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Feasibility Report for

2023-2024 Street Improvement Project

City of Two Harbors, MN

September 12, 2022

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Certification

Feasibility Report


for

2023-2024 Street Improvement Project

City of Two Harbors
Two Harbors, Minnesota
Bolton & Menk Project No. 0U1.127379

September 2022

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.

By: 

Joseph R. Rhein, P.E.
License No. 23781

Date: September 12, 2022

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I. INTRODUCTION

A. Background

The City of Two Harbors updated its Capital Improvement Plan (CIP) in December 2021 to identify potential improvements for the period of 2022-2026. The updated CIP included a street improvement program that identified a potential project for construction in the years 2023 and 2024.

In May 2020 Lake County adopted a 5-year Road and Bridge Plan for the period 2020-2024. That plan proposed reconstruction of 5th Street between 4th Avenue and 7th Avenue in 2023. In January 2022 Lake County adopted an updated 5-year Road and Bridge Plan for the period 2022-2026. The updated plan still proposed 5th Street reconstruction in 2023. As part of the Lake County project, the City of Two Harbors would participate to upgrade or replace any City infrastructure within the County road corridor.

The City and County had previously partnered when Lake County reconstructed 8th Street in 2021. City Avenues adjacent to 8th Street were added, and a joint County-City project was performed. The joint project was successful. With the proposed reconstruction of 5th Street by Lake County in 2023, the City of Two Harbors recognizes a similar opportunity to develop another joint project to efficiently address existing segments of City Avenues adjacent to the County segment being reconstructed.

During preliminary discussions between the City and County, the possibility to reconstruct a segment of 4th Avenue as part of the project was identified. The portion of 4th Avenue is from 6th Street potentially to 3rd Street. On April 25, 2022, the City Council ordered preparation of a Feasibility Report on the proposed 2023-2024 Street Improvement Project. The segments included in this Report are stated in Paragraph C. A public hearing on the proposed 2023-2024 Street Improvement Project has been scheduled for October 10, 2022.

B. Legal Basis For Report

This Report is prepared pursuant to a Resolution approved by the Two Harbors City Council calling for the preparation of a preliminary engineering report, pursuant to Minnesota Statutes Section 429.031.

This Report is prepared in accordance with said Section 429.031. Specifically, this Report hereby advises the City Council, in a preliminary way, whether the proposed improvement is necessary, cost-effective, and feasible, and whether it should best be made as proposed or in connection with some other improvement.

This Report also includes the estimated cost of the improvements as recommended.

The compensation paid to Bolton & Menk, Inc. for preparing this report is based on the following factors:

1. The time and labor required.
2. The experience and knowledge of the preparer.
3. The complexity and novelty of the problems involved.
4. The extent of the responsibilities assumed.

The compensation paid to Bolton & Menk, Inc. for preparing this report is not based on a percentage of the estimated cost of the improvement.

C. Project Area

This Feasibility Report addresses the segments identified for the years 2023 and 2024 in the City of Two Harbors CIP, the segments identified in the 5-year Lake County plan, and the segment of 4th Avenue from 6th Street to 3rd Street. Ten total blocks are included in this Report, plus improvements to the intersection of 5th Avenue at 4th Street. The blocks are listed below, and are shown graphically on Figure 1 in Appendix A.

1. City Segments

- 5th Avenue: Waterfront Drive (6th Street) to 5th Street
- 5th Avenue: 4th Street Intersection
- 6th Avenue: 7th Street to 4th Street

2. County Segments

- 5th Street (CSAH 36): 4th Avenue to 7th Avenue
- 4th Avenue (CSAH 35): Waterfront Drive (6th Street) to 4th Street
- 4th Avenue (County Road 105): 4th Street to 3rd Street

II. EXISTING CONDITIONS

Existing conditions within the project area were documented by review of existing plans, performing topographic survey and field investigation of the site and structures, geotechnical exploration, and televising of the sanitary sewer system.

Existing conditions for the individual City segments of the proposed project are shown on Figures 5 through 15 in Appendix A.

Additional information on each aspect of the existing conditions are provided below.

A. Avenues/Streets

1. 4th Avenue from Waterfront Drive to 5th Street

This segment is designated as County State Aid Highway (CSAH) 35.

4th Avenue between Waterfront Drive and 5th Street exists as an urban bituminous-surfaced road. This block is approximately 470-feet long from the center of Waterfront Drive to the center of 5th Street. There is 6-inch high concrete curb and gutter along both sides of 4th Avenue, and the street is approximately 28-feet wide between the curb faces.

This block of 4th Avenue is signed for No Parking along its north side.

Two soil borings were taken within the existing paved section of 4th Avenue. At the boring location, the pavement section found was approximately 5-inches of bituminous pavement, underlain by silty sand and clay.

There are no driveway connections to this segment of 4th Avenue.

2. 4th Avenue from 5th Street to 4th Street

This segment is designated as County State Aid Highway (CSAH) 35.

4th Avenue between 5th Street and 4th Street exists as an urban bituminous-surfaced road. There is a 10-foot wide concrete-surfaced parking lane along the north curb line. This block is approximately 470-feet long from the center of 5th Street to the center of 4th Street. There is 6-inch high concrete curb and gutter along both sides of 4th Avenue, and the street is approximately 38-feet wide between the curb faces.

No soil borings were taken within this section of 4th Avenue as of this Report. Additional soil borings will be completed prior to final design.

There is one driveway connection on the north side to this segment of 4th Avenue to the address of 421 4th Avenue.

3.4th Avenue from 4th Street to 3rd Street

This segment is designated as County Road 105.

4th Avenue from 4th Street to 3rd Street exists as an urban bituminous-surfaced road. There is a 10-foot wide concrete-surfaced parking lane along the north curb line for approximately 180-feet on the western side of the block. This block is approximately 520-feet long from the center of 4th Street to the center of 3rd Street. There is 6-inch high concrete curb and gutter along both sides of 4th Avenue, and the street is approximately 28-feet wide between the curb faces.

No soil borings were taken within this section of 4th Avenue as of this Report. Additional soil borings will be completed prior to final design.

There are multiple existing driveway connections to this segment of 4th Avenue. On the south side at the addresses of 320 & 306, and on the north side at the addresses of 323, 319, & 315.

4.5th Avenue from Waterfront Drive to 5th Street

5th Avenue between Waterfront Drive and 5th Street exists as an urban bituminous-surfaced road. The bituminous pavement appears to have been laid over an older concrete pavement. This block is approximately 470-feet long from the center of Waterfront Drive to the center of 5th Street. There is 6-inch high concrete curb and gutter along both sides of 5th Avenue, and the street is approximately 32-feet wide between the curb faces.

This block of 5th Avenue is not signed for any existing parking restrictions.

One soil boring was taken within the existing paved section of 5th Avenue. At the boring location, the pavement section found was approximately 1-inch of bituminous pavement over 4-inches of concrete pavement, underlain by clay.

There are no driveway connections to segment of 5th Avenue.

5.5th Avenue & 4th Street Intersection

5th Avenue & 4th Street intersection exists as an urban bituminous-surfaced road. The bituminous pavement appears to have been laid over an older concrete pavement. There is 6-inch high concrete curb and gutter along both sides of 5th Avenue, and the street is approximately 32-feet wide between the curb faces.

6.6th Avenue from 7th Street to Waterfront Drive

6th Avenue from 7th Street to Waterfront Drive exists as an urban bituminous-surfaced road. This block is approximately 470-feet long from the center of 7th Street to the center of Waterfront Drive. There is no concrete curb for most of this block of 6th Avenue, and the street is approximately 24-feet wide. There is a 7.5-foot wide turn lane on the northside curb line at 7th Street. There is 6-inch high concrete curb and gutter on both sides of 6th Avenue for approximately the first 75-feet from 7th Street.

This block of 6th Avenue is signed for No Parking along its south side.

One soil boring was taken within the existing paved section of 5th Avenue. At the boring location, the pavement section found was approximately 2-inches of bituminous, underlain by silty sand and clay.

Six driveways connect to the south side of this segment of 6th Avenue. The addresses on the south side are 626, 624, 616, 614, 610, & 606. No driveway connections exist along the north side.

7. 6th Avenue from Waterfront Drive to 5th Street

6th Avenue between Waterfront Drive and 5th Street exists as an urban bituminous-surfaced road. This block is approximately 470-feet long from the center of Waterfront Drive to the center of 5th Street. There is no concrete curb on this block of 6th Avenue, and the street is approximately 24-feet wide.

This block of 6th Avenue is not signed for any existing parking restrictions.

Two soil borings were taken within the existing paved section of 6th Avenue. At the boring location, the pavement section found was approximately 1 to 3-inches of bituminous pavement, underlain by silty sand & clay.

There are driveway connections to this segment of 6th Avenue on the north side at the addresses of 521 & 517.

8. 6th Avenue from 5th Street to 4th Street

6th Avenue between 5th Street and 4th Street exists as an urban bituminous surfaced road. This block is approximately 470-feet long from the center of 5th Street to the center of 4th Street.

This block of 6th Avenue is not signed for any existing parking restrictions.

Two soil borings were taken within the existing paved section of 6th Avenue. At the boring location, the pavement section found was approximately 1 to 3-inches of bituminous pavement, underlain by silty sand & clay.

There are no driveway connections to this segment of 6th Avenue.

9. 5th Street from 4th Avenue to 7th Avenue

This segment is designated as County State Aid Highway (CSAH) 36.

5th Street between 4th Avenue and 7th Avenue exists as an urban bituminous-surfaced road. This portion of 5th Street is approximately 1,040-feet long. There is 6-inch high concrete curb and gutter along both sides, and the street is approximately 32-feet wide between the curb faces.

This portion of 5th Street is not signed for any existing parking restrictions.

Twelve soil borings were taken within this section of 5th Street. The existing pavement section was found to be of varying thickness. Bituminous pavement section ranged from 1 to 11-inches. Approximate aggregate base sections ranged from 0 to 9-inches. All sections were underlain by silty sand & clay. One boring near Skunk Creek found organic silt deposit.

There are two residential driveway connections to 5th Street between 4th Avenue and 5th Avenue. There is one residential driveway connection between 5th Avenue and 6th Avenue. There is one residential driveway and one commercial driveway connection to the block of 5th Street between 6th Avenue and 7th Avenue.

B. Sidewalks

Existing sidewalks within the project area are as follows:

1. 4th Avenue from Waterfront Drive to 5th Street

Public concrete sidewalks exist along both the north and south sides of 4th Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard between the curb and sidewalk.

Private walks exist on most of the properties along this block 4th Avenue, extending from the house to the public sidewalk, and in several cases continuing to the existing curb. The private walks are also concrete.

Several properties along the north side of this block have a set of steps as part of their private walk. The number of steps for each property ranges from 2 to 4.

At the east end of the block the sidewalks along 4th Avenue connect to existing walks along 5th Street.

At the west end of the block the sidewalks along 4th Avenue connect to existing walks along Waterfront Drive.

2. 4th Avenue from 5th Street to 4th Street

Public concrete sidewalks exist along both the north and south sides of 4th Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard only on the south side of 4th Avenue between the curb and sidewalk. The sidewalk along the north side of this block is right behind the existing curb.

No private walks exist on the north side this block of 4th Avenue. Two existing commercial driveway aprons are located behind the sidewalk on the north side. Private walks exist on most of the properties on the south side of 4th Avenue, extending from the house to the public sidewalk, and in several cases continuing to the existing curb. The private walks are also concrete.

There are no private property steps on this block that will need to be replaced as a part of this project.

3. 4th Avenue from 4th Street to 3rd Street

Public concrete sidewalks exist along both the north and south sides of 4th Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard between the curb and sidewalk.

Private walks exist on most of the properties along this block 4th Avenue, extending from the house to the public sidewalk, and in several cases continuing to the existing curb. The private walks are also concrete.

There are no private property steps on this block that will need to be replaced as a part of this project.

4. 5th Avenue from Waterfront Drive to 5th Street

Public concrete sidewalks exist along both the north and south sides of 5th Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard between the curb and sidewalk.

Private walks exist on most of the properties along 5th Avenue, extending from the house to the public sidewalk, and in several cases continuing to the existing curb. The private walks are also concrete.

Several properties along the south side of this block have a set of steps as part of their private walk. The number of steps for each property ranges from 2 to 6.

At the east end of the block the sidewalks along 5th Avenue connect to existing walks along 5th Street.

At the east end of the block the sidewalks along 5th Avenue connect to existing walks along Waterfront Drive.

5. 5th Avenue & 4th Street Intersection

Public concrete sidewalks exist along both the north and south sides of 5th Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard between the curb and sidewalk.

Private walk exists on the 403 property, extending from the house to the public sidewalk. The private walk is concrete and extends to the existing curb.

At the east end of the block the sidewalk along 5th Avenue stops at the 4th Street Right of Way.

6. 6th Avenue from 7th Street to Waterfront Drive

Public concrete sidewalks exist along both the north and south sides of this block of 6th Avenue. The sidewalks are approximately 6-feet wide, right behind the existing curb.

Private walks exist on most of the properties along both sides this block of 6th Avenue, extending from the house to the public sidewalk. Private walks are also concrete.

Several properties along the north side of this block have a set of steps as part of their private walk. The number of steps for each property ranges from 2 to 11.

At the east end of the block the sidewalk along 6th Avenue connects to existing walks along Waterfront Drive.

At the west end of the block the sidewalk along 6th Avenue connects to existing walks along 7th Street.

7. 6th Avenue from Waterfront Drive to 5th Street

Public concrete sidewalks exist along only the north side of this block of 6th Avenue. The sidewalks are approximately 6-feet wide, with a gravel boulevard between the edge of bituminous pavement and sidewalk.

Private walks exist on most of the properties along this block 6th Avenue, extending from the house to the public sidewalk. The private walks are also concrete.

There are no private property steps on this block that will need to be replaced as a part of this project.

At the east end of the block the sidewalk along 6th Avenue connects to existing walks along 5th Street.

At the west end of the block the sidewalk along 6th Avenue connects to existing walks along Waterfront Drive.

8. 6th Avenue from 5th Street to 4th Street

Public concrete sidewalks exist along only the north side of this block of 6th Avenue. The sidewalks are approximately 6-feet wide, with a gravel boulevard between the edge of bituminous pavement and sidewalk.

Private walks exist on most of the properties along this block 6th Avenue, extending from the house to the public sidewalk. The private walks are also concrete.

There are no private property steps on this block that will need to be replaced as a part of this project. There is a wooden ADA ramp from the sidewalk to the house at the address 409 6th Avenue.

At the east end of the block the sidewalk along 6th Avenue connects to existing walks along 4th Street.

At the west end of the block the sidewalk along 6th Avenue connects to existing walks along 5th Street.

9. 5th Street from 4th Avenue to 7th Avenue

Public concrete sidewalks exist along both the east and west sides of 5th Street. The sidewalks are approximately 6-feet wide. From 4th Avenue to 5th Avenue there is a 1' grass boulevard between the curb and sidewalk on both the west and east sides. From 5th Avenue to 6th Avenue, there is 1' grass boulevard only on the west side. From 6th Avenue to 7th Avenue the sidewalk on each side is located immediately adjacent to the back of curb.

Several private walks exist on properties along this segment of 5th Street, extending from the house to the public sidewalk. The private walks are mostly concrete. The private walk to 432 5th Avenue is wood planks.

Several properties along the west side of these blocks have a set of steps as part of their private walk. The number of steps for each property ranges from 4 to 8.

At the north end of this segment the sidewalks along 5th Street connect to existing sidewalk along 7th Avenue.

C. Water System

Water system components exist along all segments of 4th, 5th, and 6th Avenues & 5th Street within the proposed project area. Specific information on each of those blocks is provided below:

1. 4th Avenue from the Waterfront to 3rd Street

Water main exists along this entire section of 4th Avenue within the project limits. The water main is a sub-standard diameter of only 4-inches, and is located under the north half of the avenue pavement. The majority of properties in these blocks of 4th Avenue connect to this existing water main by individual services.

At 5th Street, the existing 4th Avenue watermain connects to the existing 8-inch watermain that is located on 5th Street.

Existing fire hydrants are located on the north side at the Waterfront Drive, 4th Street, & 3rd Street intersections and at the southeast corner of the 5th Street intersection.

2. 5th Avenue from Waterfront Drive to 4th Street

Water main exists along this entire section of 5th Avenue within the project limits. The water main is a sub-standard diameter of only 4-inches, and is located under the north half of the avenue pavement. The majority of properties in these blocks of 5th Avenue connect to this existing water main by individual services.

Existing fire hydrants are located on the north side of 5th Avenue, at the northeast corners of both the Waterfront Drive and 5th Street intersections.

At 5th Street, the existing 5th Avenue watermain connects to the existing 8-inch watermain that is located on 5th Street.

At the east end of 5th Avenue, the existing 4" water main dead ends after the water service to 403 5th Avenue.

3. 6th Avenue from 7th Street to 4th Street

Water main exists along this entire section of 6th Avenue within the project limits. The water main is a sub-standard diameter of only 4-inches, and is located under the north half of the avenue pavement. The majority of properties in these blocks of 6th Avenue connect to this existing water main by individual services.

Existing fire hydrants are located on the north side of 6th Avenue, at the northwest corner of 7th Street, northeast corner Waterfront Drive intersection and the northwest corner of the 4th Street intersection.

At 5th Street, the existing 6th Avenue watermain connects to the existing 8-inch watermain that is located on 5th Street.

At the east end of 6th Avenue, the existing 4" water main dead ends at the hydrant in the northwest corner of the 4th Street intersection.

4. 5th Street from 4th Avenue to 7th Avenue

Water main exists along this entire section of 5th Street within the project limits. Two separate water mains exist under 5th Street, an 8-inch watermain and a 12-inch trunk watermain, located under the east half of the street pavement. Some of the properties in these blocks of 5th Street connect to the existing 8-inch water main by individual services.

At 4th, 5th, & 6th Avenues, the existing 8-inch watermain connects to existing 4" watermain.

D. Sanitary Sewer

Segments of existing sanitary sewer within proposed project limits are as identified below:

1. 4th Avenue from Waterfront Drive to 3rd Street

Sanitary sewer exists along the entire length of 4th Avenue within the project limits. The sewer main is clay pipe, 8-inch diameter, and is located approximately under the center of the existing pavement. It flows by gravity from east to west between Waterfront Drive and 4th Street. It flows by gravity from west to east between 4th Street and 3rd Street. All properties on the blocks of 4th Avenue from Waterfront Drive to 3rd Street connect to this sewer main by individual services.

The existing 8-inch diameter sewer on 4th Avenue was televised as part of the investigation for the proposed project. Based on the televised report the existing main is in poor condition.

Manholes on the sanitary sewer along 4th Avenue within this area are located mid-block between Waterfront Drive & 5th Street, west side of 5th Street, two manholes mid-block between 5th Street & 4th Street, and two manholes between 4th Street and 3rd Street. The manholes were inspected for the project. All were found to be in poor condition.

2. 5th Avenue from Waterfront Drive to 5th Street

Sanitary sewer exists along the entire length of 5th Avenue within the project limits. The sewer main is clay pipe, 8-inch diameter, and is located approximately under the center of the existing pavement. It flows by gravity from west to east. All properties on the blocks of 5th Avenue from Waterfront Drive to 5th Street connect to this sewer main by individual services.

The existing 8-inch diameter sewer on 5th Avenue was televised as part of the investigation for the proposed project. Based on the televised report the existing main is in poor condition.

Manholes on the sanitary sewer along 5th Avenue within this area are located mid-block between Waterfront Drive & 5th Street and the west side of 5th Street. The manholes were inspected for the project. All were found to be in poor condition.

3.6th Avenue from 7th Street to 4th Street

Sanitary sewer exists along the entire length of 6th Avenue within the project limits. The lateral sewer main is clay pipe, 8-inch diameter, and is located approximately under the south edge of the avenue pavement. It flows by gravity from west to east. A trunk sewer main exists between Waterfront Drive and 4th Street. The trunk sewer main is concrete pipe, 24-inch diameter, and is located approximately under the center of the existing pavement. All properties on the blocks of 6th Avenue from 7th Street to 4th Street connect to either the 8-inch lateral sewer main or the 24-inch trunk sewer main by individual services.

The existing 8-inch diameter lateral sewer and the 24-inch trunk sewer main on 6th Avenue were televised as part of the investigation for the proposed project. Based on the televised report, the existing 8-inch lateral main is in poor condition. The 24-inch trunk sewer main is still in good condition.

Manholes on the 8-inch sanitary sewer along 6th Avenue within this area are located on the west side of 7th Street, the east side of 7th Street, west side of Waterfront Drive, east side of Waterfront Drive, east side of 5th Street, and west side of 4th Street. The manholes were inspected for the project. All were found to be in poor condition.

Manholes on the 24-inch trunk sanitary sewer along 6th Avenue within this area are located on the east side of Waterfront Drive, west side of 5th Street, and the west side of 4th Street. The manholes were inspected for the project. All were found to be in good condition.

4.5th Street from 4th Avenue to 7th Avenue

There is no existing sanitary sewer main located along 5th Street. The only existing sanitary sewer components within the 5th Street right-of-way are at the intersections where the sanitary sewer mains along each east-west avenue crosses 5th Street. A sanitary sewer service to 611 5th Street exists within the 5th Street right-of-way.

E. Other Utilities

1. Gas

Buried gas main crosses 4th Avenue in a north-south orientation at the west side of 5th Street. No services extend from these north-south portions of the gas mains. Buried gas mains extend down the alleys and cross 5th Street between 4th and 5th Avenues, and a double crossing between 6th and 7th Avenues.

Buried gas main also exists along the south side on 5th Avenue from Waterfront Drive to 5th Street. And the south side on 6th Avenue from 7th Street to Waterfront Drive. This gas main located has existing sign posts through the block, noting the approximate locations. The gas mains were located prior to the survey performed for the project, and the locations were recorded. Individual service lines extend from the gas mains to each property.

Buried gas main exists along the west side of 5th Street from 4th Avenue to 5th Avenue. It extends south along the west side of 5th Street.

The understanding of this Report is that the gas mains are constructed of either metal or plastic material, and services within the project area are constructed of plastic material. The City is anticipating replacing gas mains on 5th Avenue and 5th Street in conjunction with this project.

2. Electric

Overhead electric utility exists in a north-south orientation at the east side of 5th Street. The city owns the utility poles along 5th Street. Multiple other private utility companies have lines in the north-south orientation on the east side of 5th Street.

Along the segments of this Report, the only overhead utility crossings are located on 5th Street, at the alleys between 4th Avenue & 5th Avenue, between 5th Avenue & 6th Avenue, and between 6th Avenue & 7th Avenue.

There are also overhead street lights located at a number of the intersections along the project segments. The lights are of various styles and heights.

3. Fiber

Buried fiber line is located on the east side of 4th Street. The fiber line crosses 4th Street on the north side of the 6th Avenue intersection. It runs east-west in the north side boulevard of 6th Avenue, crossing 5th Street, & Waterfront Drive, & 7th Street to the west. At 5th Street, the fiber line runs north-south, along the east side of 5th Street. At Waterfront Drive, the fiber runs south, along the west side of Waterfront Drive.

Duct pipes with utility lines run out of the Frontier Communication building north of 6th Avenue, along the east side of 5th Street. The duct pipes exist in a north-south orientation towards the 7th Street intersection, approximately underneath the east side sidewalk.

F. Drainage

Information on the existing drainage characteristics of each segment of the proposed project is given below:

1. 4th Avenue from Waterfront Drive to 5th Street

The front yards of the properties abutting 4th Avenue generally drain to the street, and 4th Avenue drains from east to west. No existing storm sewer is located on 4th Avenue. At the intersection of 4th Avenue with 5th Street, the surface storm water diverts onto 5th Street. The south side curb line flows to the south along 5th Street and the north side curb line flows to the north along 5th Street.

2. 4th Avenue from 5th Street to 4th Street

The front yards of the properties abutting 4th Avenue generally drain to the street, and 4th Avenue drains from east to west. No existing storm sewer is located on 4th Avenue. At the intersection of 4th Avenue with 4th Street, the surface storm water diverts onto 4th Street. The south side curb line flows to the south along 4th Street and the north side curb line flows east towards 5th Street.

3. 4th Avenue from 4th Street to 3rd Street

The front yards of the properties abutting 4th Avenue generally drain to the street, and 4th Avenue drains from west to east. No existing storm sewer is located on 4th Avenue. At the intersection of 4th Avenue with 3rd Street, the surface storm water diverts onto 3rd Street. The south side curb line flows to the south along 3rd Street and the north side curb line flows to the north along 3rd Street.

4. 5th Avenue from Waterfront Drive to 5th Street

The front yards of the properties abutting 5th Avenue generally drain to the street, and 5th Avenue drains from west to east. No existing storm sewer is located on 5th Avenue. At the intersection of 5th Avenue with 5th Street, the surface storm water flows north onto 5th Street. The surface storm water flows north from both curb lines onto the west side curb line of 5th Street.

5. 6th Avenue from 7th Street to Waterfront Drive

The front yards of the properties abutting 6th Avenue on the north side drain to the street, and the properties abutting 6th Avenue on the south side drain away from the street. This block of 6th Avenue drains from west to east. Storm sewer catch basins exist in all four corners of the 7th Street intersection. These catch basins are generally in fair condition. A trunk storm sewer pipe and manhole exist in the center of the 7th Street intersection. This trunk storm sewer line runs east approximately 75-feet, then south towards Skunk Creek.

Storm sewer catch basins exist in all four corners of the Waterfront Drive intersection. These catch basins are generally in fair condition.

6. 6th Avenue from Waterfront Drive to 5th Street

The front yards of the properties abutting 6th Avenue on the north side generally drain to the street, and the west half of this block of 6th Avenue drains from west to east. The east half of this block of 6th Avenue drains from east to west. Since there is no curb on this block of 6th Avenue, water flows over the pavement surface towards Skunk Creek.

One storm sewer catch basin is located mid-block at the low point on the north side of 6th Avenue. The catch basin is in poor condition.

A trunk sewer pipe runs diagonally south, crossing 6th Avenue on the west half of this block and ends at a flared end section in Skunk Creek.

7. 6th Avenue from 5th Street to 4th Street

The front yards of the properties abutting 6th Avenue on the north side generally drain to the street, and the west half of this block of 6th Avenue drains from west to east. The east half of this block of 6th Avenue drains from east to west. Since there is no curb on this block of 6th Avenue, water flows over the pavement surface towards Skunk Creek.

One storm sewer catch basin is located mid-block at the low point on the north side of 6th Avenue. The catch basin is in poor condition.

8. Skunk Creek

Skunk Creek extends through the projects area, draining from west to east. The creek is an open channel east of 7th Street, running through the back of properties on the south side of 6th Avenue. Prior to reaching Waterfront Drive, Skunk Creek enters a concrete box culvert / tunnel underneath Waterfront Drive. The creek flows east of Waterfront Drive in front of properties on the south side of 6th Avenue. Prior to reaching 5th Street, Skunk creek enters a block box culvert/tunnel. The box culvert tunnel extends across 5th Street, then discharges back into an open creek channel on the east side of 5th Street. The creek continues flowing east of 5th Street in front of properties on the south side of 6th Avenue. When it reaches 4th Street, Skunk Creek enters a corrugated metal culvert. The metal culvert extends across 4th Street to the east.

9. 5th Street

An existing storm sewer line is located under the west side of 5th Street. It extends from manhole within 7th Avenue and drains south, connecting to the existing Skunk Creek box culvert tunnel. Two catch basins located in the 6th Avenue & 5th Street intersection drain to this trunk storm sewer line.

No storm sewer inlets are located at the intersections with 4th or 5th Avenues.

G. Trees/Landscaping

1. Trees In Boulevards

There are a number of existing trees along 4th, 5th, & 6th Avenues in the boulevard area between the sidewalk and curb. The trees vary in type and in size, with some of the larger trees causing damage to the existing sidewalks and curb. There are also several trees beyond the existing sidewalks that are within the public ROW. Some of these trees are located very close to the existing sewer and water services extending into the adjacent properties. Root problems noted in the sanitary sewer mains are almost certainly attributable to the trees located along the boulevards and near the sewer services. It is likely some of the individual sewer services are also experiencing some level of blockage due to tree roots.

2. Landscaping & Other Private Property In Boulevards

There are a number of properties with landscaping, fencing, and other decorative lawn features that are within the public right of way. It is recommended the City work with the property owners at these locations to address these items if this project proceeds.

III. PROPOSED IMPROVEMENTS

The proposed typical sections for the 2023-2024 Street Improvement Project are shown on Figures 2 through 4 included in Appendix A of this Report. In addition, the proposed improvements for each of the ten individual blocks of the Project are shown on Figures 3 – 15 in Appendix A.

Further information on the proposed improvements for the Project are given below.

A. 4th Avenue – Reconstruction

The proposed improvements for each block of 4th Avenue included in this Report would consist of full reconstruction. Further information on this process is as follows:

1. Waterfront Drive to 5th Street

This block of 4th Avenue is designated as CSAH 35.

The existing section of 4th Avenue is proposed to be removed and be replaced with a new structural section. The existing section of 4th Avenue is proposed to be removed and be replaced with a new structural section. The proposed section for this block of 4th Avenue would consist of 5.5-inches of bituminous pavement, placed in three layers. The pavement would be supported by a 8-inch gravel base layer, which in turn would be underlain by a 15-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

The geotechnical investigation performed for this Report concurs the proposed section should be sufficient, based on review of the existing soils found beneath the streets at each boring location.

It is also proposed to completely replace the existing concrete curb and gutter along 4th Avenue. The curb type would be concrete. The exact style of curb to be installed is still being determined by Lake County.

The proposed typical section for this block is shown in Figure 4 in Appendix A.

It is proposed to reconstruct the street to 32-feet from face of curb to face of curb.

2. 5th Street to 4th Street

This block of 4th Avenue is designated as CSAH 35.

The existing section of 4th Avenue is proposed to be removed and be replaced with a new structural section. The proposed section for this block of 4th Avenue would consist of 5.5-inches of bituminous pavement, placed in three layers. The pavement would be supported by a 8-inch gravel base layer, which in turn would be underlain by a 15-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

No geotechnical investigation performed for this Report within this block. Additional soil borings will be completed prior to final design.

It is also proposed to completely replace the existing concrete curb and gutter along 4th Avenue. The curb type would be concrete. The exact style of curb to be installed is still being determined by Lake County.

The proposed typical section for this block is shown in Figure 4 in Appendix A.

It is proposed to reconstruct the street to 32-feet from face of curb to face of curb.

3. 4th Street to 3rd Street

This block of 4th Avenue is designated as County Road 105.

The existing section of 4th Avenue is proposed to be removed and be replaced with a new structural section. The proposed section for this block of 4th Avenue would consist of 5.5-inches of bituminous pavement, placed in three layers. The pavement would be supported by a 8-inch gravel base layer, which in turn would be underlain by a 15-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

No geotechnical investigation performed for this Report within this block. Additional soil borings will be completed prior to final design.

It is also proposed to completely replace the existing concrete curb and gutter along 4th Avenue. The curb type would be concrete. The exact style of curb to be installed is still being determined by Lake County.

The proposed typical section for this block is shown in Figure 4 in Appendix A.

It is proposed to reconstruct the street to 32-feet from face of curb to face of curb.

B. 5th Avenue – Reconstruction

The proposed improvements for each block of 5th Avenue included in this Report would consist of full reconstruction. The proposed typical section for 5th Avenue is shown on Figure 2 in Appendix A. Further information is as follows:

1. Structural Section

The existing section of 5th Avenue is proposed to be removed and be replaced with a new structural section. The new section would be the same for each segment, and would match the 2009 Standard Specifications. The proposed section of 5th Avenue would consist of 3-1/2 inches of bituminous pavement, placed in two layers. The pavement would be supported by an 8-1/2 inch gravel base layer, which in turn would be underlain by a 12-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

The geotechnical investigation performed for this Report concurs the proposed section should be sufficient, based on review of the existing soils found beneath the streets at each boring location.

2.Curb

It is also proposed to completely replace the existing concrete curb and gutter along the full length of each segment of 5th Avenue. The curb type would be concrete, 6-inch high, with a 24-inch wide gutter. This style of curb, referred to as B624, is consistent with the 2009 Standard Specification.

C. 6th Avenue – Reconstruction

The proposed improvements for each block of 6th Avenue included in this Report would consist of full reconstruction. The proposed typical section for 6th Avenue is shown on Figure 2 in Appendix A. Further information is as follows:

1.Structural Section

The existing section of 6th Avenue is proposed to be removed and be replaced with a new structural section. The new section would be the same for each segment, and would match the 2009 Standard Specifications. The proposed section of 6th Avenue would consist of 3-1/2 inches of bituminous pavement, placed in two layers. The pavement would be supported by an 8-1/2 inch gravel base layer, which in turn would be underlain by a 12-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

The geotechnical investigation performed for this Report concurs the proposed section should be sufficient, based on review of the existing soils found beneath the streets at each boring location.

2.Curb

It is also proposed to completely replace the existing concrete curb and gutter along the full length of each segment of 6th Avenue. The curb type would be concrete, 6-inch high, with a 24-inch wide gutter. This style of curb, referred to as B624, is consistent with the 2009 Standard Specification.

D. 5th Street (4th Avenue to 7th Avenue)

This segment of 5th Street is designated as CSAH 36.

The existing section of 5th Street is proposed to be removed and be replaced with a new structural section. The section would be based on anticipated loading and on recommendations from the geotechnical investigation. The proposed section for this block of 4th Avenue would consist of 5.5-inches of bituminous pavement, placed in three layers. The pavement would be supported by an 8-inch gravel base layer, which in turn would be underlain by a 15-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate street section materials from existing soils.

It is also proposed to completely replace the existing concrete curb and gutter along 5th Street. The curb type would be concrete. The exact style of curb to be installed is still being determined by Lake County.

The proposed typical section from 4th Avenue to 7th Avenue would be 32-feet from face of curb to face of curb. It would include a parking lane along the west side. The travel lanes would be constructed at 12-feet width and would be designated as shared use lanes that could accommodate both motor vehicles and bicycles.

The proposed typical sections for 5th Street are shown on Figure 3 in Appendix A.

E. 5th Avenue and 6th Avenue Widths

When considering the blocks of 5th Avenue and 6th Avenue addressed in this Report, the recommended width of the proposed improvements must be determined.

The Standard Specifications and Construction Requirements for the City of Two Harbors, dated August 2009, includes a standard typical street section. The section contains concrete curb and is a width of 33-feet from back of curb to back of curb.

The City of Two Harbors Special Assessment Policy addresses street width under Section 10.C. The policy states the 2009 Standard street width should be used for new construction projects. The policy further states that reconstructed streets should be built to their existing width where feasible, unless there is a petition by residents or advisement from the City Engineer or Public Works Superintendent for a different width.

Based on these existing documents, and the measurements of the existing streets obtained during the field survey, following are the recommendations for the proposed widths on the blocks of 5th and 6th Avenues for the 2023-2024 Street Improvement Project:

5th Avenue between Waterfront Drive and 5th Street has an existing width of 32-feet from face of curb to face of curb. The recommendation of this Report for the base improvement project is to reconstruct the street at the existing width.

Portions of 6th Avenue between 7th Street and Waterfront Drive contains concrete curb and gutter and has an existing width of approximately 24-feet from face of curb to face of curb. This block is currently signed for No Parking along the south side. A street width of 24-feet from face of curb to face of curb is proposed as the base improvement to match the existing section of the 600 block of 6th Avenue.

6th Avenue between Waterfront Drive and 5th Street does not contain concrete curb and gutter. The existing bituminous pavement width is approximately 24-feet edge to edge. There are no parking restrictions present. A street width of 24-feet from face of curb to face of curb is proposed as the base improvement to match the existing section of the 500 block of 6th Avenue.

6th Avenue between 5th Street and 4th Street does not contain concrete curb and gutter. The existing bituminous pavement width is approximately 24-feet edge to edge. There are no parking restrictions present. A street width of 24-feet from face of curb to face of curb is proposed as the base improvement to match the existing section of the 400 block of 6th Avenue.

Per the Special Assessment Policy, these blocks of 6th Avenue could be reconstructed at a width of 24-feet from face of curb to face of curb, to match the existing condition. However, from an engineering design standpoint, 24-foot width is not sufficient to allow parking on both sides of the street while maintaining a travel lane. Therefore, if 6th Avenue was reconstructed at a 24-foot width, the existing parking restriction on the south side of 6th Avenue would need to remain in place, and parking restrictions should also be considered for the other two blocks of 6th Avenue.

To reconstruct these blocks of 6th Avenue to the 2009 Standard Specification width of 33 feet from back of curb to back of curb, the street would need to be widened approximately 4-feet on each side. Without substantiated need, or a petition from residents, it is difficult to justify the additional cost of widening 6th Avenue by 8-feet over its existing width. In addition, the creation of additional impervious surfacing should not be done unless it is deemed necessary or beneficial.

From an engineering design perspective, a street width of 28-feet from face of curb to face of curb is sufficient to allow an 8-foot wide parking lane along each curb, while maintaining a standard 12-foot wide travel lane along the center of the street. Therefore, by increasing the width of these blocks of 6th Avenue by 2-feet on each side, a width of 28-feet could be achieved. If that were done, the City would have the flexibility to choose whether or not to place parking restrictions along these blocks, depending upon the need. The street width could accommodate either parking or no parking configurations.

Based on the preceding discussion, these blocks of 6th Avenue could reasonably be built at either 24-foot or 28-foot width from face of curb to face of curb. This Report has included costs for both scenarios. Reconstructing the streets to the existing width of 24-feet is presented as the Base Project. Widening the street from 24-feet to 28-feet is presented as an Optional Improvement, as discussed later in this Report.

The City should confirm the proposed widths of each block of 4th, 5th, and 6th Avenues if improvements for the 2023-2024 Street Improvement Project are ordered.

F. Driveways

All existing driveway connections to the segments in the 2023-2024 Project are proposed to be replaced at their current locations, with new materials consistent with their existing surface type (i.e. concrete for concrete, bituminous for bituminous, gravel for gravel). The width of each driveway would approximately match the existing width. The length of repair along each driveway would be sufficient to achieve an acceptable slope.

G. Sidewalks

1. Width

The existing sidewalks along 4th, 5th, and 6th Avenue are 6-feet wide. However, the 2009 Standard Specifications recommend sidewalks 4-feet in width.

Based on this, there would be rationale for the City to choose to construct the sidewalks in the 2023-2024 Street Improvement Project at a width of 6-feet, 5-feet, or 4-feet.

