

2024 Central Avenues Improvements

Preliminary Engineering Report

City of Hopkins

City Project No. 2023-010

BMI Project No. OT1.130543



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Certification

Preliminary Engineering Report

For

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City Project No. 2023-010

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September 2023

PROFESSIONAL ENGINEER

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

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Typed or Printed Name: Nicholas J. Amatuccio, PE

Date: 9/22/2023 License Number: 53639

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I. Executive Summary

A. Background Information

The Hopkins City Council ordered preparation of this Preliminary Engineering Report at its May 2, 2023 meeting. In general, the goal of the project is to preserve the investments Hopkins has made in its infrastructure with proper upkeep through the City's Pavement Management Program. The preliminary design report has been completed to identify the appropriate improvements needed as well as the associated project costs and preliminary estimated assessments.

B. Proposed Improvements

This report examines potential street and utility construction of several streets in the Central Avenues Neighborhood in the City of Hopkins. These areas are depicted in Figure 1 of Appendix B. The proposed improvements are described in the body of this report and are graphically illustrated in Appendix B. In brief, the proposed improvements consist of:

- Full reconstruction of the following street sections in the Central Avenues Neighborhood with replacement of concrete curb and gutter and concrete sidewalk, and replacement of watermain, sanitary sewer, and storm sewer utilities.
 - 7th Ave N from the HCRRR Alley north of Mainstreet to Minnetonka Mills Rd
 - 8th Ave N from 2nd St N to Minnetonka Mills Rd
 - 3rd St N from 5th Ave N to 8th Ave N
- Reclamation and resurfacing of 6th Ave N from Mainstreet to 1st St N.
- Mill and overlay of the following street sections.
 - 1st St N from 5th Ave N to 8th Ave N
 - 2nd St N from 5th Ave N to 8th Ave N
- The possible addition of concrete sidewalks in the following areas.
 - North side of 3rd St N from 5th Ave N to 8th Ave N
- Sanitary sewer lining in areas designated by City Staff throughout the City.

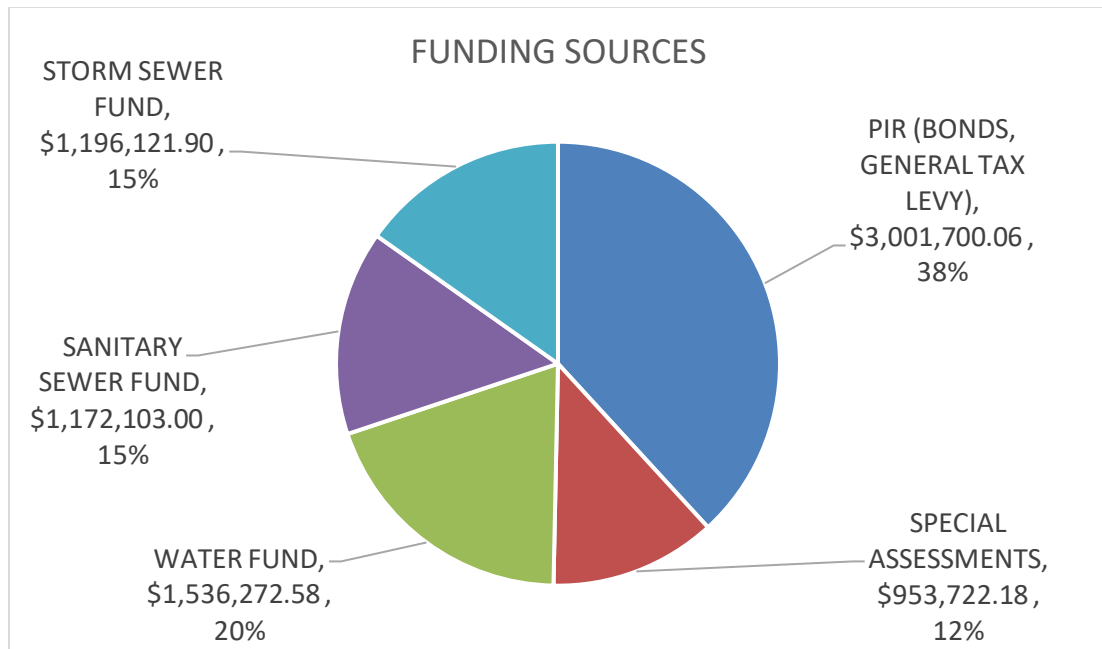
All of these improvements would be constructed in one construction season in 2024. While this report covers several areas of potential improvements, it will focus primarily on the full reconstruction streets of the Central Avenues Neighborhood listed above.

C. Estimated Costs and Proposed Funding

Cost estimates have been prepared to address the varying needs of all areas reviewed. Detailed cost estimates are provided in Appendix A and summarized below in Table 1.

Table ES-1 – Preliminary Estimated Cost of 2024 Proposed Improvements	
Streets	\$2,866,000
Sanitary Sewer	\$849,000
Watermain	\$1,113,000
Storm Sewer	\$867,000
Contingencies (15%)	\$855,000
Engineering & Administration (20%)	\$1,310,000
Total Estimate Project Costs	\$7,860,000

The project is proposed to be funded with general obligation bonds, utility funds, and assessments to individual properties. The chart below illustrates proposed funding sources inclusive of contingencies, engineering, and administration.



II. Project Introduction

This report examines the proposed street and utility improvements including storm sewer replacement, water main replacement, sanitary sewer replacement, and street reconstruction throughout the following streets as shown on Figure 1 in Appendix B:

- 7th Ave N from the HCRRR Alley north of Mainstreet to Minnetonka Mills Rd
- 8th Ave N from 2nd St N to Minnetonka Mills Rd
- 3rd St N from 5th Ave N to 8th Ave N

This report also examines the following related improvements which are proposed to be constructed in the same project, but without involvement of special assessments:

- Reclamation and resurfacing of 6th Ave N from Mainstreet to 1st St N.
- Mill and overlay of the following street sections.
 - 1st St N from 5th Ave N to 8th Ave N
 - 2nd St N from 5th Ave N to 8th Ave N
- The possible addition of concrete sidewalks in the following areas.
 - North side of 3rd St N from 5th Ave N to 8th Ave N
- Sanitary sewer lining in areas designated by City Staff throughout the City.

The project in its entirety involves:

- Addition/replacement of storm sewer within the reconstruction area
- Watermain replacement within the reconstruction area
- Water service replacement within the reconstruction area
- Sanitary sewer replacement within the reconstruction area
- Sanitary sewer rehabilitation in areas of need
- Sanitary sewer service replacement within the reconstruction area
- Concrete curb & gutter replacement within the reconstruction area and other areas of need
- Bituminous street removal and reconstruction
- Concrete walk addition/replacement within the reconstruction area and other areas of need

III. Background

The 2024 Central Avenues Improvements project was initiated following its presence for several years in the City's Capital Improvement Plan in some capacity. The Hopkins City Council ordered the preparation of this feasibility report at its May 2, 2023 council meeting. The feasibility study and report has been completed to better identify the infrastructure improvements needed in the proposed project area and to better define costs associated with the improvements. This report will be used as the basis for final design and is also a required step in the State's Chapter 429 process for special assessments.

IV. Existing Conditions

A. Streets

The bituminous streets within the project areas are aged and exhibit various levels of wear and distress. This is evident on the surface by transverse, block, and alligator cracking. There is evidence of previous additional street repairs and maintenance throughout the project area including numerous street patches. Examples of the existing pavement conditions are shown below.



Consistent with observations of the existing pavements made during preparation of this report, the City of Hopkins' Pavement Management System also indicates that the "Pavement Condition Index" (PCI) for 7th Ave N, 8th Ave N, and 3rd St N is below the threshold where rehabilitation is cost effective. As such, street reconstruction efforts are appropriate along 7th Ave N, 8th Ave N, and 3rd St N.

The streets within the project area have varying widths (measured curb face to curb face). Table 1 below summarizes these and other existing conditions. Parking is typically allowed on both sides of the streets throughout the neighborhood, except on 1st St N. Large, mature trees can be found throughout the project within the City's ROW and near the back of curb.

Table 1: Summary of Existing Corridor Conditions			
Roadway	Existing Street Width	Existing Curb Type	Existing ROW Width
7th Ave N	35 – 36 feet	Concrete B618 Curb & Gutter – 300' south of 3 rd St N and to the south; Curb w/ no gutter – Minnetonka Mills Rd to 300' south of 3 rd St N	66 feet
8th Ave N	31 feet	Concrete B618 Curb & Gutter	66 feet
3rd St N	29.5 feet	Concrete B618 Curb & Gutter – between 7 th Ave N and 5 th Ave N and west of the alley between 7 th Ave N and 8 th Ave N; Curb w/ no gutter – between 7 th Ave N and 8 th Ave N, east of the alley	60 feet
6th Ave N	35'	Concrete B618 Curb & Gutter	66 feet
1st St N	28' – 32'	Concrete B618 Curb & Gutter	60 feet
2nd St N	35'	Concrete B618 Curb & Gutter	66 feet

Subgrade soil sampling was completed throughout the reconstruction area (7th Ave N, 8th Ave N, and 3rd St N) by Braun Intertec in the Summer of 2023. A copy of Braun Intertec’s Geotechnical Evaluation Report is included in Appendix E of this report. Eleven soil borings were taken throughout the reconstruction area, as well as six pavement cores throughout the pavement maintenance area (6th Ave N, 1st St N, and 2nd St N), and summarized in Table 2 below.

Table 2: Summary of Geotechnical Evaluation		
Street	Bituminous Thickness	Subgrade Material
7th Ave N	4” – 5”	Mixture of poorly graded sand, silty sand, clayey sand, and sandy lean clay
8th Ave N	2.5” – 3.5”	Mixture of poorly graded sand and lean clay
3rd St N	2.75” – 4.5”	Mixture of silty sand and poorly graded sand
6th Ave N	5”	19” of limestone aggregate base
1st St N	5.5” – 9.5”	4.5” of recycled aggregate base and sand with gravel
2nd St N	4.5”	8.5” – 12” of limestone and recycled aggregate base

The soils found just beneath pavements in the project area were most commonly fill soils classified as poorly graded sand, silty sand, clayey sand, or lean clay. A few of the borings in the project area found slightly organic clay (buried topsoil). Buried topsoil is an undesirable material for roadway construction as it's unable to adequately support heavy vehicles, leading to earlier failure of overlying pavements.

B. Storm Sewer

The existing storm sewer system materials in the reconstruction area were inventoried in Summer 2023. The existing storm sewer systems serving the neighborhood are comprised of reinforced concrete pipe (RCP), varying in size from 12-inch diameter to 54-inch diameter. The storm sewer catch basins and manholes are mostly precast concrete structures.

There are multiple storm sewer systems serving the project area. 7th and 8th Ave N, from Minnetonka Mills Rd to 3rd St N drain west down 3rd St N and south to Excelsior Blvd through existing storm sewer. The remainder of the project area drains south through an existing trunk storm sewer main on 6th Ave N, ultimately discharging to Nine Mile Creek near Valley Park.

Drainage issues have been identified throughout the reconstruction project area through evaluation of site grades and elevations by the project team, through feedback from the neighborhood residents, and discussions with City Staff. These drainage issues can be generalized as:

1. Due to the flat grades of some of the streets and alleys, especially 8th Ave N from 2nd St N to 3rd St N and 3rd St N between 6th Ave N and 5th Ave N, localized drainage problems are prevalent.
2. On 7th Ave N, between 1st St N and 2nd St N, there are flat grades surrounding the existing low point, causing flooding and drainage issues for the properties in this area before the water can clear the existing emergency overflow (EOF) elevation on 7th Ave N.
3. There is a lack of catch basin inlets at a few of the intersections in the project area, and these limited catch basins can be overloaded during heavier rain events which causes ponding in the street.
4. There is a lack of gutters along several of the streets to adequately direct water through areas of flat topography to drainage inlets.
5. Many of the sidewalks throughout the neighborhood have isolated low spots and do not drain well after rain events or during snow melt.

Proposed storm sewer improvements are discussed later in this report.

C. Sanitary Sewer

The existing condition of the sanitary sewer system was evaluated through discussions with City staff and CCTV inspection of the interior of the sewer piping by a City contractor. Manhole structures were visually inspected in the field by Bolton & Menk. CCTV videos produced by others were reviewed by Bolton & Menk to confirm existing sanitary mainline pipe conditions and identify the location of existing sewer service line locations.

The existing sanitary sewer system primarily consists of 8-inch diameter clay pipe, except for one half block of 7th Ave N between 1st St N and 2nd St N that was replaced with 8-inch diameter plastic pipe. Clay pipe is susceptible to infiltration and root intrusion over time due to the large number of joints and the deterioration of the gasket material originally used to

seal the joints.

The project's sanitary manholes are made of a mixture of brick, concrete block, and precast concrete structures. Brick and block structures were typically built around the 1950's/1960's or earlier, whereas precast structures indicate these structures were replaced at some point after initial construction of the other infrastructure, likely in response to some deficiency with the original structure. Brick and block manholes are susceptible to infiltration over time due to cracks and deterioration of the mortared joints. Precast concrete manholes continue to be used in modern construction and are generally acceptable provided proper gaskets were provided with the initial construction and remain in good working order.

Service lines in the neighborhood are typically 4-inch or 6-inch and their material may be clay, cast iron, orangeburg, transite, or PVC. Clay and orangeburg sanitary sewer pipes are highly susceptible to infiltration by groundwater, causing groundwater to be treated by the Met Council at its treatment facilities downstream at a cost to the public. The vast majority of sanitary sewer mains and service lines in the neighborhood are made of clay material. Based on observations of sewer service replacements to individual properties performed recently in nearby neighborhoods, potential exists for encountering orangeburg sewer service pipes during construction of the project. Orangeburg pipe, which can generally be described as layered tar paper wrapped in a round manner to create a pipe, was commonly installed around the time several neighborhoods in Hopkins originally developed. Orangeburg pipe is widely known to 'rot' where exposed to water, generally on the bottom of the pipe, and ultimately collapse as it ages and is unable to support the surrounding soil.

Proposed sanitary sewer improvements are discussed later in this report.

D. Watermain

The existing layout and condition of the water main was determined from record drawings and discussions with City staff. The water main is primarily 6-inch cast iron pipe (CIP). CIP is a common watermain material, however upon reaching its useful life tends to fail. Because it is so brittle, as the soils around the pipe move slowly over decades, CIP cannot support shearing forces and ultimately breaks. These portions of the watermain system were installed in the 1950s and 1960s. CIP installed around this time period was also occasionally installed with lead-packed fittings.

Service lines for single family homes in the project area are typically ¾-inch or 1-inch and their material may be copper, galvanized steel, or lead.

Proposed watermain improvements are discussed later in this report.

V. Proposed Improvements

A. Streets

All street pavements within the reconstruction project area have reached a point where maintenance procedures such as seal coating or milling and overlaying are no longer cost-effective strategies. 7th Ave N, 8th Ave N, and 3rd St N are scheduled for full reconstruction.

Proposed reconstruction improvements include replacement of concrete curb and gutter and replacement of the full depth of the pavement section with underlying aggregate base. It is also proposed to install a sand section under the aggregate base for additional roadway stability in areas where there are organics (buried topsoil) and other unsuitable soils are present. Concrete curb will be replaced per City Policy 8.02 with B618 concrete curb and gutter, which will help extend the life of the pavement by keeping water out of the subgrade

and will provide a solid edge for the asphalt pavement. Existing drainage patterns will be maintained and the elevation of the existing roadways at their edge is proposed to approximate the existing elevations. Attempts at lowering the road will be made (during final design) where appropriate to improve drainage within and toward the street where beneficial and practical.

Proposed street widths from face of curb to face of curb will vary from street to street throughout the reconstruction area. Proposed street widths have been determined based on a variety of factors, including the need for a consistent street width along each roadway's length, the existing roadway width, typical roadway widths throughout the City, the existing right of way width, minimizing creation of additional impervious area, and avoidance of significant impacts due to even minor changes in street width. Attempts to avoid impacts to significant trees was also a consideration during the preliminary design process used to determine proposed street widths.

The following specific improvements are proposed for each unique roadway corridor:

- 7th Ave N is proposed to be reconstructed, including the replacement of concrete curb and gutter, at 35 feet wide from curb face to face south of 1st St N and 32 feet wide from curb face to face north of 1st St N. This will narrow the road north of 1st St N by approximately 3 feet. Parking regulations will remain consistent with existing conditions throughout this area.
- 8th Ave N is proposed to be reconstructed, including the replacement of concrete curb and gutter, at 28 feet wide from curb face to face. This will narrow the road by approximately 3 feet. Parking regulations will remain consistent with existing conditions throughout this area.
- 3rd St N is proposed to be reconstructed, including the replacement of concrete curb and gutter, at 28 feet wide from curb face to face. This will narrow the road by approximately 1.5 feet. Parking regulations will remain consistent with existing conditions throughout this area.

The minimum proposed street grade is 0.50% consistent with City standards. Street grades flatter than 0.50% are undesirable for drainage. In some areas, new low-points with adequate storm sewer will need to be created to increase roadway longitudinal slope for proper drainage. These locations will be confirmed during the final design process, but a few locations have been identified during preliminary design including 7th Ave N between 1st St N and 2nd St N, 8th Ave N between 2nd St N and 3rd St N, and 3rd St N between 5th Ave N and 6th Ave N. Overall drainage patterns/directions throughout the project area are not proposed to change.

The preliminary proposed typical pavement section for all reconstructed streets consists of 2" wearing course, 2" non-wear course, 8" aggregate base class 5, 12" select granular, and spot subgrade soil corrections.

Pavement maintenance is proposed for the following streets in the project area:

- Reclamation and resurfacing of 6th Ave N, between Mainstreet and 1st St N
 - 2" wearing course, 3" non-wearing course, 7"+ reclaimed material
- Mill and overlay of 1st St N, between 5th Ave N and 8th Ave N
 - 2" mill and 2" wearing course

- Mill and overlay of 2nd St N, between 5th Ave N and 8th Ave N.
 - 2" mill and 2" wearing course

Full reconstruction is not required on these streets because of one or more of the following reasons:

- The PCI rating is high enough to be able to use maintenance procedures such as milling to extend the life of the pavement. (1st St N and 2nd St N)
- The existing concrete B618 curb and gutter is in relatively good condition. (6th Ave N, 1st St N, and 2nd St N)
- The original underground utilities have been replaced and are in good condition. (6th Ave N and one block of 1st St N)
- There are no underground utilities. (Most of 1st St N and 2nd St N)

B. Storm Sewer

All the storm sewer in the project area will be reconstructed for constructability of other utilities, changing curb alignment, or increase the storm water pipe capacities to meet City standards for a 10-year rainfall event. Storm sewer will generally be replaced in the same location as the existing system, other than some additional catch basin inlets and storm sewer pipe as needed for drainage. The following is a summary of the most significant improvements proposed to the storm sewer system.

- Storm sewer will be extended down 8th Ave N between 2nd St N and 3rd St N to mid-block, with additional catch basin inlets to create a new low point on this block with flat grades. This will improve drainage on this block by providing a location for the water to flow in the curb line. While other blocks in the project area are not as flat as this block, they will also be evaluated further during final design to determine if additional storm sewer pipe and catch basins will be necessary for proper drainage.
- Storm sewer will be extended down 3rd St N to the alley between 6th Ave N and 5th Ave N and an inlet will be constructed to improve drainage at the alley entrance.
- During final design the roadway profile on 7th Ave N and 1st St N will be further evaluated to determine if the existing emergency overflow (EOF) elevation can be lowered, allowing water to flow down 7th Ave N toward 1st Ave N prior to the potential flooding of the properties near the 7th Ave N low point during a major storm event.

C. Stormwater Management

The proposed improvements will result in more than 1 acre of land disturbance; therefore, stormwater management will be required by the Municipal Separate Storm Sewer System (MS4) General Permit. At this time, it is not expected that any stormwater management will be required by Nine Mile Creek Watershed District (NMCWD) with their current rules. If future rule changes are implemented during final design, the NMCWD stormwater management rules will be followed.

The water quality volume was calculated as one-half (0.5) inch times the sum of the new and fully reconstructed impervious surface, equaling approximately 8,430 cubic feet of required water quality volume. During final design the actual treatment volume will be verified, and feasible treatment options will be investigated to maximize the treatment of the water quality volume prior to discharge from the MS4.

D. Sanitary Sewer

As summarized in the existing conditions section of this report discussing sanitary sewer, most of the existing system in the reconstruction area is relatively old, made of an outdated (clay) material, and in poor condition. Given these conditions, the opportunity to excavate to this utility given removal of overlying roadway pavement for street reconstruction, and the City of Hopkins policy to replace clay sewers during street projects, the existing 8" Clay gravity sanitary sewer system throughout the reconstruction area is proposed to be replaced with PVC pipe. One section of sanitary sewer on 7th Ave N between 1st St N and 2nd St N was replaced with PVC pipe in 1989 but will still require a spot repair due to a disjointed pipe. There is no sanitary sewer on 3rd St N and none is proposed to be installed on this street.

Where gravity mains are to be replaced, new service wyes will be provided to each home. Per City policy, sanitary services which are not PVC are proposed to be replaced with PVC pipe to the right-of-way (ROW) line. New precast concrete manholes will be installed and will incorporate the City standard 27-inch diameter cover utilizing concealed pick-holes to minimize inflow and infiltration. The proposed sanitary sewer mainline improvements are summarized in Table 3 below.

The exact age of all existing pipes listed in Table 3 could not be verified. In such cases, its age was reasonably estimated based on the known age of other utilities in the area.

Table 3: Proposed Sanitary Sewer Improvements					
Roadway	From/To	Existing Pipe			Proposed Improvements
		Dia.	Matl.	Age	
7 th Ave N	HCRRA Alley/1 st St N	8"	VCP	1950	8" PVC
7 th Ave N	1 st St N/300' north of 1 st St N	8"	PVC	1989	Spot Repair
7 th Ave N	300' north of 1 st St N/Minnetonka Mills Rd	8"	VCP	1950	8" PVC
8 th Ave N	2 nd St N/Minnetonka Mills Rd	8"	VCP	1950	8" PVC
3 rd St N	5 th Ave N/8 th Ave N	n/a	n/a	n/a	none

E. Watermain

All existing watermain within the reconstruction project area is proposed to be replaced with new ductile iron pipe (DIP) as a part of this project. An 8-inch pipe is proposed on all the roadways to most cost effectively achieve adequate fire flows and water distribution. Fire Hydrants will also be replaced along the new watermain and gate valves will be added at each intersection for more efficient operations and maintenance.

Per City policy all water service lines to single family homes are proposed to be replaced to the right-of-way with a new 1" diameter copper service line. A new curb stop valve and box will be provided on each service, approximately on the right-of-way line. Multi-family residential properties and commercial properties will receive a new 6" service line or a service line matching their existing service diameter, whichever is greater. The proposed watermain mainline improvements are summarized in Table 4 below.

The exact age of all existing pipes listed in Table 4 could not be verified. In such cases, its age was reasonably estimated based on the known age of other utilities in the area.

Table 4: Proposed Watermain Improvements					
Roadway	From/To	Existing Pipe			Proposed Improvements
		Dia.	Matl.	Age	
7 th Ave N	HCRRA Alley/Minnetonka Mills Rd	6"	CIP	1950	8" DIP
8 th Ave N	2 nd St N/Minnetonka Mills Rd	6"	CIP	1950	8" DIP
3 rd St N	5 th Ave N/8 th Ave N	n/a	n/a	n/a	none

F. Pedestrian Facilities

Replacement of the existing concrete sidewalk is proposed on all streets within the reconstruction area. This will be necessary due to the street and utility construction and because the existing sidewalk is in poor condition. The existing sidewalks also do not drain properly. The sidewalks are proposed to be constructed at 6 feet width. The proposed turf boulevard width will vary but will be somewhat consistent and slightly wider than existing since the roadway is being narrowed. The preliminary proposed typical sidewalk section consists of 4" concrete, 4" aggregate base class 5, and spot subgrade soil corrections.

Installation of new concrete sidewalk is being considered along the north side of 3rd St N from 5th Ave N to 8th Ave N. This sidewalk will connect sidewalks that run north-south on the Avenues throughout the neighborhood. Currently, there is only one-half block of sidewalk on the north side of 3rd St N between 7th Ave N and 8th Ave N, which doesn't provide an adequate pedestrian facility to the general public. The project team has reached out to the properties along 3rd St N to collect their feedback and desire to install a new sidewalk on this street. If not desired by these property owners, the project will not install the sidewalk and adequate east-west pedestrian facilities are located nearby on Minnetonka Mills Rd, 2nd St N, and 1st St N.

Spot sidewalk replacements are proposed in the street maintenance area as determined by the engineer in the field for areas with poor drainage, cracked sidewalk, or settled sidewalk which could become a tripping hazard.

G. Driveways

All single-family residential driveways within the reconstruction project area receiving new concrete curb and gutter, will receive a new 5-foot-wide concrete apron adjacent to the concrete curb. The new concrete aprons will be constructed accordance with City standards in terms of depth and shape. In addition to the 5-foot driveway apron, additional driveway pavement disturbed as a part of the project will be replaced in-kind to match the existing driveway with the street improvements.

Non-residential and multi-family residential properties will receive the City's standard concrete commercial driveway entrance apron. Alley entrances will also be replaced with the City's standard concrete alley entrance.

H. Lawn Irrigation Systems

There may be existing sprinkler systems encountered in construction of the project. Adjacent property owners will need to assist in locating and identifying the type of sprinkler systems that are in place prior to and during construction if these facilities are to be protected. The contractor will be required to make efforts to preserve the in-place systems during construction. Where this is found to be unfeasible, the contractor will be required to remove and replace or salvage and reinstall the existing sprinkler system.

I. Street Signing and Striping

The existing street name signs will be replaced by the contractor to update the signs to the new City standards. Regulatory signs such as stop and parking enforcement signs will be replaced to conform to retroreflectivity requirements. Existing crosswalk blocks will be repainted in the same locations in both the reconstruction and street maintenance areas. The brick pattern stamped bituminous crosswalk on the south leg of 8th Ave N and Minnetonka Mills Rd will be replaced with the same or similar material for additional awareness by Alice Smith Elementary due to student crossings.

Traffic and pedestrian counts were taken at the intersection of 7th Ave N and 1st St N in response to resident input that the intersection is busy and the desire for an all-way stop intersection and/or additional pedestrian crossing features. Both vehicle and pedestrian counts were low and did not meet any of the warrants for an all-way stop or enhanced pedestrian crossing features, such as an RRFB (Rectangular Rapid Flashing Beacon). This intersection and all other similar intersections in the neighborhood will keep its current traffic control layout with stop signs on just one of the street crossings. This intersection will also keep the same crosswalk blocks after paving for pedestrian crossings.

J. Turf and Landscaping Restoration

Boulevards will be graded as necessary to facilitate drainage from the existing yards to the streets. Turf areas disturbed by construction, either due to boulevard grading or utility service construction, will be graded to match the new street grades and restored with sod in residential yards. In parks or other areas maintained by the City, and sometimes larger commercial properties, areas will be restored with seed and mulch (hydroseed).

Landscaping within the project area will be protected where feasible. Landscaping that is within the right-of-way and/or cannot be protected will either be salvaged and reinstalled by the contractor or will be the owner's responsibility. Items including, but not limited to walls, fences, and pavers, will be salvaged and reinstalled by the contractor. The engineer will coordinate with individual homeowners on landscape impacts to items including, but not limited to plantings, decorative rock, and decorative pavers for removal and relocation by the homeowner.

