Ground Sign	Dynamic signs must be located along a principal arterial or minor reliever road as designated by the comprehensive plan.  Max sign area of 60 sq. ft.
Ramsey	Dynamic Display	Sec. 117-463 General Restrictions (f) Dynamic Display and Illumination  Regulations. Dynamic displays on signs are subject to the following conditions: (a) Size. On-premise signs may include dynamic displays. Dynamic display signs shall not exceed the size allowed by this chapter. Dynamic displays are not in addition to the size allowed for static signs. (b) Frequency of display change. A dynamic display may not change more often than once every three seconds, and no part of the display may include flashing or scrolling text. The images display must be static, and the transition from one display to another must be instantaneous without special effects. The dynamic display shall not be allowed to project full-motion video. Subtle transition animations shall be allowed. (c) Brightness. No sign may be brighter than is necessary for clear and adequate visibility, or that it interferes with the effectiveness of a traffic sign or signal, or that it distracts a driver from		Temporary Signs	Temporary signs may consist of dynamic display, provided all the standards of section 117-463(f) are complied with.

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
		motor vehicle operation. (d) Troubleshooting. Dynamic displays must be designed and equipped to freeze the device in one position if a malfunction occurs. The display must also be equipped with a means to immediately discontinue the display if it malfunctions, and the sign owner must immediately stop the dynamic display when notified by the city that it is not complying with the standards of this section.		Unified Development Signs	A unified development is a development that consists of multiple parcels of similar zoning district and bound by major roadways consisting of arterial or collector designation or higher. Signs for multi-tenant commercial and employment developments may be erected to include off-premise copy under the following conditions: (1) The sign must identify the development at the top of the sign and may include provisions for individual users within the development. (2) The sign must be located within 500 ft. of the development and may not be separated from the development by an arterial road. (3) The sign must not exceed 250 square ft. per face (500 square ft. aggregate) and 30 ft. in height. (4) The sign may include dynamic display not to exceed 100 square ft. per face (200 square ft. aggregate). (5) The sign will not be included in the total signage permitted for the property in which it is located. (6) The general location of area identification signs for commercial and employment districts must be approved by the planning commission as part of a master sign plan approved as part of site plan approval.
			Residential	Area Identification Temporary	Area Identification: - 1 sign per vehicle access to a development, not to exceed 32 sq. ft. in area.  Temporary signs permitted in accordance with section 117-465
			Business	Wall, Canopy, or Marquee Ground Fuel Pump Island Menu Board Shopping Center Signs	Wall, Canopy, or Marquee - Sign area may not exceed 15% of the front building façade. - Sign height shall not exceed the top parapet wall, or height of eaves in absence of a parapet.  Ground signs - 1 sign for each parcel or per road frontage on one parcel not to exceed 2 signs. - Gross surface area of 100 sq. ft. for each exposed face. - For parcels with 2 signs, the second sign shall not exceed 509 sq. ft. for each exposed face. - Max height of 12.5 ft. allowed.  Menu Board: - 50 sq. ft. of total signage for walk-up or drive-in businesses.  Shopping Center Signs - Developer to submit sign plan for approval.
			E-1 and E-2 Employment Districts	Wall, Canopy, or Marquee Ground Window	Wall, Canopy, or Marquee - Sign area may not exceed 15% of the front building façade. - Sign height shall not exceed the top parapet wall, or height of eaves in absence of a parapet.  Ground signs - 1 sign for each parcel or per road frontage on one parcel not to exceed 2 signs. - Gross surface area of 100 sq. ft. for each exposed face. - For parcels with 2 signs, the second sign shall not exceed 509 sq. ft. for each exposed face. - Max height of 12.5 ft. allowed.  Window - Window signs shall not exceed 30% of the area of the window in which the sign is proposed to be displayed.
			Business and Industrial Parks	Wall Ground	All Business and Industrial Park signs shall be wall or ground signs.  Park Identification Sign - Not more than 1 sign for each point of vehicular access to the office or industrial park. - Gross area of 1 sign shall not exceed 100 sq. ft. and gross surface area for each exposed face shall not exceed an aggregate of 200 sq. ft. - Ground signs may not project higher than 10 ft as measured from the base of the sign or grade of adjacent roadway, whichever is higher.  Park Member Identification Signs - 1 wall sign for each principal building or tenant or use within a building. - 1 sign allowed for, and to be oriented to, each abutting street. - 1 ground sign allowed for each building. - Gross surface area of a wall sign not to exceed 15% of the occupants proportionate share of the building wall to which the sign is affixed. - Gross surface area of a ground sign shall not exceed 100 sq. ft. per face or gross aggregate surface area of 200 sq. ft. - Ground signs may not project higher than 10 ft as measured from the base of the sign or grade of adjacent roadway, whichever is higher.

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
Vadnais Heights	Animated Sign Dynamic Sign	<p>(i) Dynamic signs.</p> <p>(1) The signs are maintained as prescribed in this article.</p> <p>(2) The sign does not have displays which move, rotate, stream, scroll, flash or contain movement, or the appearance of movement, unless specifically provided for under subsections (i)(7) and (8) of this section.</p> <p>(3) The sign illumination levels are reasonable and compatible with the adjacent properties.</p> <p>(4) The signs do not create distractions which are considered detrimental to the public health, welfare and safety.</p> <p>(5) The signs comply with the height, size, arrangement, setback, location, and other applicable provisions of this article and the district in which the sign is located.</p> <p>(6) The signs may be used as the principal business sign or for tenant signs within the districts, where permitted, provided that the sign display element changes in its entirety and does not change more frequently than once every 24 hours.</p> <p>(7) A portion of the principal sign or a separate subsidiary sign to the principal business or tenant signs within the districts, where permitted, may be used as a temporary single or multiple message board only, provided that the <b>temporary message sign display element does not change more frequently than once every 15 seconds</b>. A change in dynamic sign means any alteration, addition, or deletion to any part of the text or graphics.</p> <p>(8) A portion of a dynamic sign used as the principal sign or a separate subsidiary sign to the principal business or tenant signs within the districts, where permitted, may be allowed as a moving or streaming text message board sign as set forth under section 38-693(dd), and only if specifically allowed by the underlying zoning district.</p>	<p>C-1 and C-1A (Neighborhood Commercial)</p> <p>C-2 and C-2A (Community Commercial)</p> <p>O (Office)</p> <p>OB (Office-Business)</p> <p>I (Industrial)</p>	Dynamic Sign (Permitted)	Sec. 38-693 includes general regulations by sign type.
			CC (City Center)	Dynamic Sign (CUP required)	<p>Billboard</p> <ul style="list-style-type: none"> <li>- Max allowable size is 700 sq. ft.</li> <li>- Max allowable height is 35 ft.</li> <li>- Minimum distance allowed between billboards is 1,500 ft.</li> <li>- Billboards 700 sq. ft. or larger must be 100 ft. away from any building. Setback reduced by 10 ft. for every 100 sq. ft. less of sign area.</li> <li>- No moving parts or flashing lights.</li> </ul> <p>Dynamic Sign Billboard Additional Requirements:</p> <ul style="list-style-type: none"> <li>- No animation or moving parts.</li> <li>- <b>Minimum duration of an image is 8 seconds.</b></li> <li>- Image must contain complete message.</li> <li>- Shall provide to the city a minimum of 5 hours per month per dynamic display sign in the city for community and public service messages at such times as shall be determined by the city.</li> </ul>
Rogers	Dynamic Signs Flashing Signs	<p><u>Section 113-11 Special Sign Types:</u></p> <p>(e) <i>Dynamic signs</i>. Electronically or other technologically controlled signs where the message is formed by electronic or other digital or dynamic media, and when not static for more than one hour are considered flashing signs, except when used to provide primarily time and temperature or other public service information and <b>not to exceed 25 percent of the area of the sign face when located as an on-premises sign. On-premises dynamic signs may not change more than once per hour, except as required to update time, temperature and public service announcements.</b> Transition between time, temperature and public service announcements must be instantaneous and have no special effects of any kind.</p> <p><u>Section 113-6 Prohibited Signs:</u></p> <p>(2) Flashing signs, except when used to provide primarily time and temperature or other public service information and not to exceed 25% of the area of the sign face.</p>	<p><u>CB Community Business</u></p> <ul style="list-style-type: none"> <li>- All properties zoned B-1 and fronting on CR 81 or located between CR 81 and I-94.</li> </ul>	Wall Freestanding	<p>Dynamic Display allowed per regulations in Section 113-11(e).</p> <p>Wall</p> <ul style="list-style-type: none"> <li>- Max Area: 2 sq. ft. per linear ft. up to a max. of 100 sq. ft.</li> <li>- Max Height: N/A</li> <li>- Lighting: Internal/External</li> <li>- For parcels with frontage on more than one street, the permitted wall sign area shall be allowed on each wall fronting on a street.</li> </ul> <p>Freestanding:</p> <ul style="list-style-type: none"> <li>- Max Area: 60 sq. ft.</li> <li>- Max Height: 12 ft.</li> <li>- Lighting: Internal/External</li> <li>- One sign permitted on any site.</li> <li>- Setback must be 1 ft. from property line</li> <li>- Signage on a single pole is prohibited.</li> <li>- Signs with bottoms less than 10 ft. off the ground must be located so as to preserve clear vision of approaching traffic.</li> <li>- Parcels that abut Interstate 94 may construct freestanding signs to a max. height of 30 ft. The sign may only be located in the yard which directly abuts the freeway or frontage road.</li> </ul>
			<p><u>RB Regional Business</u></p> <ul style="list-style-type: none"> <li>- All properties zoned B-1, B-2, B-3, or B-C and located north of I-94.</li> </ul>	Wall Freestanding	<p>Dynamic Display allowed per regulations in Section 113-11(e).</p> <p>Wall</p> <ul style="list-style-type: none"> <li>- Max Area: 2 sq. ft. per linear ft. up to a max. of 80 sq. ft.</li> <li>- Max Height: N/A</li> <li>- Lighting: Internal/External</li> <li>- For parcels with frontage on more than one street, the permitted wall sign area shall be allowed on each wall fronting on a street.</li> </ul> <p>Freestanding</p> <ul style="list-style-type: none"> <li>- Max Area: 100 sq. ft.</li> <li>- Max Height: 15 ft.</li> <li>- Lighting: Internal/External</li> <li>- Special provision: All freestanding signs in this district must be designed to be ground signs.</li> <li>- One sign permitted on any site.</li> <li>- Setback must be 1 ft. from property line</li> <li>- Signage on a single pole is prohibited.</li> <li>- Signs with bottoms less than 10 ft. off the ground must be located so as to preserve clear vision of approaching traffic.</li> <li>- Parcels that abut Interstate 94 may construct freestanding signs to a max. height of 30 ft. The sign may only be located in the yard which directly abuts the freeway or frontage road.</li> </ul>