In accordance with the Special Assessment Policy, which states reconstructed sidewalks should match the existing width whenever feasible, the preliminary design for this project proposes to reconstruct the sidewalks at a width of 6-feet. This provides a conservative cost estimate, in the event the sidewalks were to be constructed to a width less than 6-feet.

The City should specify the preferred sidewalk width as part of the final design.

2. 4th Avenue

The existing sidewalk on both sides of all blocks of 4th Avenue are proposed to be completely replaced with new concrete sidewalk. For the all three blocks of 4th Avenue, the sidewalks are proposed to be constructed with an approximate 5-foot-wide grass boulevard. The walk on both sides is proposed at 5-feet wide.

Due to the recommended water system improvements, described in a later section of this Report, it would also be necessary to reconstruct the sidewalks and pedestrian ramp at the southeast corner of the intersection of 4th Avenue and 5th Street as part of this Project. All pedestrian ramps would be constructed in accordance with requirements of the Americans with Disabilities Act (ADA).

3. 5th Avenue

The existing sidewalk on both sides of each block of 5th Avenue are proposed to be completely replaced with new concrete sidewalk.

Due to the recommended water system improvements, described in a later section of this Report, it would also be necessary to reconstruct the sidewalks and pedestrian ramp at the northeast corner of the intersection of 5th Avenue and Waterfront Drive as part of this Project. The pedestrian ramps at the 5th Street intersection are proposed to be reconstructed as a part of the County improvements on this Project. All pedestrian ramps would be constructed in accordance with requirements of the Americans with Disabilities Act (ADA).

4.6th Avenue

The existing sidewalk on both sides of the block of 6th Avenue between 7th Street and Waterfront Drive are proposed to be completely replaced with new concrete sidewalk. The limits of the proposed improvements on 6th Avenue west of 7th Street are anticipated to impact the existing sidewalk along the west side of 7th Street. Therefore, reconstruction of the pedestrian ramps at that location are included in the Project.

The existing sidewalk on the north side of the blocks of 6th Avenue between Waterfront Drive and 4th Street are proposed to be replaced with new concrete sidewalk. The pedestrian ramps at the 5th Street intersection are proposed to be reconstructed as a part of the County improvements on this Project. A pedestrian ramp would be constructed at 4th Street. All pedestrian ramps would be constructed in accordance with requirements of the Americans with Disabilities Act (ADA).

5. Private Walks

All private sidewalks impacted by the project are also proposed to be reconstructed with the improvements. The private walks would be reconstructed at their existing locations, and to the limits as impacted by the project. Since these private walks are not part of the public sidewalk system, the ADA requirements do not apply, and curb ramps are not necessary.

The removal and replacement of the existing public sidewalks along 5th Avenue and 6th Avenue may impact the existing steps on some of the private sidewalks. If steps are impacted at a location, it is anticipated the entire set of steps would need to be removed and replaced. It would not likely be feasible to just replace an individual step. The cost estimates for the preliminary design include replacement of all steps. The actual steps impacted by the construction will depend on factors such as the elevations for the street and sidewalks set in final design, and conditions encountered during construction.

H. Water System

Potential improvements to the water system within the 2023-2024 Project are shown on Figures 5 – 15 in Appendix A, and are described below.

1.4th Avenue

The existing 4-inch water main is proposed to be replaced with a new 6-inch diameter water main. The proposed alignment for the water main would match the existing alignment on the north side of 4th Avenue, under the street pavement. New valves would be installed at appropriate locations for operation of the new water main.

New hydrants would be installed at the northwest corner of the 5th Street, 4th Street, & 3rd Street intersections, and the northeast corner of the Waterfront Drive intersection.

The individual water services to each property within 4th Avenue would also be replaced. New service pipe would be extended from the new 6-inch water main at each location. The existing curb stop and box would be removed and replaced with new materials. The new curb stops and boxes would be installed at the same locations from where the old were removed. The existing service would then be re-connected to the new curb stop. New services will be constructed to vacant lots on the north side of 4th Avenue that do not currently have services.

A temporary water supply system for 4th Avenue would be necessary during construction of the new water main and services. The furnishing, installation, and maintenance of the temporary water system would be included in the project as part of the responsibility of the contractor, under review and approval by the City. Water shutdowns will be needed for all connections to existing water mains at the west and east ends of 4th Avenue.

2.5th Avenue

The existing 4-inch water main is proposed to be replaced with a new 6-inch diameter water main. The proposed alignment for the water main would match the existing alignment on the north side of 5th Avenue, under the street pavement. New valves would be installed at appropriate locations for operation of the new water main.

New hydrants would be installed at the northwest corner of the 5th Street intersection and the northeast corner of the Waterfront Drive intersection. A new hydrant would also be installed at the northwest corner of the 4th Street intersection. The watermain dead ends at the east end of 5th Avenue. The proposed hydrant at the 4th Street intersection would allow the 400 block of 5th Avenue to be flushed.

The individual water services to each property within 5th Avenue would also be replaced. New service pipe would be extended from the new 6-inch water main at each location. The existing curb stop and box would be removed and replaced with new materials. The new curb stops and boxes would be installed at the same locations from where the old were removed. The existing service would then be re-connected to the new curb stop.

A temporary water supply system for 5th Avenue would be necessary during construction of the new water main and services. The furnishing, installation, and maintenance of the temporary water system would be included in the project as part of the responsibility of the contractor, under review and approval by the City. Water shutdowns will be needed for all connections to existing water mains at the west and east ends of 5th Avenue.

3.6th Avenue

The existing 4-inch water main is proposed to be replaced with a new 6-inch diameter water main. The proposed alignment for the water main would match the existing alignment on the north side of 6th Avenue, under the street pavement. New valves would be installed at appropriate locations for operation of the new water main.

New hydrants would be installed at the northwest corners of the Waterfront Drive, 5th Street & 4th Street intersections.

The individual water services to each property within 6th Avenue would be replaced. New service pipe would be extended from the new 6-inch water main at each location. The existing curb stop and box would be removed and replaced with new materials. The new curb stops and boxes would be installed at the same locations where the old were removed. The existing service would then be re-connected to the new curb stop.

For water services that cross Skunk Creek between Waterfront Drive and 4th Street, the existing curb stop and boxes are located on the south side of the creek. It is proposed that the water service will be removed and replaced to the location of the existing curb stop and box. New curb stop and boxes within these two blocks of 6th Avenue will be located within the north bank of Skunk Creek. This relocation of the new curb stops is for ease of future operation and maintenance for the City staff.

Additional water services will be constructed to vacant lots that have no existing water services to the property.

A temporary water supply system for 6th Avenue would be necessary during construction of the new water main and services. The furnishing, installation, and maintenance of the temporary water system would be included in the project as part of the responsibility of the contractor, under review and approval by the City. Water shutdowns will be needed for all connections to existing water mains at the west and east ends of 6th Avenue.

4.5th Street

The existing 8-inch water main and existing 12-inch trunk watermain is proposed to be replaced with a new 16-inch diameter trunk water main. The proposed alignment for the water main would match the existing alignment on the east side of 5th Street, under the street pavement.

New valves would be installed at appropriate locations for operation of the new water main.

The individual water services to each property within 5th Street would also be replaced. New service pipe would be extended from the new 16-inch trunk water main at each location. The existing curb stop and box would be removed and replaced with new materials. The new curb stops and boxes would be installed at the same locations from where the old were removed. The existing service would then be re-connected to the new curb stop.

A temporary water supply system for 5th Street would be necessary during construction of the new water main and services. The furnishing, installation, and maintenance of the temporary water system would be included in the project as part of the responsibility of the contractor, under review and approval by the City. Water shutdowns will be needed for all connections to existing water mains at the north and south ends of 5th Street.

I. Sanitary Sewer

Improvements to the sanitary sewer system are shown on Figures 8 – 15 in Appendix A. In summary, the existing sewer main and services within each block of 4th, 5th, and 6th Avenues would be proposed to be replaced.

1.4th Avenue

The proposed improvements would replace the existing manholes from the east side of Waterfront Drive to the 3rd Street intersection and replace the sewer main between these manholes. A new manhole will be constructed at the west project limit on 4th Avenue. At the 3rd Street intersection, it is proposed to construct a manhole on the existing north-south sanitary pipe on 3rd street. The proposed 4th Avenue sanitary sewer would connect to this new manhole on 3rd Street.

The individual services to each property served by the sanitary sewer in each block of 4th Avenue would also be replaced. New service pipe would be extended from the new 8-inch sanitary main at each location. The existing service would be re-connected at approximately the City right of way line.

Additional services would be installed to vacant properties that do not have an existing sanitary service.

Temporary interruptions to sewer service will be necessary during the sanitary sewer improvements. Coordination by the contractor with the City Utility Department and residents will be required. It may also be necessary to establish temporary bypassing of segments of the sanitary sewer main during construction of new sewer improvements. The furnishing, installation, and maintenance of any temporary bypass equipment would be included in the project as the responsibility of the contractor, under review and approval by the City.

2.5th Avenue

The proposed improvements would replace the existing manholes from the east side of Waterfront Drive to the east side of the 5th Street intersection and replace the sewer main between these manholes. A new manhole will be constructed at the east and west project limits on 5th Avenue.

The individual services to each property served by the sanitary sewer in this block of 5th Avenue would also be replaced. New service pipe would be extended from the new 8-inch sanitary main at each location. The existing service would be re-connected at approximately the City right of way line.

Temporary interruptions to sewer service will be necessary during the sanitary sewer improvements. Coordination by the contractor with the City Utility Department and residents will be required. It may also be necessary to establish temporary bypassing of segments of the sanitary sewer main during construction of new sewer improvements. The furnishing, installation, and maintenance of any temporary bypass equipment would be included in the project as the responsibility of the contractor, under review and approval by the City.

3.6th Avenue

It should be possible to connect the individual service lines for all properties between 4th Street and 6th Street to the 24-inch trunk sewer main on 6th Avenue. Doing so would allow the existing 8-inch lateral sanitary sewer main from Waterfront Drive to 4th Street to be abandoned in place. It will be necessary to replace a portion of the 24-inch trunk sanitary sewer main on the west half of the block between Waterfront and 5th Street, to lower the pipe to an elevation allowing gravity connection of all individual service pipes on the south side 6th Avenue. The remainder of the 24-inch trunk sewer main on 6th Avenue would remain in place and would have a new cured-in place liner installed.

The existing 8-inch sewer main from Waterfront Drive to 7th Street would be replaced. The proposed improvements would replace the main to the existing manhole west of 7th Street. The 8-inch sanitary sewer main would be realigned to the center of the proposed street as much as feasible. The proposed sanitary sewer would connect to the manhole on the 24-inch trunk sanitary sewer main east of Waterfront Drive.

The individual services to each property served by the sanitary sewer in each block of 6th Avenue would also be replaced. For the segment west of Waterfront Drive, all service lines would connect to the new 8-inch main. For the segment from Waterfront Drive to 4th Street, all service lines would connect to the 24-inch sanitary trunk main. Each existing service would be re-connected at approximately the City right of way.

Additional services would be installed to vacant properties that do not have an existing sanitary service.

Temporary interruptions to sewer service will be necessary during the sanitary sewer improvements. Coordination by the contractor with the City Utility Department and residents will be required. It may also be necessary to establish temporary bypassing of segments of the sanitary sewer main during construction of new sewer improvements. The furnishing, installation, and maintenance of any temporary bypass equipment would be included in the project as the responsibility of the contractor, under review and approval by the City.

J. Other Utilities

1. Gas

The gas system is owned, operated, and maintained by the City of Two Harbors Utility Department. No modifications to the gas system would be included in the contract let for the proposed 2023-2024 Street Improvement Project. However, any work on the gas system would be coordinated with the street project construction.

Existing gas mains are present at various locations as discussed in Section II of this Report. The understanding of this Report is the City intends to replace the existing steel gas mains along 5th Avenue and 5th Street within the project area during this project.

The contractor for the 2023-2024 Project would be required to expose the gas mains and services in advance of construction, so their exact locations and depths could be documented. This work will be coordinated with the City Utility.

Excavation near gas mains and services will need to be done with the proper caution and appropriate coordination with the City Utility. It may be necessary to modify the depth or width of the excavation in certain locations to reduce or avoid impacts with the gas utility.

2. Electric

The electric system is owned, operated, and maintained by the City of Two Harbors Electric Department. No modifications to the electric system would be included in the contract let for the proposed 2023-2024 Street Improvement Project.

It is the understanding of this Report that in conjunction with the 2023-2024 Street Improvement Project the City may want to perform other minor repairs or updates to the system. All work would be done by the City Electric Department, in coordination with the work occurring under the street project.

K. Drainage

1. 4th Avenue

No notable changes to the drainage patterns on any of the blocks of 4th Avenue investigated as part of this Report are proposed.

2. 5th Avenue

No notable changes to the drainage patterns on any of the blocks of 5th Avenue investigated as part of this Report are proposed.

If storm sewer is extended along 5th Street to 5th Avenue as part of the Lake County improvements on the Project, it would be possible to install subsurface drain tile along 5th Avenue west of 5th Street.

3. 6th Avenue

The block of 6th Avenue between 7th Street and Waterfront Drive will be lowered to create a low point at the proposed mid-block storm sewer catch basins. All proposed curb on this block will flow towards the mid-block low point west of Waterfront Drive.

The block of 6th Avenue between Waterfront Drive and 5th Street will be lowered to create a low point at the proposed mid-block storm sewer catch basins. All proposed curb on this block will flow towards the mid-block low point west of 5th Street.

The block of 6th Avenue between 5th Street & 4th Street will be lowered to create a low point at the proposed mid-block storm sewer catch basins. All proposed curb on this block will flow towards the mid-block low point west of 4th Street.

Drain tile installation would be recommended for each block of 6th Avenue. Subsurface drain tile would be proposed to run along each side of the street as shown on the typical section. The drain tile would connect to either the proposed storm sewer along 6th Avenue or to the County's proposed storm sewer within the 5th Street intersection.

4.5th Street

The existing storm sewer along 5th Street from 7th Avenue to the Skunk Creek tunnel is proposed to be replaced as part of the County improvements on the Project. As part of this work, new catch basin inlets are proposed at the intersection at 6th Avenue. The County is also investigating extension of the storm sewer along 5th Street to 4th Avenue, and the inclusion of new catch basin inlets at the 5th Avenue & 4th Avenue intersections.

Replacement of the Skunk Creek box culvert tunnel is proposed as part of the Lake County portion of this Project.

IV. OPTIONAL IMPROVEMENTS

Beyond the base proposed improvements discussed in the preceding section, there are situations within the 2023-2024 Street Improvement Project area where optional improvements could be considered. These optional improvements include:

- Widen 6th Avenue from 24' to 28' (7th Street to 4th Street)
- Extend watermain on 4th Street for looping.
- Add a Sidewalk on the West Side of 4th Street (North of 6th Avenue).

Further information on each optional improvement is provided as follows.

A. Widen 6th Avenue (7th Street to 4th Street)

As noted previously, the existing blocks of 6th Avenue from 7th Street to 4th Street have existing width of 24-feet from the outside edge of bituminous street pavement to outside edge of bituminous pavement. This width is sufficient for parking on only one side of the street. A width of 28-feet is the minimum recommended to allow parking on both sides of the street.

Widening the blocks of 6th Avenue from 7th Street to 4th Street would affect the location of the sidewalks. The existing footprint from back of sidewalk to back of sidewalk would increase. However, a majority of the existing service walks and concrete steps to individual properties will already be replaced due to the water and sanitary sewer service replacements, so there is little additional impact to service walks or steps due to the street widening.

Constructing the street to a 28-foot width would also not be anticipated to significantly alter impact to boulevard trees. The majority of trees would already be impacted by the sanitary sewer and water systems work, and construction of the street to the base 24-foot width.

Based on the investigation of widening these blocks of 6th Avenue from 7th Street to 4th Street performed as part of this Report, optional width of 28-feet was found to be feasible due to minimal additional impacts. Construction at 28-foot width would also match the width of the blocks of 6th Avenue west of 7th Street that were reconstructed in 2021 and 2022.

B. Extend watermain on 4th Street for Looping.

The city's watermain on 6th Avenue currently stops at the existing hydrant in the northwest corner of the 4th Street intersection. An optional improvement to loop the watermain at the east end of 6th Avenue was considered with this Report. Two options were considered.

Option 1 looked at extending the watermain north to the existing 12" trunk watermain that runs east-west in the alley south of 7th Avenue. Connecting to this 12" trunk watermain will result in a temporary shutdown of the 12" watermain. This connection north of 6th Avenue would accomplish a loop in the city's watermain, resulting in better water quality and fire flow. Extending the watermain north would have impacts on the existing street surface of 4th Street. The existing concrete curb, storm sewer, and sidewalks would not be affected as the watermain would only be located within the street surface. Replacing water services to the properties east of 4th Street would result in spot curb & sidewalk replacements.

Option 2 looked at extending the watermain south to connect to the watermain at the east end of 5th Avenue. The existing watermain on 5th Avenue comes to a dead end at 4th Street. The base proposed improvement within this project will add a hydrant at the 4th Street intersection for improved operation and maintenance of the 5th Avenue watermain. Option 2 would connect the watermain from 6th Avenue to 5th Avenue to complete a loop in the system. Extending the watermain south of 6th Avenue would have impacts on existing 4th Street. The watermain on 4th Street would need to be directionally drilled underneath the existing Skunk Creek culvert. The existing road section on 4th Street south of 6th Avenue is rural bituminous.

The segment of 4th Street south of 7th Avenue is under jurisdiction of Lake County and is designated as CSAH 29. Lake County is considering future reconstruction and extension of 4th Street. Timeline of those improvements are not known as of this report.

After review of the existing conditions and discussion with City and County staff, looping of the watermain from 6th Avenue north on 4th Street to the alley was determined to be the more feasible option. This watermain looping layout is shown on Figure 16 in Appendix A.

However, it was also concluded any installation of water main on 4th Street would be more appropriate to be done in conjunction with a future project to reconstruct 4th Street, so the watermain could be designed and installed in a coordinated fashion with other utility and street improvements on that corridor. Therefore, watermain looping on 4th Street is not recommended for inclusion in the 2023-2024 Street Improvement Project.

C. Sidewalk on West Side of 4th Street (North of 6th Avenue)

As part of the base City improvements, sidewalk is proposed on the north side of 6th Avenue, ending at a pedestrian ramp in the northwest corner at its intersection with 4th Street. There is existing sidewalk on the west side of 4th Street from 7th Avenue to the North Shore Federal Credit Union parking lot. Therefore, after the base City improvements are performed, there will be a gap of approximately 100-foot gap on the west side of 4th Street north of 6th Avenue where no sidewalk exists. An optional improvement for installation of sidewalk on the west side of 4th Street north of 6th Avenue to eliminate this gap was investigated with the Report.

The existing sidewalk on the west side of 4th Street south of 7th Avenue is immediately adjacent to the back of curb. The proposed extension of the sidewalk south of the alley to 6th Avenue would also be immediately adjacent to the back of the existing curb.

Upon review of the existing field conditions, this optional sidewalk was found to be feasible. The installation could be performed very cost-effectively with the overall street project, and little impact to existing 4th Street would be anticipated.

In discussion with Lake County, since this optional sidewalk would be adjacent to 4th Street, which is CSAH 29, the County has indicated they would likely be able to fund construction of the optional sidewalk on 4th Street.

The optional sidewalk layout is shown on Figure 17 in Appendix A.

V. PERMITS

In order to construct the proposed improvements described in this Report it will be necessary to obtain the following permits prior to the start of construction:

- Minnesota Department of Health (MDH) for water system.
- Minnesota Pollution Control Agency (MPCA) for sanitary sewer.
 - Since only replacing existing pipe, no flow increase, permit not needed.
- Minnesota Pollution Control Agency (MPCA) for stormwater.
 - NPDES/SDS Construction Permit would be needed since disturbing over 1 acre.
- Minnesota Department of Transportation (MnDOT)
 - Permit would be needed for the proposed water system work in their right-of-way of 7th Avenue.
- Lake County
 - A joint powers agreement (JPA) will be entered into by the City of Two Harbors and Lake County to address all proposed improvements.
 - Wetland Delineations. As part of this Report an investigation was performed to identify if there were any wetlands within the project area, specifically in the vicinity of Skunk Creek. The investigation found no wetlands. Concurrence of this finding will be needed from Lake County.
 - Coordination will be performed for work affecting Skunk Creek.
- Minnesota Department of Natural Resources
 - Skunk Creek is not a water of the state, and therefore is not under jurisdiction of the DNR. No DNR permits are anticipated to be needed for this project.

VI. EASEMENTS

The City of Two Harbors has existing public right-of-way (ROW) corridors over all avenues within the proposed project area. Need for any rights of entry and/or permanent or temporary construction easements for the improvements to the public infrastructure under the proposed 2023-2024 Street Improvement Project would be confirmed during final design.

For various items of private infrastructure, minor encroachment onto private property may be beneficial in order to achieve a better overall quality of work. These items include:

- Water and sanitary sewer service installation and connection.
- Driveway connections.
- Private sidewalk connections.

Formal temporary construction easements are not anticipated to be necessary for these items, unless the City prefers to obtain them. Rather, it is anticipated the work can be achieved through direct communication and coordination with the property owner. If such coordination cannot be obtained, work could be stopped short such that no encroachment onto the private property occurs.

Along the blocks of 4th Avenue from 6th Street to 4th Street, the south ROW line falls within Skunk Creek. As a result, the existing water shut offs (curb boxes) for most properties on the south side of 6th Avenue are outside the public ROW. To replace the existing water service and shut off will require more significant encroachment onto those properties than noted above.

Since the County and City improvements will be included in a single plan set, and since the plan set will need to be approved by MnDOT due to the CSAHs, the project will be required to document it has either ROW or easements over all proposed work. Given the location of existing curb boxes outside the ROW on the south side of 6th Avenue from 6th Street to 4th Street, utility easements will be needed on those properties to allow the proposed water service work.

Further, the slopes of Skunk Creek also extend beyond the south public ROW limits for the blocks of 6th Avenue from 6th Street to 4th Street. This means drainage easements should be in place on those properties to protect Skunk Creek from being adversely impacted from private parties.

Investigation of the properties along 6th Avenue found no existing utility or drainage easements. Therefore, as part of the project it will be necessary to obtain utility easements for the proposed water service work. However, it is recommended the proposed easements include both utilities and drainage, to address protection for the Skunk Creek channel as well.

VII. ESTIMATED COSTS

Detailed cost estimates for the proposed improvements have been prepared and are included in Appendix B of this report. All costs are based on anticipated unit prices for the 2023 construction season and include an allowance for indirect costs associated with the project (such as engineering, testing, administrative, legal, and financing). No costs are included for capitalized interest during the construction period or before assessments are collected, nor for easements or right-of-way that may need to be acquired for the project.

Costs have been estimated for both the base work described in Section III – Proposed Improvements, as well as for those options described in Section IV – Optional Improvements. Information on the base cost estimates is presented below, within information on the estimated costs for the optional improvements presented later in this section.

A. Base Improvements – City of Two Harbors

Costs have been separated for each individual block investigated in the Report. The following table presents a summary of the total estimated costs for the base improvements proposed by the City of Two Harbors. This summary is also presented in Appendix B1 of this Report.

It should be noted that the costs shown for 5th Street and 4th Avenue in Table 1 are for the City utilities (sanitary sewer and water system) only, since the street and sidewalk costs for those segments are in the County portion of the project.

<p>Table 1</p> <p>Estimated Base Improvement Costs</p> <p>City of Two Harbors</p> <p>Summary by Segment</p>	
Segment	Estimated Cost
5 th Street: 4 th Ave. to 5 th Ave.	\$161,490
5 th Street: 5 th Ave. to 6 th Ave.	\$104,550
5 th Street: 6 th Ave. to 7 th Ave.	\$148,860
4 th Avenue: Waterfront Drive to 5 th St.	\$445,890
4 th Avenue: 5 th St. to 4 th St.	\$380,940
4 th Avenue: 4 th St. to 3 rd St.	\$493,140
5 th Avenue: Waterfront Drive to 5 th St.	\$1,075,690
5 th Avenue: 4 th St.	\$73,370
6 th Avenue: 7 th St. to Waterfront Drive	\$1,328,780
6 th Avenue: Waterfront Drive to 5 th St.	\$1,330,970
6 th Avenue: 5 th St. to 4 th St.	\$1,043,980
Total Base Improvements – City of Two Harbors	\$6,587,660

Within each block, costs have been estimated by type of improvement. Following are tables for each individual block, showing the costs by type of improvement. This information is summarized in Appendix B1, and detailed cost estimates by type of improvement for each individual block are shown in Appendix B2 – B12 of this Report.

<p>Table 2</p> <p>Estimated Costs</p> <p>5th Street: 4th Ave. to 5th Ave.</p>	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$0
Sanitary Services	\$0
Water System	\$145,700
Water Services	\$15,790
Total Estimated Costs – 5th St. (4th -5th Ave.)	\$161,490

Table 3 Estimated Costs 5th Street: 5th Ave. to 6th Ave.	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$0
Sanitary Services	\$0
Water System	\$89,030
Water Services	\$15,520
Total Estimated Costs – 5th St. (5th -6th Ave.)	\$104,550

Table 4 Estimated Costs 5th Street: 6th Ave. to 7th Ave.	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$0
Sanitary Services	\$0
Water System	\$134,770
Water Services	\$14,090
Total Estimated Costs – 5th St. (6th -7th Ave.)	\$148,860

Table 5 Estimated Costs 4 th Avenue: Waterfront Drive to 5 th St.	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$85,620
Sanitary Services	\$81,620
Water System	\$150,440
Water Services	\$128,210
Total Estimated Costs – 4th Ave (6th-5th)	\$445,890

Table 6 Estimated Costs 4 th Avenue: 5 th St. to 4 th St.	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$121,850
Sanitary Services	\$61,630
Water System	\$133,430
Water Services	\$64,030
Total Estimated Costs – 4th Ave (5th-4th)	\$380,940

Table 7 Estimated Costs 4 th Avenue: 4 th St. to 3 rd St.	
Improvement Type	Estimated Cost
Street	\$0
Sidewalk	\$0
Storm Sewer	\$0
Sanitary Sewer	\$156,420
Sanitary Services	\$81,620
Water System	\$150,420
Water Services	\$104,680
Total Estimated Costs – 4th Ave (4th-3rd)	\$493,140

Table 8 Estimated Costs 5th Avenue: Waterfront Drive to 5th St.	
Improvement Type	Estimated Cost
Street	\$458,800
Sidewalk	\$175,260
Storm Sewer	\$0
Sanitary Sewer	\$102,920
Sanitary Services	\$79,720
Water System	\$155,280
Water Services	\$103,710
Total Estimated Costs – 5th Ave (6th-5th)	\$1,075,690

Table 9 Estimated Costs 5th Avenue: 4th St.	
Improvement Type	Estimated Cost
Street	\$23,640
Sidewalk	\$2,750
Storm Sewer	\$0
Sanitary Sewer	\$0
Sanitary Services	\$0
Water System	\$46,980
Water Services	\$0
Total Estimated Costs – 5th Ave (4th)	\$73,370

Table 10 Estimated Costs 6 th Avenue: 7 th St. to Waterfront Drive	
Improvement Type	Estimated Cost
Street	\$557,490
Sidewalk	\$245,570
Storm Sewer	\$130,700
Sanitary Sewer	\$99,040
Sanitary Services	\$76,760
Water System	\$121,060
Water Services	\$98,160
Total Estimated Costs – 6th Ave (7th-6th)	\$1,328,780

Table 11 Estimated Costs 6 th Avenue: Waterfront Drive to 5 th St.	
Improvement Type	Estimated Cost
Street	\$609,460
Sidewalk	\$43,090
Storm Sewer	\$153,500
Sanitary Sewer	\$230,250
Sanitary Services	\$91,510
Water System	\$117,560
Water Services	\$85,600
Total Estimated Costs – 6th Ave (6th-5th)	\$1,330,970

Table 12 Estimated Costs 6 th Avenue: 5 th St. to 4 th St.	
Improvement Type	Estimated Cost
Street	\$528,550
Sidewalk	\$38,800
Storm Sewer	\$49,250
Sanitary Sewer	\$139,280
Sanitary Services	\$75,750
Water System	\$120,070
Water Services	\$92,280
Total Estimated Costs – 6th Ave (5th-4th)	\$1,043,980

B. Base Improvements – Lake County

The table below presents a summary of the total estimated costs for the base improvements proposed by Lake County. The following tables show the cost breakdown for each segment of the proposed County improvements. This summary information is also presented in Appendix B1 of this Report, while a detailed cost estimate for the County improvements is provided in Appendix B16.

Table 13 Estimated Base Improvement Costs Lake County Summary by Segment	
Segment	Estimated Cost
5 th Street: 4 th Ave. to 7 th Ave. – County Improvements	\$2,628,076
4 th Avenue: 6 th St. to 5 th St. – County Improvements	\$1,246,588
4 th Avenue: 4 th St. to 3 rd St. – County Improvements	\$661,852
Total Base Improvements – Lake County	\$4,536,516

Table 14 Estimated Costs 5 th Street: 4 th Ave. to 7 th Ave. Lake County Improvements	
Improvement Type	Estimated Cost
Street / Sidewalk	\$2,235,928
Storm Sewer	\$392,148
Total Estimated Costs – 5th St. (4th-7th)	\$2,628,076

Table 15 Estimated Costs 4 th Avenue: 6 th St. to 4 th St. Lake County Improvements	
Improvement Type	Estimated Cost
Street / Sidewalk	\$1,246,588
Storm Sewer	\$0
Total Estimated Costs – 4th Ave. (6th-5th)	\$1,246,588

<p>Table 16</p> <p>Estimated Costs</p> <p>4th Avenue: 4th St. to 3rd St.</p> <p>Lake County Improvements</p>	
Improvement Type	Estimated Cost
Street / Sidewalk	\$661,852
Storm Sewer	\$0
Total Estimated Costs – 4th Ave. (5th-4th)	\$661,852

C. Optional Improvements

Section IV of this Report discussed the possible Optional Improvements for the 2023-2024 Street Improvement Project. Those included widening 6th Avenue from 24-feet to 28-feet, extending watermain on 4th Street for looping, and optional sidewalk along the west side of 4th Street North of 6th Avenue.

The table below presents a summary of the estimated costs for the optional improvements. The following tables show the cost breakdown for each individual option.

<p>Table 17</p> <p>Estimated Optional Improvement Costs</p> <p>Summary by Option</p>	
Item	Estimated Cost
6 th Avenue: 7 th St. to 4 th St. – 28-foot width	\$61,836
4 th Street: Extending Watermain	\$197,310
4 th Street: 6 th Ave. to North Alley – West Sidewalk	\$8,990
Total Estimated Costs – Optional Improvements	\$268,136

1. A detailed estimate for the costs of widening 6th Avenue is provided in Appendix B13 of this Report.
2. A detailed estimate for the costs of extending watermain on 4th Street from 6th Avenue to the alley to the north is provided in Appendix B14 of this Report.
3. A detailed estimate for the costs of the optional sidewalk on the west side of 4th Street north of 6th Avenue is provided in Appendix B15 of this Report.

D. Comparison to Two Harbors CIP

In December 2021 the City of Two Harbors updated its Capital Improvement Plan (CIP) for the 5-year period of 2022-2026. The updated CIP included a street improvement program that identified a potential joint project with Lake County project for the years 2023-2024.

The updated CIP cost estimates presented to the City Council included a breakdown of estimated costs for the 2023-2024 segments by part. Based on the cost estimates for the 2023-2024 Street Improvement Project prepared as part of this Report, a chart has been created to show a comparison of the updated CIP estimates and the current estimates from this Report. That summary chart is included as Appendix B1A to this Report.

The following table shows a comparison of the total estimate from the updated CIP costs and this Report for each of the segments proposed in the 2023-2024 Street and Improvement Project. The difference between the two estimates has also been calculated for each segment, to show whether the current estimate for each is higher or lower than the CIP estimate.

<p>Table 18</p> <p>Comparison of Report to Two Harbors CIP</p> <p>Total Estimated Cost by Segment</p>				
Segment	Report Estimate	Updated CIP Estimate (July 2022)	Report vs. CIP	
			Amount	Percent
5 th Street – 4 th to 5 th Avenue	\$161,490	\$383,333	(\$221,843)	(57.9%)
5 th Street – 5 th to 6 th Avenue	\$104,550	\$383,333	(\$278,783)	(72.7%)
5 th Street – 6 th to 7 th Avenue	\$148,860	\$588,333	(\$439,473)	(74.7%)
4 th Avenue – 6 th to 5 th Street	\$445,890	\$400,000	\$45,890	11.5%
4 th Avenue – 5 th to 4 th Street	\$380,940	\$398,500	(\$17,560)	(4.4%)
4 th Avenue – 4 th to 3 rd Street	\$493,140	\$444,000	\$49,140	11.1%
5 th Avenue – 6 th to 5 th Street	\$1,075,690	\$967,000	\$108,690	11.2%
5 th Avenue – 4 th Street	\$73,370	Not in CIP	\$73,370	N/A
6 th Avenue – 7 th to 6 th Street	\$1,328,780	\$1,112,000	\$216,780	19.5%
6 th Avenue – 6 th to 5 th Street	\$1,330,970	\$1,131,500	\$199,470	17.6%
6 th Avenue – 5 th to 4 th Street	\$1,043,980	\$1,184,500	(\$140,520)	(11.9%)
Subtotal – Base Project	\$6,587,660	\$6,992,500	(\$404,840)	(5.8%)
<i>Optional Improvements</i>				
Widen 6 th Avenue - 7 th to 4 th Street	\$61,836			
Extend Watermain on 4 th Street ¹	\$197,310			
Sidewalk on 4 th Street – West Side ²	\$0			
Subtotal – Options	\$259,146			
Totals with Options	\$6,846,806	\$6,992,500	(\$145,694)	(2.1%) ³

Notes:

1. Improvement is not recommended to be included in the 2023-2024 Street Improvement Project.
2. This improvement would be anticipated to be funded 100% by Lake County.
3. Without optional 4th Street watermain, total project Report estimate is 5.2% lower than the CIP.

From the preceding table, it can be seen the current estimated base costs for the 2023-2024 Street Improvement Project in this Feasibility Report are \$404,840 lower than the updated CIP estimates, which represents a decrease of approximately 5.8%. If the costs of the optional improvements are included, then the Report costs are \$145,694 or about 2.1% lower than the CIP estimates.

When the costs for individual project segments are reviewed in the table, it is seen the costs for 6th Avenue, between 7th Street and 5th Street has increased from the updated CIP estimates. The main reasons for the estimated cost increase on this individual segment is explained as follows.

On the 6th Avenue block, between 7th Street and 6th Street, all steps on the service walks for individual properties are anticipated to be replaced. Most properties have their water services located directly under the existing steps.

For all three blocks of 6th Avenue, additional storm sewer is proposed to be constructed as a part of this project. These additional costs were not anticipated in the CIP.

VIII. COST ALLOCATION

As allowed and authorized by Minnesota Statutes, Chapter 429, a portion of the Project Cost is proposed to be assessed against benefitting properties within the project area. The City of Two Harbors has an Amended Special Assessment Policy, adopted by the City Council November 29, 2020. This section of the Report presents the approach to assignment of costs using the Assessment Policy as guidance. Information is given on the portion of costs to be assessed, parcels identified to receive assessments, and method for distributing the assessable costs over the identified properties.

A. Portion of Cost to Assess

Section 11 of the Two Harbors Special Assessment Policy identifies the portion of cost to be assigned to benefitting properties for each type of improvement. The portion of cost for most improvements is identified as a percentage of the total cost. Discussion regarding each type of improvement as it applies to the proposed 2023-2024 Street Project is presented below:

- Street Improvement: Reconstruction.
 - East-West Avenues: 50% is proposed to be assessed to benefitted properties, with 50% being paid by the City.
 - North-South Streets: 15% is proposed to be assessed to benefitted properties, with 85% being paid by the City.
- Sidewalks: Reconstruction.
 - Sidewalk assessment is based on the area constructed, and is assigned at a rate of \$50/square. For this report, since the standard sidewalk width along City avenues is 5-feet, a “square” is considered to be a 5-foot by 5-foot area.
 - No differentiation is made between sidewalks on East-West Avenues and North-South streets.
- Storm Sewer: Reconstruction.
 - 100% is to be paid by the City.
 - Drain tile is also proposed to be paid 100% by the City.
- Sanitary Sewer:
 - Main Line: For replacement of existing sanitary sewer mains and structures, 100% is to be paid by the City.

- Services: For individual services extended from sanitary sewer mains to serve a single property, 100% of the cost is to be assessed to the property being served. This applies to all areas of the Project.
- Water System:
 - Main Line: For replacement of existing water mains and associated items such as hydrants and valves, 100% is to be paid by the City.
 - Services: For individual services extended from water mains to serve a single property, the City pays 100% of the costs for the connection of the service to the main, the portion of service line from the main to the shut off (curb stop), and for the curb stop. If any portion of the water service beyond the curb stop is replaced, the property is responsible for that portion of the cost, and would be assessed for 100% of the cost of the service work beyond the curb stop. This applies to all areas of the Project.
 - For the south side of 6th Avenue, between Waterfront Drive and 4th Street, curb stops and boxes will be relocated from the south bank of Skunk Creek to the north bank. The City will pay for all work from the watermain to the existing curb stop and box locations. Assessments will only occur if any additional service pipe beyond the existing curb box location is replaced. After the project, the City will own from the watermain to the new curb box location. The property owner will own from the new curb box to the structure within the property.

B. Properties to be Considered for Assessment

Properties considered for assessment of the 2023-2024 Street Improvement Project are those benefitting from the improvements. The benefitted area is generally described as bounded by 7th Avenue, 7th Street, 3rd Avenue, and 3rd Street.

The list of all parcels included in consideration for assessment on the 2023-2024 Street Improvement Project is shown in Appendix C-1 of this Report.

C. Method of Assessment

Section 9 of the City of Two Harbors Special Assessment Policy allows four different methods for allocating assessable costs to properties. Discussion of the methodology to be applied to the proposed 2023-2024 Street Improvement Project is presented below:

1. Area Method

The Area Method is proposed to be used for the 2023-2024 Street Improvement Project. This method is applied by dividing the total assessable cost over the benefitted area to determine a cost per square foot.