K. Boulevard Trees

As with all projects being considered by the City of Hopkins, it is a goal of this project to protect healthy boulevard trees and/or make improvements to the urban tree canopy where feasible. Residents echoed the desire to protect healthy trees and remove dead/dying trees in questionnaire responses and discussion at the neighborhood meetings. Design and construction of improvements, including appropriate selection of street widths and utility main placement, are proposed to be completed in a manner to achieve the City's goals to save healthy trees. An evaluation of boulevard tree species and condition was completed in consideration of the adjacent street and utility improvements to facilitate design and construction and meet these criteria.

Due to their susceptibility to the emerald ash borer, green ash trees are generally considered undesirable trees. Similarly, silver maple trees are more susceptible to storm damage than other species, create more litter because of their soft wood and weak, brittle branches, and thus are not desirable trees to Public Works staff and local residents. Silver maples are also known to have an intrusive root system that can damage sidewalks and curbs and penetrate sewer joints. Finally, American Elm are still susceptible to Dutch Elm disease. These three undesirable species, as well as other trees that are either dead or in poor health, should either be removed or otherwise not protected through the

design/construction process.

An inventory of the trees located in the right of way was performed in August 2023 by City public works staff and Bolton & Menk staff. Consistent with all City of Hopkins annual street and utility improvement projects, trees that are dead or in very poor condition, and “undesirable” species in fair or poor condition, are proposed to be removed and replaced. Approximately 32 boulevard trees within the project area are considered undesirable due to condition/species. Proposed tree removals are shown in the figures within Appendix B. Those tree removals identified due to conflicts with utilities or street grading will be further evaluated during final design to see if reasonable measures can be taken to preserve them. Options to preserve highly desirable trees in harm’s way include small retaining walls or moving service lines around trees but is not always feasible.

This project provides an opportunity to increase the health of the neighborhood forest by replacing some of the undesirable species with trees better suited for boulevard areas. One tree is proposed to be installed per each tree removed. New 2-inch balled and burlapped trees are typically planted in replacement of those removed. The City will communicate with the property owners to replace trees as part of the project in the event tree removal is necessary. The species of trees to be planted will match the list of species on the City’s website in cooperation with the City’s Public Works department and as follows: Crab Apple; Elm; Hackberry; Honey Locust; Ironwood; Japanese Lilac; Kentucky Coffee; Linden; Maacki; Maple; Swamp White Oak.

Properties located adjacent to boulevard tree removals will be contacted and allowed to provide input on their desire for a particular tree species to be planted based on the list provided.

VI. Neighborhood Meetings

A neighborhood meeting occurred on September 13, 2023 with residents and property owners that are affected by the improvements in the reconstruction area. The City Engineer and Bolton & Menk Project Manager presented the scope of the project with a discussion of existing and proposed street and utility conditions, preliminary assessment policies, other City policies, and project schedule. Additional information on the neighborhood meeting is documented in Appendix D of this report. There were approximately 10 property owners/residents who participated in the event in-person but the presentation was also broadcasted and recorded over Zoom with 6 more residents in attendance online. The presentation is also available on the project website (www.Hopkins-2024.com) for residents to view at their convenience. Some of the most common questions or comments received from residents at the neighborhood meeting are as follows:

1. Some residents were interested in additional sidewalks on 3rd St N where there currently is none.
 - a. The project team has reviewed this area for adding a sidewalk and has reached out to the property owners along 3rd St N between 5th Ave N and 8th Ave N to see if they are interested additional sidewalk as part of this project.
2. Residents had general questions about assessments, including the process, costs, and payment options.
 - a. The project team went over the assessment policy with the residents and provided rough estimates on what to expect for costs.
 - b. Individual assessment amounts were not provided at the meeting, but they

will be available at the next neighborhood meeting. The project team also described the payment options for the assessments.

3. Residents also had some general questions about the construction process, service replacements, schedule, and access during construction.
 - a. The project team went over some of the typical items that residents will experience during construction and the expectations for vehicle access during and after working hours.
 - b. Individual water and sewer service replacements were discussed, including the potential for private work by the homeowner if they choose to replace their entire service line or if it is required due to material that is not allowed by plumbing code (lead water or orangeburg sewer).
 - c. The construction schedule was briefly discussed in terms of duration on each block, but it was explained that the actual schedule and phasing of the project won't be determined until a Contractor is secured to complete the work in Spring 2024.

A second neighborhood meeting has been scheduled for October 25, 2023 to review preliminary special assessments and proposed improvements.

Residents within the reconstruction project area were also mailed questionnaires in May 2023 shown in Appendix D. The questionnaire focused on drainage issues, utilities, pedestrian facilities, landscaping, and other concerns the residents may have. 42 questionnaires, which is roughly 25% of the affected properties, were returned with comments. The most common questionnaire responses related to:

1. Specific drainage problems in the roadway and on the sidewalk
2. Desire for sidewalk improvements and additional sidewalks
3. Speeding and intersection safety
4. Overgrown and unhealthy trees throughout the neighborhood
5. Concerns about existing landscaping and trees in the boulevard

A summary of the responses to the resident questionnaire are provided in the Table below.

Table 5: Resident Questionnaire Response Summary			
	Yes	No	Total # of Responses
Drainage Issue	13	29	42
Sanitary Issue	19	23	42
Water Issue	8	34	42
Pedestrian Facility Issue	20	22	42
Irrigation	4	38	42
Invisible Fence	1	41	42
Tree Concerns	19	23	42
Landscaping Concerns	4	38	42

VII. Estimated Costs

Estimated construction costs presented in this report include a 15 percent contingency factor. Overhead costs, estimated at 20 percent, include legal, engineering, administrative and fiscal costs. Final costs and assessments will be determined by using low-bid construction costs of the proposed work.

Proposed construction costs for the 2024 Central Avenues Improvements (including curb and gutter, bituminous street, pedestrian facilities, storm sewer, sanitary sewer, water main, and turf restoration) are itemized in Appendix A and are summarized in Table 6 below.

These cost estimates are based upon public construction cost information. Because the consultant has no control over the cost of labor, materials, competitive bidding process, weather conditions and other factors affecting the cost of construction, all cost estimates are opinions for general information of the client and no warranty or guarantee as to the accuracy of construction cost estimates is made. It is recommended that costs for project financing should be based upon actual, competitive bid prices with reasonable contingencies.

Table 6: Preliminary Estimated Cost of 2024 Proposed Improvements	
Proposed Street Improvements	\$2,866,000
Proposed Sanitary Sewer Improvements	\$849,000
Proposed Watermain Improvements	\$1,113,000
Proposed Storm Sewer Improvements	\$867,000
Street & Utility Subtotal	\$5,695,000
Contingencies (15%)	\$855,000
Engineering & Administration (20%)	\$1,310,000
Total Estimated Project Costs	\$7,860,000

VIII. Special Assessments

Street improvements throughout the reconstruction project area (7th Ave N, 8th Ave N, and 3rd St N) will be assessed to adjacent and benefitting properties according to the City of Hopkins' assessment policy. Street improvement work includes pavement removals, grading, subgrade correction, aggregate base, driveways, pavement construction, and restoration.

According to the City's assessment policy, residential street improvement costs are assessed to the benefitting properties. In summary, assessments to benefitting properties are determined based on the following criteria:

- Properties are assessed based on 70% of the actual street improvement costs. This is referred to as a **"Street Assessment"**.
- North/South Avenue improvements are typically assessed to properties with direct frontage based on a front foot basis (length) along the Avenue.

- East/West Street improvements are typically assessed to properties located within one block north/south of the Street on a unit basis (per each property).
- **“Street Assessments”** to any individual property are capped at front foot rate increase annually by 3% over the prior year’s amount. An assessment cap for residential properties of \$106.14 per front foot has been established by adding 3% to the 2023 assessment cap according to City policy.
- The assessment cap is applied to residential properties in the project area and is not applicable to commercial properties which will receive a benefit appraisal in preparation of the assessment roll. For properties receiving a benefit appraisal (11 7th Ave N), the lesser of the ‘per policy’ calculation and the benefit amount per the appraisal will be used. The benefit appraisal for 11 7th Ave N should be available prior to the Public Improvement Hearing.
- Several properties in the project area were previously assessed during the 2012 Street & Utility Improvements project for the reconstruction of Minnetonka Mills Rd and 3rd St N from 8th Ave N to 9th Ave N. These previous assessment amounts were considered when calculating preliminary assessments for this project, and properties that were assessed in 2012 will either be assessed at a lower amount or will not be assessed for the 2024 project depending on what they were assessed for in 2012 for the improvements to Minnetonka Mills Rd and 3rd St N. This same policy was applied to several of the properties in the 2023 Street & Utility project because they were adjacent to or part of the 2011 Street & Utility project and assessed in 2011 for improvements to those streets.
- Utility (sanitary sewer, storm sewer, water) main improvements are 100% paid by the respective utility funds. No assessment for utility mains is proposed and their costs do not contribute to either the **“Street Assessments”** or **“Utility Assessments”**.
- Utility service lines are owned by the individual property per City Code. As a result, the City assesses for the cost of the individual service line replacements. This is referred to as a **“Utility Assessment”**. The City participates in a share of these costs for residential properties because the replacement is mandatory where mains are reconstructed, and therefore properties are assessed for only 50% of the cost of the service replacement based on actual bid prices received. Commercial properties are assessed for 100% of the cost of the service replacement.
- The estimated cost of the water service replacement from the main to property line is \$3,350. With the proposed 50/50 **“Utility Assessment”** split, \$1,675 will be assessed to each property where water services are replaced. The estimated cost of the sewer service replacement from the main to the property line is \$3,200. With the proposed 50/50 **“Utility Assessment”** split, \$1,600 will be assessed to each property where sewer services are replaced. Thus, a property proposed to receive both a new water service and sewer service would have a proposed **“Utility Assessment”** of \$3,275, which is an estimated amount until bids prices are known.

In the case that sanitary sewer services are made of Orangeburg, or are in disrepair, replacement or lining of the entire line will also be required from the property line to the house. On past projects, the property owner has been given one year to address the necessary repairs and the City will provide contact information for contractors that have performed this work within the City.

A preliminary assessment roll is included in Appendix C of this report. Total estimated assessments are \$953,722.18.

IX. Right-of-Way/Easements/Permits

The majority of the proposed improvements will be limited to the existing street ROW along all corridors. Temporary construction easements may be needed for work outside the street ROW such as driveway apron replacement, grading and turf restoration.

Permits will be required from the Minnesota Pollution Control Agency for grading (National Pollutant Discharge Elimination System permit), Minnesota Department of Health for Water Main Replacement, and the Nine Mile Creek Watershed District for Erosion Control.

X. Project Schedule

If this Preliminary Engineering Report is accepted by the City Council, the following schedule is proposed:

Order Public Improvement Hearing.....	October 3, 2023
Neighborhood Meeting 2.....	October 25, 2023
Conduct Improvement Hearing, Order Final Plans & Specifications	November 6, 2023
Final Design	November 7, 2023 – January 16, 2024
Present Final Plans / Authorize Ad for Bids.....	January 16, 2024
Open Bids	February 9, 2024
Order Public Assessment Hearing.....	February 20, 2024
Neighborhood Meeting 3.....	March 11-14, 2024
Conduct Assessment Hearing / Adopt Assessment Roll / Award Project	March 19, 2024
Construction	May – October 2024

XI. Feasibility and Recommendation

From an engineering standpoint, this project is feasible, cost effective, and necessary and can best be accomplished by letting competitive bids for the work. It is recommended that the work be done under one contract, for all project areas, to complete the work in an orderly and efficient manner. The City, its financial consultant, and the persons assessed will have to determine the economic feasibility of the proposed improvements.

Services Provided:

Civil and Municipal Engineering

Water and Wastewater Engineering

Traffic and Transportation Engineering

Aviation Planning and Engineering

Water Resources Engineering

Coatings Inspection Services

Landscape Architecture Services

Surveying and Mapping

Geographic Information System Services

Funding Assistance

www.bolton-menk.com

Appendix A: Preliminary Cost Estimates

PRELIMINARY ENGINEER'S ESTIMATE

2024 STREET & UTILITY IMPROVEMENTS

CITY OF HOPKINS, MN

BMI PROJECT NO. OT1.130543



ITEM NO.	ITEM	UNIT	UNIT PRICE	ESTIMATED COSTS												TOTAL QUANTITY	TOTAL COST
				8TH AVE N	7TH AVE N	6TH AVE N	1ST ST N	2ND ST N	3RD ST N	EXISTING WALK	3RD ST WALK	STREET TOTAL	SANITARY	STORM	WATER		
1	MOBILIZATION	LUMP SUM	\$250,000.00	\$25,000.00	\$25,000.00	\$12,500.00	\$12,500.00	\$12,500.00	\$25,000.00	\$12,500.00		\$125,000.00	\$50,000.00	\$25,000.00	\$50,000.00	1.00	\$250,000.00
2	CLEARING	TREE	\$500.00	\$12,000.00	\$16,000.00	\$2,500.00			\$3,000.00		\$2,000.00	\$35,500.00				71	\$35,500.00
3	GRUBBING	TREE	\$250.00	\$6,000.00	\$8,000.00	\$1,250.00			\$1,500.00		\$1,000.00	\$17,750.00				71	\$17,750.00
4	DECIDUOUS TREE 2" CAL B&B	EACH	\$600.00	\$14,400.00	\$19,200.00	\$3,000.00			\$3,600.00		\$2,400.00	\$42,600.00				71	\$42,600.00
5	REMOVE SIGN POST	EACH	\$50.00	\$350.00	\$700.00				\$300.00			\$1,350.00				27	\$1,350.00
6	REMOVE SIGN PANEL	EACH	\$50.00	\$350.00	\$700.00				\$300.00			\$1,350.00				27	\$1,350.00
7	REMOVE CURB AND GUTTER	LIN FT	\$8.00	\$20,088.00	\$36,592.00	\$2,432.00	\$4,992.00	\$4,256.00	\$19,392.00			\$87,752.00				10969	\$87,752.00
8	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	\$10.00	\$70.00	\$70.00				\$1,410.00			\$1,550.00				155	\$1,550.00
9	REMOVE BITUMINOUS STREET PAVEMENT	SQ YD	\$4.00	\$17,216.00	\$33,928.00				\$12,732.00			\$63,876.00				15969	\$63,876.00
10	REMOVE CONCRETE WALK	SQ FT	\$1.00							\$41,455.00		\$41,455.00				41455	\$41,455.00
11	REMOVE CONCRETE STEP	EACH	\$20.00							\$1,720.00		\$1,720.00				86	\$1,720.00
12	REMOVE CONCRETE ALLEY/DRIVEWAY PAVEMENT	SQ YD	\$12.00	\$2,016.00	\$1,092.00				\$4,080.00			\$7,188.00				599	\$7,188.00
13	REMOVE CONCRETE LIGHT POLE FOUNDATION	EACH	\$1,000.00		\$1,000.00							\$1,000.00				1	\$1,000.00
14	SALVAGE LIGHT POLE	EACH	\$750.00		\$750.00							\$750.00				1	\$750.00
15	SALVAGE & REINSTALL PAVERS	SQ FT	\$15.00		\$1,590.00							\$1,590.00				106	\$1,590.00
16	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	\$7.00	\$1,820.00	\$2,513.00	\$630.00			\$1,197.00			\$6,160.00				880	\$6,160.00
17	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	\$6.00	\$816.00	\$852.00	\$756.00	\$510.00	\$1,374.00	\$906.00			\$5,214.00				869	\$5,214.00
18	SALVAGE & REINSTALL FENCE	LIN FT	\$100.00	\$4,000.00	\$5,000.00						\$7,000.00	\$16,000.00				160	\$16,000.00
19	REMOVE RETAINING WALL	LIN FT	\$25.00		\$11,875.00							\$11,875.00				475	\$11,875.00
20	SALVAGE & REINSTALL BLOCK RETAINING WALL	LIN FT	\$150.00	\$16,350.00	\$75,450.00							\$91,800.00				612	\$91,800.00
21	REMOVE HYDRANT	EACH	\$750.00												\$6,000.00	8	\$6,000.00
22	REMOVE WATERMAIN	LIN FT	\$12.00												\$43,056.00	3588	\$43,056.00
23	REMOVE DRAINAGE STRUCTURE (STORM)	EACH	\$600.00											\$27,000.00		45	\$27,000.00
24	REMOVE STORM SEWER PIPE	LIN FT	\$15.00											\$18,105.00		1207	\$18,105.00
25	REMOVE SANITARY SEWER PIPE	LIN FT	\$10.00										\$29,970.00			2997	\$29,970.00
26	REMOVE SANITARY MANHOLE	EACH	\$750.00										\$10,500.00			14	\$10,500.00
27	EXPLORATORY EXCAVATION	hour	\$1,000.00	\$20,000.00	\$20,000.00							\$40,000.00				40	\$40,000.00
28	COMMON EXCAVATION	CU YD	\$30.00	\$94,140.00	\$182,220.00				\$67,740.00			\$344,100.00				11470	\$344,100.00
29	SUBGRADE EXCAVATION	CU YD	\$35.00	\$5,495.00	\$10,640.00	\$2,695.00			\$3,955.00			\$22,785.00				651	\$22,785.00
30	RECLAIM BITUMINOUS SURFACE (IN PLACE)	SQ YD	\$3.00			\$6,936.00						\$6,936.00				2312	\$6,936.00
31	SUBGRADE PREPARATION	SQ YD	\$2.00			\$4,624.00						\$4,624.00				2312	\$4,624.00
32	GEOTEXTILE FABRIC TYPE V	SQ YD	\$2.00	\$7,744.00	\$15,192.00				\$5,904.00			\$28,840.00				14420	\$28,840.00
33	STABILIZING AGGREGATE	CU YD	\$50.00	\$7,850.00	\$15,200.00				\$5,650.00			\$28,700.00				574	\$28,700.00
34	SELECT GRANULAR BORROW	TON	\$20.00	\$47,060.00	\$92,300.00				\$35,880.00			\$175,240.00				8762	\$175,240.00
35	CLASS 5 AGGREGATE BASE	TON	\$24.00	\$37,824.00	\$74,208.00	\$3,360.00			\$28,848.00			\$144,240.00				6010	\$144,240.00
36	CLASS 2 AGGREGATE SURFACING (GRAVEL DRIVEWAY)	TON	\$40.00						\$400.00			\$400.00				10	\$400.00
37	BITUMINOUS WEARING COURSE (SPWEA240C)	TON	\$92.00	\$43,148.00	\$84,640.00	\$25,668.00	\$28,612.00	\$36,708.00	\$32,936.00			\$251,712.00				2736	\$251,712.00
38	BITUMINOUS -NON-WEARING COURSE (SPNWB230C)	TON	\$88.00	\$41,272.00	\$80,960.00	\$36,872.00			\$31,504.00			\$190,608.00				2166	\$190,608.00
39	BITUMINOUS MATERIAL FOR TACK COAT	GAL	\$7.50	\$1,597.50	\$3,135.00	\$960.00	\$1,695.00	\$2,175.00	\$1,222.50			\$10,785.00				1438	\$10,785.00
40	2" BITUMINOUS STREET PATCH	SQ YD	\$35.00									\$51,275.00				1465	\$51,275.00
41	MILL BITUMINOUS SURFACE (2")	SQ YD	\$3.00				\$7,692.00	\$9,882.00				\$17,574.00				5858	\$17,574.00
42	3" BITUMINOUS DRIVEWAY	SQ YD	\$40.00		\$400.00				\$1,720.00			\$2,120.00				53	\$2,120.00
43	JOINT ADHESIVE (MASTIC)	LIN FT	\$1.00	\$2,500.00	\$4,275.00	\$1,194.00	\$1,674.00	\$1,823.00	\$1,855.00			\$13,321.00				13321	\$13,321.00
44	MODULAR BLOCK RETAINING WALL	SQ FT	\$50.00		\$66,700.00							\$66,700.00				1334	\$66,700.00
45	POURED CONCRETE RETAINING WALL	SQ FT	\$50.00		\$20,400.00							\$20,400.00				408	\$20,400.00
46	6" PERF PVC UNDERDRAIN	LIN FT	\$25.00											\$67,500.00		2700	\$67,500.00
47	6" PERF PVC UNDERDRAIN CLEANOUT	EACH	\$400.00											\$11,200.00		28	\$11,200.00
48	15" RC STORM PIPE	LIN FT	\$80.00											\$129,680.00		1621	\$129,680.00
49	18" RC STORM PIPE	LIN FT	\$95.00											\$12,730.00		134	\$12,730.00
50	27" RC STORM PIPE	LIN FT	\$120.00											\$7,560.00		63	\$7,560.00
51	36" RC STORM PIPE	LIN FT	\$150.00											\$21,600.00		144	\$21,600.00
52	STORM MANHOLE (48-4020)	EACH	\$4,500.00											\$18,000.00		4	\$18,000.00
53	STORM MANHOLE (60-4020)	EACH	\$5,500.00											\$22,000.00		4	\$22,000.00
54	STORM MANHOLE CATCH BASIN (48-4022)	EACH	\$4,500.00											\$99,000.00		22	\$99,000.00
55	STORM MANHOLE CATCH BASIN (72-4022)	EACH	\$8,000.00											\$8,000.00		1	\$8,000.00
56	STORM CATCH BASIN	EACH	\$2,500.00											\$62,500.00		25	\$62,500.00
57	INSTALL CASTING (R-3067)(STORM)	EACH	\$1,200.00											\$56,400.00		47	\$56,400.00
58	INSTALL CASTING (R-3067-C)(STORM)	EACH	\$1,200.00											\$8,400.00		7	\$8,400.00
59	INSTALL CASTING (R-1733)(STORM)	EACH	\$1,200.00											\$15,600.00		13	\$15,600.00
60	INSTALL CASTING (R-1733 - SLOTTED GRATE)(STORM)	EACH	\$1,200.00											\$1,200.00		1	\$1,200.00
61	ADJUST FRAME & RING CASTINGS (STORM)	EACH	\$800.00											\$4,800.00		6	\$4,800.00

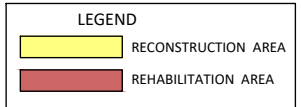
PRELIMINARY ENGINEER'S ESTIMATE

2024 STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. 0T1.130543



ITEM NO.	ITEM	UNIT	UNIT PRICE	ESTIMATED COSTS												TOTAL QUANTITY	TOTAL COST		
				8TH AVE N	7TH AVE N	6TH AVE N	1ST ST N	2ND ST N	3RD ST N	EXISTING WALK	3RD ST WALK	STREET TOTAL	SANITARY	STORM	WATER				
62	CONNECT TO EXISTING STORM PIPE	EACH	\$1,200.00															8	\$9,600.00
63	CONNECT TO EXISTING STORM STRUCTURE	EACH	\$1,500.00															11	\$16,500.00
64	8" PVC SDR 35 SANITARY SEWER PIPE	LIN FT	\$70.00															3009	\$210,630.00
65	COARSE AGGREGATE BEDDING (TYPE B)	LIN FT	\$15.00															300	\$4,500.00
66	8" CIPP LINING (CITY WIDE LINING)	LIN FT	\$60.00															1000	\$60,000.00
67	SEAL SANITARY MANHOLE	EACH	\$2,500.00															6	\$15,000.00
68	6" PVC SDR 26 SANITARY SEWER SERVICE PIPE	LIN FT	\$50.00															3331	\$166,550.00
69	8" X 6" SDR 26 PVC SERVICE WYE	EACH	\$1,000.00															101	\$101,000.00
70	INSTALL CASTING (R-1733)(SANITARY)	EACH	\$1,500.00															18	\$27,000.00
71	SANITARY MANHOLE	LIN FT	\$600.00															118	\$70,800.00
72	RECONNECT SANITARY SEWER SERVICE	EACH	\$700.00															101	\$70,700.00
73	SANITARY SERVICE REPAIR	EACH	\$1,200.00															11	\$13,200.00
74	CONNECT TO EXISTING SANITARY SEWER PIPE	EACH	\$1,500.00															5	\$7,500.00
75	CONNECT TO EXISTING SANITARY MANHOLE	EACH	\$2,000.00															1	\$2,000.00
76	HYDRANT	EACH	\$7,500.00															9	\$67,500.00
77	DUCTILE IRON FITTINGS	POUND	\$15.00															1762	\$26,430.00
78	6" GATE VALVE & BOX	EACH	\$2,500.00															9	\$22,500.00
79	8" GATE VALVE & BOX	EACH	\$3,500.00															20	\$70,000.00
80	6" DIP WATERMAIN	LIN FT	\$75.00															106	\$7,950.00
81	8" DIP WATERMAIN	LIN FT	\$85.00															3493	\$296,905.00
82	1" TYPE K COPPER SERVICE PIPE	LIN FT	\$50.00															3684	\$184,200.00
83	1" CURB STOP & BOX	EACH	\$750.00															112	\$84,000.00
84	1" CORPORATION STOP	EACH	\$500.00															112	\$56,000.00
85	GROUNDING ANODE	EACH	\$250.00															120	\$30,000.00
86	TRACER WIRE ACCESS BOX (NON ROADWAY)	EACH	\$150.00															112	\$16,800.00
87	TRACER WIRE TEST STATION (HYDRANT)	EACH	\$300.00															9	\$2,700.00
88	RECONNECT WATER SERVICE	EACH	\$600.00															112	\$67,200.00
89	CONNECT TO EXISTING WATERMAIN	EACH	\$2,000.00															8	\$16,000.00
90	TEMPORARY WATER SERVICE	EACH	\$500.00															112	\$56,000.00
91	4" CONCRETE WALK	SQ FT	\$8.00									\$361,344.00	\$7,920.00	\$369,264.00				46158	\$369,264.00
92	CONCRETE STEP	EACH	\$500.00									\$43,000.00		\$43,000.00				86	\$43,000.00
93	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	\$20.00															10969	\$219,380.00
94	6" CONCRETE WALKS (PED RAMPS)	SQ YD	\$120.00									\$45,000.00	\$7,200.00	\$52,200.00				435	\$52,200.00
95	6" CONCRETE DRIVEWAY	SQ YD	\$75.00	\$13,275.00	\$9,300.00					\$17,700.00				\$40,275.00				537	\$40,275.00
96	8" CONCRETE DRIVEWAY/ALLEY	SQ YD	\$85.00							\$16,575.00				\$16,575.00				195	\$16,575.00
97	TRUNCATED DOMES	SQ FT	\$70.00									\$29,120.00	\$10,640.00	\$39,760.00				568	\$39,760.00
98	TRAFFIC CONTROL	LUMP SUM	\$50,000.00	\$5,000.00	\$5,000.00	\$2,500.00	\$2,500.00	\$2,500.00	\$5,000.00	\$2,500.00				\$25,000.00	\$10,000.00	\$5,000.00	\$10,000.00	1.00	\$50,000.00
99	SIGN POST	EACH	\$400.00	\$2,800.00	\$5,600.00					\$2,400.00				\$10,800.00				27	\$10,800.00
100	SIGN PANELS	EACH	\$300.00	\$2,100.00	\$4,200.00					\$1,800.00				\$8,100.00				27	\$8,100.00
101	LIGHT POLE FOUNDATION	EACH	\$1,500.00		\$1,500.00									\$1,500.00				1	\$1,500.00
102	INSTALL LIGHT POLE	EACH	\$1,500.00		\$1,500.00									\$1,500.00				1	\$1,500.00
103	LED LUMINAIRE FIXTURE	EACH	\$1,500.00		\$1,500.00									\$1,500.00				1	\$1,500.00
104	STREET SWEEPER WITH OPERATOR	HOUR	\$175.00	\$4,375.00	\$4,375.00	\$875.00	\$875.00	\$875.00	\$875.00					\$12,250.00				70	\$12,250.00
105	STABILIZED CONSTRUCTION EXIT	EACH	\$2,000.00	\$8,000.00	\$14,000.00	\$8,000.00			\$8,000.00					\$38,000.00				19	\$38,000.00
106	STORM DRAIN INLET PROTECTION	EACH	\$250.00	\$7,750.00	\$13,000.00	\$7,750.00	\$750.00	\$500.00	\$500.00					\$30,250.00				121	\$30,250.00
107	TOPSOIL BORROW (SPECIAL)	CU YD	\$40.00	\$6,400.00	\$10,760.00	\$5,400.00	\$1,200.00	\$1,320.00	\$10,280.00					\$35,360.00				884	\$35,360.00
108	HYDROSEEDING	SQ YD	\$3.00			\$954.00	\$807.00	\$888.00						\$2,649.00				883	\$2,649.00
109	SODDING, TYPE LAWN	SQ YD	\$10.00	\$13,940.00	\$24,410.00				\$23,360.00					\$61,710.00				6171	\$61,710.00
110	FABRICATED RAILING	LIN FT	\$100.00	\$3,600.00	\$10,000.00									\$13,600.00				136	\$13,600.00
111	LANDSCAPE ALLOWANCE	LUMP SUM	\$50,000.00	\$20,000.00	\$20,000.00	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00					\$50,000.00				1	\$50,000.00
112	CROSSWALK SPECIAL - STAMPED BITUMINOUS	SQ FT	\$50.00	\$14,600.00										\$14,600.00				292	\$14,600.00
113	4" SOLID WHITE STRIPING - THERMOPLASTIC	LIN FT	\$1.00				\$1,665.00							\$1,665.00				1665	\$1,665.00
114	24" SOLID WHITE STOP BAR - THERMOPLASTIC	LIN FT	\$60.00	\$1,080.00										\$1,080.00				18	\$1,080.00
115	CROSSWALK WHITE - THERMOPLASTIC	SQ FT	\$15.00		\$5,670.00	\$5,400.00	\$1,350.00	\$1,350.00						\$13,770.00				918	\$13,770.00
SUBTOTAL				\$ 532,026.50	\$ 1,041,397.00	\$ 138,756.00	\$ 91,757.00	\$ 107,491.00	\$ 380,021.50	\$ 536,639.00	\$ 38,160.00	\$ 2,866,248.00	\$ 849,350.00	\$ 866,755.00	\$ 1,113,241.00				\$5,695,594.00
CONTINGENCIES (15%)				\$ 79,803.98	\$ 156,209.55	\$ 20,813.40	\$ 13,763.55	\$ 16,123.65	\$ 57,003.23	\$ 80,495.85	\$ 5,724.00	\$ 429,937.20	\$ 127,402.50	\$ 130,013.25	\$ 166,986.15				\$ 854,339.10
ENGINEERING AND ADMINISTRATION (20%)				\$ 122,366.10	\$ 239,521.31	\$ 31,913.88	\$ 21,104.11	\$ 24,722.93	\$ 87,404.95	\$ 123,426.97	\$ 8,776.80	\$ 659,237.04	\$ 195,350.50	\$ 199,353.65	\$ 256,045.43				\$ 1,309,986.62
TOTAL ESTIMATED PROJECT COST				\$ 734,196.57	\$ 1,437,127.86	\$ 191,483.28	\$ 126,624.66	\$ 148,337.58	\$ 524,429.67	\$ 740,561.82	\$ 52,660.80	\$ 3,955,422.24	\$ 1,172,103.00	\$ 1,196,121.90	\$ 1,536,272.58				\$ 7,859,919.72

