Preliminary Engineering Report

Interlachen Park Street & Utility Improvements

City of Hopkins

City Project No. 2019-010

BMI Project No. T19.118342

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Certification

Preliminary Engineering Report

For

Interlachen Park Street & Utility Improvements

City of Hopkins
Hopkins, MN
City Project 2019-010
BMI T19.118342

August, 2019

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

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I. Executive Summary

A. BACKGROUND INFORMATION

The Hopkins City Council ordered preparation of this Preliminary Engineering Report at its March 19, 2019 meeting. In general, the goal of the project is to preserve the investments Hopkins has made in its infrastructure with proper upkeep through the City's Pavement Management Program. The preliminary design report has been completed to identify the appropriate improvements needed as well as the associated project costs and preliminary estimated assessments.

B. PROPOSED IMPROVEMENTS

This report examines potential street and utility construction in the Interlachen Park Neighborhood in the City of Hopkins. These areas are depicted in Figure 3.01 of Appendix B. The proposed improvements are described in the body of this report and are graphically illustrated in Appendix B. In brief, the proposed improvements consist of:

- Full reconstruction of the street section with addition or replacement of concrete curb and gutter and varying degrees of replacement/rehabilitation of watermain, sanitary sewer, and storm sewer utilities, as needed. Street reconstruction will occur on the following corridors:
    - Ashley Road, from its southerly limit to Excelsior Blvd
    - Holly Road, from its southerly limit to Boyce St
    - Oakwood Road, from its southerly limit to Boyce St
    - Interlachen Road, from its southerly limit to Excelsior Blvd
    - Maple Hill Road, from its southerly limit to Preston Ln
    - Homedale Road, from its southerly limit to Excelsior Blvd
    - Hawthorne Road, from its southerly limit to Excelsior Blvd
    - Meadowbrook Road, from its southerly limit to Excelsior Blvd
    - Goodrich Street, from Blake Rd S to Meadowbrook Rd
    - Boyce Street, from Blake Rd S to Meadowbrook Rd
    - Preston Lane, from Ashley Rd to Homedale Rd
- Watermain replacement and associated street patching on Blake Road S, from Spruce Rd to Boyce St.
- Sanitary sewer lining and watermain abandonment within the City's existing utility easements. These improvements will occur north of Spruce Rd, from Blake Rd S to Maple Hill Rd, and through backyards south of Goodrich St between Maple Hill Rd and Meadowbrook Rd.
- Construction of a bituminous trail along the east side of Meadowbrook Road, from Goodrich St to Excelsior Blvd.

The proposed improvements will be constructed over 2 years, in 2020 and 2021, to accommodate the larger project area size compared to past City of Hopkins annual infrastructure improvement projects. Although construction will be completed over 2 years, the project is planned to be bid and construct this project under a singular construction contract. This will reduce time and costs by letting and managing only one contract, have consistent pricing between 2020 and 2021, and one consistent contractor.

Approximately half of the neighborhood would be constructed in the spring/summer/fall of 2020 and the other half in 2021. In general, the southern half of the neighborhood will be constructed in 2020 and the northern half will be constructed in 2021, with additional detail shown in Figure 3.01 of Appendix B. Any streets that are started in 2020, will be required to be substantially completed in 2020 to avoid maintenance issues over the winter months of 2020/2021. The remaining streets will be substantially completed by fall 2021.

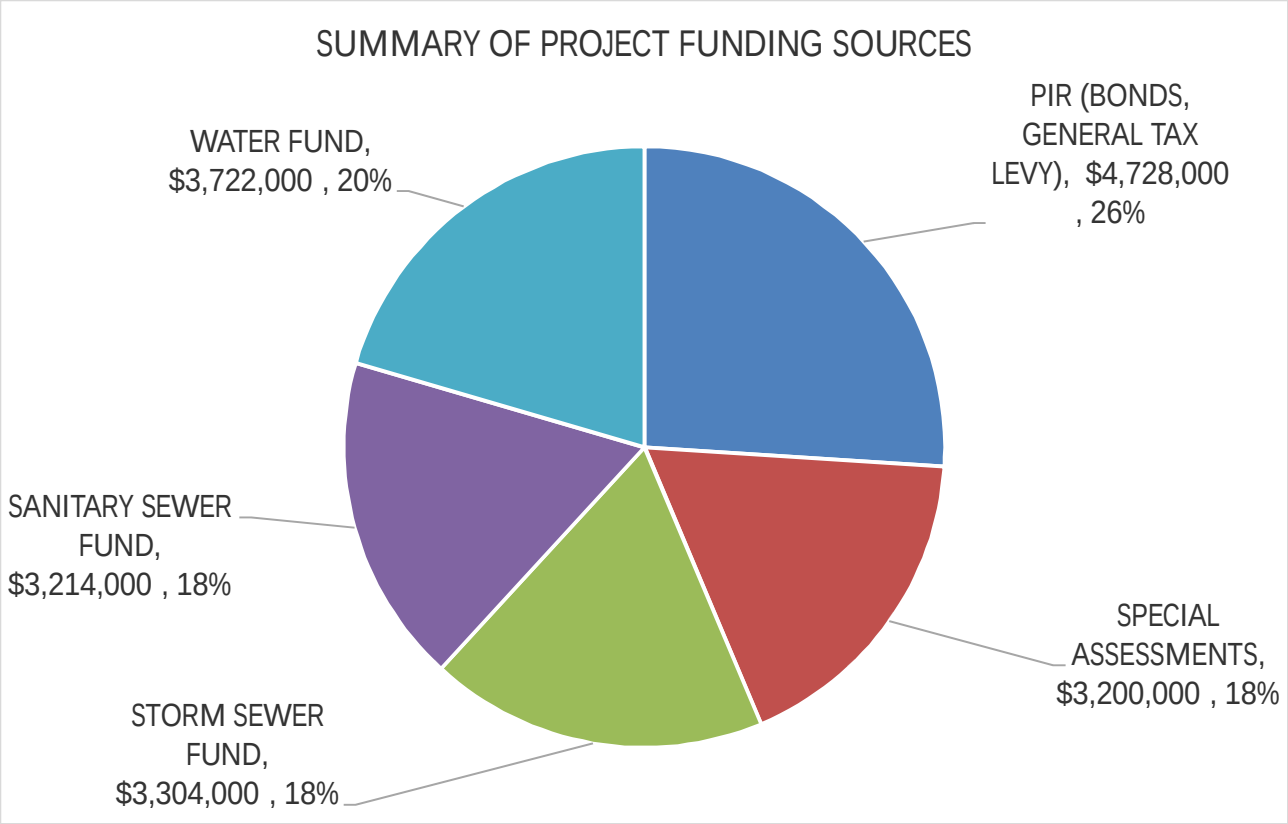
C. ESTIMATED COSTS & PROPOSED FUNDING

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

Table ES-1: Preliminary Estimated Cost of 2020 & 2021 Proposed Improvements	
Street	$5,845,000
Sanitary Sewer	$2,369,000
Watermain	$2,744,000
Storm Sewer	$2,435,000
Contingencies (15%)	$2,009,000
Engineering & Administration (18%)	$2,772,000
Total Estimated Project Costs	**$18,174,000**
*Estimated 2020 Construction Costs w/ Contingencies	$7,441,000*
*Estimated 2021 Construction Costs w/ Contingencies	$7,882,000*

*Yearly cost estimates are based on the preliminary phasing plan for which year each street will be constructed, as shown in Figure 3.01 in Appendix B. Construction costs are estimated to not exceed $10 million in any given year.

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



II. Project Introduction

This report examines the proposed street and utility improvements including storm sewer replacement, water main replacement, sanitary sewer replacement, and street reconstruction throughout the following streets as shown on Figure 3.01 in Appendix B:

- Blake Road S, from Spruce Rd to Boyce St
- Ashley Road, from its southerly limit to Excelsior Blvd
- Holly Road, from its southerly limit to Boyce St
- Oakwood Road, from its southerly limit to Boyce St
- Interlachen Road, from its southerly limit to Excelsior Blvd
- Maple Hill Road, from its southerly limit to Preston Ln
- Homedale Road, from its southerly limit to Excelsior Blvd
- Hawthorne Road, from its southerly limit to Excelsior Blvd
- Meadowbrook Road, from its southerly limit to Excelsior Blvd
- Goodrich Street, from Blake Rd S to Meadowbrook Rd
- Boyce Street, from Blake Rd S to Meadowbrook Rd
- Preston Lane, from Ashley Rd to Homedale Rd

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

- Utility related upgrades and improvements along southern easements through backyards north of Spruce Rd and south of Goodrich St.
- Installation of a new bituminous trail along the east side of Meadowbrook Road along and within the Meadowbrook Golf Course property, subject to ongoing coordination with the Minneapolis Park & Recreation Board (MPRB).
- Replacement of randomly located failed concrete panels throughout the City of Hopkins
- Lining of clay sanitary sewer lines within the City of Hopkins with specific locations determined the preceding winter by the City's utility superintendent

The project in its entirety involves:

- Addition/replacement of storm sewer
- Water main replacement
- Water service replacement
- Sanitary sewer replacement and rehabilitation
- Sanitary sewer service replacement
- Concrete curb & gutter replacement and addition
- Bituminous street removal and reconstruction
- Bituminous trail installation

III. Background

The Interlachen Park Street & Utility Improvements project was initiated following its presence for several years in the City's Capital Improvement Plan. The Hopkins City Council ordered the preparation of this feasibility report at its March 19, 2019 council meeting. The feasibility study and report has been completed to better identify the infrastructure improvements needed in the proposed project area and to better define costs associated with the improvements. This report will be used as the basis for final design and is also a required step in the State's Chapter 429 process for special assessments.

IV. Existing Conditions

A. STREETS

The bituminous streets within the project areas are aged and exhibit various levels of wear and distress. This is evident on the surface by transverse, block, and alligator cracking. The majority of the project area streets generally have no curb, though a couple blocks have a relatively small amount of existing concrete curb & gutter. There is evidence of previous additional street repairs and maintenance throughout the project area including numerous street patches. Examples of the existing pavement conditions are shown below.

Consistent with observations of the existing pavements made during preparation of this report, the City of Hopkins' Pavement Management System also indicates that the "Pavement Condition Index" (PCI) for many of the street segments in the neighborhood is below the threshold where rehabilitation is cost effective. As such, street reconstruction efforts are appropriate in these areas.

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

Table 1: Summary of Existing Corridor Conditions			
Roadway	**Existing Street Width**	**Existing Curb Type**	**Existing ROW Width**
Blake Road S	33.4 - 37.1 feet	Bituminous Curb – East side, Spruce Rd to Blake School entrance Concrete B618 C&G – Blake School entrance to Boyce St No Curb – West side, Spruce Rd to Blake School entrance	66 feet
Ashley Road	27.4 – 31.1 feet	No Curb	60 feet
Holly Road	29.2 – 30.9 feet	No Curb	60 feet
Oakwood Road	25.9 – 31.5 feet	No Curb	60 feet
Interlachen Road	25.3 – 43.9 feet	Concrete B618 C&G – West side, from Boyce St to Preston Ln No Curb – East side No Curb – West side, from dead end to Boyce St & Preston Ln to Excelsior Blvd	73 - 74 feet
Maple Hill Road	24.1 – 26.9 feet	No Curb	60 feet
Homedale Road	23 – 28.4 feet	No Curb	60 feet
Hawthorne Road	24.7 – 30.1 feet	No Curb	60 feet
Meadowbrook Road	20.9 - 26.7 feet	No Curb	50 – 59 feet
Goodrich Street	24.4 – 34.6 feet	No Curb	80 feet
Boyce Street	21.4 – 42.3 feet	Concrete B618 C&G – North side, from Oakwood Rd to Interlachen Rd No Curb – South side No Curb – North side, from Blake Rd S to Oakwood Rd & Interlachen Rd to Meadowbrook Rd	59 feet
Preston Lane	25.5 - 29.1 feet	No Curb Concrete Mountable C&G – At St. Gabriel the Archangel Catholic Church driveway	50 feet

Subgrade soil sampling was completed throughout the entire project area by Braun Intertec in the Spring of 2019. A copy of Braun Intertec's Geotechnical Evaluation Report is included in Appendix E of this report. Forty-four soil borings were taken throughout the project area and summarized in Table 2 below.

Table 2: Summary of Geotechnical Evaluation		
Street	**Bituminous Thickness**	**Subgrade Material**
Blake Road S	7” - 9”	Mixture of silty sand with gravel, poorly graded sand with gravel, and clayey sand with gravel.
Ashley Road	3” – 5”	Mixture of silty sand with gravel, poorly graded sand with gravel, organic clay, lean clay, and sandy lean clay.
Holly Road	4” – 5”	Mixture of silty sand with gravel, clayey sand with gravel, silty, clayey sand with gravel, and sandy lean clay with little gravel.
Oakwood Road	3” – 5”	Mixture of poorly graded sand with gravel and silt, silty sand with gravel, silt, clayey sand with trace amounts of gravel, and sandy lean clay with trace amounts of gravel.
Interlachen Road	4”	Mixture of poorly graded sand with gravel, sandy lean clay with trace amounts of gravel, lean clay, and clayey sand with trace amounts of gravel.
Maple Hill Road	3” – 4”	Mixture of silty sand with little gravel, poorly graded sand with silt and gravel, organic clay, and clayey sand with little gravel.
Homedale Road	3” – 5”	Mixture of poorly graded sand with silt and gravel, lean clay, sandy lean clay with little gravel, and silty sand.
Hawthorne Road	4” – 5”	Mixture of poorly graded sand with silt and gravel, clayey sand with trace amounts of gravel, silty sand with gravel, and sandy lean clay with little gravel.
Meadowbrook Road	3” – 11”	Mixture of poorly graded sand with silt and gravel, silty sand with little gravel, sandy lean clay with trace amounts of gravel, organic clay, lean clay, and clayey sand with little gravel.
Goodrich Street	3” – 7”	Mixture of poorly graded sand with silt and gravel, silty sand with gravel, clayey sand with gravel, and fine sand.
Boyce Street	3” – 5”	Mixture of poorly graded sand with silt and gravel, lean clay with trace amounts of gravel, clayey sand with trace amounts of gravel, silty sand with gravel.
Preston Lane	3” – 6”	Mixture of poorly graded sand with gravel, lean clay with sand, and clayey sand.

The soils found just beneath pavements in the project area were most commonly fill soils classified as poorly graded sand, silty sand, sandy lean clay, lean clay, or clayey sand. A few of the borings in the project area found swamp deposits of organic clay. Swamp deposits are undesirable materials for roadway construction as they are unable to adequately support heavy vehicles, leading to earlier failure of overlying pavements.

B. STORM SEWER

The existing storm sewer system materials were inventoried in Spring 2019. The existing storm sewer systems serving the neighborhood are comprised of reinforced concrete pipe (RCP), varying in size from 12-inch diameter to 30-inch diameter. The storm sewer catch basins and manholes are a mixture of concrete block and precast concrete structures.

There are multiple storm sewer systems serving the project area. Portions of the project area drain to Excelsior Blvd and then split, some of the water going west and some going east. The remaining project area drains south toward Interlachen Park and to ponds located southeast of the neighborhood.

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

1. Due to the flat grades of some of the streets and low points without catch basins localized drainage problems are prevalent.
2. Some drainage structures were found to be in very poor condition during the field survey. Such structures are often comprised of block or brick, and appear to have been patched with mortar in previous decades. Over time, the mortar has deteriorated from repeated freeze/thaw cycles, leaving several structures subject to leakage or potential drastic failure.
3. There is a lack of curb & gutter throughout the project to adequately direct water through areas of flat topography to drainage inlets.
4. Areas of water ponding in backyards is prevalent throughout the project area, two of which are served by existing, privately owned pumping systems. Not all of these ponding areas in backyards can be directly addressed with the City project, however improvements within the public right of way can be planned to facilitate future extensions and/or compatibility with privately owned pumping systems by property owners.

Recommendations to address drainage problems are included in section V.B. of this report and shown in the Appendix B figures.

C. SANITARY SEWER

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

The existing sanitary sewer system primarily consists of 8-inch diameter clay pipe. There are also some areas of 8-inch polyvinyl chloride pipe (PVC), 8-inch cast iron pipe (CIP), 12-inch pipe, and reinforced concrete pipe (RCP). Clay pipe is susceptible to infiltration and root

intrusion over time due to the large number of joints and the deterioration of the gasket material originally used to seal the joints.

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

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

Proposed sanitary sewer improvements are discussed later in this report.

D. WATERMAIN

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

The watermain through the project area is not entirely 6-inch cast iron main, however. Exceptions to this are along Spruce Rd, from Blake Rd S to Maple Hill Rd, where there is a 12-inch CIP main. Secondly, an existing 8-inch CIP main is located through some backyards, between Maple Hill Rd and Meadowbrook Rd.

Service lines for single family homes in the project area are typically ¾-inch or 1-inch and their material may be copper, galvanized steel, or lead. The multi-family and commercial properties in the neighborhood have services of various sizes. Not all are known, but may range from 1-inch to 8-inch diameter depending on the size of the property.

Proposed watermain improvements are discussed later in this report.

V. Proposed Improvements

A. STREETS

All street pavements within the project area have reached a point where maintenance procedures such as seal coating or milling and overlaying are no longer cost-effective strategies. The streets within the 2020 & 2021 project limits are scheduled for full reconstruction except Blake Road S which will receive watermain replacement and street patching accordingly.

Proposed reconstruction improvements include addition or replacement of concrete curb and gutter and replacement of the full depth of the pavement section with underlying aggregate base. In areas where there is no existing concrete curb and gutter, it will be added per City Policy 8.02. B618 concrete curb and gutter will help extend the life of the pavement by keeping water out of the subgrade and will provide a solid edge for the asphalt pavement. Curb and gutter will also address the bulk of drainage issues that the neighborhood currently experiences and make snow plowing operations more efficient for Public Works staff in the winter months. Existing drainage patterns will be maintained and the elevation of the existing roadways at their edge is proposed to approximate the existing elevations. Attempts at lowering the road will be made (during final design) where appropriate to improve drainage toward the street where beneficial and practical.

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

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

- Ashely Road is proposed to be reconstructed, including the addition of concrete curb and gutter, at 26 feet wide from curb face to face. This will narrow the road by approximately 1.5 – 5.0 feet. On the south end of Ashley Road, it is proposed to construct a cul-de-sac with a 25-foot radius, from face of curb. Parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Holly Road is proposed to be reconstructed, including the addition of concrete curb and gutter, at 26 feet wide from curb face to face. This will narrow the road by approximately 3.0 – 5.0 feet. On the south end of Holly Road, it is proposed to construct a cul-de-sac with a 26.4-foot radius. Parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Oakwood Road is proposed to be reconstructed, including the addition of concrete curb & gutter, at 26 feet wide from curb face to face. This will narrow the roadway in most locations by approximately 0.5 - 5.5 feet. On the south end of Oakwood Road, it is proposed to construct a cul-de-sac with a 25-foot radius. Existing parking regulations will remain consistent with existing conditions throughout this area.

Draintile is proposed to be installed behind the new curb along a majority of the corridor.

- Interlachen Road is proposed to be reconstructed, with the addition/replacement of concrete curb and gutter, at 26 feet wide from curb face to face between the southerly dead end and Boyce St and between Preston Ln and Excelsior Blvd. Street width is proposed to be reconstructed at 34 feet wide from curb face to curb face between Boyce St and Preston Ln. This will narrow the roadway in most locations between the dead end and Boyce St and between Preston Ln and Excelsior Blvd by approximately 0.8 – 4.0 feet. This will also narrow the roadway between Boyce St and Preston Ln by approximately 8.0 – 9.0 feet. On the south end of Interlachen Road, it is proposed to construct a cul-de-sac with a 25-foot radius. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Maple Hill Road is proposed to be reconstructed, including the addition of concrete curb and gutter, at 26 feet wide from curb face to curb face. This will increase the bituminous roadway width in most locations by approximately 1.0 – 2.0 feet. In some areas the new roadway width will approximately match the existing roadway width. On the south end of Maple Hill Road, it is proposed to construct a cul-de-sac with a 25-foot radius, from face of curb. Existing parking regulations will remain consistent with existing conditions throughout this area.
- Homedale Road is proposed to be reconstructed, with the addition of concrete curb and gutter, at 26 feet wide from curb face to curb face. This will increase the bituminous roadway width in most locations by approximately 0.7 – 3.0 feet. On the south end of Homedale Road there is an existing turn around/parking area for Interlachen Park. This area is proposed to be striped with 11 designated parking stalls. Existing parking regulations along Homedale Road will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Hawthorne Road is proposed to be reconstructed, with the addition of concrete curb and gutter, at 26 feet wide from curb face to curb face. This will increase the bituminous roadway width in some areas and narrow the roadway in others. In areas where the road will be widening, the width will increase approximately 0.7 - 1.5 feet. In areas where the roadway will be narrowing, the width will decrease approximately 0.7 – 4.0 feet. On the south end of Hawthorne Road, it is proposed to construct a cul-de-sac with a 25-foot radius, from face of curb. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Meadowbrook Road is proposed to be reconstructed, with the addition of concrete curb and gutter, at 26 feet wide from curb face to curb face. This will increase the bituminous roadway width in most locations by approximately 0.8 – 5.0 feet. On the south end of Meadowbrook Road, it is proposed to construct a cul-de-sac with a 25-

foot radius, from face of curb. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.

- Goodrich Street is proposed to be reconstructed, with the addition of concrete curb and gutter, at 30 feet wide from curb face to curb face between Blake Rd S and Maple Hill Rd and at 26 feet wide between Maple Hill Rd and Meadowbrook Rd. In the area between Blake Rd S and Maple Hill Rd, this will narrow the roadway approximately 0.5 - 4.5 feet. In the area between Maple Hill Rd and Hawthorne Rd, this will increase the bituminous roadway width approximately 0.5 - 1.5 feet, but in the areas between Hawthorne Rd and Meadowbrook Rd this will narrow the roadway approximately 0.5 – 2.0 feet. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Boyce Street has highly variable existing width along its length, even in comparison to other existing variable-width corridors in the neighborhood. Proposed conditions will make a more consistent with, though some blocks will remain different from others based on site conditions.

  Between Blake Rd S and Interlachen Rd, Boyce Street is proposed to be reconstructed, with the addition/replacement of concrete curb and gutter, at 30 feet wide from curb face to curb face. In the two blocks between Blake Rd S and Holly Rd, and in the one block between Oakwood Rd and Interlachen Rd, this will narrow the roadway approximately 0.3 - 12.3 feet. In the area between Holly Rd and Oakwood Rd, this will increase the bituminous roadway width approximately 2.0 feet.

  Between Interlachen Rd and Meadowbrook Rd, Boyce Street is proposed to be reconstructed, with the addition/replacement of concrete curb and gutter, at 24 feet wide from curb face to curb face. This will narrow the roadway by up to 2.5 feet in some areas and increase the roadway width by up to 2.6 feet in others. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Preston Lane is proposed to be reconstructed, with the addition/replacement of concrete curb and gutter, at 26 feet wide from curb face to curb face. This will narrow the roadway in most places by approximately 0.3 – 3.0 feet. Existing parking regulations will remain consistent with existing conditions throughout this area. Draintile is proposed to be installed behind the new curb along a majority of the corridor.
- Blake Road S is proposed to have concrete curb and gutter added/replaced along the east side of the road and to be patched where the proposed watermain replacements are proposed. The bituminous street patch will extend approximately 17.9 - 18.6 feet from the east side of the road toward the center of the road. Street widths, from face

of curb to face of curb will remain the same as existing, with no parking allowed on either side of the road.

The minimum proposed street grade is 0.50% consistent with City standards. Street grades flatter than 0.50% are undesirable for drainage. In some areas, new low-points with adequate storm sewer will need to be created to increase roadway longitudinal slope for proper drainage. These locations will be confirmed during the final design process. Overall drainage patterns/directions throughout the project area are not proposed to change.

The preliminary proposed typical pavement sections for all the streets consist of 2" wearing course, 2" non-wear course, 8" aggregate base class 5, and spot subgrade soil corrections. The exception to this is on Blake Rd S, where a thicker pavement section will be used to approximately match existing pavement thicknesses.

B. STORM SEWER

All the storm sewer in the project area will be reconstructed for constructability of other utilities, changing curb alignment, or increase the storm water pipe capacities to meet City standards for a 10-year rainfall event. The two existing private storm sewer connections, which exist to alleviate backyard flooding, will be accommodated in the design and construction of adjacent storm sewer structures. The following is a summary of the most significant improvements proposed to the storm sewer system.

- Storm sewer is proposed to be extended to the intersection of Boyce Rd and Maple Hill Rd. The extension will be made by adding new storm sewer pipe to the intersection draining to the existing, but improved, system in Meadowbrook Rd.
- Extension of storm sewer will also be made to the intersection of Goodrich St and Interlachen Rd draining to the east.
- A new storm sewer connection, 60' of pipe, and catch basin will be required on the south end of Homedale Rd. The new curb and gutter will allow capture of storm water earlier into the storm sewer pipe network rather than continuing to allow storm water to flow overland into the park area at the southerly end of Homedale Road.
- There is currently no storm sewer at the south end of Interlachen Rd and all storm water runs off to the south towards a ditch along the golf course. Storm sewer is proposed to be extended to the south end of Interlachen from Goodrich St to collect the storm water in the proposed curb line of the cul-de-sac to prevent surface runoff. This storm water will reach the same destination point at an existing storm sewer connection on Maple Hill Rd near the southern dead end.
- Storm sewer pipe capacity deficiencies were identified in 730' of existing 18" pipe along Ashley Rd. Proposed improvements along Ashley Rd include upsizing this pipe to a 24" diameter pipe to accommodate runoff from a 10-year rainfall event.
- Storm sewer pipe capacity deficiencies were identified in 625' of existing 12" pipe along Holly Rd, south of Goodrich St. Proposed improvements along Holly Rd include upsizing this pipe to an 18" diameter pipe to accommodate runoff from a 10-year rainfall event.

- Storm sewer pipe capacity deficiencies were identified in the existing 18" pipe along Meadowbrook Rd. Proposed improvements along Meadowbrook Rd include upsizing this pipe to a 36" span diameter arch pipe to accommodate runoff from a 10-year rainfall event and proper pipe bury depths leading up to the Excelsior Blvd connection.
- Storm sewer pipe capacity deficiencies were identified in 340' of existing 18" pipe along Oakwood Rd. Proposed improvements along Oakwood Rd include upsizing this pipe to a 24" diameter pipe to accommodate runoff from a 10-year rainfall event.
- Storm sewer pipe capacity deficiencies were identified in 260' of existing 18" pipe along Maple Hill Rd. Proposed improvements along Maple Hill Rd include upsizing this pipe to a 24" diameter pipe to accommodate runoff from a 10-year rainfall event.

C. SANITARY SEWER

As summarized in the existing conditions section of this report discussing sanitary sewer, the existing system is relatively old, made of an outdated (clay) material, and in poor condition. Given these conditions, the opportunity to excavate to this utility given removal of overlying roadway pavement for street reconstruction, and the City of Hopkins policy to replace clay sewers during street projects, the existing gravity sanitary sewer system throughout the neighborhood is proposed to be replaced with PVC pipe or lined with new Cured-In-Place-Pipe (CIPP) material. Exceptions to replacement include Blake Rd S which is not proposed to be fully reconstructed, Holly Rd south of Goodrich St which has previously undergone sanitary sewer replacement with PVC, and a small portion of Preston Ln which previously had sanitary sewer mains replaced with PVC.

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

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

Table 3: Proposed Sanitary Sewer Improvements					
Roadway	**From/To**	**Existing Pipe**			**Proposed Improvements**
		Dia.	**Matl.**	**Age**	
Ashley Road	Dead end – Goodrich St	8”	VCP	1961	Replace with 8” PVC
	170’ N. Goodrich St – Excelsior Blvd	8”	VCP	1961	Replace with 8” PVC
Holly Road	Dead end – Goodrich St	8”	PVC	1998	None
	Goodrich St – Boyce St	8”	VCP	1961	Replace with 8” PVC
Oakwood Road	Dead end – Boyce St	8”	VCP/RCP	1957	Replace with 8” PVC
Interlachen Road	Dead end – Boyce St	8”	VCP/RCP	1957	Replace with 8” PVC
	Boyce St – Preston Ln	8”	VCP/RCP	1957	Replace with 8” PVC
Maple Hill Road	Dead end – Preston Ln	8”	VCP	1954	Replace with 8” PVC
Homedale Road	Dead end – Excelsior Blvd	8”	VCP/RCP	1954	Replace with 8” PVC
Hawthorne Road	Dead end – Excelsior Blvd	8”	VCP	1954	Replace with 8” PVC
Meadowbrook Road	Dead end – Excelsior Blvd	8”	VCP	1962	Replace with 8” PVC
Goodrich Street	Blake Rd S – Maple Hill Rd	8”/12”	VCP/RCP	1954*	Replace with 8” & 12” PVC – Match existing sizes
Boyce Street	Blake Rd S – Oakwood Rd	8”	VCP/RCP	1954	Replace with 8” PVC
	Homedale Rd – Meadowbrook Rd	8”	VCP	1954	Replace with 8” PVC
Preston Lane	Ashley Rd – Homedale Rd	8”	VCP/RCP/PVC	1954-1998	Replace with 8” PVC except for 220’ E of Ashley Rd
Backyards (N. of Spruce Rd & S. of Goodrich St)	Maple Hill Rd – Hawthorne Rd	8”	CIP	1954-1962	Seal manholes and line existing pipes
	Hawthorne Rd – Meadowbrook Rd	8”	CIP	1954-1962	Seal manholes and line existing pipes

D. WATERMAIN

All existing watermain within the project area are proposed to be replaced with new ductile iron pipe (DIP) as a part of this project. Exceptions to watermain replacement include Holly Rd south of Goodrich St, where replacement occurred previously. An 8-inch pipe is proposed on the bulk of the roadways to most cost effectively achieve adequate fire flows and water distribution. On some streets, including Blake Rd S and Goodrich St, a 12-inch pipe is recommended to match existing sizes or improve the capacity of the system in a manner compatible with surrounding infrastructure.

Per City policy all water service lines to single family homes are proposed to be replaced to the right-of-way with a new 1-inch diameter copper service line. A new curb stop valve and box will be provided on each service, approximately on the right-of-way line. Some trenchless service lines will be necessary as part of the project on several of the dead-end properties that are currently connected to a watermain to be abandoned that runs through backyards. Trenchless service installation will be needed to connect these properties to the new watermain in the street that the property fronts in order to minimize surface disruptions near the houses. Multi-family residential properties and commercial properties will receive a new 6” service line or a service line matching their existing service diameter, whichever is greater. The proposed watermain mainline improvements are summarized in Table 4 below.

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

Table 4: Proposed Watermain Improvements					
Roadway	**From/To**	**Existing Pipe**			**Proposed Improvements**
		Dia.	**Matl.**	**Age**	
Blake Rd S	Spruce Rd – Boyce St	6”	CIP	1963	Replace with 12” DIP
Ashley Road	Dead end – Excelsior Blvd	6”	CIP	1961	Replace with 8” DIP
Holly Road	Dead end – Goodrich St	6”	CIP	1961	None
	Goodrich St – Boyce St	6”	CIP	1961	Replace with 8” DIP
Oakwood Road	Dead end – Boyce St	6”	CIP	1957	Replace with 8” DIP
Interlachen Road	Dead end – Preston Ln	6”	CIP	1957	Replace with 8” DIP
Maple Hill Road	Dead end – Preston Ln	6”	CIP	1954	Replace with 8” DIP
Homedale Road	Dead end – Excelsior Blvd	6”	CIP	1954	Replace with 8” DIP
Hawthorne Road	Dead end – Excelsior Blvd	6”	CIP	1954	Replace with 8” DIP
Meadowbrook Road	Dead end – Excelsior Blvd	6”	CIP	1962	Replace with 8” DIP
Goodrich Street	Blake Rd S – Maple Hill Rd	6”	CIP	1954*	Replace with 12” DIP
	Maple Hill Rd – Meadowbrook Rd	NA	NA	NA	Add 12” DIP watermain
Boyce Street	Blake Rd S – Meadowbrook Rd	6”	CIP	1954	Replace with 8” DIP
Preston Lane	Ashley Rd – Homedale Rd	6”	CIP	1954	Replace with 8” DIP
Backyards (N. of Spruce Rd & S. of Goodrich St)	Blake Rd S – Meadowbrook Rd	6-12”	CIP	1954-1962	Abandon watermain and reconnect services to the watermain in the street

E. PEDESTRIAN & BICYCLE FACILITIES

Installation of a bituminous trail is proposed along the east side of Meadowbrook Road, between Goodrich St and Excelsior Blvd. The trail is proposed to be constructed at 8 feet width. The proposed turf boulevard width is primarily proposed at 4-foot-width, however it is anticipated the presence of and/or width of the boulevard will be modified during final design based on further coordination with the MPRB and Hopkins Public Works to balance the need for boulevard space for storm water management benefits, trail maintenance / snow plowing considerations, avoidance of significant trees along the MPRB property, and other criteria identified by the MPRB for locating the trail within its property. The preliminary proposed typical trail section consists of 3" wearing course, 6" aggregate base class 5, and spot subgrade soil corrections. Preliminary discussions have started with the MPRB on the location of this trail as this would be partially constructed on the Meadowbrook Golf Course property.

F. DRIVEWAYS

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

Non-residential and multi-family residential properties will receive the City's standard concrete commercial driveway entrance apron.

G. LAWN SPRINKLER SYSTEMS

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

H. STREET SIGNING & STRIPING

The existing street name signs will be replaced by the contractor to update the signs to the new City standards. Regulatory signs such as stop and parking enforcement signs will be replaced to conform to retroreflectivity requirements. Existing centerline striping will be repainted upon completion of the paving on Blake Rd S.

I. TURF & LANDSCAPING RESTORATION

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

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

limited to plantings, decorative rock, and decorative pavers for removal and relocation by the homeowner.

J. BOULEVARD TREES

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

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

An inventory of the trees located in the right of way was performed in June 2019 by City public works staff. Consistent all City of Hopkins annual street and utility improvement projects, trees that are dead or in very poor condition, and "undesirable" species in fair or poor condition, are proposed to be removed and replaced. Approximately 86 boulevard tree species within the project area are considered undesirable due to condition/species. Proposed tree removals are shown in the figures within Appendix B. Those tree removals identified due to conflicts with utilities or street grading will be further evaluated during final design to see if reasonable measures can be taken to preserve them. Options to preserve highly desirable trees in harm's way include small retaining walls or moving service lines around trees but is not always feasible.

This project provides an opportunity to increase the health of the neighborhood forest by replacing some of the undesirable species with trees better suited for boulevard areas. One tree is proposed to be installed per each tree removed. New 2-inch balled and burlapped trees are typically planted in replacement of those removed. The City will communicate with the property owners to replace trees as part of the project in the event tree removal is necessary. A list of species to be planted will be formulated during final design in cooperation with the City's Public Works department. Properties located adjacent to boulevard tree removals will be contacted and allowed to provide input on their desire for a particular tree species to be planted based on the list provided.

VI. Neighborhood Meetings

Neighborhood meetings occurred on June 25 & August 5, 2019 with residents and property owners that are affected by the improvements. The City Engineer, Assistant City Engineer, and Bolton & Menk, Inc. representatives presented the scope of the project with a discussion of existing and proposed street and utility conditions, proposed preliminary assessments, City policies, and project schedule. Feedback from the residents are documented in Appendix D of this report. A third neighborhood meeting has been scheduled for September 11, 2019 to again review preliminary special assessments and review proposed improvements.

Residents within the project area were also mailed questionnaires in March 2019 shown in Appendix D. The questionnaire focused on drainage issues, utilities, pedestrian facilities, landscaping, and other concerns the residents may have. 123 questionnaires, which is roughly 40% of the affected properties, were returned with comments as of the end of August 5, 2019. The most common questionnaire responses related to:

1. Specific drainage problems
2. Both desire for and opposition to sidewalk improvements, but mostly opposition
3. Both desire for and opposition to curb/gutter
4. Individual sewer and water service problems, history of backups/root blockages
5. Other unique issues specific to individual properties (individual tree conditions, water service line, driveways, landscaping, etc.)

A summary of the responses to the resident questionnaire are provided in Table 5 below.

Table 5: Resident Questionnaire Response Summary

	Yes	Blake Rd S or Excelsior Blvd Only	Maybe	No	No Comment	Total # of Responses
Drainage Issue	57			42	24	123
Sanitary Issue	19			102	2	123
Water Issue	16			105	2	123
Pedestrian Facilities	11	16	5	74	17	123
Irrigation	67			54	2	123
Invisible Fence	19			99	5	123
Tree Concerns	55			40	28	123
Landscaping Concerns	19			25	79	123
Curb & Gutter	12		4	17	90	123

Residents were mailed a supplemental questionnaire focused on tree protections and potential removals in July 2019 to aid the project team in better understanding the condition of the existing boulevard trees and to help evaluate tree impacts throughout the project. The tree questionnaire focused on specific trees residents are particular on keeping or removing, as well as if they are currently treating Ash trees or other trees on their property. Responses to the tree questionnaire show that most residents prefer to preserve all existing trees within their yards and the boulevard. Some residents did express the desire to remove some unhealthy trees or trees that are in poor condition. The results also showed that of the residents who filled out the questionnaire, some are currently treating their trees for protection against the emerald ash borer and disease, however a majority of residents are not. The responses to this questionnaire will help the project team evaluate all of the tree impacts with the goal of saving as many healthy trees as possible and removing any undesirable trees within the boulevard. As a result of the questionnaire responses, some undesirable species trees found to be treated are not proposed to be removed.

VII. Estimated Costs

Estimated construction costs presented in this report include a 15 percent contingency factor. Overhead costs, estimated at 18 percent, include legal, engineering, administrative and fiscal costs. Final costs and assessments will be determined by using low-bid construction costs of the proposed work.

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

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

Table 6: Preliminary Estimated Cost of 2020 & 2021 Proposed Improvements	
Proposed Street Improvements	$5,845,000
Proposed Sanitary Sewer Improvements	$2,369,000
Proposed Watermain Improvements	$2,744,000
Proposed Storm Sewer Improvements	$2,435,000
Street & Utility Subtotal	**$13,393,000**
Contingencies (15%)	$2,009,000
Engineering & Administration (18%)	$2,772,000
Total Estimated Project Costs	**$18,174,000**
Estimated 2020 Construction Costs w/ Contingencies	$7,441,000*
Estimated 2021 Construction Costs w/ Contingencies	$7,882,000*

*Yearly cost estimates are based on the preliminary phasing plan for which year each street will be constructed, as shown in Figure 3.01 in Appendix B. Construction costs are estimated to not exceed $10 million in any given year.

VIII. Special Assessments

Street improvements throughout the project area will be assessed to adjacent and benefitting properties according to the City of Hopkins' assessment policy. Street improvement work includes pavement removals, grading, subgrade correction, aggregate base, curbing, driveways and pavements construction, and restoration.

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

- Properties are assessed based on 70% of the actual street improvement costs. This is referred to as a **"Street Assessment"**.
- Street improvements are typically assessed to properties with direct frontage based on a front foot basis (length) along the Street.
- For this project, most streets have properties with direct frontage.
- **"Street Assessments"** to any individual property are capped at front foot rate increase annually by 3% over the prior year's amount. An assessment cap for residential properties of $94.31 per front foot has been established by adding 3% to the 2019 assessment cap according to City policy.
- The assessment cap is applied to residential properties in the project area and is not applicable to properties which received or will receive a benefit appraisal in preparation of the assessment roll. For properties receiving a benefit appraisal, the lesser of the 'per policy' calculation and the benefit amount per the appraisal was used.
- Utility (sanitary sewer, storm sewer, water) main improvements are 100% paid by the respective utility funds. No assessment for utility mains is proposed and their costs do not contribute to either the **"Street Assessments"** or **"Utility Assessments".**
- Utility service lines are owned by the individual property per City Code. As a result, the City assesses for the cost of the individual service line replacements. This is referred to as a "**Utility Assessment"**. The City participates in a share of these costs because the replacement is mandatory where mains are reconstructed, and therefore properties are assessed for only 50% of the cost of the service replacement.
- The estimated cost of the water service replacement from the main to property line is $3,600. With the proposed 50/50 "**Utility Assessment**" split, $1,800 will be assessed to each property where water services are replaced. The estimated cost of the sewer service replacement from the main to the property line is $3,200. With the proposed 50/50 "**Utility Assessment**" split, $1,600 will be assessed to each property where sewer services are replaced. Thus, a property proposed to receive both a new water service and sewer service would have a proposed **"Utility Assessment"** of $3,400.

In the case that sanitary sewer services are made of Orangeburg, or are in disrepair, replacement or lining of the entire line will also be required from the property line to the house. On past projects, the property owner has been given one year to affect the necessary repairs and the City will provide

the option to use the City's Contractor to perform this work and be fully assessed to the property owner.

A preliminary assessment roll is included in Appendix C of this report. Total estimated assessments are $3,253,729.40.

IX. Right-Of-Way/Easements/Permits

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

The proposed addition of a bituminous trail along the east side of Meadowbrook Road will cause permanent impacts outside of the City ROW. These trail impacts will also affect the Meadowbrook Golf Course. The City has started and will continue to work with the Minneapolis Park & Recreation Board (MPRB) for a solution, which will most likely be a maintenance agreement for the City upkeep of the proposed facilities located within MPRB property.

Permits will be required from the Minnesota Pollution Control Agency for grading (National Pollutant Discharge Elimination System permit), Minnesota Department of Health for Water Main Replacement, and the Minnehaha Creek Watershed District. A permit may also be required from Hennepin County for working within Excelsior Blvd ROW.