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
			<u>RMI Multifamily and Institutional</u> - All properties zoned AG or AG-PUD; and all nonresidential uses in any R-2 through R-4 zoning districts; and all residential properties zoned R-3 and R-4 and all city parks and facilities.	Wall Freestanding	Dynamic Display not permitted except for Institutional uses fronting on County Roads (CSAH), Highway 101 and Interstate 94.  Wall - Max Area: 60 sq. ft. - Max Height: External - Lighting: (blank) - For parcels with frontage on more than one street, the permitted wall sign area shall be allowed on each wall fronting on a street.  Freestanding - Max Area: 36 sq. ft. - Max Height: 8 ft. - Lighting: External - Special provision: All freestanding signs in this district must be designed to be ground signs. - One sign permitted on any site. - Setback must be 1 ft. from property line - Signage on a single pole is prohibited. - Signs with bottoms less than 10 ft. off the ground must be located so as to preserve clear vision of approaching traffic. - Parcels that abut Interstate 94 may construct freestanding signs to a max. height of 30 ft. The sign may only be located in the yard which directly abuts the freeway or frontage road.
North St. Paul	Electronic Message Center (EMC) Signs	1. General: (a) EMC's are only permitted on freestanding signs. (b) Non-conforming signs shall not be eligible for conversion to an EMC. 2. EMC's shall adhere to the height standards for freestanding signs. 3. One EMC sign structure may be allowed per street frontage, not to exceed two EMC sign structures per site. 4. Display regulations: (a) EMC's shall maintain no less than an 8 second dwell time for any images/messages. (b) Any change from one static display to another must be instantaneous (no effects, dissolving, spinning, fading, animation or motion permitted). (c) Images shall be complete and not require continuation in content to the next image or message. (d) No EMC shall have a brightness exceeding 0.3 footcandles above ambient light measured at the property line. (e) EMC's shall be certified by manufacturers and be protected from end user's manipulation by password protected software. (f) EMC's may use multiple colors permitted they do not cause a distraction or create a public hazard. 5. EMC Text Size and Legibility based on the speed limit of the adjacent road: (a) 25 - 34 mph road = 7" minimum text size. (b) 35 - 44 mph road = 9" minimum text size. (c) 45 - 54 mph road = 12" minimum text size. (d) 55 mph or more = 15" minimum text size. 6. Operation: (a) All EMC's shall be equipped with a means to immediately discontinue the display if it malfunctions. (b) Owner of an EMC must immediately cease operation of the sign if notified by the City the sign is noncompliant.	Permitted in all districts, only for non-residential uses	Freestanding	Freestanding sign dimensional standards for non-residential uses by district: R-1 (single family) district = 60 sq. ft. R-2 (mix residential) district = 60 sq. ft. R-3 (multifamily residential) district = 60 sq. ft. MU-1 (downtown mix use) district = 250 sq. ft. MU-2 (transitional mix use) district = 250 sq. ft. MU-3 (corridor mix use) district = 300 sq. ft.  Freestanding sign standards: 1. Total area of one freestanding sign not to exceed 1 sq. ft. of surface area for every lineal foot of street frontage. 2. Height: (a) Post an arm signs shall not exceed 5 feet. (b) Monument signs shall not exceed 8 feet. (c) Pylon signs shall not exceed 25 feet. (d) EMC signs shall not exceed 8 feet above existing grade.

CITY	DYNAMIC SIGN TERMS	DYNAMIC SIGN RULES	DISTRICTS PERMITTED	SIGN TYPE	NUMBER, SIZE and OTHER REGULATIONS
Shoreview	Sign, Message Center Sign, Dynamic Display Billboard Sign, Video Display	<p>Message Center Signs:</p> <ul style="list-style-type: none"> <li>- Shall be integrated into a freestanding sign (monument or ground), except as otherwise permitted for gas price display and incidental signs.</li> <li>- Non-message portion of the sign shall display the name of the building or facility.</li> </ul> <p>(a) General provisions:</p> <ul style="list-style-type: none"> <li>- Display period for any sign message shall be 8 seconds.</li> <li>- Audio speakers and pyrotechnics are prohibited.</li> <li>- Brightness: lighting shall be set to the minimum level necessary to read the sign, not to exceed 0.3 footcandles above ambient light, and signs shall include automatic dimmer controls.</li> <li>- No portion of the sign may flash, scroll or imitate movement in any manner.</li> <li>- Display of information is limited to those services being offered on the property (time and temperature are allowed).</li> <li>- only one message center is permitted for each principal structure.</li> </ul>	Commercial, Business and Industrial Districts	Shall be integrated into a freestanding sign (monument or ground), except as otherwise permitted for gas price display and incidental signs.	<p>Maximum message center display:</p> <ul style="list-style-type: none"> <li>- 50% of sign area or 50 sq. ft. (whichever is less) in retail, general commercial, office park, business park and industrial districts.</li> <li>- 35% of sign area or 30 sq. ft. (whichever is less) in limited retail service district.</li> <li>- Maximum sign area may be exceeded to comply with the minimum sign area required</li> </ul> <p>Minimum sign area required = 20 sq. ft.</p> <p>A comprehensive sign plan is required for message center signs abutting or adjacent to property with established residential land uses.</p> <p>Location and orientation shall be designed to minimize visual impact on adjoining residential properties.</p> <p>Hours of display:</p> <ul style="list-style-type: none"> <li>- When adjacent to residential, message center signs must be turned off and not display messaged between 11PM-6AM</li> </ul>
			Residential Districts	Shall be integrated into a freestanding sign (monument or ground), except as otherwise permitted for gas price display and incidental signs.	<p>Message center signs are permitted when displayed on the site of an approved public or quasi-public land use.</p> <ul style="list-style-type: none"> <li>- A Comprehensive Sign Plan is required.</li> </ul> <p>Maximum area:</p> <ul style="list-style-type: none"> <li>- not to exceed 35% of the sign area or 30 sq. ft., whichever is less.</li> </ul> <p>Minimum area:</p> <ul style="list-style-type: none"> <li>- 20 sq. ft.</li> </ul> <p>Location and orientation shall be designed to minimize visual impact on adjoining residential properties.</p> <p>Hours of display:</p> <ul style="list-style-type: none"> <li>- Message center signs must be turned off and not display messaged between 11PM-6AM.</li> </ul> <p>Color:</p> <ul style="list-style-type: none"> <li>- Full color displays are permitted upon finding that the display will not have an adverse effect on adjoining residential land uses.</li> </ul>





## **Peace UMC**

5050 Hodgson Road  
North Oaks, MN 55126

Sign Design\_1  
May – 2023

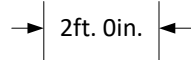
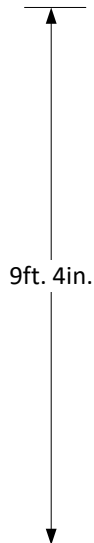
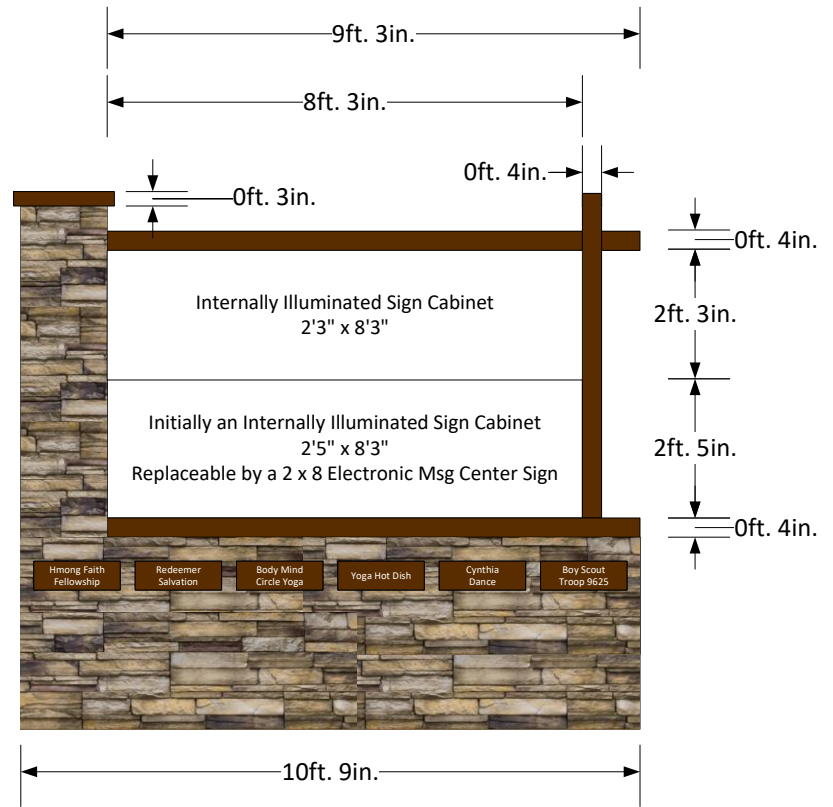
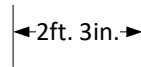
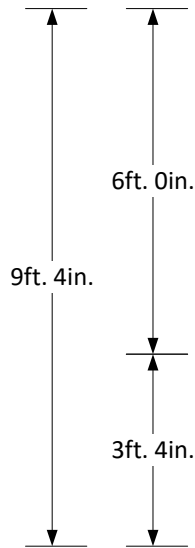
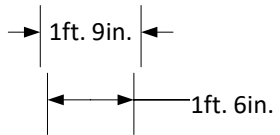