Appendix B: Figures

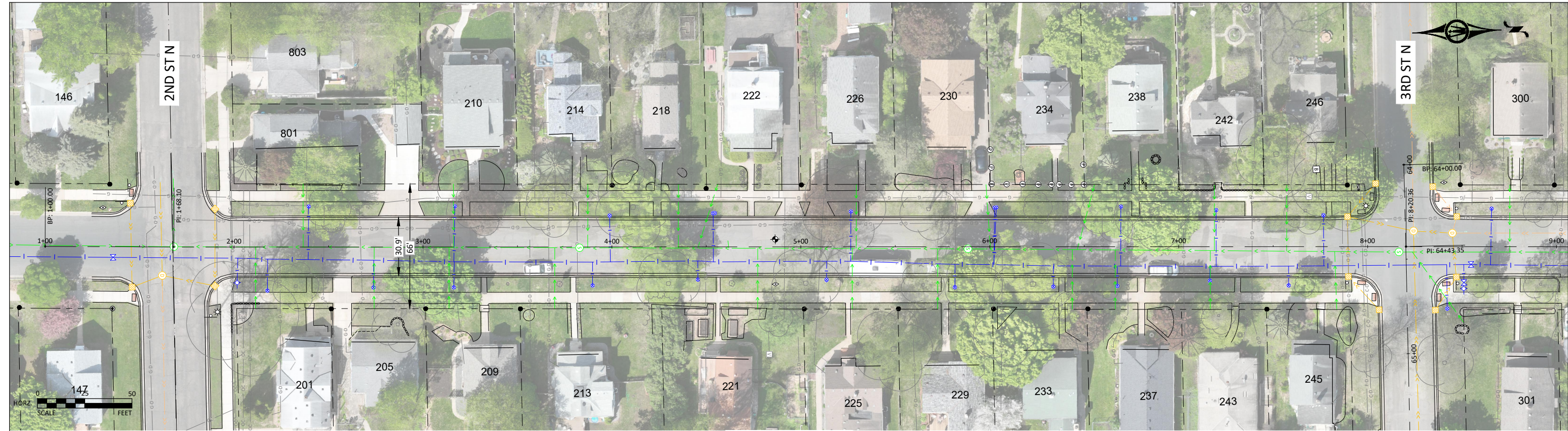


EXISTING FIGURES

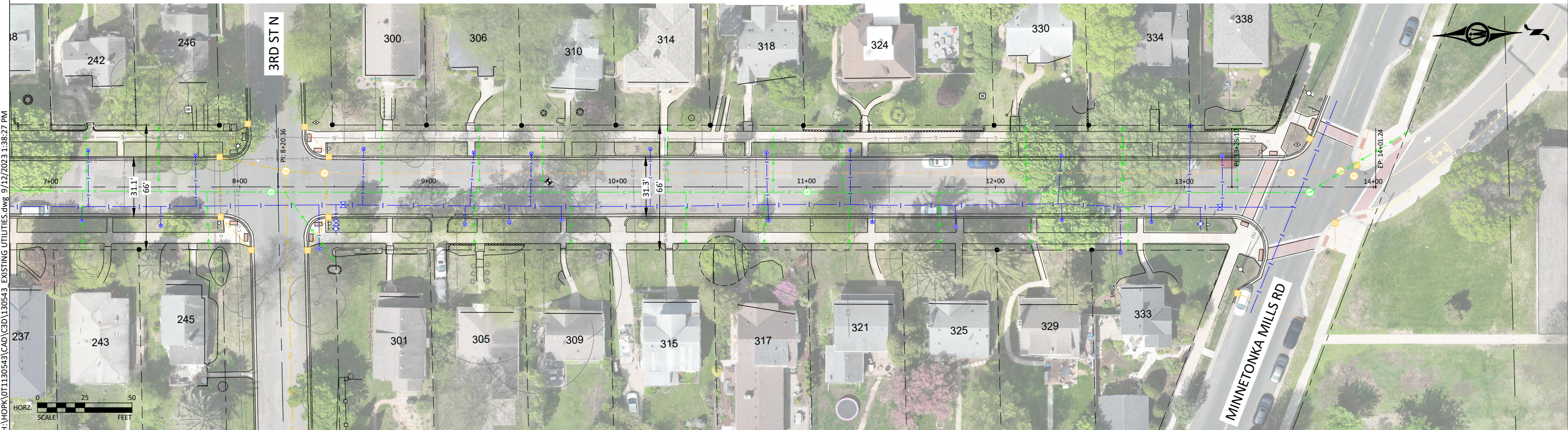
	BITUMINOUS EDGE
	CONCRETE EDGE
	CONCRETE CURB
	GRAVEL EDGE
	RIGHT-OF-WAY
	SANITARY SEWER
	SANITARY MANHOLE
	STORM SEWER
	STORM MANHOLE
	STORM CATCH BASIN
	WATERMAIN
	HYDRANT
	GATE VALVE

PROPOSED FIGURES

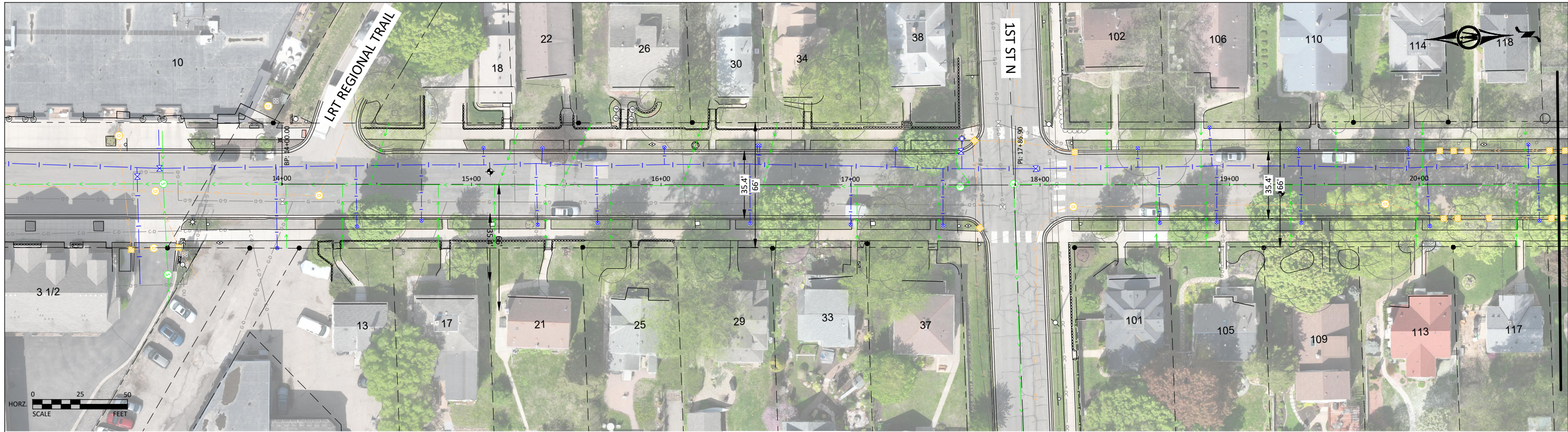
	CURB & GUTTER
	BITUMINOUS PAVEMENT
	CONCRETE DRIVEWAY
	CONCRETE SIDEWALK
	PEDESTRIAN CROSSWALK
	GRAVEL DRIVEWAY
	STORM MANHOLE
	STORM CATCH BASIN
	STORM SEWER
	SANITARY SEWER MANHOLE
	SANITARY SEWER
	SANITARY CIPP LINING
	HYDRANT & VALVE
	GATE VALVE
	WATERMAIN



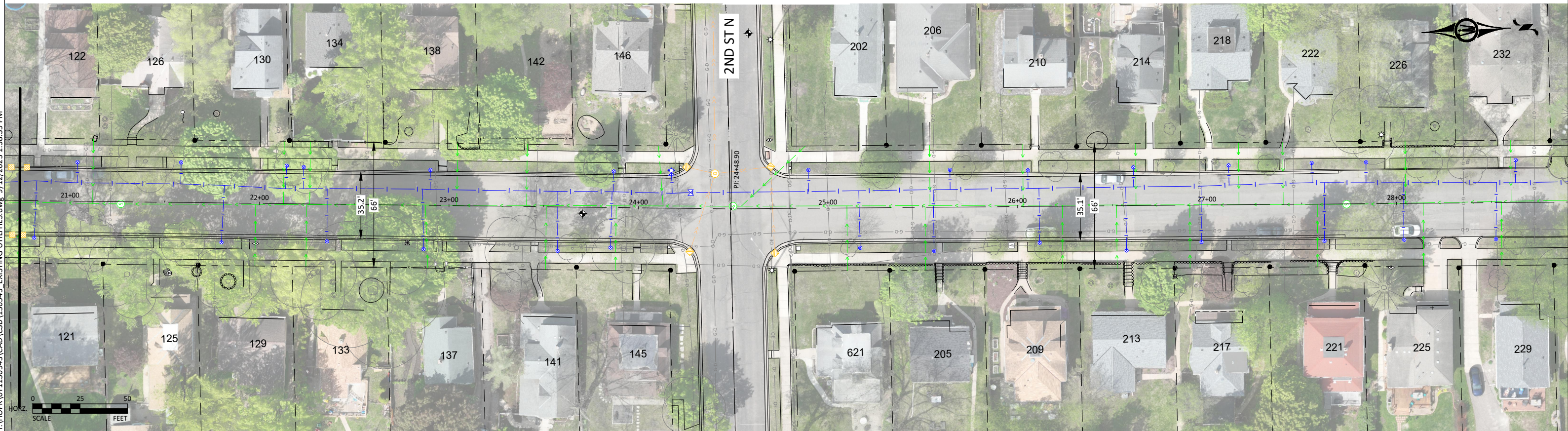
8TH AVE N



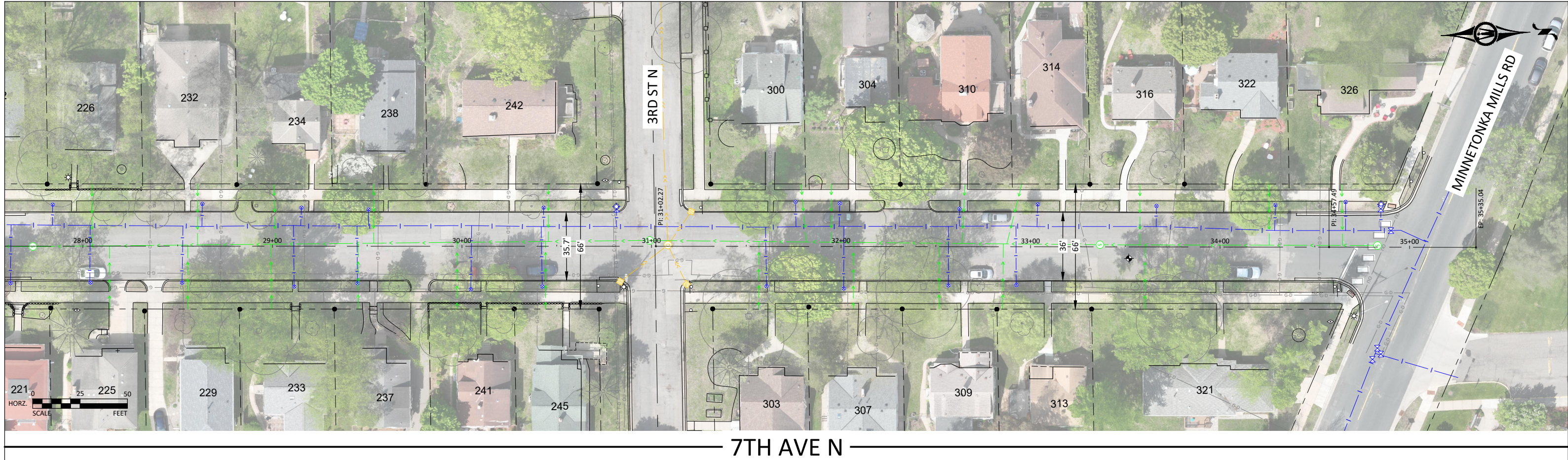
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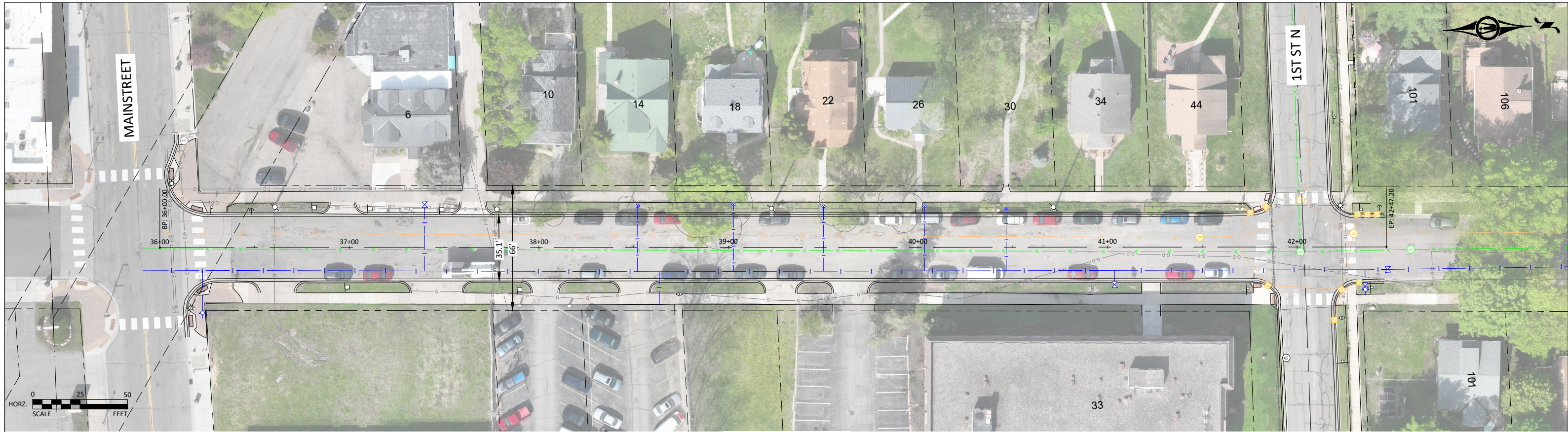


7TH AVE N

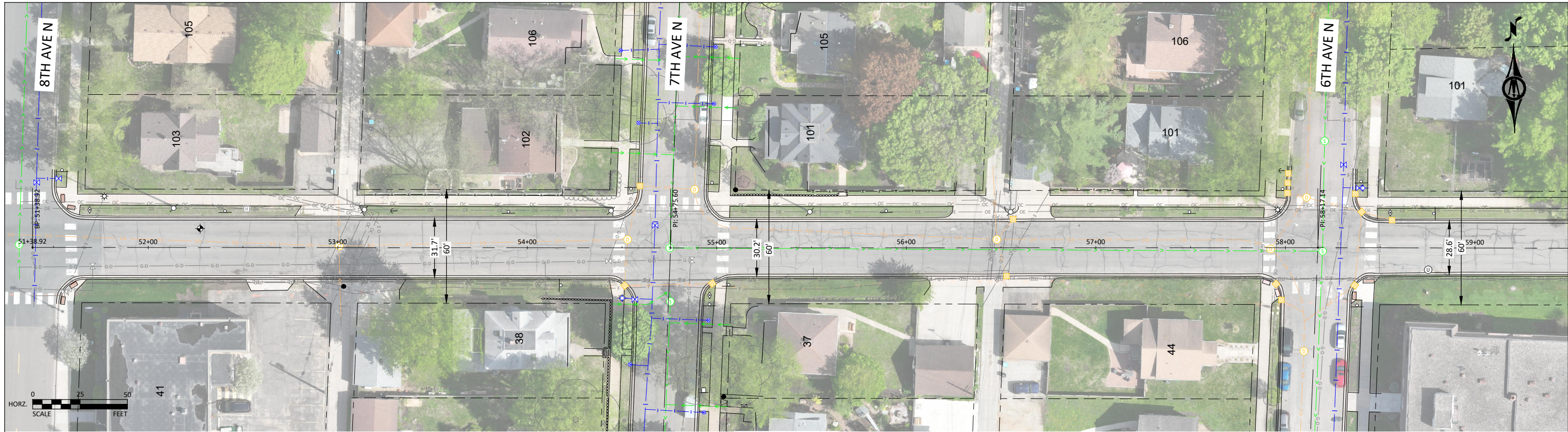


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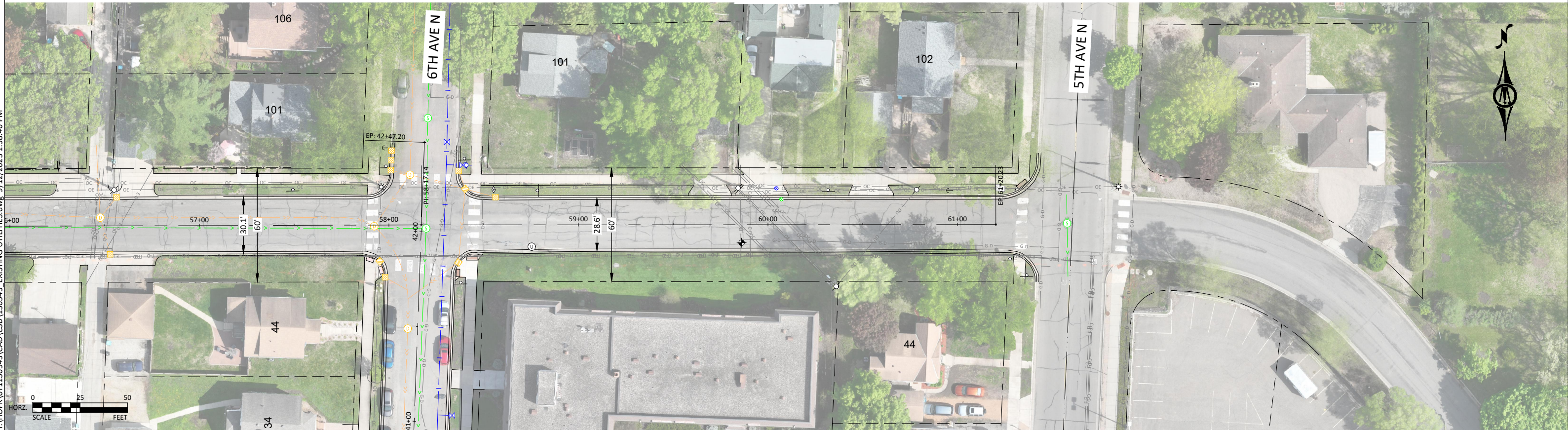




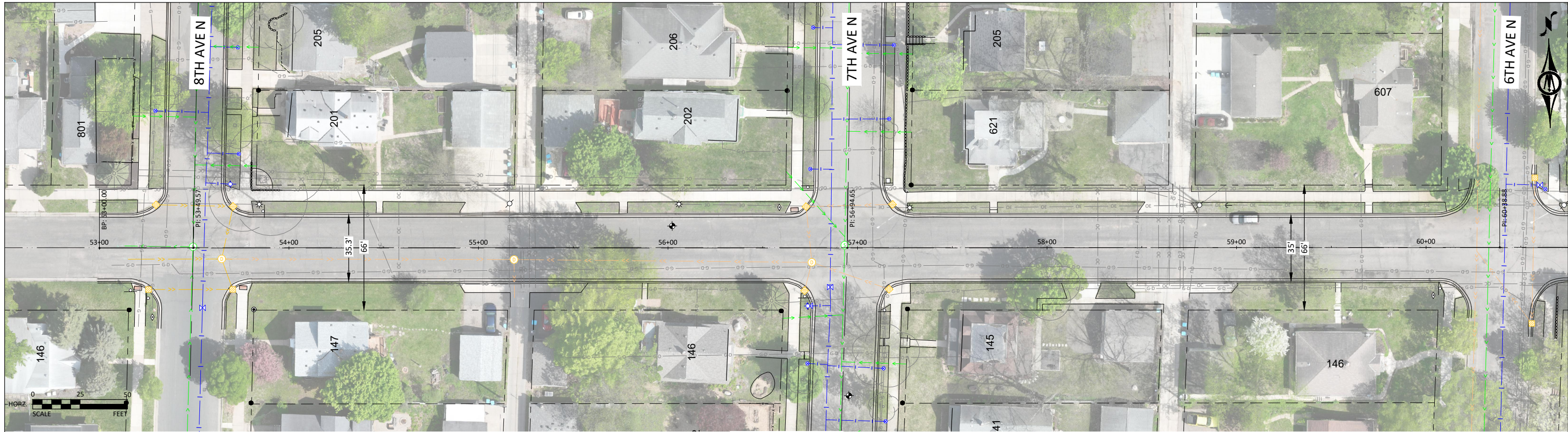
6TH AVE N



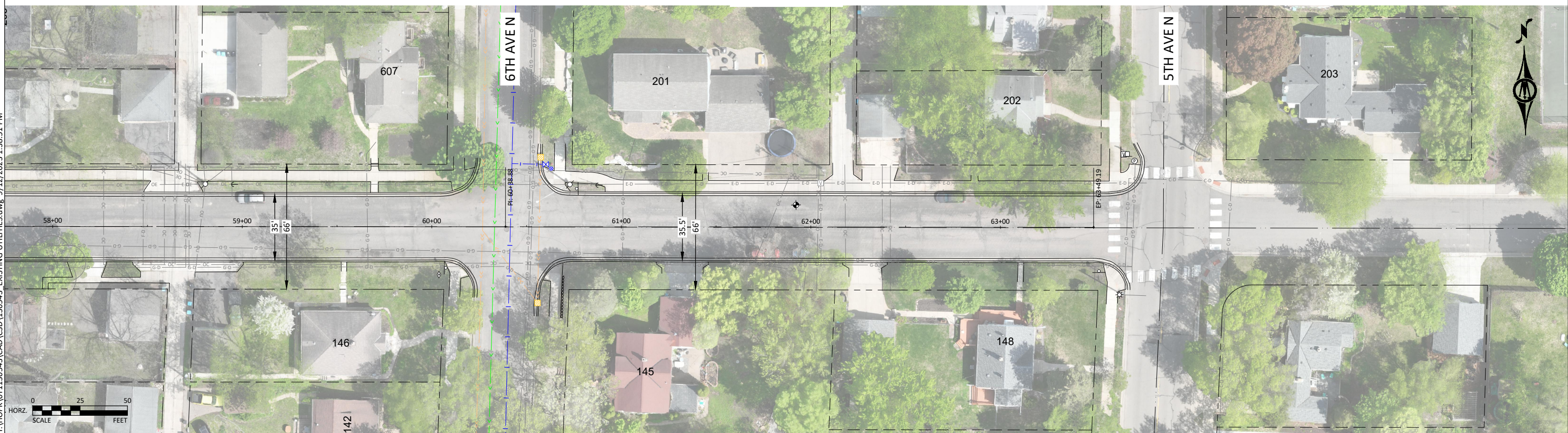
1ST ST N



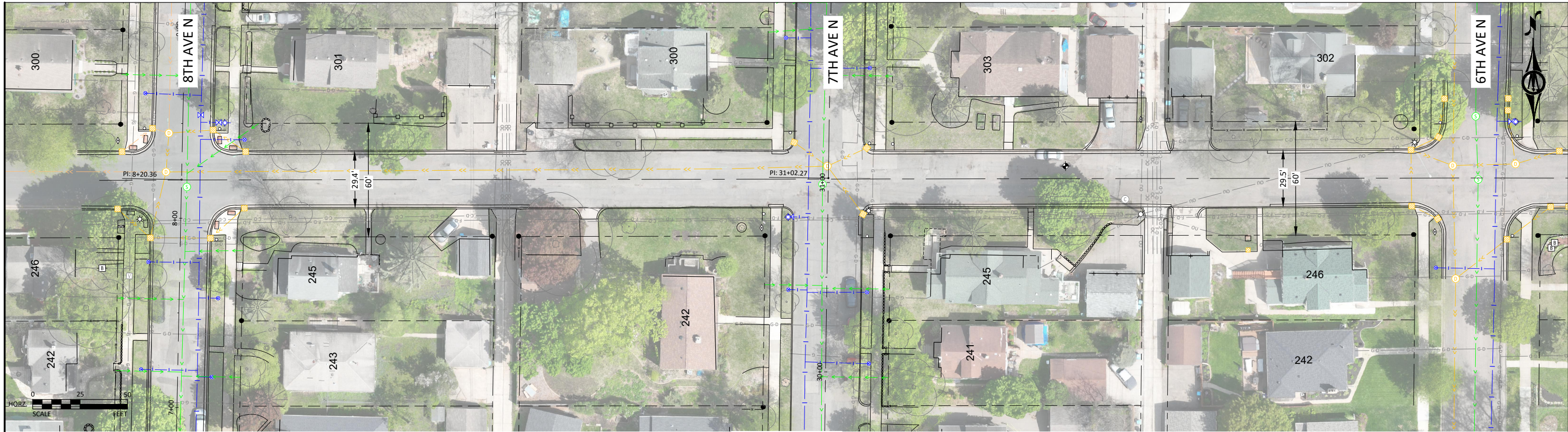
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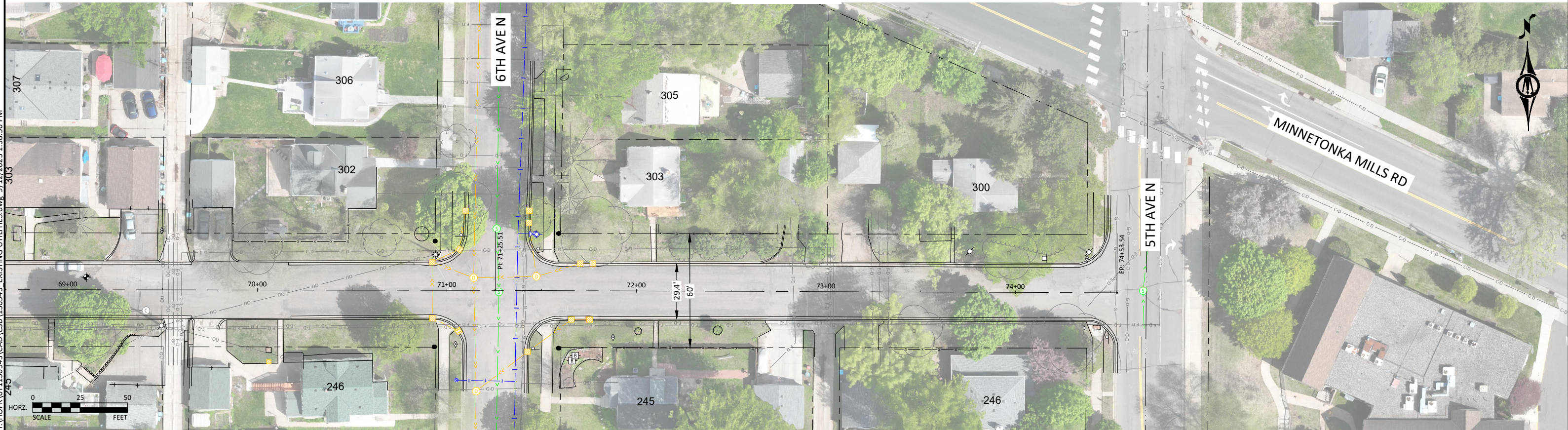
2ND ST N