X. Project Schedule

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

Order Public Improvement Hearing.....August 20, 2019

Neighborhood Meeting 3 ..... September 11, 2019

Conduct Improvement Hearing, Order Final Plans & Specifications..... September 17, 2019

Final Design ..... September 18, 2019 – January 7, 2020

Present Final Plans / Authorize Ad for Bids.....January 7, 2020

Open Bids.....February 6, 2020

Accept Bids / Order Public Assessment Hearing .....February 18, 2020

Neighborhood Meeting 4 ..... March 4 - 11, 2020 (Date TBD)

Conduct Assessment Hearing / Adopt Assessment Roll / Award Project.....March 17, 2020

Construction .....April 2020 – November 2021

XI. Feasibility & Recommendation

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

Appendix A: Preliminary Cost Estimates

PRELIMINARY ENGINEER'S ESTIMATE

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. T19.118342

ITEM NO.	ITEM	UNIT	UNIT PRICE	ESTIMATED QUANTITIES				ESTIMATED COSTS					
				STREET	UTILITIES			STREET	UTILITIES			TOTAL QUANTITY	TOTAL COST
					SANITARY SEWER	WATER	STORM SEWER		SANITARY SEWER	WATER	STORM SEWER		
1	MOBILIZATION	LUMP SUM	$ 600,000.00	0.45	0.16	0.23	0.16	$ 268,200	$ 96,000	$ 138,000	$ 96,000	1.00	$ 600,000
2	CLEARING AND GRUBBING (TREE)	EACH	$ 400.00	163	0	0	0	$ 65,200	$ -	$ -	$ -	163.00	$ 65,200
3	TREE TRIMMING	LUMP SUM	$ 20,000.00	1.00	0.00	0.00	0.00	$ 19,940	$ -	$ -	$ -	1.00	$ 19,900
4	REMOVE BITUMINOUS PAVEMENT (TRAILS AND DRIVEWAYS)	SQ YD	$ 6.00	1196	0	0	0	$ 7,176	$ -	$ -	$ -	1196.00	$ 7,200
5	REMOVE CONCRETE PAVEMENT (WALKS, DRIVEWAYS, AND ALLEYS)	SQ YD	$ 10.00	6225	0	0	0	$ 62,250	$ -	$ -	$ -	6225.00	$ 62,300
6	REMOVE CURB & GUTTER	LIN FT	$ 4.00	1120	0	0	0	$ 4,480	$ -	$ -	$ -	1120.00	$ 4,500
7	REMOVE CONCRETE STEP	EACH	$ 200.00	25	0	0	0	$ 5,000	$ -	$ -	$ -	25.00	$ 5,000
8	REMOVE CONCRETE PARKING STOP	LIN FT	$ 4.00	30	0	0	0	$ 120	$ -	$ -	$ -	30.00	$ 100
9	REMOVE RETAINING WALL	SQ FT	$ 15.00	915	0	0	0	$ 13,725	$ -	$ -	$ -	915.00	$ 13,700
10	REMOVE FENCE	LIN FT	$ 25.00	110	0	0	0	$ 2,750	$ -	$ -	$ -	110.00	$ 2,800
11	SAWING CONCRETE PAVEMENT (FULL-DEPTH)	LIN FT	$ 6.00	3887	0	0	0	$ 23,322	$ -	$ -	$ -	3887.00	$ 23,300
12	SAWING BITUMINOUS PAVEMENT (FULL-DEPTH)	LIN FT	$ 3.00	2216	0	0	0	$ 6,648	$ -	$ -	$ -	2216.00	$ 6,600
13	COMMON EXCAVATION	CU YD	$ 24.00	29508	0	0	0	$ 708,192	$ -	$ -	$ -	29508.00	$ 708,200
14	SUBGRADE EXCAVATION	CU YD	$ 24.00	4983	0	0	0	$ 119,592	$ -	$ -	$ -	4983.00	$ 119,600
15	SELECT GRANULAR BORROW	CU YD	$ 16.00	11267	0	0	0	$ 180,272	$ -	$ -	$ -	11267.00	$ 180,300
16	TOPSOIL BORROW (SPECIAL)	CU YD	$ 40.00	5037	0	0	0	$ 201,480	$ -	$ -	$ -	5037.00	$ 201,500
17	EXPLORATORY EXCAVATION	HOUR	$ 800.00	175	0	0	0	$ 140,000	$ -	$ -	$ -	175.00	$ 140,000
18	CLASS 5 AGGREGATE BASE	TON	$ 18.00	33514	0	0	0	$ 603,252	$ -	$ -	$ -	33514.00	$ 603,300
19	CLASS 2 AGGREGATE SURFACING (GRAVEL DRIVEWAY)	TON	$ 35.00	20	0	0	0	$ 700	$ -	$ -	$ -	20.00	$ 700
20	RECLAIM BITUMINOUS SURFACE (FULL-DEPTH)	SQ YD	$ 3.00	66671	0	0	0	$ 200,013	$ -	$ -	$ -	66671.00	$ 200,000
21	BITUMINOUS WEARING COURSE (SPWEA240C)	TON	$ 85.00	7416	0	0	0	$ 630,360	$ -	$ -	$ -	7416.00	$ 630,400
22	BITUMINOUS NON-WEARING COURSE (SPNWB230C)	TON	$ 75.00	7416	0	0	0	$ 556,200	$ -	$ -	$ -	7416.00	$ 556,200
23	BITUMINOUS MATERIAL FOR TACK COAT	GAL	$ 3.50	3147	0	0	0	$ 11,015	$ -	$ -	$ -	3147.00	$ 11,000
24	3" BITUMINOUS DRIVEWAY & PAVEMENT (SPWEA240B)	SQ YD	$ 35.00	1196	0	0	0	$ 41,860	$ -	$ -	$ -	1196.00	$ 41,900
25	3" BITUMINOUS TRAIL (SPWEA240B)	SQ YD	$ 35.00	1145	0	0	0	$ 40,075	$ -	$ -	$ -	1145.00	$ 40,100
26	MODULAR BLOCK RETAINING WALL	SQ FT	$ 35.00	915	0	0	0	$ 32,025	$ -	$ -	$ -	915.00	$ 32,000
27	4" CONCRETE WALK	SQ FT	$ 6.00	11076	0	0	0	$ 66,456	$ -	$ -	$ -	11076.00	$ 66,500
28	TRUNCATED DOMES	SQ FT	$ 50.00	68	0	0	0	$ 3,400	$ -	$ -	$ -	68.00	$ 3,400
29	CONCRETE STEP	EACH	$ 300.00	25	0	0	0	$ 7,500	$ -	$ -	$ -	25.00	$ 7,500
30	CONCRETE CURB & GUTTER	LIN FT	$ 18.00	0	0	0	40801	$ -	$ -	$ -	$ 734,418	40801.00	$ 734,400
31	SPOT CONCRETE CURB & GUTTER REPLACEMENT	LIN FT	$ 30.00	100	0	0	0	$ 3,000	$ -	$ -	$ -	100.00	$ 3,000
32	6" CONCRETE DRIVEWAYS & PEDESTRIAN RAMPS	SQ YD	$ 70.00	4961	0	0	0	$ 347,270	$ -	$ -	$ -	4961.00	$ 347,300
33	8" CONCRETE PAVEMENT	SQ YD	$ 80.00	280	0	0	0	$ 22,400	$ -	$ -	$ -	280.00	$ 22,400
34	TRAFFIC CONTROL	LUMP SUM	$ 100,000.00	0.45	0.16	0.23	0.16	$ 44,700	$ 16,000	$ 23,000	$ 16,000	1.00	$ 99,700
35	ZEBRA CROSSWALK BLOCK - THERMOPLASTIC	SQ FT	$ 15.00	540	0	0	0	$ 8,100	$ -	$ -	$ -	540.00	$ 8,100
36	TRAFFIC SIGN POST	EACH	$ 300.00	115	0	0	0	$ 34,500	$ -	$ -	$ -	115.00	$ 34,500
37	SIGN PANELS (TYPE C)	SQ FT	$ 20.00	184	0	0	0	$ 3,680	$ -	$ -	$ -	184.00	$ 3,700
38	SIGN PANELS (TYPE D)	SQ FT	$ 30.00	39	0	0	0	$ 1,170	$ -	$ -	$ -	39.00	$ 1,200
39	LANDSCAPE ALLOWANCE	LUMP SUM	$ 125,000.00	1.00	0.00	0.00	0.00	$ 124,625	$ -	$ -	$ -	1.00	$ 124,600
40	LIMESTONE BLOCKS	EACH	$ 1,000.00	14	0	0	0	$ 14,000	$ -	$ -	$ -	14	$ 14,000
41	REMOVE & REPLACE METAL GATE	LUMP SUM	$ 10,000.00	1	0	0	0	$ 10,000	$ -	$ -	$ -	1	$ 10,000
42	DECIDUOUS TREE - 2-INCH DIAMETER B&B	EACH	$ 500.00	163	0	0	0	$ 81,500	$ -	$ -	$ -	163.00	$ 81,500
43	INLET PROTECTION	EACH	$ 250.00	103	0	0	0	$ 25,750	$ -	$ -	$ -	103.00	$ 25,800
44	SILT FENCE	LIN FT	$ 3.50	820	0	0	0	$ 2,870	$ -	$ -	$ -	820.00	$ 2,900
45	STREET SWEEPER WITH OPERATOR	HOUR	$ 150.00	240	0	0	0	$ 36,000	$ -	$ -	$ -	240.00	$ 36,000
46	TURF RESTORATION	SQ YD	$ 8.00	57824	0	0	0	$ 462,592	$ -	$ -	$ -	57824.00	$ 462,600
47	REMOVE SANITARY SEWER PIPE	LIN FT	$ 6.00	0	25323	0	0	$ -	$ 151,938	$ -	$ -	25323.00	$ 151,900
48	REMOVE SANITARY MANHOLE	EACH	$ 500.00	0	61	0	0	$ -	$ 30,500	$ -	$ -	61.00	$ 30,500

PRELIMINARY ENGINEER'S ESTIMATE

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CITY OF HOPKINS, MN
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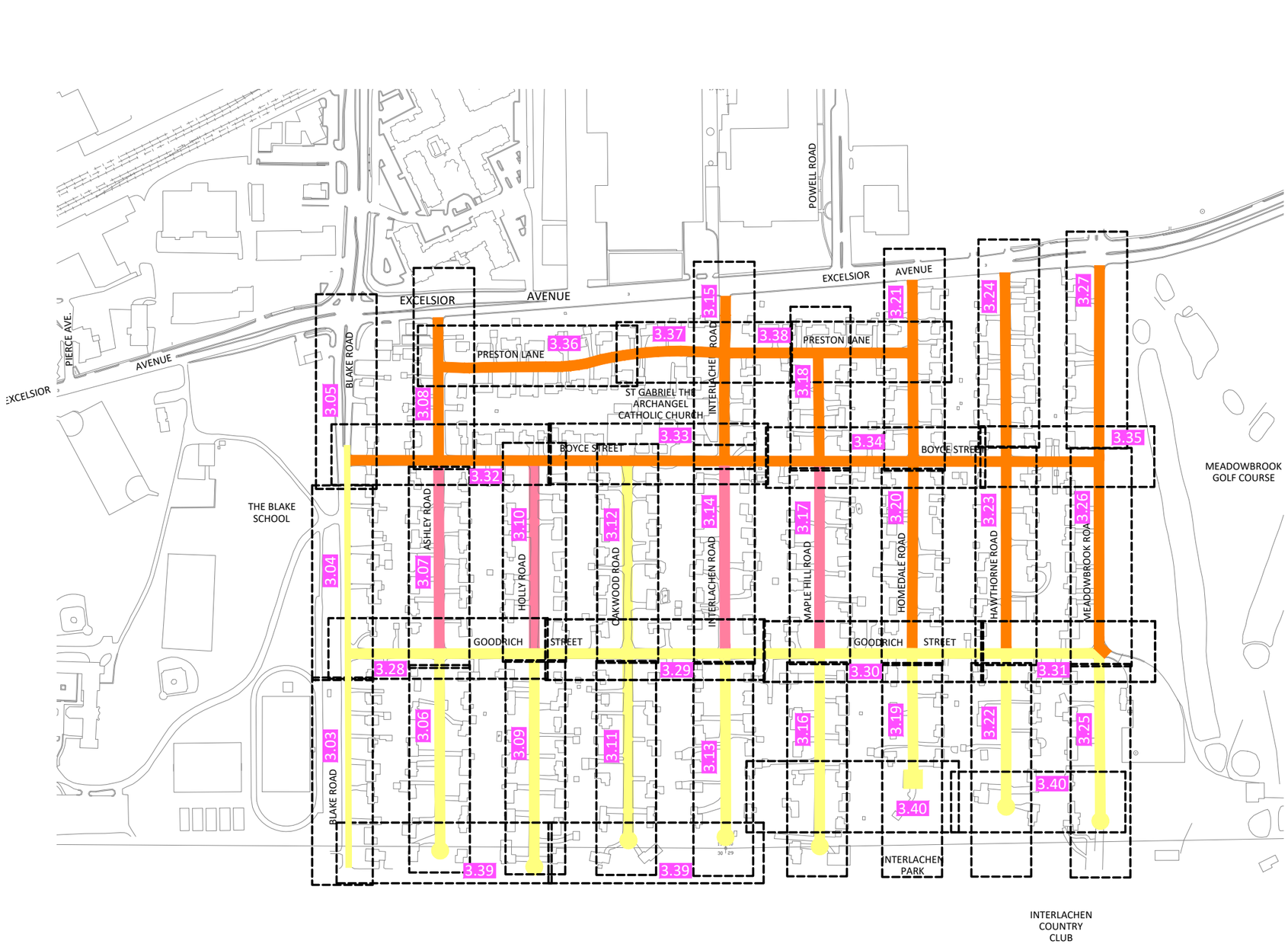
				STREET	UTILITIES			STREET	UTILITIES			TOTAL QUANTITY	TOTAL COST
					SANITARY SEWER	WATER	STORM SEWER		SANITARY SEWER	WATER	STORM SEWER		
49	SANITARY MANHOLE CASTING	EACH	$ 1,100.00	0	61	0	0	$ -	$ 67,100	$ -	$ -	61.00	$ 67,100
50	8" PVC SDR 35 SANITARY SEWER PIPE	LIN FT	$ 60.00	0	16863	0	0	$ -	$ 1,011,780	$ -	$ -	16863.00	$ 1,011,800
51	8" CIPP LINING	LIN FT	$ 30.00	0	4420	0	0	$ -	$ 132,600	$ -	$ -	4420.00	$ 132,600
52	6" PVC SDR 26 SANITARY SEWER SERVICE PIPE	LIN FT	$ 40.00	0	8460	0	0	$ -	$ 338,400	$ -	$ -	8460.00	$ 338,400
53	8" x 6" SDR 26 PVC SERVICE WYE	EACH	$ 500.00	0	282	0	0	$ -	$ 141,000	$ -	$ -	282.00	$ 141,000
54	SANITARY MANHOLE	EACH	$ 3,600.00	0	61	0	0	$ -	$ 219,600	$ -	$ -	61.00	$ 219,600
55	SEAL SANITARY MANHOLE	EACH	$ 2,000.00	0	17	0	0	$ -	$ 34,000	$ -	$ -	17.00	$ 34,000
56	RECONNECT SANITARY SEWER SERVICE	EACH	$ 500.00	0	282	0	0	$ -	$ 141,000	$ -	$ -	282.00	$ 141,000
57	CONNECT TO EXISTING SANITARY SEWER MANHOLE	EACH	$ 2,000.00	0	1	0	0	$ -	$ 2,000	$ -	$ -	1.00	$ 2,000
58	CONNECT TO EXISTING SANITARY SEWER PIPE	EACH	$ 1,000.00	0	7	0	0	$ -	$ 7,000	$ -	$ -	7.00	$ 7,000
59	REMOVE WATERMAIN	LIN FT	$ 5.00	0	0	20217	0	$ -	$ -	$ 101,085	$ -	20217.00	$ 101,100
60	ABANDON WATERMAIN	LIN FT	$ 10.00	0	0	2830	0	$ -	$ -	$ 28,300	$ -	2830.00	$ 28,300
61	REMOVE HYDRANT	EACH	$ 400.00	0	0	42	0	$ -	$ -	$ 16,800	$ -	42.00	$ 16,800
62	CONNECT TO EXISTING WATER MAIN	EACH	$ 1,600.00	0	0	13	0	$ -	$ -	$ 20,800	$ -	13.00	$ 20,800
63	HYDRANT	EACH	$ 5,500.00	0	0	42	0	$ -	$ -	$ 231,000	$ -	42.00	$ 231,000
64	DUCTILE IRON FITTINGS	LB	$ 10.00	0	0	15173	0	$ -	$ -	$ 151,730	$ -	15173.00	$ 151,700
65	12" BUTTERFLY VALVE & BOX	EACH	$ 3,600.00	0	0	19	0	$ -	$ -	$ 68,400	$ -	19.00	$ 68,400
66	6" GATE VALVE & BOX	EACH	$ 1,600.00	0	0	45	0	$ -	$ -	$ 72,000	$ -	45.00	$ 72,000
67	8" GATE VALVE & BOX	EACH	$ 2,200.00	0	0	70	0	$ -	$ -	$ 154,000	$ -	70.00	$ 154,000
68	6" DIP WATER MAIN	LIN FT	$ 60.00	0	0	553	0	$ -	$ -	$ 33,180	$ -	553.00	$ 33,200
69	8" DIP WATER MAIN	LIN FT	$ 60.00	0	0	16894	0	$ -	$ -	$ 1,013,640	$ -	16894.00	$ 1,013,600
70	12" DIP WATER MAIN	LIN FT	$ 70.00	0	0	3970	0	$ -	$ -	$ 277,900	$ -	3970.00	$ 277,900
71	1" TYPE K COPPER SERVICE PIPE	LIN FT	$ 40.00	0	0	10010	0	$ -	$ -	$ 400,400	$ -	10010.00	$ 400,400
72	1" CURB STOP & BOX	EACH	$ 400.00	0	0	286	0	$ -	$ -	$ 114,400	$ -	286.00	$ 114,400
73	1" CORPORATION STOP	EACH	$ 400.00	0	0	286	0	$ -	$ -	$ 114,400	$ -	286.00	$ 114,400
74	TRENCHLESS WATER SERVICE	LIN FT	$ 80.00	0	0	650	0	$ -	$ -	$ 52,000	$ -	650.00	$ 52,000
75	CONNECT TO EXISTING WATER SERVICE	EACH	$ 400.00	0	0	286	0	$ -	$ -	$ 114,400	$ -	286.00	$ 114,400
76	TEMPORARY WATER SERVICE	EACH	$ 650.00	0	0	286	0	$ -	$ -	$ 185,900	$ -	286.00	$ 185,900
77	TEMPORARY WATER SERVICE (SPECIAL)	EACH	$ 4,000.00	0	0	3	0	$ -	$ -	$ 12,000	$ -	3.00	$ 12,000
78	REMOVE STORM SEWER PIPE	LIN FT	$ 10.00	0	0	0	10401	$ -	$ -	$ -	$ 104,010	10401.00	$ 104,000
79	REMOVE DRAINAGE STRUCTURE	EACH	$ 400.00	0	0	0	118	$ -	$ -	$ -	$ 47,200	118.00	$ 47,200
80	STORM SEWER CASTING	EACH	$ 1,000.00	0	0	0	147	$ -	$ -	$ -	$ 147,000	147.00	$ 147,000
81	12" RC PIPE SEWER CL V DESIGN 3006 (STORM)	LIN FT	$ 50.00	0	0	0	1837	$ -	$ -	$ -	$ 91,850	1837.00	$ 91,900
82	15" RC PIPE SEWER CL V DESIGN 3006 (STORM)	LIN FT	$ 55.00	0	0	0	4246	$ -	$ -	$ -	$ 233,530	4246.00	$ 233,500
83	18" RC PIPE SEWER CL III DESIGN 3006 (STORM)	LIN FT	$ 60.00	0	0	0	1041	$ -	$ -	$ -	$ 62,460	1041.00	$ 62,500
84	24" RC PIPE SEWER CL III DESIGN 3006 (STORM)	LIN FT	$ 70.00	0	0	0	2024	$ -	$ -	$ -	$ 141,680	2024.00	$ 141,700
85	30" RC PIPE SEWER CL III DESIGN 3006 (STORM)	LIN FT	$ 80.00	0	0	0	2073	$ -	$ -	$ -	$ 165,840	2073.00	$ 165,800
86	36" SPAN RC PIPE ARCH CL IIA	LIN FT	$ 120.00	0	0	0	698	$ -	$ -	$ -	$ 83,760	698.00	$ 83,800
87	STORM MANHOLE	EACH	$ 2,000.00	0	0	0	44	$ -	$ -	$ -	$ 88,000	44.00	$ 88,000
88	STORM CATCH BASIN	EACH	$ 1,600.00	0	0	0	103	$ -	$ -	$ -	$ 164,800	103.00	$ 164,800
89	6" TP PIPE DRAIN	LIN FT	$ 10.00	0	0	0	23132	$ -	$ -	$ -	$ 231,320	23132.00	$ 231,300
90	CONNECT TO EXISTING STORM PIPE	EACH	$ 1,200.00	0	0	0	20	$ -	$ -	$ -	$ 24,000	20.00	$ 24,000
91	CONNECT TO EXISTING DRAINAGE STRUCTURE	EACH	$ 1,600.00	0	0	0	2	$ -	$ -	$ -	$ 3,200	2.00	$ 3,200
SUBTOTAL								$ 5,243,000	$ 2,389,000	$ 3,323,000	$ 2,435,000		$ 13,393,000
CONTINGENCIES (15%)								$ 786,000	$ 358,000	$ 498,000	$ 365,000		$ 2,009,000
ESTIMATED CONSTRUCTION COST								**$ 6,029,000**	**$ 2,747,000**	**$ 3,821,000**	**$ 2,800,000**		**$ 15,402,000**
ENGINEERING AND ADMINISTRATION (18%)								$ 1,085,000	$ 494,000	$ 688,000	$ 504,000		$ 2,772,000
TOTAL ESTIMATED PROJECT COST								**$ 7,114,000**	**$ 3,241,000**	**$ 4,509,000**	**$ 3,304,000**		**$ 18,174,000**

Appendix B: Figures



HORZ. SCALE 0 200 400 FEET

BOLTON & MENK

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CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
SHEET INDEX MAP & PLANNED CONSTRUCTION PHASING

AUGUST, 2019

FIGURE 3.01

EXISTING FIGURES

EXISTING

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

PROPOSED FIGURES

PROPOSED

- CURB & GUTTER
- BITUMINOUS PAVEMENT
- CONCRETE DRIVEWAY
- CONCRETE SIDEWALK
- BITUMINOUS TRAIL
- STORM MANHOLE
- STORM CATCH BASIN
- STORM SEWER
- SANITARY SEWER MANHOLE
- SANITARY SEWER
- HYDRANT & VALVE
- GATE VALVE
- WATERMAIN
- TREE REMOVAL DUE TO SPECIES/CONDITION/LOCATION
- LIKELY TREE REMOVAL DUE TO UTILITY CONSTRUCTION

EXISTING BACKGROUND

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

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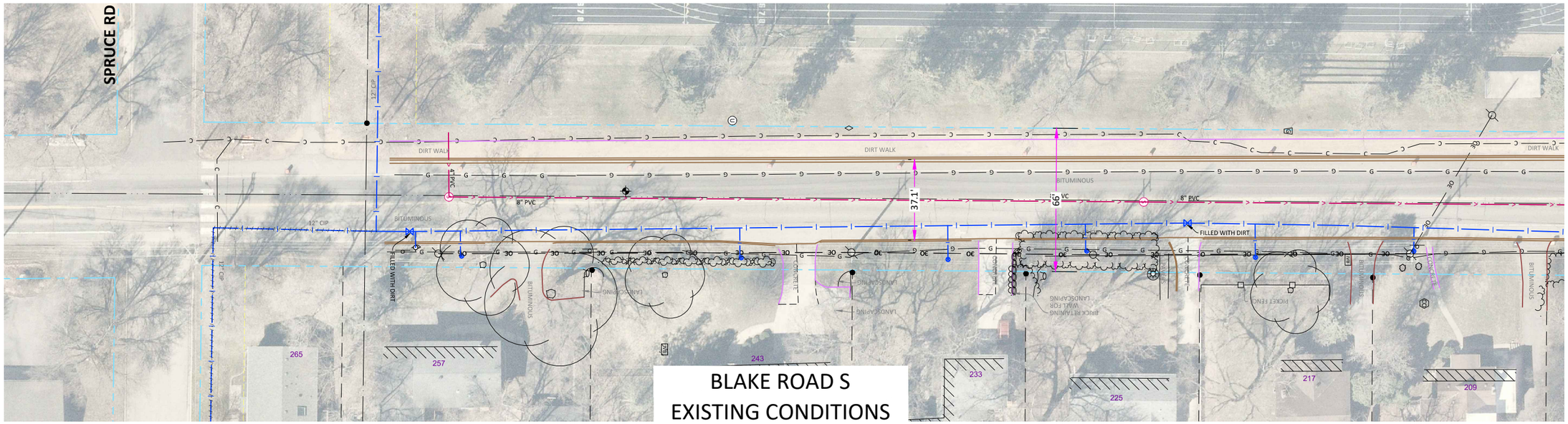
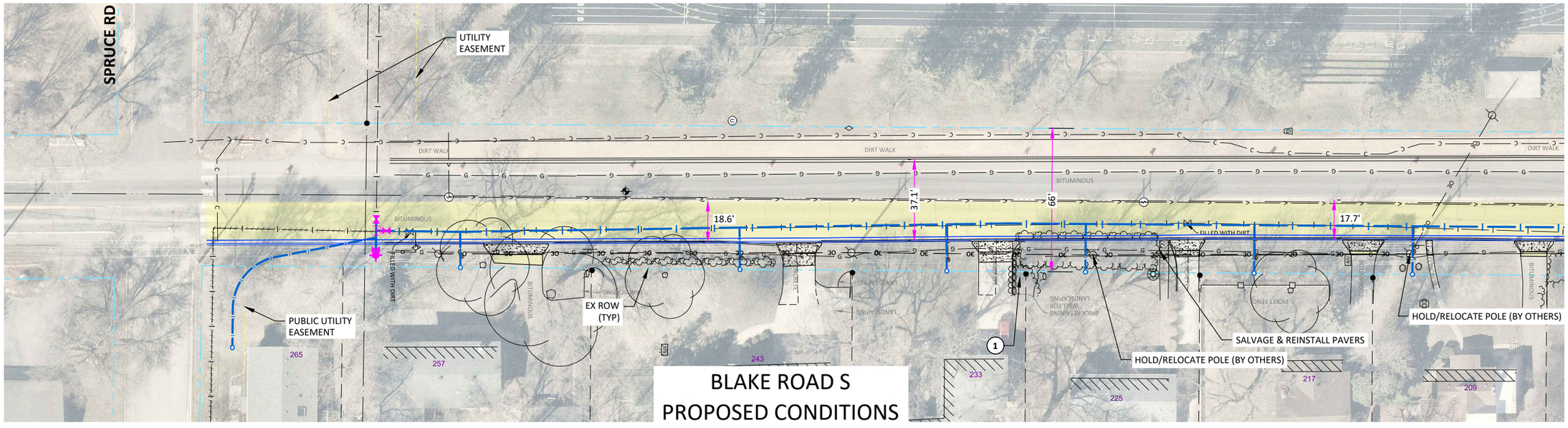
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
LEGEND

FIGURE 3.02



BLAKE ROAD S
EXISTING CONDITIONS



BLAKE ROAD S
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND
- BITUMINOUS PAVEMENT
- (1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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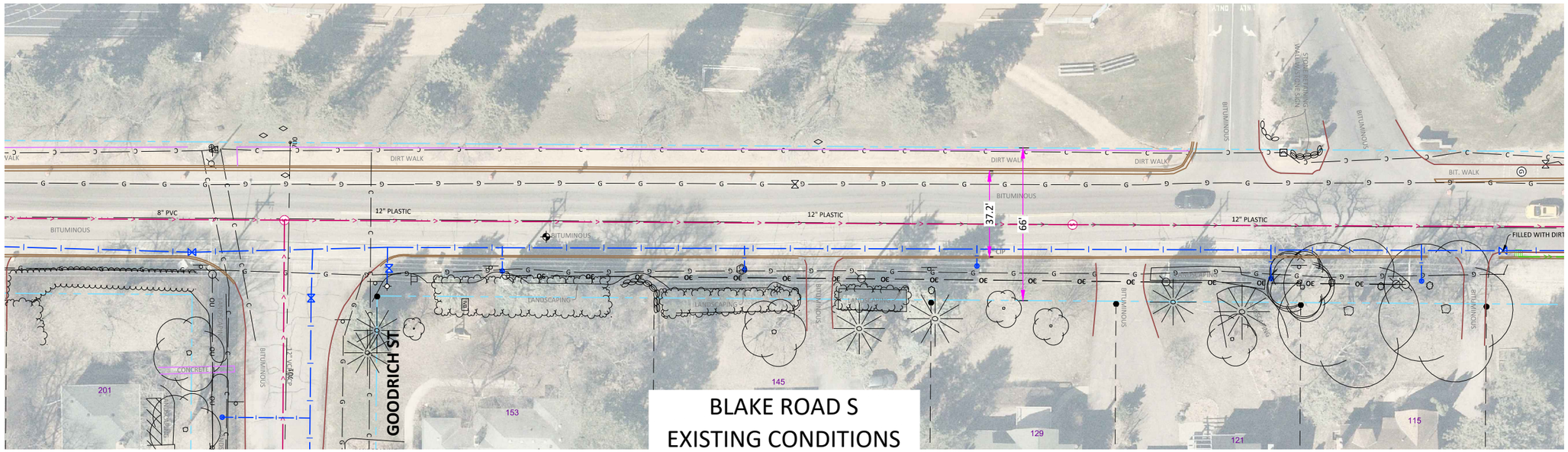
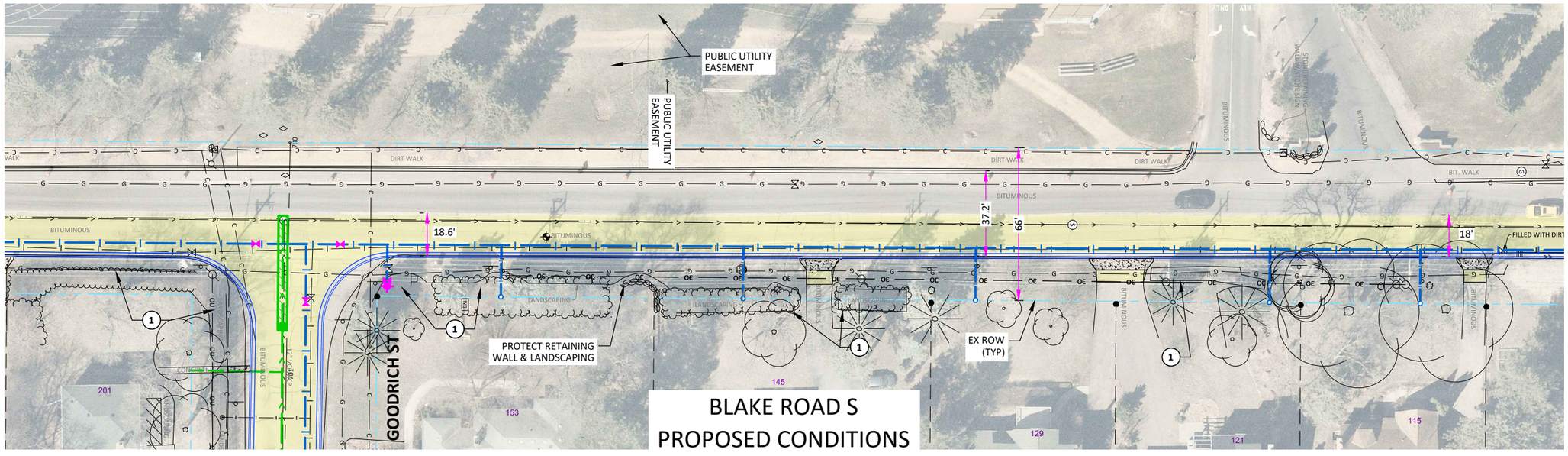
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BLAKE ROAD S

FIGURE 3.03





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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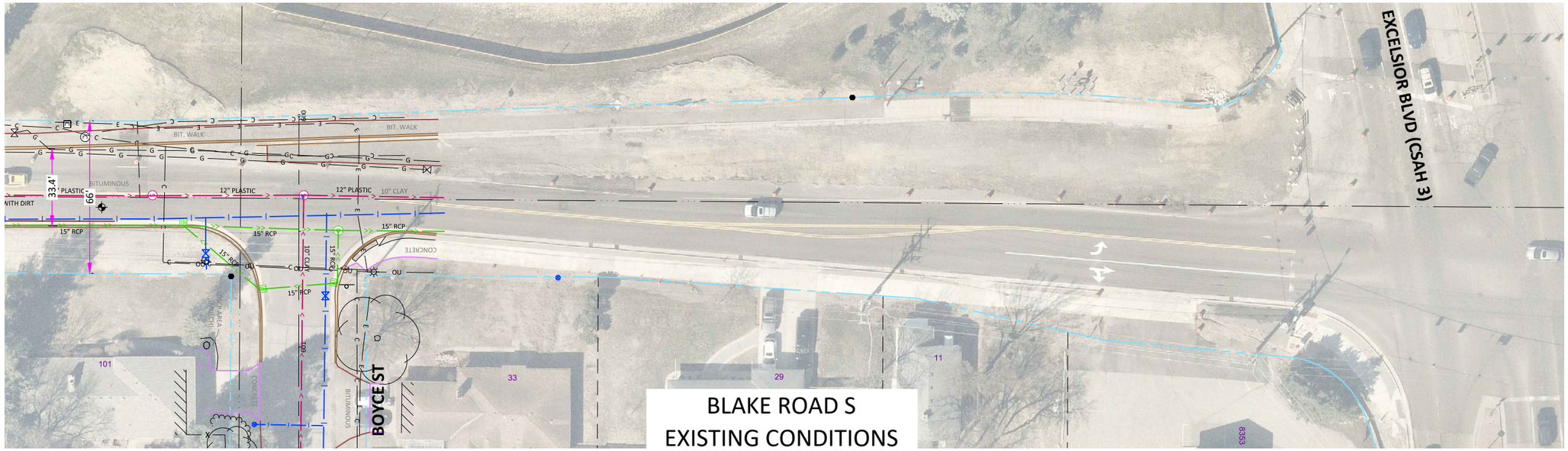
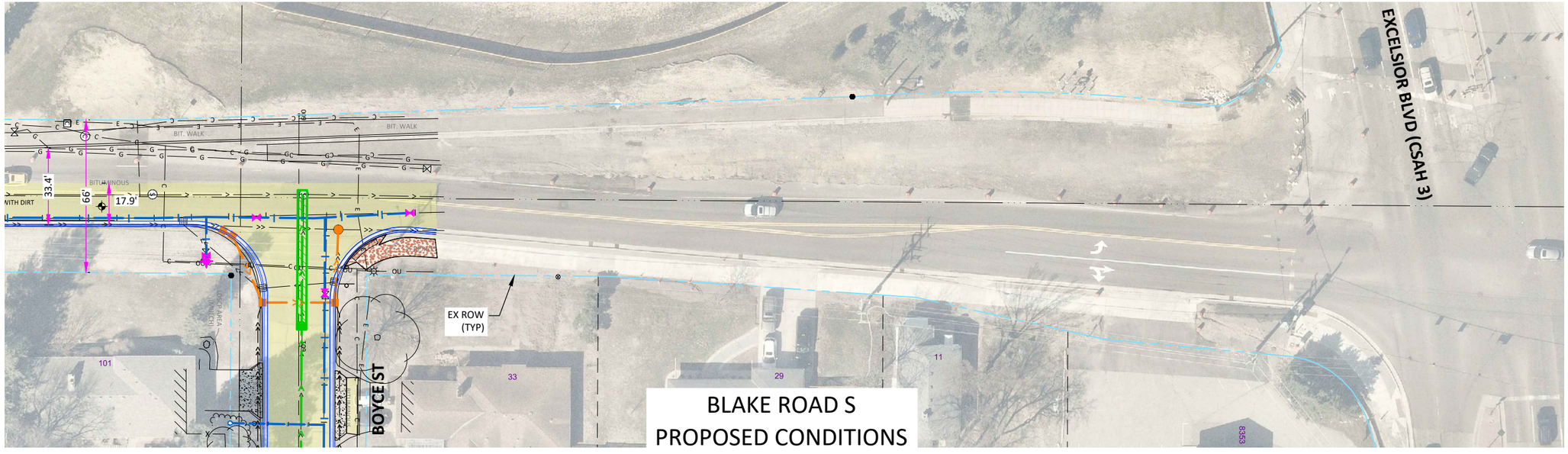
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BLAKE ROAD S

FIGURE 3.04



BLAKE ROAD S
EXISTING CONDITIONS



BLAKE ROAD S
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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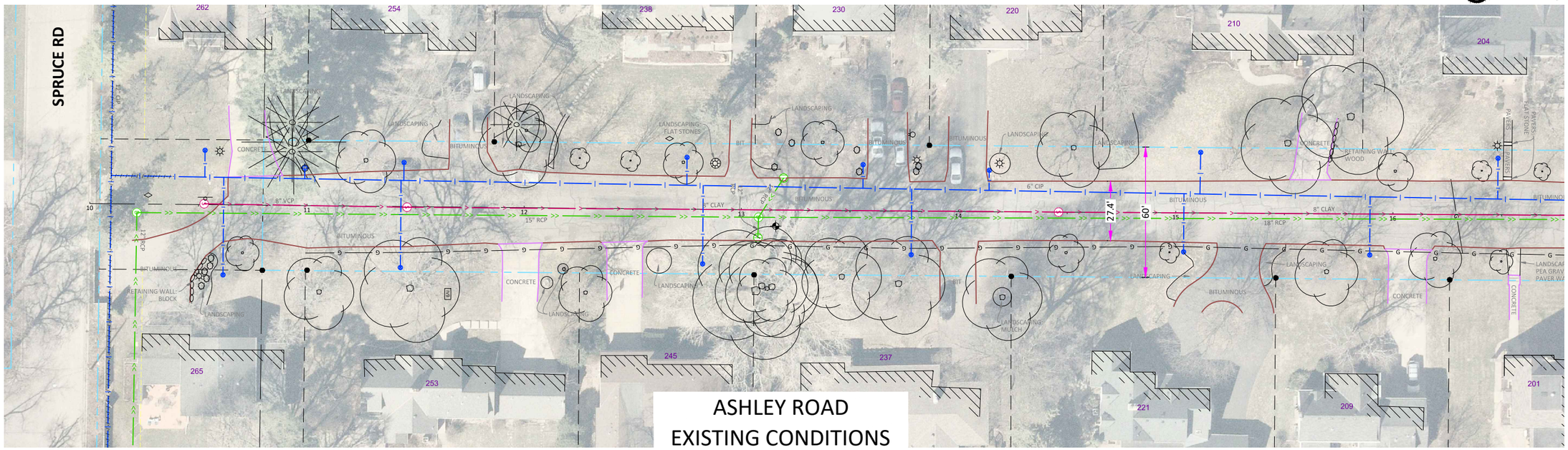
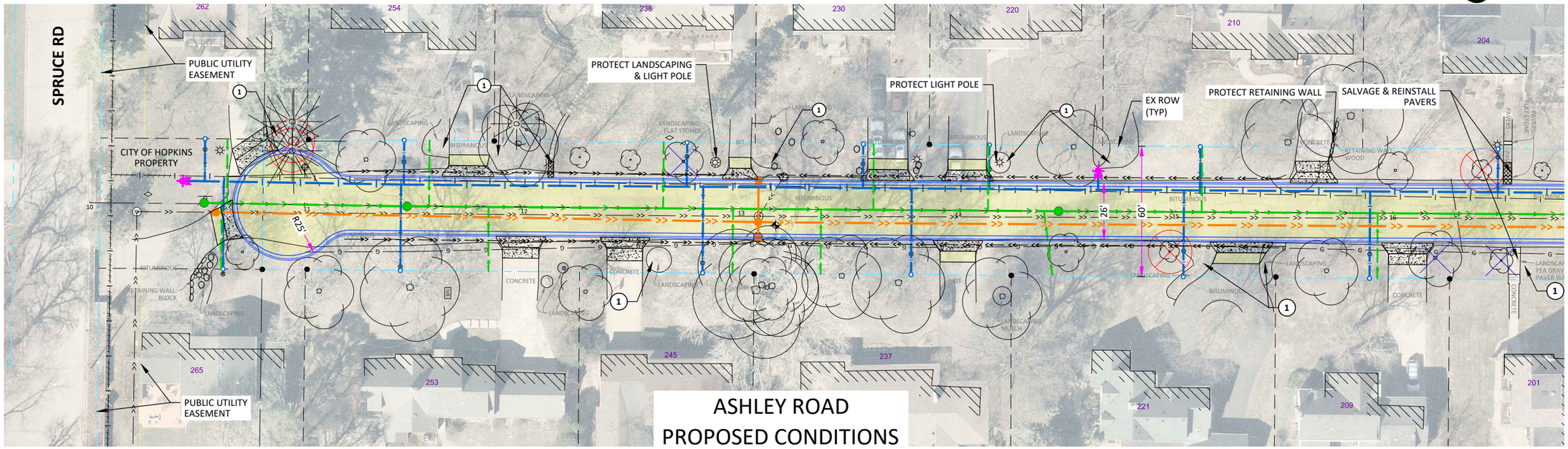
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BLAKE ROAD S

FIGURE 3.05



ASHLEY ROAD
EXISTING CONDITIONS



ASHLEY ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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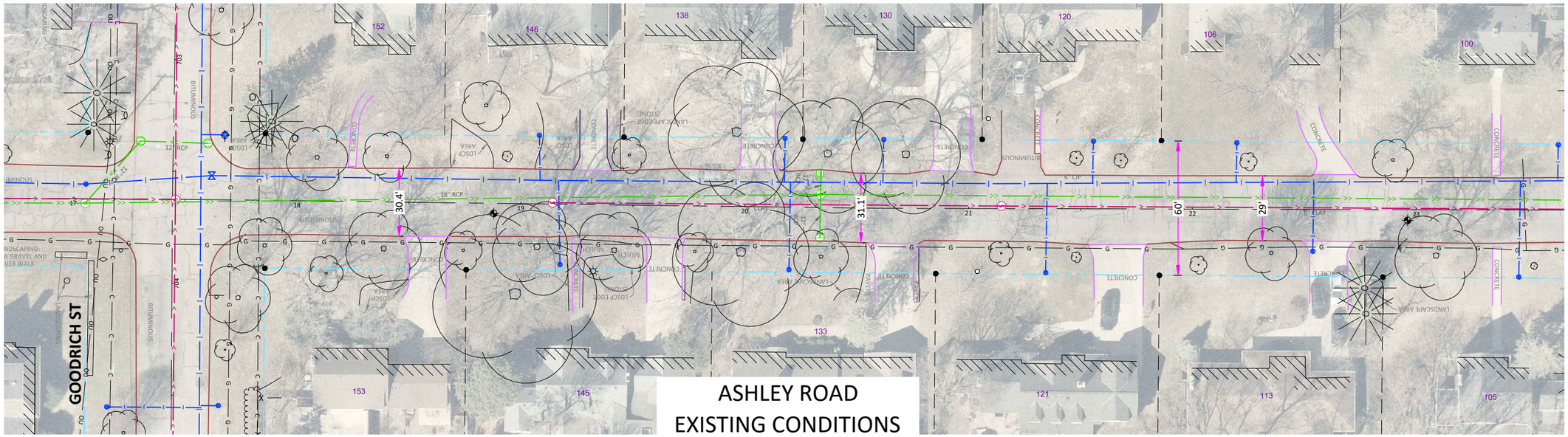
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
ASHLEY ROAD