**PEACE** A UNITED METHODIST COMMUNITY  
 SUNDAY SERVICES | 10:00AM | WWW.PEACEUMC.COM  
*reconciling & growing for everyone*  
 **Musical Montessori Preschool and Childcare**

Hmong Faith Fellowship	Redeemer Salvation	Body Mind Circle Yoga	Yoga Hot Dish	Cynthia Dance	Boy Scout Troup 9625
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**PEACE**  
 A UNITED METHODIST COMMUNITY  
 SUNDAY MORNINGS at 10:00am | www.peaceumc.com

Musical Montessori	Shaila Dance	Hiyala Yoga	Prayer Labyrinth
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**PEACE** A UNITED  
METHODIST  
COMMUNITY  
SUNDAYS 10am  
peaceumc.com

*reconciling & growing for everyone*

**Pine Haven** Montessori Preschool

**PEACE** A UNITED  
METHODIST  
COMMUNITY  
SUNDAYS 10am  
peaceumc.com

DIGITAL DISPLAY  
(1 X 8)

**Pine Haven** Montessori Preschool



4880 Hodgson Road  
North Oaks, MN 55126

Sign Permit Supporting Documents  
April – 2018



# Incarnation Lutheran Church: 4880 Hodgson Road, North Oaks, MN 55126





# Current Signage

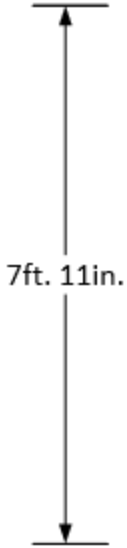




# Proposed New Signage



# Proposed New Signage



Internally Illuminated Cabinet  
Routed Aluminum Face  
Acrylic Backed

**From:** [Matthew Duffy](#)  
**To:** [Kendra Lindahl, AICP](#)  
**Cc:** [Doan "Van" Trinh](#)  
**Subject:** RE: North Oaks Sign Ordinance  
**Date:** Wednesday, September 13, 2023 9:56:45 AM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[Incarnation\\_Sign Permit Supporting Documents\\_1.pdf](#)

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Kendra,

See my **answers** below.

Please let me know if you need/want anything else from me. I am happy to provide whatever information I can to help.

Thank you and regards - Matt.

=====

They asked me for additional information from you to include in my packet:

1. Can you confirm that the proposed sign for Peace Methodist will be able to comply with the ordinance standards, including brightness?

The Watchfire electronic message center (EMC) dynamic sign being installed for Peace UMC will comply with the following:

- 8 Second minimal message hold time
- No audio speakers
- No animation, flashing or blinking. Message changes will be instantaneous.
- Brightness
  - The software allows the brightness to be set using NIT values.
    - The maximum daytime brightness setting is 7,000 NITs.
      - This value can be lowered to whatever value is required.
      - Some cities regulate that the daytime brightness max value is 5,000 NITs.
    - The maximum nighttime brightness level is 700 NITs.
      - This value can be controlled/lowered through the sign's software.
  - The sign has a photocell that automatically adjusts the sign's brightness in direct correlation to the ambient light conditions.
  - Foot candles
    - I have seen foot candle referenced in some city sign code.
    - The sign's software uses NITs.
    - If neighbors or the city believe the sign is too bright – we can continue to lower the NIT values in the sign's

software until it is no longer a problem.

- I am not sure how to measure foot candles. I can say that we have never had an issue that wasn't resolved by lowering the sign's default brightness levels until it hit a level that satisfied all involved parties.

- Hours of display: The sign software can be set to automatically turn off between the hours of 11pm and 6am.

2. They did discuss the Immanuel Lutheran Church sign and wondered how that got installed. I know you said you don't have any permit or variance information in your files, but do you still have the plans for that sign? Can you confirm whether or not that sign will comply with the new ordinance standards for size and brightness?

Permit Documentation:

- I couldn't find any documentation for the actual sign permit application.
- A document I created for the church is attached.
  - It shows the dimensions of the old sign.
  - It also shows the dimensions of the new sign match exactly the old sign.
- My memory from the time is that because the sign was the same size – the city approved their request for a new sign.

Dynamic Sign meets the new North Oaks Sign Code:

- The Incarnation digital sign can meet all the sign code requirements except the Ambient Light Photocell. It does not have a photocell.
- The sign's brightness is controlled by time of day.
  - The sign's controller knows the longitude/latitude of the sign's location – sunset and sunrise times are maintained in the sign.
  - The brightness dims with the changing sunset/sunrise times throughout the year.
- I don't believe the church has received complaints. If the brightness is a problem – default brightness levels can be lowered.

Sign Size:

- Incarnations digital sign is 2x7 (14 sf).
- It complies with the maximum allowance of 16 sf.
- The dynamic percentage is less than 50% of the total sign area.
- The total sign area = approx. 45 sf.

3. The subcommittee wanted to use the brightness formula that the City of Shoreview uses. I have never used this formula for brightness in any City, but the City of Shoreview says that they use it because it is a standard that the sign industry uses. Unlike other cities that measure lumens or nits. Is that accurate? I have that included in the draft: *The light level shall not exceed 0.3 foot candles above ambient light as measured from a pre-set distance depending on the sign size. Measuring distance shall be determined using the following equation; the square root of the message center sign area multiplied by 100. Example: 12 square foot sign  $\sqrt{(12 \times 100)} = 34.6$  feet measuring distance.*

See my description above regarding NITs and Foot Candles.

- The Watchfire software controls brightness using NITs.
- I believe there are meters that can measure foot candles. I am not sure how they

- work and how ambient light affects the measurement.
- If the sign's brightness is an issue with neighbors or the city, we can continue to lower the brightness default levels until it is no longer an issue.

**From:** Kendra Lindahl, AICP <KLindahl@landform.net>  
**Sent:** Friday, September 8, 2023 1:54 PM  
**To:** Matthew Duffy <mattduffy@thinkdigitalsigns.com>; Doan "Van" Trinh <van@thinkdigitalsigns.com>  
**Subject:** North Oaks Sign Ordinance

Matthew and Doan,

The city of North Oaks scheduled a public hearing on the draft sign ordinance for September 28<sup>th</sup>.

They asked me for additional information from you to include in my packet:

1. Can you confirm that the proposed sign for Peace Methodist will be able to comply with the ordinance standards, including brightness?
2. They did discuss the Immanuel Lutheran Church sign and wondered how that got installed. I know you said you don't have any permit or variance information in your files, but do you still have the plans for that sign? Can you confirm whether or not that sign will comply with the new ordinance standards for size and brightness?
3. The subcommittee wanted to use the brightness formula that the City of Shoreview uses. I have never used this formula for brightness in any City, but the City of Shoreview says that they use it because it is a standard that the sign industry uses. Unlike other cities that measure lumens or nits. Is that accurate? I have that included in the draft: *The light level shall not exceed 0.3 foot candles above ambient light as measured from a pre-set distance depending on the sign size. Measuring distance shall be determined using the following equation; the square root of the message center sign area multiplied by 100. Example: 12 square foot sign  $\sqrt{(12 \times 100)} = 34.6$  feet measuring distance.*

I appreciate your feedback.  
Kendra Lindahl, AICP  
LANDFORM, Principal Planner  
Direct: 612-638-0225



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# Night-time Brightness Level Recommendations for On-Premise Electronic Message Centers

*Updated August 2016*

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PRODUCED BY:

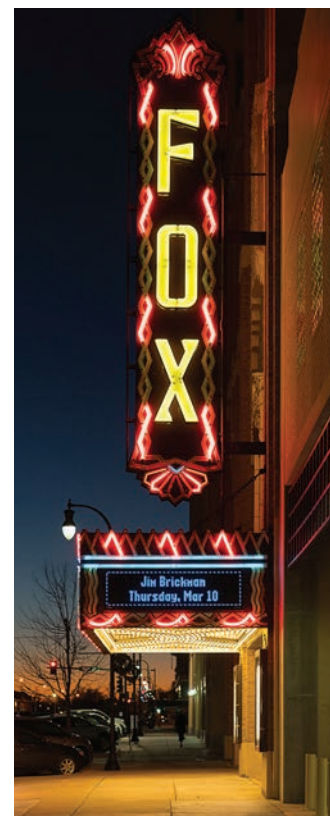


INTERNATIONAL SIGN ASSOCIATION



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## LEARN MORE ABOUT EMCS

The International Sign Association offers an Electronic Message Center (EMC) Resource Center, with resources on:

- EMCs and traffic safety
- A framework for developing EMC sign code language
- The differences between EMCs and digital billboards

[www.signs.org/local](http://www.signs.org/local)

## ADDITIONAL SIGN CODE RESOURCES

The International Sign Association has developed numerous tools to help communities develop better sign codes. All are housed at [www.signs.org/local](http://www.signs.org/local), including:

- The Supreme Court ruling, *Reed v. Town of Gilbert*
- Model sign codes
- Best practices in regulating temporary and wayfinding signs
- The Economic Impact of On-Premise Signs

ISA's advocacy team is available to provide complimentary assistance on sign codes and sign-related issues.

Contact [SignHelp@signs.org](mailto:SignHelp@signs.org) or 703.836.4012.

# INTRODUCTION

## ELECTRONIC MESSAGE CENTERS (EMCs)

Electronic message centers, or EMCs, continue to grow in popularity for business and community use. You may have heard EMCs being referred to as changeable message displays or digital signs.

EMCs are *not* digital billboards, which advertise a good or service that is located away from the sign. Rather, EMCs are digital signs that are located *on the premises*, and that advertise goods and services that are available at the location.