2. Residential Parcels – Categorization by Size

A majority of parcels within the 2023-2024 Street Improvement Project area are residential. Residential properties use the adjacent streets, avenues, and sidewalks in similar fashion. There are parcels of varying sizes within the Project area. Section 9 of the Special Assessment Policy allows modifications to provide for minimum and maximum assessments. To acknowledge the similar use of the streets and sidewalks, it is proposed to categorize residential parcels. This approach results in consistent assessment amounts for parcels of comparable size, and reduces the chance for misunderstandings as to why neighboring properties may be assessed varying amounts.

For the 2023-2024 Street Improvement Project, residential parcels have been categorized into Small, Average, Large, and Extra Large. In the original platting for this neighborhood, a standard lot was 50-feet wide by 140-feet deep, which is 7,000 square feet. This standard lot size is used as the basis for parcel categories. The residential parcel categories are shown in the following table:

<p>Table 19</p> <p>Residential Parcels</p> <p>Categories for Assessment</p>				
Designation	Small	Average	Large	Extra Large
Area (SF)	0 to 5,250	5,251 to 8,749	8,750 to 10,500	10,501 +
Assessment	0.75	1.00	1.25	Actual area

The standard lot of 7,000 square feet is the midpoint of the Average category. Parcels ranging from 1,749 square feet less to 1,749 square feet more than the standard lot are considered within the Average category. Assessments for parcels designated as Average will be calculated based on the rate per square foot times 7,000 square feet. Parcels in the Small category will be assessed 75% (0.75) of the amount for the Average category; similarly, parcels in the Large category will be assessed 125% (1.25) of the amount for the Average category. Assessments for parcels in the Extra Large category will be determined based on the actual area of the parcel.

3. Commercial Parcels

In addition to residential properties, there are some parcels within the project area with existing commercial usage. Assessments for these parcels will be calculated directly based on the individual parcel area.

Based on their size, use, or other factors, for certain parcels the assessment calculated from the estimated project costs may exceed the anticipated benefit. Therefore, the estimated assessments for those parcels have been adjusted to reflect the anticipated maximum benefit, as allowed under Section 9 of the Two Harbors Special Assessment Policy.

4. Sanitary Sewer and Water Services

The assessment for an individual sanitary sewer service or water service to a single property will be the total cost for that service. The service cost will be dependent upon the size and length of pipe and materials necessary. As a result, the assessment for each individual service may vary.

D. Assessment Rates

Applying the above information regarding the portion of costs to assess, the properties to be considered, and the method of assignment, proposed assessment rates can be calculated for each type of improvement within the 2023-2024 Project. The proposed assessment rates are based on the current estimated cost for each improvement type.

The following tables show the assessment rate for each type of improvement in the proposed 2023-2024 Project. Each table shows the estimated cost of the improvements, the portion of that cost to be assessed, and the resulting rate to be assessed. For rates per square foot, an additional table shows the assessment amount for each residential parcel category.

1. Street

Table 20 Street Improvement Type City Improvements Assessment Amount			
Segment	Estimated Cost	% to Assess	Assess Amount
5 th Street: 4 th Ave. to 7 th Ave.	\$0	50%	\$0
4 th Avenue: 6 th St. to 3 rd St.	\$0	50%	\$0
5 th Avenue: 6 th St. to 4 th St. ¹	\$458,800	50%	\$229,400
6 th Avenue: 7 th St. to 6 th St.	\$557,490	50%	\$278,745
6 th Avenue: 6 th St. to 5 th St.	\$609,460	50%	\$304,730
6 th Avenue: 5 th St. to 4 th St.	\$528,550	50%	\$264,275
Totals	\$2,154,300		\$1,077,150
Assessable Area (square feet)			618,100
Assessment Rate			\$1.51 / sf²
<i>1 – Cost for 5th Avenue at 4th Street are not included.</i>			
<i>2 – Rate includes an adjustment for Mobilization and Traffic Control.</i>			

Table 21 Street Improvement Type Assessment Amount Per Parcel Category	
Category	Amount per Parcel
Small	\$7,950.00
Average	\$10,600.00
Large	\$13,250.00
Extra Large	\$1.514 x parcel area

2.Sidewalk

Table 22 Sidewalk Improvement Type City Improvements Assessment Amount	
Segment	Area of Sidewalk (SF)
5 th Avenue: 6 th St. to 5 th St.	6,171
5 th Avenue: 5 th St. to 4 th St.	170
6 th Avenue: 7 th St. to 6 th St.	6,687
6 th Avenue: 6 th St. to 5 th St.	2,815
6 th Avenue: 5 th St. to 4 th St.	2,658
Total Sidewalk Improvement Area	18,501
Total Number of equivalent “Squares” (1 Square = 5’x5’)	740.04
Total Sidewalk Assessment ¹	\$37,002
Assessable Area (square feet)	618,100
Assessment Rate	\$0.06 / sf
<i>1 – Based on the Nov. 29, 2020 Assessment Rate of \$50 per Square of Sidewalk Improvements</i>	

Table 23 Sidewalk Improvement Type Assessment Amount Per Parcel Category	
Category	Amount per Parcel
Small	\$315.00
Average	\$420.00
Large	\$525.00
Extra Large	\$0.06 x parcel area

3.Storm Sewer

Storm sewer costs are 100% City share per the Assessment Policy.

4. Sanitary Sewer

- a) **Main Line:** Costs for sanitary sewer mains and structures are 100% City share per the Assessment Policy.
- b) **Services**

For service lines extended from the sanitary sewer main to serve individual properties, each property is responsible for 100% of the cost of their service. The cost of each service will be dependent upon the length of pipe needed. In this Report, average lengths of service pipe were assumed in order to perform the preliminary costs estimates and assessment calculations. Due to their configuration, some lots on the south side of 6th Avenue adjacent to Skunk Creek, and lots north of 6th Avenue along 5th Street are anticipated to require a longer length of service pipe.

Estimated assessments for sanitary service costs on typical lots are shown in the following table.

Table 24 Sanitary Sewer Services Estimated Cost per Lot (Typical)	
Improvement Type	Estimated Cost / Lot ¹
6" Sewer Service – Average Length	\$4,720 - \$5,260
6 th Ave. – South Side (6 th St. to 4 th St.)	\$5,970 - \$6,260
<i>1 – Table does not include every parcel. See Appendix C-2 for preliminary estimated assessments on specific individual parcels.</i>	

5. Water System

- a) **Main Line:** Costs for water mains and associated items are 100% City share per the Assessment Policy.
- b) **Services:**

For service lines extended from the water main to serve individual properties, the City is responsible for 100% of the cost from the main to and including the curb stop and box per the Assessment Policy.

The cost for any portion of an individual service line beyond the curb stop is 100% responsibility of the property per the Assessment Policy. The cost of each service will be dependent upon the length of pipe needed.

In this Report, it was assumed all existing water services will be able to be re-connected at the curb stop, and no additional pipe will be needed beyond the curb stop and box. Therefore, no estimated assessment for water services are included in this Report.

In the event water service replacement beyond the curb stop were necessary during construction, the costs for that portion of the service beyond the curb stop would be determined per the Assessment Policy and included in the final assessment calculations once construction had been substantially completed.

E. Optional Improvements

The optional improvements for the 2023-2024 Street Improvement Project were described in Section IV of this Report, with corresponding cost estimates provided in Section VII. The assessment calculations and resulting costs for the optional improvements are shown below. As noted in Section IV, the optional improvement for adding sidewalk along 4th Street would be anticipated to be financed by Lake County. Therefore, the cost for that improvement has no impact on the estimated assessment rates for property owners within the project.

The following table shows the estimated cost of the optional improvements, the portion of that cost to be assessed, and the resulting rate to be assessed. For rates per square foot, an additional table shows the assessment amount for each residential parcel category.

Table 25 Optional Improvements Assessment Amount			
Segment	Estimated Cost	Portion	Assess Amount
Widen 6 th Avenue: 7 th St. to 4 th St.	\$61,836	50%	\$30,918
Extend Watermain on 4 th St.	\$197,310	0%	\$0
4 th St: Sidewalk North of 6 th Ave. ¹	\$8,990	0%	\$0
Totals	\$268,136		\$30,918
Assessable Area (square feet)			618,100
Assessment Rate			\$0.05 / sf
<i>1 – This cost is anticipated to be funded 100% by Lake County.</i>			

Table 26 Optional Improvements Assessment Amount Per Parcel Category	
Category	Amount per Parcel
Small	\$262.50
Average	\$350.00
Large	\$437.50
Extra Large	\$0.05 x parcel area

F. County Improvements

5th Street and 4th Avenue are currently under the jurisdiction of Lake County. All blocks within the project are designated by the County as a State Aid Highway (CSAH), except for 4th Avenue from 4th Street to 3rd Street, which is designated as County Road. Since these roads are under County jurisdiction, the County will fund the street and sidewalk improvements along those segments.

The City of Two Harbors is responsible for the cost of sanitary sewer and water system improvements along the County segments. Storm sewer costs for the County segments is split between the County and City, based on the contributing area to the system being improved. Determination of the split will be made by the Minnesota Department of Transportation based on review of the final plans. At the time this Report is prepared, it is assumed the City of Two Harbors will be responsible for 30% of the storm sewer cost on the County project segments.

IX. ASSESSMENT SUMMARY

As illustrated in the previous Cost Allocation section, assessment rates for the proposed 2023-2024 Street Improvement Project vary from improvement type to improvement type. The assessment costs identified in the preceding section are summarized in Appendix C-2 of this Report. Appendix C-2 presents the assessment rate for each type of improvement and lists which assessments for each improvement type are proposed to be assigned to each of the properties identified in Appendix C-1.

This listing in Appendix C-2 of the proposed assessments for each property constitutes the proposed preliminary assessment roll for the 2023-2024 Street Improvement Project. The preliminary assessment roll shows the total estimated assessment to each property for the base improvements proposed in the Project, as determined from the estimated costs and allocation methodology contained in this Feasibility Report.

The preliminary assessment roll in Appendix C-2 further shows the estimated assessments from the optional improvements, as well as showing the total estimated assessment to each property if those optional improvements were included in the Project. It should be noted that each of the optional improvements could be selected individually for inclusion in the project by the City. If any of the optional improvements were not included in the project, the assessment rates and amounts would decrease accordingly.

The following table shows a summary of the estimated assessment amounts for the residential parcel categories.

Table 27 Residential Parcels Summary of Estimated Assessment				
	Parcel Category			
Improvement	Small	Average	Large	Extra Large
Street	\$7,950.00	\$10,600.00	\$13,250.00	\$1.514 x area
Sidewalk	\$315.00	\$420.00	\$525.00	\$0.060 x area
Optional	\$262.50	\$350.00	\$437.50	\$0.050 x area
Total	\$8,527.50	\$11,370.00	\$14,212.50	\$1.624 x area
<i>Note: Assessment for sanitary sewer and/or water service would be in addition to amounts shown above.</i>				

A. Previous Assessments

Prior to 2012, 6th Avenue from 4th Street to 6th Street existed as a gravel road. In 2012, Lake County placed a bituminous overlay on those blocks of 6th Avenue in conjunction with other paving work being done within the County. In addition to the overlay from 4th to 6th Streets, they County also performed a mill and overlay on the block of 6th Avenue from 6th Street to 7th Street. Based on investigation performed during preparation, the understanding of this Report is that no assessments were assigned for the 2012 paving work on 6th Avenue.

The Two Harbors Amended Special Assessment Policy adopted November 29, 2020 recognized the possibility a sidewalk adjacent to a property may have been replaced, incurring a corresponding assessment, only to have that sidewalk subsequently replaced again if the street were reconstructed. The Amended Special Assessment Policy allows for a proportional credit of a previous sidewalk assessment for a period of up to 5 years from when the sidewalk assessment was assigned.

This Report also recognizes there are parcels proposed for assessment under the 2023-2024 Street Improvement Project that were previously assessed for improvements made to alleys that also abut the parcels. If those previous alley assessments have not been paid off, the term of the remaining portion of the previous alley assessment will overlap with the term of the new assessment from the 2023-2024 Street Improvement Project. It is recommended the City of Two Harbors review this situation further and develop a corresponding policy prior to calculation of the final assessments for the 2023-2024 Street Improvement Project.

No adjustment to the preliminary estimated assessment amounts determined for the proposed 2023-2024 Street Improvement Project have been made as part of this Report. However, the possibility of assessments associated with previous work is acknowledged. The City of Two Harbors can take this issue under advisement; any necessary or appropriate actions regarding previous assessments within the project area discovered during project implementation can be taken into account in the determination of final assessments for the 2023-2024 Street Improvement Project.

X. FINANCING

Project costs are proposed to be partially financed by assessments as discussed in the previous sections of this Report. The remainder of the City portion of the project costs will be financed by City funds. The City could choose to issue a bond for the project costs, use existing reserves, or employ a combination of those.

Minnesota Statutes, Chapter 429, provide for levying assessments over a period of time; a period of up to 30 years is allowed. Per the City of Two Harbors adopted Special Assessment Policy, the typical term used for improvements such as those being considered in the 2023-2024 Street Project is 15 years. Since the collection of assessments is anticipated to take several years, the City should plan on funding the assessed portion of the project costs through other means for the interim period until assessments are collected.

Statute also allows for the assignment of interest on assessments, up to a Statutory maximum. The Two Harbors Special Assessment Policy states the interest rate shall be the bond rate plus 1% if the City borrows funds for the project costs.

The proposed term and interest rate would be identified prior to the assessment hearing, and would be set by the City Council at the conclusion of that hearing, assuming the assessments are adopted.

The following tables shows a summary of the proposed financing for the 2023-2024 Street Improvement Project, on the basis of assessed costs, City costs, and County costs. The tables show a summary for both the base improvements as well as if the optional improvements were included in the project.

Table 28 Project Cost Summary ¹					
Item	Total Estimated Cost	Assessed Portion		City Portion	
		Amount	Percent	Amount	Percent
City Improvements – Base	\$6,587,660	\$1,800,147	27.3%	\$4,787,513	72.7%
City Improvements – Optional	\$259,146	\$45,115	17.4%	\$214,031	82.6%
Subtotal City Improvements	\$6,846,806	\$1,845,262	27.0%	\$5,001,544	73.0%
County Improvements – Base ²	\$4,536,516	\$0	0.0%	\$117,644	2.6%
County Improvements – Optional ³	\$8,990	\$0	0.0%	\$0	0.0%
Subtotal County Improvements	\$4,545,506	\$0	0.0%	\$117,644	2.6%
Total Project	\$11,392,312	\$1,845,262	16.2%	\$5,119,188	44.9%
<i>Notes:</i> 1 – Amounts in Table rounded to the nearest dollar. 2 – Anticipated City participation in storm sewer cost on 5 th Street (CSAH 36) & 4 th Avenue (CSAH 35). 3 – Anticipates 100% of cost for 4 th Street Sidewalk Optional Improvements to be paid by Lake County.					

Table 29 Project Financing Summary ¹		
Source	Estimated Amount	%
Assessments	\$1,845,262	16.2%
City of Two Harbors	\$5,119,188	44.9%
Lake County	\$4,427,862	38.9%
Total Project	\$11,392,312	100.0%
1 – Amounts in Table rounded to the nearest dollar		

XI. PUBLIC HEARING

In order to consider the use of assessments for financing a portion of the 2023-2024 Street Improvement Project, Minnesota Statutes, Chapter 429, requires two public hearings be held regarding the project. Summary description of the two required hearings is given below. Additional information regarding the hearings is contained in the Two Harbors Special Assessment Policy.

A. Improvement Hearing

The first public hearing is referred to as the “improvement hearing”, and is called when the Feasibility Report has been completed and is ready to be presented to the City Council. Notice of the hearing is required to be made to the general public, as well as specifically to those parcels proposed for assessment.

The information from the Feasibility Report is presented at the improvement hearing, including the estimated project costs and the estimated assessments. After the hearing is closed, if the City wishes to proceed with the project, the City Council then takes action to officially order the improvements.

B. Assessment Hearing

The second public hearing is referred to as the “assessment hearing”. The purpose of the assessment hearing is to present the actual assessment roll to the properties proposed to be assessed. Specific notice of the hearing is required to be directly sent to those properties proposed for assessment; notice must also be made to the general public.

To prepare for the assessment hearing, the City must have the final assessment roll prepared with the actual assessments proposed to be levied against the properties. This differs from the improvement hearing, where only estimated assessments were presented. Preparation of the final assessment roll must be based on actual costs, either from construction bids received or from the actual cost of the project after the work is complete. Minnesota Statute allows the assessment hearing to be held either before the award of contract and start of construction, or after construction has been substantially completed and final project costs are known. The Two Harbors Special Assessment Policy states the assessment hearing will be held after the project has been completed.

XII. PROJECT SCHEDULE

Following is the proposed schedule for the 2023-2024 Street Improvement Project:

- | | |
|----------------------|--------------------------------------|
| • April 25, 2022 | Order Feasibility Report. |
| • September 12, 2022 | Receive Feasibility Report. |
| • September 12, 2022 | Call for Public Improvement Hearing. |
| • October 10, 2022 | Hold Public Improvement Hearing. |
| • October 2022 | Order Project. |
| • February 2023 | Approve Plans. |
| • March 2023 | Open Bids. |
| • April 2023 | Award Contract. |
| • May/June 2023 | Start Construction. |
| • October 2024 | Construction Substantially Complete. |
| • November 2024 | Hold Public Assessment Hearing. |

XIII. FEASIBILITY AND RECOMMENDATION

This Report has been prepared to investigate the potential for making improvements to the existing infrastructure along ten individual blocks of avenues and streets within the City of Two Harbors, Minnesota, as described in the Project Area. This Report has identified recommended improvements, provided estimated costs of those improvements, and identified a method of cost allocation, consistent with the City of Two Harbors adopted Special Assessment Policy, to finance the improvements.

From an engineering standpoint, this project is feasible, cost effective, and necessary due to the condition of the existing infrastructure. It is also feasible from a construction standpoint, with a detailed project schedule presented for completion of the work during the 2023 and 2024 construction seasons. This project should be done in conjunction with Lake County improvements to 5th Street and 4th Avenue as described in this Report.

A. Consideration of City Segments

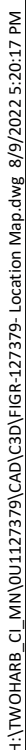
Should the City of Two Harbors proceed with a 2023-2024 Street Improvement Project, it could include any combination of the individual blocks of City Avenues investigated in this Report.




B. Recommendations

Based on the finding of this Report, the following recommendations are presented for consideration by the City Council of Two Harbors:

1. The City of Two Harbors accept this Report.
2. The City of Two Harbors hold a Public Improvement Hearing to receive input on the proposed improvements and provide information to benefitting properties identified for assessment.
3. Upon completion of the Public Improvement Hearing, if the City of Two Harbors wishes to proceed, it use this Report as a guide for the layout, design, completion, and cost allocation of public improvements to the following:
 - a) 4th Avenue from Waterfront Drive (6th Street) to 3rd Street
 - b) 5th Avenue from Waterfront Drive (6th Street) to 5th Street
 - c) 5th Avenue at 4th Street Intersection
 - d) 6th Avenue from 7th Street to 4th Street
 - e) 5th Street from 4th Avenue to 7th Avenue
4. The City consider whether it wishes to include any of the optional improvements identified in this Report:
 - a) Construct 6th Avenue from 7th Street to 4th Street at 28-foot width.
 - b) Extend watermain on 4th Street to connect loop. (From 6th Avenue to Alley South of 7th Avenue)
 - c) Construct Sidewalk on the West Side of 4th Street (North of 6th Avenue)
5. To meet the proposed schedule, the City of Two Harbors order the project and authorize preparation of the plans and specifications.

Appendix A: Figures



-  Proposed City Project Reconstruction
 Proposed County Project Reconstruction
 Parcels

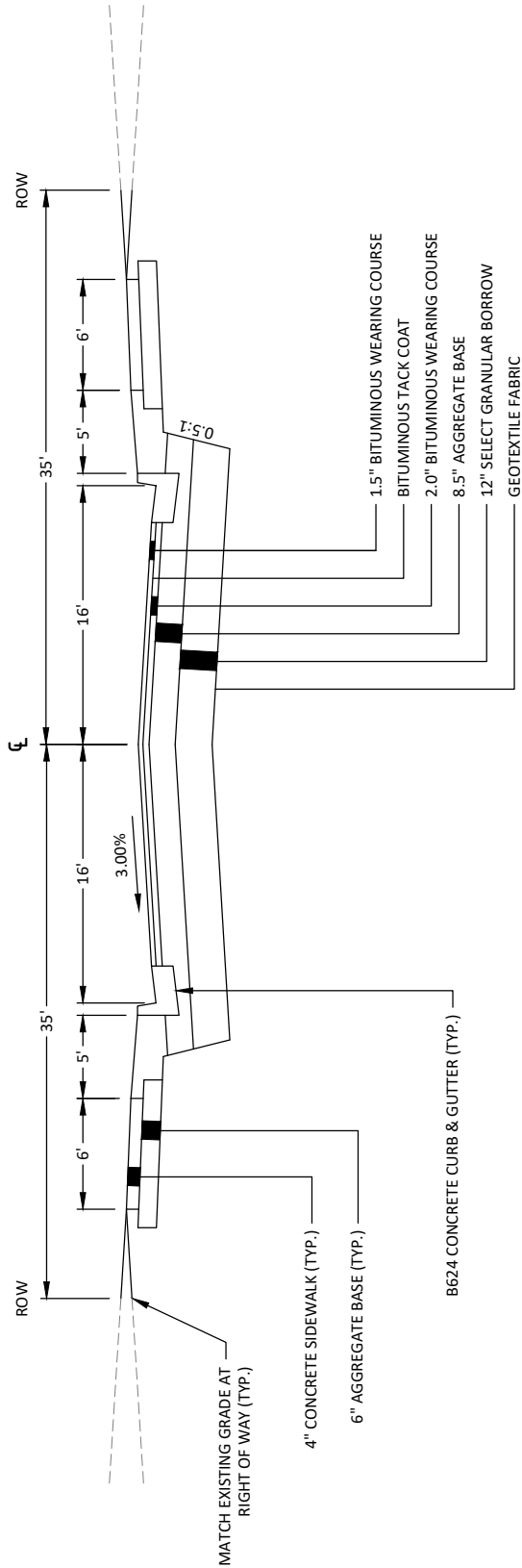


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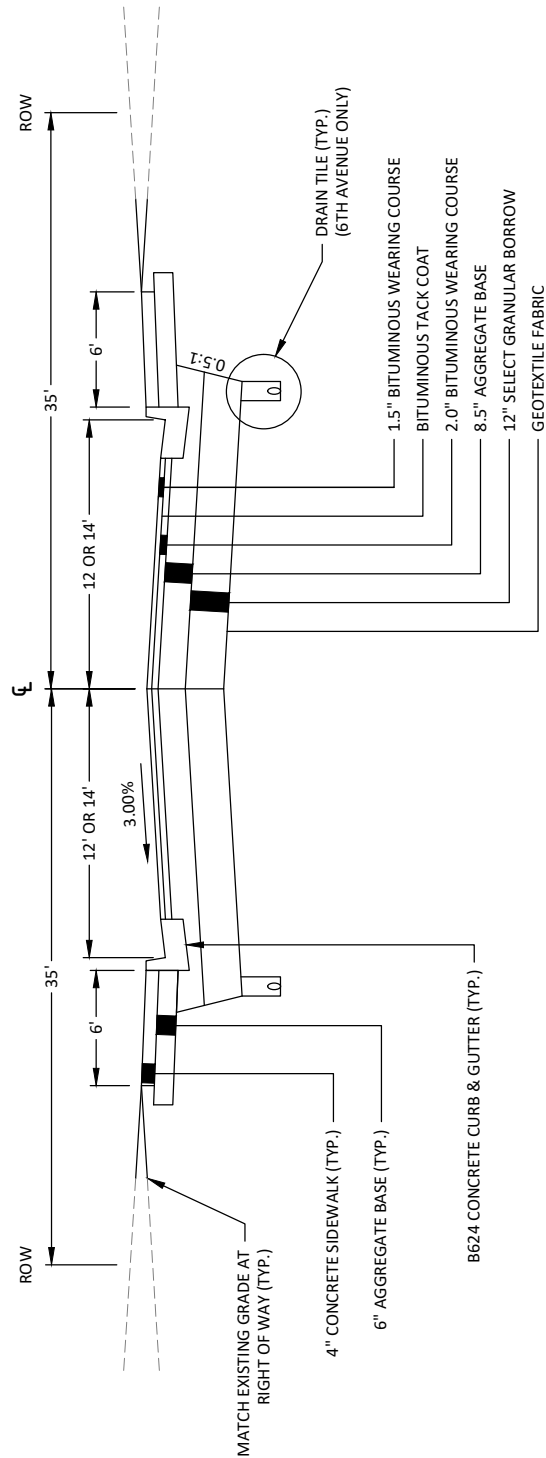
TYPICAL SECTION - 32 ' FACE TO FACE

(5TH AVENUE - WATERFRONT DRIVE TO 5TH STREET)



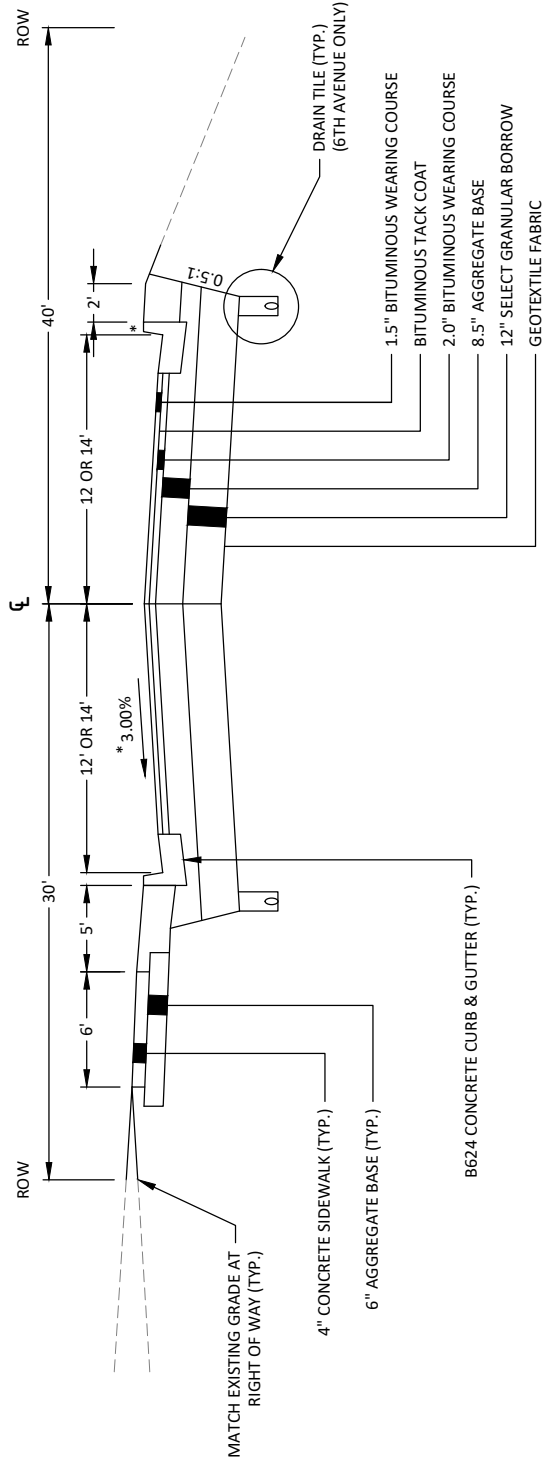
TYPICAL SECTION - 24' OR 28' FACE TO FACE

(6TH AVENUE - 7TH STREET TO WATERFRONT DRIVE)



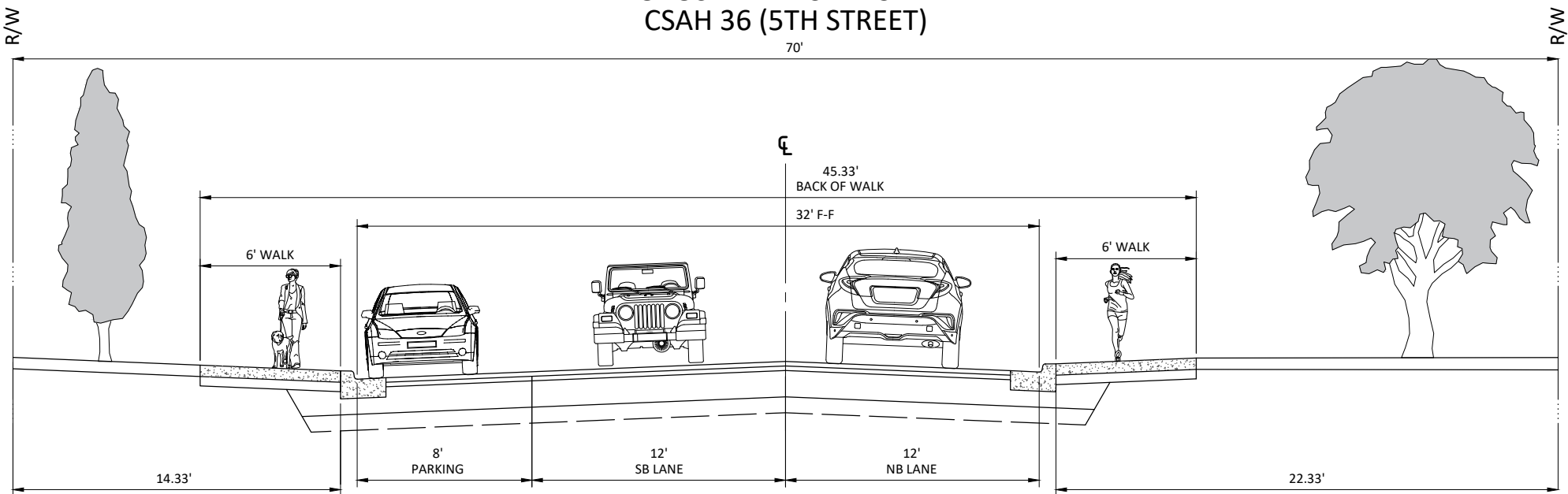
TYPICAL SECTION - 24' OR 28' FACE TO FACE

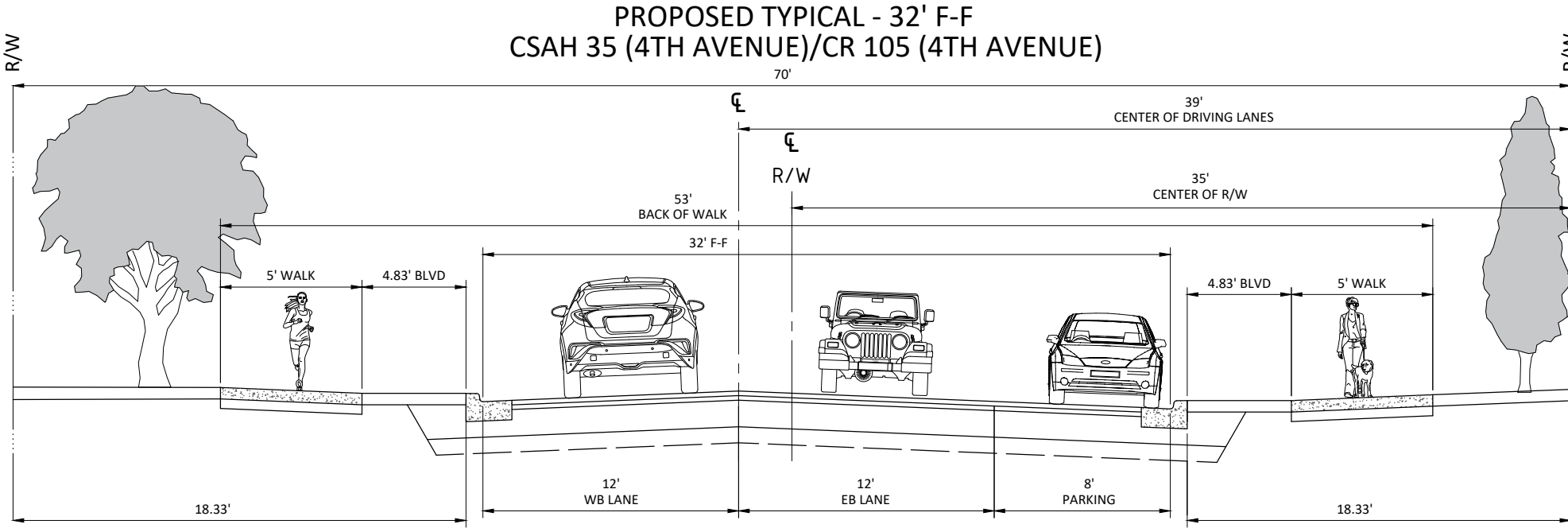
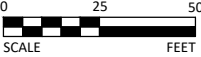
(6TH AVENUE - WATERFRONT DRIVE TO 4TH STREET)

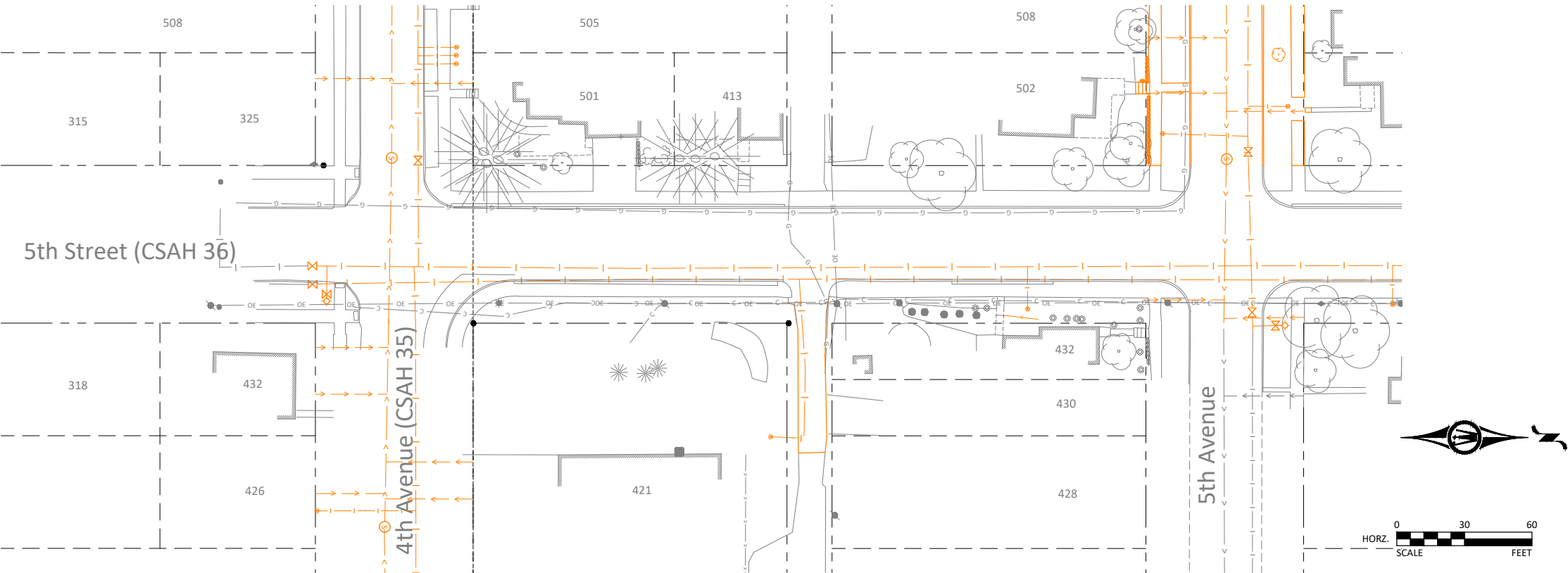




PROPOSED TYPICAL - 32' F-F
CSAH 36 (5TH STREET)







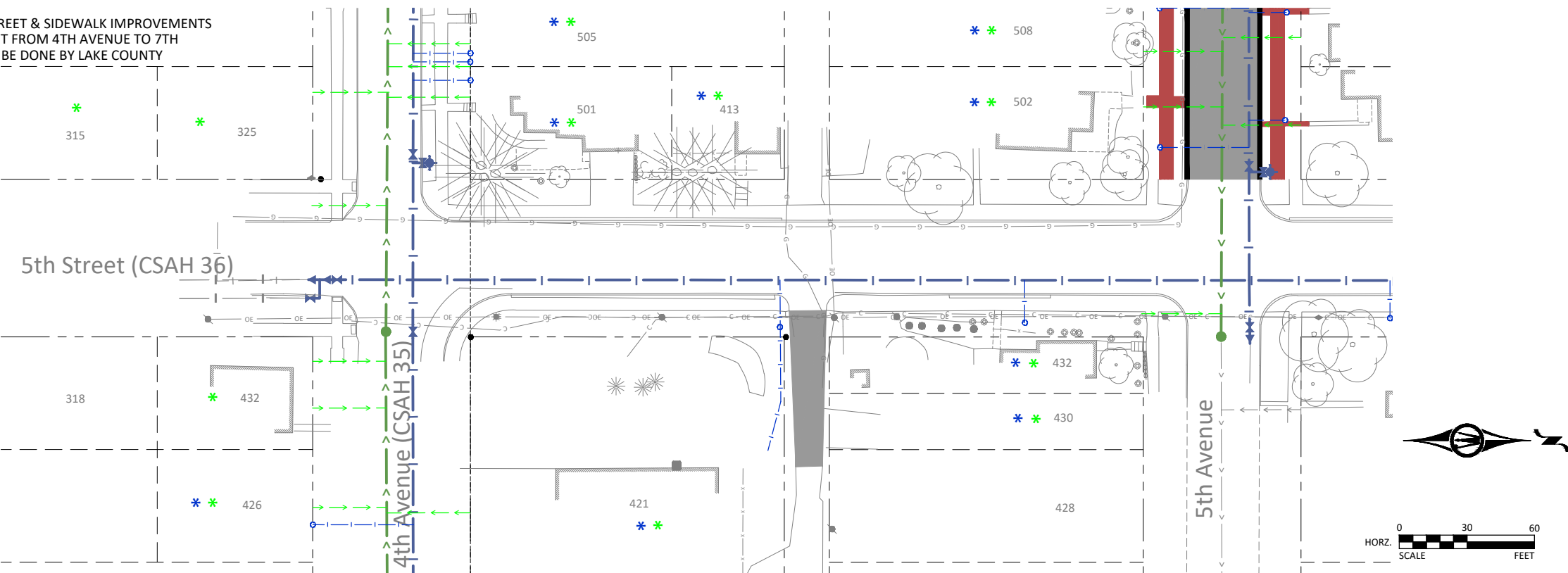
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	WATER MAIN
	STORM SEWER
	SANITARY SERVICE
	WATER SERVICE
	GAS UNDERGROUND
	OVERHEAD UTILITY
	LIGHT POLE
	SOIL BORING
	TRAFFIC SIGN
	UTILITY POLE
	DECIDUOUS TREE
	CONIFEROUS TREE
	BUSH