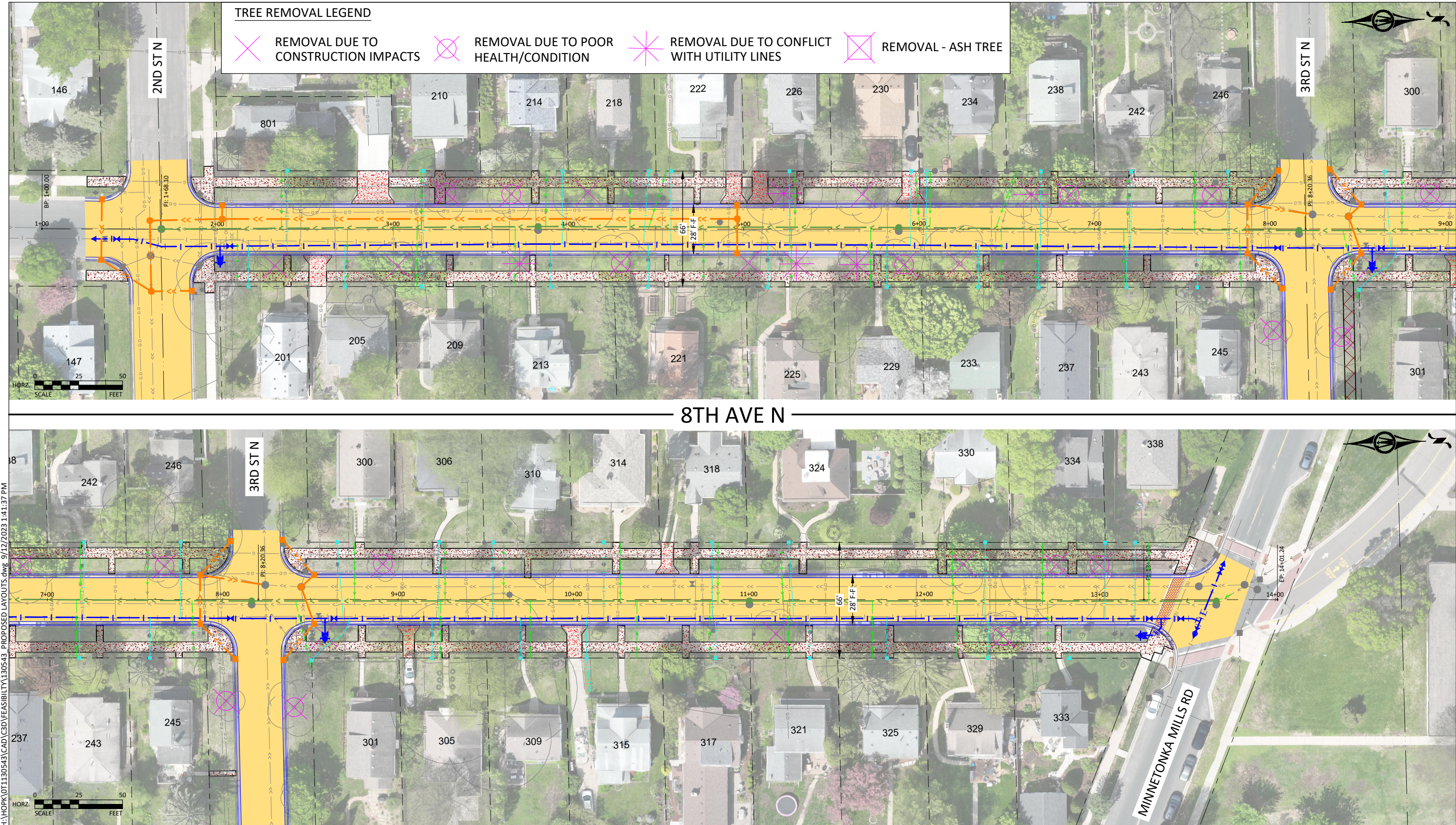
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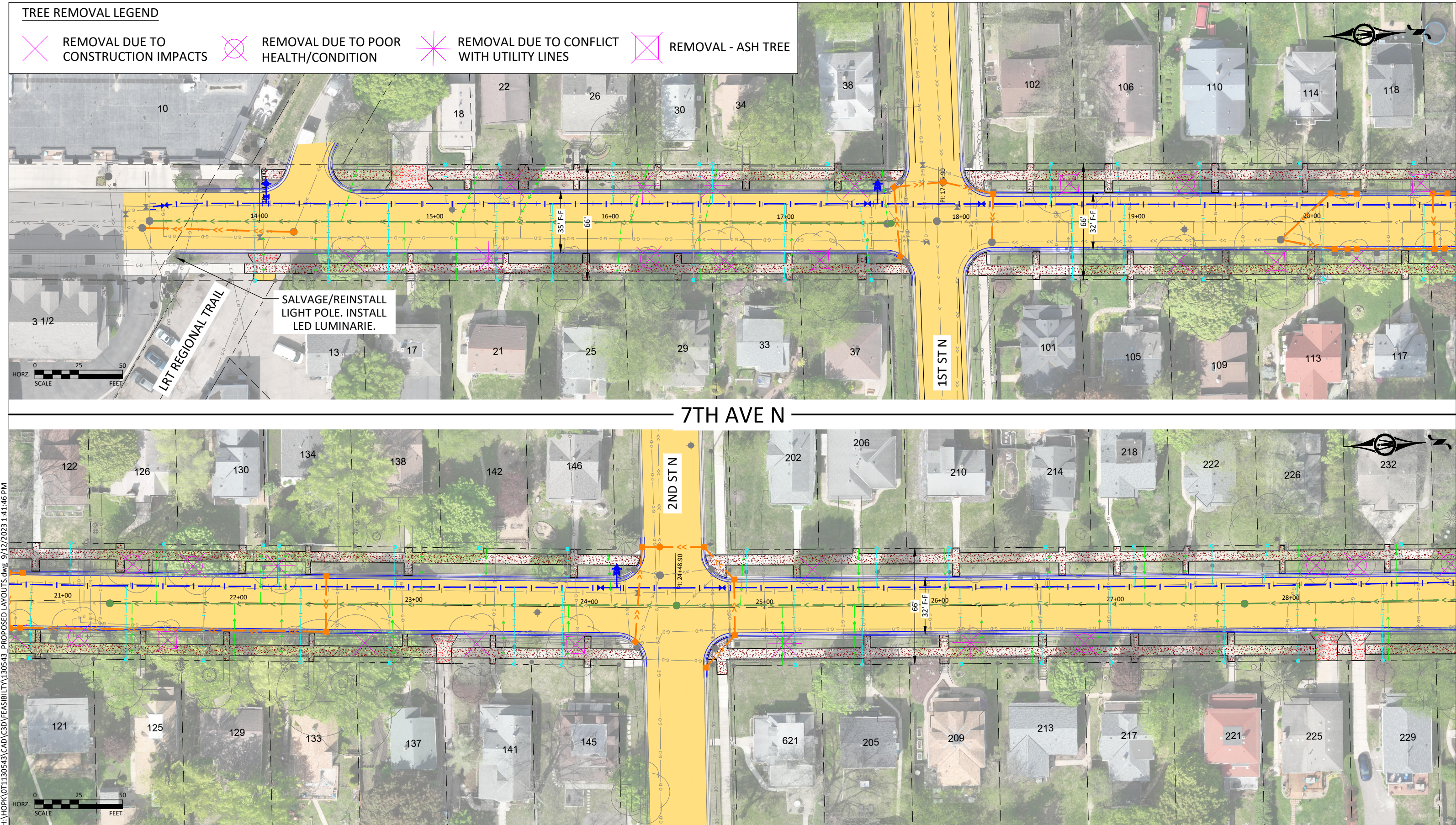


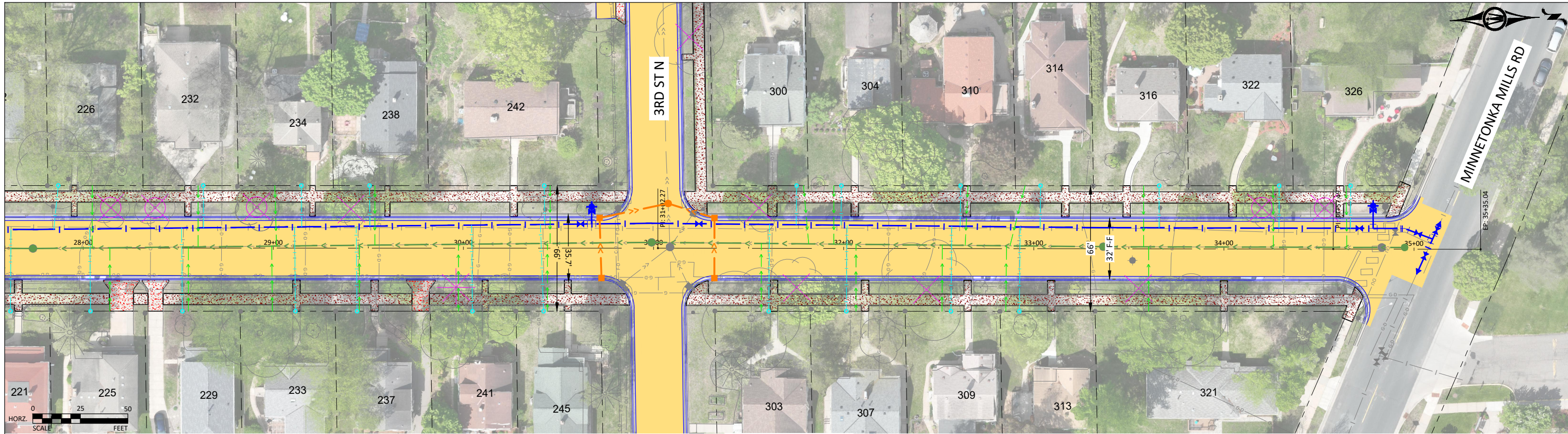
3RD ST N



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7TH AVE N

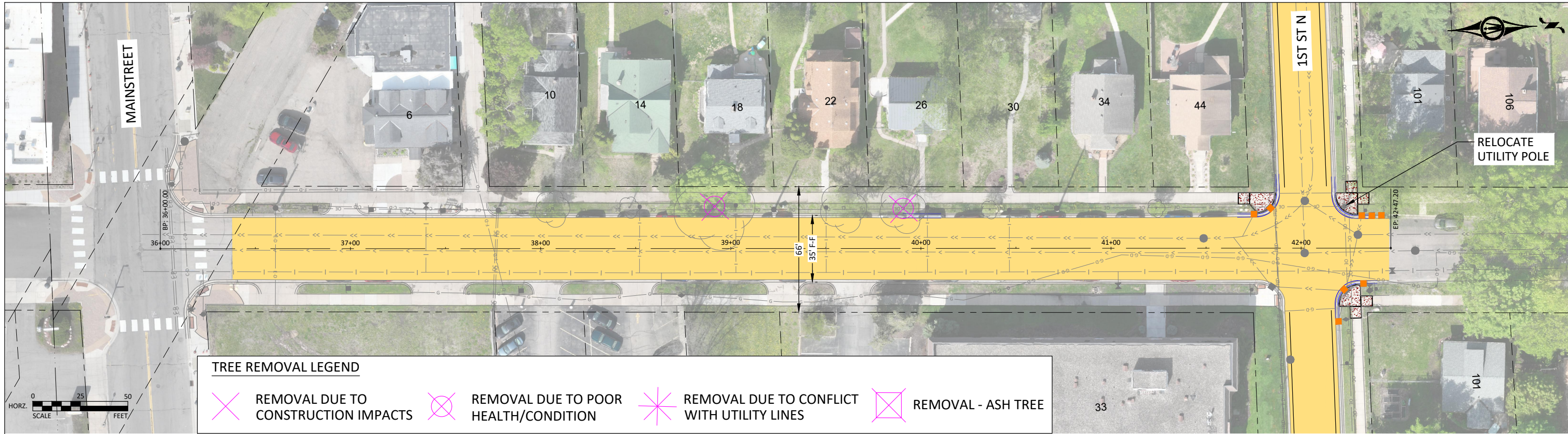
TREE REMOVAL LEGEND

✕ REMOVAL DUE TO CONSTRUCTION IMPACTS

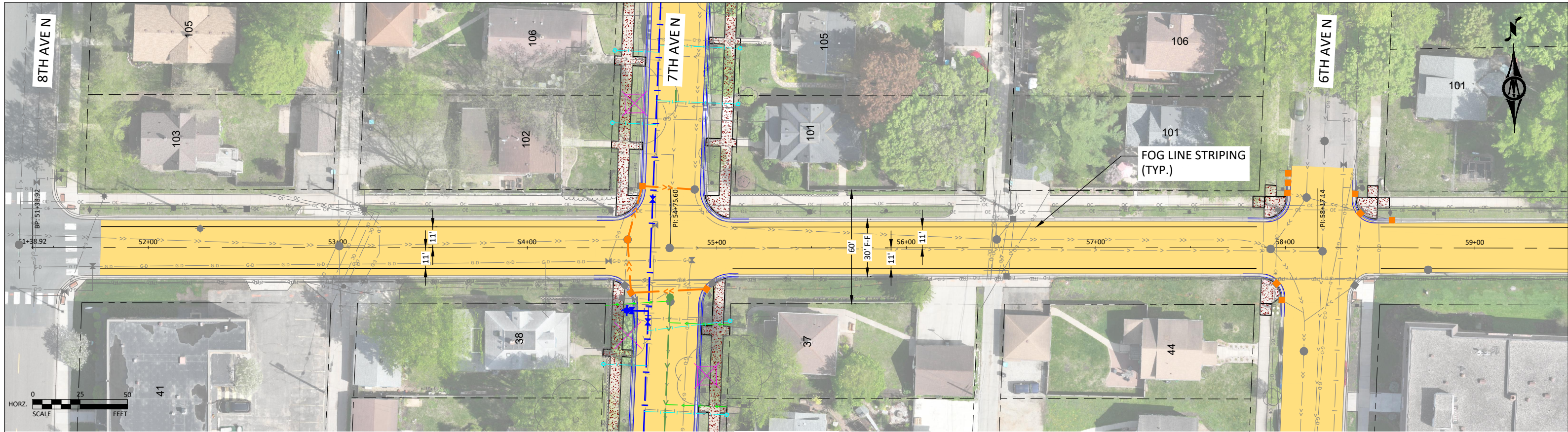
⊗ REMOVAL DUE TO POOR HEALTH/CONDITION

✱ REMOVAL DUE TO CONFLICT WITH UTILITY LINES

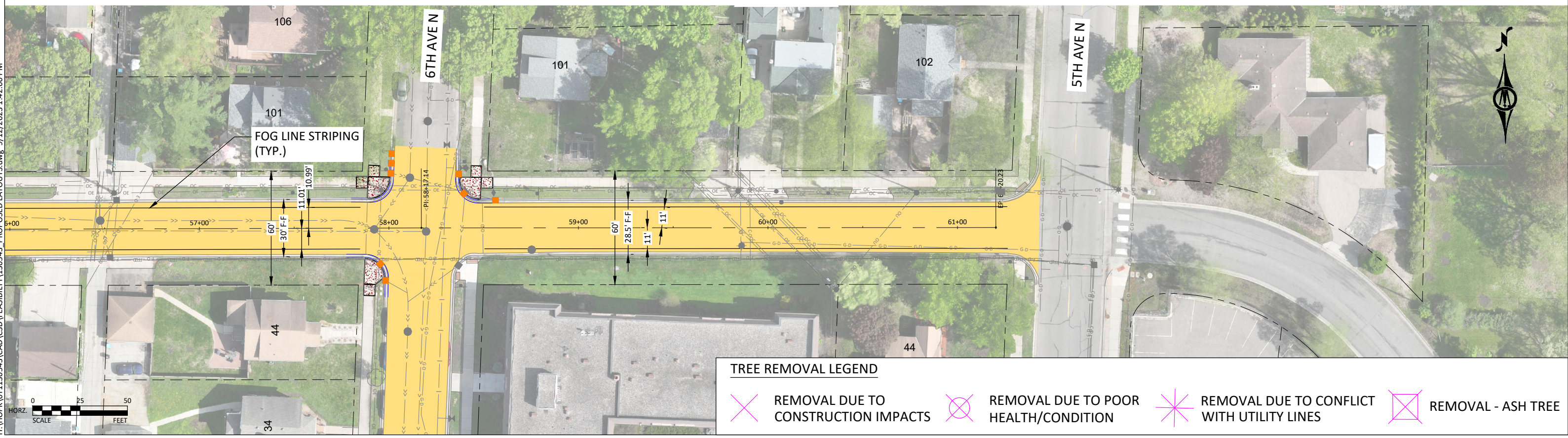
⊠ REMOVAL - ASH TREE



6TH AVE N




1ST ST N



TREE REMOVAL LEGEND

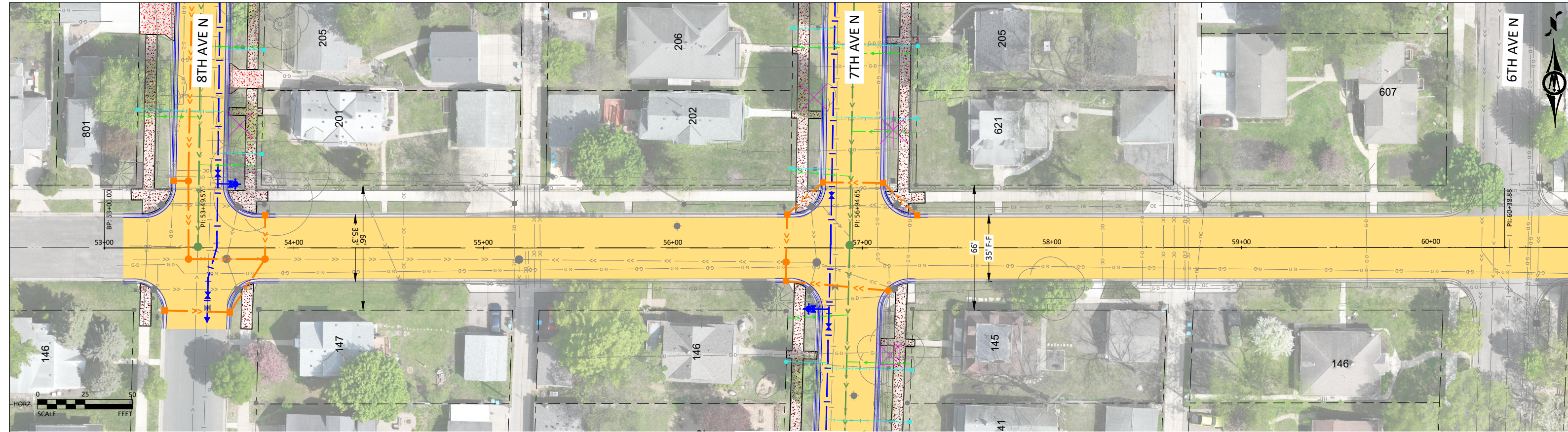
 REMOVAL DUE TO CONSTRUCTION IMPACTS

 REMOVAL DUE TO POOR HEALTH/CONDITION

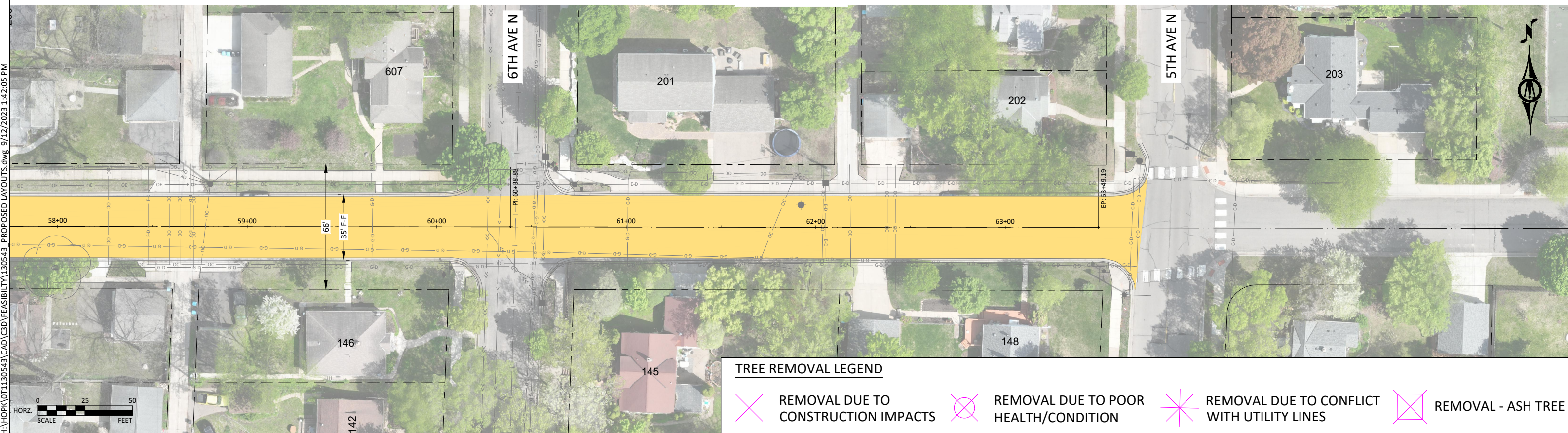
 REMOVAL DUE TO CONFLICT WITH UTILITY LINES

 REMOVAL - ASH TREE


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2ND ST N

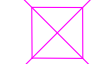


TREE REMOVAL LEGEND

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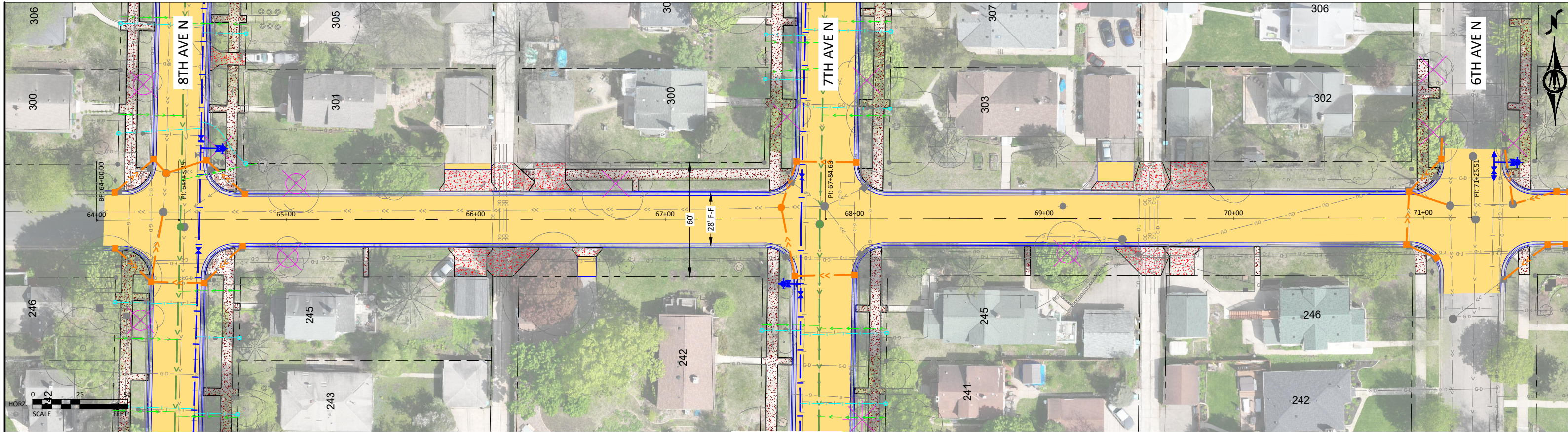
REMOVAL DUE TO CONSTRUCTION IMPACTS
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REMOVAL DUE TO POOR HEALTH/CONDITION
- 