*Electronic Message Center (EMC)/on-premise sign advertising a bank that is located on the same premises as the sign*



*Digital billboard/off-premise sign advertising an automobile business in another location*

There is often confusion regarding on- and off-premise digital signs. However, EMCs and digital billboards have very distinct capabilities and purposes, each targets a specific audience and each has traditionally been treated under separate legal and regulatory regimes, a zoning practice which was noted in the 2015 U.S. Supreme Court ruling in *Reed v. the Town of Gilbert*. For the purposes of this publication, we are focusing solely and exclusively on EMCs.

EMCs that are too bright at night can be offensive and ineffective. Night-time EMC brightness is an issue where sign users, the sign industry, and local offices have a common goal: ensuring that EMCs are appropriately legible. We know the messages that these signs convey can be rendered unattractive and perhaps even unreadable if they are programmed too bright.

That's why many sign companies recommend to their customers that in order for these signs to be most effective, their brightness be set at such a level to be visible, readable and conspicuous.



The International Sign Association (ISA) retained noted lighting expert Dr. Ian Lewin of Lighting Sciences to help the industry develop scientifically-researched, understandable recommendations for EMC brightness. Dr. Lewin was a past chair of the Illuminating Engineering Society of North America (IES), and was greatly respected within the lighting field. His work for ISA was conducted with the input of experts within the sign industry.

*As a result of his research, Dr. Lewin recommended two different brightness settings based on whether the EMC was located in an area of high or low ambient light. After field testing and utilizing Dr. Lewin's recommendations, it was determined that using the more conservative recommendation is appropriate in areas of both low and high ambient light. In order to simplify Dr. Lewin's recommendations, and to take a more reasonable approach to ensure that EMCs are sufficiently visible but not overly bright, **it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.***

The research and the recommendations contained in this report pertain only to EMCs, not traditionally internally illuminated signs, such as these channel letter and neon signs below. EMCs use a different lighting technology than most of these types of signs, and as such the scientific approach differs.

Community leaders should understand that, while it is recommended that brightness measurements be taken perpendicular to the sign, sign viewers rarely see the sign at that same perpendicular approach. At any viewing point away from or off the forward angle, the apparent brightness will be reduced. In other words, the measurements will capture the recommended brightness levels, but, unless viewers are looking at the sign directly perpendicular, they will not perceive the brightness at the full level.

We have provided recommended statutory language and tips to measure brightness with and without control of the EMC. If you need further assistance, feel free to contact ISA, [signhelp@signs.org](mailto:signhelp@signs.org) or at (703) 836-4012 to answer any of your EMC questions.



## FOOTCANDLES VS. NITS: WHICH MEASUREMENT IS BETTER?

This document recommends communities adopt illumination measurements in footcandles as compared to nits. Here are a few reasons why more than 200 localities and many state departments of transportation have adopted the footcandle measurement for EMCs:

### FOOTCANDLES

- Measures illuminance
- Accounts for ambient light conditions
- Luxmeter measuring device \$ 100
- "Twilight" measurement possible
- Measures light impact and appearance
- Works with roadway lighting standards
- Easier to check and enforce

### NITS

- Measures luminance
- Measures only the amount of brightness emitted
- Luminance spectrometer (nit gun) - \$ 1,000
- Does not allow adjustment based on ambient light
- Does not measure appearance
- Difficult to measure accurately
- Difficult to enforce

\* While the main advantage of using nits as compared to footcandles is that daytime measurement is possible, EMC brightness is typically more of an issue at night.

# CASE STUDY: Columbus, Ohio



COMMUNITY . . . . .	<b>Columbus, Ohio</b>
POPULATION . . . . .	<b>836,000</b>
LOCATION . . . . .	As Ohio’s largest city and state capitol, Columbus is the country’s 15th largest city.
SPECIFIC EMC ISSUE . . . . .	Crafting a reasonable, enforceable code that addresses complaints while preserving the ability for businesses to use what it termed automatic changeable copy signs.

As automatic changing copy signs—as Columbus refers to EMCs—grew in use, so did community complaints.

By 2011, city planners began to edit the graphics codes to limit special effects. The goal was to continue to allow for a variety of commercial graphics, “but not at the expense of neighborhoods,” said Lisa Russell, the city’s Planner II who facilitated the code development project.

The city had in place certain limits on automatic changing copy signs, aka EMCs, in the graphics code, limiting their use to commercial and manufacturing zoning districts and requiring that only half of the sign could be used for the changeable copy. But signs lacked brightness limits and a hold time.

Russell led a team to draft the new code, which incorporated a brightness limit for both on-premise and off-premise signs. The testing method also is included in the code.

It was the result of much scientific discussion. “I believe that the best answer is revealed if you have enough information,” Russell said. The committee included a community group leader who was an architect specializing in lighting and representatives from the sign and graphics industry.

“When we started exploring brightness, it appeared the footcandle method was the way to go,” Russell said. “However, some group members wanted us to explore the luminance method. ISA believed so strongly that the luminance method was problematic that they brought a demonstration to us.”

The demonstration included a field trip to visit a sign to show the impact of the two measurement methods. “They wanted to make sure that we didn’t go down the wrong path. They rented a lift and showed us that with the luminance method you’d have to get up in the lift, raise it and shine the nit gun at the sign. With the footcandle meter, you can stand on the ground.”

Russell helped the group to see that the “members of the professional sign and graphics industry are not the same as end-users of signs, such as an owner of a carryout who wants to draw attention to his shop over others. We all had an interest in developing reasonable regulations instead of just banning these signs. We also did not want to take away the rights that businesses had to display electronic signs.”

The new code has significantly lessened complaints about sign brightness. And when a complaint is received, the code enforcement officers have a verifiable process for determining whether the sign complies with the code.



## CASE STUDY: Kitsap County, Washington



COMMUNITY .....	<b>Kitsap County, Washington</b>
POPULATION .....	<b>260,000</b>
LOCATION .....	Across the Puget Sound from Seattle and bordered by rural communities on the west. It is the third most densely populated county in the state.
SPECIFIC EMC ISSUE .....	Existing codes did not cover electronic signs.

As a “transition” county between rural Washington and the metropolitan city of Seattle, Kitsap County had the challenges of creating regulations for electronic signs that fit the county’s dual personalities.

“The first step was to identify where these signs would be allowed,” said Darren Gurnee, a planner with the county. “We wanted to make sure these were restricted to areas of increased density and primarily non-residential use such as industrial zones and commercial zones within the urban growth area.”

Previously, the county had allowed electronic signs “as a matter of interpretation,” Gurnee said. Crafting more defined electronic sign regulations would provide a measure of stability—and help business owners know what was allowed and where. An added bonus: Gurnee felt the signs would be more attractive than the block letters signs that had to be changed manually.

While the county wanted to make it easier for businesses to convert existing static monument signs into electronic signs, it also wanted to ensure that the regulations were not written in a way that would allow billboards to convert.

“We were able to craft our regulations in a way that required signs be brought into conformance before any change could be made,” Gurnee said. “Billboards were non-conforming, so that would not be an issue.”

ISA provided Gurnee with industry standards—contained in this publication—and some background on the technology that today’s electronic signs offer, such as automatic dimming. It also incorporated some of the recommended language on animation, hold times and transitions.

“The regulation is written in a way that it would be easy to enforce,” Gurnee said, and easy to understand, without the ambiguities contained in the previous method. The ending code created a perfect fit for both of the community’s personalities.

# CASE STUDY: SPARKS, NEVADA



COMMUNITY . . . . .	<b>Sparks, Nevada</b>
POPULATION . . . . .	<b>93,500</b>
LOCATION . . . . .	A rapidly growing community, Sparks is located near Lake Tahoe, California, and Reno, Nevada, and is Nevada’s fifth largest city.
SPECIFIC EMC ISSUE . . . . .	Existing regulations were difficult to enforce and outdated.

Sparks, Nevada had existing regulations of electronic message centers—or electronic variable signs as the community deemed them. But “it wasn’t very explicit,” said senior planner Karen Melby. “The brightness standards were in lumens, which we didn’t even know how to measure.”

The regulations were outdated as well—having been drafted in 2002. Technology had changed dramatically and the costs of EMCs had dropped, putting them in the range of more businesses’ budgets. “We felt we could see more coming and felt that we needed to get a handle on it.”

As a first step, planners required that those seeking an EMC permit meet their standards before approval was granted, but nothing was written into the code. That method can create problems.

So Melby led the city through the code revision process. She sought out industry expertise from both the planning community and the sign and graphics industry. For industry insight, she turned to ISA. ISA provided feedback on how other communities were regulating electronic message centers, and recommendations on what was working for these communities.

One outside group felt strongly that the standards should be regulated in nits, not footcandles. They brought in an expert who opposed the proposed regulations. But Melby held strong on the issue of footcandles. “In my research, it seems like footcandle is what you can see with your eyes while a nit is pinpointing a spot on a sign. When you look at a sign, you’re looking at the whole thing, not just one small spot.”

The city adopted the widely recognized standard of 0.3 footcandles above ambient light, using the distance measurements outlined in this publication. Melby took that table, determined the formula and wrote the formula into the code.

The community allows smaller signs—those under 32 square feet—to include scrolling, while those larger do not.

The result has been a city that has successfully navigated the balance between business interests and community aesthetics. “We’ve had very few complaints,” Melby said. “When we do get a complaint about a sign being too bright, we go out and measure it. When they bring it down to standards, we don’t get complaints.”

Being able to use a simple light meter to measure brightness is far easier than simply guessing whether the sign is in compliance, Melby said. “The other method (measuring nits) was really based on opinion. What may seem bright to me may not seem bright to you. Now, we can say, ‘This is what the meter says.’”

By having clear standards that are easier to enforce, both community and business win.