NOTE: LINES AND SYMBOLS IN **ORANGE** WILL BE REMOVED AS PART OF THE PROPOSED PROJECT

EXISTING CONDITIONS

NOTE:
PROPOSED STREET & SIDEWALK IMPROVEMENTS
ON 5TH STREET FROM 4TH AVENUE TO 7TH
AVENUE WILL BE DONE BY LAKE COUNTY

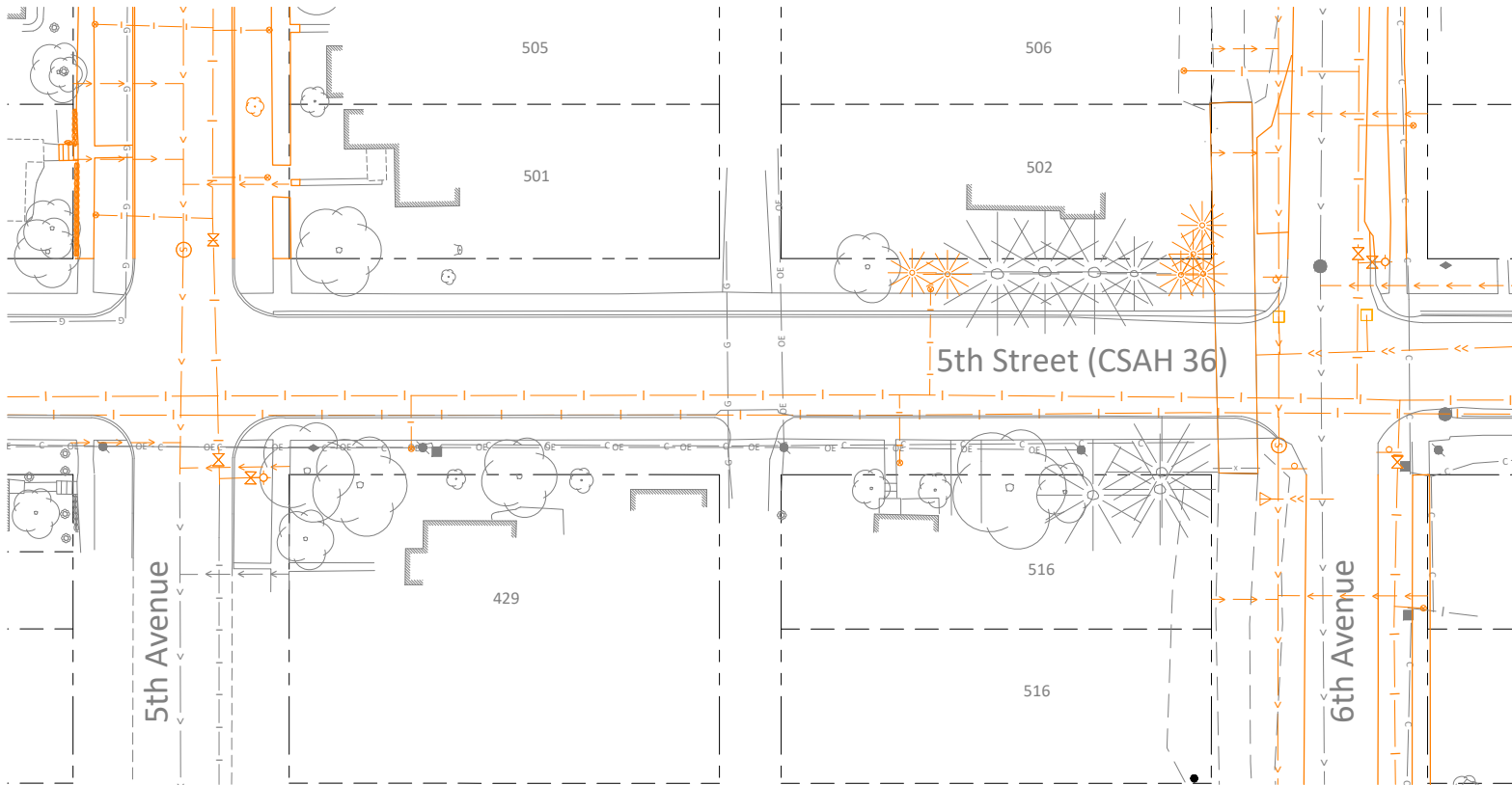


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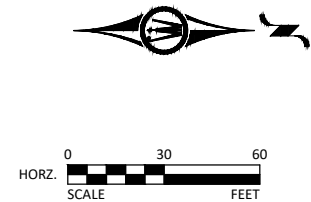
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	SANITARY SERVICE
	WATER SERVICE
	EXISTING GAS UNDERGROUND
	TRAFFIC SIGN
	LIGHT POLE

NOTES:
ADDRESS WITH * INDICATE SANITARY SERVICE REPLACEMENT
ADDRESS WITH * INDICATE WATER SERVICE REPLACEMENT

PROPOSED IMPROVEMENTS



EXISTING CONDITIONS

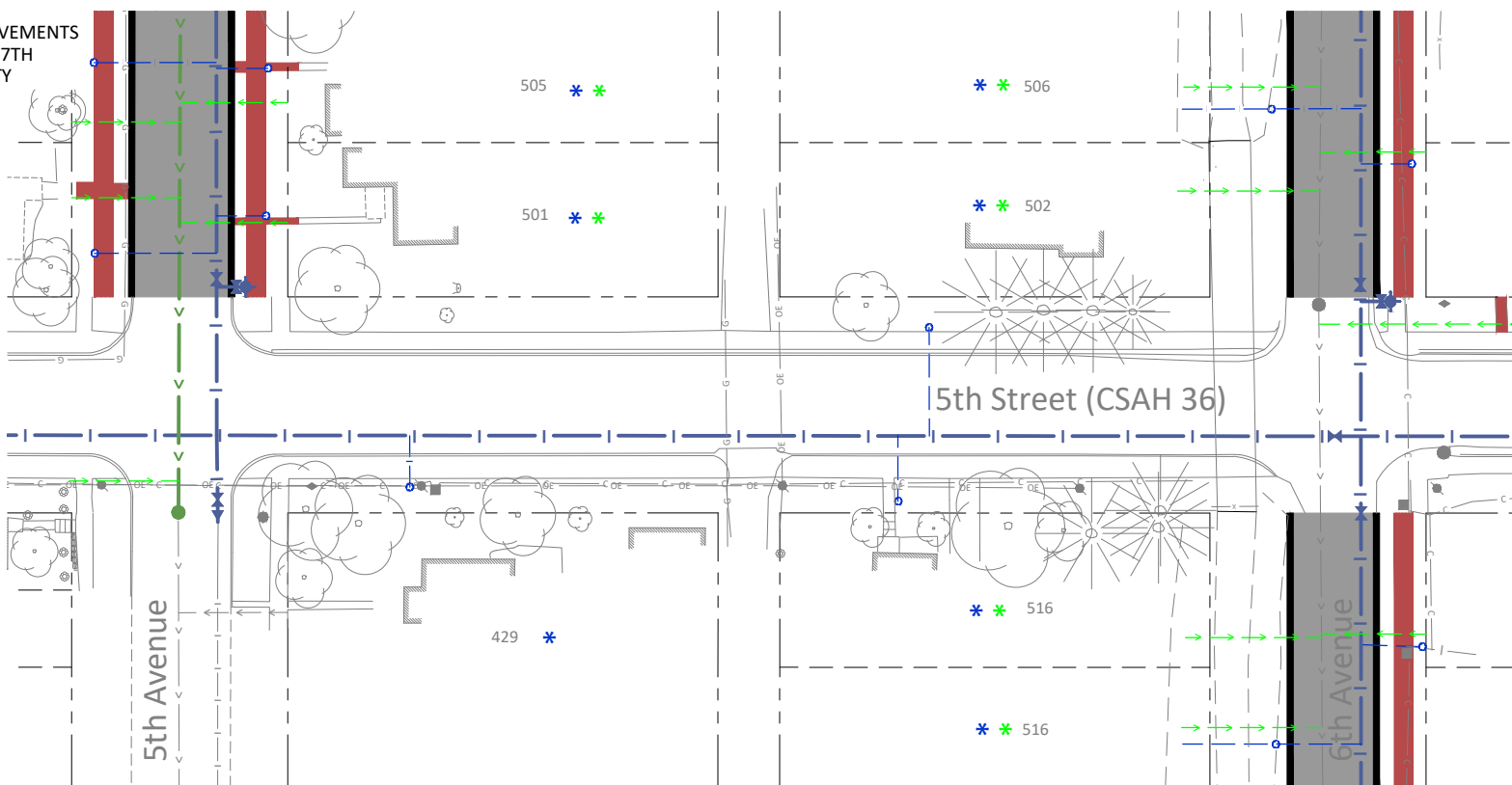


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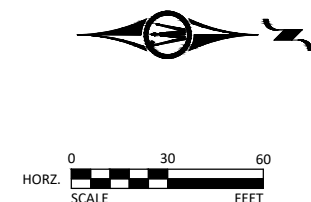
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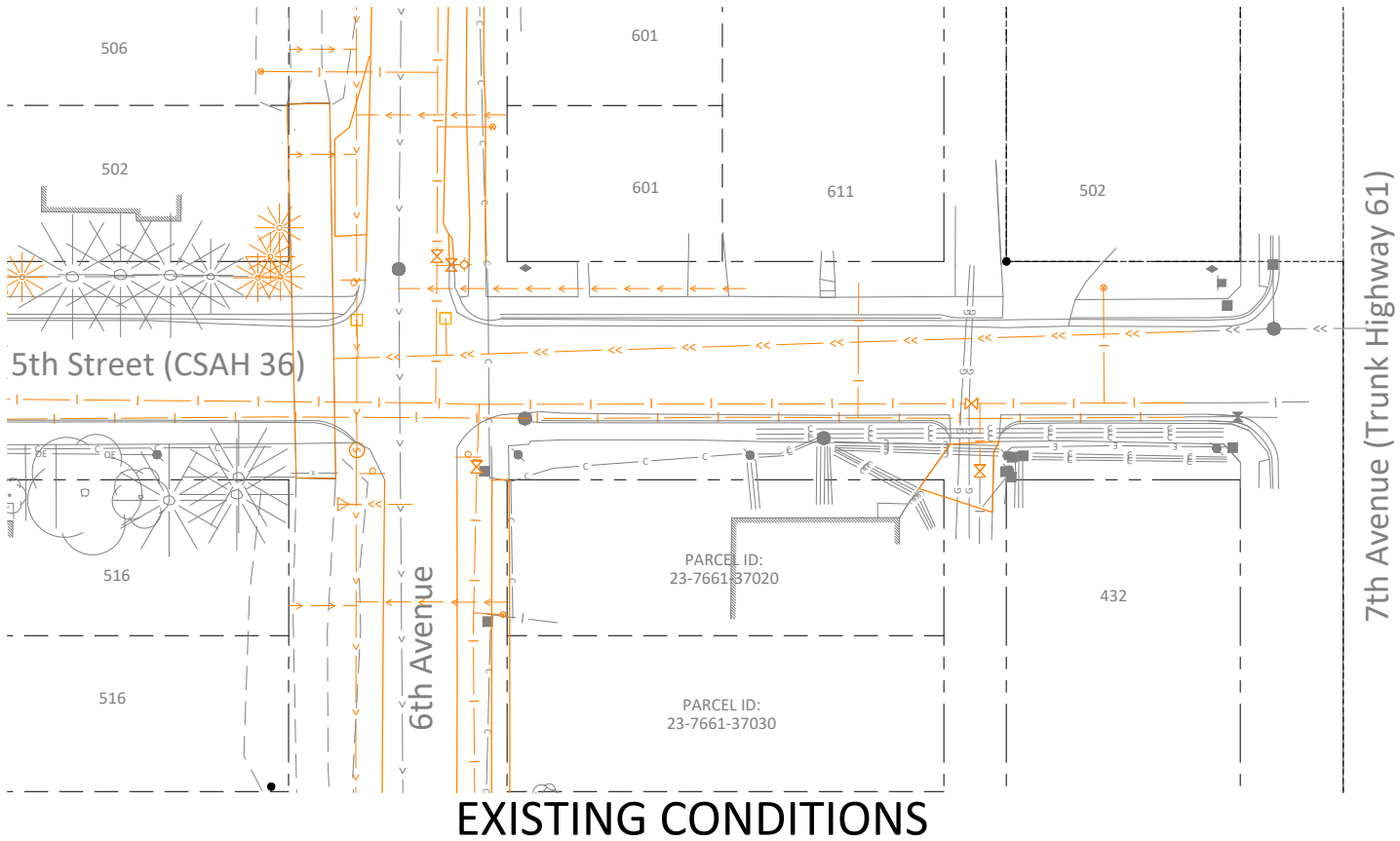
PROPOSED IMPROVEMENTS



PROPOSED IMPROVEMENTS LEGEND

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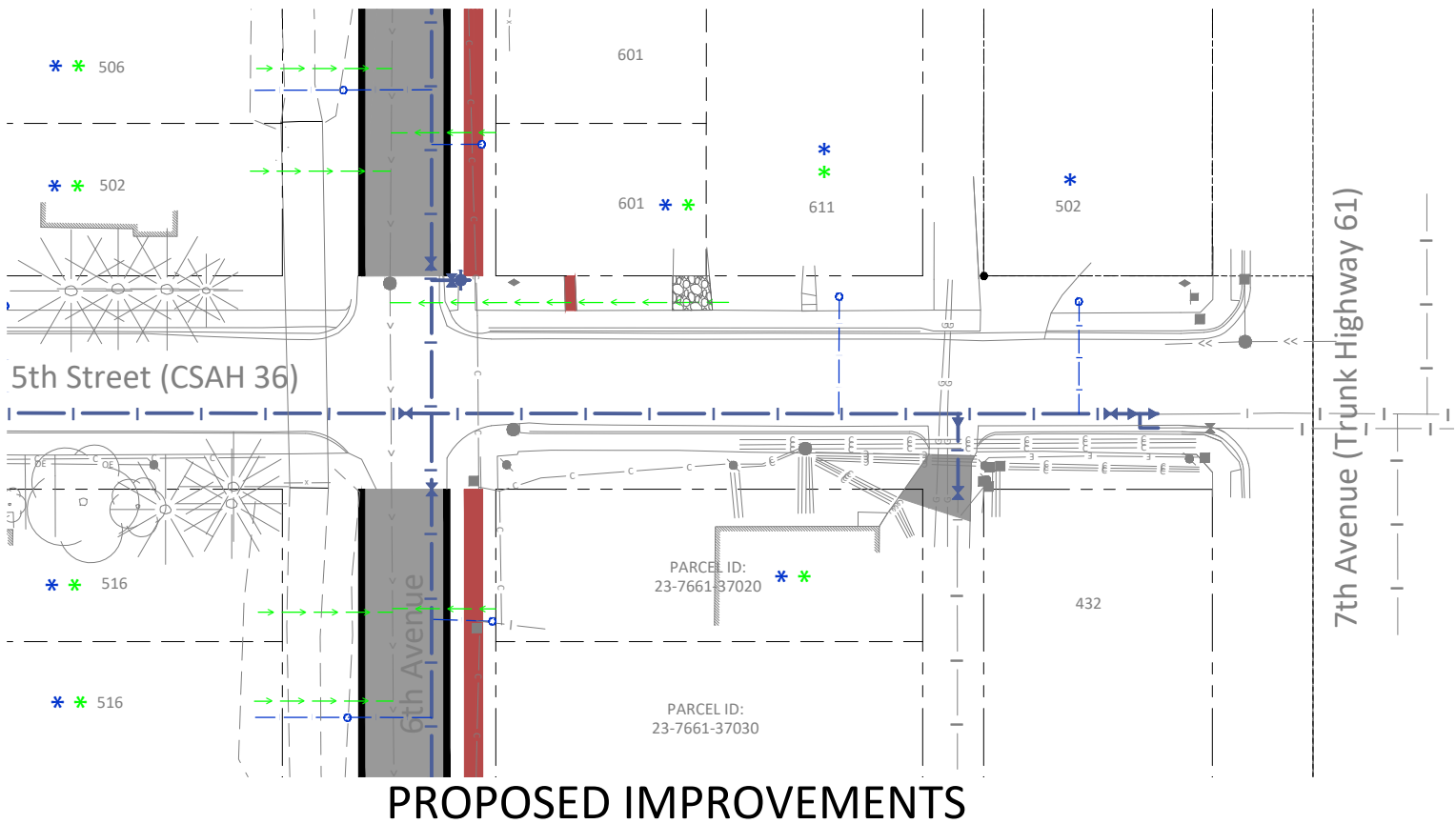


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	STORM SEWER
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	WATER SERVICE
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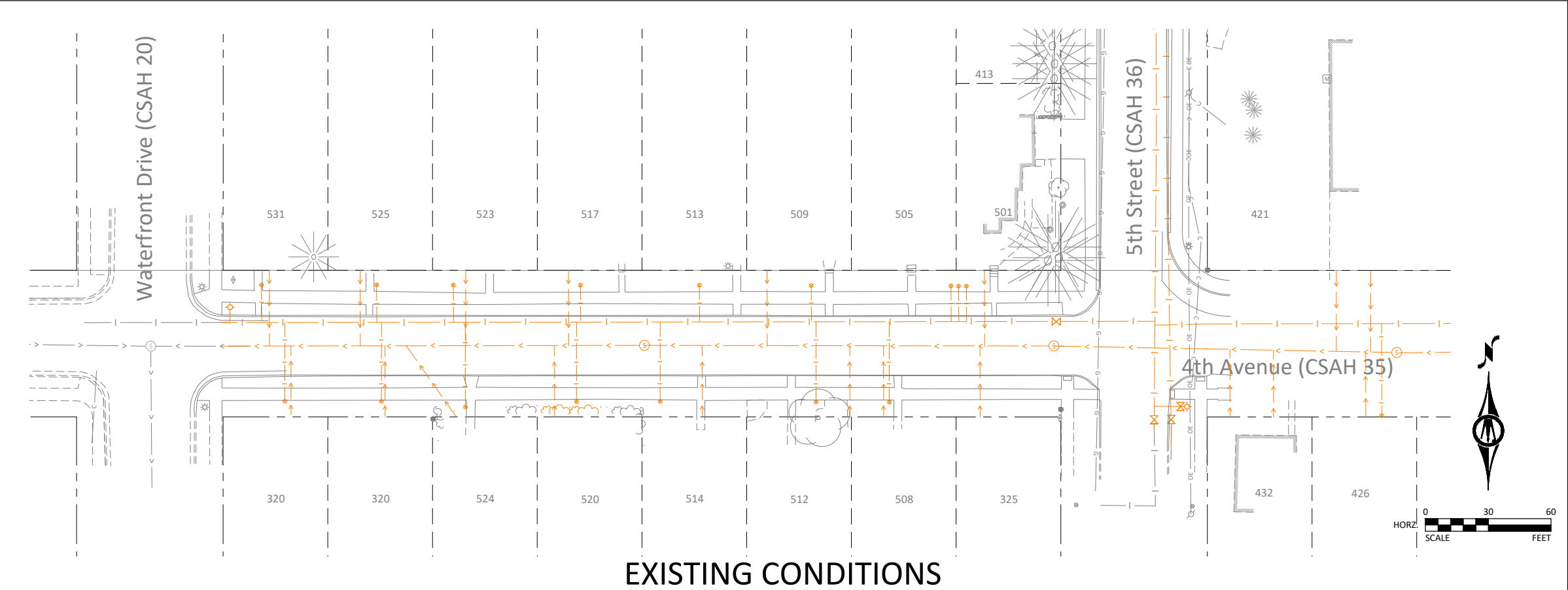
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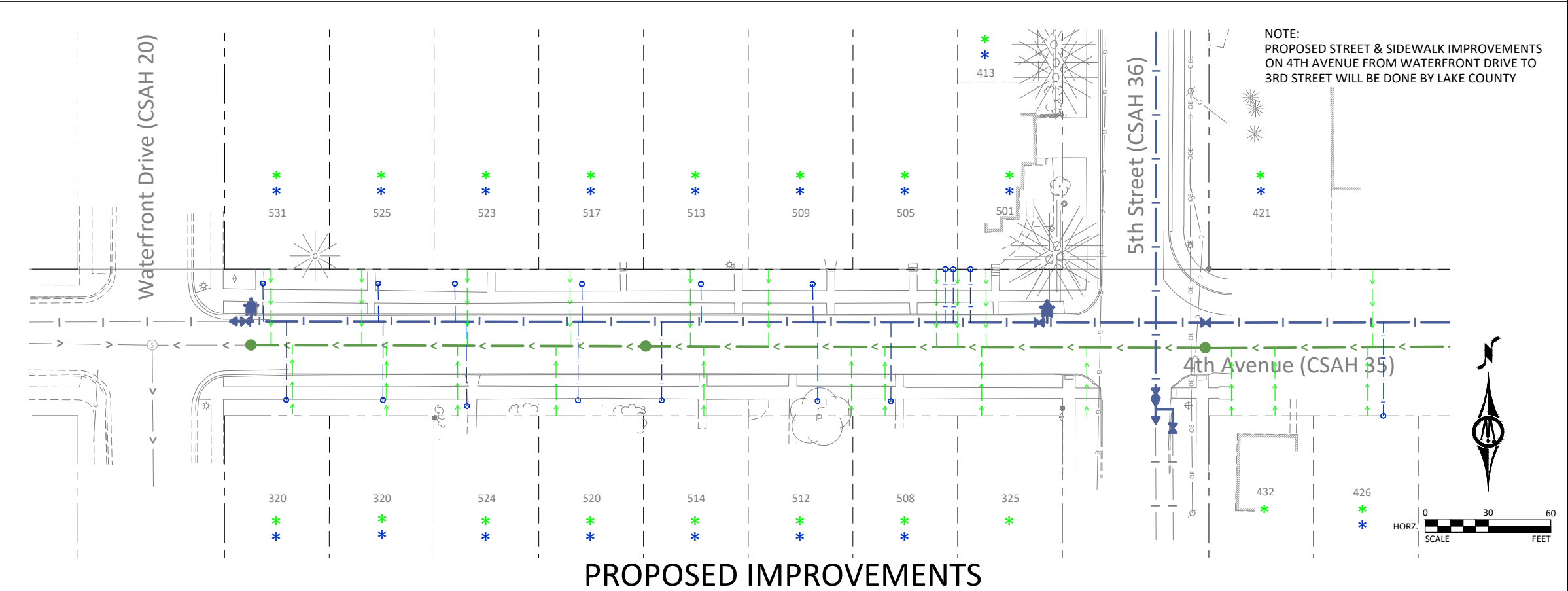
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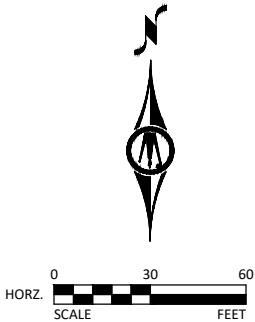
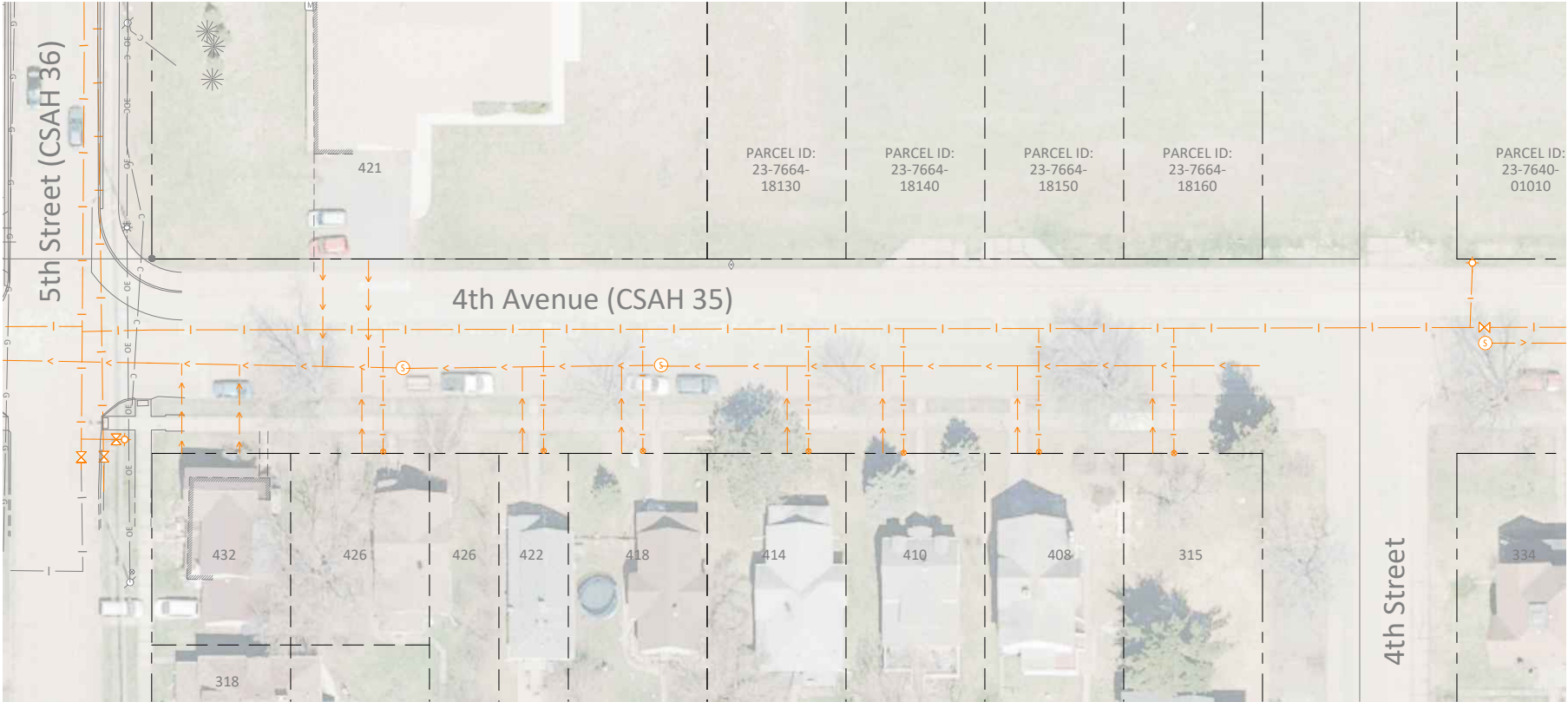


NOTE:
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ON 4TH AVENUE FROM WATERFRONT DRIVE TO
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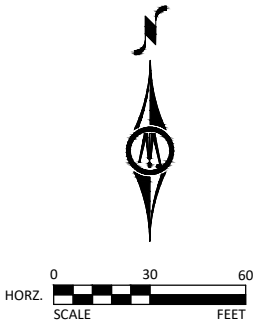
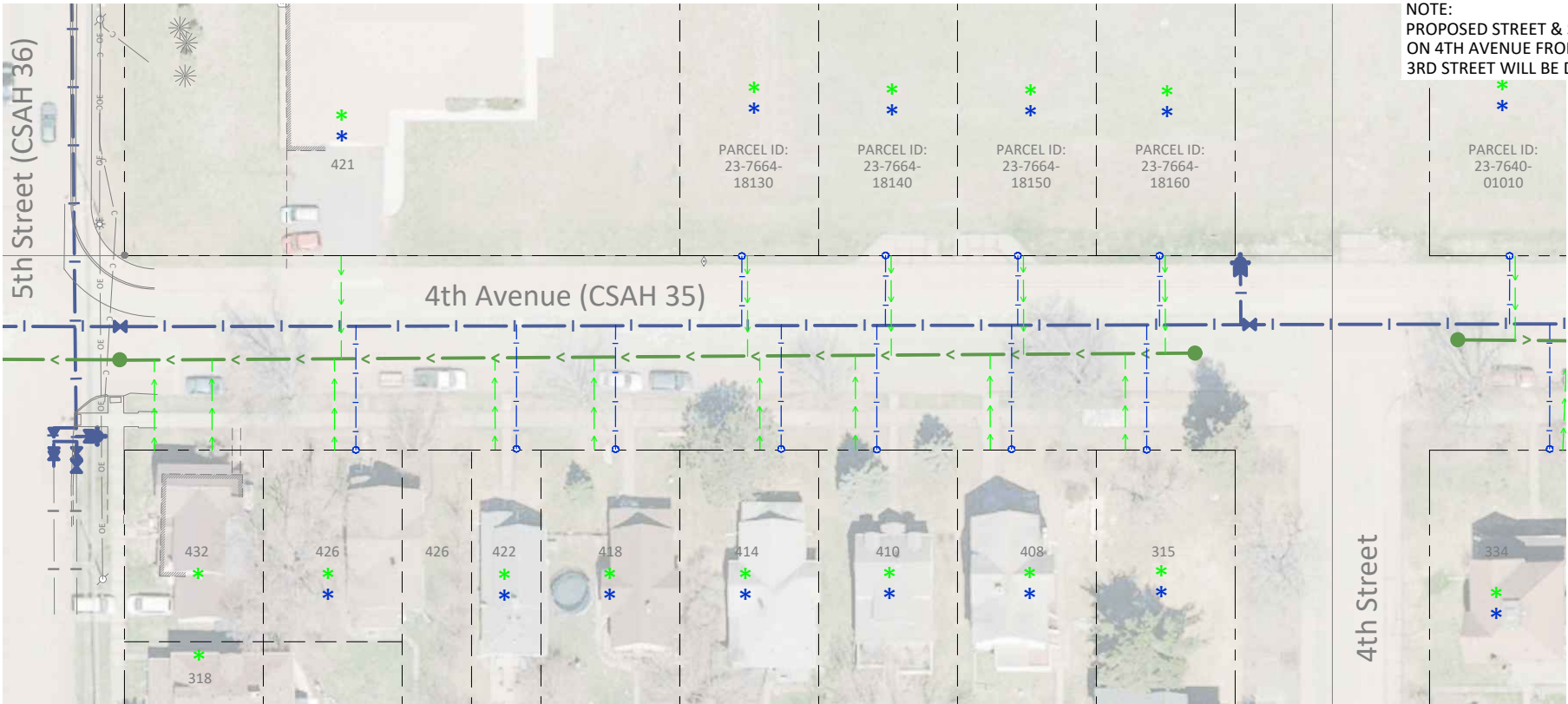


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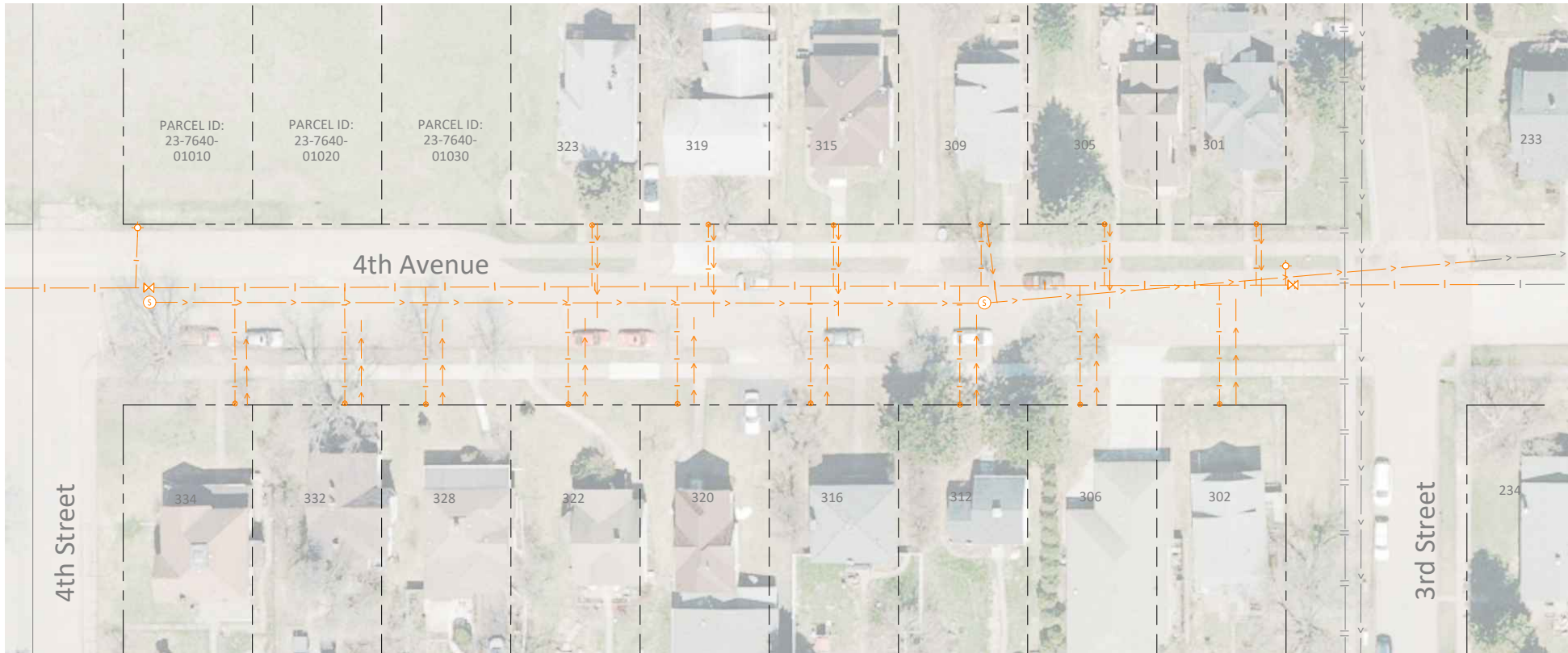


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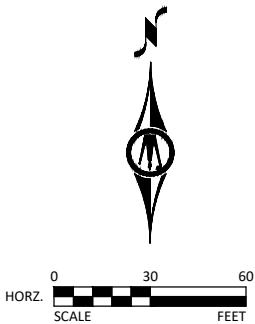
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PROPOSED IMPROVEMENTS



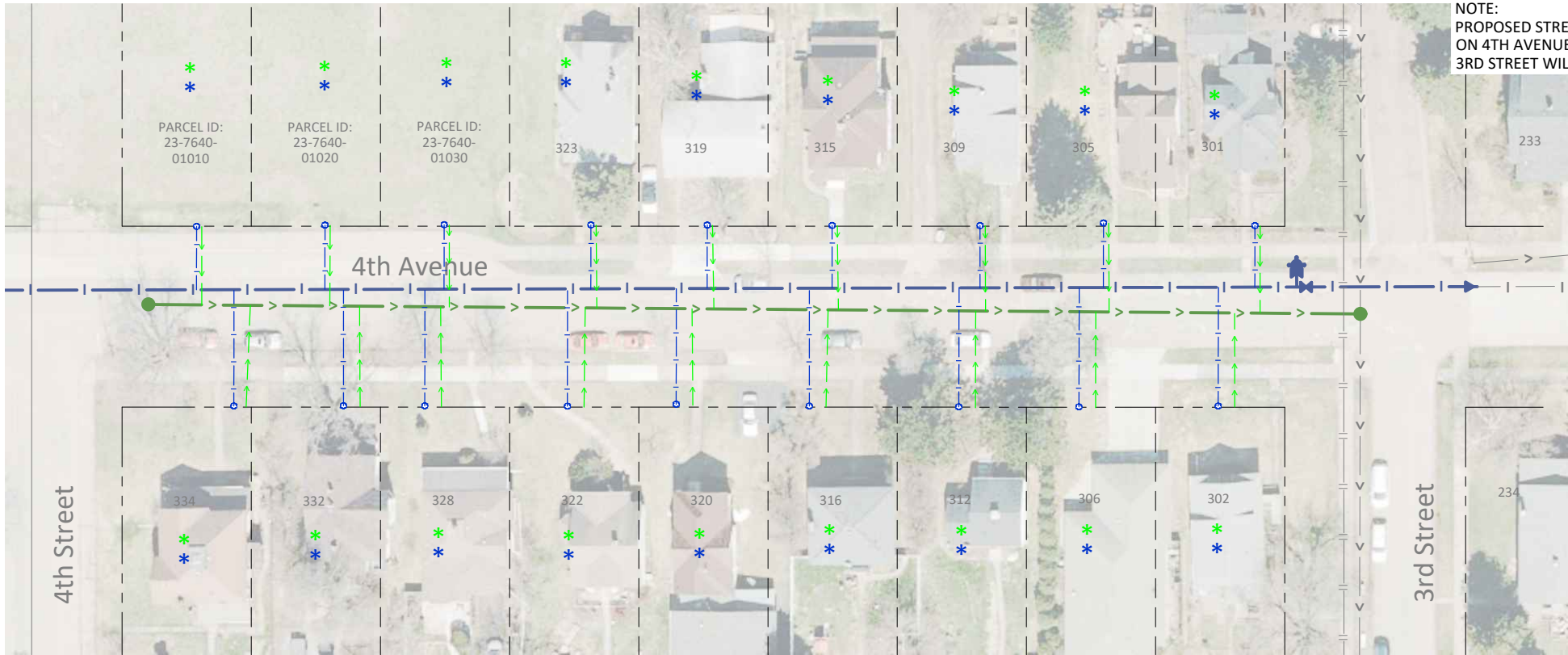
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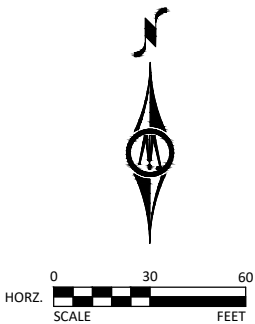
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	UTILITY POLE
	DECIDUOUS TREE
	CONIFEROUS TREE
	BUSH