FIGURE 3.06



ASHLEY ROAD
EXISTING CONDITIONS

ASHLEY ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
ASHLEY ROAD

FIGURE 3.07

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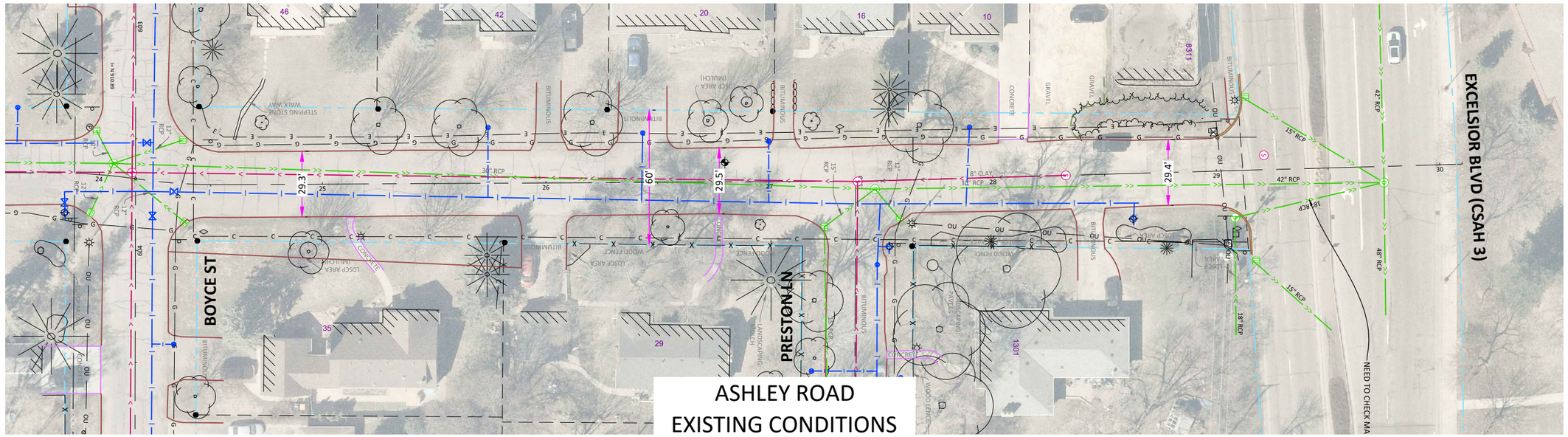
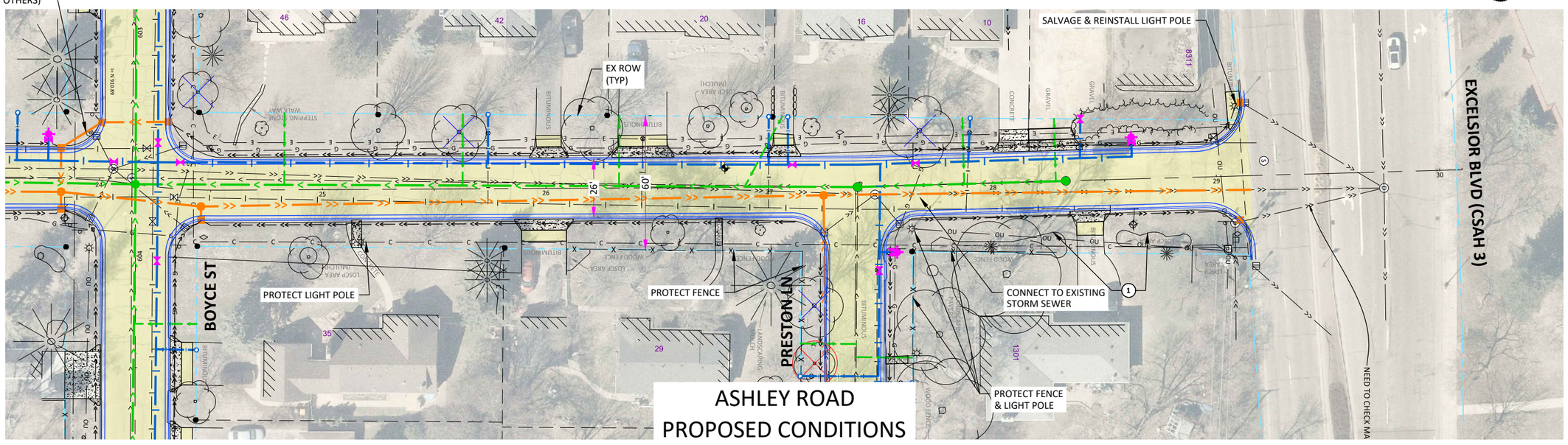


ASHLEY ROAD
EXISTING CONDITIONS



ASHLEY ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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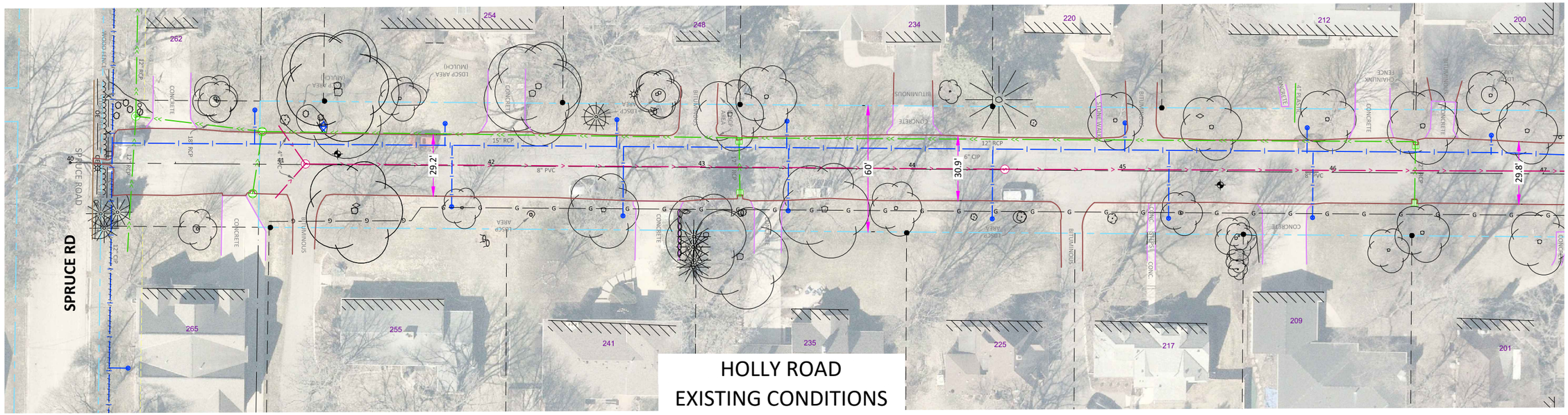
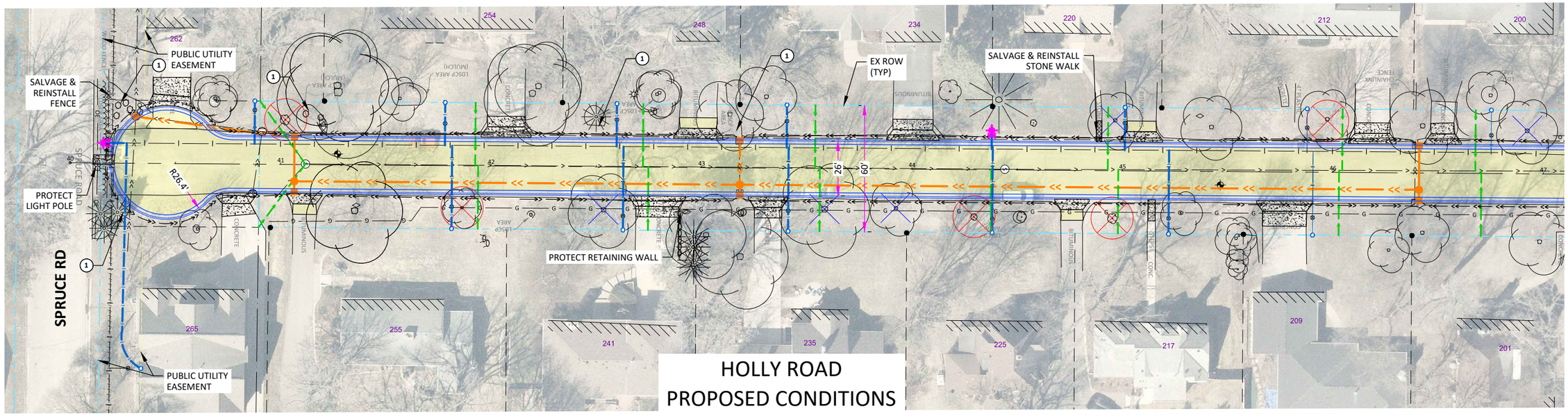
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
ASHLEY ROAD

FIGURE 3.08





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HOLLY ROAD

FIGURE 3.09

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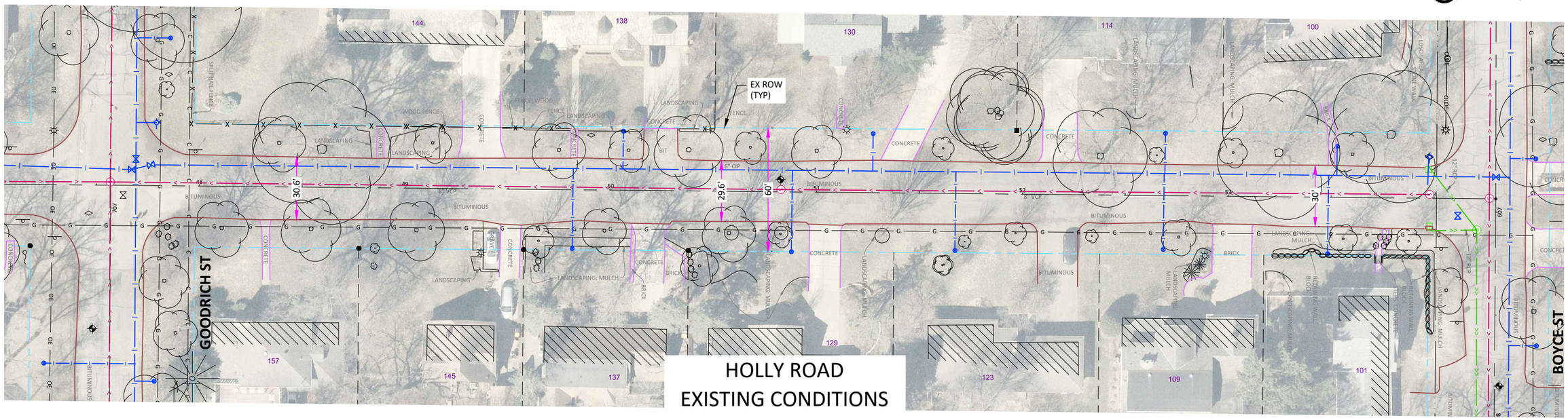

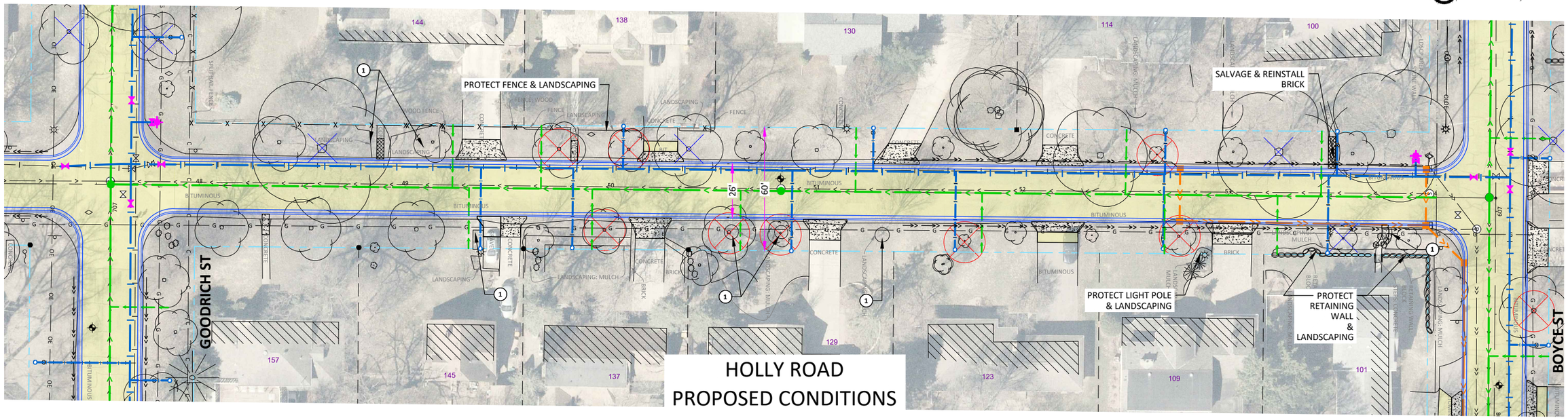

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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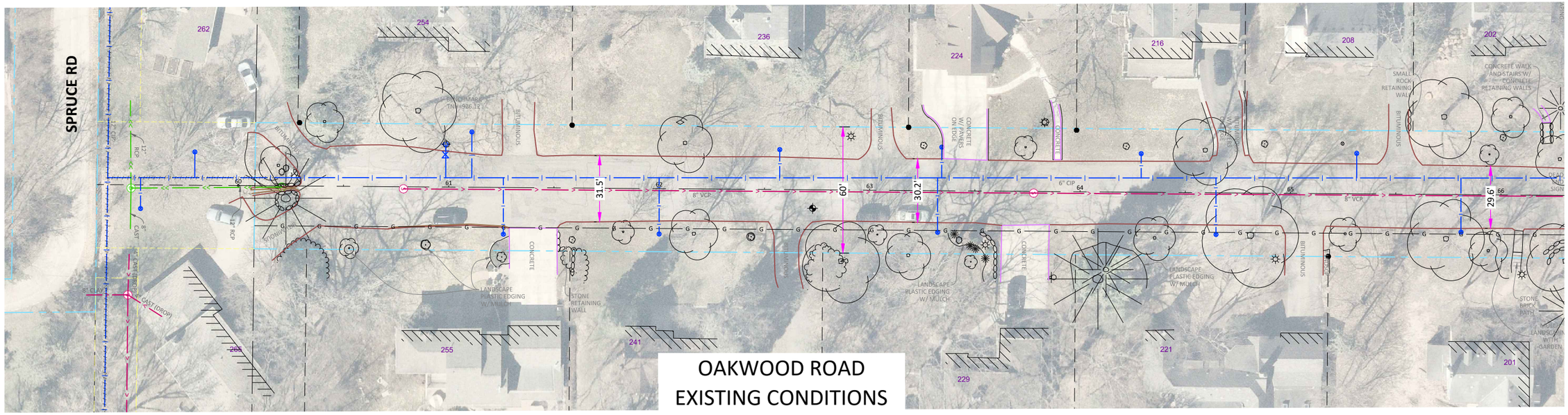
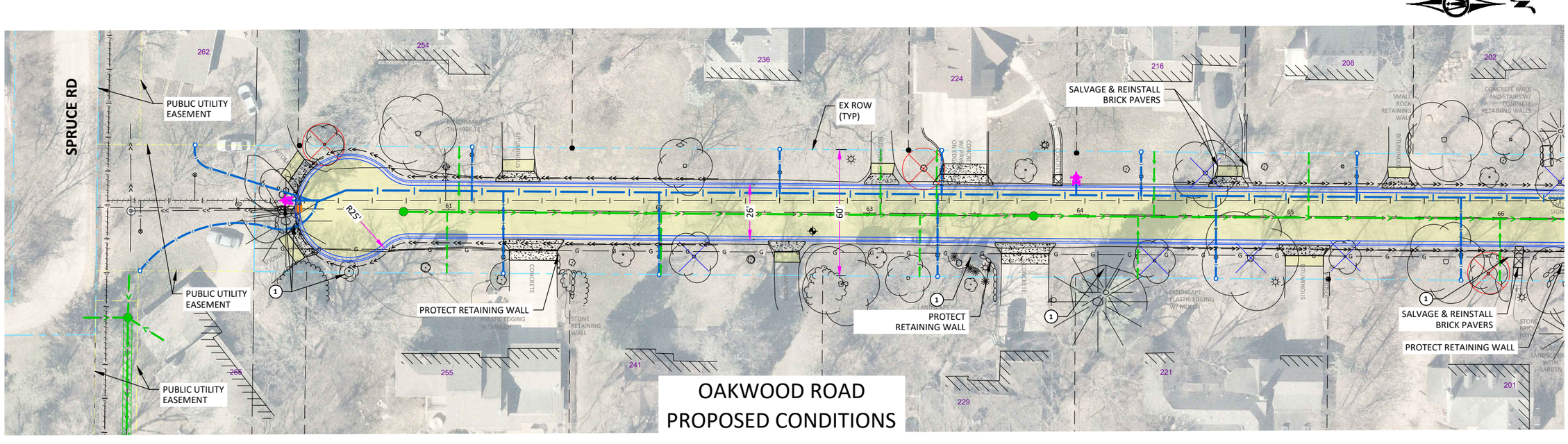
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HOLLY ROAD

FIGURE 3.10



OAKWOOD ROAD
EXISTING CONDITIONS



OAKWOOD ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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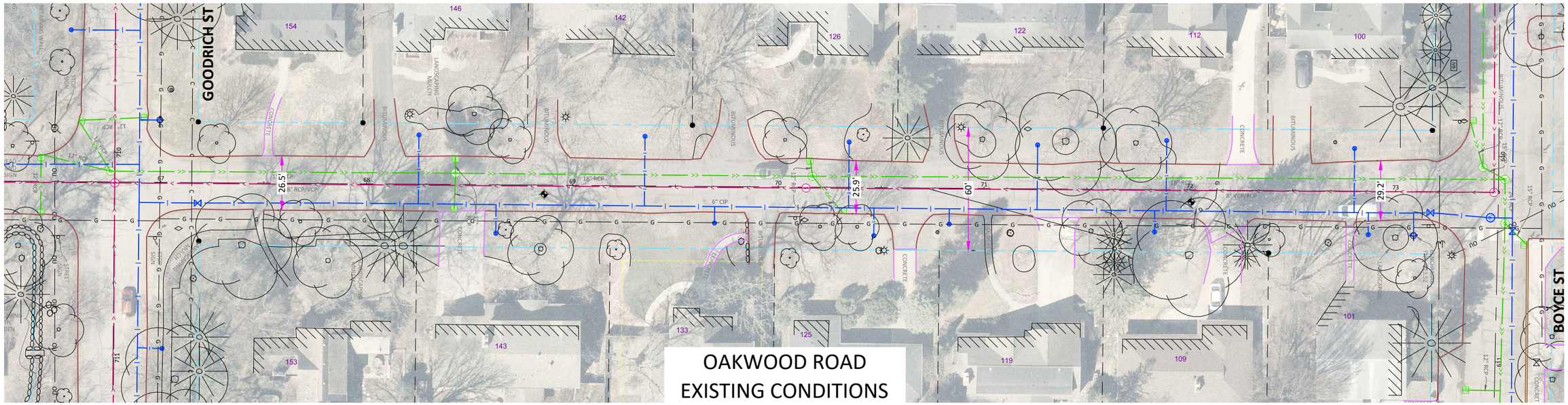
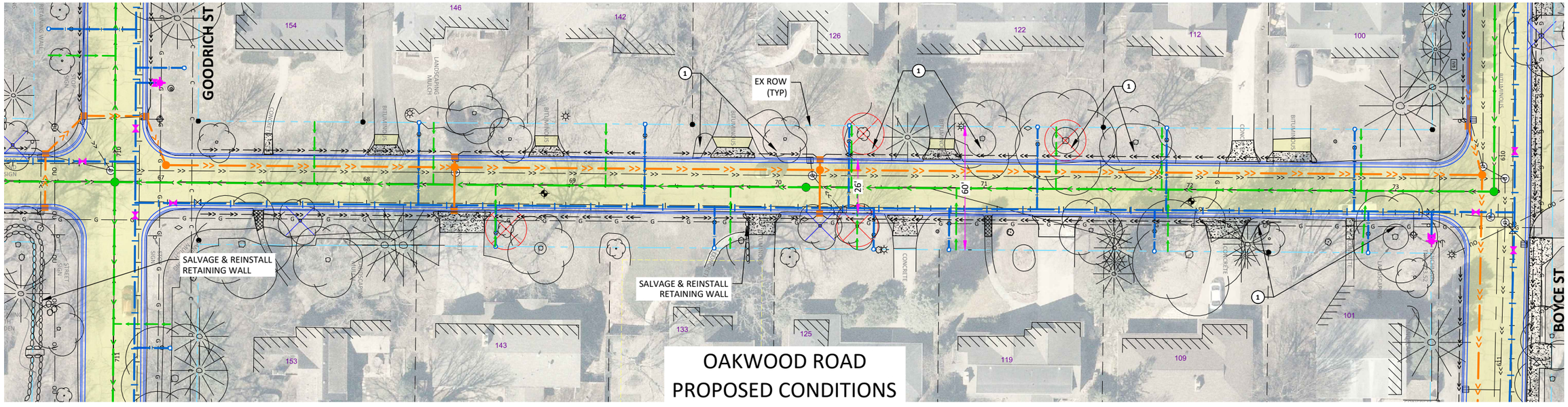
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
OAKWOOD ROAD

FIGURE 3.11





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
OAKWOOD ROAD

FIGURE 3.12

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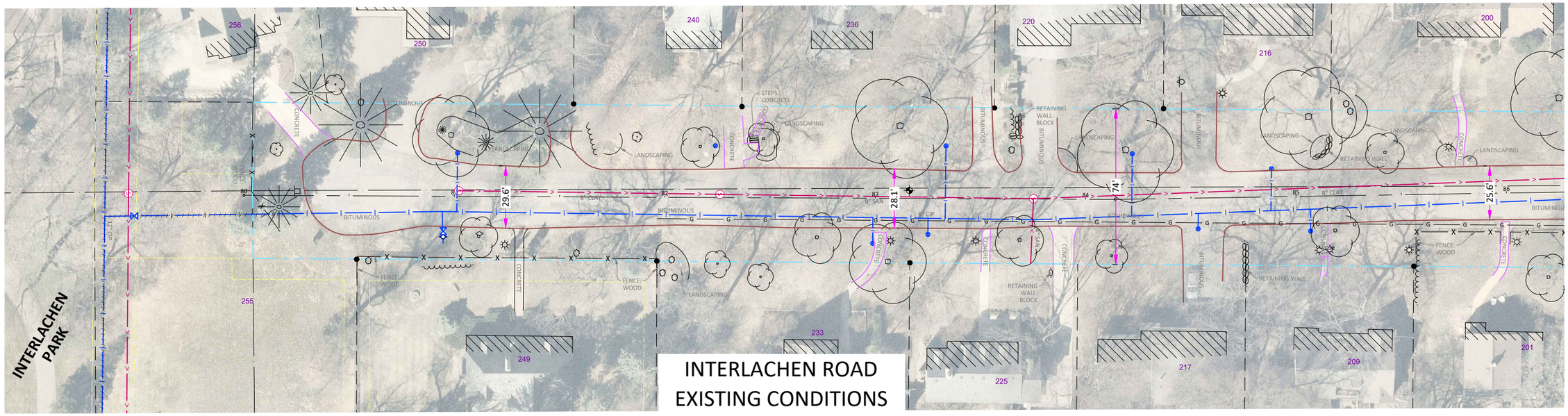
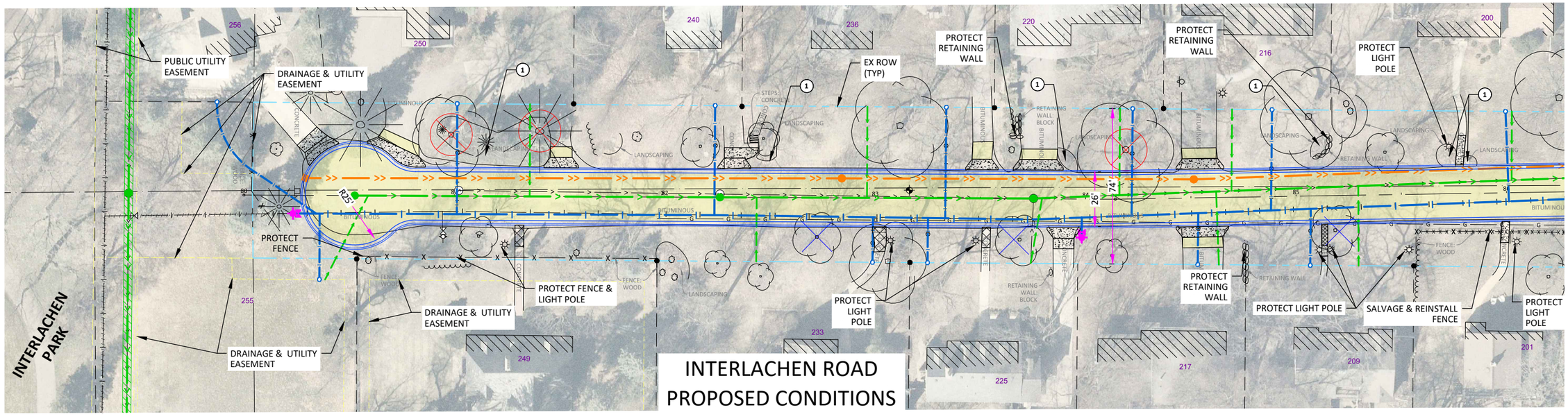


INTERLACHEN ROAD
EXISTING CONDITIONS



INTERLACHEN ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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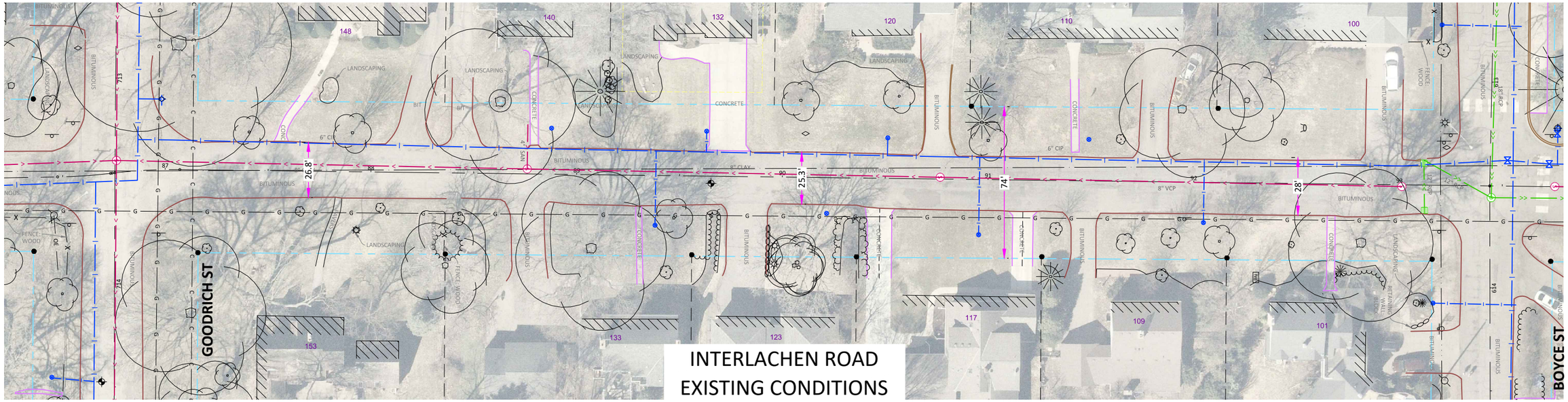
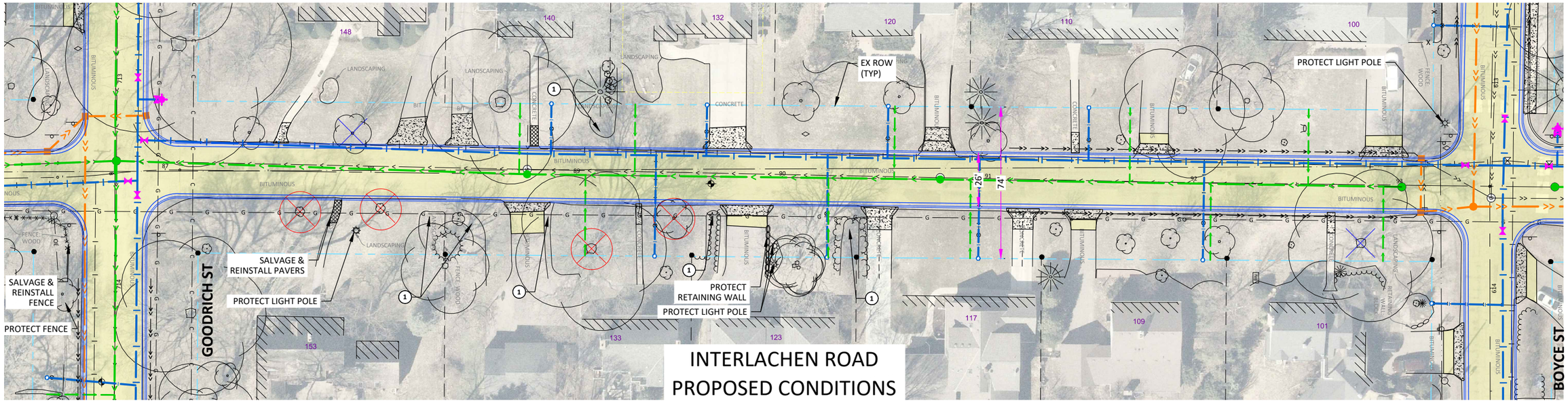
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
INTERLACHEN ROAD

FIGURE 3.13



INTERLACHEN ROAD
EXISTING CONDITIONS



INTERLACHEN ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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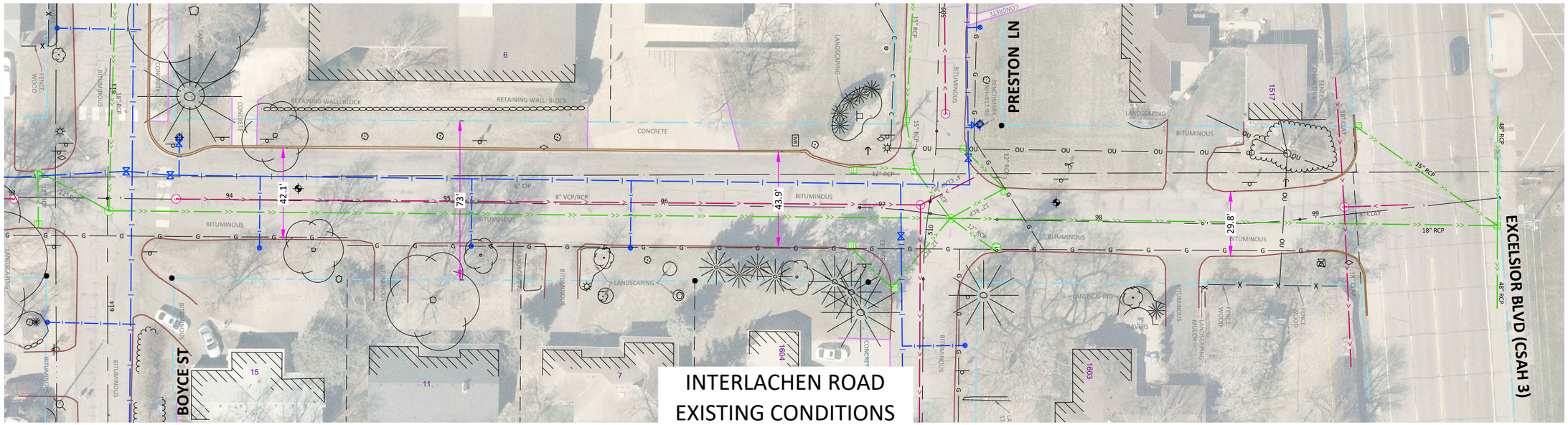
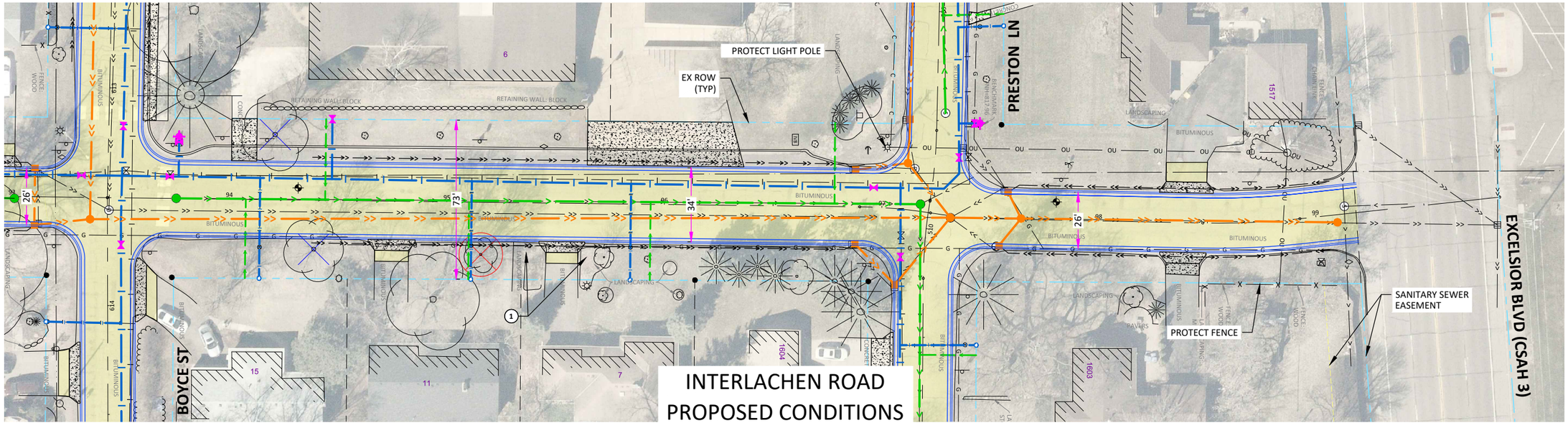
BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
INTERLACHEN ROAD

FIGURE 3.14



INTERLACHEN ROAD
EXISTING CONDITIONS



INTERLACHEN ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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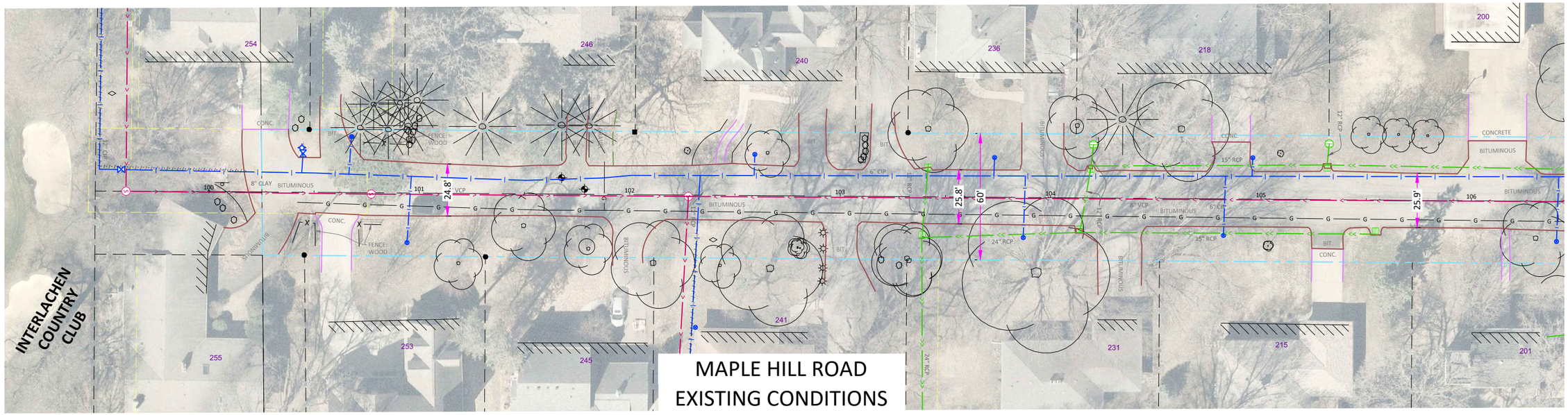
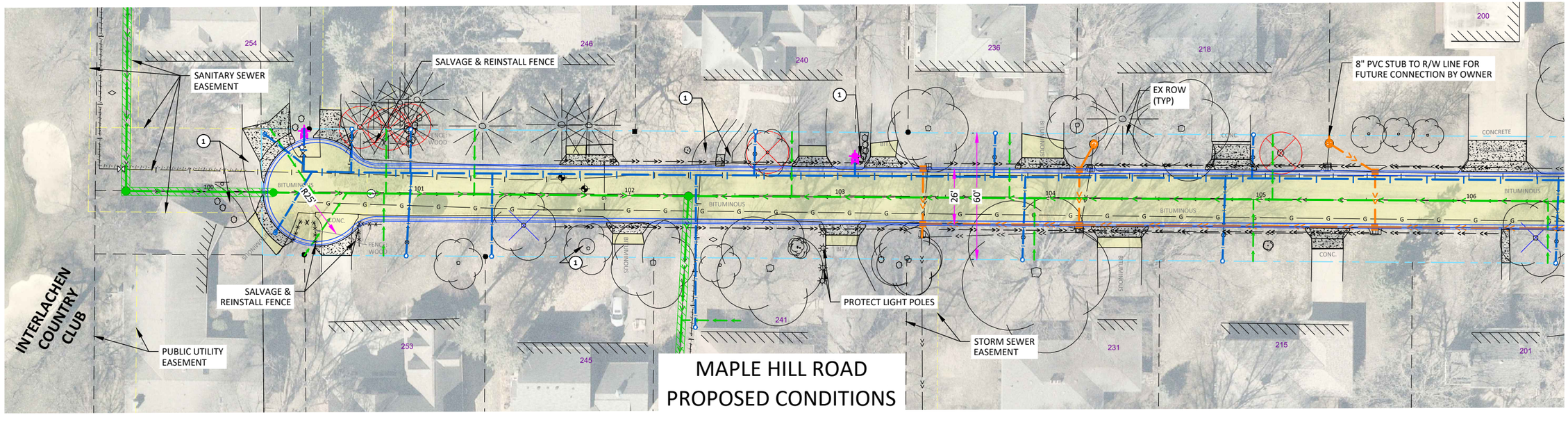
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
INTERLACHEN ROAD

FIGURE 3.15





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MAPLE HILL ROAD

FIGURE 3.16

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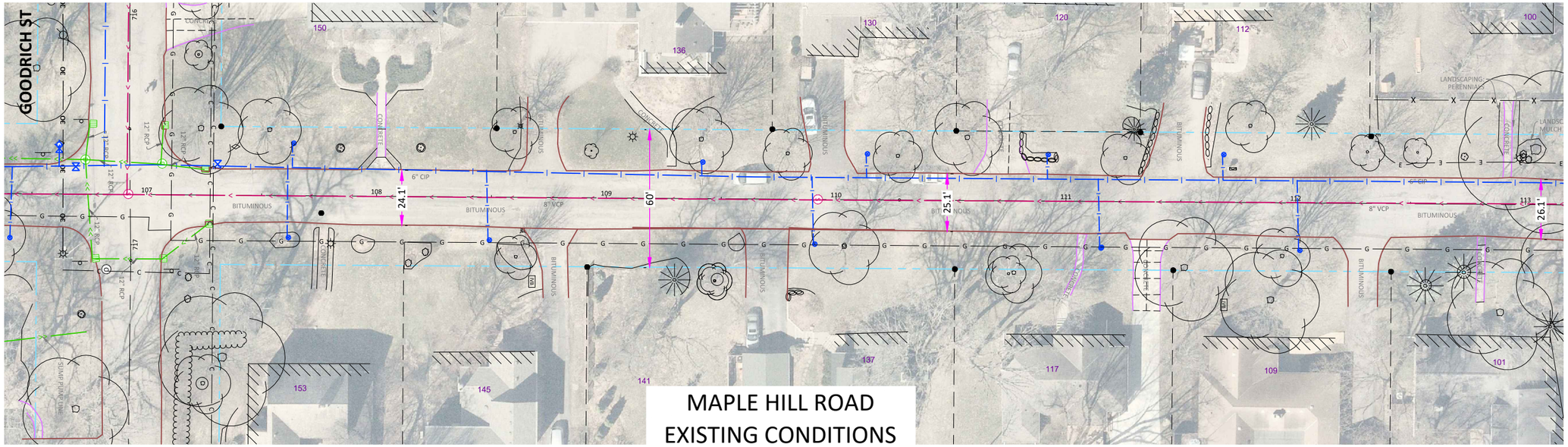
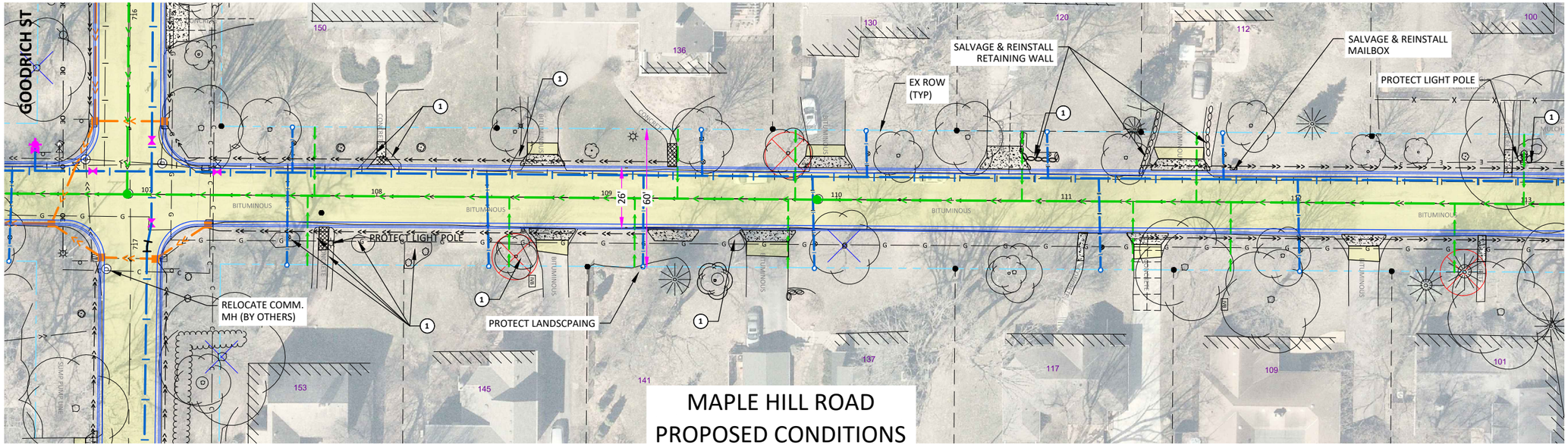


MAPLE HILL ROAD
EXISTING CONDITIONS



MAPLE HILL ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MAPLE HILL ROAD

FIGURE 3.17

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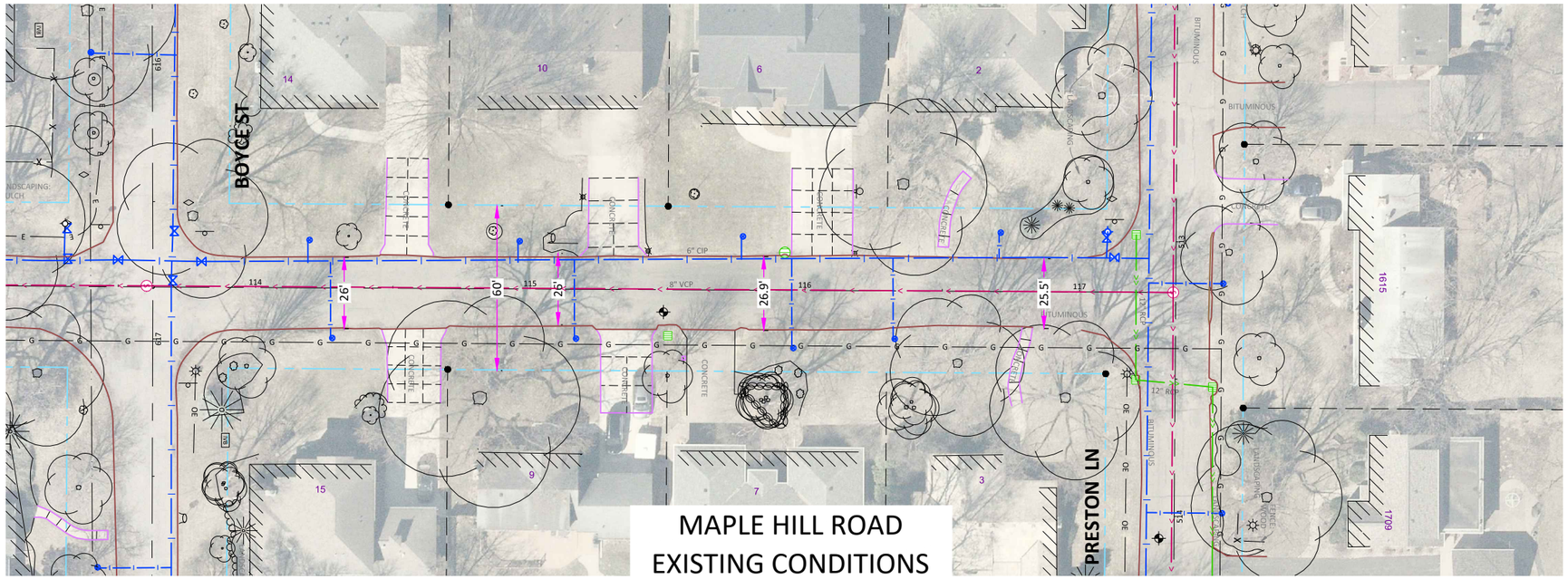