# EXECUTIVE SUMMARY

## ISA ELECTRONIC MESSAGE CENTER NIGHT-TIME BRIGHTNESS RECOMMENDATIONS

This summary has been developed with an understanding that EMCs that are unreasonably bright are not effective for the communities or end users. This intends to help communities and stakeholders develop brightness standards for on-premise EMCs. The summary comprises:

- 1) *An overview of the importance of ensuring appropriate brightness,*
- 2) *Technology utilized to ensure appropriate brightness, and*
- 3) *Recommended brightness standards*

### 1. Overview of the importance of ensuring appropriate night-time brightness.

EMCs that are too bright at night can be offensive and ineffective. There are significant advantages to ensuring than an electronic display is not overly bright. These advantages include:

- » Conservation of energy
- » Increased life expectancy of the electronic display components
- » Building goodwill with the community
- » Ensuring the legibility of the display

It is in the best interest of all stakeholders to ensure that EMCs are sufficiently bright to ensure clear legibility, while at the same time avoiding a display that is overly bright.

### 2. Technology utilized to ensure appropriate brightness.

Most EMCs are designed to produce sufficient brightness to ensure clear legibility during daylight hours. However, daytime brightness settings are usually inappropriate for night-time viewing. The following general methods are used to dim an EMC for appropriate night-time viewing:

1. **Manual Dimming.** Using this method, the sign operator dims the display in response to changing ambient light conditions.
2. **Scheduled Dimming.** Sunset-sunrise tables allow an EMC to be programmed to dim at the same time that the sun sets and rises. This method is generally acceptable, but is more effective when used as a backup to automatic dimming controls capability, such as photocell technology.
3. **Photocell Technology.** An EMC that utilizes photocell technology can automatically dim as light conditions change. A photocell sensor alerts the display to adjust brightness according to ambient light conditions.

### 3. Recommended night-time brightness standards.

Dr. Lewin recommended the development of brightness criteria based on the Illuminating Engineering Society's (IES) well-established standards pertaining to light trespass, IES Publication TM-11-00. The theory of light trespass is based on the concept of determining the amount of light that can spill over (or "trespass") into an adjacent area without being offensive.

In order to simplify Dr. Lewin's recommendations, and to take a more reasonable approach to ensure that EMCs are sufficiently visible but not overly bright, **it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.**

Email [signhelp@signs.org](mailto:signhelp@signs.org) to receive Dr. Lewin's original research.



*...it is recommended that EMCs not exceed 0.3 footcandles over ambient lighting conditions when measured at the recommended distance, based on the EMC size.*

# RECOMMENDED LEGISLATIVE LANGUAGE



**Electronic Message Center (EMC) Criteria:** The night-time illumination of an EMC shall conform with the criteria set forth in this section.

**A. EMC Illumination Measurement Criteria:** The illuminance of an EMC shall be measured with an illuminance meter set to measure footcandles accurate to at least two decimals. Illuminance shall be measured with the EMC off, and again with the EMC displaying a white image for a full color-capable EMC, or a solid message for a single-color EMC. All measurements shall be taken as close as practical to a perpendicular plane of the sign at the distance determined by the total square footage of the EMC as set forth in the accompanying Sign Area of a Sign versus Measurement Distance table.

**B. EMC Illumination Limits:** The difference between the off and solid-message measurements using the EMC Measurement Criteria shall not exceed 0.3 footcandles at night.

**C. Dimming Capabilities:** All permitted EMCs shall be equipped with a sensor or other device that automatically determines the ambient illumination and programmed to automatically dim according to ambient light conditions, or that can be adjusted to comply with the 0.3 footcandle measurements.

**D. Definition of EMC:** A sign that utilizes computer-generated messages or some other electronic means of changing copy. These signs include displays using incandescent lamps, LEDs, LCDs or a flipper matrix.



## SIGN AREA VERSUS MEASUREMENT DISTANCE

AREA OF SIGN sq. ft.	MEASUREMENT (ft.)
10	32
15	39
20	45
25	50
30	55
35	59
40	63
45	67
50	71
55	74
60	77
65	81
70	84
75	87
80	89
85	92
90	95
95	97
100	100
110	105
120	110
130	114
140	118
150	122
160	126
170	130
180	134
190	138
200	141
220	148
240	155
260	161
280	167
300	173

\* For signs with an area in square feet other than those specifically listed in the table (i.e., 12 sq ft, 400 sq ft, etc), the measurement distance may be calculated with the following formula: Measurement Distance =  $\sqrt{\text{Area of Sign Sq. Ft.} \times 100}$

# HOW TO MEASURE THE NIGHT-TIME BRIGHTNESS OF AN EMC WITH OPERATIONAL CONTROL

*(Note: This method can be completed by one individual, but requires operational control to shutoff the EMC)*

## STEP 1

### OBTAIN AN ILLUMINANCE METER.

Purchase or otherwise procure an illuminance meter. Most city/county traffic departments have an illuminance meter, which are also referred to as lux or footcandle meters (lux is the metric measure of illuminance; footcandles is the English measure of illuminance). The illuminance meter must have the ability to provide a reading up to two decimal places and must be set to read footcandles. It is preferred to have an illuminance meter with a screw-mount that allows the sensor to be mounted on a tripod. A tripod ensures that the highly sensitive sensor is held perfectly still; otherwise it may be difficult to obtain an accurate reading.

## STEP 2

### DETERMINE SQUARE FOOTAGE.

Determine the square footage of the face of the electronic message sign (EMC) by multiplying the height and width of the EMC. This information may be available in a permit application, or can be determined by physically measuring the height and width of the EMC. Do not include the sign face square footage attributable to any additional static signs associated with the EMC (if applicable).



## STEP 3

### DETERMINE THE MEASUREMENT DISTANCE.

Using the total square footage found in Step 2, look up the measurement distance in the table provided in the Recommended Legislative Language on page 8, to determine the distance to measure the brightness of the EMC. The distance should be measured perpendicular to the EMC sign face. The use of a measuring wheel, laser finder or a smartphone app are the most convenient ways to measure the distance.





## STEP 4

### PREPARE THE DISPLAY FOR TESTING.

Ensure that the EMC is programmed to alternate between a solid white (or in the case of a monochrome display – the solid color of the display) message and a blank message. The community may require that the sign owner cooperate with testing by programming the EMC for testing upon written notice.

## STEP 5

### USE AN ILLUMINANCE METER TO MEASURE THE BRIGHTNESS OF THE EMC.

Mount the sensor of your illuminance meter to a tripod and orient the sensor directly towards the face of the EMC at the measurement distance determined in Step 2.

Ensure that the illuminance meter is set to measure footcandles up to two decimal places. As the display alternates between a solid white message and an “off” message, note the range of values on the illuminance meter. If the difference between the readings is less than 0.3 footcandles, then the brightness of the display is in compliance. If not, the display will need to be adjusted to a lower brightness level using the manufacturer’s recommended procedures.



## STEP 6

### ENSURE THAT THE DISPLAY CAN ADJUST TO DIFFERENT AMBIENT CONDITIONS.

Inspect the sign to ensure that it incorporates a photocell or other technology to ensure that the display can adjust according to ambient lighting conditions.



*As the display alternates between a solid white message and an “off” message, note the range of values on the illuminance meter.*

*If the difference between the readings is less than 0.3 footcandles, then the brightness of the display is in compliance.*



# HOW TO MEASURE THE NIGHT-TIME BRIGHTNESS OF AN EMC—WITHOUT CONTROL OF THE SIGN

*(Note: This method requires two individuals, but does not require operational control of the EMC.)*

There will be instances where the EMC illumination needs to be evaluated to ensure that it does not exceed the brightness levels established in the municipal sign ordinance. If the municipality is unable to obtain access to the sign controls or attempting to take the measurement after business hours, this method should be followed.

Unlike the six-step process described previously, this process measures the difference in brightness between the sign in operation and when the sign is completely blocked from the illuminance meter. This procedure is extremely simple and requires only an illuminance meter and a piece of painted cardboard cut to the proper size.

## STEP 1

### OBTAIN AN ILLUMINANCE METER.

(See previous Step 1)

## STEP 2

### DETERMINE SQUARE FOOTAGE.

(See previous Step 2)

## STEP 3

### DETERMINE THE MEASUREMENT DISTANCE.

(See previous Step 3 or use  $\sqrt{(\text{Area of Sign in Sq. Ft.} \times 100)}$ )

## STEP 4

### POSITION THE TESTERS.

Based on the size of the digital display, the person conducting the test should position themselves as close to directly in front of the digital display as practical, at the appropriate distance (calculated in Step 3).

A helper should position themselves about 7 ft. to 10 ft. in front of the light meter and hold up an opaque, black sheet of material that is roughly 12 in. high by 40 in. wide. (Regular cardboard painted matte black works well for this.) The sheet should be positioned so it blocks all light from the EMC, but still allows the remaining ambient light to register on the illuminance meter.

EMC Area	Measurement Distance
24 ft <sup>2</sup>	49 ft
32 ft <sup>2</sup>	57 ft
50 ft <sup>2</sup>	71 ft
100 ft <sup>2</sup>	100 ft

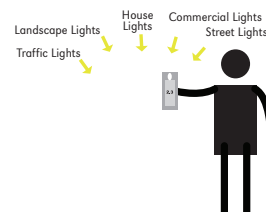
This helper should use a cardboard sheet to block the EMC light from the footcandle meter. This will establish the baseline footcandle reading.



After the cardboard block is held in place, a reading should be taken for the ambient light.

In this example, various light sources are impacting the photocell measuring 2.3 footcandles of ambient light.

This is the baseline for the measurement. Write it down.

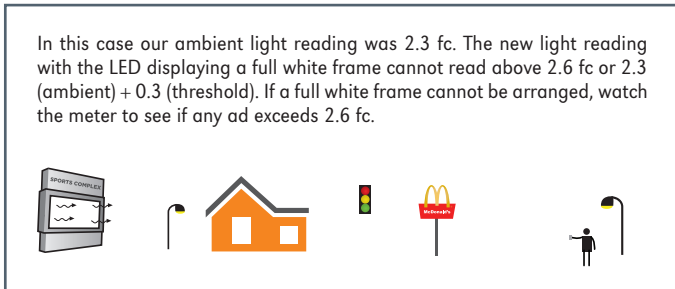


## STEP 5

### USE AN ILLUMINANCE METER.

The illuminance meter should be held at a height of about 5 ft. (which is approximately eye level) and aimed directly at the EMC. The illuminance meter will account for surrounding sources of light or the absence thereof.