NOTE: LINES AND SYMBOLS IN **ORANGE** WILL BE REMOVED AS PART OF THE PROPOSED PROJECT



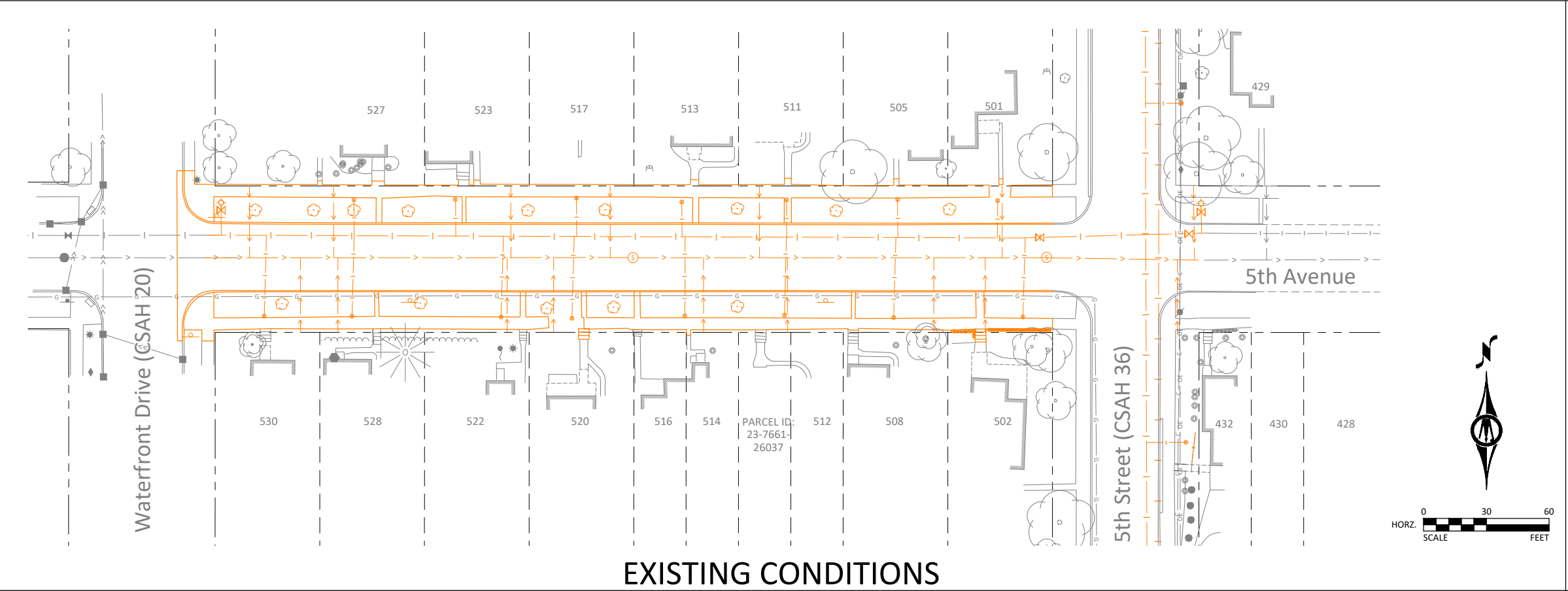
PROPOSED IMPROVEMENTS



PROPOSED IMPROVEMENTS LEGEND

	BITUMINOUS SURFACING
	CONCRETE SURFACING
	CONCRETE SIDEWALK
	GRAVEL SURFACING
	CONCRETE CURB & GUTTER
	SANITARY SEWER IMPROVEMENTS
	WATER MAIN IMPROVEMENTS
	STORM WATER IMPROVEMENTS
	SANITARY SERVICE
	WATER SERVICE
	EXISTING GAS UNDERGROUND
	TRAFFIC SIGN
	LIGHT POLE

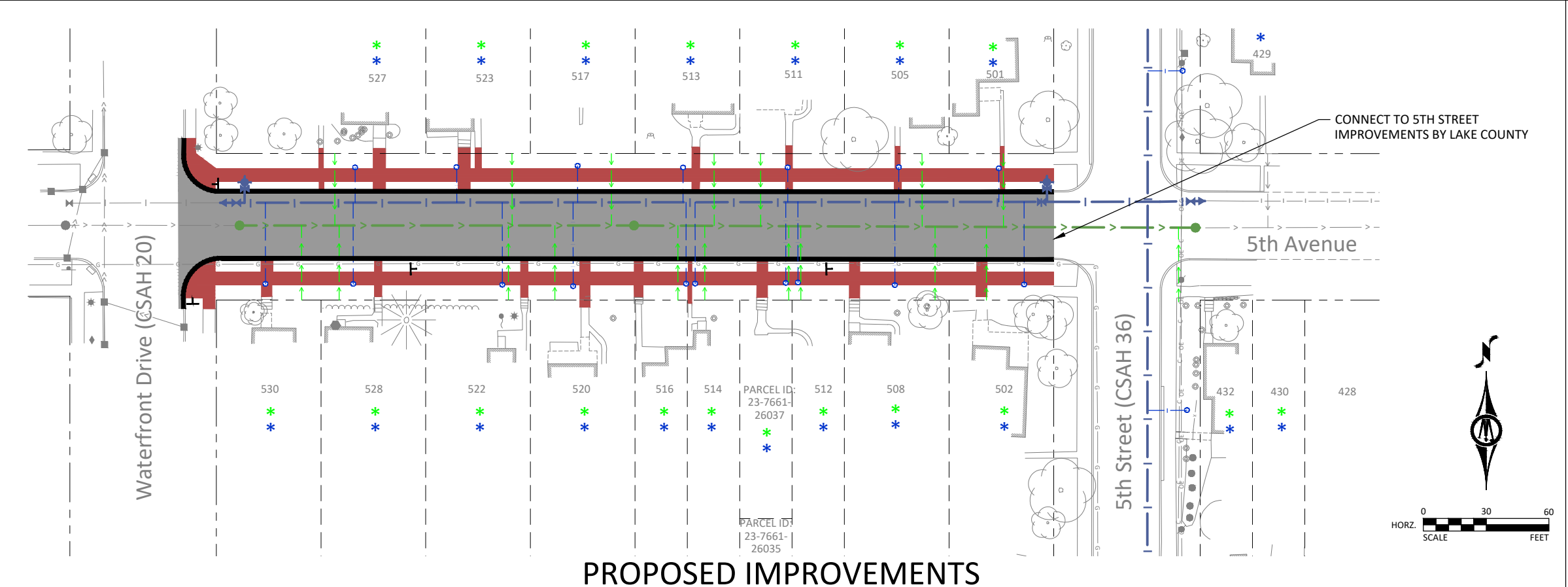
NOTES:
ADDRESS WITH ***** INDICATE SANITARY SERVICE REPLACEMENT
ADDRESS WITH ***** INDICATE WATER SERVICE REPLACEMENT



EXISTING CONDITIONS LEGEND

- SANITARY SEWER
- WATER MAIN
- STORM SEWER
- SANITARY SERVICE
- WATER SERVICE
- GAS UNDERGROUND
- OVERHEAD UTILITY
- LIGHT POLE
- SOIL BORING
- TRAFFIC SIGN
- UTILITY POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH

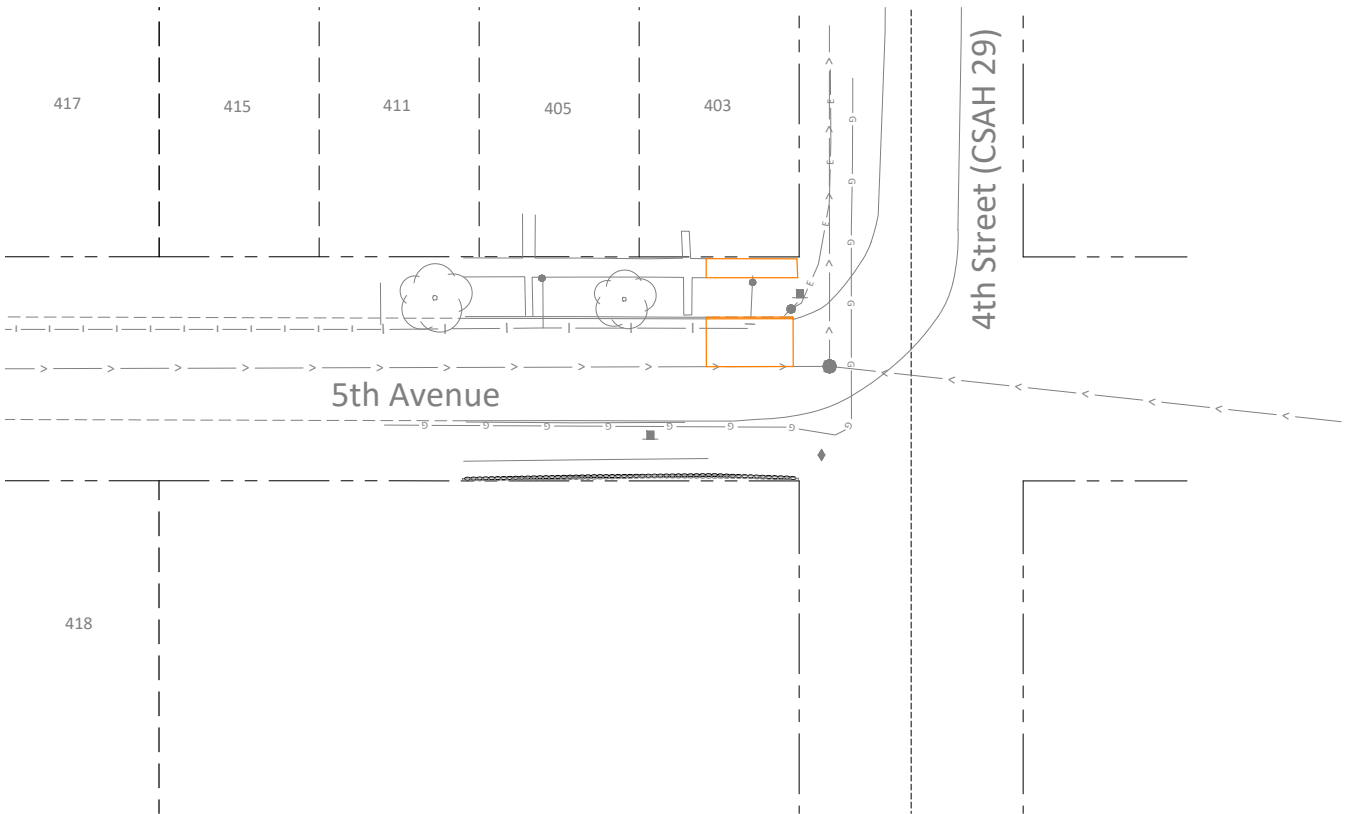
NOTE: LINES AND SYMBOLS IN ORANGE WILL BE REMOVED AS PART OF THE PROPOSED PROJECT



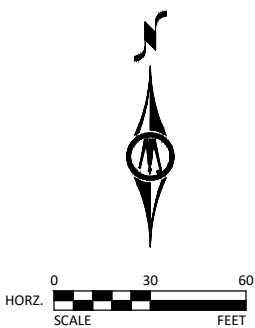
PROPOSED IMPROVEMENTS LEGEND

- BITUMINOUS SURFACING
- CONCRETE SURFACING
- CONCRETE SIDEWALK
- GRAVEL SURFACING
- CONCRETE CURB & GUTTER
- SANITARY SEWER IMPROVEMENTS
- WATER MAIN IMPROVEMENTS
- STORM WATER IMPROVEMENTS
- SANITARY SERVICE
- WATER SERVICE
- EXISTING GAS UNDERGROUND
- TRAFFIC SIGN
- LIGHT POLE

NOTES:
ADDRESS WITH * INDICATE SANITARY SERVICE REPLACEMENT
ADDRESS WITH * INDICATE WATER SERVICE REPLACEMENT



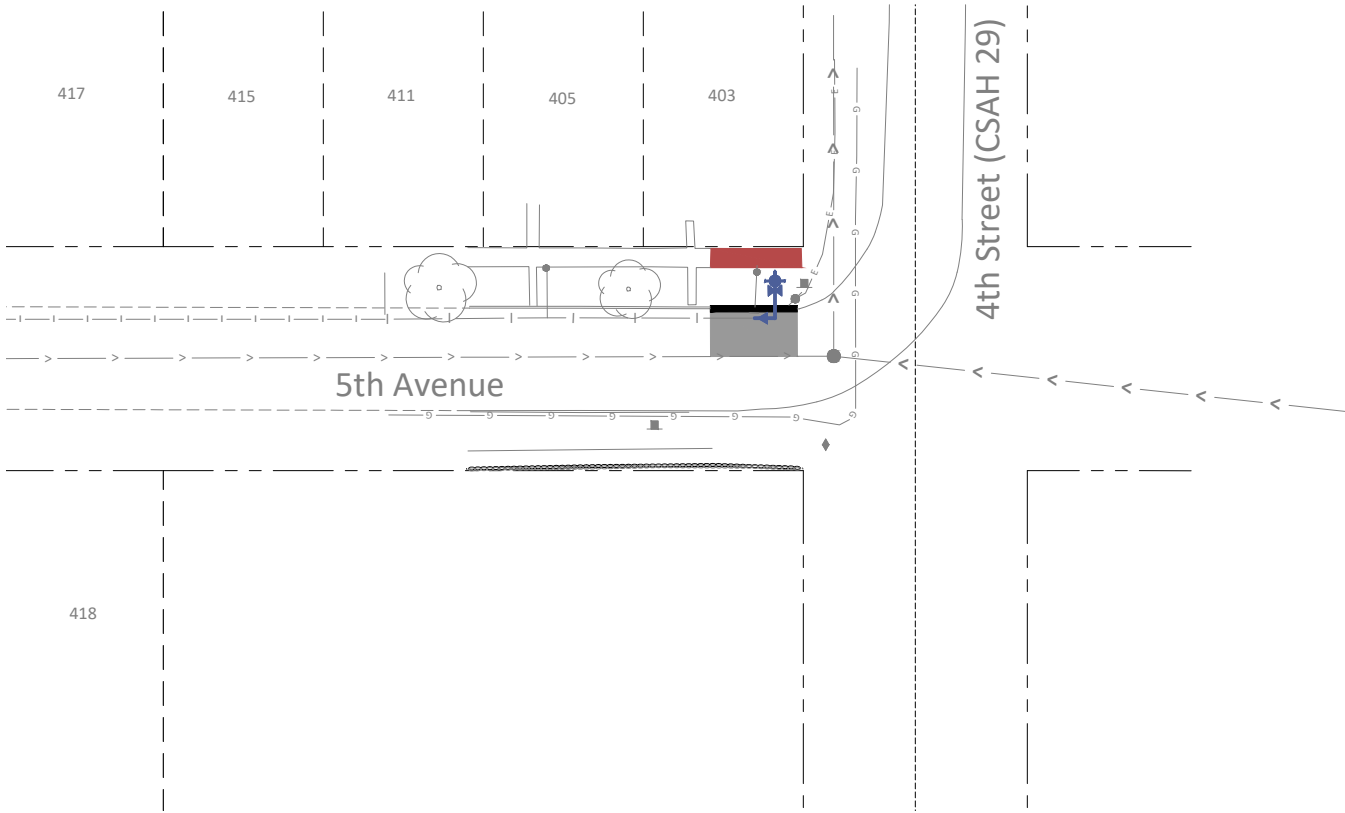
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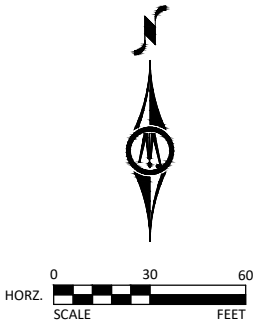
EXISTING CONDITIONS LEGEND

	SANITARY SEWER
	WATER MAIN
	STORM SEWER
	SANITARY SERVICE
	WATER SERVICE
	GAS UNDERGROUND
	OVERHEAD UTILITY
	LIGHT POLE
	SOIL BORING
	TRAFFIC SIGN
	UTILITY POLE
	DECIDUOUS TREE
	CONIFEROUS TREE
	BUSH

NOTE: LINES AND SYMBOLS IN **ORANGE** WILL BE REMOVED AS PART OF THE PROPOSED PROJECT



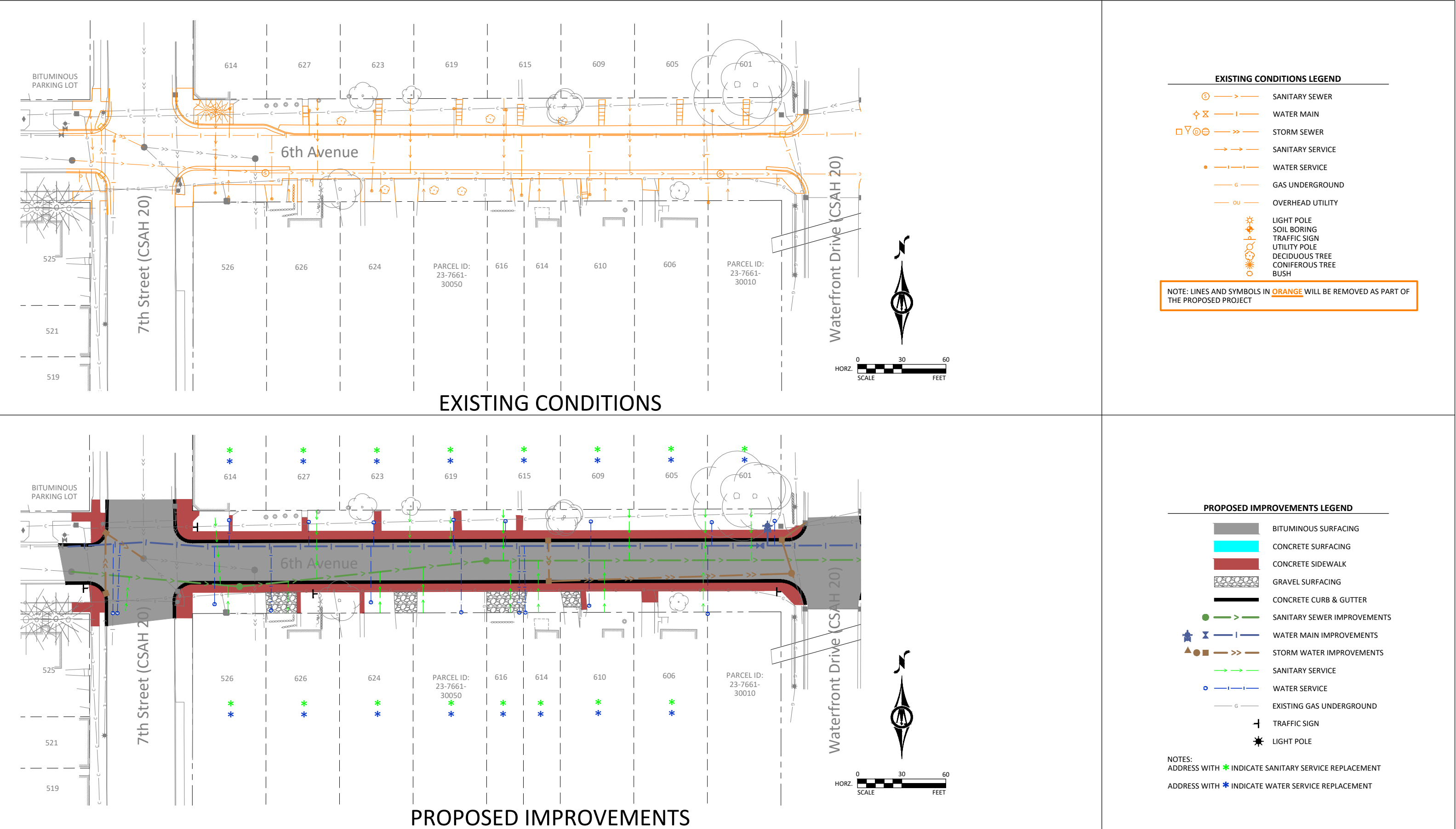
PROPOSED IMPROVEMENTS

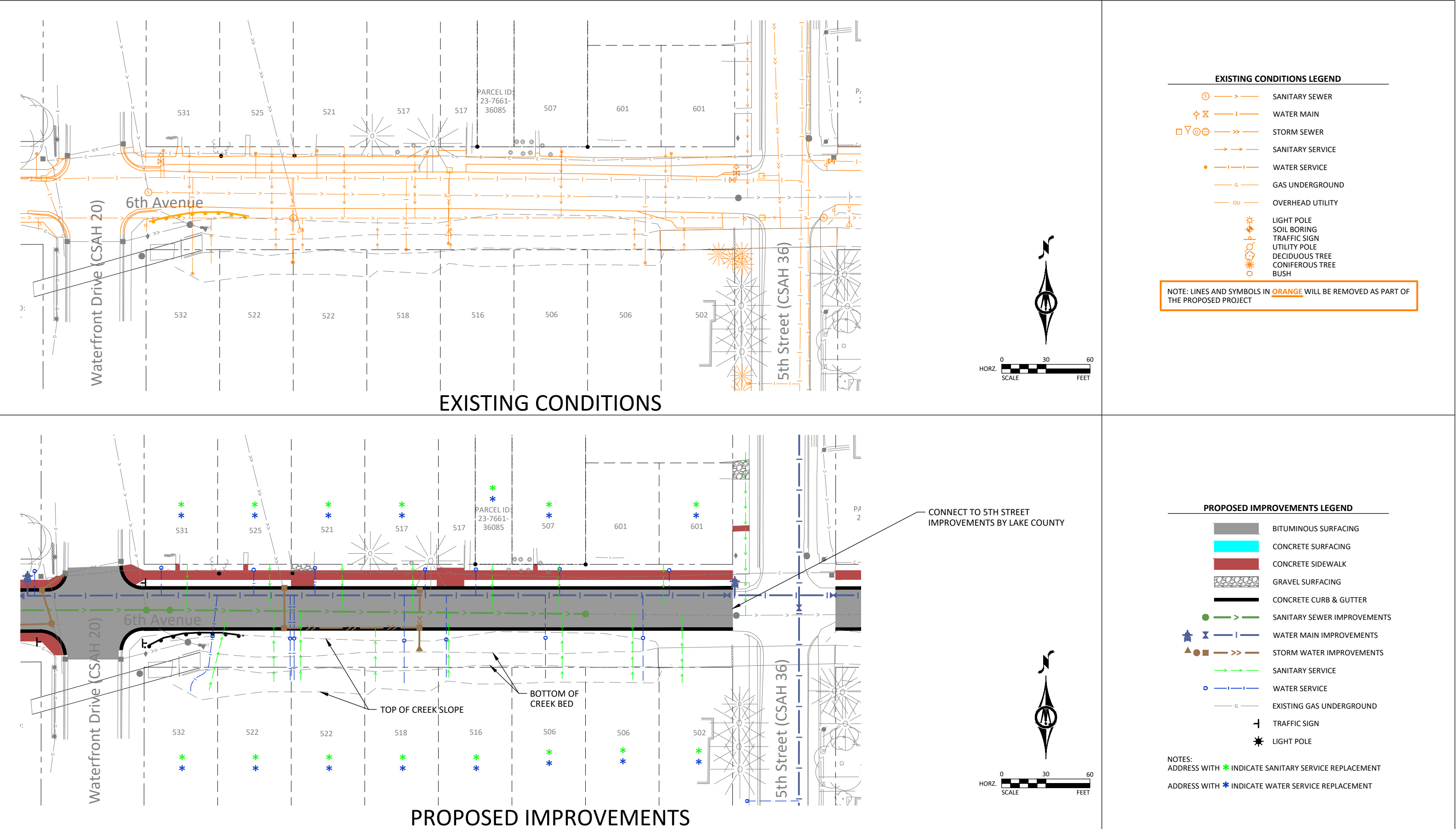


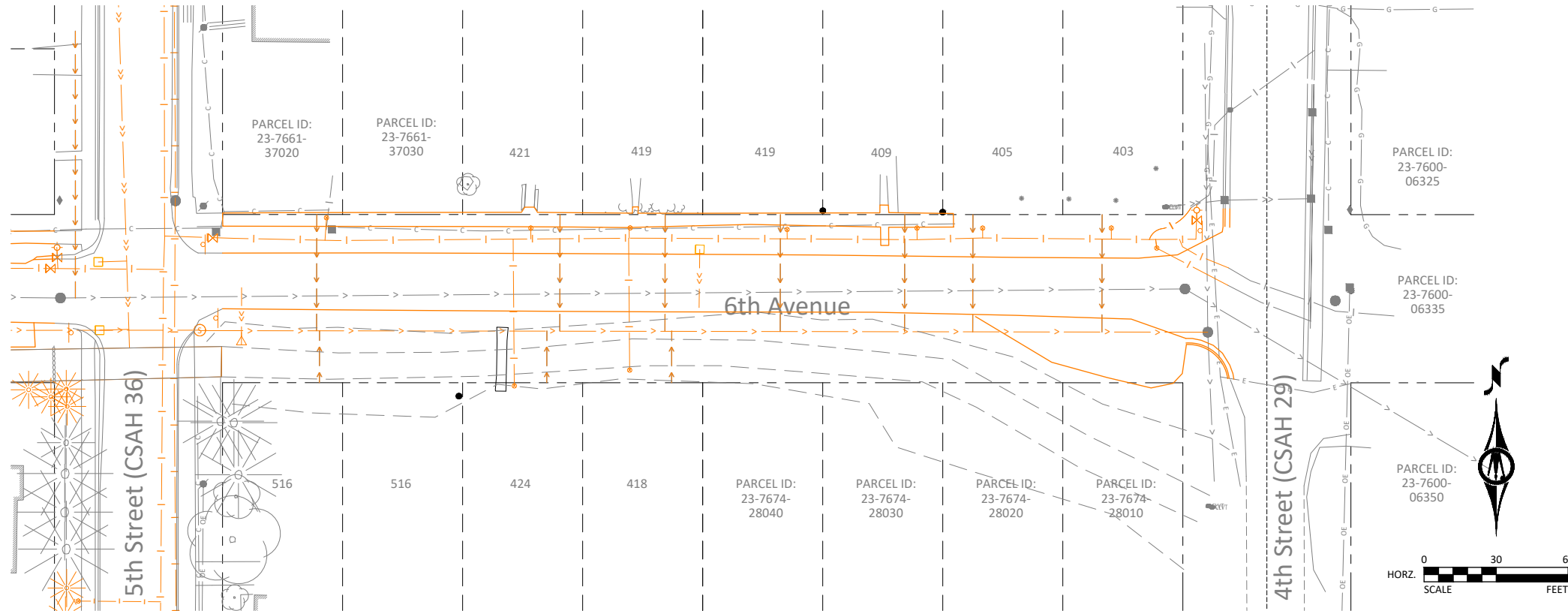
PROPOSED IMPROVEMENTS LEGEND

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	CONCRETE SURFACING
	CONCRETE SIDEWALK
	GRAVEL SURFACING
	CONCRETE CURB & GUTTER
	SANITARY SEWER IMPROVEMENTS
	WATER MAIN IMPROVEMENTS
	STORM WATER IMPROVEMENTS
	SANITARY SERVICE
	WATER SERVICE
	EXISTING GAS UNDERGROUND
	TRAFFIC SIGN
	LIGHT POLE

NOTES:
ADDRESS WITH * INDICATE SANITARY SERVICE REPLACEMENT
ADDRESS WITH * INDICATE WATER SERVICE REPLACEMENT





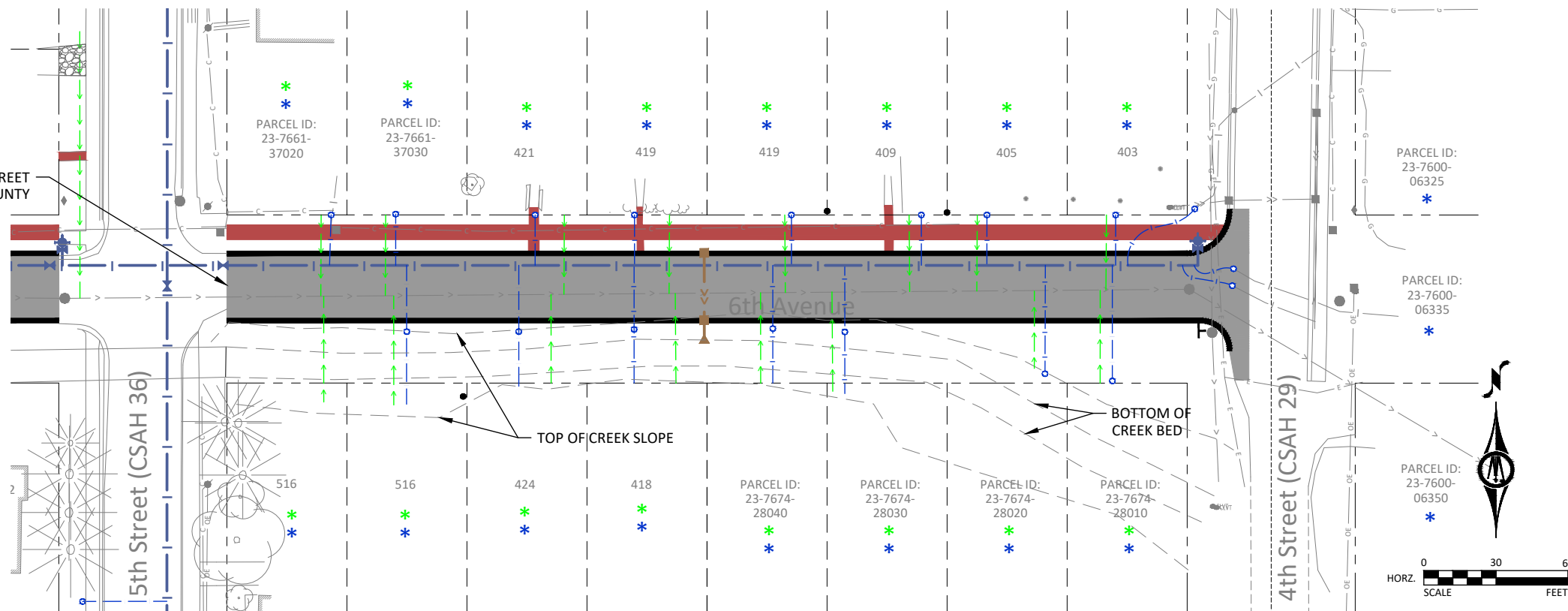


EXISTING CONDITIONS LEGEND

- SANITARY SEWER
- WATER MAIN
- STORM SEWER
- SANITARY SERVICE
- WATER SERVICE
- GAS UNDERGROUND
- OVERHEAD UTILITY
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EXISTING CONDITIONS



PROPOSED IMPROVEMENTS LEGEND

- BITUMINOUS SURFACING
- CONCRETE SURFACING
- CONCRETE SIDEWALK
- GRAVEL SURFACING
- CONCRETE CURB & GUTTER
- SANITARY SEWER IMPROVEMENTS
- WATER MAIN IMPROVEMENTS
- STORM WATER IMPROVEMENTS
- SANITARY SERVICE
- WATER SERVICE
- EXISTING GAS UNDERGROUND
- TRAFFIC SIGN
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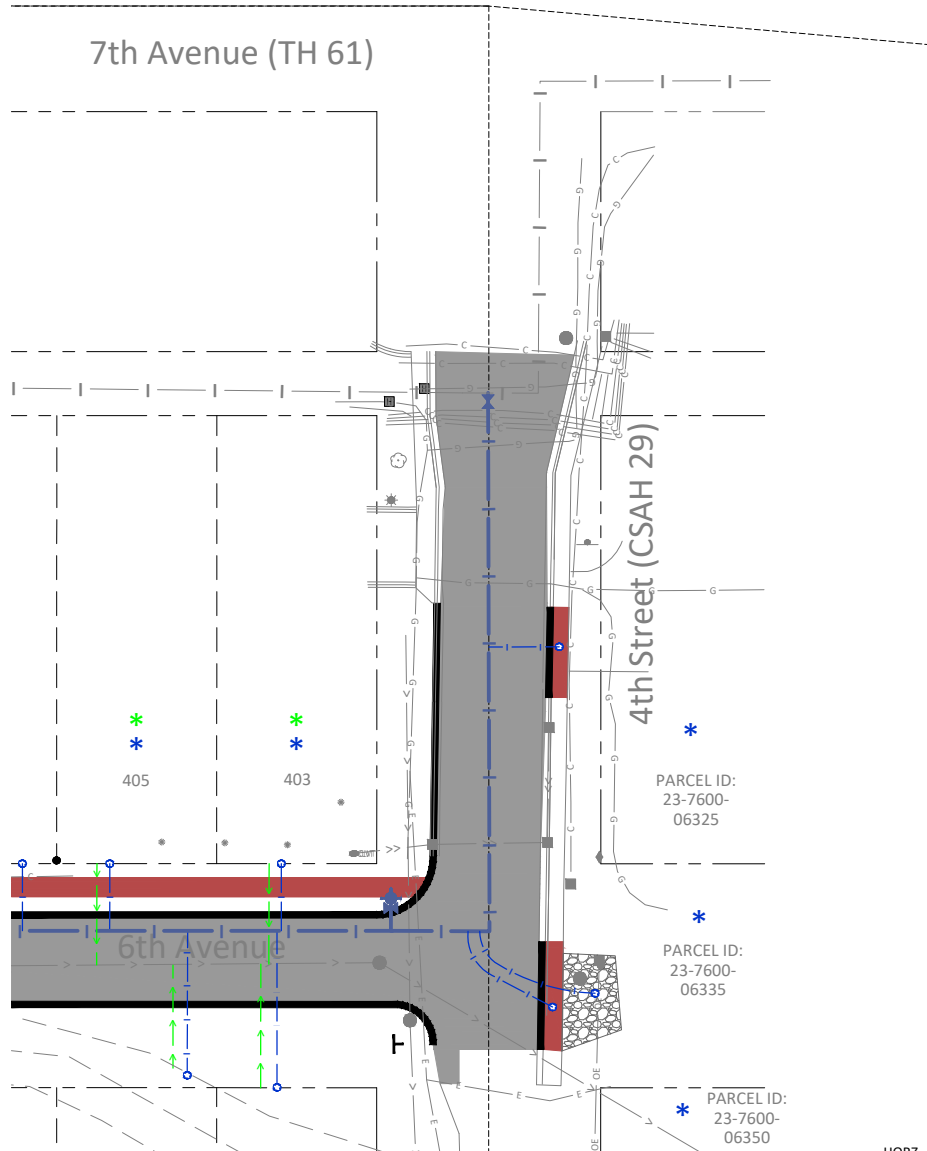
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PROPOSED IMPROVEMENTS

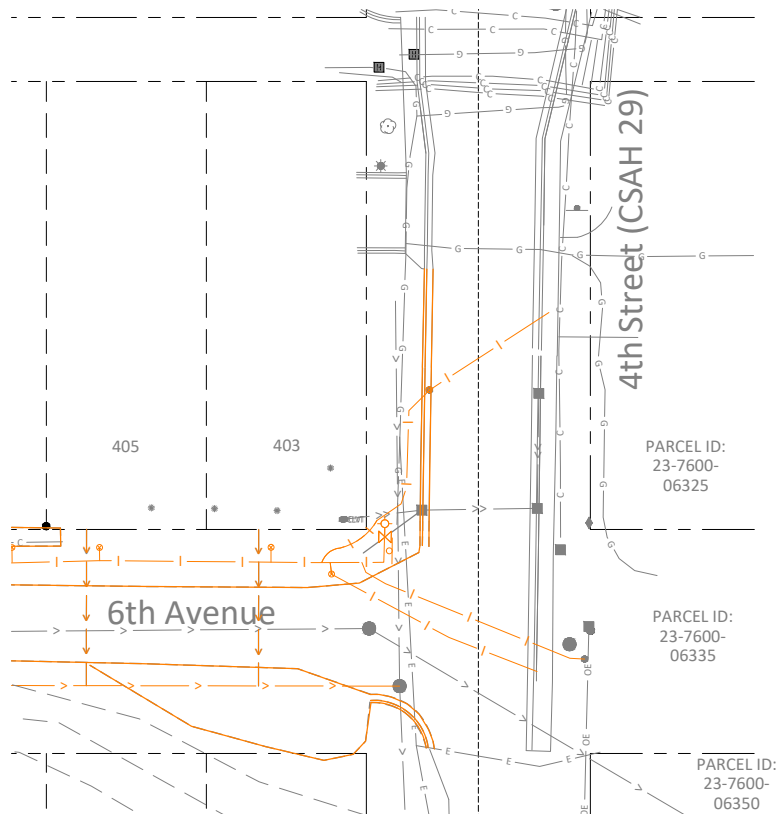
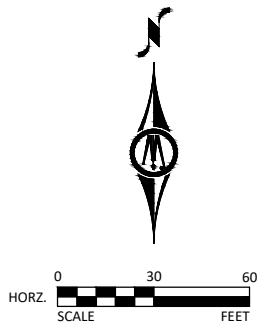
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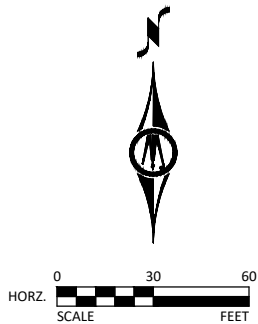
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PROPOSED IMPROVEMENTS



EXISTING CONDITIONS



EXISTING CONDITIONS LEGEND

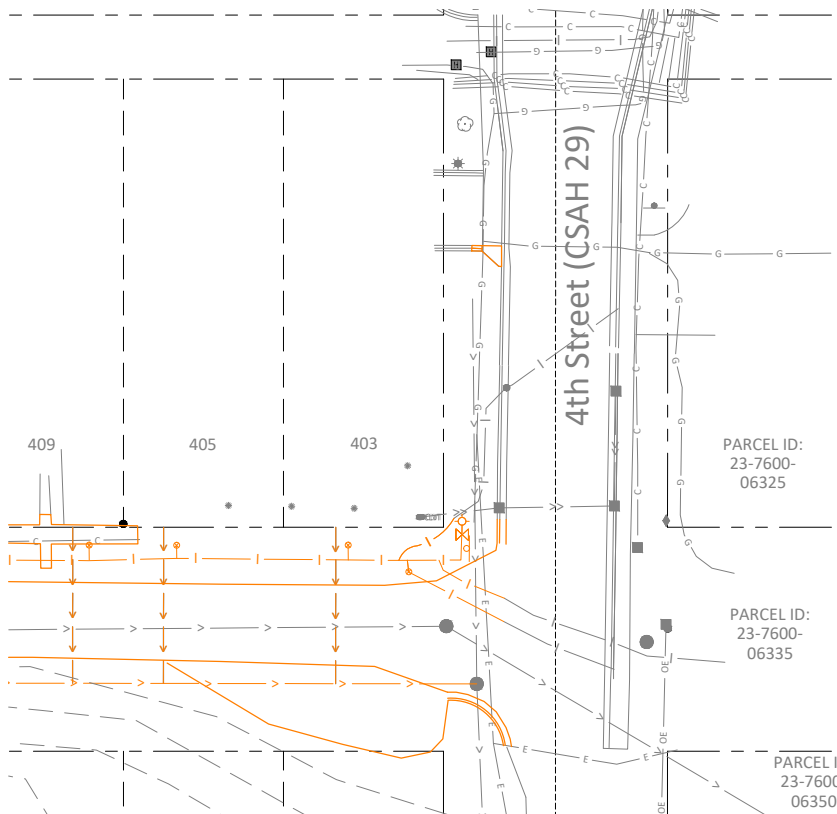
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	WATER MAIN
	STORM SEWER
	SANITARY SERVICE
	WATER SERVICE
	GAS UNDERGROUND
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	DECIDUOUS TREE
	CONIFEROUS TREE
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NOTE: LINES AND SYMBOLS IN **ORANGE** WILL BE REMOVED AS PART OF THE PROPOSED PROJECT