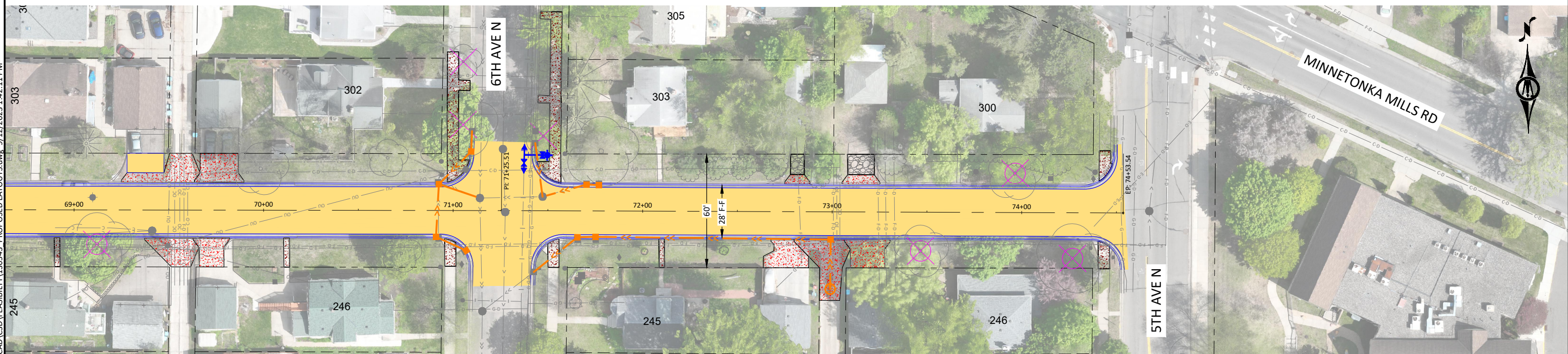
REMOVAL DUE TO CONFLICT WITH UTILITY LINES
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REMOVAL - ASH TREE

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3RD ST N



TREE REMOVAL LEGEND

 REMOVAL DUE TO CONSTRUCTION IMPACTS

 REMOVAL DUE TO POOR HEALTH/CONDITION

 REMOVAL DUE TO CONFLICT WITH UTILITY LINES

 REMOVAL - ASH TREE

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Appendix C: Preliminary Assessment Roll

PRELIMINARY ASSESSMENT ROLL

2024 CENTRAL AVENUES IMPROVEMENTS

CITY OF HOPKINS, MN

CITY PROJECT NO. 2023-010

BMI PROJECT NO. OT1.130543

PID	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2411722130040	607 2ND STREET NORTH	MATTHEW SLAMA	607 2ND ST N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130041	621 2ND STREET NORTH	EDWARD T GIWOYNA	621 2ND ST N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130085	801 2ND STREET NORTH	TYLER DALE BREN	801 2ND ST N	HOPKINS MN 55343		\$ 1,284.14	\$ 1,675.00	\$ 1,600.00	\$ 4,559.14
2411722130020	202 5TH AVENUE NORTH	MATTHEW BRADLEY MILLER	SARAH BRIANNE STOUT MILLER	202 5TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130019	206 5TH AVENUE NORTH	NANCY LYNNETTE MILLER	206 5TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130018	210 5TH AVENUE NORTH	BRUCE G THIES	210 5TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130017	214 5TH AVENUE NORTH	MARY STONE	217A ASBURY ST	HOUSTON TX 77007		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130016	218 5TH AVENUE NORTH	LINDA K WELSCH	1383 HWY 58	P.O. BOX 187	DANNEBROG NE 68831	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130015	222 5TH AVENUE NORTH	DAVID D BARTEN	KRISTINA M BARTEN	222 5TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130014	226 5TH AVENUE NORTH	D J DOLINA & A E DOLINA	226 5TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130013	230 5TH AVENUE NORTH	JUSTIN WINZENBURG	JILL WINZENBURG	230 5TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130012	234 5TH AVENUE NORTH	SUSAN J OWEN	BASIL A OWEN III	234 5TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130011	238 5TH AVENUE NORTH	ANNETTE R WELLS	238 5TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130010	242 5TH AVENUE NORTH	JOHN M AHLFS	242 5TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130009	246 5TH AVENUE NORTH	HERBERT H & FRANCES L HESCH	246 N 5TH AVE	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130145	300 5TH AVENUE NORTH	DAKARAI K BROWN	LAURA A BROWN	300 5TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130021	201 6TH AVENUE NORTH	JOSEPH F RINALDI III	201 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130022	209 6TH AVENUE NORTH	KATLYN MALAM & DANIEL MALAM	209 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130039	210 6TH AVENUE NORTH	KELLY E LAMB	210 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130038	214 6TH AVENUE NORTH	JEANNE TERHAAR	214 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130023	215 6TH AVENUE NORTH	TIMOTHY PAUL HOFFMAN	215 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130024	221 6TH AVENUE NORTH	MICHAEL J ESTOMBA	221 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130037	224 6TH AVENUE NORTH	CHRISTOPHER M VENJOHN	NATALYA SHARMA VENJOHN	224 6TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130025	225 6TH AVENUE NORTH	GLORIA J CONNOR	225 6TH AVE NO	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130036	226 6TH AVENUE NORTH	LISA M LARSON	226 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130026	229 6TH AVENUE NORTH	KEVIN R WEHBER	RACHEL A WEHBER	229 6TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130035	230 6TH AVENUE NORTH	ANTONIA E CELESTINE BARLAGE	ANDRW ROBERT BARLAGE	230 6TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130027	233 6TH AVENUE NORTH	MICHAEL T & INGRID Y BROWN	233 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130034	234 6TH AVENUE NORTH	CHARLES E DORN	234 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130028	237 6TH AVENUE NORTH	GREGORY V CHAMBERLIN	237 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130033	238 6TH AVENUE NORTH	LAURIE R ERICKSON	238 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130029	241 6TH AVENUE NORTH	STEVEN J & JULIE B HRUSKA	241 6TH AVE N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130032	242 6TH AVENUE NORTH	ZACHARY E LEIRDAHL	AKEXANDRA K NAAS	242 6TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130030	245 6TH AVENUE NORTH	JOSHUA J DOBBINS	MICHELLE L DOBBINS	245 6TH AVE N	HOPKINS MN 55343	\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130031	246 6TH AVENUE NORTH	DOUGLAS NHIE NGUYEN	246 6TH AV N	HOPKINS MN 55343		\$ 3,784.54	\$ -	\$ -	\$ 3,784.54
2411722130138	302 6TH AVENUE NORTH	AMBER L RISHAVY	302 6TH AVE N	HOPKINS MN 55343		\$ 1,504.59	\$ -	\$ -	\$ 1,504.59
2411722130146	303 6TH AVENUE NORTH	SAMUEL OSTLUND	JULIA OSTLUND	303 6TH AVE N	HOPKINS MN 55343	\$ 1,504.59	\$ -	\$ -	\$ 1,504.59
2411722420035	11 7TH AVENUE NORTH	A E & M PROPERTIES LLC	8320 KELZER POND DR	VICTORIA MN 55386		\$ 6,963.84	\$ 3,850.00	\$ 3,200.00	\$ 14,013.84
2411722420034	13 7TH AVENUE NORTH	A E & M PROPERTIES LLC	8320 KELZER POND DR	VICTORIA MN 55386		\$ 5,200.86	\$ 1,675.00	\$ 1,600.00	\$ 8,475.86
2411722420036	17 7TH AVENUE NORTH	RAELA SCHOENHERR	17 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420047	18 7TH AVENUE NORTH	KYLIE E SWANSON	18 7TH AV N	HOPKINS MN 55343		\$ 7,960.50	\$ 1,675.00	\$ 1,600.00	\$ 11,235.50
2411722420037	21 7TH AVENUE NORTH	ERIC WERGIN	21 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420046	22 7TH AVENUE NORTH	MICHAEL R PETERSEN	22 7TH AVE N	HOPKINS MN 55343		\$ 3,608.76	\$ 1,675.00	\$ 1,600.00	\$ 6,883.76
2411722420038	25 7TH AVENUE NORTH	JAMES SEALE & KATE SEALE	25 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420045	26 7TH AVENUE NORTH	KIRSTEN S EICKENBERG	26 7TH AVE N	HOPKINS MN 55343		\$ 6,368.40	\$ 1,675.00	\$ 1,600.00	\$ 9,643.40
2411722420039	29 7TH AVENUE NORTH	TINA M WATTS/DANIEL J WATTS	29 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420044	30 7TH AVENUE NORTH	KATHLEEN J HINES	JOHN HINES III	30 7TH AVE N	HOPKINS MN 55343	\$ 4,245.60	\$ 1,675.00	\$ 1,600.00	\$ 7,520.60
2411722420040	33 7TH AVENUE NORTH	ANDREW & ELIZABETH FISCHER	33 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420043	34 7TH AVENUE NORTH	ROBERT D ROSSBOROUGH	34 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420041	37 7TH AVENUE NORTH	CLIFFORD A & TONI M TALLMAN	37 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420042	38 7TH AVENUE NORTH	DALE & JEAN SEARLES	38 7TH AVE NO	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420139	101 7TH AVENUE NORTH	AMY N & JON BAUGH	101 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ -	\$ -	\$ 5,307.00
2411722420114	102 7TH AVENUE NORTH	MICHAEL JULES ERICKSON	102 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00

PRELIMINARY ASSESSMENT ROLL

2024 CENTRAL AVENUES IMPROVEMENTS

CITY OF HOPKINS, MN

CITY PROJECT NO. 2023-010

BMI PROJECT NO. OT1.130543

PID	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2411722420140	105 7TH AVENUE NORTH	MEAGAN MCMAHAN	105 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420113	106 7TH AVENUE NORTH	MATTHEW S HANSON	KATIE C HANSON	4200 SHADY OAK RD S	MINNETONKA MN 55343	\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420141	109 7TH AVENUE NORTH	MICHAEL D ESSEN	109-7TH AVE NO	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420112	110 7TH AVENUE NORTH	MRS ROBERT (KATHLEEN) CASHIN	110 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420142	113 7TH AVENUE NORTH	DEAN E EMPANGER	113 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420111	114 7TH AVENUE NORTH	MARK E DOBBINS	SARA L KRILEWSKI	114 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420143	117 7TH AVENUE NORTH	THEODORE M & SUSAN J JOHNSON	117 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420110	118 7TH AVENUE NORTH	118 HOPKINS LLC	535 EVERGREEN LA N	PLYMOUTH MN 55441		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420144	121 7TH AVENUE NORTH	MICHAEL OPHEIM/CARRIE OPHEIM	121 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420109	122 7TH AVENUE NORTH	SHAWN B & SUE R NORMANDIN	122 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ -	\$ 6,982.00
2411722420145	125 7TH AVENUE NORTH	JOHN R & LORETTA WOODSTROM	125 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420108	126 7TH AVENUE NORTH	RYAN M FITZGERALD	126 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420146	129 7TH AVENUE NORTH	JACQUES A & CHERYL L YOUAKIM	129 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420107	130 7TH AVENUE NORTH	DYLAN BARNES-HANSEN	JOCELYN BARNES-HANSEN	130 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420147	133 7TH AVENUE NORTH	COLLEEN M JENSEN	133 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420106	134 7TH AVENUE NORTH	LAUREN PANZER	134 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420148	137 7TH AVENUE NORTH	RONALD D & SHERI L SALARGO	137 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420105	138 7TH AVENUE NORTH	COLE NIELSEN	138 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420149	141 7TH AVENUE NORTH	BRANDON L WILLS	JESSICA E WILLS	141 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420104	142 7TH AVENUE NORTH	ROGER G KUMM	142 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722420150	145 7TH AVENUE NORTH	NICOLE FORSYTHE	CHRISTOPHER FORSYTHE	146 7TH AVE N	HOPKINS MN 55343	\$ 5,200.86	\$ 1,675.00	\$ 1,600.00	\$ 8,475.86
2411722420103	146 7TH AVENUE NORTH	NICOLE E FORSYTHE	CHRISTOPHER M FORSYTHE	146 7TH AVE N	HOPKINS MN 55343	\$ 5,200.86	\$ 1,675.00	\$ 1,600.00	\$ 8,475.86
2411722130063	202 7TH AVENUE NORTH	TIMOTHY W COATS	202 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130042	205 7TH AVENUE NORTH	LORI BARON	2081 MEETING STREET	WAYZATA MN 55391		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130062	206 7TH AVENUE NORTH	JOEY A WIRTH	20885 CHANNEL DR	GREENWOOD MN 55331		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130043	209 7TH AVENUE NORTH	THOMAS C RUSTAD	CODY M RUSTAD	209 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130061	210 7TH AVENUE NORTH	ANNA VLADIMIROVNA BULOCHNIK	YEVGENY BULOCHNIK	210 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130044	213 7TH AVENUE NORTH	KARIN L VAVRICHEK	213 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130060	214 7TH AVENUE NORTH	LINDSEY CHIPKA	214 7TH AVE N	HOPKINS MN 55343		\$ 5,625.42	\$ 1,675.00	\$ 1,600.00	\$ 8,900.42
2411722130045	217 7TH AVENUE NORTH	KELLY D HEIKKILA	217 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130059	218 7TH AVENUE NORTH	SCOTT A BARTELLS	STEPHANIE A BARTELLS	218 7TH AVE N	HOPKINS MN 55343	\$ 4,776.30	\$ 1,675.00	\$ 1,600.00	\$ 8,051.30
2411722130046	221 7TH AVENUE NORTH	DEBRAH W & JAMES A GENELLIE	221 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130058	222 7TH AVENUE NORTH	PATRICK TIMMERS	ELLEN TIMMERS	222 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130047	225 7TH AVENUE NORTH	JOHN & MARJORIE RACKLIFFE	225 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130057	226 7TH AVENUE NORTH	GILI MUSSMAN	RILEY PETERSON	226 7TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130048	229 7TH AVENUE NORTH	PETER M AMES & AMY J AMES	229 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130056	232 7TH AVENUE NORTH	YUNSHA HE & YING CHEN	1661 WEST 63RD STREET	EXCELSIOR MN 55331		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130049	233 7TH AVENUE NORTH	PAOLO LOVAGNINI	233 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130055	234 7TH AVENUE NORTH	BETH A BEATTY	234 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130050	237 7TH AVENUE NORTH	JULIE ANN BOEHMER	237 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130054	238 7TH AVENUE NORTH	MELODIE BARD	238 7TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130051	241 7TH AVENUE NORTH	VICTORIA/R BENJAMIN TWOGOOD	241 7TH AVE N	HOPKINS MN 55343		\$ 4,776.30	\$ 1,675.00	\$ 1,600.00	\$ 8,051.30
2411722130053	242 7TH AVENUE NORTH	CRAIG BAUNE	242 7TH AVE N	HOPKINS MN 55343		\$ 9,552.60	\$ 1,675.00	\$ 1,600.00	\$ 12,827.60
2411722130052	245 7TH AVENUE NORTH	EDITH M BEECHER	245 7TH AVE N	HOPKINS MN 55343		\$ 4,776.30	\$ 1,675.00	\$ 1,600.00	\$ 8,051.30
2411722130124	300 7TH AVENUE NORTH	LAURA SADLER	300 7TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130139	303 7TH AVENUE NORTH	JUNIPER LAND TRUST LLC	5576 BRISTOL LANE	MINNETONKA MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130123	304 7TH AVENUE NORTH	GINGER LYNN WORWA	304 7TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130140	307 7TH AVENUE NORTH	HEINZ RICHTER & MONIKA KOPEC	307 7TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130141	309 7TH AVENUE NORTH	CHRISTOPHER J GILSON	TERRI G GILSON	309 7TH AVE N	HOPKINS MN 55343	\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130122	310 7TH AVENUE NORTH	MARK C JONES	310 7TH AVE N	HOPKINS MN 55343		\$ 3,171.27	\$ 1,675.00	\$ 1,600.00	\$ 6,446.27
2411722130142	313 7TH AVENUE NORTH	JERALD P & GAYLE L SEABERG	313 7TH AVE NO	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130121	314 7TH AVENUE NORTH	MARSHALL DAVIS	314 7TH AVE N	HOPKINS MN 55343		\$ 1,154.61	\$ 1,675.00	\$ 1,600.00	\$ 4,429.61
2411722130120	316 7TH AVENUE NORTH	ROSE KELLY	316 7TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87

PRELIMINARY ASSESSMENT ROLL

2024 CENTRAL AVENUES IMPROVEMENTS

CITY OF HOPKINS, MN

CITY PROJECT NO. 2023-010

BMI PROJECT NO. OT1.130543

PID	PROPERTY ADDRESS	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2411722130143	321 7TH AVENUE NORTH	KAYLA N SAUVE	321 7TH AVE N	HOPKINS MN 55343		\$ 10,262.68	\$ 1,675.00	\$ 1,600.00	\$ 13,537.68
2411722130119	322 7TH AVENUE NORTH	MARK & TIPHANIE DIRNBERGER	322 7TH AVE N	HOPKINS MN 55343		\$ 2,640.57	\$ 1,675.00	\$ 1,600.00	\$ 5,915.57
2411722130118	326 7TH AVENUE NORTH	LINDA A ELIE	326 7TH AVE N	HOPKINS MN 55343		\$ 2,852.85	\$ 1,675.00	\$ 1,600.00	\$ 6,127.85
2411722130064	201 8TH AVENUE NORTH	ELLEN VONDENKAMP	201 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130065	205 8TH AVENUE NORTH	HEIDI A HANSCHU	205 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130066	209 8TH AVENUE NORTH	HEATHER BUESSELER	209 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130084	210 8TH AVENUE NORTH	JUSTIN P DOYLE	CLAIRE C DOYLE	210 8TH AVE N	HOPKINS MN 55343	\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130067	213 8TH AVENUE NORTH	TIMOTHY SNYDER	JOY SNYDER	213 8TH AVE N	HOPKINS MN 55343	\$ 7,960.50	\$ 1,675.00	\$ 1,600.00	\$ 11,235.50
2411722130083	214 8TH AVENUE NORTH	BARBARA J WEAVER	214 8TH AVE N	HOPKINS MN 55343		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130082	218 8TH AVENUE NORTH	ALLISON WACHUTKA	218 8TH AVE N	HOPKINS MN 55343		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130068	221 8TH AVENUE NORTH	CURTIS D & KRISTA J DEDERICH	221 8TH AVE N	HOPKINS MN 55343		\$ 7,960.50	\$ 1,675.00	\$ 1,600.00	\$ 11,235.50
2411722130081	222 8TH AVENUE NORTH	JOSEPH R/DIANNA L DIPALERMO	222 8TH AVE N	HOPKINS MN 55343		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130069	225 8TH AVENUE NORTH	KEVIN NEWBERGER	CARLY MYRDAL	225 8TH AVE N	HOPKINS MN 55343	\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130080	226 8TH AVENUE NORTH	S & L MCSPADDEN	226 8TH AVE N	HOPKINS MN 55343		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130070	229 8TH AVENUE NORTH	LAURA A MESTLER	229 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130079	230 8TH AVENUE NORTH	JEFFREY L URBAN	SUSAN W URBAN	230 8TH AVE N	HOPKINS MN 55343	\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130071	233 8TH AVENUE NORTH	ERIK R HENRICKSEN	233 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130078	234 8TH AVENUE NORTH	BRANDON HAYES/JOURDAN HAYES	234 8TH AVE N	HOPKINS MN 55343		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130072	237 8TH AVENUE NORTH	GLENN M PRIEST	237 8TH AVE N	HOPKINS MN 55343		\$ 5,307.00	\$ 1,675.00	\$ 1,600.00	\$ 8,582.00
2411722130077	238 8TH AVENUE NORTH	STEREME LLC	2601 CASCO PT RD	WAYZATA MN 55391		\$ 2,027.12	\$ 1,675.00	\$ 1,600.00	\$ 5,302.12
2411722130076	242 8TH AVENUE NORTH	TERRY P & LORRI L EISWALD	242 8TH AVE N	HOPKINS MN 55343		\$ 1,496.42	\$ 1,675.00	\$ 1,600.00	\$ 4,771.42
2411722130073	243 8TH AVENUE NORTH	HIEN M LU & VAN THUY VUONG	243 8TH AVE N	HOPKINS MN 55343		\$ 4,776.30	\$ 1,675.00	\$ 1,600.00	\$ 8,051.30
2411722130074	245 8TH AVENUE NORTH	DAVID B LENTZ	245 8TH AVE N	HOPKINS MN 55343		\$ 4,670.16	\$ 1,675.00	\$ 1,600.00	\$ 7,945.16
2411722130075	246 8TH AVENUE NORTH	MOLLY LONG & DAVID LOVETT	246 8TH AVE N	HOPKINS MN 55343		\$ 1,390.28	\$ 1,675.00	\$ 1,600.00	\$ 4,665.28
2411722130108	300 8TH AVENUE NORTH	MARY B LAUER	300 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130125	301 8TH AVENUE NORTH	PAMELA J KOLLODGE	BLAIR CROCKETT	301 8TH AVE N	HOPKINS MN 55343	\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130126	305 8TH AVENUE NORTH	ELIZABETH S CLEARY	305 8TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130107	306 8TH AVENUE NORTH	MARY ELLEN GABRIELE	7710 CORCORAN TRL W	CORCORAN MN 55340		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130127	309 8TH AVENUE NORTH	JOSH REDIGER	LARRY S REDIGER	309 8TH AVE N	HOPKINS MN 55343	\$ 1,579.17	\$ 1,675.00	\$ 1,600.00	\$ 4,854.17
2411722130106	310 8TH AVENUE NORTH	RONALD J HELGESON	310 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130105	314 8TH AVENUE NORTH	JOSHUA DEAN ZUZEK	ELIZABETH RUTH ZUZEK	314 8TH AVE N	HOPKINS MN 55343	-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130128	315 8TH AVENUE NORTH	MICHAEL S CRANE	SARAH L REEH-CRANE	315 8TH AVE N	HOPKINS MN 55343	\$ 2,640.57	\$ 1,675.00	\$ 1,600.00	\$ 5,915.57
2411722130129	317 8TH AVENUE NORTH	CHARLES M PLUNKETT	DEBRA P PLUNKETT	317 8TH AVE N	HOPKINS MN 55343	\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130104	318 8TH AVENUE NORTH	BRIAN J/JACQUELINE L O HUNKE	318 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130130	321 8TH AVENUE NORTH	HEIDI J HEMMEN	321 8TH AVE N	HOPKINS MN 55343		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130103	324 8TH AVENUE NORTH	JAMES JAECKELS	NANCY JAECKELS	324 8TH AVE N	HOPKINS MN 55343	\$ 4,776.30	\$ 1,675.00	\$ 1,600.00	\$ 8,051.30
2411722130131	325 8TH AVENUE NORTH	AMY	LKT PROPERTIES LLC	405 12TH AVE N	HOPKINS MN 55343	\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130132	329 8TH AVENUE NORTH	TODD KING & COLLEEN KING	6045 BRAND CIR	EXCELSIOR MN 55331		\$ 2,109.87	\$ 1,675.00	\$ 1,600.00	\$ 5,384.87
2411722130102	330 8TH AVENUE NORTH	JANELA & THEODORE EHRLICH	330 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130133	333 8TH AVENUE NORTH	MICHAEL J MOULTON	333 8TH AVE N	HOPKINS MN 55343		\$ 4,444.95	\$ 1,675.00	\$ 1,600.00	\$ 7,719.95
2411722130101	334 8TH AVENUE NORTH	CYPRIAN R TROYER	334 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
2411722130100	338 8TH AVENUE NORTH	JEAN HAMMOND	338 8TH AVE N	HOPKINS MN 55343		-	\$ 1,675.00	\$ 1,600.00	\$ 3,275.00
PRELIMINARY TOTAL AMOUNT TO BE ASSESSED									\$ 953,722.18

Appendix D: Resident Questionnaires & Neighborhood Meetings



CITY OF HOPKINS

PUBLIC WORKS-ENGINEERING DIVISION

2024 CENTRAL AVENUES IMPROVEMENTS QUESTIONNAIRE

PLEASE EMAIL TO NICK AMATUCCIO: NICKAM@BOLTON-MENK.COM BY: AUGUST 18, 2023

QUESTIONNAIRES CAN ALSO BE MAILED TO NICK AT 12224 NICOLLET AVE, BURNSVILLE, MN 55337

Street and utility improvements are proposed in your neighborhood for 2024. This questionnaire is a valuable resource for the City in identifying issues to receive attention. Your comments are greatly appreciated.

1. DRAINAGE

Have you observed standing water in the street or your front yard after a significant rain? If so, where is it located?

2. SANITARY SEWER, please indicate 'yes' with an X as applicable:

We have NOT experienced problems with our sanitary sewer service.

We have experienced problems or replaced our sewer service. Please describe:

3. WATERMAIN, please indicate 'yes' with an X as applicable:

We have NOT experienced problems with our water service.

We have experienced problems or replaced our water service. Please describe:

4. PEDESTRIAN SAFETY & FACILITIES

Are there any areas of concern with respect to pedestrian safety? If so, where?

5. IRRIGATION SYSTEM / INVISIBLE FENCE, please indicate 'yes' with an X as applicable:

Yes, we have an irrigation system. Yes, we have an invisible pet fence.

6. TREES / LANDSCAPING

Do you have concerns about the condition of trees or potential impacts to landscaping in your front yard? If so, describe.

7. GENERAL COMMENTS / QUESTIONS

Please describe any issues you suggest be considered as part of this project:

The following information is optional but is useful if we have a question about your responses:

Name: _____ Phone #: _____

Address: _____ Email: _____

THANK YOU FOR YOUR RESPONSE!