In this case our ambient light reading was 2.3 fc. The new light reading with the LED displaying a full white frame cannot read above 2.6 fc or 2.3 (ambient) + 0.3 (threshold). If a full white frame cannot be arranged, watch the meter to see if any ad exceeds 2.6 fc.



At this point, readings should be taken from the illuminance meter to establish a baseline illumination level. (ISA recommends that the illuminance meter is capable of levels to 2 decimal places 0.00).

Once the baseline level is established, add 0.3 footcandles to the baseline level to calculate the max brightness limit. (For example: Baseline reading is 3.15 footcandles. The max brightness level is 3.45 footcandles.)

## STEP 6

### DETERMINE THE BRIGHTNESS LEVEL.

Remove the opaque sheet from blocking the EMC. Watch the foot-candle meter for 3 to 5 minutes to see if the max brightness level is exceeded by any of the images on the sign. If the readings do not exceed the max brightness levels, then the EMC illumination is in compliance.

If any of readings consistently exceed the max brightness level, the lighting level is not in compliance. In this scenario, the municipality will need to inform the sign owner of noncompliance and take appropriate steps to ensure that the EMC be adjusted to a lower brightness level using the manufacturer's recommended procedures.



*If any of readings consistently exceed the max brightness level, the lighting level is not in compliance.*





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## Explanation of OAAA Recommended Brightness Guidelines

There are at least two ways to evaluate the brightness of a LED digital display. A preferred method uses a footcandle meter to determine the amount of light that reaches various points in front of the digital display. A second method uses a luminance meter (frequently called a nit gun) to determine the amount of light emitted by a light source.

### Explanation of Footcandles vs. Nits

A brightness standard measured in nits (candelas/square meter) typically contains a maximum value for daytime and nighttime. The footcandle standard has only one value but is measured from different distances based on display size.

An LED sign generates luminance at the source (measured in nits), but this raw source is not what the human eye sees from a distance. The human eye sees illuminance (measured in foot candles) from a point at a certain distance from the LED sign. Illuminance is greatly affected by ambient light and surrounding conditions. As such, it is usually preferred by regulators.

### Q: What is the definition of Luminance<sup>1</sup>?

lu·mi·nance/'lumənəns/ [loo-muh-nuhns]—noun

1. The state or quality of being luminous.
2. Also called luminosity, the quality or condition of radiating or reflecting light: the blinding luminance of the sun.
3. Optics - The quantitative measure of brightness of a light source or an illuminated surface, equal to luminous flux per unit solid angle emitted per unit projected area of the source or surface.

### Q: What is the definition of Illuminance?

/i'lumənəns/ Compare irradiance E v, Sometimes called: illumination the luminous flux incident on unit area of a surface. It is measured in lux<sup>2</sup>

### Q: What is a foot candle?

n. (Abbr. fc or ft-c)

[foot-kan-dl]

noun Optics.

A unit of illuminance or illumination, equivalent to the illumination produced by a source of one candle at a distance of one foot and equal to one lumen incident per square foot. Abbreviation: FC<sup>3</sup>

Also:

A unit of illuminance on a surface that is everywhere one foot from a point source of one candle<sup>4</sup>

<sup>1</sup> Dictionary.com <http://dictionary.reference.com/browse/luminance?s=t>

<sup>2</sup> Dictionary.com <http://dictionary.reference.com/browse/illuminance?s=ts>

<sup>3</sup> Dictionary.com <http://dictionary.reference.com/browse/foot+candle?s=t>

<sup>4</sup> TheFreeDictionary.com <http://www.thefreedictionary.com/Footcandle>

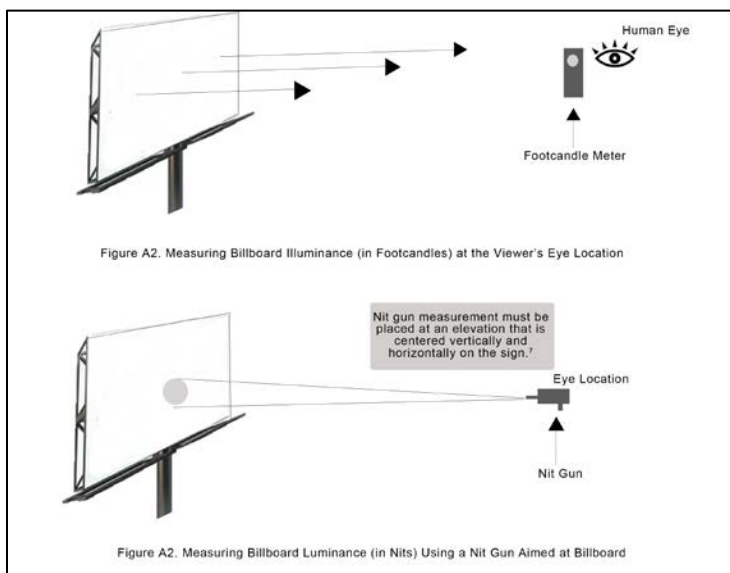
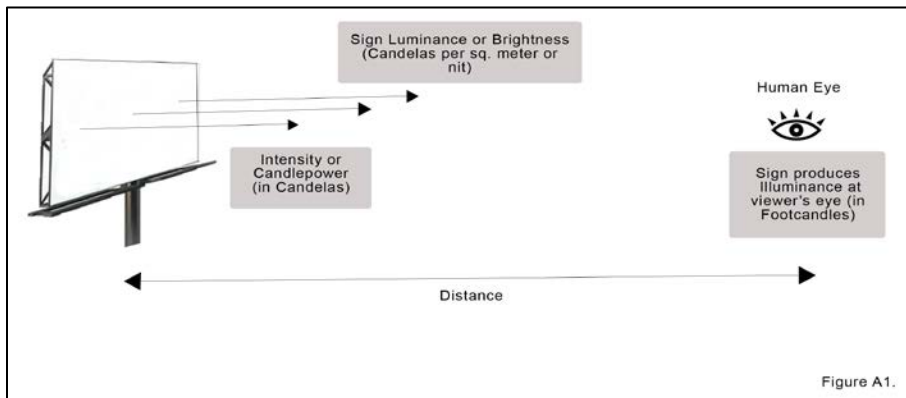
## Q: What is a nit?

A:

noun Physics.

a unit of luminous intensity equal to one candela per square meter. Abbreviation:  $\text{nt}^5$

-A unit of illuminative brightness equal to one candle per square meter, measured perpendicular to the rays of the source.<sup>6</sup>



<sup>5</sup> Dictionary.com <http://dictionary.reference.com/browse/nits?s=t>

<sup>6</sup> TheFreeDictionary.com <http://www.thefreedictionary.com/nit>

<sup>7</sup> Nit gun readings are most accurate when the readings are taken directly perpendicular from the light source. As a result, the best place to take Nit gun readings is from an elevated height perpendicular to the digital display. If this is not possible, moving back from the digital display 350' to 500' on the center line will minimize the loss of accuracy. However, the distance away from the digital display cannot cause the nit gun measurement circle to fall outside the lighted digital billboard face.



-Source: Dr. Ian Lewin, Ph.D. Lighting Sciences, Inc. Digital Billboard Recommendations and Comparisons to Conventional Billboards.

### Why use Foot candles over Nits as a unit of measurement?

- Foot candles measure the variance from ambient light. This assures a government that the sign will not be too bright for conditions. At different parts of a day the ambient lighting can be significantly different with clouds or fog. Conversely, the same can be true about nighttime conditions when an adjacent commercial lot turns on or off their parking lot lighting. Regulation using Nits merely sets a maximum and minimum level for day and night time conditions. Using the foot candle standard will not allow the sign to be too bright under a variety of conditions. (See Figure A2)
- Nits measure the brightness of the light at its source, without regard to ambient light. Establishing a lighting standard that ignores the brightness of the area (ambient light) allows the digital billboard to be too bright in dark environments and too dim in highly illuminated areas. In other words, fixed nit standards can allow the digital to operate at significantly higher luminance than is needed over the course of a 24 hour period.
- Nits: To measure nits you need to be directly perpendicular to the sign to measure, and get an accurate measurement. This is factored horizontally and vertically. There is a little bit of leeway on angle. Nits are directional in nature and billboard signs are usually aimed directly at the middle of the roadway. This in many cases puts the person performing the measurement in the travel lanes. In addition, due to the height of the average digital billboard a truck with a man-lift may be required. There is no specified distance you must be away from the sign to measure. (See Figure A2)
- Footcandles: With the footcandle standard you should be as perpendicular to the face as you can, but you do not have to be, to get a valid, accurate measurement. Footcandles can be measured multi directionally. You can take measurements at an angle to the sign face and receive valid measurements. The distance from which to measure is set at 250 ft away from the sign face for 14 x 48 size. This gives a regulator more options on places to stand.
- This makes the footcandle standard superior in ease of implementation. But even if we assumed they are both different, but similar in this regard, other more important factors tip the scales.
  - The footcandle standard is more restrictive in terms of lighting allowed, in a variety of conditions. As such, is usually preferred by regulators once they are educated on the differences.
  - The industry footcandle standard is tied to a required light sensor and dimming software.
  - Footcandles measure what the driver sees through their windshield in terms of light, where his car is.
  - Nits measure the light emanating from the sign face, typically a few hundred feet away. Not necessarily what the driver is seeing.
- It also can benefit a government to use foot-candles instead of Nits as Nit guns are very expensive (estimated cost \$3,000.00). Light meters can cost as little as \$250.00.

### **There are 3 necessary components to insure a digital billboard will never be too bright for conditions.**

1. Maximum brightness limits incorporating a footcandle standard
2. An ambient light sensor installed on the sign structure
3. Dimming software

The ambient light level of a digital billboard will not vary significantly from that of a traditional billboard display and, in many cases it will be less. The light output levels will be set to be appropriate for the surroundings.