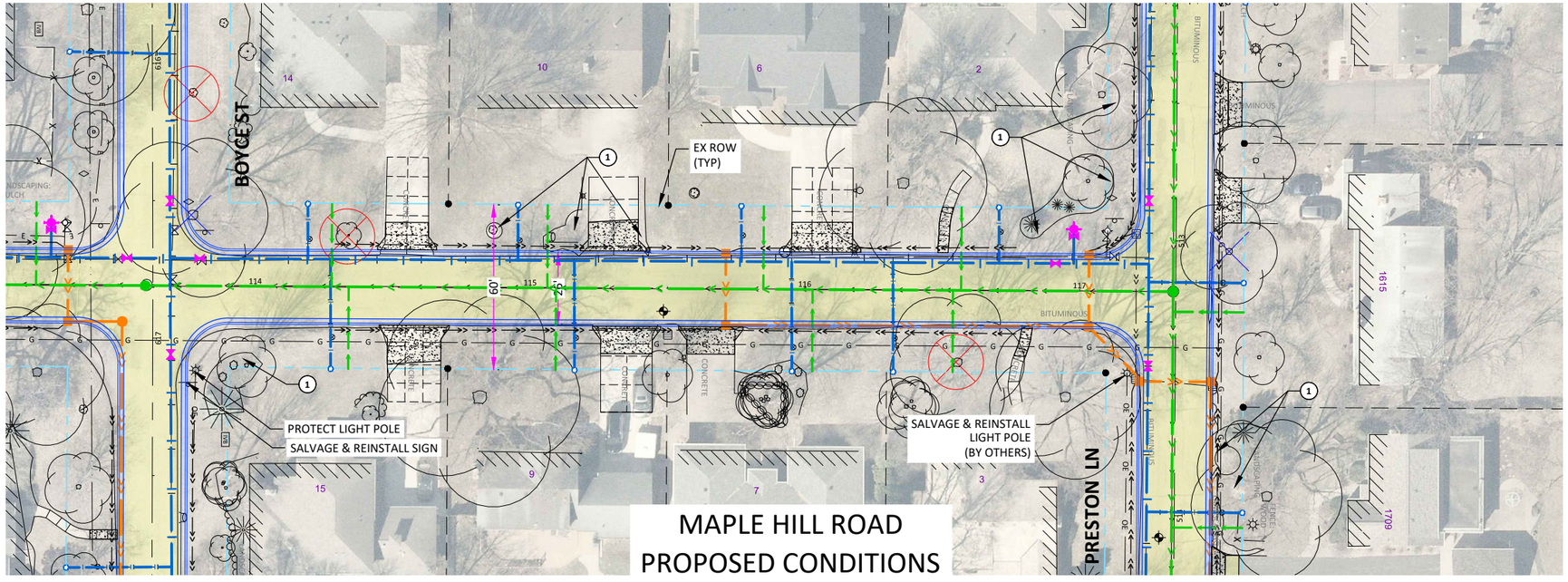

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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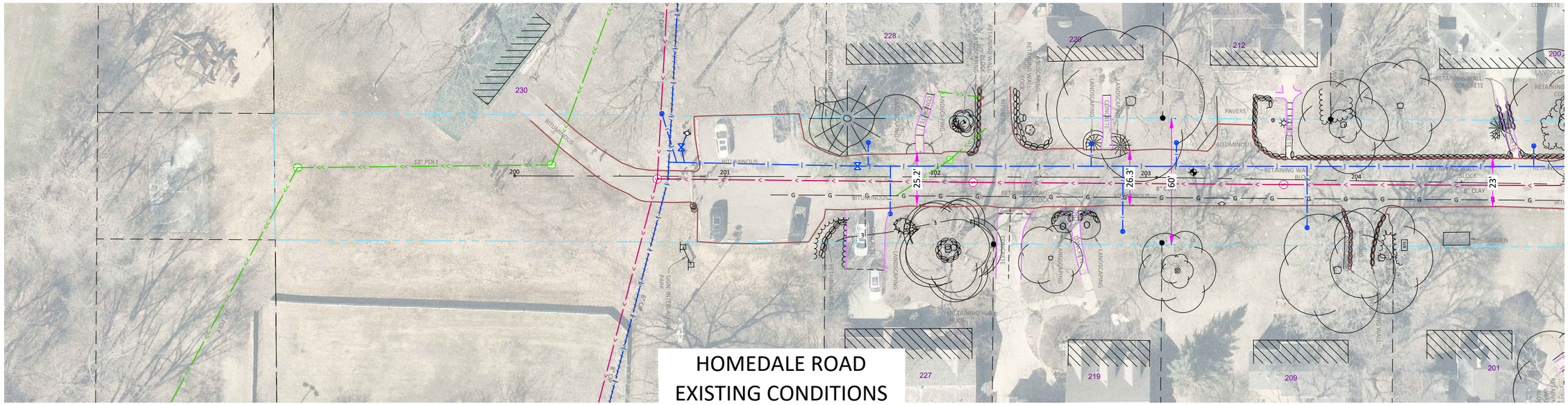
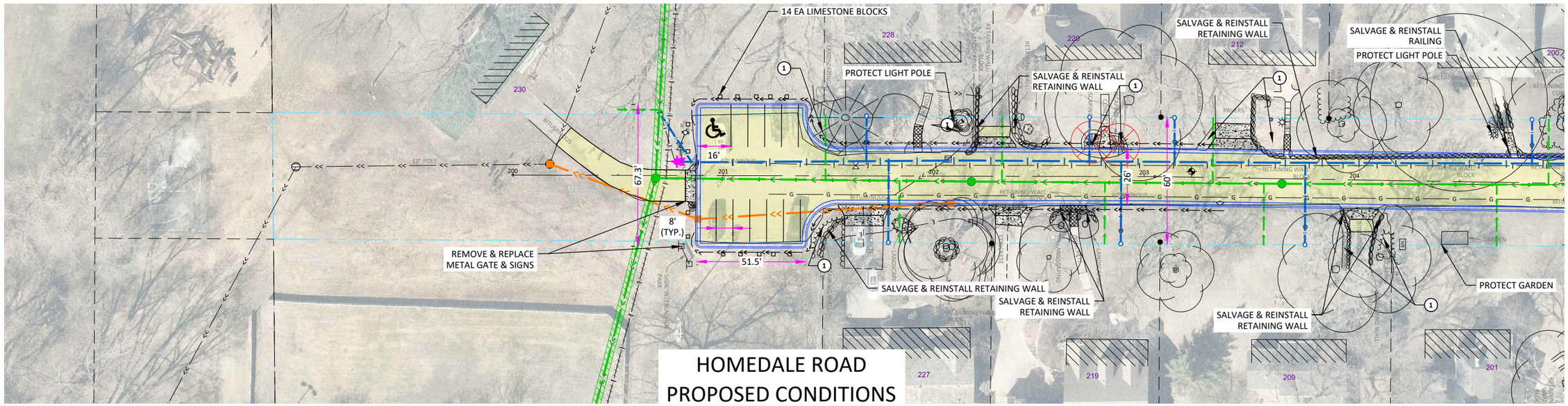
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MAPLE HILL ROAD

FIGURE 3.18



HOMEDALE ROAD
EXISTING CONDITIONS



HOMEDALE ROAD
PROPOSED CONDITIONS

HORZ. 0 25 50
SCALE FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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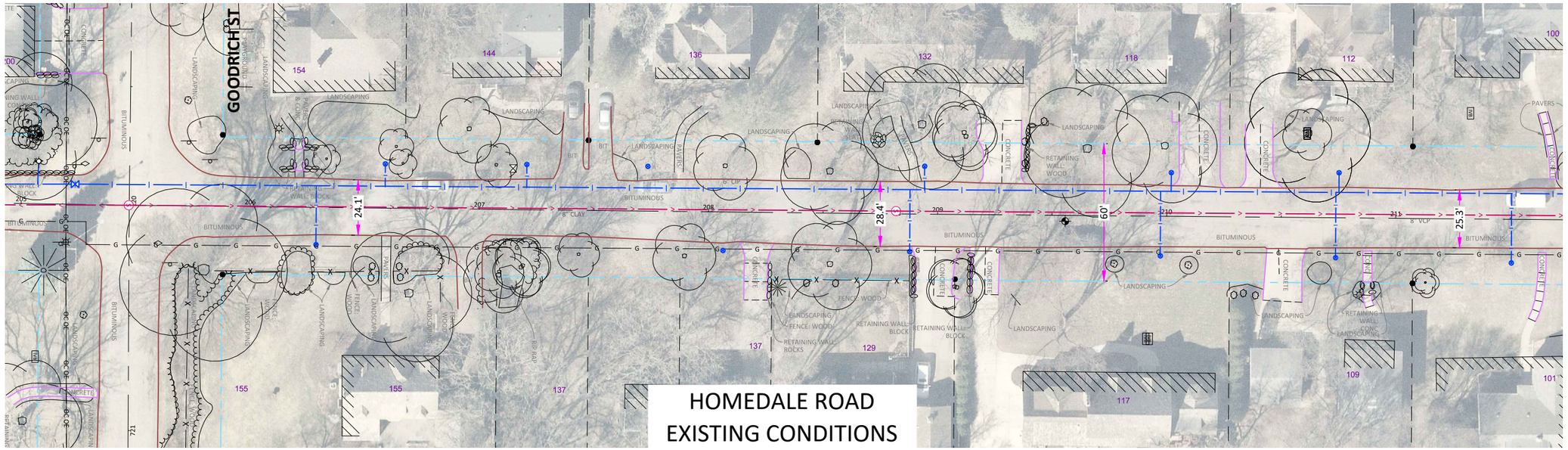
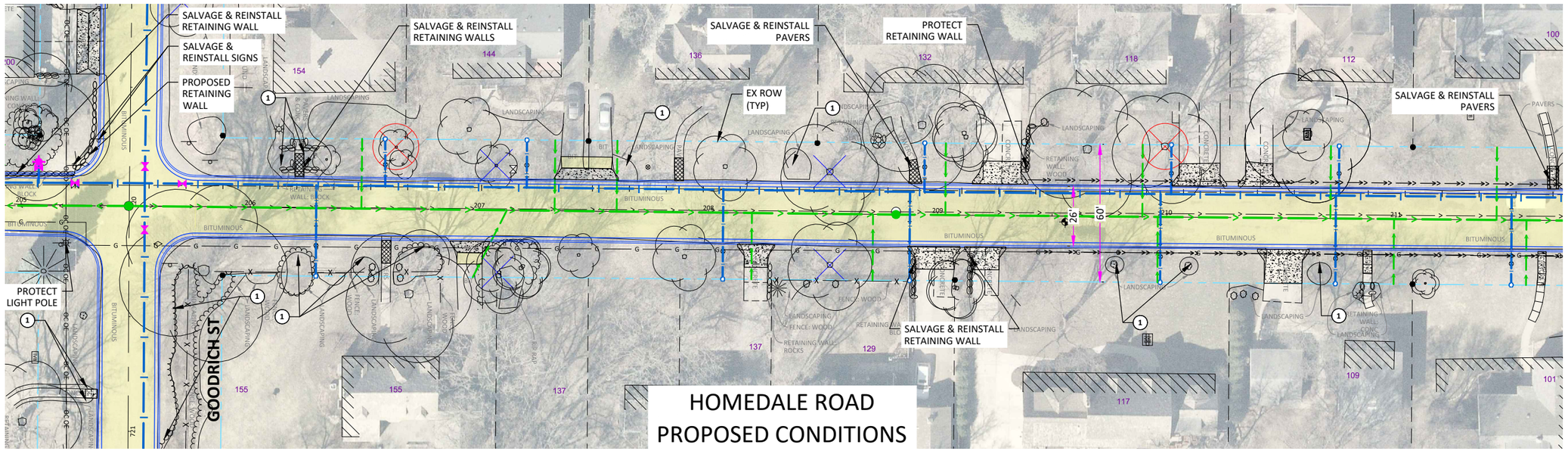
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HOMEDALE ROAD

FIGURE 3.19





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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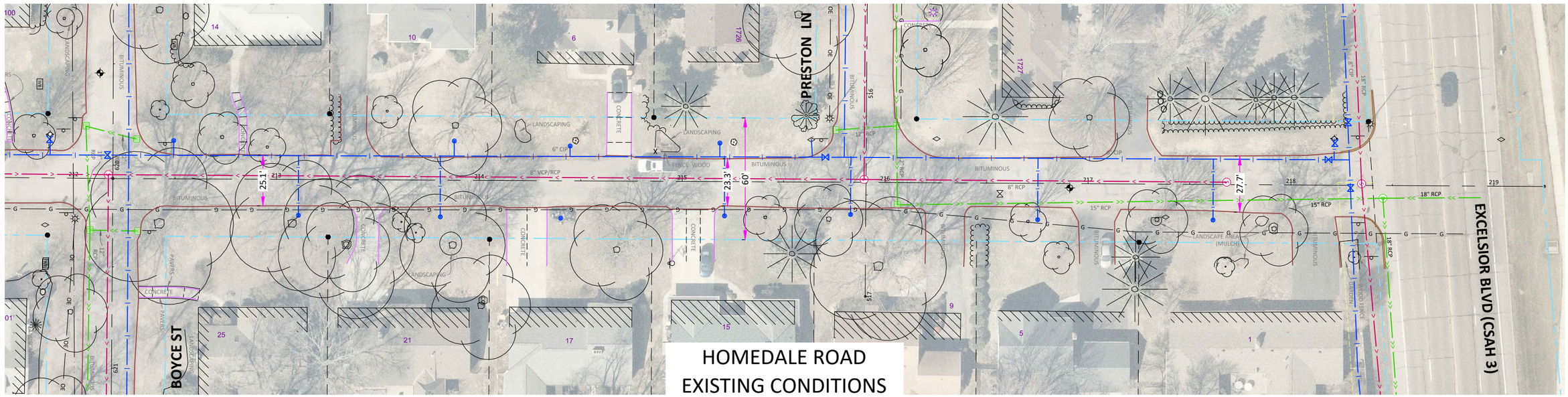
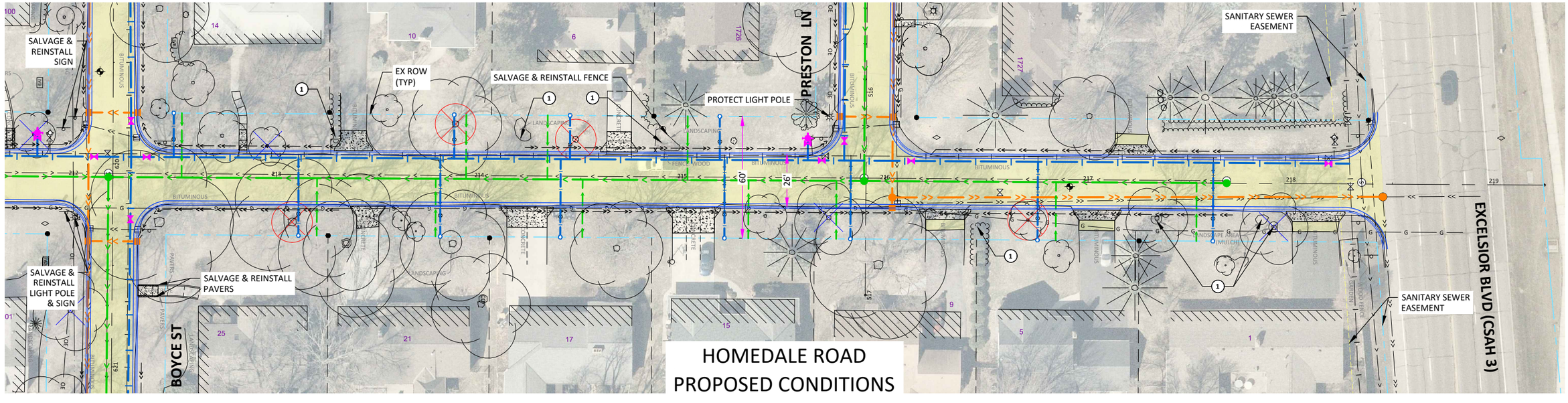
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HOMEDALE ROAD

FIGURE 3.20



HOMEDALE ROAD
EXISTING CONDITIONS



HOMEDALE ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HOMEDALE ROAD

FIGURE 3.21

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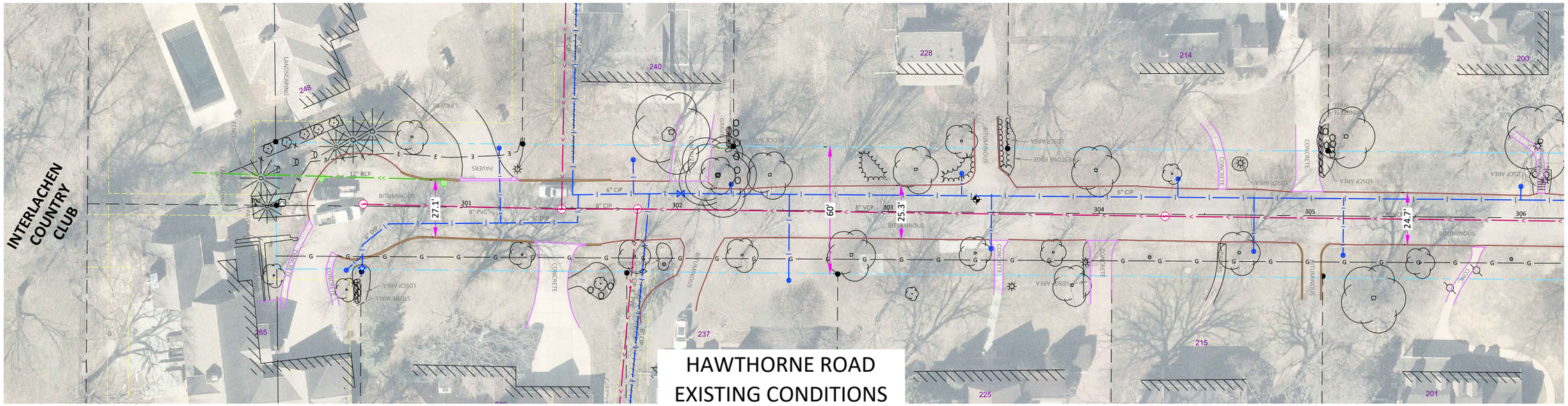

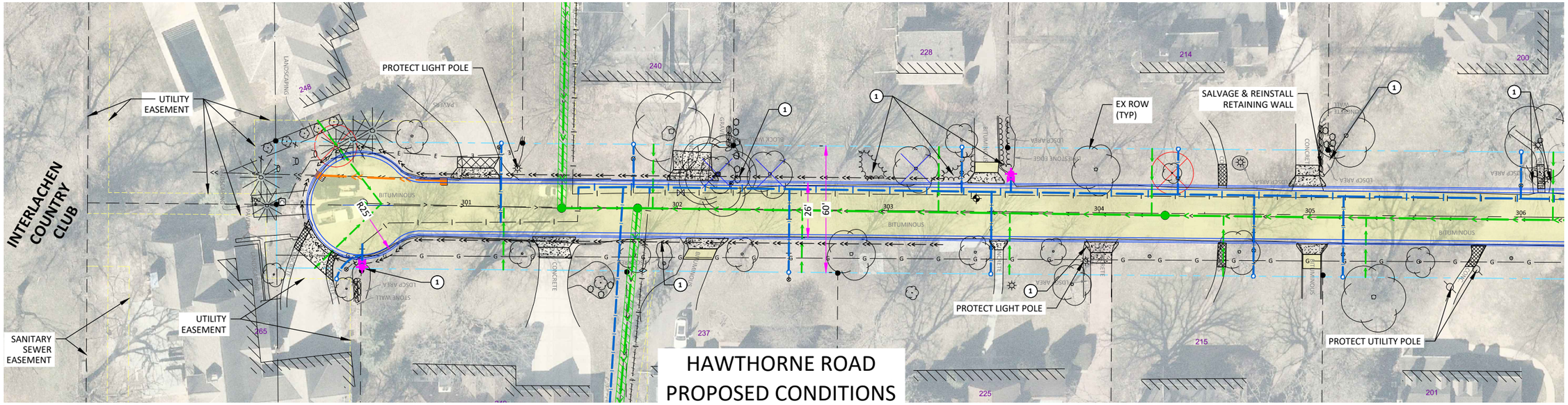

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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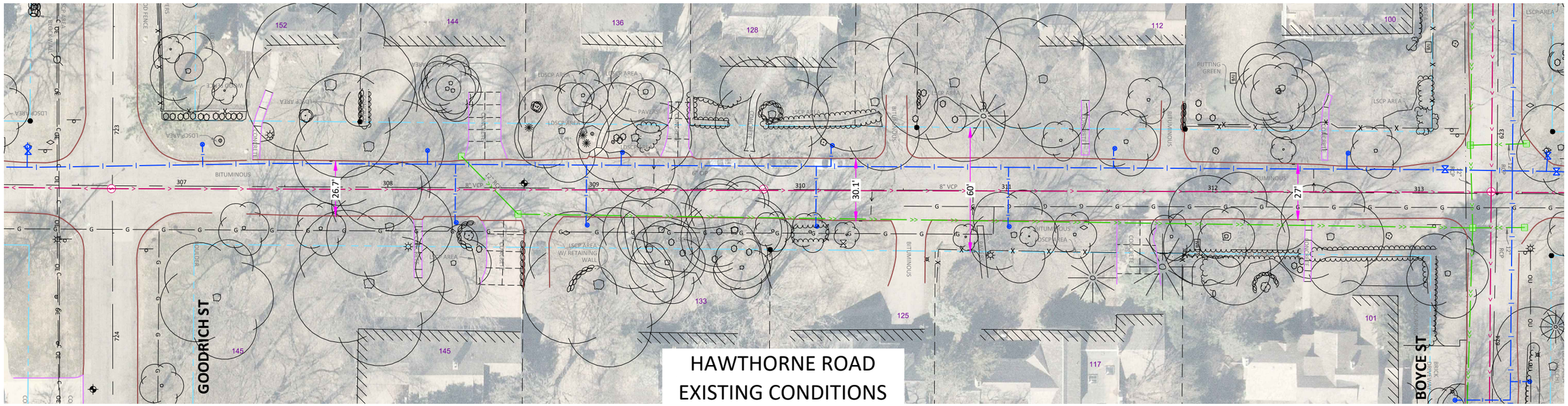
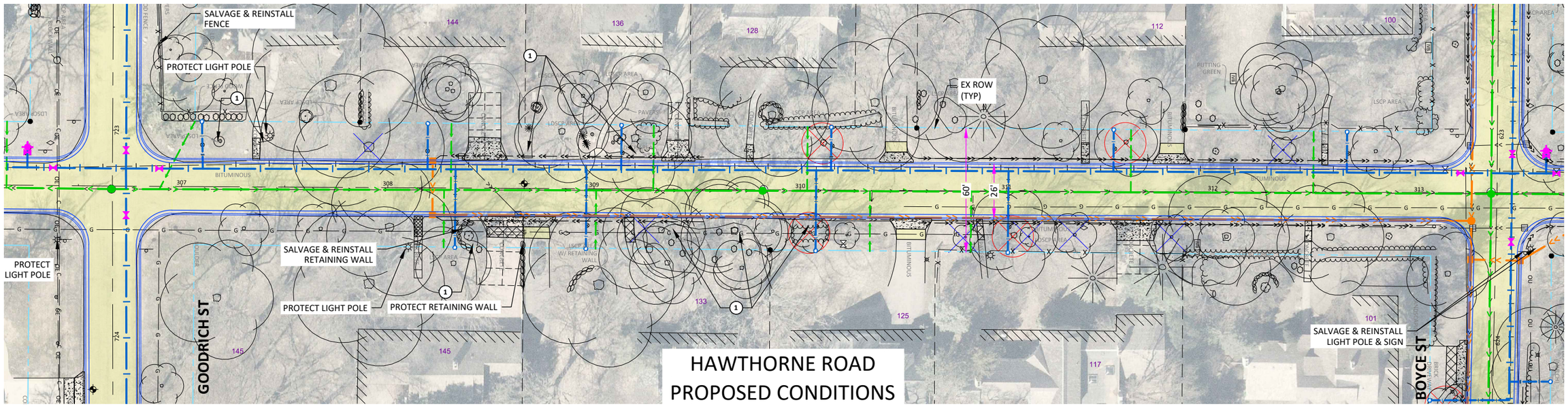
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HAWTHORNE ROAD

FIGURE 3.22





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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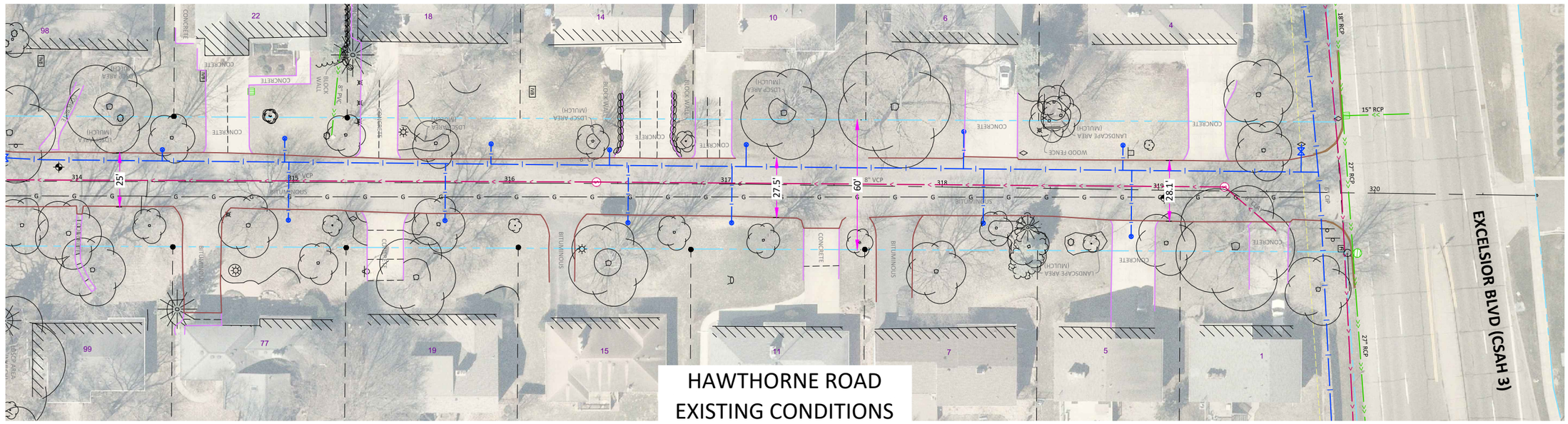
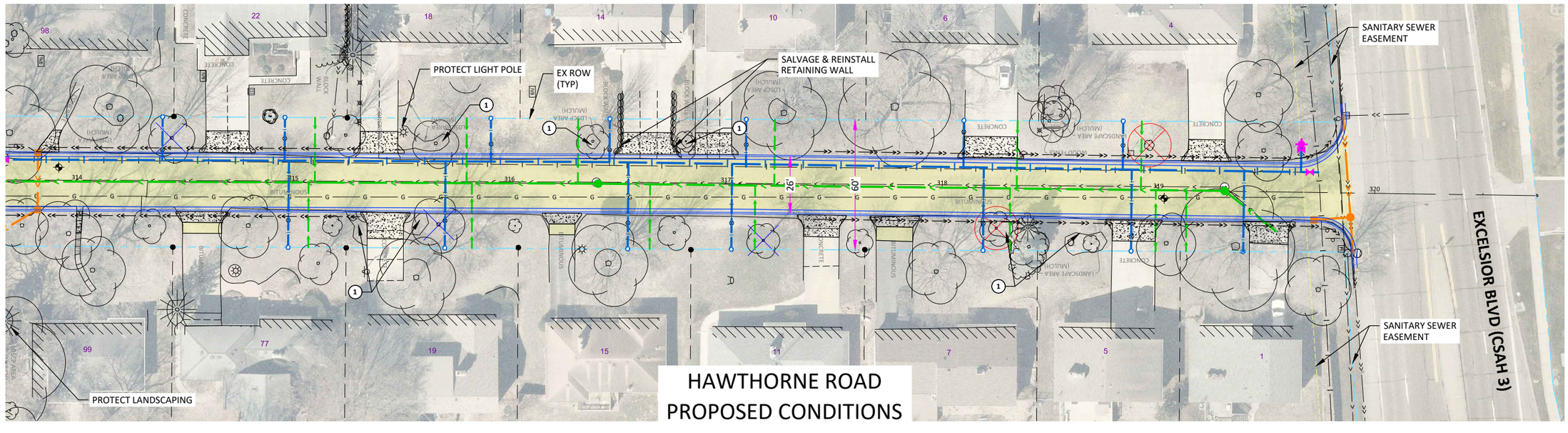
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HAWTHORNE ROAD

FIGURE 3.23



HAWTHORNE ROAD
EXISTING CONDITIONS



HAWTHORNE ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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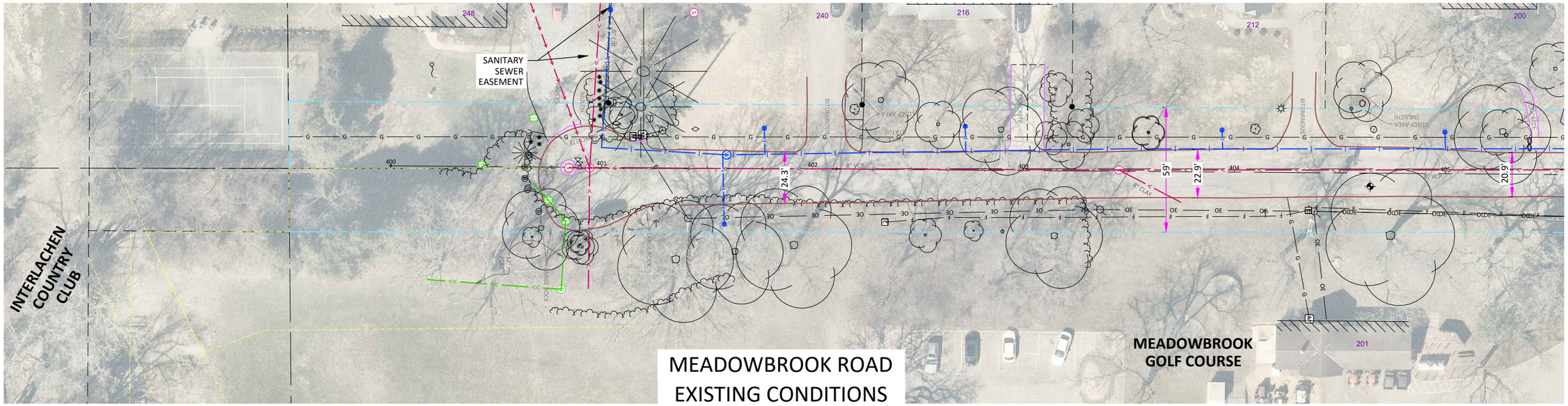
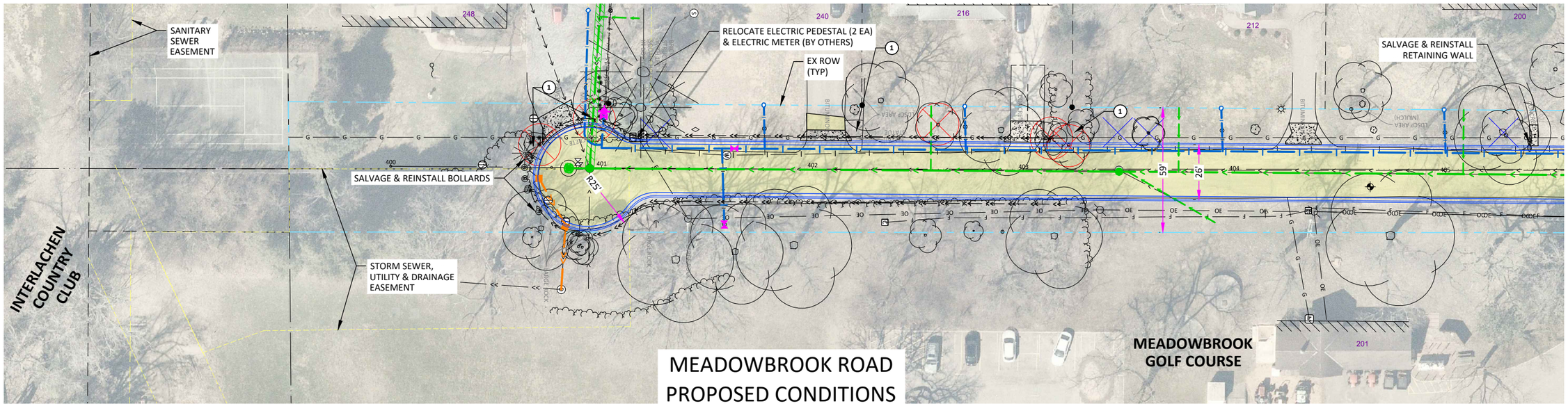
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
HAWTHORNE ROAD

FIGURE 3.24



MEADOWBROOK ROAD
EXISTING CONDITIONS



MEADOWBROOK ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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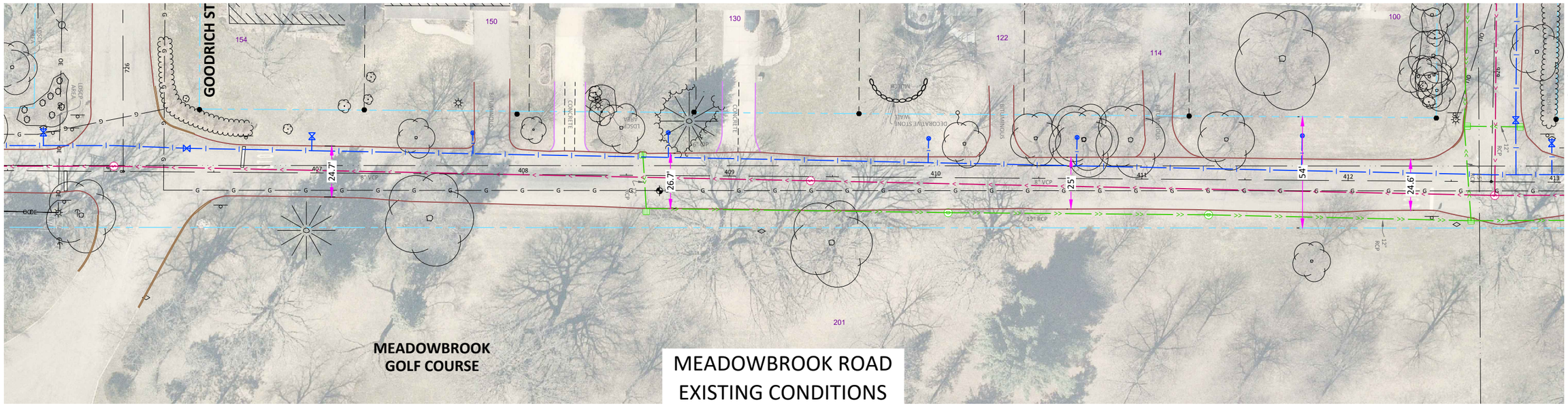
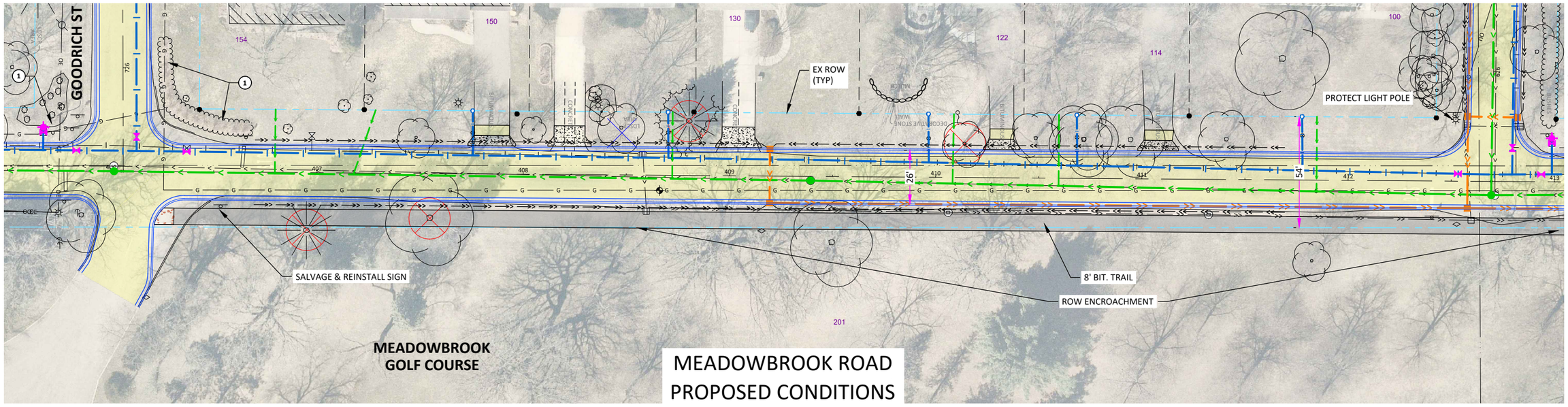
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MEADOWBROOK ROAD

FIGURE 3.25



MEADOWBROOK ROAD
EXISTING CONDITIONS



MEADOWBROOK ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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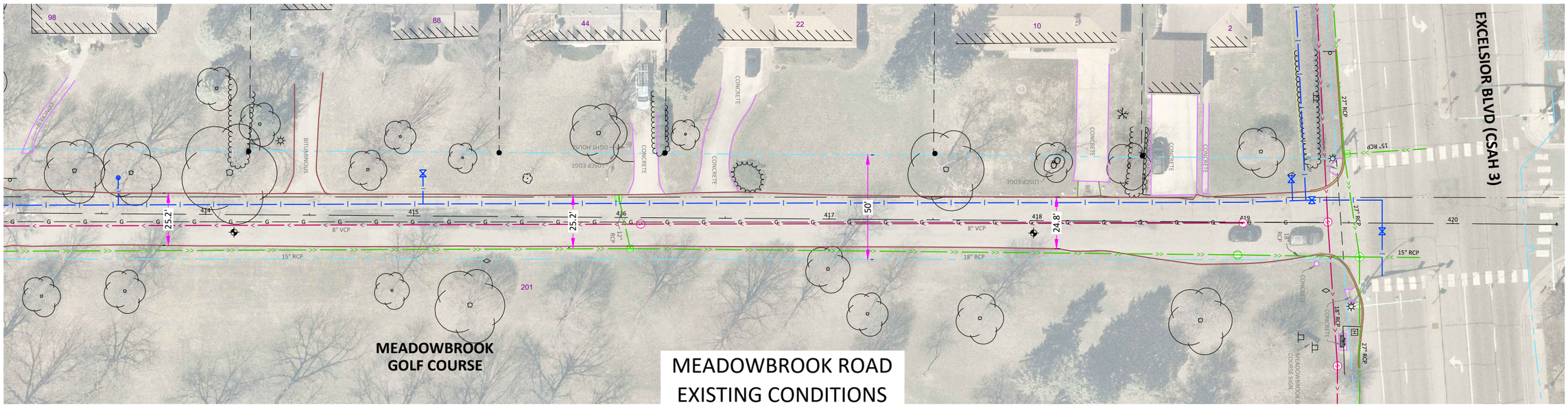
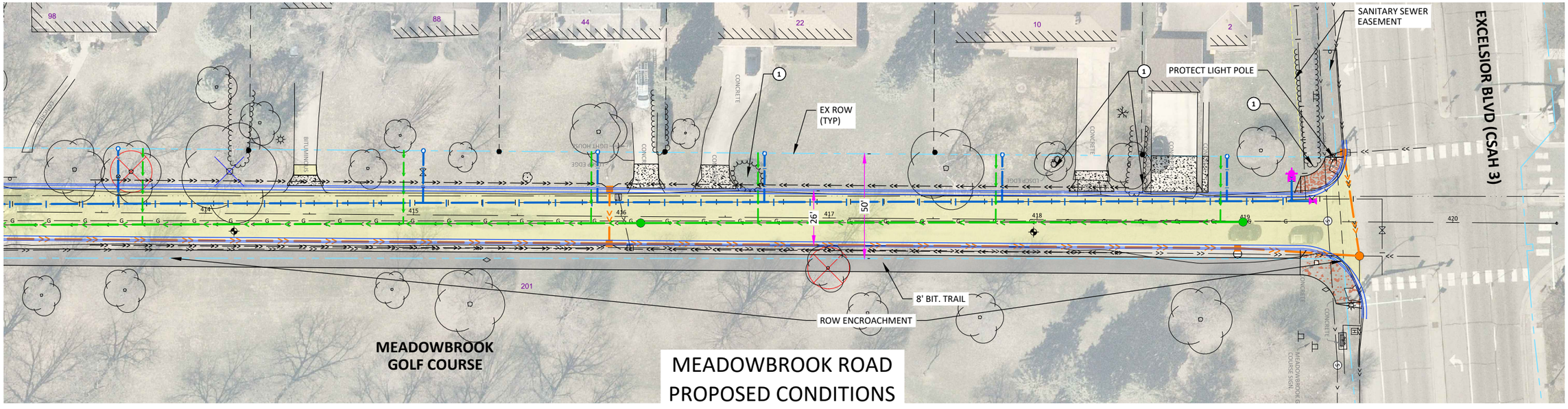
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MEADOWBROOK ROAD