Should you have any questions please contact Eric Klingbeil, City Engineer, at 952-548-6357 or eklingbeil@hopkinsmn.com or Nick Amatuccio at 612-965-3926 or nickam@bolton-menk.com



City of Hopkins
 2024 Central Avenues Improvements
 Neighborhood Meeting 1



Time: 5:30 PM
 Date: September 13, 2023
 Location: Hopkins City Hall
 Hopkins, MN

Name	Address	Phone and/or Email
Tresca Allsman	237 6th Ave N	612-850-9405 / tresca_allsman@yahoo.com
Mark E. Dobbins	114 7th Ave N	952-807-7766 / dobbinsme@comcast.net
Sue Johnson	117 7th Ave N	952-935-4028 / tsjohnson7@earthlink.net
Dale & Jean Searle	38 7th Ave N	952-412-4727 / burmugo@comcast.net
Curt & Krista Dederich	221 8th Ave N	952-927-0686 / goodnightkourt@earthlink.net
Andrew Fischer	33 7th Ave N	612-743-2253 / andrew@apastron.co
Brandon Wills	141 7th Ave N	815-297-7816
Gayle Seaberg	313 7th Ave N	612-386-3581 / icteeth@comcast.net
David Lentz (Zoom Online)		
Maureen Davis (Zoom Online)		
Scott McSpadden (Zoom Online)		
Mike Essen (Zoom Online)		
Jacques Youakim (Zoom Online)		
Susan Clark (Zoom Online)		



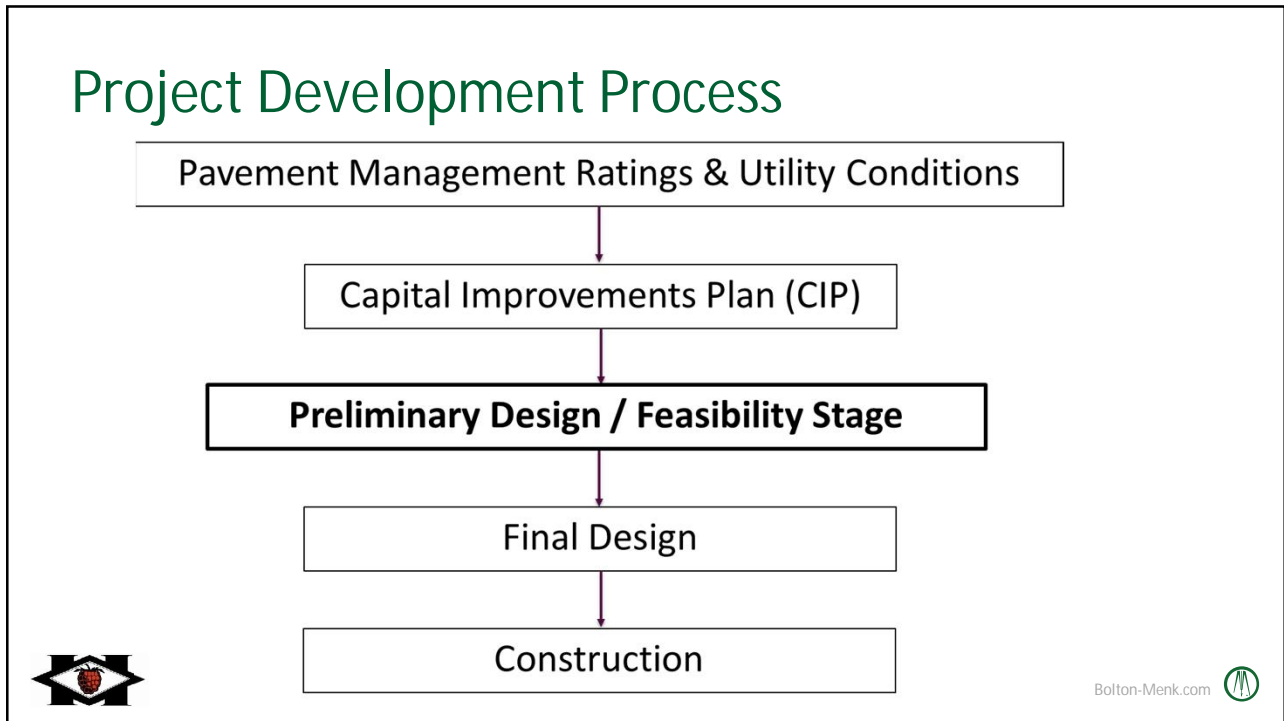
Neighborhood Meeting #1 2024 Central Avenues Improvements

City of Hopkins
September 13, 2023



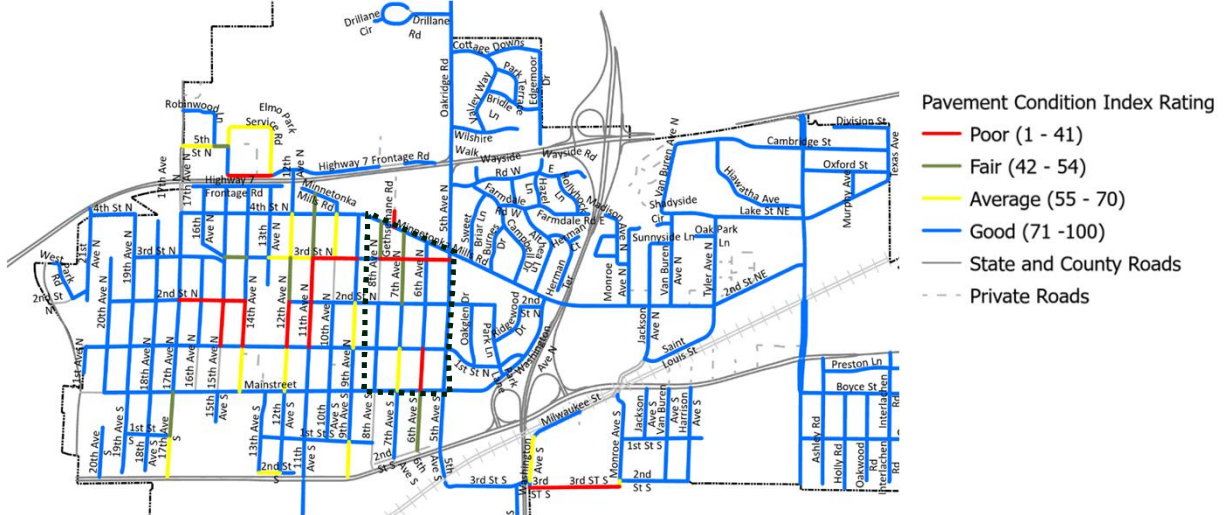
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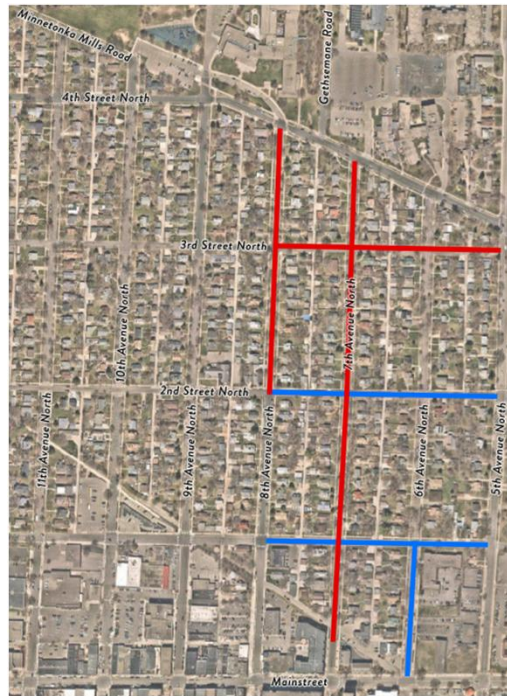
Pavement Condition Map 2022



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3

Project Area



Legend 

Project Locations

-  Street & Utility Reconstruction Project Area
-  Pavement Resurfacing Project Area

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Resident Questionnaire Summary

42 Questionnaires Received (25% of the Neighborhood)

Most Common Responses:

- Uneven sidewalks with standing water and ice build up in the winter
 - Existing sidewalks to be replaced on 7th Ave N and 8th Ave N with adequate grade for drainage and safety
- Drainage issues in the street and curb throughout the neighborhood
 - New curb and gutter and additional storm sewer catch basins as needed to improve drainage
- Sidewalk requested on 3rd St N
 - Project team will be reaching out to and coordinating with 3rd St N residents to gauge level of interest in adding a sidewalk
- 4-way stop signs requested at 7th Ave N/1st St N and other intersections throughout the neighborhood
 - Traffic analysis completed at 7th Ave/1st St N intersection and 4-way stop signs are not warranted due to low traffic volumes
 - Pedestrian analysis also completed and no additional pedestrian crossing features are needed
- Some overgrown and unhealthy trees throughout the neighborhood
 - Trees within the boulevard and City right-of-way have been and will continue to be evaluated by the project team and the City Forester to determine trees that need to be removed as part of the project
- Protect healthy trees throughout the neighborhood
 - The project team will try to protect and save as many healthy trees as possible, but this is not always feasible



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Street Improvements



Existing & Proposed Street Widths		
Street Segment	Existing Width	Proposed Width
8 th Ave N, 2 nd St N to Mtka Mills Rd	31'	28'
7 th Ave N, HCRRA Alley to 1 st St N	35.4'	35'
7 th Ave N, 1 st St N to Mtka Mills Rd	35' - 36'	32'
3 rd St N, 5 th Ave N to 8 th Ave N	29.5'	28'
6 th Ave N, Mainstreet to 1 st St N	Reclaim & Resurface	
1 st St N, 5 th Ave N to 8 th Ave N	Mill & Overlay	
2 nd St N, 5 th Ave N to 8 th Ave N	Mill & Overlay	



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Drainage Improvements – Storm Sewer



- Legend
- Project Area
 - Drainage Issues & Improvements

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Utility Improvements – Sanitary Sewer



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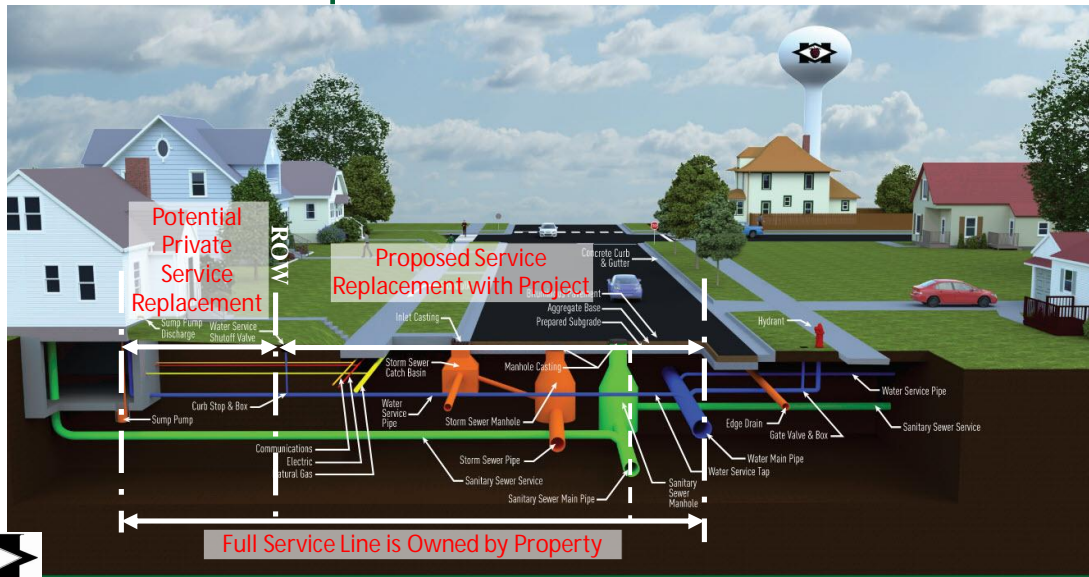
Utility Improvements – Watermain



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Service Line Replacement



10

Boulevard Trees

Trees may be removed for one of the following reasons:

- Susceptible to disease or invasive species – Ash trees
- Poor condition – Dead, dying, leaning, etc.
- Conflict with utilities (Sewer and Water lines)
- Conflict with road construction or grading

Trees that are removed will be replaced with a tree at the end of the project



Source: extension.umn.edu/tree-and-shrub-insects/emerald-ash-borers



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Special Assessment Policies

- Assessments are proposed for all reconstructed streets (7th Ave N, 8th Ave N, and 3rd St N)
 - No assessments for pavement resurfacing/maintenance work (6th Ave N, 1st St N, 2nd St N)
- Streets (Street Assessment)
 - 70% of the total street improvement cost
 - Varies for each property based on front footage
 - Front foot rate subject to cap
 - Streets with no adjacent property addresses (3rd St N) will be distributed one block north and south
- Utility Mains
 - No Assessments
- Utility Services (Utility Assessment)
 - 50% of as-bid, actual service costs for residential properties
 - 100% of as-bid, actual service costs for commercial properties
- Total Assessment = Utility Assessment + Street Assessment



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Special Assessment Caps

- 2024 Front Foot Rate Cap (Single Family Residential Properties)
 - \$106.14 / front foot
- Front Footage Cap (Single Family Residential Properties)
 - Front footage counted up to 125 feet
- Caps do not apply to commercial properties
 - Benefit Appraisals for these properties – lower amount used (appraisal vs. policy)
- Preliminary Assessment amounts will be mailed to each property receiving an assessment within the next month
 - Prior to Neighborhood Meeting #2 and the Public Improvement Hearing (City Council Meeting)



Project Schedule (2023)

- September 13 – Neighborhood Meeting 1
- Review Existing Conditions, present proposed improvements, collect input
- October 3 – City Council Meeting
- Present Feasibility Report and Council calls for the public hearing
- October 25 – Neighborhood Meeting 2
- Review of proposed improvements, review preliminary assessments, collect input
- November 6 – City Council Meeting
- Council conducts public hearing on improvements and considers ordering final plans



Project Schedule (2024)

- January 16 – City Council Meeting
 - Approve final plans and authorize bidding
- February 9 – Open Bids
- February 20 – City Council Meeting
 - Council orders public hearing on assessments
- Early March (Date TBD) – Neighborhood Meeting 3
 - Review final assessments and plans, discuss construction process, collect input
- March 19 – City Council Meeting
 - Conduct public hearing on assessments and consider adopting assessments
 - Award contract
- May to October – Construction
 - Construction could possibly start in April if weather conditions allow
 - Final punch list and cleanup items may go into November and Spring of 2025



Project Communication

Bolton & Menk Project Website
www.Hopkins-2024.com

Sign up for project updates

To sign up for project updates, please enter your contact information below:

Subscription Type:

Email Address:

Your contact information is used to deliver requested updates or to access your subscriber preferences.

Subscription Type:

Wireless Number:

HOPKINS | MN 2024 CENTRAL AVENUES IMPROVEMENTS

PROJECT SUMMARY PROJECT SCHEDULE PROJECT DOCUMENTS CONSTRUCTION UPDATES FAQ

PROJECT SUMMARY

WHAT IS THE SCOPE OF THE PROJECT?

The project involves street and utility reconstruction improvements including storm sewer, watermain, and sanitary sewer replacement along the following streets:

- 7th Ave N from the Regional Center of Mainstreet to Minnetonka Mills Rd
- 8th Ave N from 2nd St N to Minnetonka Mills Rd
- 3rd St N from 5th Ave N to 8th Ave N

The project also includes the pavement rehabilitation of the following streets:

- 1st St N from 5th Ave N to 8th Ave N
- 2nd St N from 5th Ave N to 8th Ave N

A map of the project area is shown below. The project will be constructed over the summer of 2024 by the City's Contractor.

NEIGHBORHOOD MEETING

ZOOM meeting: Sep 13, 2023 at 05:30 PM

Register Today!

SIGN UP TO RECEIVE UPDATES

Click to subscribe



Project Contacts

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- nickam@bolton-menk.com; 612-965-3926

Eric Klingbeil, P.E. – City Engineer

- eklingbeil@hopkinsmn.com; 952-548-6357



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Thank You! Any Questions?

Nick Amatuccio, PE
Project Manager

Eric Klingbeil, PE
City Engineer



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& MENK**
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Appendix E: Geotechnical Evaluation

Geotechnical Evaluation Report

City of Hopkins 2024 Street and Utility Improvements Project
Hopkins, Minnesota

Prepared for

Bolton & Menk, Inc.

Professional Certification:

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



Brian J. Schreurs, PE
Account Manager, Senior Engineer
License Number: 53147
September 15, 2023



September 15, 2023

Project B2303974

Nick Amatuccio, PE
Bolton & Menk, Inc.
12224 Nicollet Avenue
Burnsville, MN 55337

Re: Proposal for a Geotechnical Evaluation
City of Hopkins 2024 Street and Utility Improvements Project
Hopkins, Minnesota

Dear Mr. Amatuccio:

We are pleased to present this Geotechnical Evaluation for the proposed City of Hopkins 2024 Street and Utility Improvements Project in Hopkins, Minnesota.

Thank you for making Braun Intertec your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Brian Schreurs at 320.241.9965 (bschreurs@braunintertec.com); or Neil Lund at 612.369.3163 (NLund@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION



Brian J. Schreurs, PE
Account Manager, Senior Engineer



Neil G. Lund, PE
Technical Manager, Senior Engineer

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Appendix

Soil Boring and Pavement Core Location Sketch
Log of Boring Sheets ST-1 through ST-8
Log of Hand Auger Boring Sheets C-1 through C-6
Descriptive Terminology of Soil
Pavement Core Photos

A. Introduction

A.1. Project Description

This Geotechnical Evaluation Report addresses the proposed 2024 Street and Utility Improvements Project in Hopkins, Minnesota. Proposed work on the project will include utility replacements and street reconstruction or rehabilitation. Figure 1 shows reconstruction (solid red) and rehabilitation areas (dashed red).

Figure 1. Streets Proposed for Reconstruction and Rehabilitation in 2024

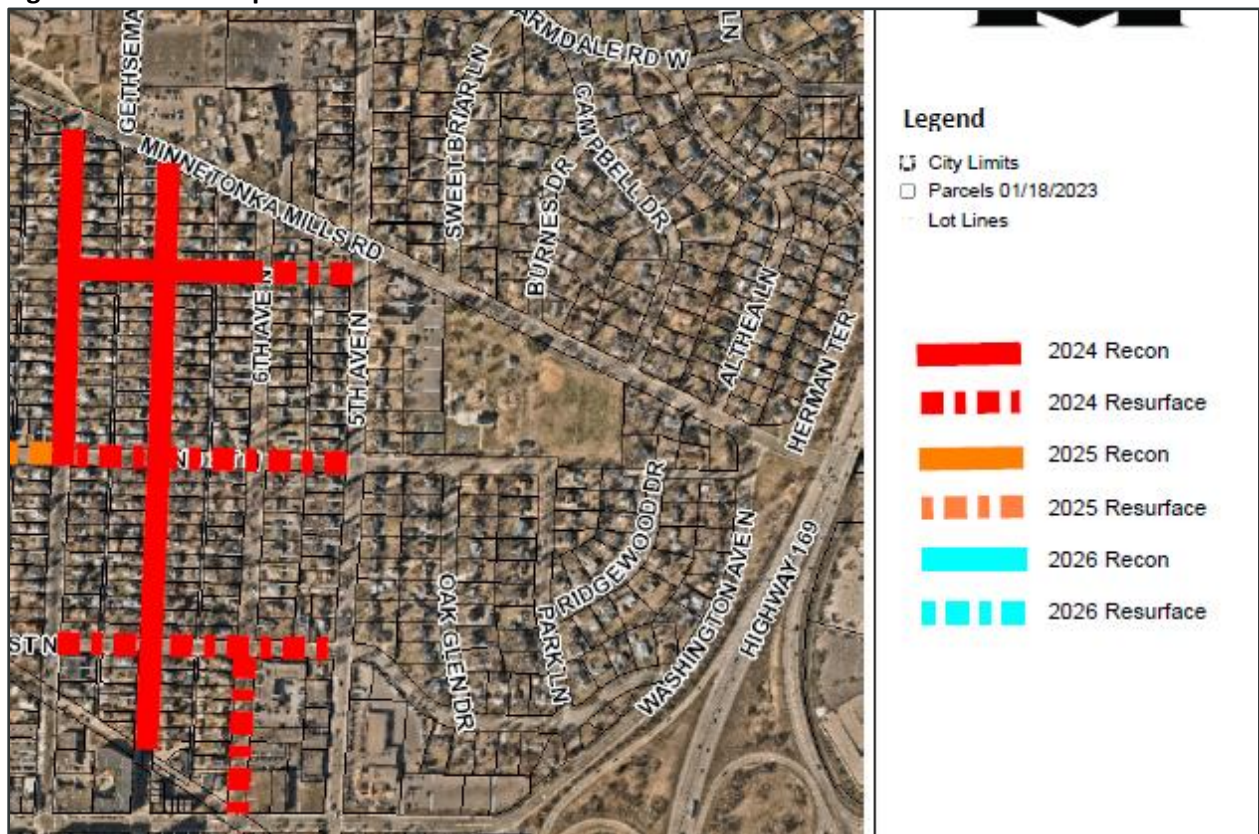


Figure 1 provided by Bolton & Menk, Inc. dated April 10, 2023

Table 1. Project Description – 2024 Street and Utility Improvements Project

Project Component	Description	Source
Pavement type(s)	Bituminous	Assumed based on in-place pavements/City of Hopkins standards
Pavement loads	Residential streets in reconstruction area: 100,000 ESALs	Assumed – traffic data not available
	Rehabilitation area streets: 200,000 ESALs	MnDOT data for 1st Street N (11th Ave N to 8th Ave N) and State Aid ESAL Calculator. Assumed the most recent 2016 count for design with a growth rate of 0.5 percent due to declining historical AADT.
Grade changes	Streets < 1 foot	Assumed
Utilities	Storm sewer, water main and sanitary sewer replacement Maximum utility depth of approximately 15 feet	Bolton & Menk, Inc. (BMI)

We have described our understanding of the proposed construction and site to the extent others reported it to us. Depending on the extent of available information, we may have made assumptions based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, the project team should notify us. New or changed information could require additional evaluation, analyses and/or recommendations.

A.2. Project Area Conditions

A.2.a. Zoning and Site Grades

The in-place streets are bituminous-surfaced with urban sections that include concrete curb and gutter.

The project area shown in Figure 1 above is largely zoned as high-density residential with some businesses mixed in in the southern portion of the project area.

Street grades in the reconstruction area generally increase from south to north at 7th Avenue North, 8th Avenue North and 3rd Street North, with existing ground surface elevations at the boring locations range from 918.7 (ST-6) to 933.1 (ST-3) feet.




Street grades in the rehabilitation area are generally flat along 1st Street North, increase from west to east along 2nd Street North, increase from east to west along 3rd Street North, and increase from south to north along 6th Avenue North. Existing ground surface elevations at the pavement core locations range from 920.6 (C-6) to 929.2 (C-3).


A.2.b. Pavement Surface Conditions (Rehabilitation Area)



In the rehabilitation area shown in Figure 1, pavement surface condition varied from very poor to good. Major distresses included patches, linear cracks, block cracks, edge cracks and fatigue cracks. Table 2 includes a summary of distresses for each block in this area with a qualitative judgement of overall surface condition based on the following general criteria:

- Excellent: Newer pavements with little to no cracking, all of which is non-structural (e.g. only linear thermal cracking). Maintenance requirements include crack seal or a sealcoat.
- Good: relatively new pavements with (typically sealed) linear cracks and isolated structural issues (fatigue cracking, potholes, edge cracking) of low severity. May require isolated patching and somewhat frequent crack sealing.
- Fair: Widespread linear cracking beginning to develop secondary cracks due to lack of maintenance. Structural cracking is somewhat common, occasionally severe, and has previously required patches for repair. The bituminous materials are still mostly intact, and pavements can be repaired by mill and overlay.
- Poor: Frequent maintenance of structural issues is needed. Edges and curblines may be failing and breaking up; most linear cracks are too wide to be sealed. Frequent patches are usually present and there is a loss of bituminous material integrity. Pavements in poor condition can typically be repaired with reclamation or reconstruction.
- Very Poor: Pavements with significant areas of failure, including widespread structural cracking, potholes, and general breakup of the pavement that is too extensive for small-scale patching. Generally requires reconstruction, possibly with significant subgrade soil correction.

Table 2. Pavement Surface Condition Summary

Segment	Condition	Distress Summary	Representative Photo
1st St N – 8th Ave S to 7th Ave S	Good	Transverse cracking, longitudinal cracking	
1st St N – 7th Ave S to 6th Ave S	Poor	Longitudinal cracking, transverse cracking, potholes, patches	
1st St N – 6th Ave S to 5th Ave S	Fair	Linear/block cracking, weathering	

Segment	Condition	Distress Summary	Representative Photo
2nd St N – 8th Ave S to 7th Ave S	Good	Transverse cracks, weathering	
2nd St N – 7th Ave S to 6th Ave S	Good	Transverse cracks, longitudinal cracks	
2nd St N – 6th Ave S to 5th Ave S	Good	Transverse cracks, longitudinal cracks	

Segment	Condition	Distress Summary	Representative Photo
3rd St N – 6th Ave N to 5th Ave N	Poor	Patches, edge cracking, fatigue cracking, frost heave damage, potholes	
6th Ave S – Mainstreet to 1st St N	Very poor	Raveling, potholes, fatigue cracking, patching, longitudinal and transverse cracking	

A.3. Purpose

The purpose of our geotechnical evaluation was to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of the 2024 Street and Utility Improvements Project in the City of Hopkins, Minnesota.

A.4. Background Information and Reference Documents

We reviewed the following information:

- Communications with BMI regarding the proposed street and utility rehabilitation.
- Aerial imagery of the site provided by BMI and available on Google Earth.
- Geologic map *C-45, Part A, Geologic Atlas of Hennepin County, Minnesota* prepared by the Minnesota Geological Survey, dated 2018.

A.5. Scope of Services

We performed our scope of services for the project in accordance with our Proposal for a Geotechnical Evaluation to BMI, dated April 21, 2023. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.
- Staking and coordinating the clearing of the exploration location of underground utilities. We acquired the surface elevations and locations with GPS technology using the State of Minnesota's permanent GPS base station network. The Soil Boring and Pavement Core Location Sketch included in the Appendix shows the approximate locations of the borings and pavement cores.
- Performing eight standard penetration test (SPT) borings, denoted as ST-1 to ST-8, to nominal depths of 14 1/2 to 20 feet below the existing ground surface.
- Backfilling or sealing borings in accordance with Minnesota Department of Health (MDH) requirements.
- Coring and performing hand auger borings for six locations along 1st Street N, 2nd Street N, 3rd Street N, and 6th Avenue S to provide recommendations on the feasibility of mill and overlay, reclamation, or an alternative rehabilitation strategy.

- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.
- Preparing this report containing a boring and pavement core location sketch, logs of soil borings, a summary of the soils encountered, pavement core results (including photos), results of laboratory tests, and recommendations for material selection, subgrade preparation, and pavement and utility designs.

B. Results

B.1. Geologic Overview

Based on the review of geologic information and our experience in the area, soils will mostly consist of existing fill overlying native soils consisting of sand and gravel (glacial outwash).

We based the geologic origins used in this report on the soil types and laboratory testing, and available common knowledge of the geological history of the site. Because of the complex depositional history, geologic origins can be difficult to ascertain. We did not perform a detailed investigation of the geologic history for the site.

B.2. Boring Results

The table below provides a summary of the pavement section we encountered in each boring performed. We did not perform gradation analysis on the apparent aggregate base material encountered as part of the pavement section and cannot conclusively determine if the encountered material satisfies a particular specification. The pavement section thicknesses provided below are the field measured thicknesses and should be considered approximate.

Table 3. Pavement Section Thickness

Boring	Street	Pavement Section (in)	Aggregate Base Section (in)
ST-1	8th Avenue N	3 1/2	4
ST-2		2 1/2	6
ST-3	7th Avenue N	3	3
ST-4		3	4
ST-5		4 1/2	6
ST-6		4	5
ST-7		5	4
ST-8	3rd Street N	4 1/2	2 1/2

The table below provides a summary of the soil boring results, in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheet in Appendix A includes definitions of the abbreviations used in the table below. For simplicity in this report, we define fill to mean existing, uncontrolled or undocumented fill.