OAAA recognized/member companies utilize a photocell on digital billboards so that the display will easily be seen by motorists under changing light conditions. Sophisticated dimming software constantly changes the brightness of the display in response to changing ambient lighting conditions. This insures a digital billboard will never be too bright for conditions.

The range of brightness varies greatly between daytime and nighttime conditions. In bright daylight, the unit must have higher intensity in order to be seen. During darkness conditions, the brightness can be set low and still be easily seen by motorists.

### **Why was 0.3 Footcandles chosen as the limit?**

The 0.3 footcandle maximum illuminance level was carefully derived from a report completed by a former president of the IESNA.<sup>8</sup> The recommended technique is based on accepted IESNA practice for “light trespass.”

The Outdoor Advertising Association of America (OAAA) commissioned Dr. Ian Lewin, in 2008 a principal at Lighting Sciences, Inc., Scottsdale, AZ, to recommend criteria for brightness levels on digital billboards<sup>9</sup>. The standards are designed to minimize the risk of glare or unreasonable driver distraction.

Footcandle measurements are commonly used throughout the United States. Footcandle measures are widely used in the lighting industry, photography, film, television, conservation lighting, and construction related engineering and building code regulations<sup>10</sup>. In addition, footcandles are frequently cited in OSHA regulations. The OAAA believes that these lighting standards reflect the best practices of the Out of Home Industry.

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<sup>8</sup> IESNA – Illuminating Engineering Society of North America

<sup>9</sup> Digital Billboard Recommendations and Comparisons to Conventional Billboards, by Dr. Ian Lewin Ph.D., FIES, L.C. Lighting Sciences, Inc., 7826 East Evans Road, Scottsdale, Arizona 85260

<sup>10</sup> [wikipedia.org/wiki/Footcandles](http://wikipedia.org/wiki/Footcandles)

## Appendix

### OAAA Recommended Brightness Guidelines

#### Criteria #1 - Lighting Standards – Measurements:

The industry recommended criteria follows the lighting standards established by the Illuminating Engineering Society of North America (IESNA). The OAAA and member companies voluntarily adhere to the following guidance.

Recommended regulatory criteria:

Lighting levels should not exceed 0.3 foot candles (over ambient levels) as measured using a foot candle meter at a pre-set distance.

Pre-set distances to measure the foot candles impact vary with the expected viewing distances of each size sign. Measurements should be taken as close to perpendicular to the face as practical.

Measurement distance criteria:

Nominal Face Size	Distance to Measure From
12' x 24'	150'
10'6 x 36'	200'
14' x 48'	250'
20' x 60'	350'

Each display must have a light sensing device that will adjust the brightness as ambient light conditions change.

#### Criteria #2 - Alternate Regulatory Criteria

The brightness of light emitted from a changeable message sign should not exceed 0.3 foot candles over ambient light levels measured at a distance of one hundred fifty feet (150') feet for those sign faces less than or equal to three hundred square feet (300 sq. ft.), measured at a distance of two hundred feet (200 ft.), for those sign faces greater than three hundred square feet (300 sq. ft.) but less than or equal to three hundred eighty-five square feet (385 sq. ft.), measured at a distance of two hundred fifty feet (250 ft.), for those sign faces greater than three hundred eighty-five square feet (385 sq. ft.) and less than or equal to six hundred eighty square feet (680 sq. ft.), measured at a distance of three hundred fifty feet (350 ft.) for those sign faces greater than six hundred eighty square feet (680 sq. ft.)

Or use Alternate Table:

Sign Face Size	Distance of Measurement
681-1200 square feet	350 feet
385-680 square feet	250 feet
300-385 square feet	200 feet
200-300 square feet	150 feet

Each display must have a light sensing device that will adjust the brightness as ambient light conditions change.

**Criteria #3 - Optional Regulatory Addendum** - (If standardized distances cannot be achieved in compliance with MUTCD roadside work, or if the site conditions will not allow measurements from the previous distances.)

In the event it is found not to be practical to measure a digital billboard at the set distances prescribed above, a measurer may opt to measure the sign at any of the alternative measuring distances described in the applicable table set forth below. In the event the sign measurer chooses to measure the sign using an alternative measuring distance, the prescribed footcandle level above ambient light shall not exceed the prescribed level, to be determined based on the alternative measuring distances set forth in the following tables (A), (B), (C), and (D), as applicable:

(A) For changeable message signs less than or equal to 300 square feet:

Alternative Measuring Distance	Prescribed Foot Candle Level
100	0.68
125	0.43
150	0.3
200	0.17
250	0.11
275	0.09
300	0.08
325	0.06
350	0.06
400	0.04

(B) For changeable message signs greater than 300 square feet but less than or equal to 385 square feet:

Alternative Measuring Distance	Prescribed Foot Candle Level
100	1.2
125	0.77
150	0.53
200	0.3
250	0.19
275	0.16
300	0.13
325	0.11
350	0.1
400	0.08

(C) For changeable message signs greater than 385 square feet but less than or equal to 680 square feet:

Alternative Measuring Distance	Prescribed Foot Candle Level
100	1.88
125	1.2
150	0.83
200	0.47
250	0.3
275	0.25
300	0.21
325	0.18
350	0.15
400	0.12

(D) For changeable Message Sign greater than 680 square feet: Alternative Measuring Distance:  
Prescribed Foot Candle Level:

Alternative Measuring Distance	Prescribed Foot Candle Level
100	3.675
125	2.35
150	1.63
200	0.92
250	0.59
275	0.49
300	0.41
325	0.35
350	0.3
400	0.23
425	0.2
450	0.18
500	0.15

**CITY OF NORTH OAKS  
RAMSEY COUNTY, MINNESOTA**

**ORDINANCE NO. \_\_\_\_**

**AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING  
SIGN DEFINITIONS AND SIGNS IN THE RSM- RESIDENTIAL SINGLE-FAMILY  
MEDIUM DENSITY DISTRICT**

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THE CITY COUNCIL OF THE CITY OF NORTH OAKS ORDAINS AS FOLLOWS:

**Section One.** Title XV, Chapter 151 Amendment: Title XV, Chapter 151, Section 151.005 of the North Oaks City Code is hereby amended as follows. The underlined text shows the proposed additions to the City Code and the ~~struck through~~ text shows the deletions:

§ 151.005 DEFINITIONS

CHANGEABLE SIGN. A sign with the capability of content change by means of manual or remote input, including signs that are manually or electrically activated.

1) MANUALLY ACTIVATED. Changeable sign whose message copy or content can be changed manually on a display surface. Not illuminated.

2) ELECTRICALLY ACTIVATED. Changeable sign whose message copy or content can be changed by means of remote electrically energized on-off switching combinations of alphabetic or pictographic components arranged on a display surface. Illumination may be integral to the components, such as characterized by lamps or other light-emitting devices; or it may be from an external light source designed to reflect off the changeable component display. See also: Electronic Message Center.

COMMERCIAL SIGN. Any sign which advertises or identifies a product, business, service, event, or any other matter of a commercial nature.

ELECTRONIC MESSAGE CENTER (EMC). An electrically activated changeable sign whose variable message and/or graphic presentation capability can be electronically programmed.

FREESTANDING SIGN. A sign principally supported by a structure affixed to the ground and not supported by a building. Pylon and monument signs are types of freestanding signs.

INTERIOR SIGN. Any sign placed within a building, but not including window signs. (Interior Signs are not regulated by this ordinance).

ILLUMINATED SIGN. A sign characterized by the use of artificial light, either projecting through its surface(s) (internally or trans-illuminated); or reflecting off its surface(s) (externally illuminated).



INTERNALLY ILLUMINATED SIGN. A sign characterized by the use of artificial light projecting outward through its surface.

MONUMENT SIGN. A freestanding sign which is architecturally designed and located directly at grade where the base width dimension is 75% or more of the greatest width of the sign. Monument signs are not supported by exposed posts or poles.

NON-CONFORMING SIGN. A sign that was legally installed by permit in conformance with all municipal sign regulations and ordinances in effect at the time of its installation, but which may no longer comply with subsequently enacted laws and ordinances having jurisdiction relative to the sign.

NON-COMMERCIAL SIGN. Any sign which is not a commercial sign which expresses a non-commercial message.

OBSOLETE SIGN. On-premise sign that no longer advertises or identifies a use conducted on the property on which the sign is erected.

OFF-PREMISE SIGN. A sign advertising products, goods, services, or places of business or services offered at a location other than the lot upon which the sign is maintained.

ON-PREMISE SIGN. A sign used for the purpose of displaying messages pertinent to the use of, products sold on, or the sale or lease of, the property on which it is displayed.

PYLON SIGN. Any permanent, freestanding sign whose sign face is mounted upon a sign base that is less than 40 percent of the width of the face and the height exceeds six feet.

SCROLL. A mode of message transition on an Electronic Message Sign in which the message appears to move vertically across the display surface.

SIGN. A display, illustration, structure, or device containing or displaying graphic information visible from the exterior which directs attention to an object, product, place, activity, person, institution, organization, or business.

SIGN COPY. The physical sign message including any words, letters, numbers, pictures, and symbols.

SIGN AREA. The area of the board(s) or module(s) containing the sign message, but not including the supporting structure. The area to be calculated is the area within the smallest rectilinear perimeter that contains the entire signboard or module. The area of a sphere shall be computed as the area of a circle.

SIGN FACE. The surface upon, against or through which the sign copy is displayed or illustrated, not including structural supports, architectural features of a building or sign structure, nonstructural or decorative trim, or any areas that are separated from the background surface upon which the sign copy is displayed by a distinct delineation, such as a reveal or border.

**Section Two.** Title XV, Chapter 151 Amendment: Title XV, Chapter 151, of the North Oaks City Code is hereby amended as follows. The underlined text shows the proposed additions to the City Code and the ~~struck through~~ text shows the deletions:

**§ 150.051 RSM - RESIDENTIAL SINGLE-FAMILY MEDIUM DENSITY DISTRICT.**

(A) *Purpose.* This District is established to provide for medium density single-family detached residential dwellings and directly related complimentary uses compatible with the natural environment and conforming to the level of services available and to provide the community facilities as will enhance the quality of the area.