FIGURE 3.26



MEADOWBROOK ROAD
EXISTING CONDITIONS



MEADOWBROOK ROAD
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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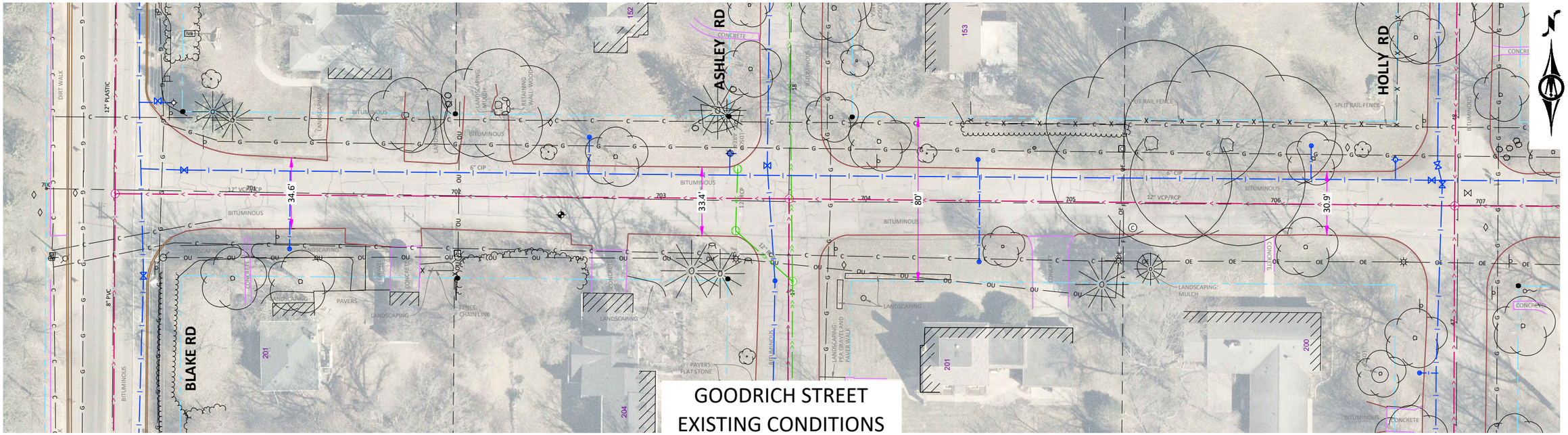
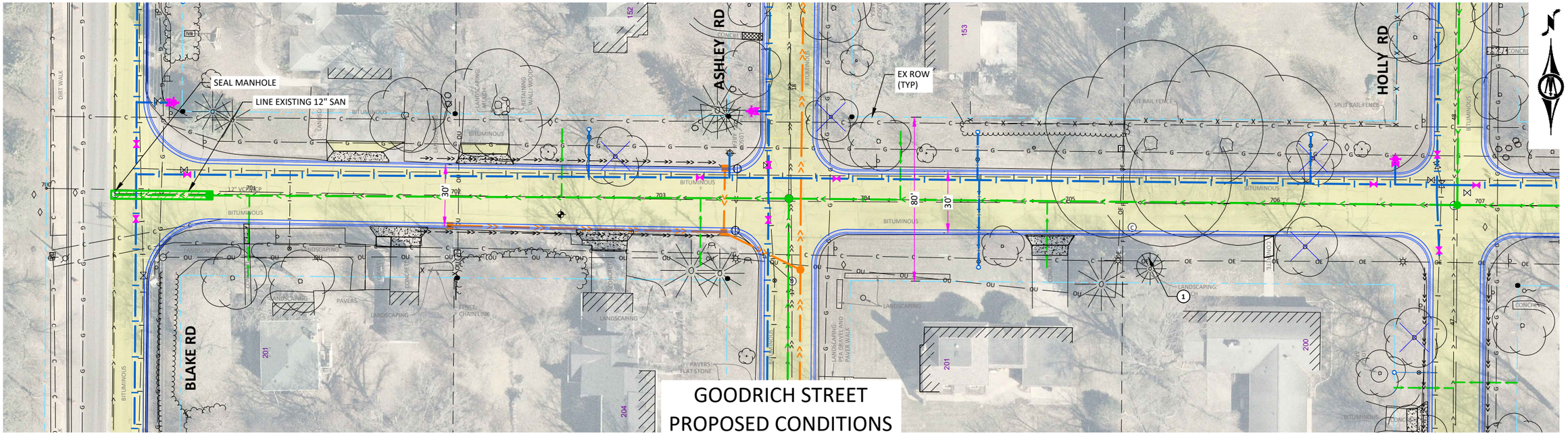
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
MEADOWBROOK ROAD

FIGURE 3.27





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
GOODRICH STREET

FIGURE 3.28

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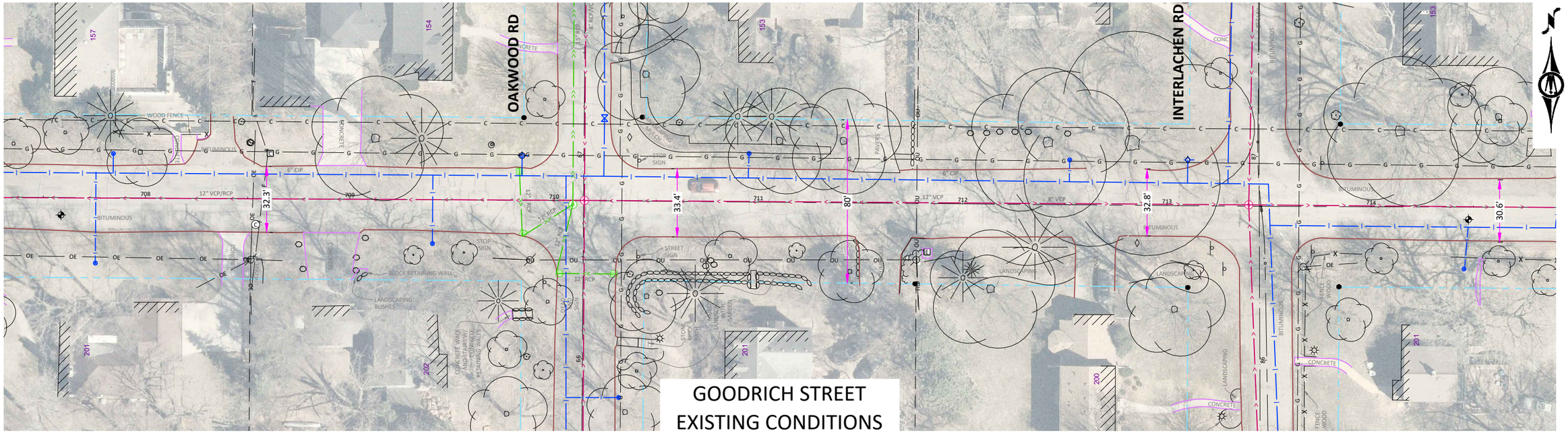
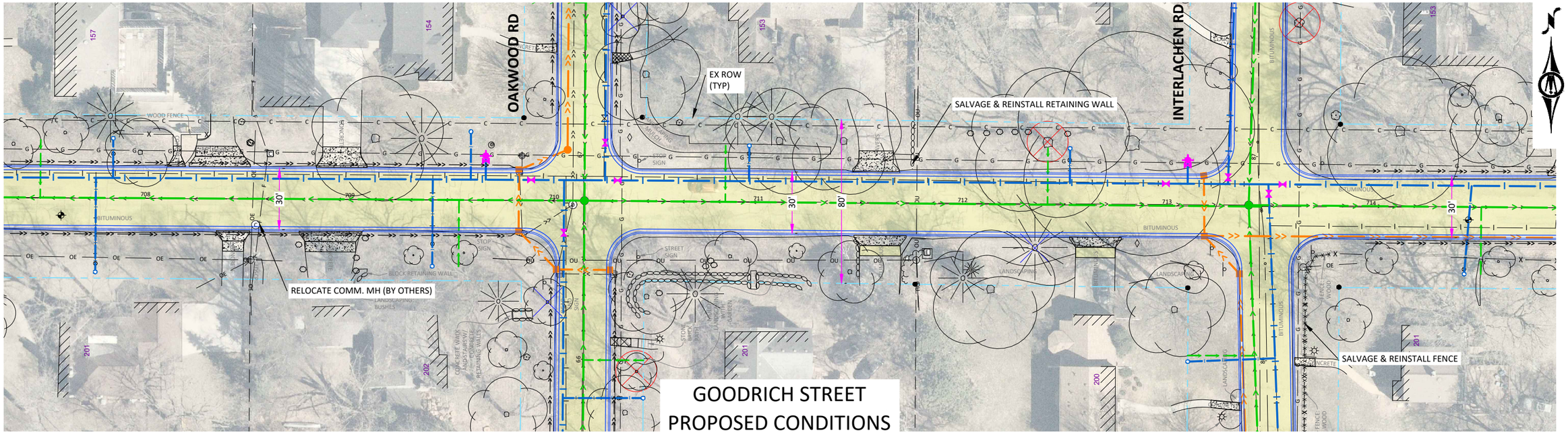


GOODRICH STREET
EXISTING CONDITIONS



GOODRICH STREET
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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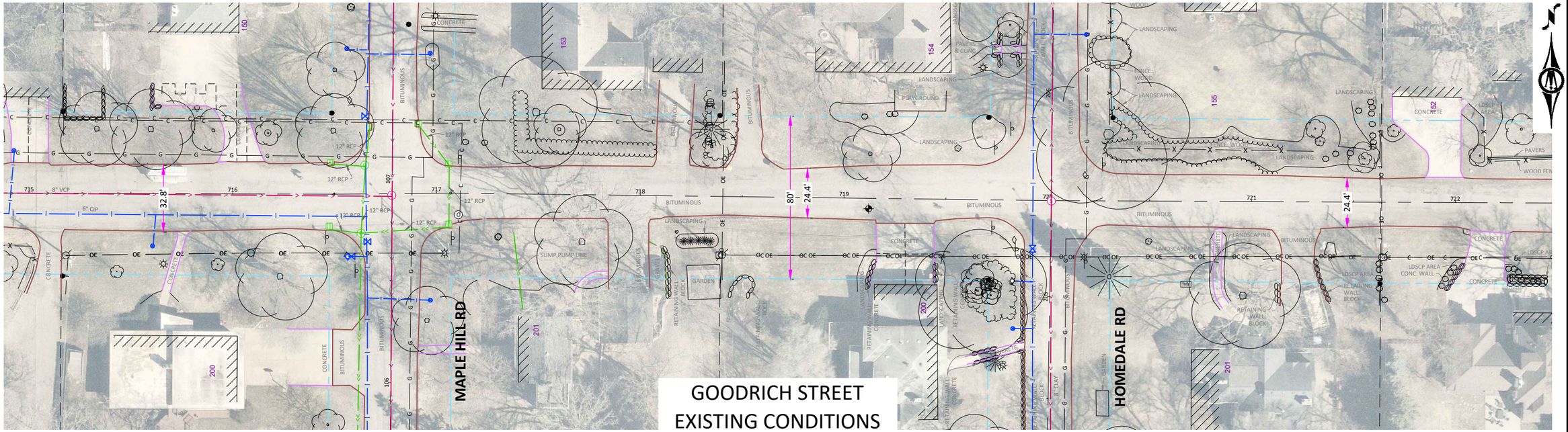
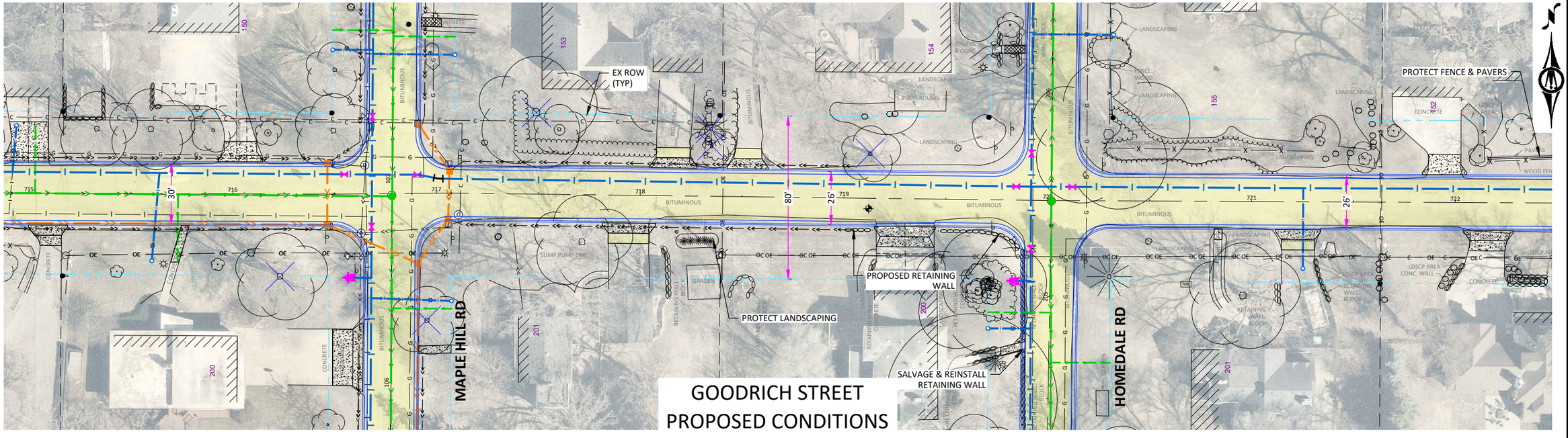
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
GOODRICH STREET

FIGURE 3.29





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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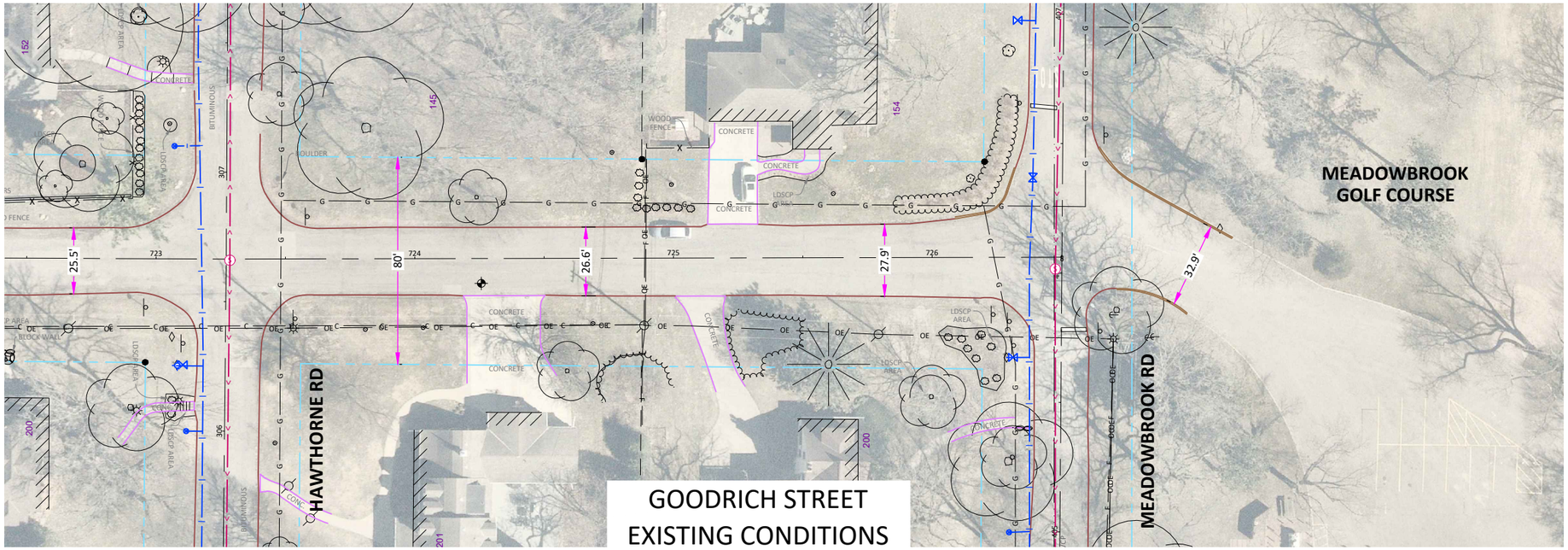
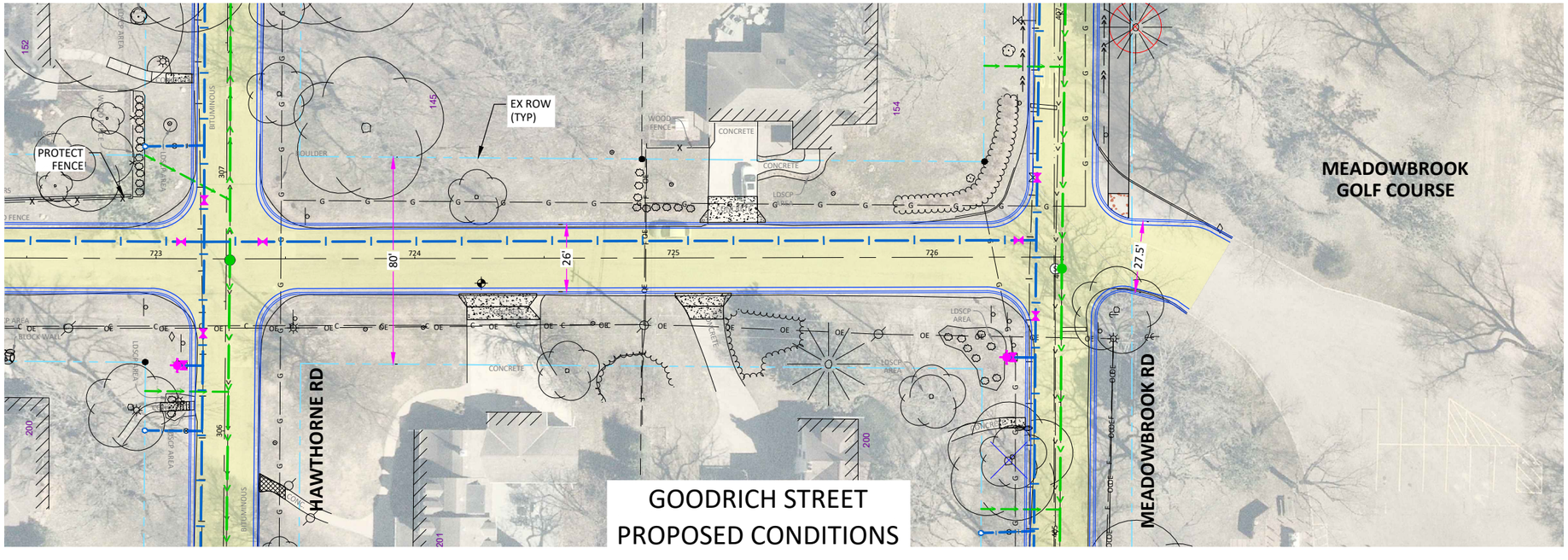
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
GOODRICH STREET

FIGURE 3.30



GOODRICH STREET
EXISTING CONDITIONS



GOODRICH STREET
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

1 ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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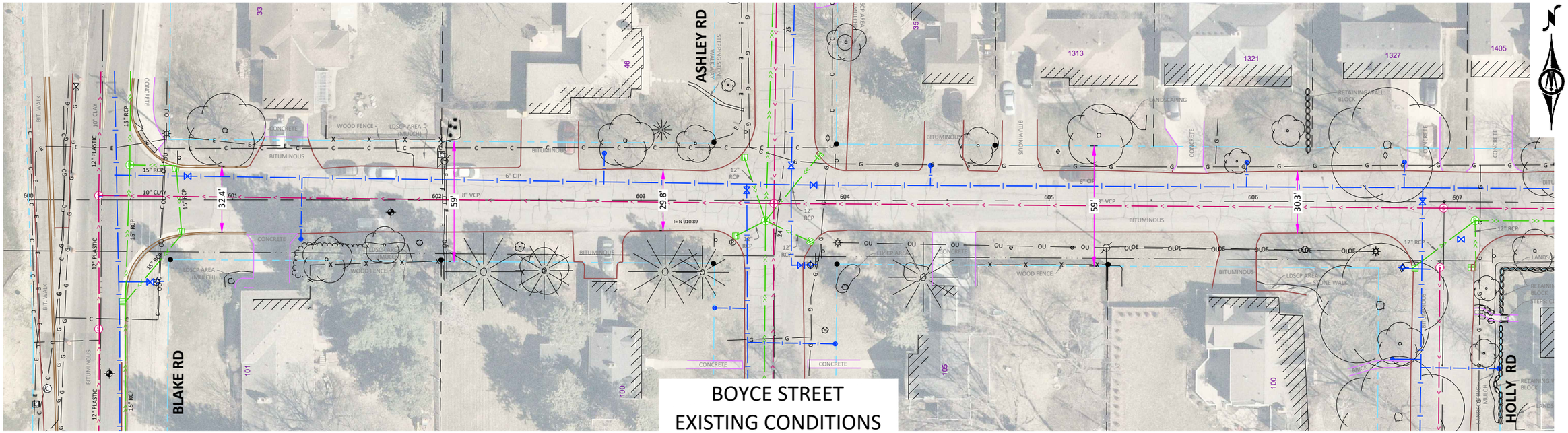
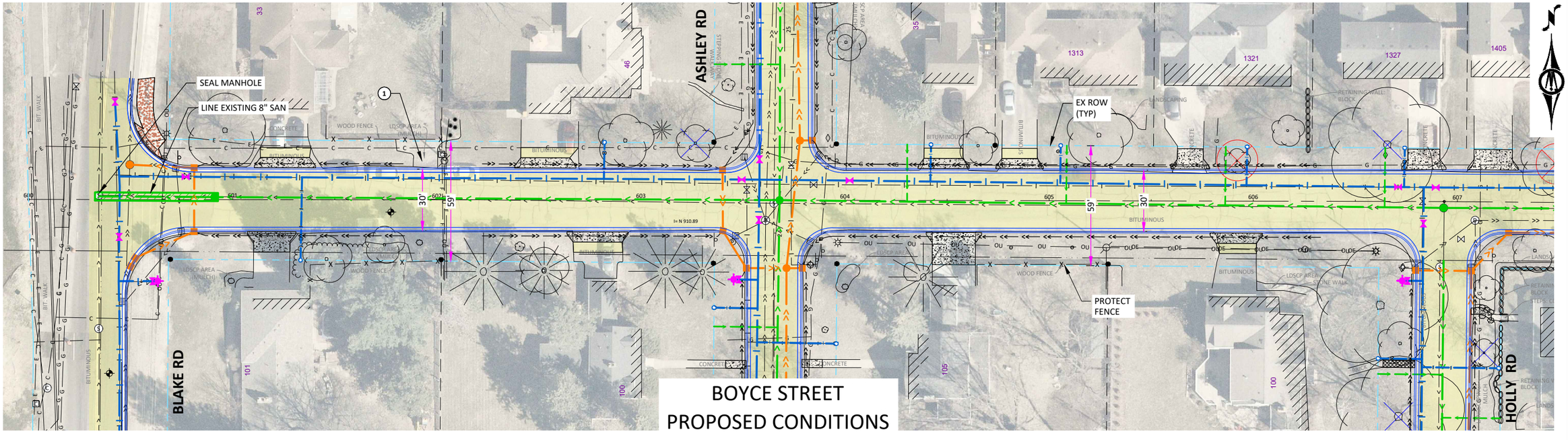
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
GOODRICH STREET

FIGURE 3.31



BOYCE STREET
EXISTING CONDITIONS



BOYCE STREET
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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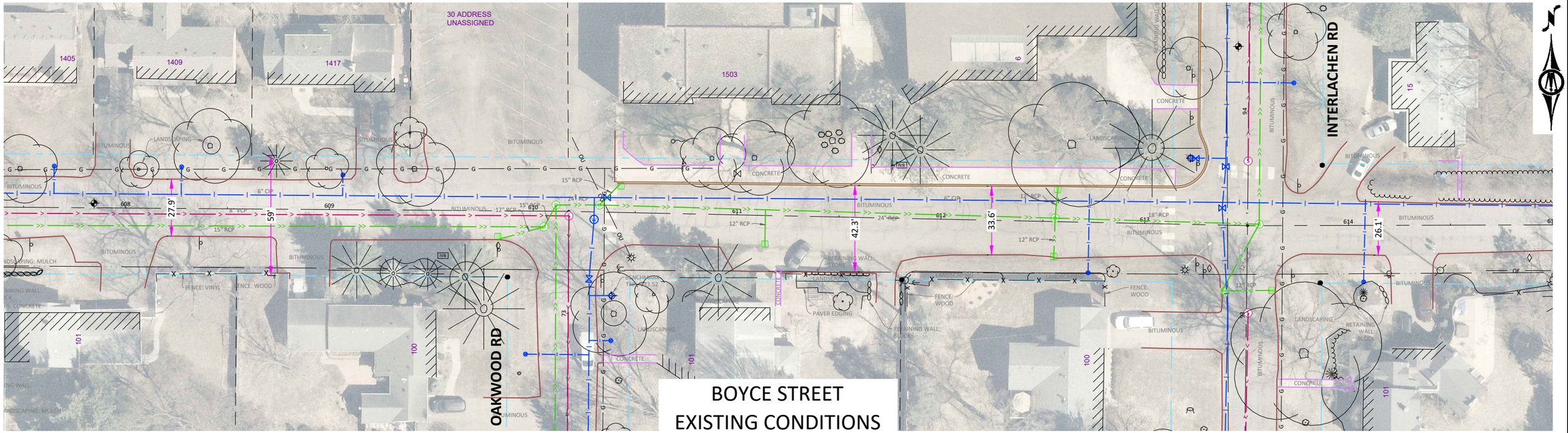
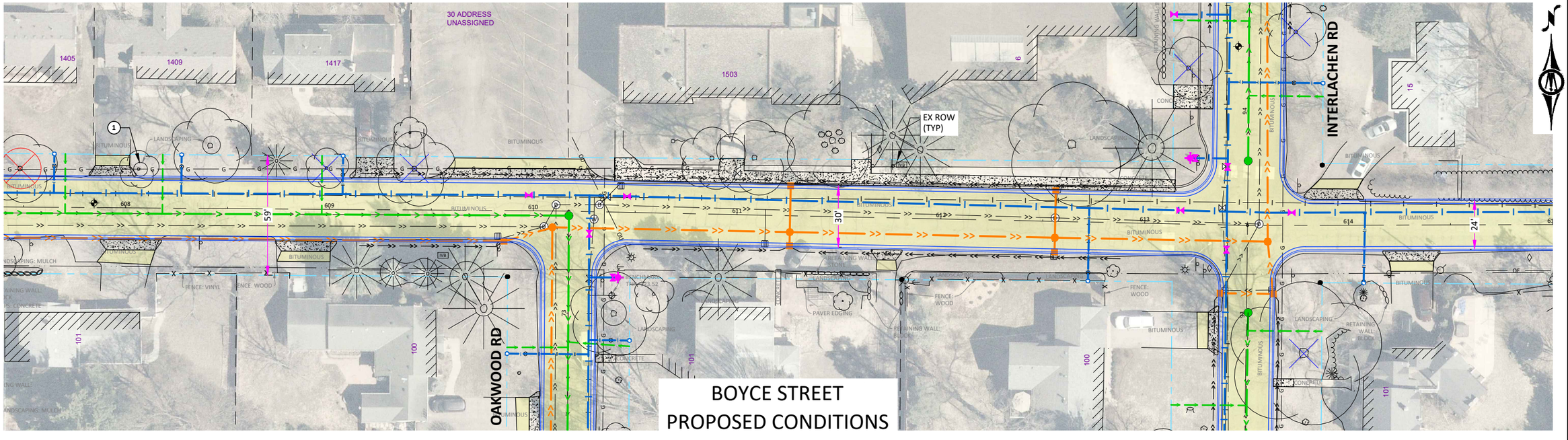
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BOYCE STREET

FIGURE 3.32





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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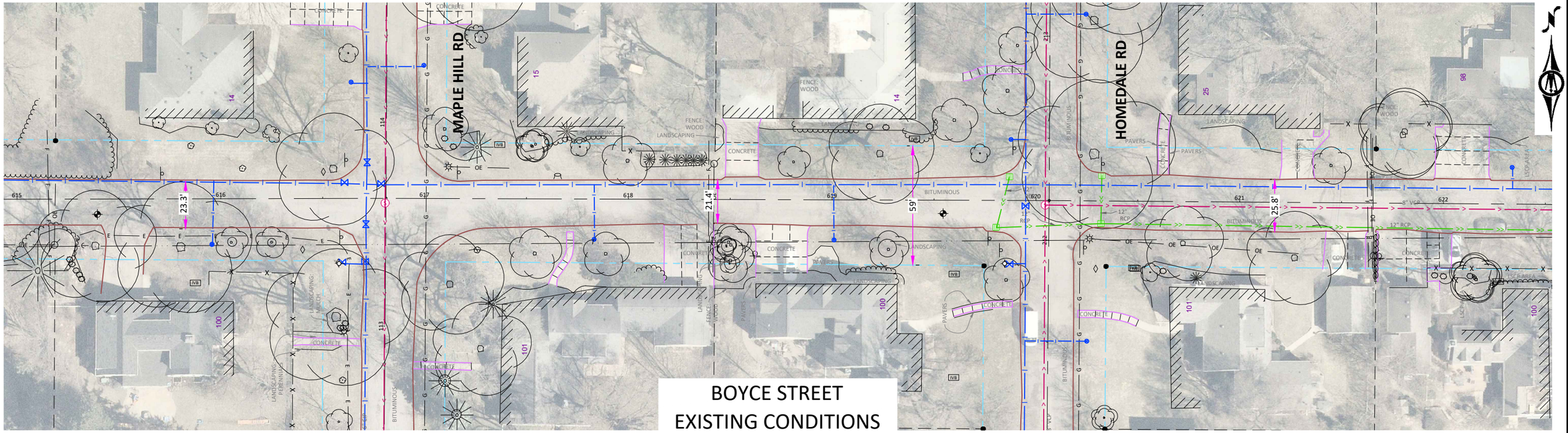
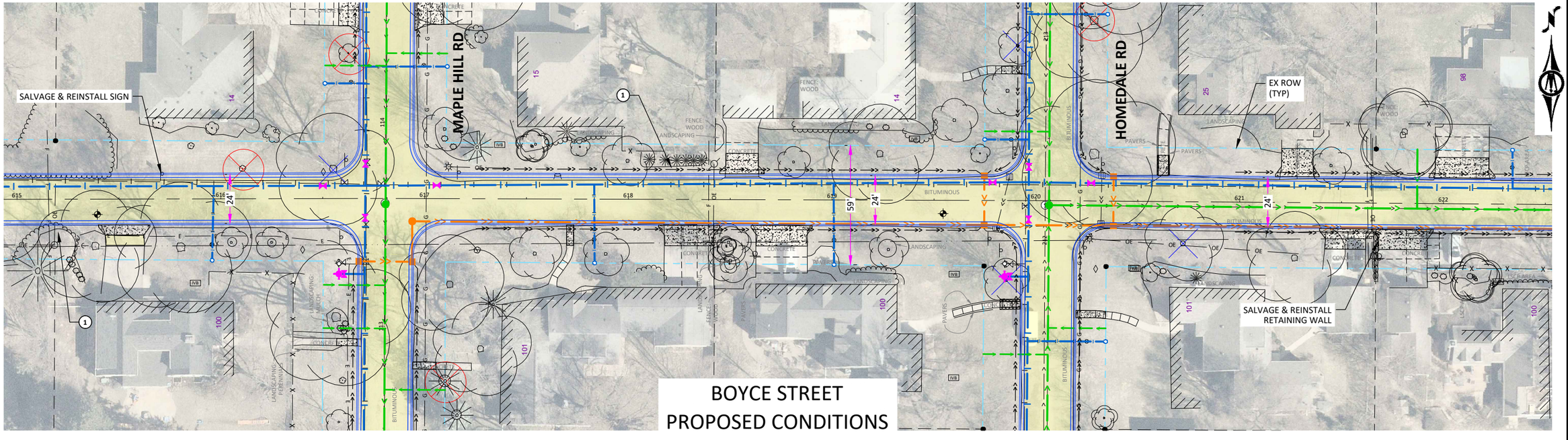
BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BOYCE STREET

FIGURE 3.33





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

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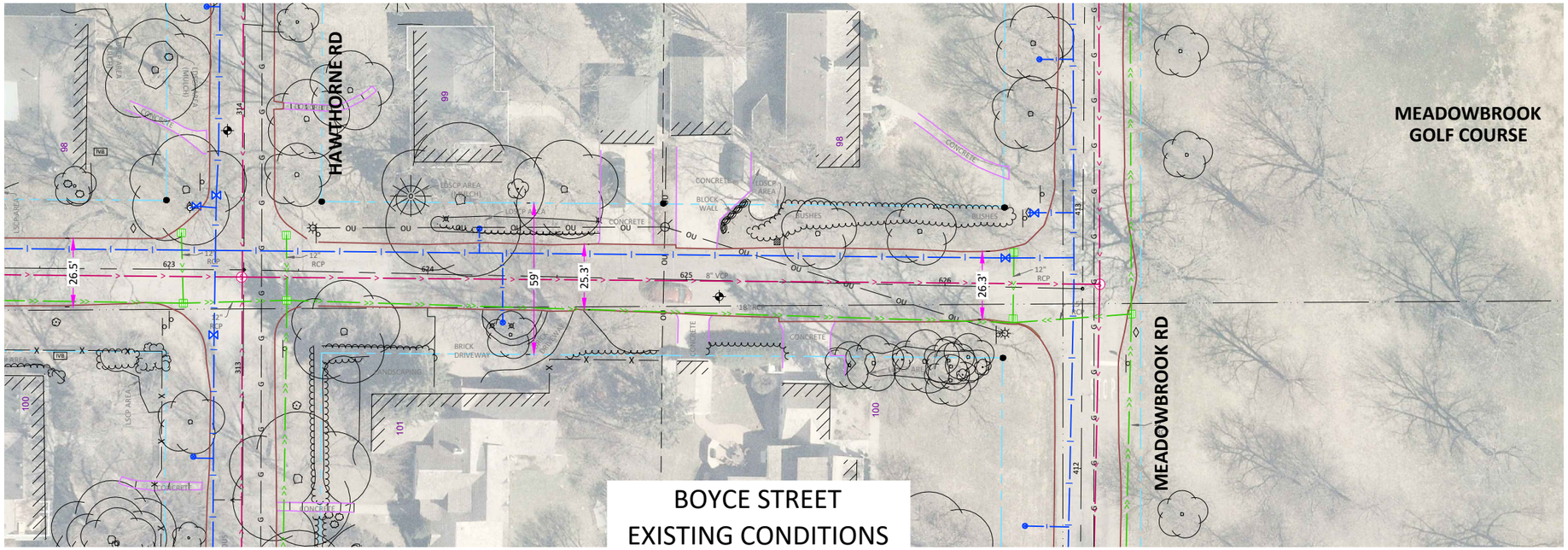
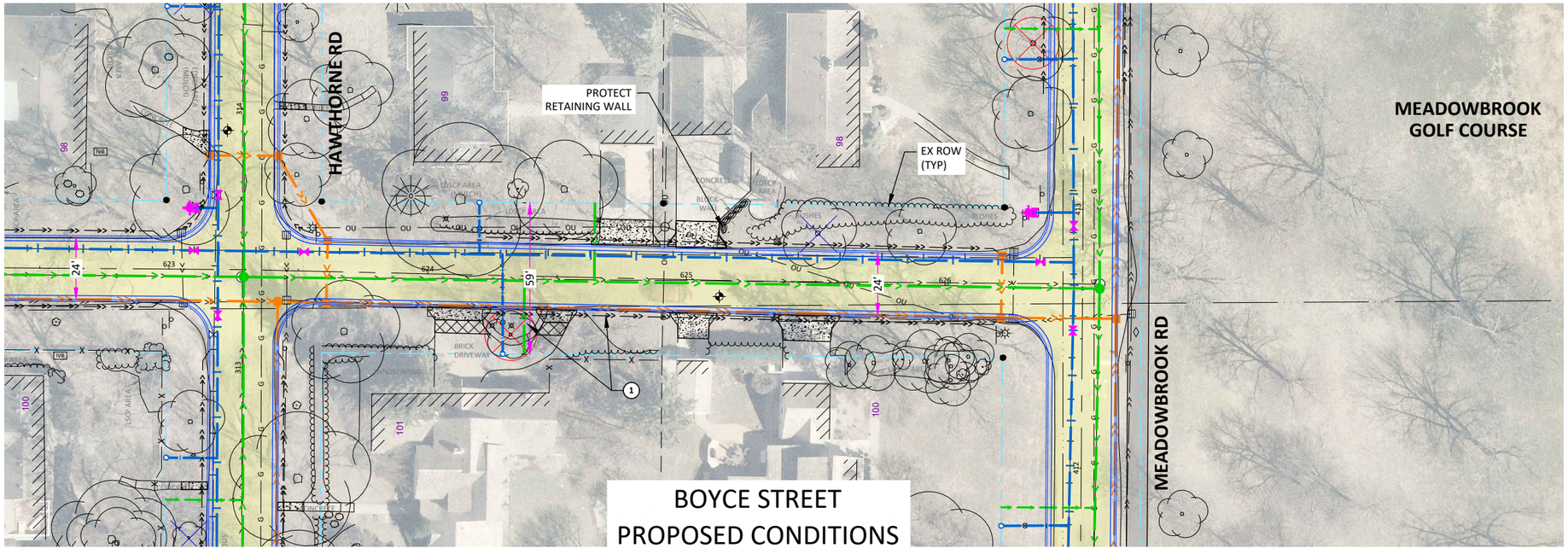
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BOYCE STREET

FIGURE 3.34



BOYCE STREET
EXISTING CONDITIONS



BOYCE STREET
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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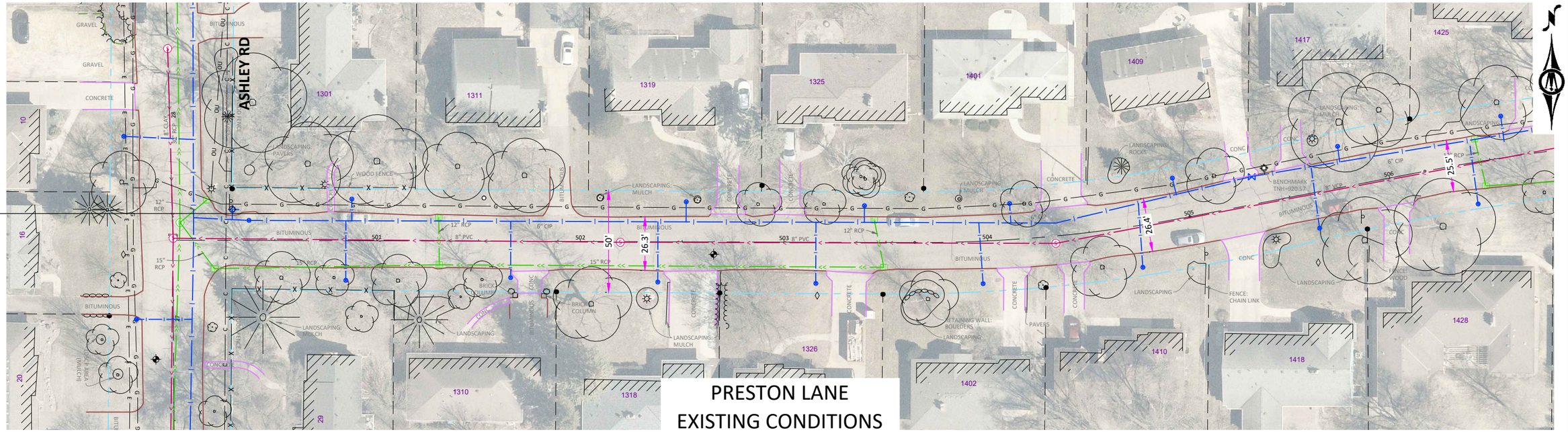
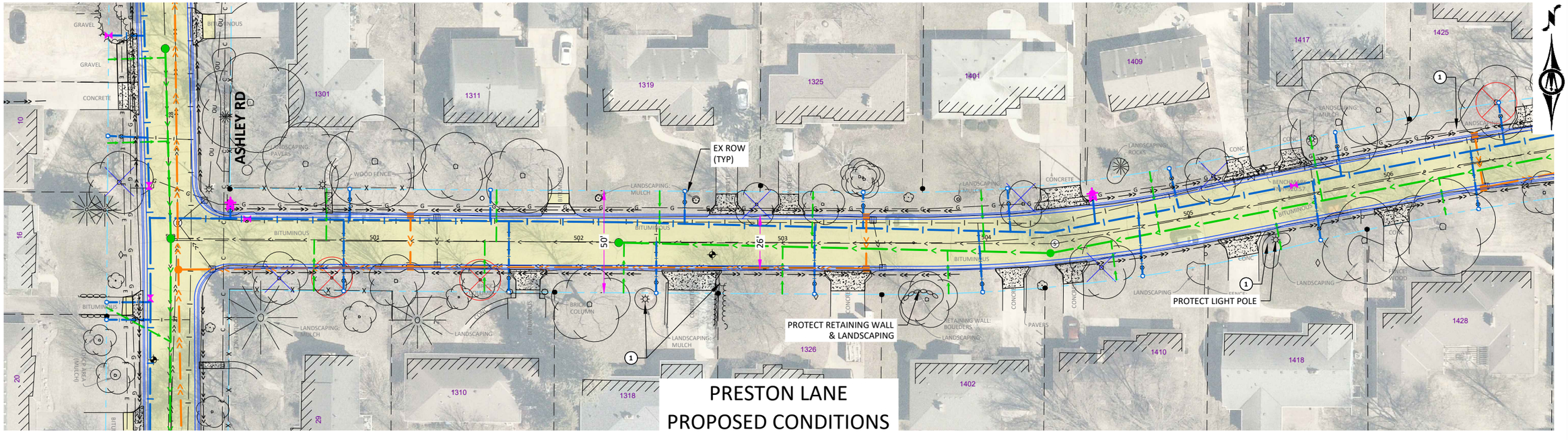
BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
BOYCE STREET

FIGURE 3.35





HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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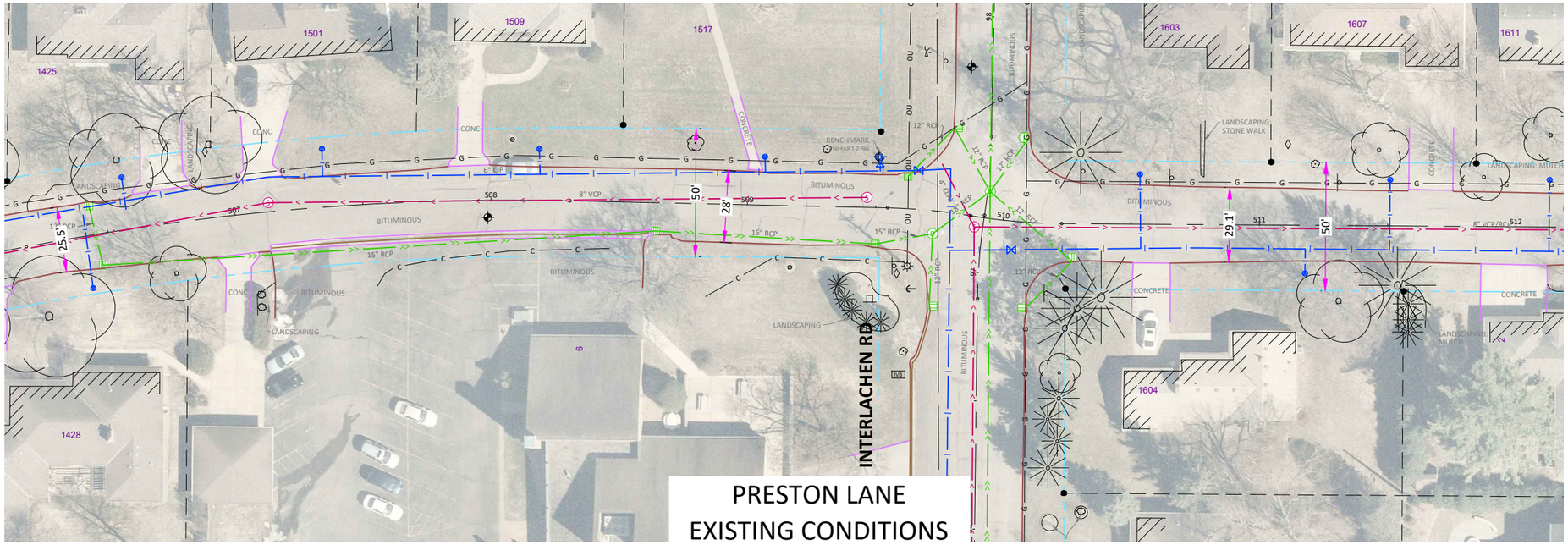
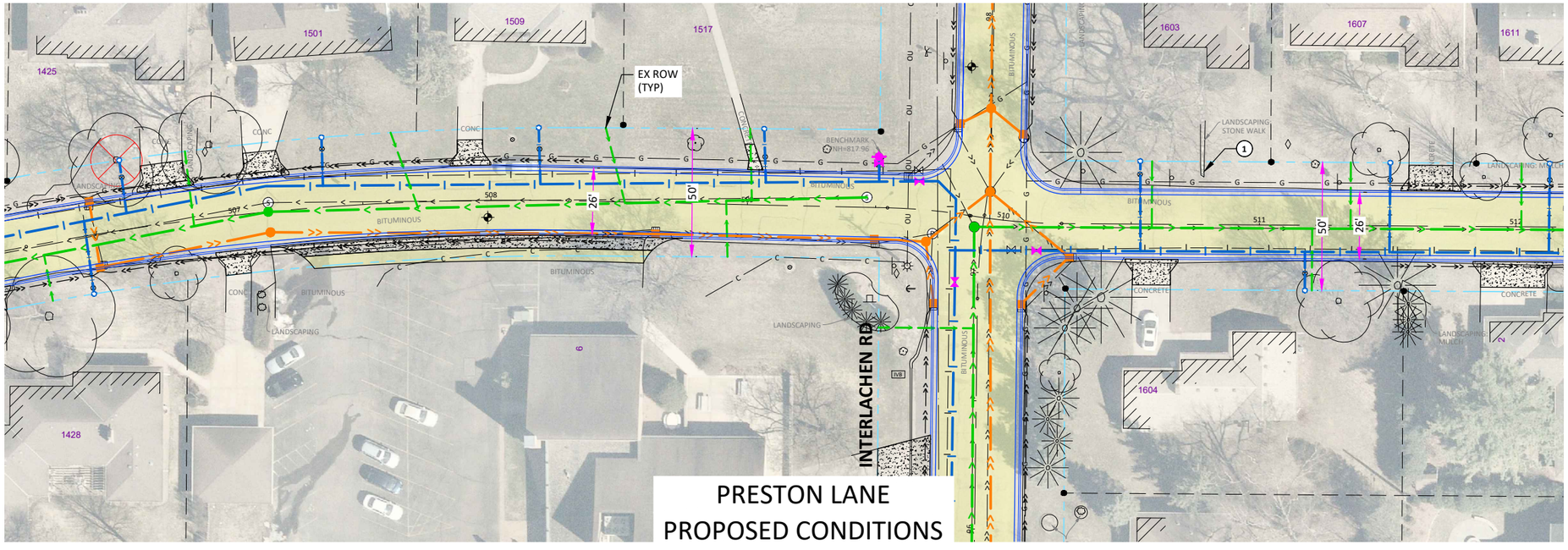
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
PRESTON LANE