Table 4. Subsurface Profile Summary

Strata	Soil Type - ASTM Classification	Range of N-Values	Commentary and Details
Pavement section	---	---	<ul style="list-style-type: none"> See Table 3 above and the Log of Boring Sheets in the Appendix. Drillers noted a petroleum like odor in the apparent aggregate base material indicating this may be treated aggregate base.
Fill	SP-SM, SM, SC, CL	4 to 33	<ul style="list-style-type: none"> Encountered in the borings (except Borings ST-3, ST-4, and ST-7) beneath the pavement materials. Encountered to depths ranging from 4 to 8 feet below the existing ground surface. Fill layers encountered in Borings ST-2 and ST-6 were noted as slightly organic. Generally moist.
Glacial deposits	SP, SP-SM (outwash)	4 to 41	<ul style="list-style-type: none"> Encountered to the termination depth of each boring beneath the fill and the pavement materials in Borings ST-3, ST-4, and ST-7. In general, average N-values recorded in the borings indicate the sands had a loose to medium dense relative density. Variable amounts of gravel; may contain cobbles and boulders. Moisture condition generally moist.
	SM (till)		

B.3. Groundwater

We did not observe groundwater while advancing our borings. It appears based on this and the apparent and tested moisture contents that groundwater is below the depths explored. Project planning should anticipate seasonal and annual fluctuations of groundwater.

B.4. Core and Hand Auger Boring Results

The table below summarizes the pavement cores and hand auger borings performed in the rehabilitation areas shown in Figure 1. A photo log of the cores can be found in the report Appendix.

Table 5. Core and Hand Auger Boring Results

Core Location	Thickness (in)		Base Description	Core Condition	Subgrade Soil Description	Notes
	HMA	Aggregate Base				
C-1	2 3/4	3	Recycled bit	Low-severity stripping	5 3/4 to 36 inches: SP-SM, f-c grained, with gravel, dark brown and brown, moist	
C-2	4 1/2	8 1/2	Crushed limestone	Good condition	13 to 18 inches: SM, f-c grained, with gravel, dark brown, moist 18 to 36 inches: Sandy CL, brown, moist	
C-3	4 1/2	12	Recycled bit	Good condition	16 1/2 to 18 inches: SC, w/gravel, dark brown, moist 18 to 26 inches: SM, f-m grained, w/gravel, dark brown, moist	Refusal at 26 inches
C-4	5 1/2	4 1/2	Recycled bit	Good condition	10-17 inches: SP-SM, f-m grained, w/gravel, brown, moist 17-36 inches: Sandy CL, tr gravel, brown, moist	
C-5	9	--	--	Good condition	9 to 36 inches: SP-SM, f-m grained, w/gravel, brn, moist	No apparent aggregate base; subgrade similar to sand/gravel base
C-6	5	19	Crushed limestone	Debonded at 2 inches deep; stripping around bond area	24 to 36 inches: SM, f-m grained, w/gravel, dark brown, moist	

B.5. Laboratory Test Results

We performed moisture content (MC) tests (per ASTM D2216) on selected samples to aid in our classifications and estimations of the materials' engineering properties. The Log of Boring Sheets attached in the Appendix present the results of the MC tests in the "MC" column.

We also performed wash loss (P200) tests (per ASTM D1140) and organic content (OC) tests (per ASTM D2974) on selected samples to determine the reusability of the material. The Log of Boring sheets in the Appendix show the results of the OC test in the “Tests or Remarks” column.

C. Recommendations

C.1. Design and Construction Discussion

C.1.a. Pavement Reuse – Reconstruction Project

If the pavements are to be reused or reclaimed, our pavement thickness measurements suggest a 7 to 8 inch full-depth reclamation (FDR) depth can be used for materials in the reconstruction area. Variation of existing pavement depth should be anticipated.

We recommend implementing thorough quality control practices, including frequent sieve analyses, to achieve a desirable gradation of the reclaimed material. We also suggest that the contractor assume some contingency for importing clean, crushed rock that can be blended with the reclaimed material to improve the uniformity of the resulting gradation prior to reuse as an aggregate base.

C.1.b. Soil Reuse

Based on the soil boring results, we anticipate the subgrade soils will generally consist of poorly graded sand, poorly graded sand with silt, silty sand, clayey sand, with less frequent clayey soils. It appears these soils can generally be reused based on composition and apparent moisture and organic contents. We provide comment on soil reuse in Table 6.

Table 6. Soil Reuse Considerations

Boring	Street	Soil Depth (ft)	Soil Type	Comment
ST-2	8th Avenue N	0.7 to 4	CL	Slightly organic fill; suitable for reuse with the recommended compaction and conditioning
ST-6	7th Avenue N	0.8 to 4	SC	Slightly organic fill; suitable for reuse with the recommended compaction and conditioning
ST-7		0 to 0.8	Agg Base	Drillers noted petroleum like odor in apparent aggregate base material

As noted above, there is a potential that bituminous treated base (BTB) material may be encountered during excavation beneath the pavement surface. BTB is characterized as base material intermixed with pieces of asphalt and a related petroleum-type odor. If BTB is encountered beneath the pavement surface, the excavation should be evaluated and monitored by an environmental consultant. Excavated bituminous soils and/or associated granular materials treated with bituminous may likely be recycled and reused on the project as aggregate base immediately under the pavement surface in accordance with the standing Beneficial Use Determination (BUD) established by the MPCA Solid Waste Division.

We recommend tapering zones of clayey soils adjacent to more granular material to avoid abrupt transitions that may result in differential movements at the surface. We do not recommend further mixing of clayey soils with granular soils during construction, and to the extent possible, soil types should be separated for reuse during excavation.

Although we did not note cobbles and boulders in our borings, glacial deposits may contain them. The presence of cobbles and boulders may slow excavation and limit the quantity of soil that can be reused efficiently in utility trenches.

C.1.a. Utilities

The reuse of the utility trench backfill soils will have potential impacts on the pavement subgrades. If the backfill is not properly compacted, there is the potential for subgrade instability and settlement, with premature deterioration of the pavement surface. On this project, we anticipate that most of the trench soils will consist of relatively granular soils that can be readily recompacted provided they are conditioned to the recommended moisture content. Table 6 above provides comment on possible zones of soft or unstable backfill that may require additional work or removal and replacement.

Care should be used to avoid disturbance of the soils supporting utilities or impacting the utilities themselves during pavement removals and reconstruction.

C.1.b. Rehabilitation Area

In our opinion, the surface condition and/or pavement material conditions of the following segments will **not** be suitable for a partial-depth mill and overlay, and instead will require either full-depth mill and overlay or FDR:

- 3rd Street N
- 6th Avenue N, from 1st Street N to Main Street

The remaining segments (2nd Street N, 1st Street N) appeared to be in better condition at the surface, and we believe a partial depth mill and overlay will be a viable approach to rehabilitation. Some patching may be required from 7th Street N to 6th Street N on 1st Street N.

Preservation of these segments via partial depth mill and overlay will result in a service life of 10 to 12 years before similar rehabilitation is required. Additional work, such as repairing damaged curb edges or patching large distresses, could help prolong the service life.

Full-depth mill and overlay is also an option to preserve pavements where the bituminous thickness is small, typically about 4 inches or less. Testing rolling and recompaction of the aggregate base prior to repaving will help provide a service life of close to 20 years for this option.

We also expect FDR to have a 20-year service life. Reclamation can proceed at the surface to a depth of about 8 inches (3rd Street N) to 12 or more inches (1st Street N, 6th Avenue S), after which the reclaim can be removed to accommodate new bituminous pavements. This depth will vary and can be extended if suggested by potholing during construction.

The following table summarizes the above discussion.

Table 7. Repair Recommendations Summary

Segment	Start	End	Repair
1st St N	8th Ave S	5th Ave S	Partial-depth mill and overlay; additional patching possible from 7th Ave S to 6th Ave S
2nd St N	8th Ave S	7th Ave S	Partial-depth mill and overlay
2nd St N	7th Ave S	6th Ave S	Partial-depth mill and overlay
2nd St N	6th Ave S	5th Ave S	Partial-depth mill and overlay
3rd St N	8th Ave N	5th Ave N	Reconstruction (FDR followed by subgrade removal)
6th Ave S	Mainstreet	1st St N	Full-depth reclamation

C.2. Utility Replacement

C.2.a. Excavation Oversizing

When removing unsuitable materials below utilities, we recommend the excavation extend outward and downward at a slope of 1:1 V:H or flatter.

Care during excavation should be used to avoid disturbance of unsuitable soils in the side walls of the excavation.

C.2.b. Utility Subgrade Stabilization

We anticipate the soils at typical invert elevations for utilities will generally be suitable for utility support after the recommended subgrade preparation. Although not encountered in our borings, we recommend soils containing organics greater than 5 percent or other unsuitable materials be removed from utility subgrade and replaced with MnDOT select granular (MnDOT 3149.2.B) as referenced in Table 8 below.

C.2.c. Excavated Slopes

Based on the borings, we anticipate many of the on-site soils in excavations will consist of granular glacial deposits and fill materials. These soils are typically considered Type C Soil under OSHA (Occupational Safety and Health Administration) guidelines. OSHA guidelines indicate unsupported excavations in Type C soils should have a gradient no steeper than 1:1 1/2 V:H. Slopes constructed in this manner may still exhibit surface sloughing. OSHA requires an engineer to evaluate slopes or excavations over 20 feet in depth.

An OSHA-approved qualified person should review the soil classification in the field. Excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, “Excavations and Trenches.” This document states excavation safety is the responsibility of the contractor. The project specifications should reference these OSHA requirements.

C.2.d. Selection, Placement and Compaction of Backfill

We recommend general fill placed below the roadway pavement materials and in utility trenches meet the requirements identified in the table below. Any materials to be reused as engineered fill should be tested and approved by the engineer prior to reuse.

Table 8. Engineered Fill Materials*

Locations to Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
Pavement subgrades Trench backfill Embankment fill (areas with sandy soils)	MnDOT granular material	SP, SP-SM, SM	See MnDOT 3149.2.B	---
Pavement subgrades Trench backfill Embankment fill (areas with clayey soils)	MnDOT select grading	SP, SP-SM, SM, SC, CL	See MnDOT 2106.2.B.1	< 80% silt < 6% OC

Locations to Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
Pavement subbase/drainage layer Non-frost-susceptible Utility bedding (dry or moist conditions)	Free draining Non-frost-susceptible fill MnDOT select granular	GP, GW, SP, SP-SM, SW	See MnDOT 3149.2.B	---
Utility bedding (wet or unstable conditions)*	Coarse aggregate bedding	GP, GW, SP, SW	100% passing 1 1/2-inch sieve 0 to 10% passing #4 sieve See MnDOT 3149.2.G.2	---
Below landscaped surfaces, where subsidence is not a concern	Non-structural fill	---	100% passing 6-inch sieve	< 10% OC

*Thicknesses will vary by condition and alternative materials may be required; consult the geotechnical representative to evaluate utility excavations.

We recommend spreading engineered fill in loose lifts of approximately 8 to 12 inches thick. The project documents should not allow the contractor to use frozen material as engineered fill or to place engineered fill on frozen material.

We recommend compacting engineered fill in accordance with the criteria presented below in Table 9. We recommend performing density tests in engineered fill to evaluate if the contractors are effectively compacting the soil and meeting project requirements.

Table 9. Compaction Recommendations Summary

Reference	Relative Compaction, percent (ASTM D698 – Standard Proctor)	Moisture Content Variance from Optimum, percentage points*	
		< 12% Passing #200 Sieve (typically SP, SP-SM)	> 12% Passing #200 Sieve (typically CL, SC, ML, SM)
Within 3 feet of top of pavement subgrade	100	±3	-1 to +3
More than 3 feet below top of pavement subgrade	95	±3	±3
Below landscaped surfaces	90	±5	±4

*Alternatively, use the penetration index method (MnDOT Specification 2106.3.G.3) for soils with P200 < 20%. Consult MnDOT 2106.3.C for alternative moisture content controls when using Specified Density for soils.

C.2.e. Corrosion Potential

Most of the soil borings indicated the site predominantly consists of poorly graded sand with silts . We consider these soils non-to-slightly-corrosive to metallic conduits, and utilities should not require cathodic protection. The clayey soils on site are considered moderately corrosive and we recommend providing cathodic protection where needed or bedding utilities in granular soils in these areas.

C.3. New Pavements

C.3.a. Pavement Subgrade Preparation

We recommend the following steps for pavement subgrade preparation, understanding the reconstruction will generally match existing grades.

1. Remove or reclaim and stockpile/windrow the existing pavement.
2. Once the roadway sections are cut to grade, have a geotechnical representative observe the excavated subgrade to evaluate if additional subgrade improvements are necessary. We recommend extending excavations outward from the bottom of the subgrade elevation at a slope of 1:1 V:H or flatter.
3. Scarify, moisture condition, and surface compact to at least 100 percent of Standard Proctor density (non-granular soils) or to the requirements of the MnDOT penetration index method (granular soils).
4. Place pavement engineered fill to grade where required and compact in accordance with Section C.2.d to bottom of pavement section.
5. Test roll the pavement subgrade as described in Section C.3.b.

C.3.b. Pavement Subgrade Test Roll

After preparing the subgrade as described above and prior to the placement of the sand subbase or aggregate base/reclaim, we recommend test rolling the subgrade soils with a fully loaded tandem-axle truck. We also recommend having a geotechnical representative observe the test roll. Areas that fail the test roll likely indicate soft or weak soils that will require additional correction work to support pavements.

The contractor should correct areas that display yielding or rutting greater as described in MnDOT Specification 2111. Possible options for subgrade correction include moisture conditioning and recompaction, subcutting and replacement with soil or crushed aggregate, chemical stabilization and/or geotextiles. We recommend performing a second test roll after the aggregate base material is in place prior to placing bituminous pavement.

C.3.c. Engineered Fill Materials and Compaction

The on-site soils with an organic content less than 5 percent and free of debris are suitable for reuse as pavement subgrade fill and utility trench backfill. The limited clayey soils encountered will be more difficult to compact if wet, allowed to become wet, or if spread and compacted over wet surfaces.

If imported material is to be used, Table 8 contains our recommendations for engineered fill. Similar materials compared to existing should be used to the degree possible; as such, we recommend that imported fill meet the requirements of MnDOT granular material in areas with sandy soils.

C.3.d. Pavement Design Sections, Full Depth Reconstruction

Our scope of services for this project did not include laboratory tests on subgrade soils to determine an R-value for pavement design. However, given the variable nature of typical subgrades, which were a mix of poorly graded sand, silty sand, clayey sand, and lean clay, we recommend using a design R-value of 20 for pavement design on the project. The contractor may need to perform limited removal of unsuitable or less suitable soils, such as those revealed by test roll, to achieve this value.

Based upon the estimated traffic loads and an R-value of 20, we recommend that new pavement sections in the reconstructed residential areas include the following materials and thicknesses per Table 10.

Table 10. Recommended Bituminous Pavement Thickness Design

Layer	Thickness (in)	Material (Specification)
Bituminous wear course	2	SPWEA240C (MnDOT 2360)
Bituminous non-wear course	2	SPNWB230C (MnDOT 2360)
Aggregate base/reclaim	8	Class 5 or 6 (3138); modified aggregate base (2215)
Approved subgrade	---	---

The above pavement design assumes a 20-year performance life. This is the amount of time before we anticipate the pavement will require major rehabilitation. This performance life assumes routine maintenance, such as seal coating and crack sealing. The actual pavement life will vary depending on variations in weather, traffic conditions, and maintenance.

Many conditions affect the overall performance of the pavements. Some of these conditions include the environment, loading conditions and the level of ongoing maintenance. Regarding bituminous pavements, it is common to have thermal cracking develop within the first few years of placement and continue throughout the life of the pavement. We recommend developing a regular maintenance plan for filling cracks in pavements to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade.

C.3.e. Pavement Materials Placement

We recommend placing the bituminous wear and non-wear courses to meet the requirements of MnDOT Specification 2360.

We recommend compacting the aggregate base to meet the requirements of MnDOT Specification 2211.3.D.2.c (Penetration Index Method for the dynamic cone penetrometer [DCP]).

C.4. Pavement Rehabilitation Areas

Milling should proceed per MnDOT Specification 2232, with bituminous paving in general accordance with MnDOT Specification 2360. For mill and overlay sections, we recommend a 2-inch mill depth and replacement with SPWEA240C.

For full-depth mill areas, we recommend replacement with the same pavements used for reconstruction as shown in Table 10. Prior to paving, the exposed aggregate base should be graded, recompacted and test rolled as described in Section C.3.b.

D. Procedures

D.1. Penetration Test Borings

We drilled the penetration test borings with a truck-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples at 2 1/2- or 5-foot intervals in general accordance with ASTM D1586. The boring logs show the actual sample intervals and corresponding depths. We sealed penetration test boreholes meeting the Minnesota Department of Health (MDH) Environmental Borehole criteria with an MDH-approved grout.

D.2. Pavement Cores and Hand Auger Borings

We obtained core samples of the pavement using a portable coring machine advancing a 4-inch diameter core barrel. We measured the cores to obtain approximate bituminous thickness and noted their material conditions based on visual observation. The Appendix includes images of the cores.

We drilled hand auger borings with a 3-inch-diameter bucket auger. We advanced the borings to a depth of approximately 36 inches and measured the thickness of the layers present.

Immediately after completing the coring and hand augers, we repaired the bituminous pavement with a cold-mix bituminous patch.

D.3. Exploration Logs

D.3.a. Log of Boring Sheets

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials and present the results of penetration resistance tests performed. The logs also present the results of laboratory tests performed on penetration test samples, and groundwater measurements.

We inferred strata boundaries from changes in the penetration test samples and the auger cuttings. Because we did not perform continuous sampling, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may occur as gradual rather than abrupt transitions.

D.3.b. Geologic Origins

We assigned geologic origins to the materials shown on the logs and referenced within this report, based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance testing performed for the project, (4) laboratory test results, and (5) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past.

D.4. Material Classification and Testing

D.4.a. Visual and Manual Classification

We visually and manually classified the geologic materials encountered based on ASTM D2488. When we performed laboratory classification tests, we used the results to classify the geologic materials in accordance with ASTM D2487. The Appendix includes a chart explaining the classification system we used.

D.4.b. Laboratory Testing

The exploration logs in the Appendix note the results of the laboratory tests performed on geologic material samples. We performed the tests in general accordance with ASTM or AASHTO procedures.

D.5. Groundwater Measurements

The drillers checked for groundwater while advancing the penetration test borings, and again after auger withdrawal. We then filled the boreholes or allowed them to remain open for an extended period of observation, as noted on the boring logs.

E. Qualifications

E.1. Variations in Subsurface Conditions

E.1.a. Material Strata

We developed our evaluation, analyses and recommendations from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth. Therefore, we must infer strata boundaries and thicknesses to some extent. Strata boundaries may also be gradual transitions, and project planning should expect the strata to vary in depth, elevation and thickness, away from the exploration locations.

Variations in subsurface conditions present between exploration locations may not be revealed until performing additional exploration work, or starting construction. If future activity for this project reveals any such variations, you should notify us so that we may reevaluate our recommendations. Such variations could increase construction costs, and we recommend including a contingency to accommodate them.

E.1.b. Groundwater Levels

We made groundwater measurements under the conditions reported herein and shown on the exploration logs, and interpreted in the text of this report. Note that the observation periods were relatively short, and project planning can expect groundwater levels to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

E.2. Continuity of Professional Responsibility

E.2.a. Plan Review

We based this report on a limited amount of information, and we made a number of assumptions to help us develop our recommendations. We should be retained to review the geotechnical aspects of the designs and specifications. This review will allow us to evaluate whether we anticipated the design correctly, if any design changes affect the validity of our recommendations, and if the design and specifications correctly interpret and implement our recommendations.

E.2.b. Construction Observations and Testing

We recommend retaining us to perform the required observations and testing during construction as part of the ongoing geotechnical evaluation. This will allow us to correlate the subsurface conditions exposed during construction with those encountered by the borings and provide professional continuity from the design phase to the construction phase. If we do not perform observations and testing during construction, it becomes the responsibility of others to validate the assumption made during the preparation of this report and to accept the construction-related geotechnical engineer-of-record responsibilities.

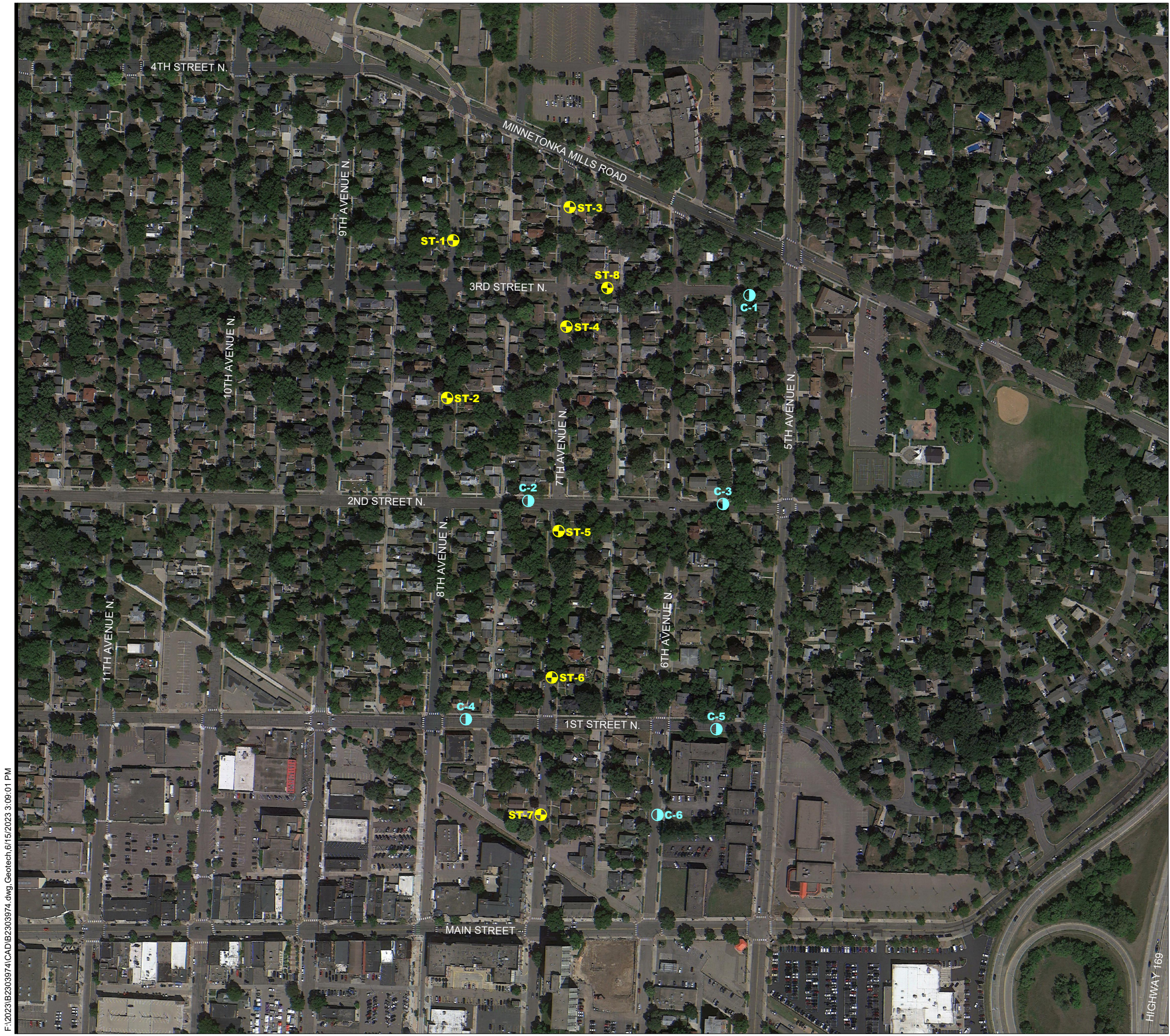
E.3. Use of Report

This report is for the exclusive use of the addressed parties. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.



E.4. Standard of Care

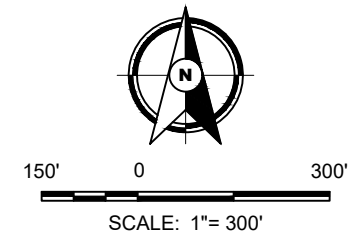
In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Appendix



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-  **DENOTES APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING**
-  **DENOTES APPROXIMATE LOCATION OF PAVEMENT CORE / HAND AUGER**



Drawing Information

Project No:	B2303974
Drawing No:	B2303974
Drawn By:	JAG
Date Drawn:	5/17/23
Checked By:	NGL
Last Modified:	6/15/23

Project Information

2024 Street and Utility Improvement Projects

6th, 7th and 8th Avenue N. and 1st, 2nd and 3rd Street N.

Hopkins, Minnesota

Soil Boring Location Sketch

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-1	
Geotechnical Evaluation				LOCATION:	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 150685	EASTING: 493148
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 926.5 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
925.9 0.6		PAVEMENT, 3 1/2 inches of bituminous over 4 inches of apparent aggregate base					
		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel, brown, moist		1-1-3 (4) 10"		5	
922.5 4.0		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, light brown to brown, dry to moist, loose to medium dense (GLACIAL OUTWASH)	5	2-3-4 (7) 13"			
				7-5-8 (13) 15"			
			10	7-8-10 (18) 13"		3	
912.0 14.5	∞	Wet at 13 1/2 feet		8-7-10 (17) 15"			
		END OF BORING	15				Water observed at 13.5 feet while drilling.
		Boring immediately backfilled					
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-2	
Geotechnical Evaluation				LOCATION:	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 150208	EASTING: 493130
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 923.4 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
922.7		PAVEMENT, 2 1/2 inches of bituminous over 6 inches of apparent aggregate base					
0.7		FILL: LEAN CLAY (CL), slightly organic, dark brown and gray, moist		1-2-3 (5) 13"		22	OC=4%
919.4		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)	5	2-4-7 (11) 14"			
916.4		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		9-10-12 (22) 16"		5	
			10	8-9-8 (17) 14"			
		Wet at 12 feet		2-7-4 (11) 14"		19	
908.9		END OF BORING	15				Water observed at 12.0 feet while drilling.
14.5		Boring immediately backfilled					
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-3	
Geotechnical Evaluation				LOCATION:	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 150785	EASTING: 493501
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 933.1 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
932.6 0.5		PAVEMENT, 3 inches of bituminous over 3 inches of apparent aggregate base					
		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, light brown to brown, dry to moist, loose to medium dense (GLACIAL OUTWASH)		2-3-4 (7) 13"		4	
			5	4-3-5 (8) 12"			
				7-6-7 (13) 11"		3	
			10	5-7-8 (15) 2"			
918.6 14.5		END OF BORING		9-8-6 (14) 9"			
		Boring immediately backfilled	15				Water not observed while drilling.
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-4	
Geotechnical Evaluation				LOCATION:	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 150423	EASTING: 493490
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 930.7 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
930.1		PAVEMENT, 3 inches of bituminous over 4 inches of apparent aggregate base					
0.6		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, light brown to brown, dry to moist, loose to medium dense (GLACIAL OUTWASH)		3-5-6 (11) 8"		3	
			5	5-4-5 (9) 11"			
				3-4-8 (12) 10"			
921.7		SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist, loose to medium dense (GLACIAL TILL)	10	5-5-6 (11) 15"		10	
				3-5-5 (10) 18"			
			15	7-9-8 (17) 14"			
914.7		POORLY GRADED SAND (SP), fine to medium-grained, brown, moist to wet, medium dense (GLACIAL OUTWASH)					
16.0			20	4-6-7 (13) 14"			
909.7		END OF BORING					
21.0		Boring immediately backfilled with bentonite grout					
			25				
			30				

Water observed at 18.0 feet while drilling.