PROPOSED IMPROVEMENTS LEGEND

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	CONCRETE SURFACING
	CONCRETE SIDEWALK
	GRAVEL SURFACING
	CONCRETE CURB & GUTTER
	SANITARY SEWER IMPROVEMENTS
	WATER MAIN IMPROVEMENTS
	STORM WATER IMPROVEMENTS
	SANITARY SERVICE
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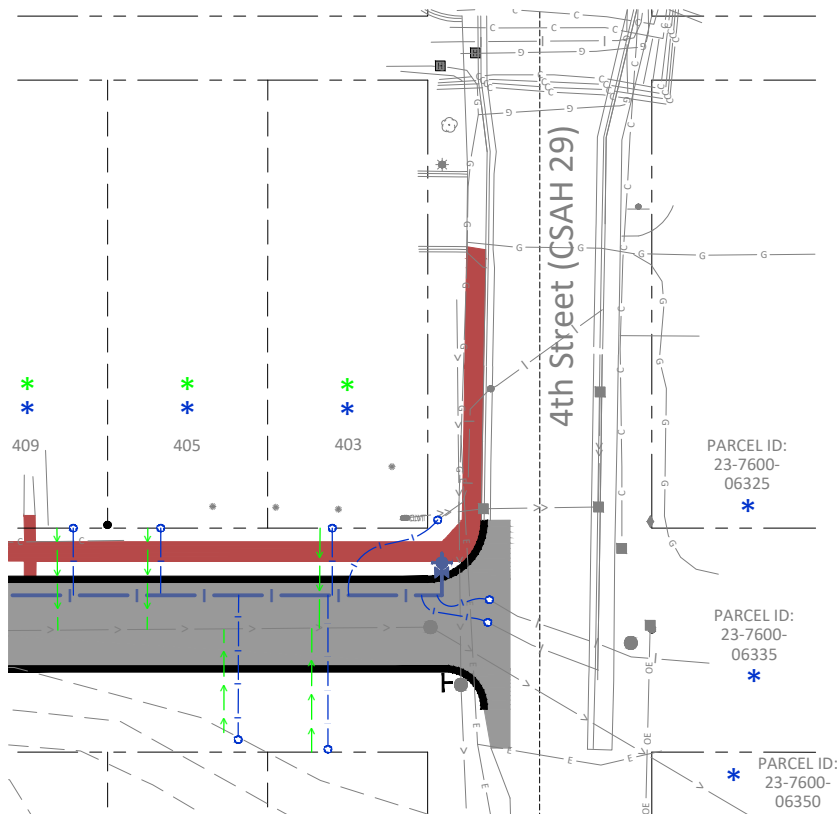


EXISTING CONDITIONS

EXISTING CONDITIONS LEGEND

	SANITARY SEWER
	WATER MAIN
	STORM SEWER
	SANITARY SERVICE
	WATER SERVICE
	GAS UNDERGROUND
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PROPOSED IMPROVEMENTS

PROPOSED IMPROVEMENTS LEGEND

	BITUMINOUS SURFACING
	CONCRETE SURFACING
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Appendix B: Preliminary Cost Estimates

APPENDIX B-1

SUMMARY OF PRELIMINARY COST ESTIMATE
2023-2024 STREET IMPROVEMENT PROJECT
City of Two Harbors, MN

BASE IMPROVEMENTS

SEGMENT	TOTAL ESTIMATED COSTS	COST BY PART						
		STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER SYSTEM	WATER SERVICES
CITY OF TWO HARBORS								
5TH STREET (4TH AVENUE - 5TH AVENUE) - CITY IMPROVEMENTS	\$ 161,490	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,700	\$ 15,790
5TH STREET (5TH AVENUE - 6TH AVENUE) - CITY IMPROVEMENTS	\$ 104,550	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89,030	\$ 15,520
5TH STREET (6TH AVENUE - 7TH AVENUE) - CITY IMPROVEMENTS	\$ 148,860	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 134,770	\$ 14,090
4TH AVENUE (WATERFRONT DRIVE - 5TH STREET) - CITY IMPROVEMENTS	\$ 445,890	\$ -	\$ -	\$ -	\$ 85,620	\$ 81,620	\$ 150,440	\$ 128,210
4TH AVENUE (5TH STREET - 4TH STREET) - CITY IMPROVEMENTS	\$ 380,940	\$ -	\$ -	\$ -	\$ 121,850	\$ 61,630	\$ 133,430	\$ 64,030
4TH AVENUE (4TH STREET - 3RD STREET) - CITY IMPROVEMENTS	\$ 493,140	\$ -	\$ -	\$ -	\$ 156,420	\$ 81,620	\$ 150,420	\$ 104,680
5TH AVENUE (WATERFRONT DRIVE - 5TH STREET)	\$ 1,075,690	\$ 458,800	\$ 175,260	\$ -	\$ 102,920	\$ 79,720	\$ 155,280	\$ 103,710
5TH AVENUE (4TH STREET)	\$ 73,370	\$ 23,640	\$ 2,750	\$ -	\$ -	\$ -	\$ 46,980	\$ -
6TH AVENUE (7TH AVENUE - WATERFRONT DRIVE)	\$ 1,328,780	\$ 557,490	\$ 245,570	\$ 130,700	\$ 99,040	\$ 76,760	\$ 121,060	\$ 98,160
6TH AVENUE (WATERFRONT DRIVE - 5TH STREET)	\$ 1,330,970	\$ 609,460	\$ 43,090	\$ 153,500	\$ 230,250	\$ 91,510	\$ 117,560	\$ 85,600
6TH AVENUE (5TH STREET - 4TH STREET)	\$ 1,043,980	\$ 528,550	\$ 38,800	\$ 49,250	\$ 139,280	\$ 75,750	\$ 120,070	\$ 92,280
SUBTOTAL - CITY OF TWO HARBORS	\$ 6,587,660	\$ 2,177,940	\$ 505,470	\$ 333,450	\$ 935,380	\$ 548,610	\$ 1,364,740	\$ 722,070
LAKE COUNTY								
5TH STREET (4TH AVE - 7TH AVE) - COUNTY IMPROVEMENTS	\$ 2,628,076	\$ 2,235,928	\$ -	\$ 392,148	\$ -	\$ -	\$ -	\$ -
4TH AVENUE (WATERFRONT DRIVE - 4TH STREET) - COUNTY IMPROVEMENTS	\$ 1,246,588	\$ 1,246,588	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4TH AVENUE (4TH STREET - 3RD STREET) - COUNTY IMPROVEMENTS	\$ 661,852	\$ 661,852	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL - LAKE COUNTY	\$ 4,536,516	\$ 4,144,368	\$ -	\$ 392,148	\$ -	\$ -	\$ -	\$ -
BASE IMPROVEMENTS TOTALS	\$ 11,124,176	\$ 6,322,308	\$ 505,470	\$ 725,598	\$ 935,380	\$ 548,610	\$ 1,364,740	\$ 722,070

OPTIONAL IMPROVEMENTS

	NET ADDITIONAL COSTS	COST BY PART						
		STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER MAIN	WATER SERVICES
WIDEN 6TH AVENUE (7TH STREET - 4TH STREET) FROM 24' F-F TO 28' F-F	\$ 61,836	\$ 61,836	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
EXTEND WATERMAIN ON 4TH STREET (6TH AVENUE TO NORTH ALLEY)	\$ 197,310	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 188,690	\$ 8,620
4TH STREET (6TH AVENUE TO NORTH ALLEY) OPTIONAL SIDEWALK ON WESTSIDE OF STREET	\$ 8,990	\$ -	\$ 8,990	\$ -	\$ -	\$ -	\$ -	\$ -
OPTIONAL IMPROVEMENTS TOTALS	\$ 268,136	\$ 61,836	\$ 8,990	\$ -	\$ -	\$ -	\$ 188,690	\$ 8,620
PROJECT TOTAL WITH OPTIONAL IMPROVEMENTS	\$ 11,392,312	\$ 6,384,144	\$ 514,460	\$ 725,598	\$ 935,380	\$ 548,610	\$ 1,553,430	\$ 730,690

APPENDIX B-1A

COMPARISON OF REPORT TO CIP
2023-2024 STREET IMPROVEMENT PROJECT
City of Two Harbors, MN

SEGMENT		TOTAL ESTIMATED COSTS	COST BY PART						
			STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER SYSTEM	WATER SERVICES
5TH STREET (4TH AVENUE - 5TH AVENUE) - CITY IMPROVEMENTS	REPORT	\$ 161,490	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,700	\$ 15,790
	CIP	\$ 383,333	\$ -	\$ -	\$ -	\$ 133,333	\$ -	\$ 250,000	\$ -
	DIFFERENCE	\$ (221,843)	\$ -	\$ -	\$ -	\$ (133,333)	\$ -	\$ (104,300)	\$ 15,790
5TH STREET (5TH AVENUE - 6TH AVENUE) - CITY IMPROVEMENTS	REPORT	\$ 104,550	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89,030	\$ 15,520
	CIP	\$ 383,333	\$ -	\$ -	\$ -	\$ 133,333	\$ -	\$ 250,000	\$ -
	DIFFERENCE	\$ (278,783)	\$ -	\$ -	\$ -	\$ (133,333)	\$ -	\$ (160,970)	\$ 15,520
5TH STREET (6TH AVENUE - 7TH AVENUE) - CITY IMPROVEMENTS	REPORT	\$ 148,860	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 134,770	\$ 14,090
	CIP	\$ 588,333	\$ -	\$ -	\$ 205,000	\$ 133,333	\$ -	\$ 250,000	\$ -
	DIFFERENCE	\$ (439,473)	\$ -	\$ -	\$ (205,000)	\$ (133,333)	\$ -	\$ (115,230)	\$ 14,090
4TH AVENUE (WATERFRONT DRIVE - 5TH STREET) - CITY IMPROVEMENTS	REPORT	\$ 445,890	\$ -	\$ -	\$ -	\$ 85,620	\$ 81,620	\$ 150,440	\$ 128,210
	CIP	\$ 400,000	\$ -	\$ -	\$ -	\$ 200,000	\$ -	\$ 200,000	\$ -
	DIFFERENCE	\$ 45,890	\$ -	\$ -	\$ -	\$ (114,380)	\$ 81,620	\$ (49,560)	\$ 128,210
4TH AVENUE (5TH STREET - 4TH STREET) - CITY IMPROVEMENTS	REPORT	\$ 380,940	\$ -	\$ -	\$ -	\$ 121,850	\$ 61,630	\$ 133,430	\$ 64,030
	CIP	\$ 398,500	\$ -	\$ -	\$ -	\$ 196,500	\$ -	\$ 202,000	\$ -
	DIFFERENCE	\$ (17,560)	\$ -	\$ -	\$ -	\$ (74,650)	\$ 61,630	\$ (68,570)	\$ 64,030
4TH AVENUE (4TH STREET - 3RD STREET) - CITY IMPROVEMENTS	REPORT	\$ 493,140	\$ -	\$ -	\$ -	\$ 156,420	\$ 81,620	\$ 150,420	\$ 104,680
	CIP	\$ 444,000	\$ -	\$ -	\$ -	\$ 219,000	\$ -	\$ 225,000	\$ -
	DIFFERENCE	\$ 49,140	\$ -	\$ -	\$ -	\$ (62,580)	\$ 81,620	\$ (74,580)	\$ 104,680
5TH AVENUE (WATERFRONT DRIVE - 5TH STREET)	REPORT	\$ 1,075,690	\$ 458,800	\$ 175,260	\$ -	\$ 102,920	\$ 79,720	\$ 155,280	\$ 103,710
	CIP	\$ 967,000	\$ 550,000	\$ -	\$ 32,000	\$ 190,000	\$ -	\$ 195,000	\$ -
	DIFFERENCE	\$ 108,690	\$ (91,200)	\$ 175,260	\$ (32,000)	\$ (87,080)	\$ 79,720	\$ (39,720)	\$ 103,710
5TH AVENUE (4TH STREET)	REPORT	\$ 73,370	\$ 23,640	\$ 2,750	\$ -	\$ -	\$ -	\$ 46,980	\$ -
	CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ 73,370	\$ 23,640	\$ 2,750	\$ -	\$ -	\$ -	\$ 46,980	\$ -
6TH AVENUE (7TH AVENUE - WATERFRONT DRIVE)	REPORT	\$ 1,328,780	\$ 557,490	\$ 245,570	\$ 130,700	\$ 99,040	\$ 76,760	\$ 121,060	\$ 98,160
	CIP	\$ 1,112,000	\$ 620,000	\$ -	\$ 77,000	\$ 210,000	\$ -	\$ 205,000	\$ -
	DIFFERENCE	\$ 216,780	\$ (62,510)	\$ 245,570	\$ 53,700	\$ (110,960)	\$ 76,760	\$ (83,940)	\$ 98,160
6TH AVENUE (WATERFRONT DRIVE - 5TH STREET)	REPORT	\$ 1,330,970	\$ 609,460	\$ 43,090	\$ 153,500	\$ 230,250	\$ 91,510	\$ 117,560	\$ 85,600
	CIP	\$ 1,131,500	\$ 482,500	\$ -	\$ 99,000	\$ 355,000	\$ -	\$ 195,000	\$ -
	DIFFERENCE	\$ 199,470	\$ 126,960	\$ 43,090	\$ 54,500	\$ (124,750)	\$ 91,510	\$ (77,440)	\$ 85,600
6TH AVENUE (5TH STREET - 4TH STREET)	REPORT	\$ 1,043,980	\$ 528,550	\$ 38,800	\$ 49,250	\$ 139,280	\$ 75,750	\$ 120,070	\$ 92,280
	CIP	\$ 1,184,500	\$ 517,500	\$ -	\$ 67,000	\$ 400,000	\$ -	\$ 200,000	\$ -
	DIFFERENCE	\$ (140,520)	\$ 11,050	\$ 38,800	\$ (17,750)	\$ (260,720)	\$ 75,750	\$ (79,930)	\$ 92,280

APPENDIX B-1A

COMPARISON OF REPORT TO CIP
2023-2024 STREET IMPROVEMENT PROJECT
City of Two Harbors, MN

SEGMENT		TOTAL ESTIMATED COSTS	COST BY PART						
			STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER SYSTEM	WATER SERVICES
CITY PROJECT TOTALS	REPORT	\$ 6,587,660	\$ 2,177,940	\$ 505,470	\$ 333,450	\$ 935,380	\$ 548,610	\$ 1,364,740	\$ 722,070
	CIP	\$ 6,992,500	\$ 2,170,000	\$ -	\$ 480,000	\$ 2,170,500	\$ -	\$ 2,172,000	\$ -
	DIFFERENCE	\$ (404,840)	\$ 7,940	\$ 505,470	\$ (146,550)	\$ (1,235,120)	\$ 548,610	\$ (807,260)	\$ 722,070
CITY PROJECT WITH OPTIONAL IMPROVEMENTS	REPORT	\$ 6,855,796	\$ 2,239,776	\$ 514,460	\$ 333,450	\$ 935,380	\$ 548,610	\$ 1,553,430	\$ 730,690
	CIP	\$ 6,992,500	\$ 2,170,000	\$ -	\$ 480,000	\$ 2,170,500	\$ -	\$ 2,172,000	\$ -
	DIFFERENCE	\$ (136,704)	\$ 69,776	\$ 514,460	\$ (146,550)	\$ (1,235,120)	\$ 548,610	\$ (618,570)	\$ 730,690

APPENDIX B-2

5TH STREET (4TH AVENUE - 5TH AVENUE) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.01	\$ 336,000.00	\$ 4,889.60
TRAFFIC CONTROL	LS	0.01	\$ 84,000.00	\$ 1,222.40
REMOVE EXISTING WATERMAIN	LF	860	\$ 11.00	\$ 9,460.00
REMOVE GV & BOX	EA	2	\$ 400.00	\$ 800.00
REMOVE HYDRANT	EA	1	\$ 1,150.00	\$ 1,150.00
CONNECT TO EXISTING WATERMAIN	EA	2	\$ 2,500.00	\$ 5,000.00
12" DIP WATERMAIN	LF	18	\$ 120.00	\$ 2,160.00
16" HDPE WATERMAIN	LF	403	\$ 135.00	\$ 54,405.00
12" GV & BOX	EA	1	\$ 4,500.00	\$ 4,500.00
16" GV & BOX	EA	1	\$ 5,500.00	\$ 5,500.00
INSULATION	SF	50	\$ 10.00	\$ 500.00
DUCTILE IRON FITTINGS	LB	559	\$ 22.00	\$ 12,298.00
CONSTRUCTION COSTS				\$ 101,885.00
+10% CONTINGENCY				\$ 10,188.50
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 112,073.50
+30% INDIRECT COSTS				\$ 33,622.05
TOTAL COST STREET IMPROVEMENTS				\$ 145,695.54
USE				\$ 145,700.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	107	\$ 10.00	\$ 1,070.00
REMOVE CURB STOP & BOX	EA	2	\$ 250.00	\$ 500.00
3/4" WATER SERVICE	LF	107	\$ 60.00	\$ 6,420.00
3/4" CURB STOP AND BOX	EA	2	\$ 650.00	\$ 1,300.00
3/4" CORPORATION STOP	EA	2	\$ 425.00	\$ 850.00
CONNECT TO EXISTING WATER SERVICE	EA	2	\$ 450.00	\$ 900.00
CONSTRUCTION COSTS				\$ 11,040.00
+10% CONTINGENCY				\$ 1,104.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 12,144.00
+30% INDIRECT COSTS				\$ 3,643.20
TOTAL WATER SERVICE IMPROVEMENTS				\$ 15,787.20
USE				\$ 15,790.00

APPENDIX B-3

5TH STREET (5TH AVENUE - 6TH AVENUE) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.01	\$ 336,000.00	\$ 3,062.06
TRAFFIC CONTROL	LS	0.01	\$ 84,000.00	\$ 765.51
REMOVE EXISTING WATERMAIN	LF	738	\$ 11.00	\$ 8,118.00
16" HDPE WATERMAIN	LF	369	\$ 135.00	\$ 49,815.00
INSULATION	SF	50	\$ 10.00	\$ 500.00
CONSTRUCTION COSTS				\$ 62,260.57
+10% CONTINGENCY				\$ 6,226.06
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 68,486.63
+30% INDIRECT COSTS				\$ 20,545.99
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 89,032.61
USE				\$ 89,030.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	79	\$ 10.00	\$ 790.00
REMOVE CURB STOP & BOX	EA	3	\$ 250.00	\$ 750.00
3/4" WATER SERVICE	LF	79	\$ 60.00	\$ 4,740.00
3/4" CURB STOP AND BOX	EA	3	\$ 650.00	\$ 1,950.00
3/4" CORPORATION STOP	EA	3	\$ 425.00	\$ 1,275.00
CONNECT TO EXISTING WATER SERVICE	EA	3	\$ 450.00	\$ 1,350.00
CONSTRUCTION COSTS				\$ 10,855.00
+10% CONTINGENCY				\$ 1,085.50
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 11,940.50
+30% INDIRECT COSTS				\$ 3,582.15
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 15,522.65
USE				\$ 15,520.00

APPENDIX B-4

5TH STREET (6TH AVENUE - 7TH AVENUE) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.01	\$ 336,000.00	\$ 4,751.15
TRAFFIC CONTROL	LS	0.01	\$ 84,000.00	\$ 1,187.79
REMOVE EXISTING WATERMAIN	LF	531	\$ 11.00	\$ 5,841.00
REMOVE GV & BOX	EA	2	\$ 400.00	\$ 800.00
CONNECT TO EXISTING WATERMAIN	EA	2	\$ 2,500.00	\$ 5,000.00
12" DIP WATERMAIN	LF	43	\$ 120.00	\$ 5,160.00
16" HDPE WATERMAIN	LF	246	\$ 135.00	\$ 33,210.00
12" GV & BOX	EA	1	\$ 4,500.00	\$ 4,500.00
16" GV & BOX	EA	2	\$ 5,500.00	\$ 11,000.00
INSULATION	SF	50	\$ 10.00	\$ 500.00
DUCTILE IRON FITTINGS	LB	993	\$ 22.00	\$ 21,846.00
ADJUST EXISTING VALVE BOX	EA	1	\$ 450.00	\$ 450.00
CONSTRUCTION COSTS				\$ 94,245.93
+10% CONTINGENCY				\$ 9,424.59
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 103,670.53
+30% INDIRECT COSTS				\$ 31,101.16
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 134,771.69
USE				\$ 134,770.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	90	\$ 10.00	\$ 900.00
REMOVE CURB STOP & BOX	EA	2	\$ 250.00	\$ 500.00
3/4" WATER SERVICE	LF	90	\$ 60.00	\$ 5,400.00
3/4" CURB STOP AND BOX	EA	2	\$ 650.00	\$ 1,300.00
3/4" CORPORATION STOP	EA	2	\$ 425.00	\$ 850.00
CONNECT TO EXISTING WATER SERVICE	EA	2	\$ 450.00	\$ 900.00
CONSTRUCTION COSTS				\$ 9,850.00
+10% CONTINGENCY				\$ 985.00
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 10,835.00
+30% INDIRECT COSTS				\$ 3,250.50
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 14,085.50
USE				\$ 14,090.00

APPENDIX B-5

4TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 4,500.00	\$ 4,500.00
REMOVE SANITARY SEWER PIPE	LF	425	\$ 12.00	\$ 5,100.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	425	\$ 80.00	\$ 34,000.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	1	\$ 1,500.00	\$ 1,500.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	2	\$ 4,250.00	\$ 8,500.00
48" SANITARY SEWER MH OVERDEPTH	LF	6	\$ 400.00	\$ 2,400.00
TELEVISIONING	LF	425	\$ 7.00	\$ 2,975.00
CONSTRUCTION COSTS				\$ 59,875.00
+10% CONTINGENCY				\$ 5,987.50
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 65,862.50
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 85,621.25
USE				\$ 85,620.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	525	\$10.00	\$ 5,250.00
8"x6" PVC SANITARY WYE	EA	18	\$425.00	\$ 7,650.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	630	\$60.00	\$ 37,800.00
CONNECT TO EXISTIING SANITARY SEWER SERVICE	EA	15	\$425.00	\$ 6,375.00
CONSTRUCTION COSTS				\$ 57,075.00
+10% CONTINGENCY				\$ 5,707.50
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 62,782.50
+30% INDIRECT COSTS				\$ 18,834.75
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 81,617.25
USE				\$ 81,620.00

APPENDIX B-5

4TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.04	\$ 336,000.00	\$ 11,877.00
TRAFFIC CONTROL	LS	0.04	\$ 84,000.00	\$ 2,969.25
REMOVE EXISTING WATERMAIN	LF	453	\$ 11.00	\$ 4,983.00
REMOVE GV & BOX	EA	1	\$ 400.00	\$ 400.00
CONNECT TO EXISTING WATERMAIN	EA	1	\$ 2,500.00	\$ 2,500.00
6" DIP WATERMAIN	LF	453	\$ 80.00	\$ 36,240.00
6" GV & BOX	EA	4	\$ 3,200.00	\$ 12,800.00
HYDRANT	EA	2	\$ 7,000.00	\$ 14,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	156	\$ 22.00	\$ 3,432.00
CONSTRUCTION COSTS				\$ 105,201.25
+10% CONTINGENCY				\$ 10,520.13
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 115,721.38
+30% INDIRECT COSTS				\$ 34,716.41
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 150,437.79
				USE \$ 150,440.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	540	\$ 10.00	\$ 5,400.00
REMOVE CURB STOP & BOX	EA	16	\$ 250.00	\$ 4,000.00
3/4" WATER SERVICE	LF	540	\$ 60.00	\$ 32,400.00
3/4" CURB STOP AND BOX	EA	16	\$ 650.00	\$ 10,400.00
3/4" CORPORATION STOP	EA	16	\$ 425.00	\$ 6,800.00
REMOVE CONCRETE STEPS	SF	168	\$ 30.00	\$ 5,040.00
CONCRETE STEPS	SF	168	\$ 90.00	\$ 15,120.00
PIPE RAILING	LF	22	\$ 150.00	\$ 3,300.00
CONNECT TO EXISTING WATER SERVICE	EA	16	\$ 450.00	\$ 7,200.00
CONSTRUCTION COSTS				\$ 89,660.00
+10% CONTINGENCY				\$ 8,966.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 98,626.00
+30% INDIRECT COSTS				\$ 29,587.80
TOTAL WATER SERVICE IMPROVEMENTS				\$ 128,213.80
				USE \$ 128,210.00

APPENDIX B-6

4TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER PIPE	LF	421	\$ 12.00	\$ 5,052.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	421	\$ 80.00	\$ 33,680.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	2	\$ 4,250.00	\$ 8,500.00
48" SANITARY SEWER MH OVERDEPTH	LF	6	\$ 400.00	\$ 2,400.00
ROCK EXCAVATION	CY	167	\$ 190.00	\$ 31,730.00
TELEVISIONING	LF	421	\$ 7.00	\$ 2,947.00
CONSTRUCTION COSTS				\$ 85,209.00
+10% CONTINGENCY				\$ 8,520.90
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 93,729.90
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 121,848.87
				USE \$ 121,850.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	350	\$10.00	\$ 3,500.00
8"X6" PVC SANITARY WYE	EA	14	\$425.00	\$ 5,950.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	490	\$60.00	\$ 29,400.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	10	\$425.00	\$ 4,250.00
CONSTRUCTION COSTS				\$ 43,100.00
+10% CONTINGENCY				\$ 4,310.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 47,410.00
+30% INDIRECT COSTS				\$ 14,223.00
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 61,633.00
				USE \$ 61,630.00

APPENDIX B-6

4TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.03	\$ 336,000.00	\$ 10,243.29
TRAFFIC CONTROL	LS	0.03	\$ 84,000.00	\$ 2,560.82
REMOVE EXISTING WATERMAIN	LF	470	\$ 11.00	\$ 5,170.00
6" DIP WATERMAIN	LF	490	\$ 80.00	\$ 39,200.00
6" GV & BOX	EA	2	\$ 3,200.00	\$ 6,400.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	306	\$ 22.00	\$ 6,732.00
CONSTRUCTION COSTS				\$ 93,306.11
+10% CONTINGENCY				\$ 9,330.61
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 102,636.72
+30% INDIRECT COSTS				\$ 30,791.02
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 133,427.74
				USE \$ 133,430.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	315	\$ 10.00	\$ 3,150.00
REMOVE CURB STOP & BOX	EA	7	\$ 250.00	\$ 1,750.00
3/4" WATER SERVICE	LF	415	\$ 60.00	\$ 24,900.00
3/4" CURB STOP AND BOX	EA	11	\$ 650.00	\$ 7,150.00
3/4" CORPORATION STOP	EA	11	\$ 425.00	\$ 4,675.00
CONNECT TO EXISTING WATER SERVICE	EA	7.00	\$ 450.00	\$ 3,150.00
CONSTRUCTION COSTS				\$ 44,775.00
+10% CONTINGENCY				\$ 4,477.50
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 49,252.50
+30% INDIRECT COSTS				\$ 14,775.75
TOTAL WATER SERVICE IMPROVEMENTS				\$ 64,028.25
				USE \$ 64,030.00

APPENDIX B-7

4TH AVENUE (4TH STREET - 3RD STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 4,500.00	\$ 4,500.00
REMOVE SANITARY SEWER PIPE	LF	512	\$ 12.00	\$ 6,144.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	480	\$ 80.00	\$ 38,400.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	2	\$ 1,500.00	\$ 3,000.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	1	\$ 4,250.00	\$ 4,250.00
60" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	1	\$ 5,200.00	\$ 5,200.00
60" SANITARY SEWER MH OVERDEPTH	LF	3	\$ 420.00	\$ 1,260.00
ROCK EXCAVATION	CY	223	\$ 190.00	\$ 42,370.00
TELEVISIONING	LF	480	\$ 7.00	\$ 3,360.00
CONSTRUCTION COSTS				\$ 109,384.00
+10% CONTINGENCY				\$ 10,938.40
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 120,322.40
+30% INDIRECT COSTS				\$ 36,096.72
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 156,419.12
				USE \$ 156,420.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	525	\$10.00	\$ 5,250.00
8"X6" PVC SANITARY WYE	EA	18	\$425.00	\$ 7,650.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	630	\$60.00	\$ 37,800.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	15	\$425.00	\$ 6,375.00
CONSTRUCTION COSTS				\$ 57,075.00
+10% CONTINGENCY				\$ 5,707.50
+30% INDIRECT COSTS				\$ 18,834.75
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 81,617.25
				USE \$ 81,620.00

APPENDIX B-7

4TH AVENUE (4TH STREET - 3RD STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.04	\$ 336,000.00	\$ 12,719.24
TRAFFIC CONTROL	LS	0.04	\$ 84,000.00	\$ 3,179.81
REMOVE EXISTING WATERMAIN	LF	590	\$ 11.00	\$ 6,490.00
REMOVE GV & BOX	EA	2	\$ 400.00	\$ 800.00
REMOVE HYDRANT	EA	2	\$ 1,150.00	\$ 2,300.00
CONNECT TO EXISTING WATERMAIN	EA	1	\$ 2,500.00	\$ 2,500.00
6" DIP WATERMAIN	LF	570	\$ 80.00	\$ 45,600.00
6" GV & BOX	EA	2	\$ 3,200.00	\$ 6,400.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	100	\$ 22.00	\$ 2,200.00
CONSTRUCTION COSTS				\$ 105,189.05
+10% CONTINGENCY				\$ 10,518.91
+30% INDIRECT COSTS				\$ 34,712.39
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 150,420.34
				USE \$ 150,420.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	555	\$ 10.00	\$ 5,550.00
REMOVE CURB STOP & BOX	EA	15	\$ 250.00	\$ 3,750.00
3/4" WATER SERVICE	LF	630	\$ 60.00	\$ 37,800.00
3/4" CURB STOP AND BOX	EA	18	\$ 650.00	\$ 11,700.00
3/4" CORPORATION STOP	EA	18	\$ 425.00	\$ 7,650.00
CONNECT TO EXISTING WATER SERVICE	EA	15.00	\$ 450.00	\$ 6,750.00
CONSTRUCTION COSTS				\$ 73,200.00
+10% CONTINGENCY				\$ 7,320.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 80,520.00
+30% INDIRECT COSTS				\$ 24,156.00
TOTAL WATER SERVICE IMPROVEMENTS				\$ 104,676.00
				USE \$ 104,680.00

APPENDIX B-8

5TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.20	\$ 336,000.00	\$ 65,893.78
TRAFFIC CONTROL	LS	0.20	\$ 84,000.00	\$ 16,473.45
REMOVE CONCRETE CURB & GUTTER	LF	870	\$ 6.00	\$ 5,220.00
REMOVE BITUMINOUS PAVEMENT	SY	1534	\$ 10.00	\$ 15,340.00
REMOVE SIGN	EA	4	\$ 100.00	\$ 400.00
SIGN PANEL TYPE C	EA	4	\$ 200.00	\$ 800.00
SAW CUT BITUMINOUS PAVEMENT	LF	96	\$ 4.00	\$ 384.00
SAW CUT CONCRETE PAVEMENT	LF	74	\$ 6.00	\$ 444.00
COMMON EXCAVATION	CY	1552	\$ 27.00	\$ 41,904.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	1889	\$ 3.50	\$ 6,611.50
SELECT GRANULAR BORROW	CY	727	\$ 40.00	\$ 29,080.00
AGGREGATE BASE, CLASS 5 - STREET	CY	479	\$ 60.00	\$ 28,752.00
B624 C&G	LF	870	\$ 40.00	\$ 34,800.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	151	\$ 130.00	\$ 19,630.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	107	\$ 10.00	\$ 1,070.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	194	\$ 120.00	\$ 23,280.00
STREET SWEEPER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SKIDSTEER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
REMOVE TREE AND GRUB STUMP	EA	14	\$ 800.00	\$ 11,200.00
STORM DRAIN INLET PROTECTION	EA	3	\$ 300.00	\$ 900.00
ROCK CONSTRUCTION EXIT	EA	1	\$ 1,000.00	\$ 1,000.00
SEDIMENT CONTROL LOG TYPE WOOD CHIP	LF	50	\$ 13.00	\$ 650.00
SILT FENCE	LF	50	\$ 6.75	\$ 337.50
TOPSOIL COMMON BORROW 4"	CY	129	\$ 60.00	\$ 7,740.00
SEED AND MULCH	SY	896	\$ 4.50	\$ 4,032.00
POTHOLE GAS UTILITY MAIN/SERVICE	EA	1	\$ 2,200.00	\$ 2,200.00

CONSTRUCTION COSTS \$ 320,842.23

+10% CONTINGENCY \$ 32,084.22

TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS \$ 352,926.45

+30% INDIRECT COSTS \$ 105,877.93

TOTAL COST STREET IMPROVEMENTS \$ 458,804.38

USE \$ 458,800.00

SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	6170	\$ 2.00	\$ 12,340.00
REMOVE BLOCK RETAINING WALL	LF	48	\$ 20.00	\$ 960.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	146	\$ 60.00	\$ 8,760.00
REMOVE CONCRETE STEPS	SF	372	\$ 30.00	\$ 11,160.00
CONCRETE STEPS	SF	372	\$ 90.00	\$ 33,480.00
PIPE RAILING	LF	33	\$ 150.00	\$ 4,950.00
4" CONCRETE WALK	SF	5690	\$ 7.00	\$ 39,830.00
6" CONCRETE WALK FOR PED RAMPS	SF	480	\$ 13.00	\$ 6,240.00
TRUNCATED DOME PANEL	SF	88	\$ 55.00	\$ 4,840.00

CONSTRUCTION COSTS \$ 122,560.00

+10% CONTINGENCY \$ 12,256.00

TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS \$ 134,816.00

+30% INDIRECT COSTS \$ 40,444.80

TOTAL SIDEWALK IMPROVEMENTS \$ 175,260.80

USE \$ 175,260.00

APPENDIX B-8

5TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 4,500.00	\$ 4,500.00
REMOVE SANITARY SEWER PIPE	LF	477	\$ 12.00	\$ 5,724.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	477	\$ 80.00	\$ 38,160.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	2	\$ 1,500.00	\$ 3,000.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	3	\$ 4,250.00	\$ 12,750.00
48" SANITARY SEWER MH OVERDEPTH	LF	9	\$ 400.00	\$ 3,600.00
TELEVISIONING	LF	477	\$ 7.00	\$ 3,339.00
CONSTRUCTION COSTS				\$ 71,973.00
+10% CONTINGENCY				\$ 7,197.30
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 79,170.30
+30% INDIRECT COSTS				\$ 23,751.09
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 102,921.39
				USE \$ 102,920.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	560	\$10.00	\$ 5,600.00
8"X6" PVC SANITARY WYE	EA	17	\$425.00	\$ 7,225.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	595	\$60.00	\$ 35,700.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	17	\$425.00	\$ 7,225.00
CONSTRUCTION COSTS				\$ 55,750.00
+10% CONTINGENCY				\$ 5,575.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 61,325.00
+30% INDIRECT COSTS				\$ 18,397.50
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 79,722.50
				USE \$ 79,720.00

APPENDIX B-8

5TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	490	\$ 11.00	\$ 5,390.00
REMOVE GV & BOX	EA	2	\$ 400.00	\$ 800.00
REMOVE HYDRANT	EA	2	\$ 1,150.00	\$ 2,300.00
CONNECT TO EXISTING WATERMAIN	EA	2	\$ 2,500.00	\$ 5,000.00
6" DIP WATERMAIN	LF	490	\$ 80.00	\$ 39,200.00
6" GV & BOX	EA	5	\$ 3,200.00	\$ 16,000.00
HYDRANT	EA	2	\$ 7,000.00	\$ 14,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	450	\$ 22.00	\$ 9,900.00
CONSTRUCTION COSTS				\$ 108,590.00
+10% CONTINGENCY				\$ 10,859.00
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 119,449.00
+30% INDIRECT COSTS				\$ 35,834.70
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 155,283.70
				USE \$ 155,280.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	535	\$ 10.00	\$ 5,350.00
REMOVE CURB STOP & BOX	EA	15	\$ 250.00	\$ 3,750.00
3/4" WATER SERVICE	LF	625	\$ 60.00	\$ 37,500.00
3/4" CURB STOP AND BOX	EA	17	\$ 650.00	\$ 11,050.00
3/4" CORPORATION STOP	EA	17	\$ 425.00	\$ 7,225.00
CONNECT TO EXISTING WATER SERVICE	EA	17	\$ 450.00	\$ 7,650.00
CONSTRUCTION COSTS				\$ 72,525.00
+10% CONTINGENCY				\$ 7,252.50
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 79,777.50
+30% INDIRECT COSTS				\$ 23,933.25
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 103,710.75
				USE \$ 103,710.00