FIGURE 3.36



PRESTON LANE
EXISTING CONDITIONS



PRESTON LANE
PROPOSED CONDITIONS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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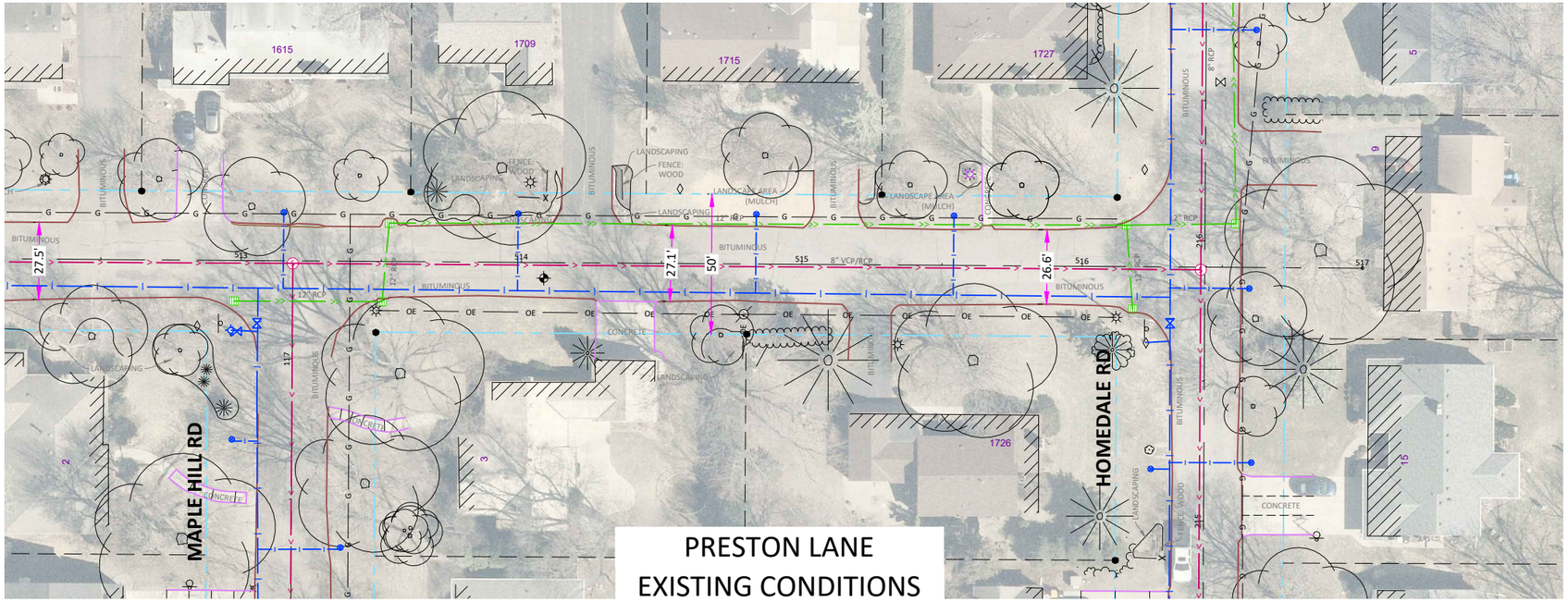
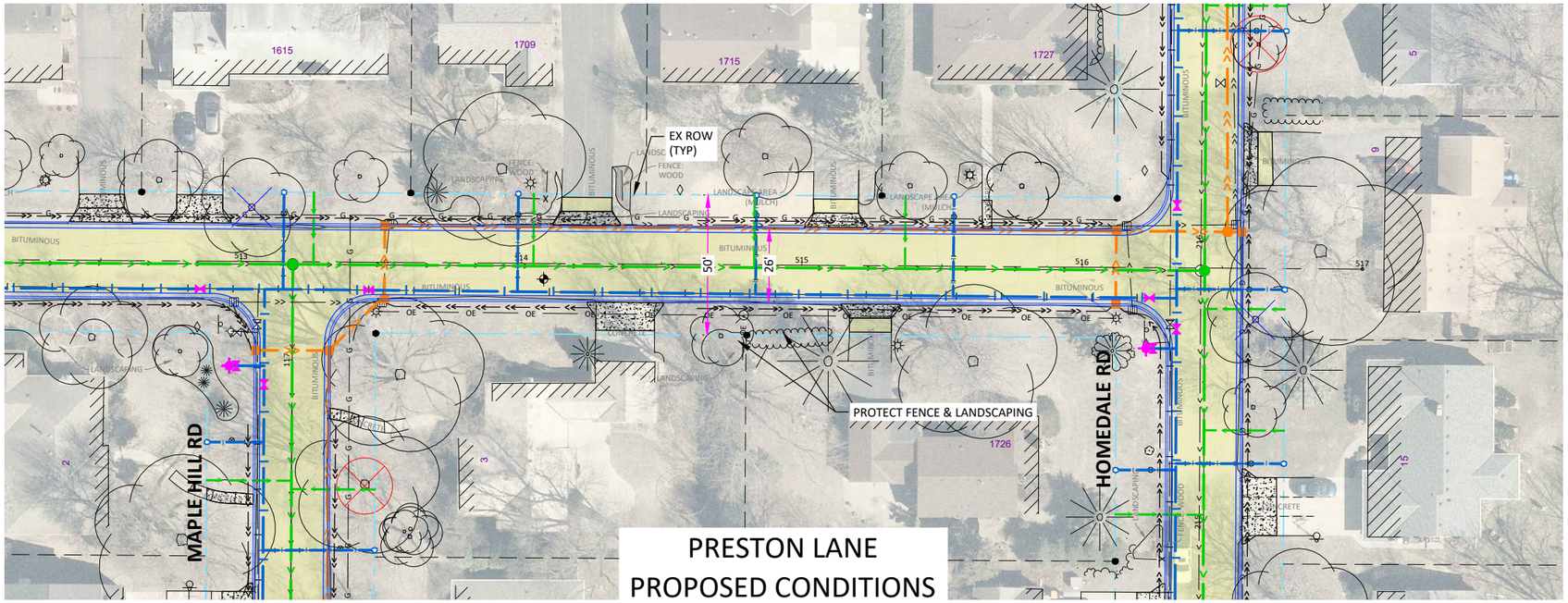
CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
PRESTON LANE

FIGURE 3.37



PRESTON LANE
EXISTING CONDITIONS



PRESTON LANE
PROPOSED CONDITIONS

HORZ. 0 25 50
SCALE FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
PRESTON LANE

FIGURE 3.38

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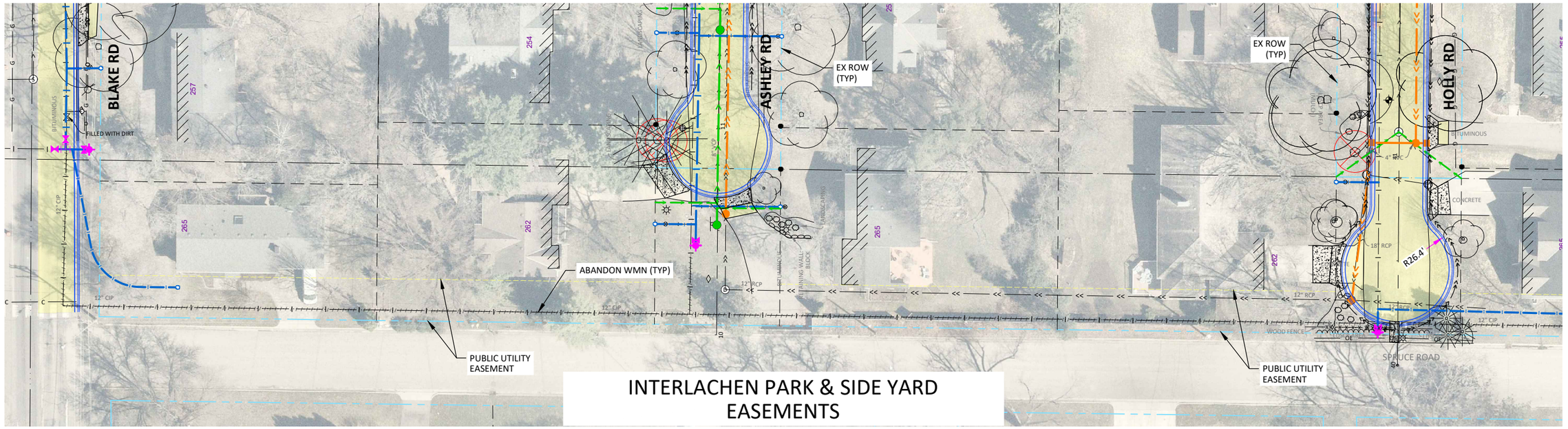
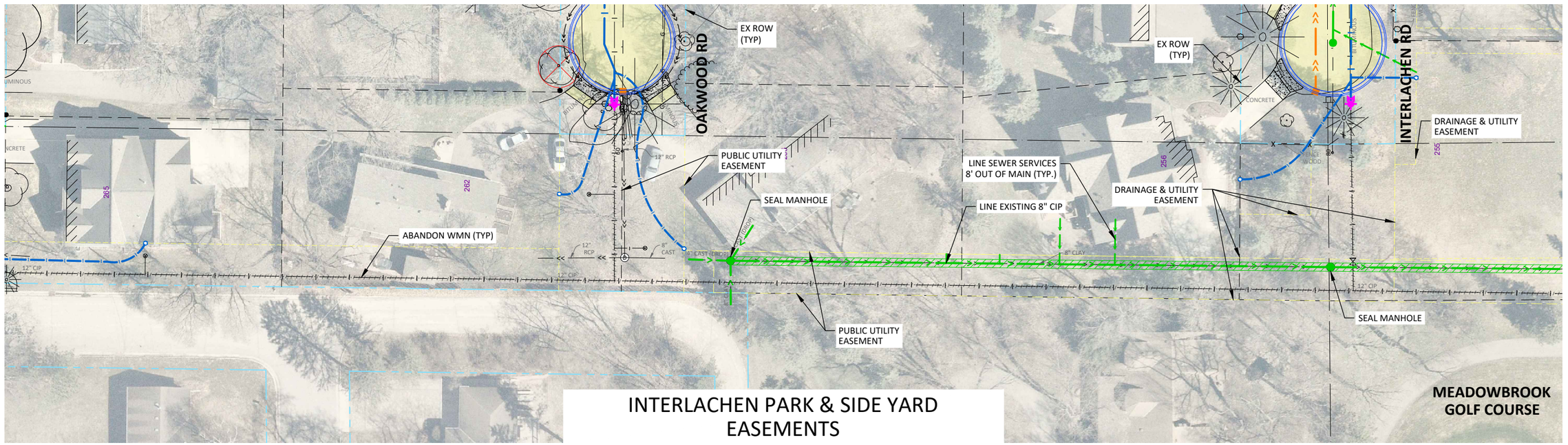


INTERLACHEN PARK & SIDE YARD EASEMENTS



INTERLACHEN PARK & SIDE YARD EASEMENTS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
UTILITY IMPROVEMENTS
INTERLACHEN PARK & SIDE YARD EASEMENTS

FIGURE 3.39

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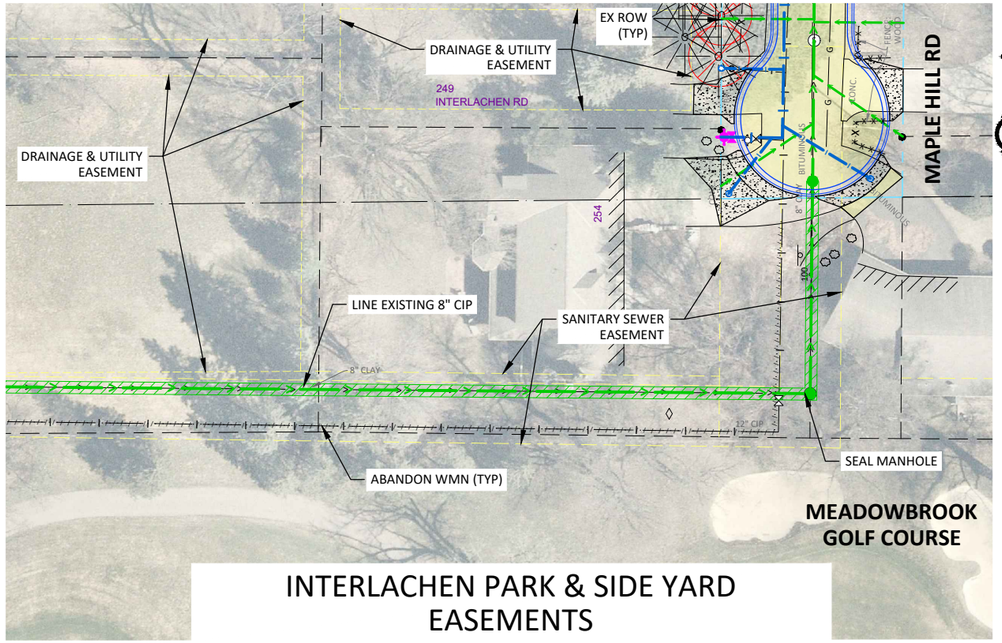
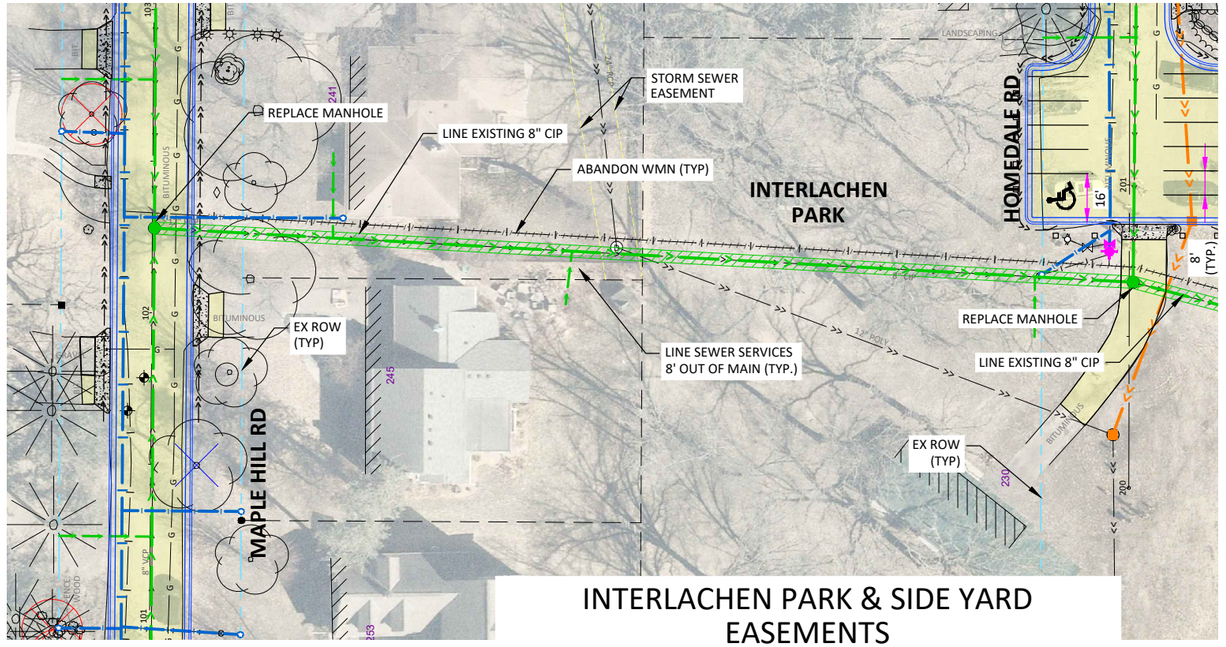
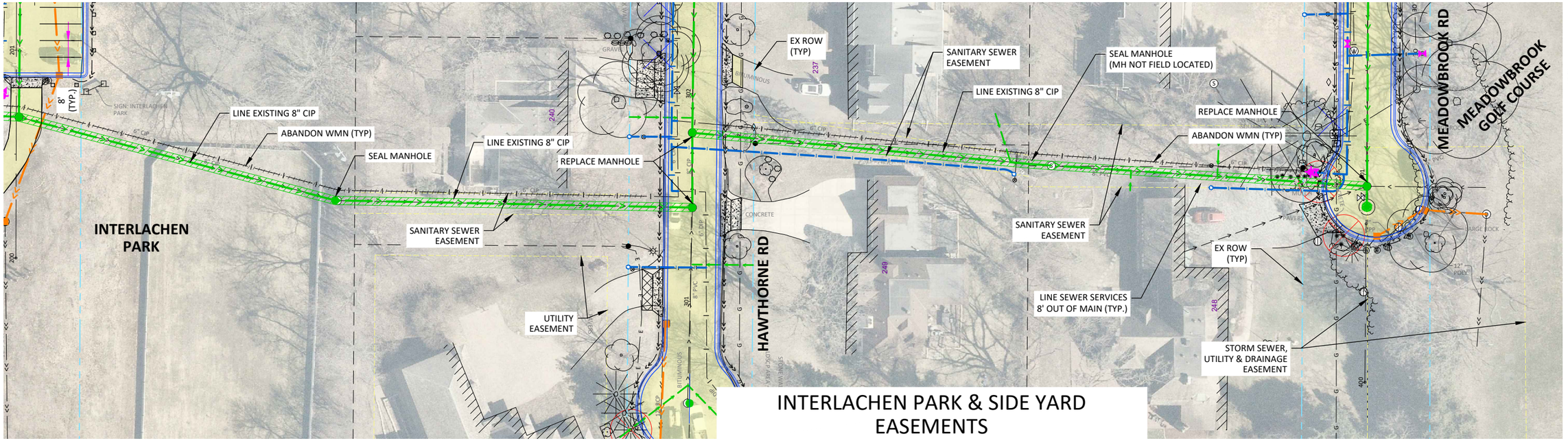


INTERLACHEN PARK & SIDE YARD EASEMENTS



INTERLACHEN PARK & SIDE YARD EASEMENTS



INTERLACHEN PARK & SIDE YARD EASEMENTS

HORZ. SCALE 0 25 50 FEET

LEGEND

BITUMINOUS PAVEMENT

(1) ENGINEER TO COORDINATE LANDSCAPING IMPACTS AND RELOCATION BY HOMEOWNER

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BOLTON & MENK

CITY OF HOPKINS
INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
EXISTING/PROPOSED CONDITIONS
INTERLACHEN PARK & SIDE YARD EASEMENTS

FIGURE 3.40

Appendix C: Preliminary Assessment Roll

PRELIMINARY ASSESSMENT ROLL

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. T19.118342

PID	STREET NUMBER	STREET NAME	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
1911721410041	30	Address Unassigned	CHURCH OF ST JOHN	6 INTERLACHEN RD	HOPKINS MN 55343		$ 5,300.00	$ -	$ -	$ 5,300.00
2911721210002	30	Address Unassigned	CITY OF MPLS PARK BOARD	2117 WEST RIVER RD	MINNEAPOLIS MN 55411		$ 200.00	$ -	$ -	$ 200.00
1911721410007	20	Ashley	AARON F KUZNIA	20 ASHLEY RD	HOPKINS MN 55343		$ 6,963.94	$ 1,800.00	$ 1,600.00	$ 10,363.94
1911721410008	16	Ashley	RACHEL M STENHAUG	16 ASHLEY RD	HOPKINS MN 55343		$ 5,658.64	$ 1,800.00	$ 1,600.00	$ 9,058.64
1911721410009	10	Ashley	KENNETH FERGUSON	307 CHERRY HILL BAY	MEDINA MN 55340		$ 5,092.77	$ 1,800.00	$ 1,600.00	$ 8,492.77
1911721410033	29	Ashley	MARGARET KNAEBLE PAVEK	29 ASHLEY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410034	35	Ashley	ELISHA M MCCONNELL	35 ASHLEY RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721410044	46	Ashley	M & K VOGEL	46 ASHLEY RD	HOPKINS MN 55343		$ 7,544.82	$ 1,800.00	$ 1,600.00	$ 10,944.82
1911721410053	42	Ashley	COLIN P PARROTT	ANNE P PARROTT	42 ASHLEY RD	HOPKINS MN 55343	$ 9,722.51	$ 1,800.00	$ 1,600.00	$ 13,122.51
1911721440007	152	Ashley	DAVID C RICE	6407 EMERSON AVE S W	WAVERLY MN 55390		$ 7,545.23	$ 1,800.00	$ 1,600.00	$ 10,945.23
1911721440008	146	Ashley	PATRICK MCCONNELL	VICTORIA MCCONNELL	146 ASHLEY RD	HOPKINS MN 55343	$ 7,545.17	$ 1,800.00	$ 1,600.00	$ 10,945.17
1911721440009	138	Ashley	ETHAN D & KELLY M MILLER	138 ASHLEY RD	HOPKINS MN 55343		$ 7,545.20	$ 1,800.00	$ 1,600.00	$ 10,945.20
1911721440010	130	Ashley	WILLIAM M WARD	DANA L ANDERSON	130 ASHLEY RD	HOPKINS MN 55343	$ 7,545.20	$ 1,800.00	$ 1,600.00	$ 10,945.20
1911721440011	120	Ashley	ANN ZWEBER & YAGO ESTRADA	120 ASHLEY RD	HOPKINS MN 55343		$ 7,545.20	$ 1,800.00	$ 1,600.00	$ 10,945.20
1911721440012	106	Ashley	GARY E & BRIDGET M KANOWITZ	106 ASHLEY RD	HOPKINS MN 55343		$ 7,545.20	$ 1,800.00	$ 1,600.00	$ 10,945.20
1911721440013	100	Ashley	C A CORNELIUSON	100 ASHLEY RD	HOPKINS MN 55343		$ 11,317.82	$ 1,800.00	$ 1,600.00	$ 14,717.82
1911721440014	105	Ashley	STRAND MARQUEZ	105 ASHLEY RD	HOPKINS MN 55343		$ 9,730.28	$ 1,800.00	$ 1,600.00	$ 13,130.28
1911721440015	113	Ashley	PETER F HYJEK	113 ASHLEY RD	HOPKINS MN 55343		$ 9,431.57	$ 1,800.00	$ 1,600.00	$ 12,831.57
1911721440016	121	Ashley	KIMBERLY GERTEN	JOHN R LANDSCHOOT	121 ASHLEY RD	HOPKINS MN 55343	$ 9,431.57	$ 1,800.00	$ 1,600.00	$ 12,831.57
1911721440017	133	Ashley	MARK JENSEN/SUSAN PENNISTON	133 ASHLEY RD	HOPKINS MN 55343		$ 9,431.54	$ 1,800.00	$ 1,600.00	$ 12,831.54
1911721440018	145	Ashley	D M MOREHOUSE & C L PAULSEN	145 ASHLEY RD	HOPKINS MN 55343		$ 10,374.79	$ 1,800.00	$ 1,600.00	$ 13,774.79
1911721440019	153	Ashley	RICHARD A TRACHY JR	153 ASHLEY RD	HOPKINS MN 55343		$ 8,998.50	$ 1,800.00	$ 1,600.00	$ 12,398.50
1911721440077	201	Ashley	BRENDAN S HINDLE	ABIGAIL J HINDLE	201 ASHLEY RD	HOPKINS MN 55343	$ 7,545.26	$ 1,800.00	$ 1,600.00	$ 10,945.26
1911721440078	209	Ashley	CATHERINE MULVEHILL	209 ASHLEY RD	HOPKINS MN 55343		$ 7,545.26	$ 1,800.00	$ 1,600.00	$ 10,945.26
1911721440079	221	Ashley	DAVID E KENADY	MARY M KENADY	221 ASHLEY RD	HOPKINS MN 55343	$ 11,317.91	$ 1,800.00	$ 1,600.00	$ 14,717.91
1911721440083	245	Ashley	STUART & NANCY GITIS	245 ASHLEY RD	HOPKINS MN 55343		$ 7,545.26	$ 1,800.00	$ 1,600.00	$ 10,945.26
1911721440084	253	Ashley	PETER RUSSELL	KIMBERLY RUSSELL	253 ASHLEY RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440097	254	Ashley	DON GEORGE RADEMACHER	254 ASHLEY RD	HOPKINS MN 55343		$ 8,083.66	$ 1,800.00	$ 1,600.00	$ 11,483.66
1911721440098	238	Ashley	JENNIFER S DUKEK	DARRYL E DUKEK JR	238 ASHLEY RD	HOPKINS MN 55343	$ 11,308.41	$ 1,800.00	$ 1,600.00	$ 14,708.41
1911721440099	230	Ashley	PAUL T LEUNG	230 ASHLEY RD	HOPKINS MN 55343		$ 7,538.98	$ 1,800.00	$ 1,600.00	$ 10,938.98
1911721440100	220	Ashley	MELEAH B BEDDOR	PATRICK R BEDDOR	220 ASHLEY RD	HOPKINS MN 55343	$ 7,538.95	$ 1,800.00	$ 1,600.00	$ 10,938.95
1911721440101	210	Ashley	STEPHEN & RENEE KESSLER	210 ASHLEY RD	HOPKINS MN 55343		$ 11,308.44	$ 1,800.00	$ 1,600.00	$ 14,708.44
1911721440102	204	Ashley	DAVID POLYAK/LINDSAY POLYAK	204 ASHLEY RD	HOPKINS MN 55343		$ 11,308.44	$ 1,800.00	$ 1,600.00	$ 14,708.44
1911721440104	237	Ashley	THOMAS VANCE	ALVIN RAY KILLION	237 ASHLEY RD	HOPKINS MN 55343	$ 11,317.85	$ 1,800.00	$ 1,600.00	$ 14,717.85
3011721110008	265	Ashley	ROGER H GROSS	MARY S DUNNAVAN	265 ASHLEY RD	HOPKINS MN 55343	$ 8,955.41	$ 1,800.00	$ 1,600.00	$ 12,355.41
3011721110010	262	Ashley	MARK A KEMPF	10048 ADAM AVE	INVER GROVE HGHTS MN 55077		$ 8,966.70	$ 1,800.00	$ 1,600.00	$ 12,366.70
1911721410045	33	Blake	WILLIAM C & AMY J GLEASON	33 BLAKE RD S	HOPKINS MN 55343		$ 9,376.05	$ -	$ -	$ 9,376.05
1911721440001	101	Blake	TREVOR J & JENNIFER BRACE	101 BLAKE RD S	HOPKINS MN 55343		$ 11,681.62	$ 1,800.00	$ -	$ 13,481.62
1911721440002	115	Blake	KEVIN DELOZIER	115 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440003	121	Blake	ROBERT L & MARY ANN SCOTT	121 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440004	129	Blake	MARK W FISK	129 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440005	145	Blake	JEROME & JANICE ALCH	145 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440006	153	Blake	MELISSA L & GARRETT A GRNIET	153 BLAKE RD S	HOPKINS MN 55343		$ 11,682.73	$ 1,800.00	$ -	$ 13,482.73
1911721440091	201	Blake	CATHERINE & WILLIAM MULLIN	201 BLAKE RD S	HOPKINS MN 55343		$ 7,529.40	$ 1,800.00	$ -	$ 9,329.40
1911721440092	209	Blake	KATRINA ROSEBOOM	209 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440093	217	Blake	JOSIAH CROSBY BLAISDELL	ANNA ELIZABETH CLIFFE	217 BLAKE RD S	HOPKINS MN 55343	$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440094	225	Blake	GREGORY A CICH	225 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440095	233	Blake	NED & SUSAN OSTENSO	233 BLAKE RD S	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440096	243	Blake	JAMEEL J WINTER	SARAH J WINTER	243 BLAKE RD S	HOPKINS MN 55343	$ -	$ 1,800.00	$ -	$ 1,800.00
1911721440103	257	Blake	ERIC S NESS	HAYLEY J THOMAS	257 BLAKE RD S	HOPKINS MN 55343	$ -	$ 1,800.00	$ -	$ 1,800.00
3011721110081	265	Blake	MICHAEL J THIELEN	265 BLAKE RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ -	$ 1,800.00
1911721410035	1313	Boyce	JOSEPH P & GRETCHEN A MARBLE	1313 BOYCE ST	HOPKINS MN 55343		$ 7,334.14	$ 1,800.00	$ 1,600.00	$ 10,734.14
1911721410036	1321	Boyce	STEVEN & TERESA D MOHABIR	1321 BOYCE ST	HOPKINS MN 55343		$ 7,334.17	$ 1,800.00	$ 1,600.00	$ 10,734.17
1911721410039	1409	Boyce	DAVID & SANDRA MURRIN	1409 BOYCE ST	HOPKINS MN 55343		$ 7,334.17	$ 1,800.00	$ 1,600.00	$ 10,734.17
1911721410040	1417	Boyce	BRADLEY MCBEATH	BRITTANY MCBEATH	1417 BOYCE ST	HOPKINS MN 55343	$ 7,334.14	$ 1,800.00	$ 1,600.00	$ 10,734.14
1911721410049	1327	Boyce	KRISTINA S SILVA	GLADSTONE M STENSON	1327 BOYCE ST	HOPKINS MN 55343	$ 7,145.55	$ 1,800.00	$ 1,600.00	$ 10,545.55
1911721410050	1405	Boyce	LESLIE A FLAWS	JEFFREY M WASSENBERG	1405 BOYCE ST	HOPKINS MN 55343	$ 7,522.76	$ 1,800.00	$ 1,600.00	$ 10,922.76
1911721410004	8311	Excelsior	8311 EXCELSIOR BLVD LLC	17003 WEAVER LAKE DR	MAPLE GROVE MN 55311		$ 5,300.00	$ 4,320.00	$ 2,392.00	$ 12,012.00
2011721320018	98	Hawthorne	ROBERT A GUSTAFSON	KELLY A GUSTAFSON	98 HAWTHORNE RD	HOPKINS MN 55343	$ 7,517.14	$ 1,800.00	$ 1,600.00	$ 10,917.14
2011721320019	22	Hawthorne	WILLIAM A PENK	22 HAWTHORNE RD	HOPKINS MN 55343		$ 7,517.11	$ 1,800.00	$ 1,600.00	$ 10,917.11
2011721320020	18	Hawthorne	DAVID KLEIN	18 HAWTHORNE RD	HOPKINS MN 55343		$ 7,517.11	$ 1,800.00	$ 1,600.00	$ 10,917.11
2011721320021	14	Hawthorne	THOMAS E GREENE	14 HAWTHORNE ROAD	HOPKINS MN 55343		$ 7,517.14	$ 1,800.00	$ 1,600.00	$ 10,917.14
2011721320022	10	Hawthorne	MARK D SEABURG	10 HAWTHORNE RD	HOPKINS MN 55343		$ 7,517.14	$ 1,800.00	$ 1,600.00	$ 10,917.14
2011721320023	6	Hawthorne	ERIC & CATHY SWANSON	6 HAWTHORNE RD	HOPKINS MN 55343		$ 7,517.11	$ 1,800.00	$ 1,600.00	$ 10,917.11

PRELIMINARY ASSESSMENT ROLL

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. T19.118342

PID	STREET NUMBER	STREET NAME	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2011721320024	4	Hawthorne	RYAN TYLER JOHNSON	JAMIE SUZANNE MOE JOHNSON	4 HAWTHORNE RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721320025	5	Hawthorne	GEORGE SAMIR RIZKALLA	17708 GEORGE MORAN DR	EDEN PRAIRIE MN 55347		$ 6,224.46	$ 1,800.00	$ 1,600.00	$ 9,624.46
2011721320026	1	Hawthorne	PAUL A & WENDY S AHLES	1 HAWTHORNE RD	HOPKINS MN 55343		$ 7,345.77	$ 1,800.00	$ 1,600.00	$ 10,745.77
2011721320027	7	Hawthorne	ELIZABETH G EHRHARDT	MARK J MIRICK	7 HAWTHORNE RD	HOPKINS MN 55343	$ 7,513.12	$ 1,800.00	$ 1,600.00	$ 10,913.12
2011721320028	11	Hawthorne	AMY E PRESSNALL	PAUL B PRESSNALL	11 HAWTHORNE RD	HOPKINS MN 55343	$ 7,513.12	$ 1,800.00	$ 1,600.00	$ 10,913.12
2011721320029	15	Hawthorne	COLE PETERSON	15 HAWTHORNE RD	HOPKINS MN 55343		$ 7,513.09	$ 1,800.00	$ 1,600.00	$ 10,913.09
2011721320030	19	Hawthorne	ROBERT G SYKES	19 HAWTHORNE RD	HOPKINS MN 55343		$ 7,513.09	$ 1,800.00	$ 1,600.00	$ 10,913.09
2011721320031	77	Hawthorne	MICHAEL BAETGEN	MONICA MARIE LEE	77 HAWTHORNE RD	HOPKINS MN 55343	$ 7,513.12	$ 1,800.00	$ 1,600.00	$ 10,913.12
2011721320032	99	Hawthorne	LYNDA C WILLIAMS	99 HAWTHORNE RD	HOPKINS MN 55343		$ 7,513.12	$ 1,800.00	$ 1,600.00	$ 10,913.12
2011721330034	152	Hawthorne	PAUL W BEDNARCZYK	LAURA T BEDNARCZYK	152 HAWTHORNE RD	HOPKINS MN 55343	$ 7,557.24	$ 1,800.00	$ 1,600.00	$ 10,957.24
2011721330035	144	Hawthorne	MARY GRUIDL	144 HAWTHORNE RD	HOPKINS MN 55343		$ 7,557.27	$ 1,800.00	$ 1,600.00	$ 10,957.27
2011721330036	136	Hawthorne	GREGORY & CYNTHIA HEINEMANN	136 HAWTHORNE RD	HOPKINS MN 55343		$ 7,557.27	$ 1,800.00	$ 1,600.00	$ 10,957.27
2011721330037	128	Hawthorne	DALE E & CAROL J BLANCHFIELD	128 HAWTHORNE RD	HOPKINS MN 55343		$ 10,386.55	$ 1,800.00	$ 1,600.00	$ 13,786.55
2011721330042	100	Hawthorne	RICK DAVID ANDERSON	100 HAWTHORNE RD	HOPKINS MN 55343		$ 11,335.89	$ 1,800.00	$ 1,600.00	$ 14,735.89
2011721330043	101	Hawthorne	SHEILA B DORAN	101 HAWTHORNE RD	HOPKINS MN 55343		$ 11,474.26	$ 1,800.00	$ 1,600.00	$ 14,874.26
2011721330044	117	Hawthorne	PATRICIA CASHMAN O'REILLY	15166 CRESTVIEW LA	MINNETONKA MN 55345		$ 11,336.85	$ 1,800.00	$ 1,600.00	$ 14,736.85
2011721330045	125	Hawthorne	BENJAMIN HANKINSON	GWEN HANKINSON	125 HAWTHORNE RD	HOPKINS MN 55343	$ 7,557.89	$ 1,800.00	$ 1,600.00	$ 10,957.89
2011721330046	133	Hawthorne	LEIF B JOHNSON	SAMANTHA HAUSER-JOHNSON	133 HAWTHORNE RD	HOPKINS MN 55343	$ 11,336.85	$ 1,800.00	$ 1,600.00	$ 14,736.85
2011721330047	145	Hawthorne	THEODORE J WALDECK	MOLLY P WALDECK	145 HAWTHORNE RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330055	201	Hawthorne	MICHAEL D CARR	201 HAWTHORNE RD	HOPKINS MN 55343		$ 11,338.40	$ 1,800.00	$ 1,600.00	$ 14,738.40
2011721330056	215	Hawthorne	MICHAEL & SUSAN WELDON	215 HAWTHORNE RD	HOPKINS MN 55343		$ 9,448.59	$ 1,800.00	$ 1,600.00	$ 12,848.59
2011721330057	225	Hawthorne	JEFFREY P & MARY S FOX	225 HAWTHORNE RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330071	240	Hawthorne	CALIBER HOME LOANS INC	2711 N HASKELL AVE STE 2150	DALLAS TX 75204-2912		$ 9,447.60	$ 1,800.00	$ 1,600.00	$ 12,847.60
2011721330072	228	Hawthorne	MYRNA JO BAER	228 HAWTHORNE RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330073	214	Hawthorne	MICHAEL T GALLAGHER	MARIE H GALLAGHER	214 HAWTHORNE RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330074	200	Hawthorne	ANTOINETTE J RAMOS	200 HAWTHORNE RD	HOPKINS MN 55343		$ 11,141.85	$ 1,800.00	$ 1,600.00	$ 14,541.85
2011721330100	237	Hawthorne	KENNETH R & MARGARET J TALLE	237 HAWTHORNE RD	HOPKINS MN 55343		$ 9,452.15	$ 1,800.00	$ 1,600.00	$ 12,852.15
2011721330101	112	Hawthorne	ANDREW LITTLER	MADELEINE LITTLER	112 HAWTHORNE RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330104	249	Hawthorne	KASEY M W HATZUNG	249 HAWTHORNE RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ -	$ 13,588.75
2011721330105	248	Hawthorne	JOHN C LEVY	248 HAWTHORNE RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ -	$ 13,588.75
2911721220016	265	Hawthorne	KURT W NISI	265 HAWTHORNE RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ -	$ 13,588.75
1911721440020	144	Holly	JASON C & SHEILA C ANDERSON	144 HOLLY RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440021	138	Holly	RUSSELL & LORI ANDERSON	138 HOLLY RD	HOPKINS MN 55343		$ 8,771.85	$ 1,800.00	$ 1,600.00	$ 12,171.85
1911721440022	130	Holly	DAVID R SMITH	130 HOLLY RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440023	114	Holly	MICHAEL GEORGE JENSEN	114 HOLLY RD	HOPKINS MN 55343		$ 9,431.89	$ 1,800.00	$ 1,600.00	$ 12,831.89
1911721440024	100	Holly	CHARLES CHRISTENSEN	100 HOLLY RD	HOPKINS MN 55343		$ 9,431.85	$ 1,800.00	$ 1,600.00	$ 12,831.85
1911721440025	101	Holly	MATTHEW KAN & BARBARA KAN	101 HOLLY RD	HOPKINS MN 55343		$ 7,781.55	$ 1,800.00	$ 1,600.00	$ 11,181.55
1911721440026	109	Holly	MICHAEL & DIANE MCDONNELL	1301 7TH ST S #106	NAPLES FL 34102		$ 7,545.55	$ 1,800.00	$ 1,600.00	$ 10,945.55
1911721440027	123	Holly	TIMOTHY J SWENSON AND	MARIANNE E SEVERSON	123 HOLLY RD	HOPKINS MN 55343	$ 9,431.95	$ 1,800.00	$ 1,600.00	$ 12,831.95
1911721440028	129	Holly	BRIAN N HARTER	SANDRA J MORGAN HARTER	129 HOLLY RD	HOPKINS MN 55343	$ 9,431.92	$ 1,800.00	$ 1,600.00	$ 12,831.92
1911721440029	137	Holly	WILLIAM G INGLIS	MICHELLE KAPPES	137 HOLLY RD	HOPKINS MN 55343	$ 7,545.55	$ 1,800.00	$ 1,600.00	$ 10,945.55
1911721440030	145	Holly	ERIC & MARGO BREDESON	145 HOLLY RD	HOPKINS MN 55343		$ 7,545.55	$ 1,800.00	$ 1,600.00	$ 10,945.55
1911721440031	157	Holly	D JEAN SCHWAPPACH	9417 FOREST HILLS CIR	SARASOTA FL 34238		$ 7,792.56	$ 1,800.00	$ 1,600.00	$ 11,192.56
1911721440064	201	Holly	KATHRYN M ALMQUIST	DAVID J ALMQUIST	201 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440065	209	Holly	NATHAN SCHMIDT	JODIE SCHMIDT	209 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440066	217	Holly	MARK R GAUGER & B D GAUGER	CATHERINE ELIZABETH GAUGER	217 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440067	225	Holly	DAVID K STUESSI	225 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440068	235	Holly	ADAM F ENGEBRETSON	RACHEL A ENGEBRETSON	235 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440069	241	Holly	BJORN A STROMMEN	CYDNEY B STROMMEN	241 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440070	255	Holly	WILLIAM E TADEWALD	KAREN L TADEWALD	255 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440085	254	Holly	KAJ M THOMPSON	KATHERINE M THOMPSON	254 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440086	248	Holly	ROBIN C CAMPBELL	248 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440087	234	Holly	KURT A KREIENBRINK	234 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440088	220	Holly	BRITANNIA LEE RAMSTROM	220 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440089	212	Holly	JASON L CUSSLER	EVA MATEO MARTINEZ	212 HOLLY RD	HOPKINS MN 55343	$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721440090	200	Holly	ADAM O LIEBERMAN	200 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
3011721110005	265	Holly	DANIEL R & NANCY K BAUER	265 HOLLY RD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
3011721110007	262	Holly	A C BLACK OR MRS A C BLACK	262 HOLLY ROAD	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
2011721320011	1	Homedale	CATHERINE W BALDWIN	1 HOMEDALE RD	HOPKINS MN 55343		$ 11,007.92	$ 1,800.00	$ 1,600.00	$ 14,407.92
2011721320012	5	Homedale	RICHARD A EISS	5 HOMEDALE RD	HOPKINS MN 55343		$ 7,520.40	$ 1,800.00	$ 1,600.00	$ 10,920.40
2011721320013	9	Homedale	PATRICK C JOHNSON	MADELINE C DAVIS	9 HOMEDALE RD	HOPKINS MN 55343	$ 7,520.37	$ 1,800.00	$ 1,600.00	$ 10,920.37
2011721320014	15	Homedale	JOSEPH HAUER & SARAH C HAUER	15 HOMEDALE RD	HOPKINS MN 55343		$ 7,520.34	$ 1,800.00	$ 1,600.00	$ 10,920.34
2011721320015	17	Homedale	QUALITY HOME RESTORATONS LLC	117 INTERLACHEN RD	HOPKINS MN 55343		$ 7,520.37	$ 1,800.00	$ 1,600.00	$ 10,920.37
2011721320016	21	Homedale	RICHARD S SATHE	21 HOMEDALE RD	HOPKINS MN 55343		$ 7,520.40	$ 1,800.00	$ 1,600.00	$ 10,920.40