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-6	
Geotechnical Evaluation				LOCATION:	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 149362	EASTING: 493446
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 918.7 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
917.9		PAVEMENT, 4 inches of bituminous over 5 inches of apparent aggregate base					
0.8		FILL: CLAYEY SAND (SC), slightly organic, dark brown, moist		1-3-4 (7) 13"		14	OC=3%
914.7		FILL: SANDY LEAN CLAY (CL), brown, moist	5	2-2-4 (6) 13"		24	
911.7		POORLY GRADED SAND (SP), fine to coarse-grained, with Gravel, brown, moist to wet, very loose to medium dense (GLACIAL OUTWASH)		3-2-2 (4) 12"			
7.0			10	5-5-7 (12) 11"			
904.2		END OF BORING		5-6-8 (14) 18"			Water observed at 10.0 feet while drilling.
14.5		Boring immediately backfilled	15				
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-7	
Geotechnical Evaluation				LOCATION: Boring offset 6 feet north of staked location. See attached sketch.	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 148946	EASTING: 493413
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 924.4 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
923.6		PAVEMENT, 5 inches of bituminous over 4 inches of apparent aggregate base					Petroleum-like odor noted in apparent aggregate base
0.8		POORLY GRADED SAND (SP), fine to coarse-grained, trace Gravel, light brown to brown, dry to moist, very loose to medium dense (GLACIAL OUTWASH)		2-4-5 (9) 8"		3	
			5	2-2-3 (5) 10"			
				3-5-10 (15) 6"		3	
912.4		SILTY SAND (SM), fine to medium-grained, with Gravel, brown, moist, dense, iron oxide staining (GLACIAL TILL)		12-2-2 (4) 8"			Water not observed while drilling.
12.0				27-23-18 (41) 18"			
909.9		END OF BORING	15				
14.5		Boring immediately backfilled					
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2303974				BORING: ST-8	
Geotechnical Evaluation				LOCATION: Boring offset 12 feet west of staked location. See attached sketch.	
2024 Street and Utility Improvement Projects				DATUM: NAD 1983 HARN Adj MN Hennepin (US Feet)	
6th, 7th, 8th Ave N, 1st, 2nd, 3rd St N				NORTHING: 150541	EASTING: 493614
Hopkins, Minnesota				START DATE: 05/24/23	END DATE: 05/24/23
DRILLER: C. McClain	LOGGED BY: B. Schreurs		SURFACING: Bituminous		WEATHER: Clear
SURFACE ELEVATION: 927.1 ft	RIG: 7514	METHOD: 3 1/4" HSA			

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q _p tsf	MC %	Tests or Remarks
926.5 0.6		PAVEMENT, 4 1/2 inches of bituminous over 2 1/2 inches of apparent aggregate base FILL: SILTY SAND (SM), fine to coarse-grained, trace Gravel, brown, moist		1-4-5 (9) 10"		6	P200=14%
919.1 8.0		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, light brown, dry to moist, medium dense (GLACIAL OUTWASH)	5	11-11-6 (17) 6"		5	
912.6 14.5		END OF BORING Boring immediately backfilled	10 15	4-6-7 (13) 4" 6-7-7 (14) 13" 11-10-17 (27) 11"			Water not observed while drilling.
			20 25 30				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2204619 Geotechnical Evaluation City of Hopkins 2023 Street and Utility Project Various Streets Hopkins, Minnesota					HAND AUGER: C-1		
					LOCATION: See attached figure		
					DATUM:		
					NORTHING:	EASTING:	
OPERATOR: C. Reber	LOGGED BY: C. Reber	START DATE: 06/21/22	END DATE: 06/21/22				
SURFACE ELEVATION:	METHOD: Hand Auger	SURFACING: Asphalt	WEATHER:				
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
1.6		PAVEMENT, 9 3/4 inches of bituminous over 9 1/2 inches of apparent aggregate base					Pavement was cored
2.8		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel					Termination by refusal Water not observed while augering.
		END OF HAND AUGER Boring then backfilled with auger cuttings					
			5				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2204619 Geotechnical Evaluation City of Hopkins 2023 Street and Utility Project Various Streets Hopkins, Minnesota					HAND AUGER: C-2		
					LOCATION: See attached figure		
					DATUM:		
					NORTHING:	EASTING:	
OPERATOR: C. Reber	LOGGED BY: C. Reber	START DATE: 06/21/22	END DATE: 06/21/22				
SURFACE ELEVATION:	METHOD: Hand Auger	SURFACING: Asphalt	WEATHER:				
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
1.4		PAVEMENT, 10 inches of bituminous over 7 inches of apparent aggregate base					Pavement was cored
3.5		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel					
		END OF HAND AUGER Boring then backfilled with auger cuttings					Water not observed while augering.
			5				

Project Number B2204619 Geotechnical Evaluation City of Hopkins 2023 Street and Utility Project Various Streets Hopkins, Minnesota					HAND AUGER: C-3		
					LOCATION: See attached figure		
					DATUM:		
					NORTHING:	EASTING:	
OPERATOR: C. Reber	LOGGED BY: C. Reber		START DATE: 06/21/22	END DATE: 06/21/22			
SURFACE ELEVATION:	METHOD: Hand Auger		SURFACING: Asphalt	WEATHER:			
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
		PAVEMENT, 4 3/4 inches of bituminous over 7 inches of apparent aggregate base					Pavement was cored
1.3							
1.5		CLAYEY SAND with GRAVEL (SC), brown, moist					Termination by refusal Water not observed while augering.
		END OF HAND AUGER					
		Boring then backfilled with auger cuttings					
			5				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2204619			HAND AUGER: C-4	
Geotechnical Evaluation			LOCATION: See attached figure	
City of Hopkins 2023 Street and Utility Project			DATUM:	
Various Streets			NORTHING:	EASTING:
Hopkins, Minnesota			START DATE: 06/21/22	END DATE: 06/21/22
OPERATOR: C. Reber	LOGGED BY: C. Reber			
SURFACE ELEVATION:	METHOD: Hand Auger	SURFACING: Asphalt	WEATHER:	

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
1.3		PAVEMENT, 7 1/4 inches of bituminous over 7 3/4 inches of apparent aggregate base					Pavement was cored
1.5		CLAYEY SAND with GRAVEL (SC), brown, moist					
3.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, brown, moist					
		END OF HAND AUGER					Water not observed while augering.
		Boring then backfilled with auger cuttings					

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2204619 Geotechnical Evaluation City of Hopkins 2023 Street and Utility Project Various Streets Hopkins, Minnesota					HAND AUGER: C-5		
					LOCATION: See attached figure		
					DATUM:		
					NORTHING:	EASTING:	
OPERATOR: C. Reber	LOGGED BY: C. Reber	START DATE: 06/21/22	END DATE: 06/21/22				
SURFACE ELEVATION:	METHOD: Hand Auger	SURFACING: Asphalt	WEATHER:				
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
1.0		PAVEMENT, 4 1/2 inches of bituminous over 7 3/4 inches of apparent aggregate base					Pavement was cored
1.5		CLAYEY SAND with GRAVEL (SC), brown, moist					Termination by refusal
		END OF HAND AUGER					Water not observed while augering.
		Boring then backfilled with auger cuttings					
			5				

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B2204619 Geotechnical Evaluation City of Hopkins 2023 Street and Utility Project Various Streets Hopkins, Minnesota				HAND AUGER: C-6	
				LOCATION: See attached figure	
				DATUM:	
				NORTHING:	EASTING:
OPERATOR: C. Reber	LOGGED BY: C. Reber	START DATE: 06/21/22	END DATE: 06/21/22		
SURFACE ELEVATION:	METHOD: Hand Auger	SURFACING: Asphalt	WEATHER:		

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487)	Sample	Sample Blows Recovery	q _p tsf	MC %	Tests or Remarks
1.3		PAVEMENT, 4 3/4 inches of bituminous over 11 inches of apparent aggregate base					Pavement was cored
2.0		LEAN CLAY with SAND (CL), brown, moist					
3.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, brown, moist					
		END OF HAND AUGER Boring then backfilled with auger cuttings					Water not observed while augering.
			5				

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A			Soil Classification		
			Group Symbol	Group Name ^B	
Coarse-grained Soils (more than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5% fines ^C)	$C_u \geq 4$ and $1 \leq C_c \leq 3^D$	GW	Well-graded gravel ^E
		Gravels with Fines (More than 12% fines ^C)	$C_u < 4$ and/or ($C_c < 1$ or $C_c > 3^D$)	GP	Poorly graded gravel ^E
			Fines classify as ML or MH	GM	Silty gravel ^{EFG}
		Sands (50% or more coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5% fines ^H)	$C_u \geq 6$ and $1 \leq C_c \leq 3^D$	SW
	Sands with Fines (More than 12% fines ^H)		$C_u < 6$ and/or ($C_c < 1$ or $C_c > 3^D$)	SP	Poorly graded sand ^I
			Fines classify as ML or MH	SM	Silty sand ^{FGI}
	Fines classify as CL or CH		SC	Clayey sand ^{FGI}	
	Fine-grained Soils (50% or more passes the No. 200 sieve)	Silts and Clays (Liquid limit less than 50)	Inorganic	PI > 7 and plots on or above "A" line ^J	CL
PI < 4 or plots below "A" line ^J				ML	Silt ^{KLM}
Organic			Liquid Limit – oven dried	OH	Organic clay ^{KLMN}
			Liquid Limit – not dried < 0.75		
Silts and Clays (Liquid limit 50 or more)		Inorganic	PI plots on or above "A" line	CH	Fat clay ^{KLM}
			PI plots below "A" line	MH	Elastic silt ^{KLM}
		Organic	Liquid Limit – oven dried	OH	Organic clay ^{KLM P}
			Liquid Limit – not dried < 0.75		
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor		PT	Peat	

Particle Size Identification

- Boulders..... over 12"
- Cobbles..... 3" to 12"
- Gravel
 - Coarse..... 3/4" to 3" (19.00 mm to 75.00 mm)
 - Fine..... No. 4 to 3/4" (4.75 mm to 19.00 mm)
- Sand
 - Coarse..... No. 10 to No. 4 (2.00 mm to 4.75 mm)
 - Medium..... No. 40 to No. 10 (0.425 mm to 2.00 mm)
 - Fine..... No. 200 to No. 40 (0.075 mm to 0.425 mm)
- Silt..... No. 200 (0.075 mm) to .005 mm
- Clay..... < .005 mm

Relative Proportions^{L-M}

- trace..... 0 to 5%
- little..... 6 to 14%
- with..... ≥ 15%

Inclusion Thicknesses

- lens..... 0 to 1/8"
- seam..... 1/8" to 1"
- layer..... over 1"

Apparent Relative Density of Cohesionless Soils

- Very loose 0 to 4 BPF
- Loose 5 to 10 BPF
- Medium dense..... 11 to 30 BPF
- Dense..... 31 to 50 BPF
- Very dense..... over 50 BPF

Consistency of Cohesive Soils

- | Blows Per Foot | Approximate Unconfined Compressive Strength |
|------------------------------|---|
| Very soft..... 0 to 1 BPF | < 0.25 tsf |
| Soft..... 2 to 4 BPF | 0.25 to 0.5 tsf |
| Medium..... 5 to 8 BPF | 0.5 to 1 tsf |
| Stiff..... 9 to 15 BPF | 1 to 2 tsf |
| Very Stiff..... 16 to 30 BPF | 2 to 4 tsf |
| Hard..... over 30 BPF | > 4 tsf |

Moisture Content:

- Dry:** Absence of moisture, dusty, dry to the touch.
- Moist:** Damp but no visible water.
- Wet:** Visible free water, usually soil is below water table.

Drilling Notes:

Blows/N-value: Blows indicate the driving resistance recorded for each 6-inch interval. The reported N-value is the blows per foot recorded by summing the second and third interval in accordance with the Standard Penetration Test, ASTM D1586.

Partial Penetration: If the sampler could not be driven through a full 6-inch interval, the number of blows for that partial penetration is shown as #/x" (i.e. 50/2"). The N-value is reported as "REF" indicating refusal.

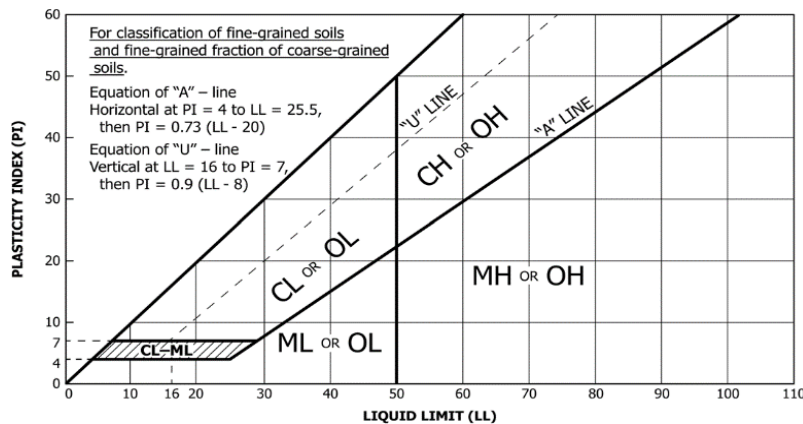
Recovery: Indicates the inches of sample recovered from the sampled interval. For a standard penetration test, full recovery is 18", and is 24" for a thinwall/shelby tube sample.

WOH: Indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WOR: Indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

Water Level: Indicates the water level measured by the drillers either while drilling (◻), at the end of drilling (◼), or at some time after drilling (◻).

- A. Based on the material passing the 3-inch (75-mm) sieve.
- B. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
- C. Gravels with 5 to 12% fines require dual symbols:
 - GW-GM well-graded gravel with silt
 - GW-GC well-graded gravel with clay
 - GP-GM poorly graded gravel with silt
 - GP-GC poorly graded gravel with clay
- D. $C_u = D_{60} / D_{10}$ $C_c = (D_{30})^2 / (D_{10} \times D_{60})$
- E. If soil contains ≥ 15% sand, add "with sand" to group name.
- F. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
- G. If fines are organic, add "with organic fines" to group name.
- H. Sands with 5 to 12% fines require dual symbols:
 - SW-SM well-graded sand with silt
 - SW-SC well-graded sand with clay
 - SP-SM poorly graded sand with silt
 - SP-SC poorly graded sand with clay
- I. If soil contains ≥ 15% gravel, add "with gravel" to group name.
- J. If Atterberg limits plot in hatched area, soil is CL-ML, silty clay.
- K. If soil contains 15 to < 30% plus No. 200, add "with sand" or "with gravel", whichever is predominant.
- L. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
- M. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
- N. PI ≥ 4 and plots on or above "A" line.
- O. PI < 4 or plots below "A" line.
- P. PI plots on or above "A" line.
- Q. PI plots below "A" line.

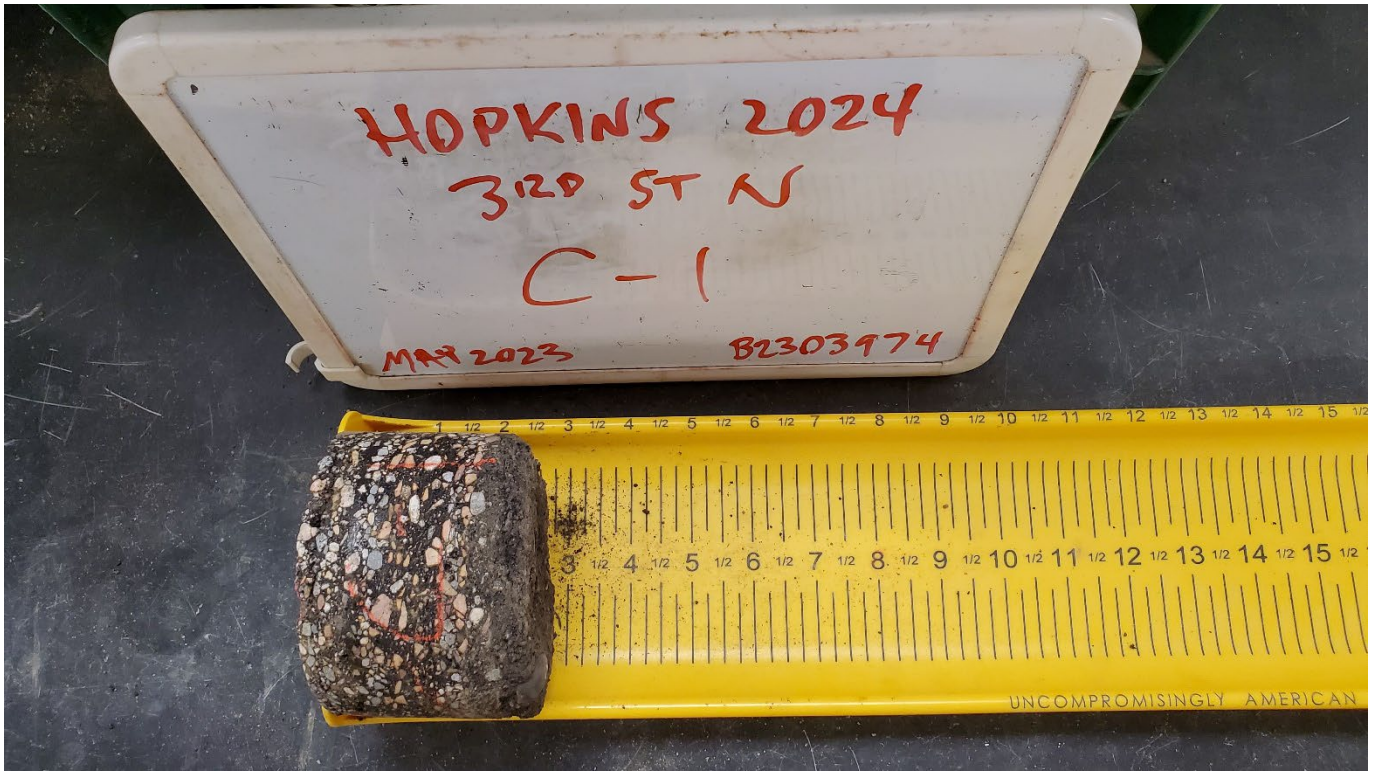


Laboratory Tests

- | | |
|----------------------------------|--|
| DD Dry density, pcf | q_p Pocket penetrometer strength, tsf |
| WD Wet density, pcf | q_u Unconfined compression test, tsf |
| P200 % Passing #200 sieve | LL Liquid limit |
| MC Moisture content, % | PL Plastic limit |
| OC Organic content, % | PI Plasticity index |

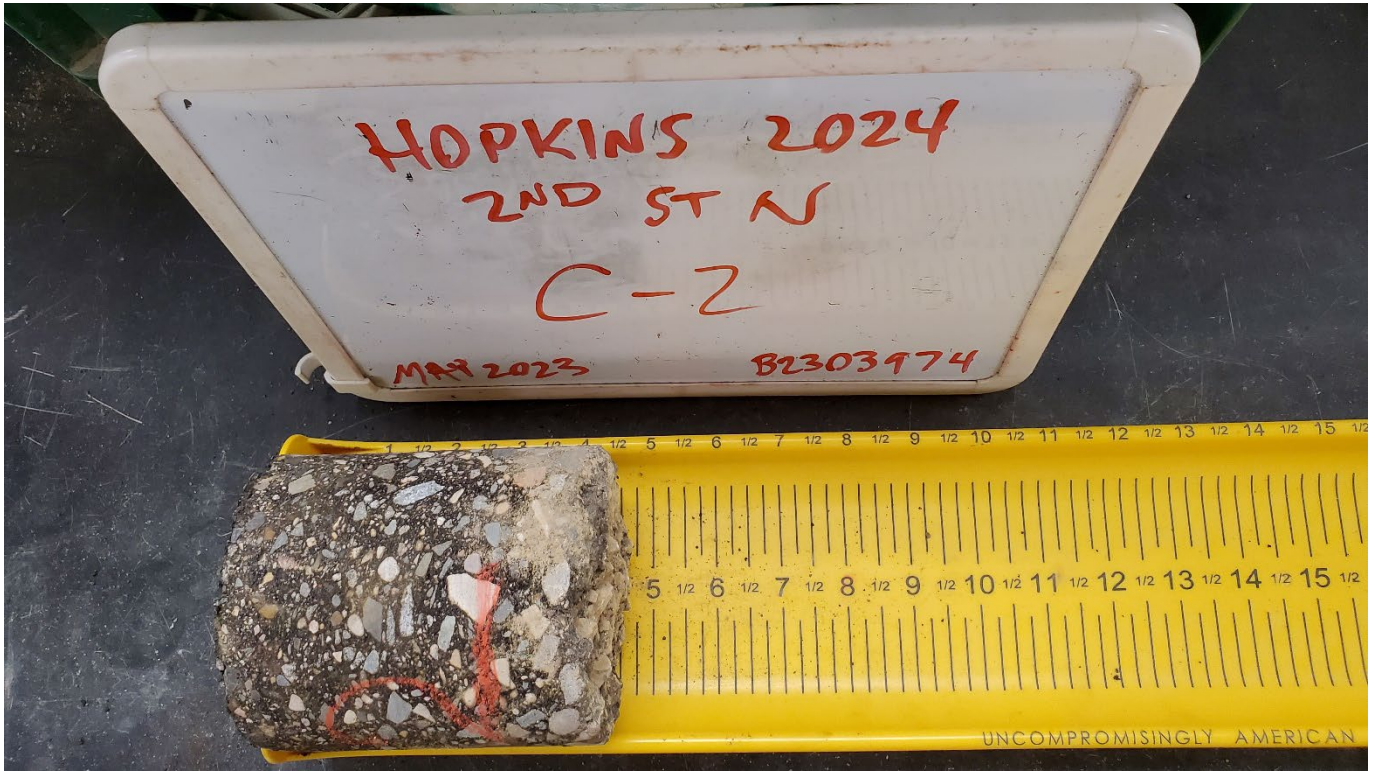
Sample Symbols

- | | |
|---------------------------|--------------------------------|
| Standard Penetration Test | Rock Core |
| Modified California (MC) | Thinwall (TW)/Shelby Tube (SH) |
| Auger | Texas Cone Penetrometer |
| Grab Sample | Dynamic Cone Penetrometer |



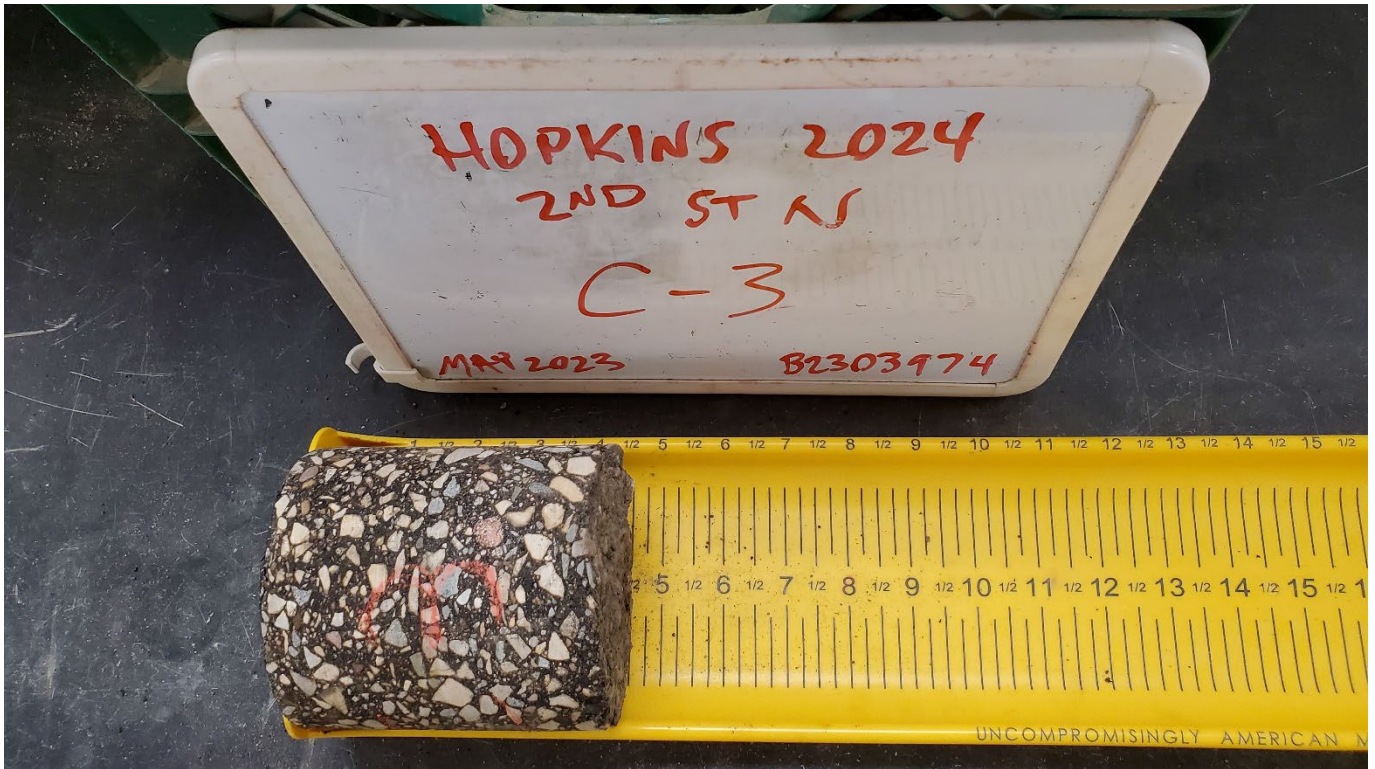
Core #:	C-1			Project: B2303974 BRAUN INTERTEC
Pavement thickness:	2 3/4 inches	Agg base thickness:	3 inches	
Facility:	City of Hopkins, 3rd Street N			
Date:	May 2023			

Notes: Recycled aggregate base



Core #:	C-2			Project: B2303974 BRAUN INTERTEC
Pavement thickness:	4 1/2 inches	Agg base thickness:	8 1/2 inches	
Facility:	City of Hopkins, 2nd Street N			
Date:	May 2023			

Notes: Limestone aggregate base



Core #:	C-3			Project: B2303974 BRAUN INTERTEC
Pavement thickness:	4 1/2 inches	Agg base thickness:	12 inches	
Facility:	City of Hopkins – 2nd Street N			
Date:	May 2023			

Notes: Recycled aggregate base



Core #:	C-4			Project: B2303974 BRAUN INTERTEC
Pavement thickness:	5 1/2 inches	Agg base thickness:	4 1/2 inches	
Facility:	City of Hopkins – 1st Street N			
Date:	May 2023			

Notes: Recycled aggregate base



Core #:	C-5			Project: B2303974 BRAUN INTERTEC
Pavement thickness:	9 1/2 inches	Agg base thickness:	--	
Facility:	City of Hopkins			
Date:	May 2023			

Notes: No apparent aggregate base; sandy subgrade soils with gravel directly below bituminous pavement



Core #:	C-6			Project: B2303974 BRAUN INTERTEC
Pavement thickness	5 inches	Agg base thickness:	19 inches	
Facility:	City of Hopkins			
Date:	May 2023			

Notes: Limestone aggregate base

Services Provided:

Civil and Municipal Engineering

Water and Wastewater Engineering

Traffic and Transportation Engineering

Aviation Planning and Engineering

Water Resources Engineering

Coatings Inspection Services

Landscape Architecture Services

Surveying and Mapping

Geographic Information System Services

Funding Assistance

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