APPENDIX B-9

5TH AVENUE (4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.01	\$ 336,000.00	\$ 2,772.75
TRAFFIC CONTROL	LS	0.01	\$ 84,000.00	\$ 693.19
REMOVE CONCRETE CURB & GUTTER	LF	28	\$ 6.00	\$ 168.00
REMOVE BITUMINOUS PAVEMENT	SY	46	\$ 10.00	\$ 460.00
REMOVE SIGN	EA	1	\$ 100.00	\$ 100.00
SAW CUT BITUMINOUS PAVEMENT	LF	57	\$ 4.00	\$ 228.00
SAW CUT CONCRETE PAVEMENT	LF	12	\$ 6.00	\$ 72.00
COMMON EXCAVATION	CY	102	\$ 27.00	\$ 2,754.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	57	\$ 3.50	\$ 199.50
SELECT GRANULAR BORROW	CY	70	\$ 40.00	\$ 2,800.00
AGGREGATE BASE, CLASS 5 - STREET	CY	15	\$ 60.00	\$ 870.00
B624 C&G	LF	28	\$ 40.00	\$ 1,120.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	4	\$ 130.00	\$ 520.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	3	\$ 10.00	\$ 30.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	6	\$ 120.00	\$ 720.00
STREET SWEEPER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SKIDSTEER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SEDIMENT CONTROL LOG TYPE WOOD CHIP	LF	25	\$ 13.00	\$ 325.00
TOPSOIL COMMON BORROW 4"	CY	11	\$ 60.00	\$ 660.00
SEED AND MULCH	SY	75	\$ 4.50	\$ 337.50
POTHOLE GAS UTILITY MAIN/SERVICE	EA	1	\$ 2,200.00	\$ 2,200.00
CONSTRUCTION COSTS				\$ 16,532.44
+10% CONTINGENCY				\$ 1,653.24
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 18,185.68
+30% INDIRECT COSTS				\$ 5,455.71
TOTAL COST STREET IMPROVEMENTS				\$ 23,641.39
USE				\$ 23,640.00

SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	180	\$ 2.00	\$ 360.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	5	\$ 60.00	\$ 300.00
4" CONCRETE WALK	SF	180	\$ 7.00	\$ 1,260.00
CONSTRUCTION COSTS				\$ 1,920.00
+10% CONTINGENCY				\$ 192.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 2,112.00
+30% INDIRECT COSTS				\$ 633.60
TOTAL SIDEWALK IMPROVEMENTS				\$ 2,745.60
USE				\$ 2,750.00

APPENDIX B-9

5TH AVENUE (4TH STREET) PRELIMINARY COST ESTIMATE
2023-2024 STREET IMPROVEMENT PROJECT
City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	2	\$ 11.00	\$ 22.00
CONNECT TO EXISTING WATERMAIN	EA	1	\$ 2,500.00	\$ 2,500.00
6" DIP WATERMAIN	LF	20	\$ 80.00	\$ 1,600.00
6" GV & BOX	EA	1	\$ 3,200.00	\$ 3,200.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	115	\$ 22.00	\$ 2,530.00
CONSTRUCTION COSTS				\$ 32,852.00
+10% CONTINGENCY				\$ 3,285.20
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 36,137.20
+30% INDIRECT COSTS				\$ 10,841.16
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 46,978.36
USE				\$ 46,980.00

APPENDIX B-10

6TH AVENUE (7TH STREET - WATERFRONT DRIVE) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.24	\$ 336,000.00	\$ 81,322.89
TRAFFIC CONTROL	LS	0.24	\$ 84,000.00	\$ 20,330.72
REMOVE CONCRETE CURB & GUTTER	LF	1041	\$ 6.00	\$ 6,246.00
REMOVE BITUMINOUS PAVEMENT	SY	1574	\$ 10.00	\$ 15,740.00
REMOVE BITUMINOUS DRIVEWAY	SF	30	\$ 2.00	\$ 60.00
REMOVE CONCRETE DRIVEWAY	SF	650	\$ 3.00	\$ 1,950.00
REMOVE GRAVEL DRIVEWAY	SF	1100	\$ 1.00	\$ 1,100.00
REMOVE SIGN	EA	5	\$ 100.00	\$ 500.00
SIGN PANEL TYPE C	EA	5	\$ 200.00	\$ 1,000.00
SAW CUT BITUMINOUS PAVEMENT	LF	117	\$ 4.00	\$ 468.00
SAW CUT CONCRETE PAVEMENT	LF	50	\$ 6.00	\$ 300.00
COMMON EXCAVATION	CY	1670	\$ 27.00	\$ 45,090.00
AGGREGATE SURFACE, CLASS 5	SF	1100	\$ 15.00	\$ 16,500.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	2044	\$ 3.50	\$ 7,154.00
SELECT GRANULAR BORROW	CY	782	\$ 40.00	\$ 31,280.00
AGGREGATE BASE, CLASS 5 - STREET	CY	519	\$ 60.00	\$ 31,122.00
B624 C&G	LF	1041	\$ 40.00	\$ 41,640.00
7" CONCRETE RESIDENTAIL APRON	SF	650	\$ 10.50	\$ 6,825.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	159	\$ 130.00	\$ 20,670.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	113	\$ 10.00	\$ 1,130.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	205	\$ 120.00	\$ 24,600.00
STREET SWEEPER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SKIDSTEER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
4" SOLID LINE PAINT - WHITE	LF	304	\$ 4.50	\$ 1,368.00
24" SOLID LINE PAINT - WHITE	LF	24	\$ 25.00	\$ 600.00
4" SOLID LINE PAINT - YELLOW	LF	40	\$ 2.00	\$ 80.00
REMOVE TREE AND GRUB STUMP	EA	10	\$ 800.00	\$ 8,000.00
STORM DRAIN INLET PROTECTION	EA	7	\$ 300.00	\$ 2,100.00
SEDIMENT CONTROL LOG TYPE WOOD CHIP	LF	400	\$ 13.00	\$ 5,200.00
SILT FENCE	LF	80	\$ 6.75	\$ 540.00
TOPSOIL COMMON BORROW 4"	CY	156	\$ 60.00	\$ 9,360.00
SEED AND MULCH	SY	1084	\$ 4.50	\$ 4,878.00
CONSTRUCTION COSTS				\$ 389,854.62
+10% CONTINGENCY				\$ 38,985.46
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 428,840.08
+30% INDIRECT COSTS				\$ 128,652.02
TOTAL COST STREET IMPROVEMENTS				\$ 557,492.10
USE				\$ 557,490.00

SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	5925	\$ 2.00	\$ 11,850.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	151	\$ 60.00	\$ 9,060.00
REMOVE CONCRETE STEPS	SF	760	\$ 30.00	\$ 22,800.00
CONCRETE STEPS	SF	760	\$ 90.00	\$ 68,400.00
PIPE RAILING	LF	32	\$ 150.00	\$ 4,800.00
4" CONCRETE WALK	SF	5215	\$ 7.00	\$ 36,505.00
6" CONCRETE WALK FOR PED RAMPS	SF	825	\$ 13.00	\$ 10,725.00
TRUNCATED DOME PANEL	SF	138	\$ 55.00	\$ 7,590.00
CONSTRUCTION COSTS				\$ 171,730.00
+10% CONTINGENCY				\$ 17,173.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 188,903.00
+30% INDIRECT COSTS				\$ 56,670.90
TOTAL SIDEWALK IMPROVEMENTS				\$ 245,573.90
USE				\$ 245,570.00

APPENDIX B-10

6TH AVENUE (7TH STREET - WATERFRONT DRIVE) PRELIMINARY COST ESTIMATE
2023-2024 STREET IMPROVEMENT PROJECT
 City of Two Harbors, MN

STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	LF	109	\$ 20.00	\$ 2,180.00
REMOVE STORM SEWER STRUCTURE	EA	3	\$ 500.00	\$ 1,500.00
ADJUST EXISTING MH W/NEW CASTING & ADJ. RINGS	EA	2	\$ 595.00	\$ 1,190.00
ADJUST EXISTING CB W/NEW CASTING & ADJ. RINGS	EA	2	\$ 1,500.00	\$ 3,000.00
12" RCP	LF	267	\$ 90.00	\$ 24,030.00
15" RCP	LF	45	\$ 100.00	\$ 4,500.00
2'X3' CB, INCLUDES CASTING	EA	2	\$ 4,000.00	\$ 8,000.00
4' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	2	\$ 6,000.00	\$ 12,000.00
5' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	2	\$ 7,500.00	\$ 15,000.00
CONNECT TO EXISTING STRUCTURE	EA	2	\$ 1,500.00	\$ 3,000.00
CONNECT TO EXISTING PIPE	EA	1	\$ 1,000.00	\$ 1,000.00
4" PVC PERFORATED DRAINTILE	LF	800	\$ 20.00	\$ 16,000.00
CONSTRUCTION COSTS				\$ 91,400.00
+10% CONTINGENCY				\$ 9,140.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 100,540.00
+30% INDIRECT COSTS				\$ 30,162.00
TOTAL COST STORM WATER IMPROVEMENTS				\$ 130,702.00
USE				\$ 130,700.00

APPENDIX B-10

6TH AVENUE (7TH STREET - WATERFRONT DRIVE) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 4,500.00	\$ 4,500.00
REMOVE SANITARY SEWER PIPE	LF	518	\$ 12.00	\$ 6,216.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	520	\$ 80.00	\$ 41,600.00
CONNECT TO EXISTING SANITARY MANHOLE	EA	1	\$ 1,500.00	\$ 1,500.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	2	\$ 4,250.00	\$ 8,500.00
48" SANITARY SEWER MH OVERDEPTH	LF	6	\$ 400.00	\$ 2,400.00
TELEVISIONING	LF	520	\$ 7.00	\$ 3,640.00
CONSTRUCTION COSTS				\$ 69,256.00
+10% CONTINGENCY				\$ 6,925.60
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 76,181.60
+30% INDIRECT COSTS				\$ 22,854.48
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 99,036.08
				USE \$ 99,040.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	595	\$10.00	\$ 5,950.00
8"X6" PVC SANITARY WYE	EA	17	\$425.00	\$ 7,225.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	583	\$60.00	\$ 34,980.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	13	\$425.00	\$ 5,525.00
CONSTRUCTION COSTS				\$ 53,680.00
+10% CONTINGENCY				\$ 5,368.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 59,048.00
+30% INDIRECT COSTS				\$ 17,714.40
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 76,762.40
				USE \$ 76,760.00

APPENDIX B-10

6TH AVENUE (7TH STREET - WATERFRONT DRIVE) PRELIMINARY COST ESTIMATE
2023-2024 STREET IMPROVEMENT PROJECT
City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	522	\$ 11.00	\$ 5,742.00
CONNECT TO EXISTING WATERMAIN	EA	1	\$ 2,500.00	\$ 2,500.00
6" DIP WATERMAIN	LF	532	\$ 80.00	\$ 42,560.00
6" GV & BOX	EA	2	\$ 3,200.00	\$ 6,400.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	182	\$ 22.00	\$ 4,004.00
ADJUST EXISTING VALVE BOX	EA	1	\$ 450.00	\$ 450.00
CONSTRUCTION COSTS				\$ 84,656.00
+10% CONTINGENCY				\$ 8,465.60
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 93,121.60
+30% INDIRECT COSTS				\$ 27,936.48
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 121,058.08
				USE \$ 121,060.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	419	\$ 10.00	\$ 4,190.00
REMOVE CURB STOP & BOX	EA	16	\$ 250.00	\$ 4,000.00
3/4" WATER SERVICE	LF	580	\$ 60.00	\$ 34,800.00
3/4" CURB STOP AND BOX	EA	18	\$ 650.00	\$ 11,700.00
3/4" CORPORATION STOP	EA	18	\$ 425.00	\$ 7,650.00
CONNECT TO EXISTING WATER SERVICE	EA	14	\$ 450.00	\$ 6,300.00
CONSTRUCTION COSTS				\$ 68,640.00
+10% CONTINGENCY				\$ 6,864.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 75,504.00
+30% INDIRECT COSTS				\$ 22,651.20
TOTAL WATER SERVICE IMPROVEMENTS				\$ 98,155.20
				USE \$ 98,160.00

APPENDIX B-11

6TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.22	\$ 336,000.00	\$ 74,527.99
TRAFFIC CONTROL	LS	0.22	\$ 84,000.00	\$ 18,632.00
REMOVE BITUMINOUS PAVEMENT	SY	1467	\$ 10.00	\$ 14,670.00
REMOVE CONCRETE DRIVEWAY	SF	450	\$ 3.00	\$ 1,350.00
REMOVE GRAVEL DRIVEWAY	SF	90	\$ 1.00	\$ 90.00
REMOVE SIGN	EA	4	\$ 100.00	\$ 400.00
SIGN PANEL TYPE C	EA	4	\$ 200.00	\$ 800.00
SAW CUT BITUMINOUS PAVEMENT	LF	68	\$ 4.00	\$ 272.00
SAW CUT CONCRETE PAVEMENT	LF	56	\$ 6.00	\$ 336.00
COMMON EXCAVATION	CY	1452	\$ 27.00	\$ 39,204.00
AGGREGATE SURFACE, CLASS 5	SF	90	\$ 15.00	\$ 1,350.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	1795	\$ 3.50	\$ 6,282.50
SELECT GRANULAR BORROW	CY	693	\$ 40.00	\$ 27,720.00
AGGREGATE BASE, CLASS 5 - STREET	CY	456	\$ 60.00	\$ 27,330.00
B624 C&G	LF	850	\$ 40.00	\$ 34,000.00
7" CONCRETE RESIDENTAIL APRON	SF	450	\$ 10.50	\$ 4,725.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	142	\$ 130.00	\$ 18,460.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	101	\$ 10.00	\$ 1,010.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	183	\$ 120.00	\$ 21,960.00
STREET SWEEPER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SKIDSTEER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
4" SOLID LINE PAINT - WHITE	LF	280	\$ 4.50	\$ 1,260.00
24" SOLID LINE PAINT - WHITE	LF	24	\$ 25.00	\$ 600.00
REMOVE TREE AND GRUB STUMP	EA	30	\$ 800.00	\$ 24,000.00
REMOVE BRUSH	SF	4900	\$ 2.00	\$ 9,800.00
STORM DRAIN INLET PROTECTION	EA	5	\$ 300.00	\$ 1,500.00
SEDIMENT CONTROL LOG TYPE WOOD CHIP	LF	50	\$ 13.00	\$ 650.00
SILT FENCE	LF	410	\$ 6.75	\$ 2,767.50
TOPSOIL COMMON BORROW 4"	CY	214	\$ 60.00	\$ 12,840.00
TURF REINFORCEMENT MAT	SF	5020	\$ 14.00	\$ 70,280.00
SEED AND MULCH	SY	1484	\$ 4.50	\$ 6,678.00
CONSTRUCTION COSTS				\$ 426,194.99
+10% CONTINGENCY				\$ 42,619.50
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 468,814.49
+30% INDIRECT COSTS				\$ 140,644.35
TOTAL COST STREET IMPROVEMENTS				\$ 609,458.84
			USE	\$ 609,460.00

SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	2350	\$ 2.00	\$ 4,700.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	60	\$ 60.00	\$ 3,600.00
REMOVE CONCRETE STEPS	SF	8	\$ 30.00	\$ 240.00
CONCRETE STEPS	SF	8	\$ 90.00	\$ 720.00
PIPE RAILING	LF	8	\$ 150.00	\$ 1,200.00
4" CONCRETE WALK	SF	2250	\$ 7.00	\$ 15,750.00
6" CONCRETE WALK FOR PED RAMPS	SF	200	\$ 13.00	\$ 2,600.00
TRUNCATED DOME PANEL	SF	24	\$ 55.00	\$ 1,320.00
CONSTRUCTION COSTS				\$ 30,130.00
+10% CONTINGENCY				\$ 3,013.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 33,143.00
+30% INDIRECT COSTS				\$ 9,942.90
TOTAL SIDEWALK IMPROVEMENTS				\$ 43,085.90
USE				\$ 43,090.00

APPENDIX B-11

6TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	LF	90	\$ 20.00	\$ 1,800.00
REMOVE STORM SEWER STRUCTURE	EA	1	\$ 500.00	\$ 500.00
12" RCP	LF	28	\$ 90.00	\$ 2,520.00
24" RCP	LF	28	\$ 135.00	\$ 3,780.00
30" RCP	LF	110	\$ 160.00	\$ 17,600.00
2'X3' CB, INCLUDES CASTING	EA	1	\$ 4,000.00	\$ 4,000.00
5' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	1	\$ 7,500.00	\$ 7,500.00
6' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	2	\$ 9,500.00	\$ 19,000.00
REMOVE BOX CULVERT STRUCTURE	LS	1	\$ 15,000.00	\$ 15,000.00
SLOPE STABILIZATION	LS	1	\$ 15,000.00	\$ 15,000.00
30" FLARED END SECTION WITH TRASH GUARD	EA	1	\$ 1,725.00	\$ 1,725.00
RANDOM RIP RAP	CY	12	\$ 160.00	\$ 1,920.00
CONNECT TO EXISTING PIPE	EA	1	\$ 1,000.00	\$ 1,000.00
4" PVC PERFORATED DRAINTILE	LF	800	\$ 20.00	\$ 16,000.00
CONSTRUCTION COSTS				\$ 107,345.00
+10% CONTINGENCY				\$ 10,734.50
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 118,079.50
+30% INDIRECT COSTS				\$ 35,423.85
TOTAL COST STORM WATER IMPROVEMENTS				\$ 153,503.35
USE				\$ 153,500.00

APPENDIX B-11

6TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 4,500.00	\$ 4,500.00
REMOVE SANITARY SEWER PIPE	LF	300	\$ 12.00	\$ 3,600.00
REMOVE SANITARY SEWER MANHOLE	EA	2	\$ 450.00	\$ 900.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	36	\$ 80.00	\$ 2,880.00
ABANDON EXISTING 8" SANITARY SEWER	LF	470	\$ 15.00	\$ 7,050.00
24" PVC SANITARY SEWER SDR 35, 10'-15' DEEP	LF	300	\$ 130.00	\$ 39,000.00
LINING SEWER PIPE 24"	LF	435	\$ 165.00	\$ 71,775.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	2	\$ 1,500.00	\$ 3,000.00
60" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	3	\$ 5,200.00	\$ 15,600.00
60" SANITARY SEWER MH OVERDEPTH	LF	9	\$ 420.00	\$ 3,780.00
DEWATERING	LS	0.25	\$ 20,000.00	\$ 5,000.00
TELEVISION	LF	471	\$ 7.00	\$ 3,297.00
ADJUST EXISTING MH W/NEW CSTG & ADJ RINGS	EA	1	\$ 635.00	\$ 635.00
+10% CONTINGENCY				\$ 16,101.70
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 177,118.70
+30% INDIRECT COSTS				\$ 53,135.61
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 230,254.31
				USE \$ 230,250.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	570	\$10.00	\$ 5,700.00
24"x6" PVC SANITARY WYE	EA	12	\$600.00	\$ 7,200.00
CONNECT SERVICE TO EXISTING 24" CONCRETE PIPE	EA	4	\$800.00	\$ 3,200.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	692	\$60.00	\$ 41,520.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	15	\$425.00	\$ 6,375.00
CONSTRUCTION COSTS				\$ 63,995.00
+10% CONTINGENCY				\$ 6,399.50
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 70,394.50
+30% INDIRECT COSTS				\$ 21,118.35
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 91,512.85
				USE \$ 91,510.00

APPENDIX B-11

**6TH AVENUE (WATERFRONT DRIVE - 5TH STREET) PRELIMINARY COST ESTIMATE
2023-2024 STREET IMPROVEMENT PROJECT**
City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	491	\$ 11.00	\$ 5,401.00
REMOVE GV & BOX	EA	1	\$ 400.00	\$ 400.00
REMOVE HYDRANT	EA	2	\$ 1,150.00	\$ 2,300.00
6" DIP WATERMAIN	LF	481	\$ 80.00	\$ 38,480.00
6" GV & BOX	EA	2	\$ 3,200.00	\$ 6,400.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0.13	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	56	\$ 22.00	\$ 1,232.00
DEWATERING	LS	0.25	\$ 20,000.00	\$ 5,000.00
CONSTRUCTION COSTS				\$ 82,213.00
+10% CONTINGENCY				\$ 8,221.30
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 90,434.30
+30% INDIRECT COSTS				\$ 27,130.29
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 117,564.59
				USE \$ 117,560.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	440	\$ 10.00	\$ 4,400.00
REMOVE CURB STOP & BOX	EA	12	\$ 250.00	\$ 3,000.00
3/4" WATER SERVICE	LF	541	\$ 60.00	\$ 32,460.00
3/4" CURB STOP AND BOX	EA	14	\$ 650.00	\$ 9,100.00
3/4" CORPORATION STOP	EA	14	\$ 425.00	\$ 5,950.00
CONNECT TO EXISTING WATER SERVICE	EA	11	\$ 450.00	\$ 4,950.00
CONSTRUCTION COSTS				\$ 59,860.00
+10% CONTINGENCY				\$ 5,986.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 65,846.00
+30% INDIRECT COSTS				\$ 19,753.80
TOTAL WATER SERVICE IMPROVEMENTS				\$ 85,599.80
				USE \$ 85,600.00

APPENDIX B-12

6TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.19	\$ 336,000.00	\$ 63,940.25
TRAFFIC CONTROL	LS	0.19	\$ 84,000.00	\$ 15,985.06
REMOVE BITUMINOUS PAVEMENT	SY	1233	\$ 10.00	\$ 12,330.00
REMOVE SIGN	EA	4	\$ 100.00	\$ 400.00
SIGN PANEL TYPE C	EA	4	\$ 200.00	\$ 800.00
SAW CUT BITUMINOUS PAVEMENT	LF	100	\$ 4.00	\$ 400.00
SAW CUT CONCRETE PAVEMENT	LF	16	\$ 6.00	\$ 96.00
COMMON EXCAVATION	CY	1288	\$ 27.00	\$ 34,776.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	1541	\$ 3.50	\$ 5,393.50
SELECT GRANULAR BORROW	CY	602	\$ 40.00	\$ 24,080.00
AGGREGATE BASE, CLASS 5 - STREET	CY	391	\$ 60.00	\$ 23,466.00
B624 C&G	LF	856	\$ 40.00	\$ 34,240.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	117	\$ 130.00	\$ 15,210.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	83	\$ 10.00	\$ 830.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	151	\$ 120.00	\$ 18,120.00
STREET SWEEPER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
SKIDSTEER WITH OPERATOR	HR	3	\$ 200.00	\$ 600.00
4" SOLID LINE PAINT - WHITE	LF	240	\$ 4.50	\$ 1,080.00
24" SOLID LINE PAINT - WHITE	LF	24	\$ 25.00	\$ 600.00
REMOVE TREE AND GRUB STUMP	EA	33	\$ 800.00	\$ 26,400.00
REMOVE BRUSH	SF	4900	\$ 2.00	\$ 9,800.00
STORM DRAIN INLET PROTECTION	EA	3	\$ 300.00	\$ 900.00
SEDIMENT CONTROL LOG TYPE WOOD CHIP	LF	50	\$ 13.00	\$ 650.00
SILT FENCE	LF	410	\$ 6.75	\$ 2,767.50
TOPSOIL COMMON BORROW 4"	CY	200	\$ 60.00	\$ 12,000.00
TURF REINFORCEMENT MAT	SF	4030	\$ 14.00	\$ 56,420.00
SEED AND MULCH	SY	1384	\$ 4.50	\$ 6,228.00
CONSTRUCTION COSTS				\$ 369,612.31
+10% CONTINGENCY				\$ 36,961.23
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 406,573.54
+30% INDIRECT COSTS				\$ 121,972.06
TOTAL COST STREET IMPROVEMENTS				\$ 528,545.61
USE				\$ 528,550.00

SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	1800	\$ 2.00	\$ 3,600.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	62	\$ 60.00	\$ 3,720.00
4" CONCRETE WALK	SF	2550	\$ 7.00	\$ 17,850.00
6" CONCRETE WALK FOR PED RAMPS	SF	100	\$ 13.00	\$ 1,300.00
TRUNCATED DOME PANEL	SF	12	\$ 55.00	\$ 660.00
CONSTRUCTION COSTS				\$ 27,130.00
+10% CONTINGENCY				\$ 2,713.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 29,843.00
+30% INDIRECT COSTS				\$ 8,952.90
TOTAL SIDEWALK IMPROVEMENTS				\$ 38,795.90
USE				\$ 38,800.00

APPENDIX B-12

6TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	LF	80	\$ 20.00	\$ 1,600.00
REMOVE STORM SEWER STRUCTURE	EA	1	\$ 500.00	\$ 500.00
12" RCP	LF	28	\$ 90.00	\$ 2,520.00
15" RCP	LF	12	\$ 100.00	\$ 1,200.00
2'X3' CB, INCLUDES CASTING	EA	1	\$ 4,000.00	\$ 4,000.00
4' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	1	\$ 6,000.00	\$ 6,000.00
15" FLARED END SECTION WITH TRASH GUARD	EA	1	\$ 1,500.00	\$ 1,500.00
RANDOM RIP RAP	CY	7	\$ 160.00	\$ 1,120.00
4" PVC PERFORATED DRAINTILE	LF	800	\$ 20.00	\$ 16,000.00
CONSTRUCTION COSTS				\$ 34,440.00
+10% CONTINGENCY				\$ 3,444.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 37,884.00
+30% INDIRECT COSTS				\$ 11,365.20
TOTAL COST STORM WATER IMPROVEMENTS				\$ 49,249.20
USE				\$ 49,250.00

APPENDIX B-12

6TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	2	\$ 4,500.00	\$ 9,000.00
REMOVE SANITARY SEWER MANHOLE	EA	1	\$ 450.00	\$ 450.00
ABANDON EXISTING 8" SANITARY SEWER	LF	446	\$ 15.00	\$ 6,690.00
LINING SEWER PIPE 24"	LF	436	\$ 165.00	\$ 71,940.00
DEWATERING	LS	0.25	\$ 20,000.00	\$ 5,000.00
TELEVISIONING	LF	436	\$ 7.00	\$ 3,052.00
ADJUST EXISTING MH W/NEW CSTG & ADJ RINGS	EA	2	\$ 635.00	\$ 1,270.00
CONSTRUCTION COSTS				\$ 97,402.00
+10% CONTINGENCY				\$ 9,740.20
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 107,142.20
+30% INDIRECT COSTS				\$ 32,142.66
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 139,284.86
USE				\$ 139,280.00

SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	402	\$10.00	\$ 4,020.00
CONNECT SERVICE TO EXISTING 24" CONCRETE PIPE	EA	15	\$800.00	\$ 12,000.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	545	\$60.00	\$ 32,700.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	10	\$425.00	\$ 4,250.00
CONSTRUCTION COSTS				\$ 52,970.00
+10% CONTINGENCY				\$ 5,297.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 58,267.00
+30% INDIRECT COSTS				\$ 17,480.10
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 75,747.10
USE				\$ 75,750.00

APPENDIX B-12

6TH AVENUE (5TH STREET - 4TH STREET) PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT City of Two Harbors, MN

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	450	\$ 11.00	\$ 4,950.00
REMOVE GV & BOX	EA	1	\$ 400.00	\$ 400.00
REMOVE HYDRANT	EA	1	\$ 1,150.00	\$ 1,150.00
6" DIP WATERMAIN	LF	450	\$ 80.00	\$ 36,000.00
6" GV & BOX	EA	2	\$ 3,200.00	\$ 6,400.00
HYDRANT	EA	1	\$ 7,000.00	\$ 7,000.00
INSULATION	SF	100	\$ 10.00	\$ 1,000.00
TEMPORARY WATER SERVICE	LS	0	\$ 120,000.00	\$ 15,000.00
DUCTILE IRON FITTINGS	LB	321	\$ 22.00	\$ 7,062.00
DEWATERING	LS	0.25	\$ 20,000.00	\$ 5,000.00
CONSTRUCTION COSTS				\$ 83,962.00
+10% CONTINGENCY				\$ 8,396.20
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 92,358.20
+30% INDIRECT COSTS				\$ 27,707.46
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 120,065.66
				USE \$ 120,070.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	277	\$ 10.00	\$ 2,770.00
REMOVE CURB STOP & BOX	EA	10	\$ 250.00	\$ 2,500.00
3/4" WATER SERVICE	LF	500	\$ 60.00	\$ 30,000.00
3/4" CURB STOP AND BOX	EA	14	\$ 650.00	\$ 9,100.00
3/4" CORPORATION STOP	EA	14	\$ 425.00	\$ 5,950.00
1" WATER SERVICE	LF	40	\$ 63.00	\$ 2,520.00
1" CURB STOP AND BOX	EA	1	\$ 660.00	\$ 660.00
1" CORPORATION STOP	EA	1	\$ 435.00	\$ 435.00
1.25" WATER SERVICE	LF	19	\$ 65.00	\$ 1,235.00
1.25" CURB STOP AND BOX	EA	1	\$ 670.00	\$ 670.00
1.25" CORPORATION STOP	EA	1	\$ 445.00	\$ 445.00
2" WATER SERVICE	LF	25	\$ 68.00	\$ 1,700.00
2" CURB STOP AND BOX	EA	1	\$ 690.00	\$ 690.00
2" CORPORATION STOP	EA	1	\$ 455.00	\$ 455.00
CONNECT TO EXISTING WATER SERVICE	EA	12	\$ 450.00	\$ 5,400.00
CONSTRUCTION COSTS				\$ 64,530.00
+10% CONTINGENCY				\$ 6,453.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 70,983.00
+30% INDIRECT COSTS				\$ 21,294.90
TOTAL WATER SERVICE IMPROVEMENTS				\$ 92,277.90
				USE \$ 92,280.00

APPENDIX B-13

OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE 2021-2022 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

WIDEN 6TH AVENUE (7TH STREET - 4TH STREET) FROM 24' F-F TO 28' F-F

6TH AVENUE (7TH STREET - 4TH STREET)

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
COMMON EXCAVATION	CY	300	\$ 27.00	\$ 8,100.00
SUBGRADE EXCAVATION	CY	40	\$ 30.00	\$ 1,200.00
AGGREGATE BASE, CLASS 5 - STREET	CY	150	\$ 60.00	\$ 9,000.00
SELECT GRANULAR BORROW	CY	245	\$ 40.00	\$ 9,800.00
GEOTEXTILE FABRIC, TYPE 5	SY	617	\$ 3.50	\$ 2,159.50
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	76	\$ 130.00	\$ 9,880.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	43	\$ 10.00	\$ 430.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	84	\$ 120.00	\$ 10,080.00
TOPSOIL COMMON BORROW 4"	CY	-81	\$ 60.00	\$ (4,860.00)
SEED AND MULCH	SY	-566	\$ 4.50	\$ (2,547.00)
CONSTRUCTION COSTS				\$ 43,242.50
+10% CONTINGENCY				\$ 4,324.25
TOTAL CONSTRUCTION COSTS				\$ 47,566.75
+30% INDIRECT COSTS				\$ 14,270.03
TOTAL COSTS				\$ 61,836.78
USE				\$ 61,836.00

APPENDIX B-14

OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE 2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

EXTEND WATERMAIN ON 4TH STREET (6TH AVENUE TO NORTH ALLEY)

WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE CURB & GUTTER	LF	65	\$ 6.00	\$ 390.00
REMOVE CONCRETE SIDEWALK	SF	-20	\$ 2.00	\$ (40.00)
REMOVE BITUMINOUS PAVEMENT	SY	947	\$ 10.00	\$ 9,470.00
REMOVE CONCRETE DRIVEWAY	SF	200	\$ 3.00	\$ 600.00
REMOVE GRAVEL DRIVEWAY	SF	480	\$ 1.00	\$ 480.00
SAW CUT BITUMINOUS PAVEMENT	LF	70	\$ 4.00	\$ 280.00
SAW CUT CONCRETE PAVEMENT	LF	24	\$ 6.00	\$ 144.00
COMMON EXCAVATION	CY	671	\$ 27.00	\$ 18,117.00
SUBGRADE EXCAVATION	CY	50	\$ 30.00	\$ 1,500.00
GEOTEXTILE FABRIC, TYPE 5	SY	974	\$ 3.50	\$ 3,409.00
SELECT GRANULAR BORROW	CY	399	\$ 40.00	\$ 15,960.00
AGGREGATE BASE, CLASS 5 - STREET	CY	247	\$ 60.00	\$ 14,826.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	5	\$ 60.00	\$ 300.00
B624 C&G	LF	65	\$ 40.00	\$ 2,600.00
8" CONCRETE COMMERCIAL APRON	SF	200	\$ 12.50	\$ 2,500.00
4" CONCRETE WALK	SF	180	\$ 7.00	\$ 1,260.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	93	\$ 130.00	\$ 12,090.00
BITUMINOUS MATERIAL FOR TACK COAT	GAL	66	\$ 10.00	\$ 660.00
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	120	\$ 120.00	\$ 14,400.00
4" SOLID LINE PAINT - WHITE	LF	140	\$ 4.50	\$ 630.00
4" SOLID LINE PAINT - YELLOW	LF	140	\$ 2.00	\$ 280.00
STORM DRAIN INLET PROTECTION	EA	1	\$ 300.00	\$ 300.00
TOPSOIL COMMON BORROW 4"	CY	18	\$ 60.00	\$ 1,080.00
SEED AND MULCH	SY	123	\$ 4.50	\$ 553.50
POTHOLE GAS UTILITY MAIN/SERVICE	EA	2	\$ 2,200.00	\$ 4,400.00
CONNECT TO EXISTING WATERMAIN	EA	1	\$ 2,500.00	\$ 2,500.00
6" DIP WATERMAIN	LF	201	\$ 80.00	\$ 16,080.00
6" GV & BOX	EA	1	\$ 3,200.00	\$ 3,200.00
DUCTILE IRON FITTINGS	LB	181	\$ 22.00	\$ 3,982.00
CONSTRUCTION COSTS				\$ 131,951.50
+10% CONTINGENCY				\$ 13,195.15
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 145,146.65
+30% INDIRECT COSTS				\$ 43,544.00
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 188,690.65
USE				\$ 188,690.00

WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	181	\$ 10.00	\$ 1,810.00
REMOVE CURB STOP & BOX	EA	2	\$ 250.00	\$ 500.00
1.25" WATER SERVICE	LF	31	\$ 65.00	\$ 2,015.00
2" WATER SERVICE	LF	25	\$ 68.00	\$ 1,700.00
CONSTRUCTION COSTS				\$ 6,025.00
+10% CONTINGENCY				\$ 602.50
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 6,627.50
+30% INDIRECT COSTS				\$ 1,988.25
TOTAL WATER SERVICE IMPROVEMENTS				\$ 8,615.75
				USE \$ 8,620.00

APPENDIX B-15

OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE
2021-2022 STREET IMPROVEMENT PROJECT
 City of Two Harbors, MN

4TH STREET (6TH AVENUE TO NORTH ALLEY) OPTIONAL SIDEWALK ON WESTSIDE OF STREET

4TH STREET (6TH AVENUE TO NORTH ALLEY)

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE DRIVEWAY	SF	10	\$ 3.00	\$ 30.00
SAW CUT CONCRETE PAVEMENT	LF	6	\$ 6.00	\$ 36.00
COMMON EXCAVATION	CY	20	\$ 27.00	\$ 540.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	13	\$ 60.00	\$ 780.00
4" CONCRETE WALK	SF	600	\$ 7.00	\$ 4,200.00
8" CONCRETE COMMERCIAL APRON	SF	10	\$ 12.50	\$ 125.00
STORM DRAIN INLET PROTECTION	EA	1	\$ 300.00	\$ 300.00
TOPSOIL COMMON BORROW 4"	CY	3	\$ 60.00	\$ 180.00
SEED AND MULCH	SY	21	\$ 4.50	\$ 94.50
CONSTRUCTION COSTS				\$ 6,285.50
+10% CONTINGENCY				\$ 628.55
TOTAL CONSTRUCTION COSTS				\$ 6,914.05
+30% INDIRECT COSTS				\$ 2,074.22
TOTAL COSTS				\$ 8,988.27
USE				\$ 8,990.00

APPENDIX B-16

ENGINEER'S ESTIMATE

S.A.P. 038-636-001 (CSAH 36) & 038-635-002 (CSAH 35) & CP 105-023-001 & BRIDGE L8088
ROAD IMPROVEMENTS
LAKE COUNTY, MINNESOTA
BMI PROJECT NO. 0U1.127370