PRELIMINARY ASSESSMENT ROLL

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. T19.118342

PID	STREET NUMBER	STREET NAME	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2011721320017	25	Homedale	DEAN A & MERRIL H BUCKHORN	25 HOMEDALE RD	HOPKINS MN 55343		$ 7,520.37	$ 1,800.00	$ 1,600.00	$ 10,920.37
2011721320043	6	Homedale	PETER TORVIK & JULIE HOLLAND	6 HOMEDALE RD	HOPKINS MN 55343		$ 7,523.37	$ 1,800.00	$ 1,600.00	$ 10,923.37
2011721320044	10	Homedale	JEANNIINE STRAND MARQUEZ	10 HOMEDALE RD	HOPKINS MN 55343		$ 7,523.34	$ 1,800.00	$ 1,600.00	$ 10,923.34
2011721320045	14	Homedale	JOHN ANGELL & EILEEN ANGELL	14 HOMEDALE RD	HOPKINS MN 55343		$ 7,523.34	$ 1,800.00	$ 1,600.00	$ 10,923.34
2011721330019	154	Homedale	GAIO E LAKIN	AMY J THORSEN	154 HOMEDALE RD	HOPKINS MN 55343	$ 7,553.71	$ 1,800.00	$ 1,600.00	$ 10,953.71
2011721330020	144	Homedale	OREN GROSS	FIONNUALA NIAOLAIN	144 HOMEDALE RD	HOPKINS MN 55343	$ 7,553.77	$ 1,800.00	$ 1,600.00	$ 10,953.77
2011721330021	136	Homedale	GERALD J JOHNSON	BEVERLY POST JOHNSON	136 HOMEDALE RD	HOPKINS MN 55343	$ 9,444.41	$ 1,800.00	$ 1,600.00	$ 12,844.41
2011721330022	132	Homedale	ALLISON DONNELLY WHALEN	JACOB BUSH WHALEN	132 HOMEDALE RD	HOPKINS MN 55343	$ 9,439.96	$ 1,800.00	$ 1,600.00	$ 12,839.96
2011721330023	118	Homedale	JOYCE A STEIN	118 HOMEDALE RD	HOPKINS MN 55343		$ 7,553.77	$ 1,800.00	$ 1,600.00	$ 10,953.77
2011721330024	112	Homedale	ERNEST C & CARYL J PIERSON	112 HOMEDALE RD	HOPKINS MN 55343		$ 7,553.74	$ 1,800.00	$ 1,600.00	$ 10,953.74
2011721330025	100	Homedale	ROBERT HATLESTAD	100 HOMEDALE RD	HOPKINS MN 55343		$ 7,553.77	$ 1,800.00	$ 1,600.00	$ 10,953.77
2011721330026	101	Homedale	TYLAR F & HILARY H LUNKE	101 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.39	$ 1,800.00	$ 1,600.00	$ 10,954.39
2011721330027	109	Homedale	GARY J LINK	109 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.42	$ 1,800.00	$ 1,600.00	$ 10,954.42
2011721330028	117	Homedale	J T CARROLL & K S CARROLL	117 HOMEDALE RD	HOPKINS MN 55343		$ 11,331.59	$ 1,800.00	$ 1,600.00	$ 14,731.59
2011721330029	129	Homedale	BRIAN R BURLEY	129 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.42	$ 1,800.00	$ 1,600.00	$ 10,954.42
2011721330030	137	Homedale	DAVID C & LISA S TAYLOR	137 HOMEDALE RD	HOPKINS MN 55343		$ 3,777.16	$ 1,800.00	$ 1,600.00	$ 7,177.16
2011721330031	137	Homedale	DAVID C & LISA S TAYLOR	137 HOMEDALE RD	HOPKINS MN 55343		$ 3,777.23	$ -	$ -	$ 3,777.23
2011721330032	137	Homedale	DAVID C & LISA S TAYLOR	137 HOMEDALE RD	HOPKINS MN 55343		$ 3,777.20	$ -	$ -	$ 3,777.20
2011721330033	155	Homedale	JOHN & MARCIA DIRACLES JR	155 HOMEDALE RD	HOPKINS MN 55343		$ 11,331.62	$ 1,800.00	$ 1,600.00	$ 14,731.62
2011721330065	201	Homedale	GREGORY & SUSAN ZOIDIS	201 HOMEDALE RD	HOPKINS MN 55343		$ 8,498.10	$ 1,800.00	$ 1,600.00	$ 11,898.10
2011721330066	209	Homedale	STEPHANIE V SHAW	JASON A SHAW	209 HOMEDALE RD	HOPKINS MN 55343	$ 10,389.39	$ 1,800.00	$ 1,600.00	$ 13,789.39
2011721330067	219	Homedale	GUTHRIE G KELLOM	MEGANN E KELLOM	219 HOMEDALE RD	HOPKINS MN 55343	$ 7,555.04	$ 1,800.00	$ 1,600.00	$ 10,955.04
2011721330068	227	Homedale	PATRICIA SIEH & MATTHEW SIEH	227 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.98	$ 1,800.00	$ 1,600.00	$ 10,954.98
2011721330082	228	Homedale	LUKE A & SARAH J FOSTER	228 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.21	$ 1,800.00	$ 1,600.00	$ 10,954.21
2011721330083	220	Homedale	MARK C SANDERSON	220 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.21	$ 1,800.00	$ 1,600.00	$ 10,954.21
2011721330084	212	Homedale	TYLER DORIAN & SARAH DORIAN	212 HOMEDALE RD	HOPKINS MN 55343		$ 7,554.17	$ 1,800.00	$ 1,600.00	$ 10,954.17
2011721330085	200	Homedale	G BROTTMAN-KAGAN & J KAGAN	200 HOMEDALE RD	HOPKINS MN 55343		$ 11,331.31	$ 1,800.00	$ 1,600.00	$ 14,731.31
1911721440046	148	Interlachen	W ROBERT & JUDY S WORRELL	148 INTERLACHEN RD	HOPKINS MN 55343		$ 11,319.14	$ 1,800.00	$ 1,600.00	$ 14,719.14
1911721440047	140	Interlachen	WILLIAM JOSEPH KOZLAK	140 INTERLACHEN RD	HOPKINS MN 55343		$ 7,546.08	$ 1,800.00	$ 1,600.00	$ 10,946.08
1911721440049	120	Interlachen	PEGGY S CALLOW	120 INTERLACHEN RD	HOPKINS MN 55343		$ 8,960.74	$ 1,800.00	$ 1,600.00	$ 12,360.74
1911721440050	110	Interlachen	LINNEA BURMAN & MARK BURMAN	110 INTERLACHEN RD	HOPKINS MN 55343		$ 11,319.11	$ 1,800.00	$ 1,600.00	$ 14,719.11
1911721440051	100	Interlachen	THOMAS J & MARTHA J PEDERSON	100 INTERLACHEN RD	HOPKINS MN 55343		$ 9,904.45	$ 1,800.00	$ 1,600.00	$ 13,304.45
1911721440059	240	Interlachen	OCWEN LOAN SERVICING LLC	302 ELM ST N	PRESCOTT WI 54021-1722		$ 7,546.08	$ 1,800.00	$ 1,600.00	$ 10,946.08
1911721440060	236	Interlachen	KIMBERLY B GELPERIN	AARON S GELPERIN	236 INTERLACHEN RD	HOPKINS MN 55343	$ 11,319.11	$ 1,800.00	$ 1,600.00	$ 14,719.11
1911721440061	220	Interlachen	ANDREW C HOLMGREN	LINDSAY H HOLMGREN	220 INTERLACHEN RD	HOPKINS MN 55343	$ 7,546.05	$ 1,800.00	$ 1,600.00	$ 10,946.05
1911721440062	216	Interlachen	JASON T BRUEGGEMAN	ELLEN B BRUEGGEMAN	216 INTERLACHEN RD	HOPKINS MN 55343	$ 7,546.11	$ 1,800.00	$ 1,600.00	$ 10,946.11
1911721440063	200	Interlachen	WILLIAM P HAERTZEN	HELEN C HAERTZEN	200 INTERLACHEN RD	HOPKINS MN 55343	$ 11,319.11	$ 1,800.00	$ 1,600.00	$ 14,719.11
1911721440108	250	Interlachen	JEFFREY PHILLIPS	CHRISTINE PHILLIPS	250 INTERLACHEN RD	HOPKINS MN 55343	$ 11,019.46	$ 1,800.00	$ 1,600.00	$ 14,419.46
1911721440110	132	Interlachen	BRIAN J WHINNERY	JESSICA HAYS WHINNERY	132 INTERLACHEN RD	HOPKINS MN 55343	$ 7,546.08	$ 1,800.00	$ 1,600.00	$ 10,946.08
2011721320054	15	Interlachen	DANIEL R KRAL, TRUSTEE	CYNTHIA A KRAL, TRUSTEE	3532 TONKAWOOD RD	MINNETONKA MN 55345	$ 7,861.04	$ 1,800.00	$ 1,600.00	$ 11,261.04
2011721320055	11	Interlachen	VIRGINIA M KIRSCHT	11 INTERLACHEN RD	HOPKINS MN 55343		$ 7,528.44	$ 1,800.00	$ 1,600.00	$ 10,928.44
2011721320056	7	Interlachen	MARA MCCLURE	1 BASSWOOD CT	MADISON WI 53719-5090		$ 7,528.41	$ 1,800.00	$ 1,600.00	$ 10,928.41
2011721330001	101	Interlachen	RICHARD L ROSATI	SHANNON L ROSATI	101 INTERLACHEN RD	HOPKINS MN 55343	$ 9,363.51	$ 1,800.00	$ 1,600.00	$ 12,763.51
2011721330002	109	Interlachen	LISA A GRIMES	CHARLES V FIRTH	109 INTERLACHEN RD	HOPKINS MN 55343	$ 8,489.87	$ 1,800.00	$ 1,600.00	$ 11,889.87
2011721330003	117	Interlachen	MEAD THOMAS MUELLER	GUDRUN ELIZABETH M MUELLER	117 INTERLACHEN RD	HOPKINS MN 55343	$ 8,491.79	$ 1,800.00	$ 1,600.00	$ 11,891.79
2011721330004	123	Interlachen	ROBERT JAMES BONNETT	14580 OLD HICKORY BLVD	FORT MEYERS FL 33912		$ 7,547.40	$ 1,800.00	$ 1,600.00	$ 10,947.40
2011721330005	133	Interlachen	DAVID L CARISCH	MARCI M CARISCH	133 INTERLACHEN RD	HOPKINS MN 55343	$ 11,321.06	$ 1,800.00	$ 1,600.00	$ 14,721.06
2011721330006	153	Interlachen	JUDGE EDWARD T WAHL	HENNEPIN CNTY DISTRICT COURT	300 S 6TH ST	MINNEAPOLIS MN 55487	$ 11,321.09	$ 1,800.00	$ 1,600.00	$ 14,721.09
2011721330086	201	Interlachen	JEAN CHRISTOPHER LATONDRESSE	201 INTERLACHEN RD	HOPKINS MN 55343		$ 7,547.40	$ 1,800.00	$ 1,600.00	$ 10,947.40
2011721330087	209	Interlachen	ANGIE SIMONS	209 INTERLACHEN RD	HOPKINS MN 55343		$ 7,547.40	$ 1,800.00	$ 1,600.00	$ 10,947.40
2011721330088	217	Interlachen	DAVID J WALLACE-JACKSON	217 INTERLACHEN RD	HOPKINS MN 55343		$ 7,547.37	$ 1,800.00	$ 1,600.00	$ 10,947.37
2011721330089	225	Interlachen	CATHY MCKAY	225 INTERLACHEN RD	HOPKINS MN 55343		$ 7,547.40	$ 1,800.00	$ 1,600.00	$ 10,947.40
2011721330090	233	Interlachen	JONATHAN K & KIM PARKER	233 INTERLACHEN RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330107	249	Interlachen	JOYCE V SWANSON	249 INTERLACHEN RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330108	249	Interlachen	JOYCE V SWANSON	249 INTERLACHEN RD	HOPKINS MN 55343		$ 4,243.95	$ -	$ -	$ 4,243.95
2911721220018	255	Interlachen	OSCAR BROWN LLC	9341 PALMER RD	BLOOMINGTON MN 55437		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
3011721110087	256	Interlachen	JODI K BILLY	256 INTERLACHEN RD	HOPKINS MN 55343		$ 9,625.91	$ 1,800.00	$ 1,600.00	$ 13,025.91
1911721410011	6	Interlachen	CHURCH OF ST JOHN	6 INTERLACHEN RD	HOPKINS MN 55343		$ 26,141.44	$ 4,540.00	$ 2,852.00	$ 33,533.44
1911721410025	6	Interlachen	PARISH OF ST GABRIEL/ARCHANG	6 INTERLACHEN RD	HOPKINS MN 55343		$ 17,293.80	$ -	$ -	$ 17,293.80
2011721320046	15	Maple Hill	JOHN F & ELLEN K SKAHAN	15 MAPLE HILL RD	HOPKINS MN 55343		$ 7,525.66	$ 1,800.00	$ 1,600.00	$ 10,925.66
2011721320047	9	Maple Hill	KATHARINE S & ERIC P HUSBAND	9 MAPLE HILL RD	HOPKINS MN 55343		$ 7,525.63	$ 1,800.00	$ 1,600.00	$ 10,925.63
2011721320048	7	Maple Hill	MARY BETH BRODY	7 MAPLE HILL RD	HOPKINS MN 55343		$ 7,525.63	$ 1,800.00	$ 1,600.00	$ 10,925.63
2011721320049	3	Maple Hill	ANN P SHANTZ	3 MAPLE HILL RD	HOPKINS MN 55343		$ 7,610.30	$ 1,800.00	$ 1,600.00	$ 11,010.30
2011721320050	2	Maple Hill	HARRY L & SUZANNE V ROBINSON	2 MAPLE HILL RD	HOPKINS MN 55343		$ 7,526.15	$ 1,800.00	$ 1,600.00	$ 10,926.15

PRELIMINARY ASSESSMENT ROLL

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
BMI PROJECT NO. T19.118342

PID	STREET NUMBER	STREET NAME	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
2011721320051	6	Maple Hill	CHADWICK MICHAEL COLLINS	KRISTEN ANNE COLLINS	6 MAPLE HILL RD	HOPKINS MN 55343	$ 7,526.15	$ 1,800.00	$ 1,600.00	$ 10,926.15
2011721320052	10	Maple Hill	GERALD D & LISA A WALKER	10 MAPLE HILL RD	HOPKINS MN 55343		$ 7,526.15	$ 1,800.00	$ 1,600.00	$ 10,926.15
2011721320053	14	Maple Hill	P T DUFOUR & M OBRIEN DUFOUR	14 MAPLE HILL RD	HOPKINS MN 55343		$ 7,510.22	$ 1,800.00	$ 1,600.00	$ 10,910.22
2011721330007	150	Maple Hill	KELLY J HORNER	JESSICA L HORNER	150 MAPLE HILL RD	HOPKINS MN 55343	$ 11,325.33	$ 1,800.00	$ 1,600.00	$ 14,725.33
2011721330008	136	Maple Hill	ROBBY J BERSHOW	ANDREA BERSHOW	136 MAPLE HILL RD	HOPKINS MN 55343	$ 11,325.40	$ 1,800.00	$ 1,600.00	$ 14,725.40
2011721330009	130	Maple Hill	P A LAVANGER & L L LABELLE	130 MAPLE HILL ROAD	HOPKINS MN 55343		$ 7,550.21	$ 1,800.00	$ 1,600.00	$ 10,950.21
2011721330010	120	Maple Hill	BARBARA B BROWN	C/O CHRISTOPHER BROWN	18175 CAROLE LA	WAYZATA MN 55391	$ 7,550.27	$ 1,800.00	$ 1,600.00	$ 10,950.27
2011721330011	112	Maple Hill	JOHN WOLF	112 MAPLE HILL RD	HOPKINS MN 55343		$ 9,437.79	$ 1,800.00	$ 1,600.00	$ 12,837.79
2011721330012	100	Maple Hill	GEORGE HART DEGRELLA	HALEY DEGRELLA	100 MAPLE HILL RD	HOPKINS MN 55343	$ 9,437.82	$ 1,800.00	$ 1,600.00	$ 12,837.82
2011721330013	101	Maple Hill	ERIC J RUNQUIST	STEFFEN S RUNQUIST	101 MAPLE HILL RD	HOPKINS MN 55343	$ 8,715.79	$ 1,800.00	$ 1,600.00	$ 12,115.79
2011721330014	109	Maple Hill	SEAN P & JILL C MURRAY	109 MAPLE HILL RD	HOPKINS MN 55343		$ 8,965.58	$ 1,800.00	$ 1,600.00	$ 12,365.58
2011721330015	117	Maple Hill	CARRIE LYN BROWNING	CHARLES R BROWNING	117 MAPLE HILL RD	HOPKINS MN 55343	$ 8,968.58	$ 1,800.00	$ 1,600.00	$ 12,368.58
2011721330016	137	Maple Hill	DAVID G & KAREN L ENGELBRET	137 MAPLE HILL RD	HOPKINS MN 55343		$ 7,541.97	$ 1,800.00	$ 1,600.00	$ 10,941.97
	141	Maple Hill	DAVID G & KAREN L ENGELBRET	137 MAPLE HILL RD	HOPKINS MN 55343		$ 7,541.97	$ 1,800.00	$ 1,600.00	$ 10,941.97
2011721330017	145	Maple Hill	TAMMY LOUISE LEE	145 MAPLE HILL RD	HOPKINS MN 55343		$ 7,550.89	$ 1,800.00	$ 1,600.00	$ 10,950.89
2011721330018	153	Maple Hill	KATHERINE & WILLIAM MCCREA	153 MAPLE HILL RD	HOPKINS MN 55343		$ 7,571.39	$ 1,800.00	$ 1,600.00	$ 10,971.39
2011721330075	201	Maple Hill	JOHNATHAN & TRISTA CADY	201 MAPLE HILL RD	HOPKINS MN 55343		$ 7,830.12	$ 1,800.00	$ 1,600.00	$ 11,230.12
2011721330076	215	Maple Hill	STEVEN O OLSON	215 MAPLE HILL RD	HOPKINS MN 55343		$ 11,326.76	$ 1,800.00	$ 1,600.00	$ 14,726.76
2011721330077	231	Maple Hill	SALLY GODDARD	231 MAPLE HILL RD	HOPKINS MN 55343		$ 11,326.73	$ 1,800.00	$ 1,600.00	$ 14,726.73
2011721330078	241	Maple Hill	WILLIAM SHERMAN	CHRISTINA SHERMAN	241 MAPLE HILL RD	HOPKINS MN 55343	$ 11,326.76	$ 1,800.00	$ 1,600.00	$ 14,726.76
2011721330079	245	Maple Hill	SCOTT C KINKEAD	245 MAPLE HILL RD	HOPKINS MN 55343		$ 7,551.17	$ 1,800.00	$ 1,600.00	$ 10,951.17
2011721330080	253	Maple Hill	TODD/ KAREN ANDERSON	253 MAPLE HILL RD	HOPKINS MN 55343		$ 8,133.54	$ 1,800.00	$ 1,600.00	$ 11,533.54
2011721330092	246	Maple Hill	AUGUSTINE/KATHLEEN M PINEDO	246 MAPLE HILL RD	HOPKINS MN 55343		$ 10,293.04	$ 1,800.00	$ 1,600.00	$ 13,693.04
2011721330096	236	Maple Hill	TONY JOE SMALL	BARBARA ANN SMALL	236 MAPLE HILL RD	HOPKINS MN 55343	$ 7,550.40	$ 1,800.00	$ 1,600.00	$ 10,950.40
2011721330097	218	Maple Hill	JOSEPH & PAMELA GROSSMANN	218 MAPLE HILL RD	HOPKINS MN 55343		$ 11,325.52	$ 1,800.00	$ 1,600.00	$ 14,725.52
2011721330098	200	Maple Hill	SUSAN & DOUGLAS GREENBERG	200 MAPLE HILL RD	HOPKINS MN 55343		$ 11,325.55	$ 1,800.00	$ 1,600.00	$ 14,725.55
2011721330106	240	Maple Hill	LEEANN DROLET	240 MAPLE HILL RD	HOPKINS MN 55343		$ 9,908.11	$ 1,800.00	$ 1,600.00	$ 13,308.11
2911721220008	255	Maple Hill	STEPHEN M VINCENT	255 MAPLE HILL ROAD	HOPKINS MN 55343		$ 9,499.04	$ 1,800.00	$ 1,600.00	$ 12,899.04
2911721220010	254	Maple Hill	WILLIAM B DEAN	CHRISTINE G DEAN	254 MAPLE HILL RD	HOPKINS MN 55343	$ 11,236.73	$ 1,800.00	$ 1,600.00	$ 14,636.73
2011721320007	22	Meadowbrook	RICHARD BROWER	22 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721320008	44	Meadowbrook	DAN MARX	44 MEADOWBROOK RD	HOPKINS MN 55343		$ 7,544.77	$ 1,800.00	$ 1,600.00	$ 10,944.77
2011721320009	88	Meadowbrook	RICHARD J HANCOCK	88 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,317.22	$ 1,800.00	$ 1,600.00	$ 14,717.22
2011721320010	98	Meadowbrook	JOHN P & KATIE R REUDER	98 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,390.37	$ 1,800.00	$ 1,600.00	$ 14,790.37
2011721320033	10	Meadowbrook	MARY S SWEETSER-JOHNSON TR	10 MEADOWBROOK RD	HOPKINS MN 55343		$ 9,431.02	$ 1,800.00	$ 1,600.00	$ 12,831.02
2011721320034	2	Meadowbrook	MOURAD R ZAHI	2 MEADOWBROOK RD	HOPKINS MN 55343		$ 8,742.04	$ 1,800.00	$ 1,600.00	$ 12,142.04
2011721330048	154	Meadowbrook	STEVEN D HANNEMAN	KRISTIN E HANNEMAN	154 MEADOWBROOK RD	HOPKINS MN 55343	$ 7,560.74	$ 1,800.00	$ 1,600.00	$ 10,960.74
2011721330049	150	Meadowbrook	SPENCER J ANDERSON	MIKAELA ANDERSON	150 MEADOWBROOK RD	HOPKINS MN 55343	$ 7,560.77	$ 1,800.00	$ 1,600.00	$ 10,960.77
2011721330050	140	Meadowbrook	BENJAMIN T MCCLURE	140 MEADOWBROOK RD	HOPKINS MN 55343		$ 7,560.77	$ 1,800.00	$ 1,600.00	$ 10,960.77
2011721330051	130	Meadowbrook	KATHLEEN ANN TICKLE	130 MEADOWBROOK RD	HOPKINS MN 55343		$ 7,560.77	$ 1,800.00	$ 1,600.00	$ 10,960.77
2011721330052	122	Meadowbrook	CARL A & KIM M CORNELIUSON	122 MEADOWBROOK RD	HOPKINS MN 55343		$ 7,560.80	$ 1,800.00	$ 1,600.00	$ 10,960.80
2011721330053	114	Meadowbrook	M P SAVOIE/M K HUNTER-SAVOIE	114 MEADOWBROOK RD	HOPKINS MN 55343		$ 7,560.74	$ 1,800.00	$ 1,600.00	$ 10,960.74
2011721330054	100	Meadowbrook	ROBERT M & JOANN L GRIMM	100 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,341.12	$ 1,800.00	$ 1,600.00	$ 14,741.12
2011721330060	248	Meadowbrook	MATTHEW J PFOHL	248 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721330061	240	Meadowbrook	AMY L TICKLE	240 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,341.15	$ 1,800.00	$ 1,600.00	$ 14,741.15
2011721330062	216	Meadowbrook	DONALD AND KRISTIN ANDREWS	BAILLET LATOUR LEI 138	2930 BRASSCHAAT	BELGIUM	$ 9,450.98	$ 1,800.00	$ 1,600.00	$ 12,850.98
2011721330063	212	Meadowbrook	FRANCIS C MAGUIRE JR	ELIZABETH A VILETT	212 MEADOWBROOK RD	HOPKINS MN 55343	$ 11,341.12	$ 1,800.00	$ 1,600.00	$ 14,741.12
2011721330064	200	Meadowbrook	KIRK D WATSON	200 MEADOWBROOK RD	HOPKINS MN 55343		$ 11,341.15	$ 1,800.00	$ 1,600.00	$ 14,741.15
2911721220001	248	Meadowbrook	MATTHEW J & MELINDA N PFOHL	248 MEADOWBROOK RD	HOPKINS MN 55343		$ 8,864.89	$ -	$ -	$ 8,864.89
2011721340001	201	Meadowbrook	CITY OF MPLS PARK BOARD	2117 WEST RIVER RD	MINNEAPOLIS MN 55411		$ 60,000.00	$ 5,530.00	$ 2,530.00	$ 68,060.00
1911721440032	154	Oakwood	SCOTT GABRIK & RENA GABRIK	154 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.80	$ 1,800.00	$ 1,600.00	$ 10,945.80
1911721440033	146	Oakwood	MARISA H HOUGHLAND	146 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.80	$ 1,800.00	$ 1,600.00	$ 10,945.80
1911721440034	142	Oakwood	AMY HYETT	142 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.77	$ 1,800.00	$ 1,600.00	$ 10,945.77
1911721440035	126	Oakwood	DOROTHY ANN SWANBERG	126 OAKWOOD ROAD	HOPKINS MN 55343		$ 9,432.26	$ 1,800.00	$ 1,600.00	$ 12,832.26
1911721440036	122	Oakwood	MARGARET R/WILLIAM A SEDOFF	122 OAKWOOD RD	HOPKINS MN 55343		$ 9,432.23	$ 1,800.00	$ 1,600.00	$ 12,832.23
1911721440037	112	Oakwood	JONATHAN D STURGIS	112 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.77	$ 1,800.00	$ 1,600.00	$ 10,945.77
1911721440038	100	Oakwood	SARAH J RUSTAD	100 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.80	$ 1,800.00	$ 1,600.00	$ 10,945.80
1911721440039	101	Oakwood	NINETY N NINETY LLC	1321 7TH AVE S	HOPKINS MN 55343		$ 7,545.83	$ 1,800.00	$ 1,600.00	$ 10,945.83
1911721440040	109	Oakwood	ELLEN I ZIEGLER	109 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.86	$ 1,800.00	$ 1,600.00	$ 10,945.86
1911721440041	119	Oakwood	TAD M VANDERVORSTE	119 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.83	$ 1,800.00	$ 1,600.00	$ 10,945.83
1911721440042	125	Oakwood	ROY A SCHWAPPACH JR	125 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.83	$ 1,800.00	$ 1,600.00	$ 10,945.83
1911721440044	143	Oakwood	MICHAEL FROMMELT	BRENDA BEUKELMAN	143 OAKWOOD RD	HOPKINS MN 55343	$ 8,866.70	$ 1,800.00	$ 1,600.00	$ 12,266.70
1911721440045	153	Oakwood	ANDREW C GROSSMAN	153 OAKWOOD RD	HOPKINS MN 55343		$ 9,997.89	$ 1,800.00	$ 1,600.00	$ 13,397.89
1911721440052	201	Oakwood	SARA FERDEN	JEREMY SCHROETTER	201 OAKWOOD RD	HOPKINS MN 55343	$ 11,355.02	$ 1,800.00	$ 1,600.00	$ 14,755.02
1911721440053	221	Oakwood	MARK A & PAMELA J VAN ERT	221 OAKWOOD RD	HOPKINS MN 55343		$ 11,318.76	$ 1,800.00	$ 1,600.00	$ 14,718.76

PRELIMINARY ASSESSMENT ROLL

INTERLACHEN PARK STREET & UTILITY IMPROVEMENTS
CITY OF HOPKINS, MN
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PID	STREET NUMBER	STREET NAME	TAXPAYER NAME	TAXPAYER ADDRESS (LINE 1)	TAXPAYER ADDRESS (LINE 2)	TAXPAYER ADDRESS (LINE 3)	PROPOSED STREET ASSESSMENT	PROPOSED WATER SERVICE ASSESSMENT	PROPOSED SEWER SERVICE ASSESSMENT	TOTAL PROPOSED ASSESSMENT
1911721440054	229	Oakwood	WALTER POXON & HEIDI POXON	229 OAKWOOD RD	HOPKINS MN 55343		$ 11,318.76	$ 1,800.00	$ 1,600.00	$ 14,718.76
1911721440055	241	Oakwood	CHRISTOPHER J ERICHSEN	KATIE A DUNN	241 OAKWOOD RD	HOPKINS MN 55343	$ 11,318.79	$ 1,800.00	$ 1,600.00	$ 14,718.79
1911721440056	255	Oakwood	MARK & ELIZABETH PIHART	255 OAKWOOD RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440071	254	Oakwood	EDMUND & CINDY BENNETT	254 OAKWOOD RD	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440072	236	Oakwood	SARAH THORESON	PHILIP THORESON	236 OAKWOOD RD	HOPKINS MN 55343	$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721440073	224	Oakwood	MATTHEW PAVEK	SARAH PAVEK	224 OAKWOOD RD	HOPKINS MN 55343	$ 7,545.77	$ 1,800.00	$ 1,600.00	$ 10,945.77
1911721440074	216	Oakwood	CHRISTOPHER A JADIN	EMILY COLLETTI	216 OAKWOOD RD	HOPKINS MN 55343	$ 7,545.80	$ 1,800.00	$ 1,600.00	$ 10,945.80
1911721440075	208	Oakwood	LORRAINE B DUFFY	208 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.77	$ 1,800.00	$ 1,600.00	$ 10,945.77
1911721440076	202	Oakwood	DAGMAR E CARUSON	202 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.80	$ 1,800.00	$ 1,600.00	$ 10,945.80
1911721440109	133	Oakwood	CHARLES R & NORA A WATTS	133 OAKWOOD RD	HOPKINS MN 55343		$ 7,545.86	$ 1,800.00	$ 1,600.00	$ 10,945.86
3011721110004	262	Oakwood	R G ANDERSON & M S ANDERSON	262 OAKWOOD RD	HOPKINS MN 55343		$ 10,553.86	$ 1,800.00	$ 1,600.00	$ 13,953.86
3011721110086	265	Oakwood	J H KULSTAD & E J MAYOTTE	265 OAKWOOD RD	HOPKINS MN 55343		$ 11,025.32	$ 1,800.00	$ 1,600.00	$ 14,425.32
1911721410014	1301	Preston	RICHARD & CAROLINE RINKER	1301 PRESTON LANE	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410015	1311	Preston	FREDERICK E BERG	1311 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410016	1319	Preston	TOU X LEE & CHONG V LEE	1319 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410017	1325	Preston	LAURA ANN ELBAKKAL	1325 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410018	1401	Preston	MARIE K COTE	1401 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410019	1409	Preston	GLENNA R HOVEY	1409 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410020	1417	Preston	C L ROBIDOUX	1417 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410021	1425	Preston	J R HILL & L A CARLOCK	1425 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410022	1501	Preston	PAUL J & JUDY T STITZEL	1501 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410023	1509	Preston	STEPHANIE A GRAVES	1509 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410024	1517	Preston	BERCH HOLDINGS LLC	261 SCHOOL AVE #240	EXCELSIOR MN 55331		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410027	1418	Preston	JOSEPH W & KAREN K FISH	1418 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410028	1410	Preston	BONNIE M RINKER	1410 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410029	1402	Preston	CAROL J WATZKE	1402 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410030	1326	Preston	KOREY PATRICK BRIERTON	1326 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410031	1318	Preston	THOMAS L LEE	1318 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
1911721410032	1310	Preston	ANTONIA APOLINARIO-WILCOXON	1310 PRESTON LA	HOPKINS MN 55343		$ -	$ 1,800.00	$ 1,600.00	$ 3,400.00
2011721320035	1603	Preston	TIMOTHY P MOLEPSKE	RACHEL M MOLEPSKE	1603 PRESTON LA	HOPKINS MN 55343	$ 7,530.40	$ 1,800.00	$ 1,600.00	$ 10,930.40
2011721320036	1607	Preston	SCOTT L STILMAN	1607 PRESTON LA	HOPKINS MN 55343		$ 7,545.28	$ 1,800.00	$ 1,600.00	$ 10,945.28
2011721320037	1611	Preston	MATTHEW & KATHRYN WEISENBERG	1611 PRESTON LA	HOPKINS MN 55343		$ 7,545.28	$ 1,800.00	$ 1,600.00	$ 10,945.28
2011721320038	1615	Preston	ROBIN B PEABODY	1615 PRESTON LA	HOPKINS MN 55343		$ 9,054.69	$ 1,800.00	$ 1,600.00	$ 12,454.69
2011721320039	1709	Preston	JOSHUA M & SANDRA L EDWARDS	1709 PRESTON LA	HOPKINS MN 55343		$ 7,922.53	$ 1,800.00	$ 1,600.00	$ 11,322.53
2011721320040	1715	Preston	PATRICK A CASE	1715 PRESTON LA	HOPKINS MN 55343		$ 7,922.53	$ 1,800.00	$ 1,600.00	$ 11,322.53
2011721320041	1727	Preston	RICHARD & JUDITH ANDERSON	1727 PRESTON LA	HOPKINS MN 55343		$ 7,922.50	$ 1,800.00	$ 1,600.00	$ 11,322.50
2011721320042	1726	Preston	ELI HEINEMANN	1726 PRESTON LA	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
2011721320057	1604	Preston	TIMOTHY J DEXTER	1604 PRESTON LA	HOPKINS MN 55343		$ 11,788.75	$ 1,800.00	$ 1,600.00	$ 15,188.75
1911721410026	1428	Preston	PARISH OF ST JOHN EVANGELIST	6 INTERLACHEN RD	HOPKINS MN 55343		$ 6,900.00	$ 1,800.00	$ 1,600.00	$ 10,300.00
								PRELIMINARY TOTAL AMOUNT TO BE ASSESSED		$ 3,253,729.40

Appendix D: Resident Questionnaires & Neighborhood Meetings

CITY OF HOPKINS

PUBLIC WORKS-ENGINEERING DIVISION

2020-2021 STREET AND UTILITY IMPROVEMENT QUESTIONNAIRE

PLEASE RETURN TO PUBLIC WORKS (11100 EXCELSIOR BLVD, HOPKINS MN 55343) BY: MAY 24, 2019

QUESTIONNAIRES CAN ALSO BE SCANNED AND EMAILED TO NICKAM@BOLTON-MENK.COM

Street and utility improvements are proposed for your street in 2020 or 2021. This questionnaire is a valuable resource for the City in identifying issues to receive attention. Your comments are greatly appreciated.

1. DRAINAGE

I have observed standing water in the street or my front yard after a significant rain. It is located at:

_____

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

_____ We have NOT experienced problems with our sanitary sewer service.
_____ We have experienced problems or replaced our sewer service. Please describe:

_____

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

_____ We have NOT experienced problems with our water service.
_____ We have experienced problems or replaced our water service. Please describe:

_____

4. PEDESTRIAN SAFETY & FACILITIES

Do you feel that there are certain areas where sidewalks or trails would be beneficial? Are there any areas of concern with respect to pedestrian safety? If so, where?

_____

_____

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

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

6. TREES / LANDSCAPING

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

_____
_____

7. GENERAL COMMENTS / QUESTIONS

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

_____
_____
_____

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

Name:_____ Phone No.:_____

Address:_____ Email:_____

THANK YOU FOR YOUR RESPONSE!

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

Hopkins 2020/2021 Street & Utility Improvements

Tree Questionnaire Form

The project team received great feedback from residents through the initial questionnaires sent in the mail and the first neighborhood meeting held on June 25th. Some feedback received was related to boulevard tree impacts. It is a goal of the project team to save as many healthy boulevard trees as possible.

The project is in the preliminary design stage and tree removals have yet to be finalized. The project team is continuing to review all boulevard tree impacts to try to limit the number of tree removals of desirable condition and species. In some cases, often due to utilities underlying trees or due to a tree's proximity to the roadway, it is infeasible to save all trees. In other locations, design efforts to save trees can be futile due to tree susceptibility to invasive species such as Emerald Ash Borer. This form is being distributed to collect additional input from area residents regarding existing trees.

Please return this completed form to nickam@bolton-menk.com, mail to 12224 Nicollet Avenue, Burnsville, MN 55337 with attention to Nick Amatuccio, or return it at the second Neighborhood Meeting on August 5th.

Owner Name: _____

Address: _____

Phone # or Email (Optional): _____

1. Are you currently using a professional tree service to treat Ash or other trees? If so, which?

_____

_____

_____

2. Are there any trees in front of your property along the street that you would like to save more than others? Are there any trees in front of your property that you would like to see removed?

_____

_____

_____

This form will help the project team finalize necessary tree removals. Once the plans are further developed, owners of property adjacent to boulevard tree impacts will receive a letter with additional information including why the tree must be removed and replacement tree options. Trees that must be removed will be replaced with a new boulevard tree. If you have any questions about this form or the project in general, please call Nick Amatuccio at 612-965-3926.

2020/2021 Street & Utility Improvements
June 25, 2019 Neighborhood Meeting
Meeting Summary

PURPOSE

The purpose of the neighborhood meeting was to share information on the 2020/2021 Street and Utility Improvements Project and answer any questions related to the project.

MEETING PROMOTION & ATTENDANCE

Invitations were mailed to properties in the Interlochen neighborhood.

Attendance:

City of Hopkins	Eric, Nate
Bolton & Menk	Nick Amatuccio, Mike Waltman, Nicole Schmidt, Madeline Lunzer

78 community members signed into the Open House.

VENUE & FORMAT

DATE & TIME	VENUE	Format
June 25, 2019 5:00-7:00PM	St. Gabriel's Church	Open House Format with a Formal Presentation

PRESENTED MATERIALS

Board Station
Phasing Plan
What's Under My Street?
Street Widths
Drainage Issues Map
Project Layout – NW Quadrant; Project Layout – SW Quadrant; Project Layout – NE Quadrant; Project Layout – SE Quadrant
Assessment Group Map
Assessment Amount Map
DRAFT Preliminary Assessment Roll

2020/2021 Street & Utility Improvements
June 25, 2019 Neighborhood Meeting
Meeting Summary

INPUT SUMMARY

Written Comments on Comment Card:

- Difficult to hear speakers. Suggest a mic. Suggest questions being repeated by the leader so that everyone can understand.
- DO NOT CUT DOWN OUR TREES. We have been treating them at our own expense for 25 years. They are old and healthy according to Rainbow Tree Care, they have agreed to talk with you. I will have them call you. Taking down large healthy trees will absolutely impact our property value and doing so is wrong. | Name: Buckhorn | Address: 25 Homedale | Email: mbuckhorn@comcast.net
- Will additional inlets be installed for the storm sewer? | Name: Matthew Kan | Address: 101 Holly Road | Phone: 952-938-9079
- I'm glad the drainage issues and the conditions of the roads will be addressed. I'm not looking forward to the dust, dirt, noise, and access problems this project will necessarily cause…nor the expense. But, it needs to be done.
- I am 100% against curbs & sidewalks in IP neighborhood. Curbs and sidewalks will not improve street condition – the lack of investment in street repair is the cause. If you want better streets, do a better job on a regular basis. This neighborhood is unique, this project completely changes the aesthetic. This is short-sighted and pushed thru w/ no neighborhood input. It is unbelievable you are removing so many trees for an unneeded change!
- 25 years in the neighborhood – no problems at all not having sidewalks. 2 kids grew up here & rode bikes & scooters w/ no issues. My husband and I are opposed to installing sidewalks. | Name: Merril Buckhorn | Address: 25 Homedale Road | Email: mbuckhorn@comcast.net
- Taking 5 trees per street will drastically alter the look of this neighborhood – no more "park" to be proud of!
- I am extremely upset about the proposed removal of 2 of my trees, particularly the maple tree. The map shows 8 trees on my block possibly being removed which will destroy the character of my block. I would like to have a discussion with the city forester about what can be done to save my maple tree. Also, I am adamantly opposed to curb & gutter. I feel the city has deferred maintenance of our neighborhood streets instead of properly maintaining them all along so they could make a case for this huge renovation. | Name: Lisa Taylor | Address: 137 Homedale | Email: lisasteintaylor@hotmail.com | Phone: 952-935-7820

Other Written Comments

- NO SIDE WALKS AT ALL! | Name: Jenny Dukek | Address: 238 Ashby Road | Email: jenny.dukek@gmail.com | Phone: 612-598-0062
- We do not want sidewalks on trails through the neighborhood, I would like more info at possible sanitary sewer impacts to my own sewer line. | Name: Barbara Kan | Address: 101 Holly Road | 952-938-9079

2020/2021 Street & Utility Improvements
June 25, 2019 Neighborhood Meeting
Meeting Summary

- Not in favor of sidewalks. Do not want to remove trees. We would like to limit charges and costs. | Name: Peter Hyjek | Address: 113 Ashley Road | Email: phyjek@comcast.net | Phone: 612-805-5197
- We do NOT want sidewalks. | Name: Sean Murray | Email: spmurray07@gmail.com
- 1 Hawthorne Road – Paul
    - 45-year-old Ash tree (45' canopy, 63'-80' tall) removal – 4'-6' circumference
    - Pay to have treated every 1 or 2 years by Shadywood
    - Will send email that does not want removal
    - Tree may be behind ROW
    - Every spring driveway and backyard floods because water comes down Hawthorne to Excelsior & hits snow bank by Excelsior before getting to CB on Excelsior around corner
    - Floods driveway because snow blocks water
    - Driveway and curb very flat
- 255 Maple Hill Road
    - Maple Hill Road – doesn't like cul-de-sac
    - Reducing street parking
    - Been like this for 25 years
- 240 Maple Hill Road
    - Maple tree marked for removal, doesn't want it removed
- 220 Homedale
    - Trying to sell. Would like to understand wall impacts on south end.
    - Katy & Mark Sanderson, 952-500-8379
- 201 Maple Hill Road
    - Runoff down Goodrich from Homedale into driveway
    - Maple Hill end into structure
    - Flow into basement
    - Add CB upstream of driveway
    - Likes cul-de-sacs, more definition
    - Ok with tree removal on Maple Hill
- 1603 Interlachen
    - Bit driveway, not concrete like our figure shows
    - 1607, 1611, 145 Preston – all asphalt driveways
- 220 Interlachen
    - Tree removal reason?
- 200 Holly
    - Southern lot line by driveway and street
        - Would like tree removed
    - Pine tree on Goodrich by ROW would like removed
    - 2 car garage → one car driveway → increase apron width

2020/2021 Street & Utility Improvements
June 25, 2019 Neighborhood Meeting
Meeting Summary

- 98 Meadowbrook
  - Corner Meadow/Boyce → 3 maples to be removed
  - 2 are in good shape
- 25 Homedale
  - 2 elm trees → Rainbow Tree Lane has been treating for 20 years
  - One blue/one red
- 1417 Preston Lane
  - Calixte115@aol.com
  - Email plan sheet to Cal & Michelle
- 22 Homedale
  - Interested in pump solution
  - He also likes drain tile stub up Homedale that is shown
- 254 Ashley
  - Had water coming up through floor in basement this spring
  - Sump pump couldn't keep up
  - Water pooling in backyard
  - Also had problems with water runoff at rear of house during spring melt
  - Low point behind houses at south end west of Ashley
- 144 Holly
  - Treats elms
  - Would like large elm in front saved
  - Sheila Anderson, 952-250-9088
  - Ok with ash removal on Goodrich
  - Put all meeting materials on website
- 254 Ashley
  - Had their water service replaced in street 2 years ago

BOLTON & MENK
Real People. Real Solutions.