(B) *Permitted uses.*

- (1) All uses that are permitted uses in the Residential Single-Family Low Density District in § 151.050(B); and
- (2) A single-family detached dwelling, planned unit development (PUD), or a phase of a PUD which has a maximum gross density of 1 unit per 1.1 acres and which is served by a central sanitary sewer collection system.

(C) *Permitted accessory uses.* All uses that are permitted accessory uses in the Residential Single-Family Low Density District in § 151.050(C).

(D) *Conditional uses.* The following conditional uses may be permitted, but only after securing a conditional use permit in accordance with § 151.076:

- (1) All uses that are permitted conditional uses in the Residential Single-Family Low Density District in § 151.050(D); and
- (2) The architectural appearance and functional plan of the buildings and site shall be
  - (a) compatible with the adjacent area;
  - (b) Screening is provided in compliance with § 151.034;
  - (c) Adequate off-street parking, loading, and service entrances are provided in compliance with § 151.028;
  - (d) All accessory equipment is completely enclosed in a permanent structure with no outside storage;
  - (e) The site of the principal use and related parking is served by a road or street of sufficient capacity to accommodate the traffic which will be generated; and

(f) Section 151.083 is complied with.

(3) On-Premise Electronic Message Center (EMC) signs accessory to a permitted use, provided that:

(a) Such signs shall be integrated into a free-standing monument sign. The non message center portion of the sign may include the name of the use on the property.

(b) General provisions:

1. Location and Orientation. EMC signs are only permitted for lots that comply with the following standards:

i. The parcel is a minimum of 3.5 acres in size.

ii. The parcel has frontage on an arterial or collector roadways, as designated by the City's Comprehensive Plan.

iii. The location and orientation of the sign shall be placed on the property in a manner that minimizes the visual impact on adjoining residential properties.

2. Display. The sign message shall be displayed to allow passing motorists to read the entire copy with minimal distraction. The minimum display period for any message shall be 8 seconds.

3. Audio. Audio speakers are prohibited.

4. No animation, flashing or blinking signs are permitted.

5. Brightness.

i. Lighting. Lighting shall be set at a minimum level for which the sign is intended to be read and shielded to minimize glare.

ii. The light level shall not exceed 0.3 foot candles above ambient light as measured from a pre-set distance depending on the sign size. Measuring distance shall be determined using the following equation; the square root of the message center sign area multiplied by 100. Example: 12 square foot sign  $\sqrt{(12 \times 100)} = 34.6$  feet measuring distance.

iii. Dimmer Control. The sign must have a dimmer control that automatically adjusts the sign's brightness in direct correlation to ambient light conditions. Said sign shall be equipped with photo cell design to measure the ambient light conditions and adjust the sign brightness as needed so as to be in compliance with this ordinance.

iv. No portion of the message may flash, scroll, twirl, fade in or out in any manner to imitate movement.

v. Display of messages shall be limited to those services offered on the property and time/temperature display.

6. Only one Electronic Message Center Sign is permitted per lot.

7. Sign area and size.

i. One freestanding sign shall be allowed per parcel.

- ~~ii.~~ iii. The sign shall not be larger than 32 square feet.
- iii. No pylon signs are allowed. All freestanding signs must be ground monuments with a height no greater than 8 feet.
- iv. Monument signs cannot be placed on an earthen mound or berm which would raise the bottom of the sign more than 4 feet above the normal ground level. The base for monument signs shall be built out of matching masonry work for the building it serves.
- v. All freestanding signs must be set back 15 feet from the property line.
- vi. Maximum Area. The area of the electronic message center sign shall be included in the maximum sign area permitted. The area of the message center shall not exceed 50% of the total sign area for the sign on which it is displayed or 16 square feet whichever is less.
- 8. Hours of display. The sign shall be turned off and shall not display messages between the hours of 11:00 pm and 6:00 am.
- 9. Landscaping. Landscaping is required around the base of each sign consisting of shrubs, flowers, ornamental trees, and evergreens in an area no less than 6 times the area of each sign face.

(4) Non-neon signs and non-neon informational visual communication devices, provided that:

- (a) The height of the sign or device does not exceed the height of the principal structure or the structure to which it is affixed;
- (b) The architectural style and design shall not be so dissimilar to the surrounding buildings or area so as to adversely impact other land;
- (c) There are no moving or flashing parts and any illumination shall be in compliance with § 151.031;
- (d) The sign or device is permanently fixed to the land or to a building or structure;
- (e) The sign or device is not a billboard and is associated with the principal use of the land; and
- (f) Section 151.083 is complied with.

**Section Three.** Title XV, Chapter 151, Section 151.052 Amendment: Title XV, Chapter 151, Section 151.051 of the North Oaks City Code is hereby amended as follows. The underlined text shows the added language.

(D) Conditional uses. The following conditional uses may be permitted, but only after securing a conditional use permit in accordance with § 151.076: all uses that are permitted conditional uses in the Residential Single-Family Medium Density District in § 151.051(D), except for Electronic Message Center Signs which are not permitted.

**Section Four. Effective Date.** This Ordinance shall be in full force and effect upon its adoption and publication as provided by law.

Passed in regular session of the City Council on the \_\_\_\_ day of \_\_\_\_\_, 2023.

**CITY OF NORTH OAKS**

By: \_\_\_\_\_

Krista Wolter, Mayor

Attested:

By: \_\_\_\_\_

Kevin Kress  
City Administrator/City Clerk

(Published in the Shoreview Press on \_\_\_\_\_, 2023)

**CITY OF NORTH OAKS  
RAMSEY COUNTY, MINNESOTA  
RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION APPROVING THE PUBLICATION OF A SUMMARY OF ORDINANCE  
NO. 2023-\_\_\_ , AN ORDINANCE AMENDING NORTH OAKS CITY CODE TITLE XV,  
CHAPTER 151, REGARDING SIGN DEFINITIONS AND SIGNS IN THE RSM-  
RESIDENTIAL SINGLE FAMILY MEDIUM DENSITY DISTRICT**

**WHEREAS**, on October 12, 2023, the City Council of the City of North Oaks, Ramsey County, Minnesota (“City”) adopted Ordinance No. 2023-\_\_\_\_\_, an Ordinance Amending City Code Title XV, Chapter 151, Regarding Sign Definitions and Signs in the RSM-Residential Single Family Medium Density District; and

**WHEREAS**, pursuant to Minn. Stat. Sec. 412.191, subd. 4, the Council may, by a 4/5ths vote, direct that only the title and a summary of the ordinance be published; and

**WHEREAS**, the City Council for the City of North Oaks has reviewed the summary of Ordinance No. 2023-\_\_\_\_\_ which is attached hereto as **Exhibit A**; and

**WHEREAS**, the City Council for the City of North Oaks has determined that publication of the title and a summary of Ordinance No. 2023-\_\_\_\_\_ would clearly inform the public of the intent of the ordinance; and

**WHEREAS**, due to the length of Ordinance No. 2023-\_\_\_\_\_ the City Council desires to publish a summary of the Ordinance.

**NOW THEREFORE BE IT RESOLVED**, by a vote of at least 4/5ths of its members, that the City Council of the City of North Oaks hereby:

1. Approves the text of the summary of Ordinance No. 2023-\_\_\_ attached as **Exhibit A** and authorizes the publication of the summary shown in **Exhibit A** in lieu of publication of the entirety of Ordinance No. 2023-\_\_\_\_\_ in the City’s official newspaper.
2. Directs the City Clerk to ensure that a full and complete printed copy of Ordinance No. 2023-\_\_\_ is available for inspection during regular business hours at the office of the North Oaks City Clerk, by standard mail, or by electronic mail.
3. Directs the City Clerk to file the executed Ordinance No. 2023-\_\_\_\_\_ upon the books and records of the City along with proof of publication.



This resolution is passed and adopted by the City Council of the City of North Oaks, Ramsey County, Minnesota this 12<sup>th</sup> day of October, 2023.

**CITY OF NORTH OAKS**

By: \_\_\_\_\_  
Krista Wolter  
Its: Mayor

Attested:

By: \_\_\_\_\_  
Kevin Kress  
Its: City Administrator/City Clerk

(Published in the *Shoreview Press* on \_\_\_\_\_, 2023.)

**EXHIBIT A**

**SUMMARY PUBLICATION  
ORDINANCE NO. 2023-\_\_**

**A RESOLUTION APPROVING THE PUBLICATION OF A SUMMARY OF ORDINANCE NO. 2023- AN ORDINANCE AMENDING CITY CODE TITLE XV, CHAPTER 151, REGARDING SIGN DEFINITIONS AND SIGNS IN THE RSM-RESIDENTIAL SINGLE FAMILY MEDIUM DENSITY DISTRICT**

On October 12, 2023, the City Council of the City of North Oaks (“City”) adopted Ordinance No. 2023-\_\_\_\_\_, (“Ordinance”) an Ordinance Amending City Code Title XV, Chapter 151, Regarding Sign Definitions and Signs in the RSM-Residential Single Family Medium Density District.

The Ordinance adds various sign definitions to the zoning ordinance and adds electronic message center signs accessory to a permitted use as a conditional use in the RSM-Residential Single Family Medium Density District. Various performance standards are adopted for such electronic message center signs.

It is hereby determined that publication of this title and summary will clearly inform the public of the intent and effect of Ordinance No. 2023-\_\_\_ and it is directed that only the above title and summary of Ordinance No. 2023-\_\_\_ conforming to Minn. Stat. Sec. 331A.01 be published, with the following:

**NOTICE**

A printed copy of the full text of Ordinance No. 2023- is available for public inspection by any person during regular office hours at the office of the North Oaks City Clerk, 100 Village Center Drive, # 230, North Oaks MN 55127, by standard mail, or by electronic mail, and at any other public location which the Council designates.