DATE: 9/6/2022

BID ITEM NUMBER	SPEC. ITEM NUMBER	ITEM DESCRIPTION	QTY	UNIT	ENGINEERS ESTIMATE		S.A.P. 038-636-001 (CSAH 36, 5th Street) CSAH 35(4th Avenue) to TH 61(7th Avenue)				S.A.P. 038-635-002 (CSAH 35, 4th Avenue) CSAH 20(6th Street) to 4th Street				CP 105-023-001 County Road 105 (4th Avenue) 4th Street to 3rd Street			
							S.A.P. PARTICIPITATING COSTS				S.A.P. PARTICIPITATING COSTS				S.A.P. PARTICIPITATING COSTS			
					UNIT PRICE	TOTAL	STREET	COST	STORM	COST	STREET	COST	STORM	COST	STREET	COST	STORM	COST
1	2021.501	MOBILIZATION	1	LUMP SUM	\$305,000.00	\$305,000.00	0.50	\$152,500.00			0.33	\$100,650.00			0.17	\$51,850.00		
2	2101.502	CLEARING	60	EACH	\$400.00	\$24,000.00	30	\$12,000.00			14	\$5,600.00			16	\$6,400.00		
3	2101.502	GRUBBING	60	EACH	\$300.00	\$18,000.00	30	\$9,000.00			14	\$4,200.00			16	\$4,800.00		
4	2104.502	SALVAGE SIGN	24	EACH	\$150.00	\$3,600.00	12	\$1,800.00			7	\$1,050.00			5	\$750.00		
5	2104.503	SAWING PAVEMENT (FULL DEPTH)	480	LIN FT	\$7.00	\$3,360.00	180	\$1,260.00			150	\$1,050.00			150	\$1,050.00		
6	2104.503	REMOVE CURB & GUTTER	4,240	LIN FT	\$6.00	\$25,440.00	2,140	\$12,840.00			1,200	\$7,200.00			900	\$5,400.00		
7	2104.502	REMOVE BOX CULVERT STRUCTURE	1	EACH	\$10,300.00	\$10,300.00			1	\$10,300.00								
8	2104.502	REMOVE MANHOLE OR CATCH BASIN (STORM)	3	EACH	\$350.00	\$1,050.00			3	\$1,050.00								
9	2104.518	REMOVE CONCRETE SIDEWALK/APRON/DRIVEWAY	3,840	SQ YD	\$30.00	\$115,200.00	1,600	\$48,000.00			1,400	\$42,000.00			840	\$25,200.00		
10	2104.504	REMOVE PAVEMENT	9,350	SQ YD	\$11.00	\$102,850.00	4,000	\$44,000.00			3,350	\$36,850.00			2,000	\$22,000.00		
11	2105.607	HAUL & DISPOSE OF CONTAMINATED MATERIAL	200	CU YD	\$350.00	\$70,000.00	200	\$70,000.00										
12	2106.507	EXCAVATION - COMMON (P)	7,500	CU YD	\$30.00	\$225,000.00	3,750	\$112,500.00			2,500	\$75,000.00			1,250	\$37,500.00		
13	2106.507	EXCAVATION - SUBGRADE (EV)	1,980	CU YD	\$35.00	\$69,300.00	990	\$34,650.00			660	\$23,100.00			330	\$11,550.00		
14	2105.607	SELECT GRANULAR BORROW (CV) (18")	4,816	CU YD	\$40.00	\$192,640.00	2,190	\$87,600.00			1,900	\$76,000.00			726	\$29,040.00		
15	2108.504	GEOTEXTILE FABRIC, TYPE 5	9,531	SQ YD	\$3.00	\$28,593.00	4,690	\$14,070.00			3,124	\$9,371.25			1,717	\$5,151.75		
16	2211.507	AGGREGATE BASE CLASS 5 (Roadway)	4,567	TON	\$50.00	\$228,332.00	1,950	\$97,500.00			1,722	\$86,100.00			895	\$44,732.00		
17	2211.507	AGGREGATE BASE CLASS 5 (Sidewalks)	900	TON	\$50.00	\$45,000.00	360	\$18,000.00			360	\$18,000.00			180	\$9,000.00		
18	2360.504	TYPE SP 9.5 WEARING COURSE (3,C) (2.5")	1,095	TON	\$120.00	\$131,400.00	540	\$64,800.00			370	\$44,400.00			185	\$22,200.00		
19	2360.504	TYPE SP 12.5 NON WEARING COURSE (3,C) (3")	1,345	TON	\$130.00	\$174,850.00	670	\$87,100.00			450	\$58,500.00			225	\$29,250.00		
20	2411.607	CONCRETE STEPS	60	SQ FT	\$260.00	\$15,600.00	40	\$10,400.00							20	\$5,200.00		
21	2502.503	6" PVC PERFORATED DRAIN TILE	500	LIN FT	\$15.00	\$7,500.00			500	\$7,500.00								
22	2502.503	12" RC PIPE SEWER CLASS V	300	LIN FT	\$90.00	\$27,000.00	300	\$27,000.00										
23	2502.503	18" RC PIPE SEWER CLASS III	400	LIN FT	\$100.00	\$40,000.00	400	\$40,000.00										
24	2502.503	24" RC PIPE SEWER CLASS III	400	LIN FT	\$150.00	\$60,000.00	400	\$60,000.00										
25	2502.503	42" RC PIPE SEWER CLASS III	400	LIN FT	\$250.00	\$100,000.00	400	\$100,000.00										
26	2503.602	CONNECT TO EXISTING STORM SEWER	1	EACH	\$708.00	\$708.00			1	\$708.00								
27	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (R-1)	20	V LIN FT	\$500.00	\$10,000.00			20	\$10,000.00								
28	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	12	V LIN FT	\$730.00	\$8,760.00			12	\$8,760.00								
29	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	12	V LIN FT	\$870.00	\$10,440.00			12	\$10,440.00								
30	2412.502	BOX CULVERT - BRIDGE L8088 STRUCTURE	1	LS	\$210,000.00	\$210,000.00			1	\$210,000.00								
31	2506.502	INSTALL CASTING - STORM	12	EACH	\$900.00	\$10,800.00			12	\$10,800.00								
32	2506.602	ADJUST FRAME & RING CASTING	12	EACH	\$270.00	\$3,240.00			12	\$3,240.00								
33	2506.602	CONCRETE COLLAR (MANHOLE)	4	EACH	\$340.00	\$1,360.00	4	\$1,360.00										
34	2531.503	CONCRETE CURB & GUTTER DESIGN B618	4,950	LIN FT	\$35.00	\$173,250.00	2,150	\$75,250.00			1,850	\$64,750.00			950	\$33,250.00		
35	2531.503	CONCRETE CURB DESIGN V	320	LIN FT	\$40.00	\$12,800.00	150	\$6,000.00			110	\$4,400.00			60	\$2,400.00		
36	2521.518	4" CONCRETE WALK	22,280	SQ FT	\$11.00	\$245,080.00	11,300	\$124,300.00			7,320	\$80,520.00			3,660	\$40,260.00		
37	2521.518	6" CONCRETE WALK	2,000	SQ FT	\$18.00	\$36,000.00	1,300	\$23,400.00			500	\$9,000.00			200	\$3,600.00		
38	2531.504	7" CONCRETE DRIVEWAY	200	SQ FT	\$20.00	\$4,000.00	200	\$4,000.00										
39	2531.504	8" CONCRETE ALLEY APRON/ALLEY PAVEMENT	1,350	SQ FT	\$23.00	\$31,050.00	1,350	\$31,050.00										
40	2531.618	TRUNCATED DOMES	360	SQ FT	\$60.00	\$21,600.00	240	\$14,400.00			80	\$4,800.00			40	\$2,400.00		

ENGINEER'S ESTIMATE

S.A.P. 038-636-001 (CSAH 36) & 038-635-002 (CSAH 35) & CP 105-023-001 & BRIDGE L8088
ROAD IMPROVEMENTS
LAKE COUNTY, MINNESOTA
BMI PROJECT NO. 0U1.127370

DATE: 9/6/2022

BID ITEM NUMBER	SPEC. ITEM NUMBER	ITEM DESCRIPTION	QTY	UNIT	ENGINEERS ESTIMATE		S.A.P. 038-636-001 (CSAH 36, 5th Street) CSAH 35(4th Avenue) to TH 61(7th Avenue)				S.A.P. 038-635-002 (CSAH 35, 4th Avenue) CSAH 20(6th Street) to 4th Street				CP 105-023-001 County Road 105 (4th Avenue) 4th Street to 3rd Street				
							S.A.P. PARTICIPITATING COSTS				S.A.P. PARTICIPITATING COSTS				S.A.P. PARTICIPITATING COSTS				
					UNIT PRICE	TOTAL	STREET	COST	STORM	COST	STREET	COST	STORM	COST	STREET	COST	STORM	COST	
41	2563.601	TRAFFIC CONTROL	1	LUMP SUM	\$140,000.00	\$140,000.00	0.50	\$70,000.00			0.33	\$46,200.00			0.17	\$23,800.00			
42	2564.518	SIGN PANELS TYPE C	120	SQ FT	\$210.00	\$25,200.00	60.0	\$12,600.00			28.0	\$5,880.00			32.0	\$6,720.00			
43	2564.602	INSTALL SIGN	28	EACH	\$140.00	\$3,920.00	15	\$2,100.00			6	\$840.00			7	\$980.00			
44	2573.502	STORM DRAIN INLET PROTECTION	19	EACH	\$230.00	\$4,370.00	19	\$4,370.00											
45	2573.503	SEDIMENT CONTROL LOG TYPE BIO ROLL	300	LIN FT	\$35.00	\$10,500.00	300	\$10,500.00											
46	2573.501	STABILIZED CONSTRUCTION EXIT	3	EACH	\$8,000.00	\$24,000.00	1	\$8,000.00			1	\$8,000.00			1	\$8,000.00			
47	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	3,374	SQ YD	\$4.00	\$13,496.00	1,874	\$7,496.00			900	\$3,600.00			600	\$2,400.00			
48	2575.605	TURF ESTABLISHMENT(SEED,FERT.,MULCH,TOPSOIL,COMPOST)	2	ACRE	\$60,000.00	\$100,200.00	0.67	\$40,200.00			0.67	\$40,200.00			0.33	\$19,800.00			
49	2582.503	6" SOLID LINE PAINT GR IN - EPOXY	2,435	LIN FT	\$5.00	\$12,175.00	1,065	\$5,325.00			900	\$4,500.00			470	\$2,350.00			
50	2582.503	4" DOUBLE SOLID LINE PAINT GR IN - EPOXY	2,435	LIN FT	\$5.50	\$13,392.50	1,065	\$5,857.50			900	\$4,950.00			470	\$2,585.00			
51	2582.518	CROSSWALK 4" SOLID LINE PAINT GR IN - EPOXY	1,370	LIN FT	\$4.00	\$5,480.00	1,050	\$4,200.00			120	\$480.00			200	\$800.00			
ESTIMATED CONSTRUCTION COST						\$3,155,836.50		\$1,555,428.50		\$272,798.00		\$867,191.25		\$0.00		\$460,418.75		\$0.00	
15% CONSTRUCTION CONTINGENCY						\$473,375.48		\$233,314.28		\$40,919.70		\$130,078.69		\$0.00		\$69,062.81		\$0.00	
TOTAL ESTIMATED CONSTRUCTION COST						\$3,629,211.98		\$1,788,742.78		\$313,717.70		\$997,269.94		\$0.00		\$529,481.56		\$0.00	
25% INDIRECT COST						\$907,302.99		\$447,185.69		\$78,429.43		\$249,317.48		\$0.00		\$132,370.39		\$0.00	
TOTAL ESTIMATED IMPROVEMENT COST						\$4,536,516.00		\$2,235,928.00		\$392,147.00		\$1,246,588.00		\$0.00		\$661,852.00		\$0.00	
										\$2,628,075.00					\$1,246,588.00				\$661,852.00

Appendix C: Assessment Information

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7600-06325	610 4TH ST	RASMUSSEN TONI L & JUSTIN J	N/A	N/A	Water service only.
23-7600-06335		LAKE COUNTY SCHOOL DISTRICT	N/A	N/A	Water service only.
23-7600-06350	300 6TH AVE	CITY OF TWO HARBORS	N/A	N/A	Water service only.
23-7640-01010		SYLVESTER TOD A	7,000	Average	Vacant, Buildable.
23-7640-01020		SYLVESTER TOD A	7,000	Average	Vacant, Buildable.
23-7640-01030		SYLVESTER TOD A	7,000	Average	Vacant, Buildable.
23-7640-01040	323 4TH AVE	CHRISTENSEN JOHN M	7,000	Average	
23-7640-01050	319 4TH AVE	HUDDLESTON MATTHEW JOHN	7,000	Average	
23-7640-01060	315 4TH AVE	DAVIS STORMI M & HAGADONE JAMES N	7,000	Average	
23-7640-01070	309 4TH AVE	OSTERLUND ADAM J & ALICIA M	7,000	Average	
23-7640-01080	305 4TH AVE	MCDONALD SETH A & CARRIEANN M	7,000	Average	
23-7640-01090	301 4TH AVE	SCHUBERT ERIC M & ANGELA D	7,000	Average	
23-7640-08010	334 4TH AVE	KEMPFERT GUNNAR K	7,000	Average	
23-7640-08020	332 4TH AVE	HEIN MICHAEL JAMES	7,000	Average	
23-7640-08030	328 4TH AVE	SOLEY WILLIAM H & ELLYNE N	7,000	Average	
23-7640-08040	322 4TH AVE	WALKER ANITA J	7,000	Average	
23-7640-08050	320 4TH AVE	UREMOVICH JAYMES L & NADINE L	7,000	Average	
23-7640-08060	316 4TH AVE	ZWASCHKA KARL D & ANGELA N	7,000	Average	
23-7640-08070	312 4TH AVE	GATES RICHARD	7,000	Average	
23-7640-08080	306 4TH AVE	WALTERS R P & G L JT LIV TR 12-7-07	7,000	Average	
23-7640-08090	302 4TH AVE	HAINES JOSHUA I & ERICA	7,000	Average	
23-7660-16010	325 5TH ST	OSBERG ERIC RANDEL	3,500	Small	
23-7660-16015	315 5TH ST	ANDERSON MICHAEL A	3,500	Small	Sewer service only.

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7660-16020	508 4TH AVE	XLR8 LLC	7,000	Average	
23-7660-16030	512 4TH AVE	MELBOSTAD LINDA K	7,000	Average	
23-7660-16040	514 4TH AVE	BROADBENT THOMAS CLINTON	7,000	Average	
23-7660-16050	520 4TH AVE	HOULE MITCHELL L & AMANDA J	7,000	Average	Used w/ 23-7660-16060. Buildable.
23-7660-16060	524 4TH AVE	HOULE MITCHELL L & AMANDA J	7,000	Average	
23-7660-16070	320 WATERFRONT DR	CITY OF TWO HARBORS	7,000	N/A	Used w/ 23-7660-16080
23-7660-16080	320 WATERFRONT DR	CITY OF TWO HARBORS	7,000	Extra Large	Used w/ 23-7660-16070
23-7660-17050	418 4TH AVE	THOMPSON VICKY	7,000	Average	
23-7660-17060	422 4TH AVE	JACKSON MANDI + LOUMA TIMOTHY	3,500	Small	
23-7660-17065	426 4TH AVE	MCCOY DEBORAH CARTER + DONALD LEAVITT	3,500	N/A	Used w/ 23-7660-17070
23-7660-17070	426 4TH AVE	MCCOY DEBORAH CARTER + DONALD LEAVITT	3,500	Average	Used w/ 23-7660-17065
23-7660-17075		PETIT MICHAEL & HENNING NORMA	3,500	N/A	Used w/ 23-7660-17085
23-7660-17080	432 4TH AVE	LECUYER ROBERT & LORI	3,500	Small	
23-7660-17085	318 5TH ST	PETIT MICHAEL & HENNING NORMA	3,500	Average	Used w/ 17075. Sewer service only.
23-7660-18090	421 4TH AVE	DULUTH REGIONAL CARE CENTER INC	28,000	Extra Large	
23-7660-19090	531 4TH AVE	KUNNARI SHAWN J & SAMANTHA J	7,000	Average	
23-7660-19100	525 4TH AVE	TRANAH HOLDINGS LLC	7,000	Average	
23-7660-19110	523 4TH AVE	523 4TH AVENUE LLC	7,000	Average	
23-7660-19120	517 4TH AVE	THORPE SHANNON K & WHALEN KATHRYN M	7,000	Average	
23-7660-19130	513 4TH AVE	JONES BRADLEY J & JANELLE A	7,000	Average	
23-7660-19140	509 4TH AVE	HENDRICKSON SCOTT R & DANETTE M	7,000	Average	
23-7660-19150	505 4TH AVE	ANDERSON JANE L	6,700	Average	
23-7660-19155		KLINKER MATTHEW J	300	N/A	Used w/ 7660-19160 & 7661-26035

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7660-19160	413 5TH ST	KLINKER MATTHEW J	2,500	Small	Used w/ 7660-19155 & 7661-26035
23-7660-19165	501 4TH AVE	HIETALA ANITA MAUREEN	4,500	Small	
23-7661-26010	502 5TH AVE	TRANAH HELEN TRUST U/A/D 4-19-04	7,000	Average	
23-7661-26020	508 5TH AVE	LARSON JORDAN LOUISE	7,000	Average	
23-7661-26030	512 5TH AVE	LARSON JORDAN L	3,500	Small	Vacant, Buildable.
23-7661-26035		KLINKER MATTHEW J	875	N/A	Used w/ 7660-19155 & 7660-19160
23-7660-26037		OLING ALEX J & MOSHER SHAELYN J	2,625	Small	Vacant, Buildable.
23-7661-26040	516 5TH AVE	KUNKEL JENNIFER A	3,500	Small	
23-7661-26045	514 5TH AVE	OLING ALEX J & MOSHER SHAELYN J	3,500	Small	
23-7661-26050	520 5TH AVE	PETERSON MEG M	7,000	Average	
23-7661-26060	522 5TH AVE	KOKKILA ANDREW V & KAYLEE M	7,000	Average	
23-7661-26070	528 5TH AVE	CRAIN MAKAYLA ANN & JAYLIN PARKER	7,000	Average	
23-7661-26080	530 5TH AVE	COENEN JEREMY R	7,000	Average	
23-7661-27080	430 5TH AVE	DAVIES DANIEL J	3,500	Small	Sewer and Water service only.
23-7661-27085	432 5TH AVE	WILLIAMS JAMES D & C CHRISTINE	3,500	Small	
23-7661-28050	418 6TH AVE	PETERSON BARBARA A & BERGSTEDT KNUT	7,000	Average	
23-7661-28060	424 6TH AVE	ONE ROOF COMMUNITY HOUSING	7,000	Average	
23-7661-28070	516 5TH ST	METTNER TRAVIS	7,000	Average	Used w/ 7661-28080. Buildable.
23-7661-28080	516 5TH ST	METTNER TRAVIS	7,000	Average	
23-7661-28090	429 5TH AVE	GIACOMINI FRANK D	14,000	Extra Large	No sewer service within project.
23-7661-29010	502 6TH AVE	SUNDBERG JAYD & LINNEA	7,000	Average	
23-7661-29020	506 6TH AVE	CHURNESS SARAH K	7,000	Average	
23-7661-29030	506 6TH AVE	CHURNESS SARAH K	7,000	Average	Used w/ 7661-29020. Buildable.

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7661-29040	516 6TH AVE	NORTH SHORE PROPERTIES LLC	7,000	Average	
23-7661-29050	518 6TH AVE	FRANSEN ELIZABETH MARY	7,000	Average	
23-7661-29060		CHAPEK JONATHAN D & ALEXANDRA J	7,000	Average	Used w/ 7661-29070. Buildable.
23-7661-29070	522 6TH AVE	CHAPEK JONATHAN D & ALEXANDRA J	7,000	Average	
23-7661-29080	532 6TH ST	NORDEAN CHAD R & MACEY A	7,000	Average	
23-7661-29100	527 5TH AVE	RENNWALD CHARLES P JR & JACQUELINE M	14,000	Extra Large	
23-7661-29110	523 5TH AVE	PINSKE CHAD M + GORDON STAPHANIE A	7,000	Average	
23-7661-29120	517 5TH AVE	TRANAH WILLIAM J & HELEN A	7,000	Average	Vacant, Buildable.
23-7661-29130	513 5TH AVE	TRANAH WILLIAM J & HELEN A	7,000	Average	
23-7661-29140	511 5TH AVE	ROSS SCOTT B & MELANIE A	7,000	Average	
23-7661-29150	505 5TH AVE	KOEHLER BONNIE K	7,000	Average	
23-7661-29160	501 5TH AVE	HRABAN AMANDA J	7,000	Average	
23-7661-30010		CITY OF TWO HARBORS	7,000	Average	
23-7661-30020	606 6TH AVE	THOMSEN MARC E & HEIDI J	7,000	Average	
23-7661-30030	610 6TH AVE	OLSON JEFFREY C	7,000	Average	
23-7661-30040	614 6TH AVE	HARNER JAMES L & JANIS L	3,500	Small	
23-7661-30045	616 6TH AVE	HARNER JAMES LEROY & JANIS LILLIAN	3,500	Small	
23-7661-30050		RAHKO JAMES M & OLSON TERESA J	7,000	Average	Used w/ 7661-30060. Buildable.
23-7661-30060	624 6TH AVE	RAHKO JAMES M & OLSON TERESA J	7,000	Average	
23-7661-30070	626 6TH AVE	NORTH SHORE VACATION HOMES LLC	7,000	Average	
23-7661-30081	526 7TH ST	THUN AARON F	7,000	Average	
23-7661-31010	519 7TH ST	NELSON TREVOR & CASSANDRA	1,750	N/A	Sewer and Water service only.
23-7661-31011	521 7TH ST	MYRDAL NEAL R & LAURIE M	2,050	N/A	Sewer and Water service only.

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7661-35040	614 7TH ST	RONNING LARRY J	7,000	Average	
23-7661-35050	627 6TH AVE	OLSON ERIC G	7,000	Average	
23-7661-35060	623 6TH AVE	ABBOTT GERALD L ET UX	7,000	Average	
23-7661-35070	619 6TH AVE	SEEBER FELICIA & CORBETT WILLIAM	7,000	Average	
23-7661-35080	615 6TH AVE	ASHCROFT II KYLE H	7,000	Average	
23-7661-35090	609 6TH AVE	BLACKWOODS INC	7,000	Average	Used w/ 35100 & 35110. Parking.
23-7661-35100	605 6TH AVE	BLACKWOODS INC	7,000	Average	Used w/ 35090 & 35110. Parking.
23-7661-35110	601 6TH AVE	BLACKWOODS INC	7,000	Average	Used w/ 35090 & 35100. Parking.
23-7661-36010	502 7TH AVE	J & C PROPERTIES OF DULUTH LLC	5,600	Large	
23-7661-36015		J & C PROPERTIES OF DULUTH LLC	3,500	N/A	Used w/ 7661-36010
23-7661-36040	531 6TH AVE	BUGGE KRYSTAL	7,000	Average	
23-7661-36050	525 6TH AVE	MALLOY MARGARET A & NICHOLAS P	7,000	Average	
23-7661-36060	521 6TH AVE	RASK HOLLY MAY	7,000	Average	
23-7661-36070	517 6TH AVE	MURRAY MANDI N	7,000	Large	
23-7661-36080	517 6TH AVE	MURRAY MANDI N	3,500	N/A	Used w/ 7661-36070
23-7661-36085		AHO WILLIAM D	3,500	Small	Vacant, Buildable.
23-7661-36090	507 6TH AVE	AHO WILLIAM D	7,000	Average	
23-7661-36100	601 5TH ST	WIRT MICHAEL RAYMOND	3,500	N/A	Used w/ 7661-36115
23-7661-36110	611 5TH ST	HAWTHORNE MARY LOU	7,000	Average	
23-7661-36115	601 5TH ST	WIRT MICHAEL RAYMOND	3,500	Average	
23-7661-37012	432 7TH AVE	CARR JAMES R & JESSICA A	7,000	Average	
23-7661-37020		CITIZENS TELECOMMUNICATIONS COMP MN	7,000	Average	
23-7661-37030		CITIZENS TELECOMMUNICATIONS COMP MN	7,000	Average	Vacant, Buildable.

APPENDIX C-1

SUMMARY PARCEL LIST

2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Area ¹	Category ¹	Notes
23-7661-37040	421 6TH AVE	SUNDSTROM BRENDAN L & PAIGE E	7,000	Average	
23-7661-37050	419 6TH AVE	MANNING TIMOTHY	7,000	Average	
23-7664-17010	315 4TH ST	BRUCKELMYER RYAN J & SARAH E	7,000	Average	
23-7664-17020	408 4TH AVE	WEIDNER JOHN J & LISA E	7,000	Average	
23-7664-17030	410 4TH AVE	HANSEN JOHN PHILLIP +UDENBERG LUANN	7,000	Average	
23-7664-17040	414 4TH AVE	ANDERSON DIANNE S	7,000	Average	
23-7664-18130		RIGHT PATH LLC	7,000	Average	Vacant, Buildable.
23-7664-18140		RIGHT PATH LLC	7,000	Average	Vacant, Buildable.
23-7664-18150		KELLY DAVID J & TAMEA L	7,000	Average	Vacant, Buildable.
23-7664-18160		RIGHT PATH LLC	7,000	Average	Vacant, Buildable.
23-7674-28010		PETERSON BARBARA A & BERGSTEDT KNUT	7,000	Average	Vacant, Buildable.
23-7674-28020		PETERSON BARBARA A & BERGSTEDT KNUT	7,000	Average	Vacant, Buildable.
23-7674-28030		PETERSON BARBARA A & BERGSTEDT KNUT	7,000	Average	Vacant, Buildable.
23-7674-28040		PETERSON BARBARA A & BERGSTEDT KNUT	7,000	Average	Vacant, Buildable.
23-7674-37060	419 6TH AVE	MANNING TIMOTHY	7,000	Average	Vacant, Buildable.
23-7674-37070	409 6TH AVE	TWO HARBORS GETAWAY 409 6TH AVE LLC	7,000	Average	
23-7674-37080	405 6TH AVE	NORTH SHORE FEDERAL CREDIT UNION	7,000	Average	Used w/ 7674-37090. Parking.
23-7674-37090	403 6TH AVE	NORTH SHORE FEDERAL CREDIT UNION	7,000	Average	Used w/ 7674-37080. Parking.

Notes	
1	For parcels used in conjunction, Category is determined based off combined area.

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7600-06325	610 4TH ST	RASMUSSEN TONI L & JUSTIN J	N/A				\$ -	\$ -		\$ -
23-7600-06335		LAKE COUNTY SCHOOL DISTRICT	N/A				\$ -	\$ -		\$ -
23-7600-06350	300 6TH AVE	CITY OF TWO HARBORS	N/A				\$ -	\$ -		\$ -
23-7640-01010		SYLVESTER TOD A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01020		SYLVESTER TOD A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01030		SYLVESTER TOD A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01040	323 4TH AVE	CHRISTENSEN JOHN M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01050	319 4TH AVE	HUDDLESTON MATTHEW JOHN	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01060	315 4TH AVE	DAVIS STORMI M & HAGADONE JAMES N	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01070	309 4TH AVE	OSTERLUND ADAM J & ALICIA M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01080	305 4TH AVE	MCDONALD SETH A & CARRIEANN M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-01090	301 4TH AVE	SCHUBERT ERIC M & ANGELA D	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08010	334 4TH AVE	KEMPFERT GUNNAR K	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08020	332 4TH AVE	HEIN MICHAEL JAMES	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08030	328 4TH AVE	SOLEY WILLIAM H & ELLYNE N	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08040	322 4TH AVE	WALKER ANITA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08050	320 4TH AVE	UREMOVICH JAYMES L & NADINE L	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08060	316 4TH AVE	ZWASCHKA KARL D & ANGELA N	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08070	312 4TH AVE	GATES RICHARD	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08080	306 4TH AVE	WALTERS R P & G L JT LIV TR 12-7-07	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7640-08090	302 4TH AVE	HAINES JOSHUA I & ERICA	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16010	325 5TH ST	OSBERG ERIC RANDEL	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7660-16015	315 5TH ST	ANDERSON MICHAEL A	Small			\$ 4,720.00		\$ 4,720.00		\$ 4,720.00

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7660-16020	508 4TH AVE	XLR8 LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16030	512 4TH AVE	MELBOSTAD LINDA K	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16040	514 4TH AVE	BROADBENT THOMAS CLINTON	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16050	520 4TH AVE	HOULE MITCHELL L & AMANDA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16060	524 4TH AVE	HOULE MITCHELL L & AMANDA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-16070	320 WATERFRONT D	CITY OF TWO HARBORS	N/A			\$ 4,720.00		\$ 4,720.00		\$ 4,720.00
23-7660-16080	320 WATERFRONT D	CITY OF TWO HARBORS	Extra Large	\$ 21,196.00	\$ 840.00	\$ 4,720.00	\$ -	\$ 26,756.00	\$ 700.00	\$ 27,456.00
23-7660-17050	418 4TH AVE	THOMPSON VICKY	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-17060	422 4TH AVE	JACKSON MANDI + LOUMA TIMOTHY	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7660-17065	426 4TH AVE	MCCOY DEBORAH CARTER + DONALD LEAVITT	N/A							
23-7660-17070	426 4TH AVE	MCCOY DEBORAH CARTER + DONALD LEAVITT	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-17075		PETIT MICHAEL & HENNING NORMA	N/A							
23-7660-17080	432 4TH AVE	LECUYER ROBERT & LORI	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7660-17085	318 5TH ST	PETIT MICHAEL & HENNING NORMA	Average			\$ 4,720.00		\$ 4,720.00		\$ 4,720.00
23-7660-18090	421 4TH AVE	DULUTH REGIONAL CARE CENTER INC	Extra Large	\$ 42,392.00	\$ 1,680.00	\$ 4,720.00	\$ -	\$ 48,792.00	\$ 1,400.00	\$ 50,192.00
23-7660-19090	531 4TH AVE	KUNNARI SHAWN J & SAMANTHA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19100	525 4TH AVE	TRANAH HOLDINGS LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19110	523 4TH AVE	523 4TH AVENUE LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19120	517 4TH AVE	THORPE SHANNON K & WHALEN KATHRYN M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19130	513 4TH AVE	JONES BRADLEY J & JANELLE A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19140	509 4TH AVE	HENDRICKSON SCOTT R & DANETTE M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19150	505 4TH AVE	ANDERSON JANE L	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7660-19155		KLINKER MATTHEW J	N/A							

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7660-19160	413 5TH ST	KLINKER MATTHEW J	Small	\$ 2,385.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 7,420.00	\$ 78.75	\$ 7,498.75
23-7660-19165	501 4TH AVE	HIETALA ANITA MAUREEN	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-26010	502 5TH AVE	TRANAH HELEN TRUST U/A/D 4-19-04	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-26020	508 5TH AVE	LARSON JORDAN LOUISE	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-26030	512 5TH AVE	LARSON JORDAN L	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-26035		KLINKER MATTHEW J	N/A							
23-7660-26037		OLING ALEX J & MOSHER SHAELYN J	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-26040	516 5TH AVE	KUNKEL JENNIFER A	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-26045	514 5TH AVE	OLING ALEX J & MOSHER SHAELYN J	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-26050	520 5TH AVE	PETERSON MEG M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-26060	522 5TH AVE	KOKKILA ANDREW V & KAYLEE M	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-26070	528 5TH AVE	CRAIN MAKAYLA ANN & JAYLIN PARKER	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-26080	530 5TH AVE	COENEN JEREMY R	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-27080	430 5TH AVE	DAVIES DANIEL J	Small			\$ 4,720.00	\$ -	\$ 4,720.00		\$ 4,720.00
23-7661-27085	432 5TH AVE	WILLIAMS JAMES D & C CHRISTINE	Small	\$ 2,385.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 7,420.00	\$ 78.75	\$ 7,498.75
23-7661-28050	418 6TH AVE	PETERSON BARBARA A & BERGSTEDT KNUT	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7661-28060	424 6TH AVE	ONE ROOF COMMUNITY HOUSING	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7661-28070	516 5TH ST	METTNER TRAVIS	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7661-28080	516 5TH ST	METTNER TRAVIS	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7661-28090	429 5TH AVE	GIACOMINI FRANK D	Extra Large	\$ 6,358.80	\$ 840.00		\$ -	\$ 7,198.80	\$ 210.00	\$ 7,408.80
23-7661-29010	502 6TH AVE	SUNDBERG JAYD & LINNEA	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7661-29020	506 6TH AVE	CHURNESS SARAH K	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7661-29030	506 6TH AVE	CHURNESS SARAH K	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7661-29040	516 6TH AVE	NORTH SHORE PROPERTIES LLC	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00
23-7661-29050	518 6TH AVE	FRANSEN ELIZABETH MARY	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00
23-7661-29060		CHAPEK JONATHAN D & ALEXANDRA J	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00
23-7661-29070	522 6TH AVE	CHAPEK JONATHAN D & ALEXANDRA J	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00
23-7661-29080	532 6TH ST	NORDEAN CHAD R & MACEY A	Average	\$ 10,600.00	\$ 420.00	\$ 5,970.00	\$ -	\$ 16,990.00	\$ 350.00	\$ 17,340.00
23-7661-29100	527 5TH AVE	RENNWALD CHARLES P JR & JACQUELINE M	Extra Large	\$ 21,196.00	\$ 840.00	\$ 4,720.00	\$ -	\$ 26,756.00	\$ 700.00	\$ 27,456.00
23-7661-29110	523 5TH AVE	PINSKE CHAD M + GORDON STAPHANIE A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-29120	517 5TH AVE	TRANAH WILLIAM J & HELEN A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-29130	513 5TH AVE	TRANAH WILLIAM J & HELEN A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-29140	511 5TH AVE	ROSS SCOTT B & MELANIE A	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-29150	505 5TH AVE	KOEHLER BONNIE K	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-29160	501 5TH AVE	HRABAN AMANDA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30010		CITY OF TWO HARBORS	Average	\$ 10,600.00	\$ 420.00			\$ 11,020.00	\$ 350.00	\$ 11,370.00
23-7661-30020	606 6TH AVE	THOMSEN MARC E & HEIDI J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30030	610 6TH AVE	OLSON JEFFREY C	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30040	614 6TH AVE	HARNER JAMES L & JANIS L	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-30045	616 6TH AVE	HARNER JAMES LEROY & JANIS LILLIAN	Small	\$ 7,950.00	\$ 315.00	\$ 4,720.00	\$ -	\$ 12,985.00	\$ 262.50	\$ 13,247.50
23-7661-30050		RAHKO JAMES M & OLSON TERESA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30060	624 6TH AVE	RAHKO JAMES M & OLSON TERESA J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30070	626 6TH AVE	NORTH SHORE VACATION HOMES LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-30081	526 7TH ST	THUN AARON F	Average	\$ 2,030.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 7,170.00	\$ -	\$ 7,170.00
23-7661-31010	519 7TH ST	NELSON TREVOR & CASSANDRA	N/A			\$ 4,720.00	\$ -	\$ 4,720.00		\$ 4,720.00
23-7661-31011	521 7TH ST	MYRDAL NEAL R & LAURIE M	N/A			\$ 4,720.00	\$ -	\$ 4,720.00		\$ 4,720.00

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7661-35040	614 7TH ST	RONNING LARRY J	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-35050	627 6TH AVE	OLSON ERIC G	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-35060	623 6TH AVE	ABBOTT GERALD L ET UX	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-35070	619 6TH AVE	SEEBER FELICIA & CORBETT WILLIAM	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-35080	615 6TH AVE	ASHCROFT II KYLE H	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7661-35090	609 6TH AVE	BLACKWOODS INC	Average	\$ 2,030.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 7,170.00	\$ -	\$ 7,170.00
23-7661-35100	605 6TH AVE	BLACKWOODS INC	Average	\$ 2,030.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 7,170.00	\$ -	\$ 7,170.00
23-7661-35110	601 6TH AVE	BLACKWOODS INC	Average	\$ 2,030.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 7,170.00	\$ -	\$ 7,170.00
23-7661-36010	502 7TH AVE	J & C PROPERTIES OF DULUTH LLC	Large	\$ 2,639.00	\$ 525.00	\$ -	\$ -	\$ 3,164.00	\$ -	\$ 3,164.00
23-7661-36015		J & C PROPERTIES OF DULUTH LLC	N/A							
23-7661-36040	531 6TH AVE	BUGGE KRYSTAL	Average	\$ 10,600.00	\$ 420.00	\$ 4,970.00	\$ -	\$ 15,990.00	\$ 350.00	\$ 16,340.00
23-7661-36050	525 6TH AVE	MALLOY MARGARET A & NICHOLAS P	Average	\$ 10,600.00	\$ 420.00	\$ 4,970.00	\$ -	\$ 15,990.00	\$ 350.00	\$ 16,340.00
23-7661-36060	521 6TH AVE	RASK HOLLY MAY	Average	\$ 10,600.00	\$ 420.00	\$ 4,970.00	\$ -	\$ 15,990.00	\$ 350.00	\$ 16,340.00
23-7661-36070	517 6TH AVE	MURRAY MANDI N	Large	\$ 13,250.00	\$ 525.00	\$ 4,970.00	\$ -	\$ 18,745.00	\$ 437.50	\$ 19,182.50
23-7661-36080	517 6TH AVE	MURRAY MANDI N	N/A							
23-7661-36085		AHO WILLIAM D	Small	\$ 7,950.00	\$ 315.00	\$ 4,970.00	\$ -	\$ 13,235.00	\$ 262.50	\$ 13,497.50
23-7661-36090	507 6TH AVE	AHO WILLIAM D	Average	\$ 10,600.00	\$ 420.00	\$ 4,970.00	\$ -	\$ 15,990.00	\$ 350.00	\$ 16,340.00
23-7661-36100	601 5TH ST	WIRT MICHAEL RAYMOND	N/A							
23-7661-36110	611 5TH ST	HAWTHORNE MARY LOU	Average	\$ 3,180.00	\$ 420.00	\$ 11,770.00	\$ -	\$ 15,370.00	\$ 105.00	\$ 15,475.00
23-7661-36115	601 5TH ST	WIRT MICHAEL RAYMOND	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7661-37012	432 7TH AVE	CARR JAMES R & JESSICA A	Average	\$ 3,180.00	\$ 420.00	\$ -	\$ -	\$ 3,600.00	\$ 105.00	\$ 3,705.00
23-7661-37020		CITIZENS TELECOMMUNICATIONS COMP MN	Average	\$ 2,030.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 7,710.00	\$ -	\$ 7,710.00
23-7661-37030		CITIZENS TELECOMMUNICATIONS COMP MN	Average	\$ 2,030.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 7,710.00	\$ -	\$ 7,710.00

APPENDIX C-2

PRELIMINARY ASSESSMENT ROLL
2023-2024 STREET IMPROVEMENT PROJECT

City of Two Harbors, MN

Parcel Number	Property Address	Owner	Category	Street ¹ (50%)	Sidewalk	Sanitary Service (100%)	Water Service (100%)	Base Total	Optional Improvements	Total with Optional
23-7661-37040	421 6TH AVE	SUNDSTROM BRENDAN L & PAIGE E	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7661-37050	419 6TH AVE	MANNING TIMOTHY	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7664-17010	315 4TH ST	BRUCKELMYER RYAN J & SARAH E	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-17020	408 4TH AVE	WEIDNER JOHN J & LISA E	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-17030	410 4TH AVE	HANSEN JOHN PHILLIP +UDENBERG LUANN	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-17040	414 4TH AVE	ANDERSON DIANNE S	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-18130		RIGHT PATH LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-18140		RIGHT PATH LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-18150		KELLY DAVID J & TAMEA L	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7664-18160		RIGHT PATH LLC	Average	\$ 10,600.00	\$ 420.00	\$ 4,720.00	\$ -	\$ 15,740.00	\$ 350.00	\$ 16,090.00
23-7674-28010		PETERSON BARBARA A & BERGSTEDT KNUT	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7674-28020		PETERSON BARBARA A & BERGSTEDT KNUT	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7674-28030		PETERSON BARBARA A & BERGSTEDT KNUT	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7674-28040		PETERSON BARBARA A & BERGSTEDT KNUT	Average	\$ 10,600.00	\$ 420.00	\$ 6,260.00	\$ -	\$ 17,280.00	\$ 350.00	\$ 17,630.00
23-7674-37060	419 6TH AVE	MANNING TIMOTHY	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7674-37070	409 6TH AVE	TWO HARBORS GETAWAY 409 6TH AVE LLC	Average	\$ 10,600.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 16,280.00	\$ 350.00	\$ 16,630.00
23-7674-37080	405 6TH AVE	NORTH SHORE FEDERAL CREDIT UNION	Average	\$ 2,030.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 7,710.00	\$ -	\$ 7,710.00
23-7674-37090	403 6TH AVE	NORTH SHORE FEDERAL CREDIT UNION	Average	\$ 2,030.00	\$ 420.00	\$ 5,260.00	\$ -	\$ 7,710.00	\$ -	\$ 7,710.00
Totals				\$ 1,154,651.80	\$ 50,505.00	\$ 594,990.00	\$ -	\$ 1,800,146.80	\$ 45,115.00	\$ 1,845,261.80

Notes	
1	Highlighted property indicates where assessment is adjusted based on anticipated maximum benefit.
2	Empty cells indicate that item does not pertain to that parcel.