City of Hopkins
2020/2021 Street & Utility Improvements
Neighborhood Meeting 1

Time: 5:00 PM
Date: June 25, 2019
Location: St. Gabriel's Church
Hopkins, MN

Name	Address	Phone or Email (Optional)
ALBERT KEMPF	262 ASHLEY RD	952) 938-4522
Tina Sherman	241 Maple Hill Rd.	952 240 7373
DON RABBMACHER	254 ASHLEY RD	952-215-4237
Tom & Doleen Greene	14 Hawthorne Rd.	952-938-7245
William Penk	22 Hawthorne Rd	952.607.5902
Lori Thul	6 Interlachen Rd - St. Gabriel	lthul@stgabrielhopkins.org
Joyce A. Stein	118 Homedale Rd.	
Amanda Sperl	200 Holly Rd	(320) 249-2207
Mark Savoie	174 Meadowbrook	Mark.P.Savoie@Gmail.com
Sheila Anderson	149 Holly Road	scaanderson@comcast.net
Carol Watzke	1402 Preston Ln	cjwindfeldt@yahoo.com
Dodi Swanberg	126 Oakwood Rd	dodiswan@gmail.com
Kathy Sanderson	220 Homedale Rd	Kathymark4@comcast.net
Nicole & Jesse Fredberg	29 Blake Rd S	windbows76@gmail.com
Pat Dufour	14 Maple Hill	p.dufour@live.com
Doug Carlson	4860 Parkcommon Drive	St. Louis Park
Karen Kreienbrink	234 Holly Rd	952-938-0105 fivekspg.com
Karen Fish	1418 PRESTON LN	fishkarenk@gmail.com
Meleah Bedder	220 Ashley Rd.	meleah@comcast.net
PAUL & JUDY STITZEL	1501 PRESTON LANE HOPKINS	PJSTITZEL@COMCAST.NET
GREG & SALLY GODDARD	231 MAPLE HILL RD.	goddardsallyg@gmail.com
Bridget + Gary Kanowitz	106 Ashley	Kano106@msn.com

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City of Hopkins
2020/2021 Street & Utility Improvements
Neighborhood Meeting 1

Time: 5:00 PM
Date: June 25, 2019
Location: St. Gabriel's Church
Hopkins, MN

Name	Address	Phone or Email (Optional)
John M. + Marcia M. Dirkes	155 Homedale Road	JDirkes@gmail.com
SARAH A. RADEMACHER	254 ASHLEY RD	dgradem@aol.com
Jim Andeely	254 Ashley Rd	612/715-1305
HARRY ROBINSON	2 MAPLE HILL ROAD	952-352-9890
Sheila Przesmicki	6 Interlachen Rd.	sprzesmicki@stgabrielhopkins.org
LISA TAYLOR	137 HOMEDALE ROAD	lisasteintaylor@hotmail.com
Jeff Wassenberg	1405 Boyce St	Jwassy31@yahoo.com
Jon Kaeg	200 Oberlin Rd	jonkaeg@gmail.com
Eric Ruhquist	101 Maple Hill Rd	americ@acm.org
Matt & Barb Kan	101 Holly Rd	
Pat + Elaine Case	1715 Preston Lane	pcase21@hotmail.com
ROB PEDERSEN	100 INTERLACHEN RD	ROB.PEDERSEN@QUESTNETWORKS.COM
SANDY EDWARDS	1709 Preston Ln	jazz649073@aol.com
Jessica Horner	150 Maple Hill Rd	jlhorner@yahoo.com
Adam Engebretson	235 Holly Rd	adam.engebretson@gmail.com
Ed + Cindy Bennett	254 Oakwood Rd	edcindybennett@gmail.com
Wendy Ahles	1 Hawthorne Rd	wsahles@icloud.com
Lisa Caldock Hill	1425 Preston	lisaLepell@yahoo.com
Mike McDonnell	109 Holly RD	dmcdonn@gmail.com
Diane McDonnell	109 Holly RD	
Jason Brueggeman	216 Interlachen Rd	Jason.Brueggeman@threesixty sales.com
Ellen Brueggeman	216 Interlachen Rd	ellenbrueggeman@gmail.com

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Real People. Real Solutions.

City of Hopkins
2020/2021 Street & Utility Improvements
Neighborhood Meeting 1

Time: 5:00 PM
Date: June 25, 2019
Location: St. Gabriel's Church
Hopkins, MN

Name	Address	Phone or Email (Optional)
Jenny & Darryl Dukek	238 Ashley Road Maple, mn 55343	Jenny.Dukek@gmail.com
Bill Tadewald	255 Holly Rd, Hopkins MN 55343	Tadewald@msn.com
Bill Haertzen	200 Interlachen	
Tom Vance	237 Ashley Rd 55343	tom@advanceyourdreams.com
Maggie Sedoff	122 Oakwood Rd - 55343	maggie.sedoff@gmail.com
RENEE DELOZIER	115 BLAKE RS	renee_delozier@yahoo.com
Ted Vanderforste	~~124~~ 119 Oakwood Rd 55343	tedvanderVorste@Gmail.com
Carl & Michele Robichaud	1917 PRESTON LN 55343	CHLIXTE415@AOL.COM
Nate & Jodie Schmidt	209 Holly Rd	Jodie_Schmidt@Live.com
Matt Pavek	224 Oakwood Rd	mattpavek@gmail.com
PAUL LEUNG	230 Ashley Rd	PAULTLEUNG@gmail.com
Sean Murray	109 Maple Hill Rd	spmurray07@gmail.com
CLAY TAYLOR	137 HOMEDALE RD	clay@replawyer.com
John Cady	201 Maple Hill	johncady3@gmail.com
Lynda Williams	99 Hawthorne Rd	lyndaret@COMCAST.NET
Sarah Rustad	100 Oakwood Rd	sjrustad@gmail.com
Glenna Rae Hovey	1409 Preston Lane	grhovey@gmail.com
Peter + Lee Drolet Demarest	240 Maple Hill	droletlee@gmail.com
Lisha_MCCONNELL	35 Ashley Rd	lisha_mcconnell@yahoo.com
Sarah Rustad / Don Edam	102 Oakwood Rd	sjrustad@gmail.com

BOLTON & MENK

Real People. Real Solutions.

City of Hopkins
2020/2021 Street & Utility Improvements
Neighborhood Meeting 1

Time: 5:00 PM
Date: June 25, 2019
Location: St. Gabriel's Church
Hopkins, MN

Name	Address	Phone or Email (Optional)	
DAVE POLYAK	204 ASHLEY RD HOPKINS, MN 55343	davepolyak@yahoo.com	✓
Tad VanderVorste	119 Oakwood Rd 55343	tadvandervorste@Gmail.com	✓
JEFF PHILLIPS	250 INTERLACHEN RD · 55343	jphil97@yahoo.com	✓
Peter Hyjek	113 Ashley Road Hopkins MN 55343	phyjek@comcast.net	✓
Michele Robedeau	4417 Preston Mnr		
Ryan Johnson	4 Hawthorne RD		
Brian Harter	129 Holly Rd. Hopkins MN	bnharter@comcast.net	✓
Gretchen Marble	1313 Boyce St Hopkins	marblegr@hotmail.com	✓
Merril Buckhorn	25 Homedale Rd	mbuckhorn@comcast.net	✓
Tim Molepske	1603 Preston Ln	TPMOLEPSKE@yahoo.com	✓
JEREMY SCHROEDEL	201 OAKWOOD	SCHROEDTEL@GMAIL.COM	✓
STEPHEN VINCENT	255 MAPLE HILL RD	svincent4@hotmail.com	✓
Paul Ahles	1 Hawthorne Rd	pahles@redlightrescue.com	✓
Wendy Ahles	1 Hawthorne Rd	wahles1@gmail.com	✓

2020/2021 Street & Utility Improvements
August 5, 2019 Neighborhood Meeting
Meeting Summary

PURPOSE

The purpose of the neighborhood meeting was to provide additional information on the proposed improvements and project schedule for the 2020/2021 Street & Utility Improvements Project.

MEETING PROMOTION & ATTENDANCE

Invitations were mailed to properties in the Interlochen neighborhood.

Attendance:

City of Hopkins	Eric, Nate
Bolton & Menk	Nick Amatuccio, Mike Waltman, Nicole Schmidt, Madeline Lunzer, Josh Hrabe

54 community members signed into the Open House.

VENUE & FORMAT

DATE & TIME	VENUE	Format
August 5, 2019 5:00-8:00 p.m.	St. Gabriel's Church	Open House with No Formal Presentation

PRESENTED MATERIALS

Board Station
What's Under My Street?
Project Layout – NW Quadrant; Project Layout – SW Quadrant; Project Layout – NE Quadrant; Project Layout – SE Quadrant
DRAFT Preliminary Assessment Roll
Boulevard Tree Impacts
Presentation

2020/2021 Street & Utility Improvements
August 5, 2019 Neighborhood Meeting
Meeting Summary

INPUT SUMMARY

Written Comments on Comment Card:

- Name: Meleah Bedder | Address: 220 Ashley Road | Email: meleah@comcast.net | Bummed – felt like I was told it didn't matter how we felt about project – we don't have a choice. Bolton reps were professional and courteous.
- Address: 210 Ashley | Assessment is egregious. Is anyone really listening? We do not want curbs! Dead-end north Ashley now. Create stronger borders to busy Blake Road!
- Name: Meleah Bedder | Address: 220 Ashley Road | Email: meleah@comcast.net | Very disappointed – DO NOT WANT CURBS! I would be okay with assessment to maintain/repair streets etc. BUT HATE CURBS. City/Bolton isn't listening to tax payers.

Tree Questionnaire:

Questions – 1. Are you currently using a professional tree service to treat Ash or other trees? If so, which? 2. Are there any trees in front of your property along the street that you would like to save more than others? Are there any trees in front of your property that you would like to see removed?

- Name: Gini Kirscht | Address: 11 Interlachen Road | 1. No. | 2. No. Save all!
- Name: David R. & Stacey C. Smith | Address: 130 Hailey Road | Phone: 952-933-2923 | 1. No – no ash trees on property. | 2. Several decades ago we lost four large elms. Over recent years the City has planted their boulevard trees – two maples and a genetically modified elm which are healthy and doing very well!
- Name: Thomas Lee & Joan Lee | Address: 1318 Preston Lane | Email: iamjoanlee@aol.com | 1. No | 2. Yes. Could you give us the cost? Or would it be included in the project?
- Name: Matt & Barb Kan | Address: 101 Holly | 1. No | 2. Hopkins has already removed the ash tree in the front yard. We'd still need to request another tree.
- Name: Christie Paulsen & David Morehouse | Address: 145 Ashley Road | Email: clp42354@aol.com | 1. No. | 2. Since we don't have air conditioning we rely on our shade trees to keep our house cool in the summer. The loss of any of our trees would effect us as well as our recent landscaping which was done using shade vegetation.
- Name: Mary Johnson | Address: 10 Meadowbrook Road | Phone: 952-933-0681 | 1. No | 2. My birch to save. My Japanese (flowering) crab apple trees to go. I also have lilac trees (are beautiful).
- Name: Rich Rinker | Address: 1301 Preston Lane | Phone: richrrinker@gmail.com | 1. No | 2. We don't have trees on Ashley, could be added. Across the street on Ashley is an ash that leans onto the street. I assume that it will be removed.
- Name: Robert & Mary Ann Scott | Address: 121 Blake Road South | Phone: 952-933-3574 | 1. No | 2. Please remove the oak tree in the easement of Blake Road. This oak hangs out over the road; the tree straddles the property line between 121 Blake & 115 Blake. Both property owners would like to see it removed.

2020/2021 Street & Utility Improvements
August 5, 2019 Neighborhood Meeting
Meeting Summary

- Name: Anne & Tad WanderVorste | Address: 119 Oakwood Road | Email: avandervorste@gmail.com | 1. No | 2. Would love to save the large maple on the NW corner of our lot. We do understand that it is an old tree, though. Update: this tree is no longer listed as being removed!
- Name: Clay & Lisa Taylor | Address: 137 Homedale Road | Phone: 612-554-2230 | Email: lisasteintaylor@hotmail.com | 1. No | 2. The maple tree that has been designated for removal. I spoke to Davey Tree experts, and they told me the main roots are growing parallel to the street, not towards it. They don't see why the tree needs to be removed. With some care, it should survive the construction.
- Name: Joyce A. Stein | Address: 118 Homedale Road | 1. Arbor Doctor for ash tree. Believe he also treated the honey locust for something. Both these are healthy! | 2. Absolutely do not want either the locust or the ash removed. They have been growing 50 + years & are a priceless feature contribution to the value of our property.
- Name: Thomas D. Vance | Address: 237 Ashley Road | Phone: 612-840-1221 | 1. Yes – elm and crabapple | 2. Yes – Maple, Removed – No
- Name: Ed & Cindy Bennett | Address: 254 Oakwood Road | Email: edcindybennett@gmail.com | 2. Pine tree at south end (the one that's marked "x") – you can take that. But please don't replace (we don't want more shade there).
- Name: Marie Cote | Address: 1401 Preston Lane | Email: mcote@srfconsulting.com | 1. No | 2. There is a hackberry tree west of my driveway that is pretty close to the street. It may be difficult to keep and if so, open to replacement options.
- Name: David & Karen Engelbret | Address: 137 Maple Hill Road | Email: klengelbret@gmail.com | 1. Yes, "premium tree protection" – magnolias, pinoaks | 2. Save – Norway maple in front of house (137 Maple Hill). Remove – 141 Maple Hill, blue spruce – not a boulevard tree.
- Name: Jason & Ellen Brueggeman | Address: 216 Interlachen Road | Email: Jason.brueggeman@threesixtysales.com | 1. No | 2. I would like to save all the trees in the neighborhood. But especially the black walnut in our front yard.

Resident Questionnaire:
Questions – 1. Have you observed standing water in the street or front yard after significant rain, where is it located? 2. Have you experienced problems with sanitary sewer? 3. Have you experienced problems with your water service? 4. Do you feel that there are certain areas where sidewalks or trails would be beneficial, are there any areas of concern with respect to pedestrian safety, if so, where? 5. Do you have an irrigation system or invisible pet fence? 6. Do you have concerns about trees or landscaping? 7. General comments/questions.

- Name: Jason Brueggeman | Address: 216 Interlachen Road | Phone: 952-945-0060 | 1. No issues | 2. No | 3. Yes, repaired a leaking valve at city connection in December 2018 | 4. No | 5. Yes, an irrigation system. | 6. Yes, a garden bed in the north corner of front yard | 7. We are

HIGHLY OPPOSED to concrete curb & gutter because it will degrade the historic character of the neighborhood.

Other Residents Comments:

- 212 Holly Road – Jason
  - Maple/Oak → wants to save but between sewer and water service so unlikely to save unless services already replaced
- 137 Maple Hill Road
  - Blue x tree removal → seems healthy
  - Double check removal reason
  - 141 Maple Hill is buildable lot that they own & are looking to sell → install water and sewer stub to 141 Maple Hill
- 210 Ashley Road – Renee
  - Dead end @ north end of Ashley because so close to Excelsior/Blake; not a strong border/buffer at Ashley/Excelsior
  - City or county once proposed to cut off access to Excelsior
- 122 Oakwood – Bill
  - 2 crimson maples → south one is in poor condition but not marked for removal – asked city
  - One marked for removal is nice – close to sewer service
  - Might televise/locate sewer service to show location
- 200 Holly
  - Water issue by driveway & street by tree south of driveway
  - Wants tree removed *review
  - Wants to replace driveway
  - Wants to remove smaller pine on Goodrich on east side on 200 Holly property
- 121 Blake Road South
  - Tree between 121 & 115 is a poor oak tree that should be removed *have city review rest of block
- 133 Oakwood
  - 2 roof drains → one on north side; one on south side to street*
- 145 Ashley
  - Upset about 3 blue x tree removals *double check with city on need
  - Neighborhood garage sale → first Saturday after Labor Day *maybe no work that day??
- 118 Homedale – Bob (952-935-6092)
  - Does not want to lose tree by driveway
  - Marked because of water but on ROW line
- 254 Maple Hill
  - Cul-de-sac on Maple Hill → does not want cul-de-sac

    - No value, no traffic on this road
    - Hard to plow? → harder for garbage truck to turn around?
    - Cars are still going to use driveway but harder now because not a tee anymore
- <u>248 Meadowbrook – Matt</u>
    - Water service comes off easement to north? *confirm → reroute to Meadowbrook
    - Custom brick pavers
    - *Also 249 Hawthorne has water service in backyard as well *confirm location – possibly drill water service to street?
- <u>255 Oakwood – Mark</u>
    - New concrete driveway with rebar
    - Concerned with replacement
    - *Owner will call to set up field meeting to look at driveway

Miscellaneous Comments:

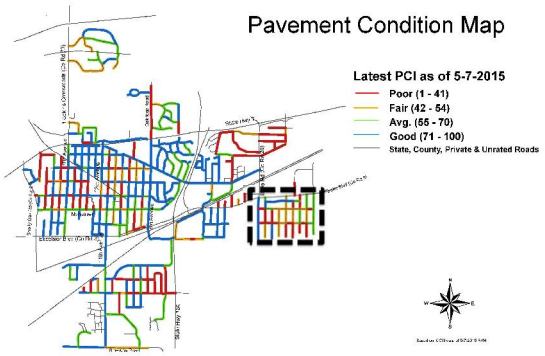
- Concern about existing Preston being narrow with church traffic
- Preston Lane residents would like sidewalks
- Surmountable curb preferred by a resident for aesthetic reasons
- 1318 Preston resident would like privately owned tree removed, could this be done without additional cost?
- Dollar allotment in lieu of tree planting
- 202 Oakwood does not want curb & gutter, does not want sidewalk. Industrial look. Improved runoff management increasing storm water in pipes. More project $. Speed bumps would be desired for traffic calming.
- Resident at 254 Ashley wants inconsistent street width for traffic calming.
- 1409 Boyce wants tree removed. Feels it is a hazard.
- South end of Holly…resident concern about cul-de-sac impact on south end to fence, trees, path connection
- 245 Ashley – benefitting from house to north (237) which has backyard drain that flows into CB in Ashley

Neighborhood Meeting #2
Interlachen Park Street & Utility Improvements

August 5, 2019

BOLTON & MENK
Real People. Real Solutions.

Pavement Condition Map



Project Development Process

Pavement Management Ratings & Utility Conditions

↓

Capital Improvements Plan (CIP)

↓

Preliminary Design / Feasibility Stage

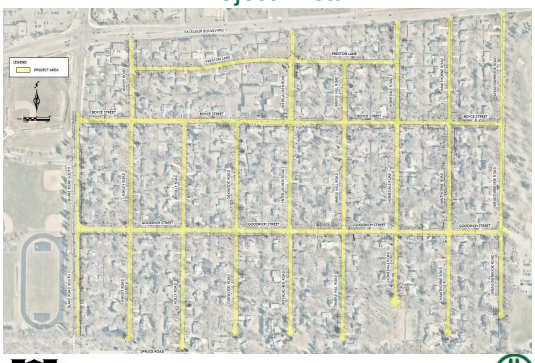
↓

Final Design

↓

Construction

Project Area



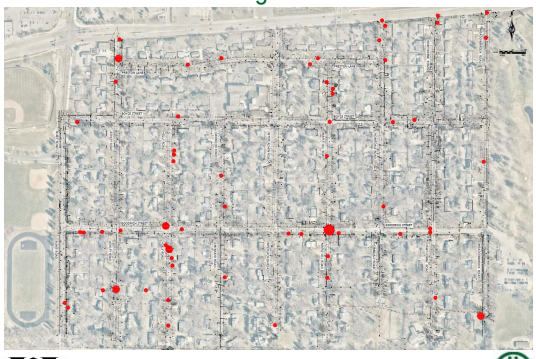
Resident Questionnaires Summary

116 Responses of 289 Properties – 40%

Many drainage issues reported

- 46% of responses reported poor drainage
  - At intersections
  - In the street
  - In front yards and backyards
  - At driveways

Drainage Issues



Resident Questionnaires Summary

Pedestrian facility responses

- 60% did not support sidewalks
- 9% support sidewalks within neighborhood
- 14% support pedestrian improvements along Blake, Excelsior, or Meadowbrook

Low volume roadways within neighborhood

- No sidewalks are proposed within the neighborhood at this time
- An 8' trail along the east side of Meadowbrook Rd (adjacent to the golf course) is being evaluated with respect to available space

Resident Questionnaires Summary

Many Irrigation and Invisible Fences Reported

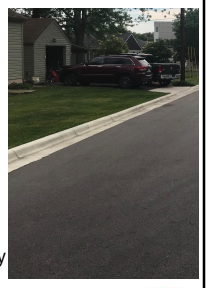
- Identified on over half of returned questionnaires

Irrigation Systems and Invisible Fences will be protected or repaired/replaced as part of the project

- Questionnaire responses will help us identify how many potential repairs we will have and will give us an opportunity to try to protect the systems

Resident Questionnaires Summary Concrete Curb & Gutter

- City policy is to install curb and gutter on all reconstructed roadways (Legislate Policy 8.02)
- Curb and gutter is the most cost effective way of extending roadway life
  - Improved Drainage
  - Solid Edge for Asphalt Pavement
  - Keeps Water out of the Subgrade
- Curb and gutter also reduces maintenance cost and improves efficiency in snow removal operations



Existing Pavement Conditions

Reconstructed Street Examples

Proposed Street Widths

Street Widths will generally remain the same or slightly narrowed to minimize impacts to yards and trees

- Back of Curb will be near the existing pavement edge
- Existing pavement widths vary and reconstructed widths will be consistent

Open house boards around the room contain specific information on street widths for each block

Streets will generally be lowered to:

- Account for the addition of curb and gutter
- Improve drainage in front yards and driveways

Utility Improvements

Utility Improvements

Service Line Replacement

- Water & sewer services to be replaced from City's main (in the street) to the right-of-way property line, about 10'-15' from the edge of road

Boulevard Trees

Trees may be removed for one of the following reasons:

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

On *average, 4 boulevard trees* per block are estimated for removal

Boulevard Trees Questionnaires

Tree Questionnaires sent to all residents to gain additional information on existing boulevard trees

- Roughly 40 responses so far and project team will continue to collect questionnaires
- Information collected includes treatment of trees and desire to save or remove certain trees
- Process has resulted in 33 fewer tree removals from what was presented in June
- The goal is to minimize the total number of tree removals as much as possible

Street Lighting Policy

- The existing street lighting in the neighborhood is not city owned (Xcel Energy)
- Additional lighting is considered upon petition from 35% of affected property owners
- Cost for additional lighting is assessed 100% to benefiting properties

Special Assessment Policies

- Streets (Street Assessment)
  - 70% of the total street improvement cost
  - Front foot or area methods
  - Front foot rate subject to cap
- Utility Mains
  - No Assessments
- Utility Services (Utility Assessment)
  - 50% of as-bid, actual service costs
- Total Assessment = Utility Assessment + Street Assessment

Assessment Caps

- 2019 Front Foot Rate Cap
  - $94.31 / front foot
- Front Footage Cap
  - Front footage counted up to 125 feet

Summary of Preliminary Assessments

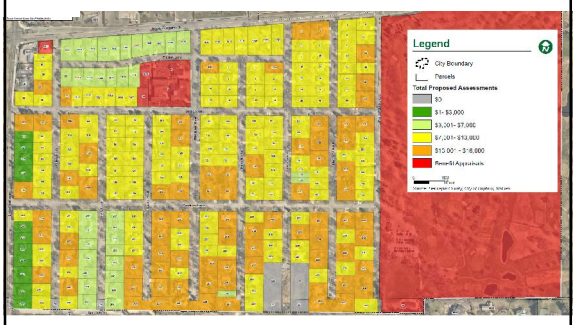
- 294 total properties to be assessed
  - Assessments range from $1,800 to $15,189
  - Non-residential amounts to be confirmed with benefit appraisals
- 232 'typical' single family residential lots to be assessed
  - Full Reconstruct with new utility services
  - $7,177 to $15,189 (including utility assessments)
- 11 'dead end' single family residential lots to be assessed
  - Use Area method to obtain equivalent frontage
  - $8,865 to $15,189 (including utility assessments)

Summary of Preliminary Assessments

- 33 residential lots to be assessed for utility services only
  - South Block of Holly and West Block of Preston
  - Streets reconstructed and assessed in 1998
  - Sewer = $1,600; Water = $1,800
  - $3,400 Total Utility Service Assessment
- 11 Blake Rd residential lots to be assessed for water only
  - Access is directly from Blake – work on Blake due to only watermain
  - $1,800 water service assessment

Assessment Methods: Mapped

Assessment Amounts: Mapped



Assessments: Summary of Payment Options

1. Prepay in full or part without interest until June 26*, 2020
2. Prepay in full or part with interest until Nov. 27*, 2020
3. Do nothing -- Remaining balance put on taxes after Nov. 27*
   - Paid annually over 15 years, interest rate of about 5%*
   - Will impact escrow payments included in mortgage
4. Deferred Assessments – Pay at a later date
   - Homestead property, income limit of approx. $40,00
   - Owner 65 years or more, active military, or disability
   - Typically paid in full at exchange of property

*Dates & interest rate are tentative, to be confirmed in March

Phasing Plan/Construction Schedule

Project Schedule (2019)

- August 5 – Neighborhood Meeting 2
  - Recap proposed improvements, additional detail, collect input
- August 20 – City Council Meeting
  - Council calls for the public hearing
- September 10-12 (Date TBD) – Neighborhood Meeting 3
  - 3rd Public review of proposed improvements, review preliminary assessments, collect input
- September 17 – City Council Meeting
  - Council conducts public hearing on improvements
  - Council considers ordering plans

Project Schedule (2020)

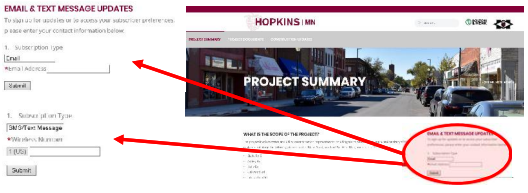
- January 7 – City Council Meeting
  - Approve plans, authorize bidding
- February 6 – Open Bids
- February 18 – City Council Meeting
  - Council orders public hearing on assessments
- March 4-11 (Date TBD) – Neighborhood Meeting 4
  - Review final assessments, final plans, collect input

Project Schedule (2020)

- March 17 – City Council Meeting
  - Conduct public hearing on assessments
  - Consider adopting assessments, awarding contract
- April 2020 to November 2021 – Construction
  - Phased construction process over 2 summers

Project Communication

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



Project Contacts

Nick Amatuccio, P.E. – Project Engineer
- nickam@bolton-menk.com; 612-965-3926

Mike Waltman, P.E. – Project Manager
- mikewa@bolton-menk.com; 612-221-6946

Eric Klingbeil, P.E. – Hopkins Assistant City Engineer
- eklingbeil@hopkinsmn.com; 952-548-6357

Open House

1. Communications – Email notification sign-up
2. Utilities & Construction Specifics
   - What's Under My Street?
   - Construction Phasing Plan
   - Drainage Concerns
   - Tree Impacts
3. Proposed Improvements: East Half
4. Proposed Improvements: West Half
5. Assessments

Appendix E: Geotechnical Evaluation

Geotechnical Evaluation Report

2020-2021 Street and Utility Improvements
Hopkins, Minnesota

Prepared for

Bolton & Menk, Inc.

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

Neil G. Lund, PE
Senior Engineer
License Number: 46212
July 27, 2019

Project B1902826

Braun Intertec Corporation

Braun Intertec Corporation
11001 Hampshire Avenue S
Minneapolis, MN 55438

Phone: 952.995.2000
Fax: 952.995.2020
Web: braunintertec.com

July 27, 2019 Project B1902826

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

Re: Geotechnical Evaluation
2020-2021 Street and Utility Improvements
Hopkins, Minnesota

Dear Mr. Amatuccio:

We are pleased to present this Geotechnical Evaluation Report for the City of Hopkins 2020-2021 Street and Utility Improvements.

Thank you for making Braun Intertec your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Neil Lund at 952.995.2284 (nlund@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION

Neil G. Lund, PE
Senior Engineer

Table of Contents

Appendix

Soil Boring Location Sketch
Log of Boring Sheets
Descriptive Terminology
ESAL Calculator (Blake Road)
MnPAVE-Flexible Output (Blake Road)

A. Introduction

A.1. Project Description

This Geotechnical Evaluation Report addresses the proposed design and construction of the 2020-2021 Street and Utility Improvements project in Hopkins, Minnesota. The project will include utility improvements (storm, water, sanitary) and pavement reconstruction along the streets shown in Figure 1; this includes Blake Road between Spruce Road and Boyce Road. Total length of the project streets including Blake Road is about 21,800 feet.

Figure 1. Streets in the 2020-2021 Project Area

Figure provided by Bolton & Menk, Inc.

Table 1. Project Details

Aspect	Description	Source
Pavement type(s)	Flexible	Assumed based on traffic levels, existing section and City standards
Pavement loads, residential streets	150,000 ESALs*	Assumed maximum
Pavement loads, Blake Road (MSAS 355)	7,400 AADT** (2016) 855,000 ESALs	MnDOT Traffic Forecasting and Analysis + State Aid ESAL Forecast Tool (urban distribution default). See attached.
Grade changes	+/- 3 feet	Assumed
Utility depths (storm sewer, water main, sanitary)	< 25 feet	Assumed

*Equivalent 18,000-lb single axle loads for 20-year bituminous pavement design. Traffic information for the residential streets was not available.

**Annual average daily traffic.

A.2. Site Conditions and History

Pavement history or previous plans were not available for our review.

The 2020-2021 project area is zoned as single-family, medium-density residential with limited institutional use. The pavements are narrow and bituminous-surfaced without curb and gutter.

Topography is flat to rolling, with a gradual slope downward from west to east. Our boring location data indicates elevations ranging from 899.3 to 930.8 feet above mean sea level (MSL).

A.3. Purpose

The purpose of our geotechnical evaluation was to characterize subsurface geologic conditions at selected exploration locations and evaluate their impact on the design and construction of the Hopkins 2020-2021 Street and Utility Improvements.

A.4. Background Information and Reference Documents

We reviewed the following information:

- Project area map prepared by Bolton & Menk, Inc. (BMI)
- Communications with BMI regarding the project.
- *Geologic Map of Hennepin County – Surficial Geology (1989)* available from the Minnesota Geological Survey.

In addition to the provided sources, we have used several publicly available sources of information, including MnTOPO and the Minnesota Well Index.

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

A.5. Scope of Services

We performed our scope of services for the project in accordance with our Proposal QTB094344 to Mr. Nick Amatuccio of BMI dated February 21, 2019. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.

- Staking and clearing the exploration location of underground utilities. We acquired the surface elevations and locations with GPS technology using the State of Minnesota's permanent GPS base station network. The Soil Boring Location Sketch included in the Appendix shows the approximate locations of the borings.

- Performing 44 standard penetration test (SPT) borings, denoted as ST-1 to ST-44, to nominal depths of 15 to 25 feet below grade across the project area. This included the optional borings on Blake Road. Due to a number of factors (unlocatable utilities; utility conflicts and space restrictions; and a struck utility), we were unable to three of the proposed borings (ST-

16, ST-24, ST-42); a struck water service on ST-11 terminated that boring before the intended depth.

- Subcontracting for traffic control for the work on Blake Road.
- Grouting borings greater than 15 feet deep and preparing associated sealing records.
- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.
- Perform engineering analysis including pavement design.
- Preparing this report containing a boring location sketch, logs of soil borings, a summary of the soils encountered, results of laboratory tests, and recommendations for structure and pavement subgrade preparation and the design of foundations, floor slabs, exterior slabs, utilities, stormwater improvements and pavements.

Our scope of services did not include environmental services or testing, and we did not train the personnel performing this evaluation to provide environmental services or testing. We can provide these services or testing at your request. We provide comment below on possible environmental impacts revealed by some of our samples.

B. Results

B.1. Geologic Overview

Our sources suggest local geology consists of glacial outwash (sand, silty sand and gravel deposits) ni the northern portion of the project area and glacial till (clayey sand) to the south. Organic deposits are most likely near the eastern project boundary but could be present below fill soils elsewhere.

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

B.2. Boring Results

B.2.a. Pavement Materials

Table 2 provides a summary of the pavement materials encountered in each boring by street.

Table 2. Pavement Thickness Summary

Boring	Street	Pavement Thickness (in.)	
		Bituminous	Aggregate Base*
ST-1	Ashley Road	5	7
ST-2		5	6
ST-3		3	4
ST-4		5	4
ST-5	Holly Road	4	8
ST-6		5	4
ST-7		5	4
ST-8	Oakwood Road	3	3
ST-9		4	7
ST-10		5	5
ST-11	Interlachen Road	(not noted)	
ST-12		4	3
ST-13		4	3
ST-14		4	3
ST-15	Maple Hill Road	4	5
ST-17		3	2
ST-18	Homedale Road	5	4
ST-19		3	4
ST-20		4	3
ST-21	Hawthorne Road	4	5

ST-22		4	7
ST-23		5	5
ST-25	Meadowbrook Road	11	4
ST-26		3	7
ST-27		4	3
ST-28		3	2
ST-29	Goodrich Street	4	6
ST-30		4	6
ST-31		7	7
ST-32		3	4
ST-33		5	5
ST-34	Boyce Street	5	5
ST-35		5	24
ST-36		4	4
ST-37		4	4
ST-38		3	3
ST-39	Preston Lane	6	10
ST-40		3	10
ST-41		3	3
ST-43	Blake Road	9	4
ST-44		7	6

*"Aggregate base" is a qualitative term that indicates position within the soil column (i.e. a support layer placed directly below the paved surface) and does not connote any gradation.

B.2.b. Geologic Materials

Table 3 provides a summary of the soil boring results, in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheets in the Appendix include definitions of abbreviations used in Table X.

For simplicity in this report, we define fill to mean existing, uncontrolled or undocumented fill.

Table 3. Subsurface Profile Summary*

Strata	Soil Type - ASTM Classification	Range of Penetration Resistances	Commentary and Details
Pavement section			▪ See Table 2.
Fill and possible fill	SP, SP-SM, SM, SC, SC-SM, CL, OL	2 to 34 blows per foot (BPF)	▪ Present at most boring locations. ▪ General penetration resistance of about 7 BPF. ▪ Moisture condition generally moist. ▪ Depth at boring locations varied from 2 to 10 feet, averaging about 4 feet thick. ▪ Highly variable, soils intermixed. ▪ Occasional layers of slightly organic to organic soils throughout, but often organic or mixed with organic soils near boundary with swamp deposited soils. ▪ Limited bituminous pieces noted (ST-18, ST-29). ▪ Possible cobbles and boulders.
Buried topsoil	CL, OL	6 to 9 BPF	▪ Encountered in ST-17, ST-26 and ST-40 at between 3 and 6 feet below the surface. ▪ Thickness varied from 2 to 6 feet. ▪ Organic and slightly organic lean clay.
Alluvial	CL	6 to 11 BPF	▪ Noted in a single location (ST-1) from 9 to 13 feet deep.
Glacial outwash	SP, SP-SM, SM, SC ML, CL	3 to 36 BPF	▪ Mostly fine-to-coarse, medium-dense sands, with limited pockets of fine-grained material. Variable gravel contents. ▪ Begins at 9 feet below the surface on average. ▪ General penetration resistance considered medium dense. ▪ Auger chatter indicating possible cobbles and boulders – these were specifically noted as present on Blake Road at depths from about 7 to 25 feet. ▪ Moisture condition moist to wet.
Glacial till	SP-SM, SM, SC, CL	3 to 47 BPF	▪ Mostly silty sand with or clayey sand; some sandy lean clay. Less common than glacial outwash. ▪ Generally moist. ▪ Variable amounts of gravel; may contain cobbles and boulders. ▪ General penetration resistance considered medium dense in coarse grained (SM) soils; stiff in clayey soils.

*Abbreviations defined in the attached Descriptive Terminology sheets.

B.3. Groundwater

Table 4 summarizes the depths where we observed groundwater; the attached Log of Boring sheets in the Appendix also include this information and additional details.

Table 4. Groundwater Summary

Boring	Surface Elevation (ft)*	Observed Groundwater Depth (ft)	Corresponding Groundwater Elevation (ft)
ST-15	904	14 1/2	889 1/2
ST-25	901 1/2	17	884 1/2
ST-26	899 1/2	15	884 1/2
ST-27	899 1/2	13	886 1/2
ST-28	899 1/2	12 1/2	887
ST-31	906 1/2	20	886 1/2
ST-32	911 1/2	24	887 1/2
ST-33	909	25	884

*Rounded to nearest 1/2 foot.

At the time of our observation, the groundwater surface elevation appeared to be about elevation 884 to 889 1/2 feet MSL. Seasonal and annual fluctuation of the groundwater table should be anticipated.

B.4. Laboratory Test Results

Laboratory test results, including moisture content (MC) and organic content (OC) and Atterberg limits tests (liquid limit (LL), plastic limit (PL) and plasticity index (PI)) are summarized in Table 5. The moisture contents of all soils were often near or above their likely optimum moisture contents (OMC) for compaction.

Table 5. Laboratory Classification Test Results

Boring	Depth	MC (%)	OC (%)	LL	PL	PI
ST-1	7 1/2	26	4	--	--	--

ST-1	12 1/2	30	--	33	18	15
ST-2	14 1/2	5	--	--	--	--
ST-7	12 1/2	7	--	--	--	--
ST-11	5	12	--	--	--	--
ST-14	5	21	--	--	--	--
ST-17	5	38	8	--	--	--
ST-18	2 1/2	11	--	--	--	--
ST-19	2 1/2	17	--	--	--	--
ST-23	14 1/2	4	--	--	--	--
ST-26	7 1/2	32	6	--	--	--
ST-26	10	22	--	--	--	--
ST-26	20	14	--	--	--	--
ST-29	5	10	--	--	--	--
ST-30	25	7	--	--	--	--
ST-32	2 1/2	3	--	--	--	--
ST-33	25	10	--	--	--	--
ST-38	5	24	5	--	--	--
ST-39	2 1/2	8	--	--	--	--
ST-44	20	11	4	--	--	--

C. Recommendations

C.1. Design and Construction Discussion

C.1.a. Reuse of Pavement Materials

Pavements in the 2020-2021 Street and Utility Improvements area averaged about 4 1/2 inches of bituminous pavement over approximately 5 1/2 inches of aggregate base. There were anomalous measurements such as ST-25 on Meadowbrook Road, where the drill crew measured 11 inches of bituminous pavement. Thicker pavements are commonly the result of maintenance to correct underlying soil consolidation, though nothing encountered in the soil boring necessarily suggested this to be the case in this location.

The bituminous thickness of Blake Road was between 7 and 9 inches according to our two borings.

In our opinion, full-depth reclamation (FDR) can be utilized in order to obtain materials for aggregate base on the project. A proper reclamation depth will likely be about 8 inches. It may be possible to increase this thickness in some locations, including on Blake Road, where up to 12 inches is feasible.

We recommend thorough quality control practices, including frequent sieve analyses of the reclaimed material, if the product is reused directly on site as aggregate base or a stabilizing aggregate with minimal processing.

The drill crew noted fuel-like odors in or near the aggregate base layer in some of the borings in the project, mostly near the southeast portion of the project area: ST-15, ST-18, ST-22, ST-25 to ST-28, ST-33 and ST-37. Reuse, movement or removal of these materials from the project site has environmental implications. [An environmental scientist will complete this section after review].

C.1.b. Soil Reuse

The soils encountered in our borings in the upper portions of the borings were generally suitable for reuse as pavement support. Note that the limited clayey and silty soils encountered will have a greater tendency to become wet and unstable and or disturbed by construction traffic once exposed, which may require moisture conditioning to properly compact.

Some soils at depth should not be reused as trench backfill or to support utilities or pavements. This includes the soils identified as buried topsoil (Table 3). Although we did not encounter significant silt deposits, those that were present (such as in ST-8) should also be removed; thin layers or silt laminations may also be present in soils that otherwise consist of granular material. These types of soils will be difficult to compact properly and are a risk to settle post-construction. We recommend replacing these soils with a suitable grading material or pipe bedding material, depending on the intended use. We recommend using select materials that are similar to the soils adjacent to the trench area, including those below.

We also noted cobbles in the fill soils in some borings, which can slow excavations and can cause uneven soil compaction or poor structure support. Blake Road, in particular, was difficult to drill at depth and likely contained cobbles in much of the glacial outwash soils that will be encountered in the utility trenches. We recommend removing cobbles, where encountered, per the requirements in MnDOT Specification 2106, Table 2106-4.

C.1.c. Impact of Groundwater

Some groundwater was encountered at our boring locations, mostly on the eastern end of the project adjacent to Meadowbrook Golf Club. Where excavations for utilities for the project extend below about 889 1/2 feet, the need for dewatering should be anticipated.

Drying of the clayey and silty soils present in some borings will often be necessary to achieve the levels of compaction recommended for utility support. Clayey and particularly silt-rich trench soils that are exposed to moisture will be more susceptible to strength loss and may also become unstable, which will require moisture conditioning or removal and replacement with suitable soils. Coarse aggregate bedding should also be used where wet conditions are present. See our recommendations below in Section C.2.

C.2. Utilities

C.2.a. Subgrades and Trench Backfill

We encountered wet, clayey or organic soils in Borings ST-1 (lean clay at depth); ST-14 (shallow lean clay); ST-17 (buried topsoil, organic); ST-19 (shallow lean clay fill); ST-26 (thick deposit of organic/lean clay at depth); ST-27 and ST-38 (slightly organic lean clay); ST-40 (buried topsoil). These soils will have limited stability and will not be suitable for backfill or support of utilities. We recommend providing a contingency for further subcutting and soil replacement of utility backfill in these locations. At pipe elevations, we recommend a minimum subcut and replacement with 1-foot coarse aggregate bedding as described in Table 6 below.

A geotechnical engineer should observe all utility trench excavations and subcuts.

C.2.b. Excavation Side Slopes

The project area soils appear to meet OSHA Type A, B, and C requirements. We recommend constructing excavation side slopes to lie back at a horizontal to vertical slope of 1 1/2 to 1 or flatter. In significant depths of organic soils these side slopes may be need to made flatter, or supplemental support may be necessary.

All excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, “Excavations and Trenches.” This document states that excavation safety is the responsibility of the contractor. Reference to these OSHA requirements should be included in the project specifications.

Trenches deeper than 20 feet must be designed by a professional engineer.

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

We recommend compacting backfill placed above and below utilities as shown in Table 6.

Table 6. Engineered Fill Materials*

Locations To Be Used	Engineered Fill Classification	Possible Soil Type Descriptions	Gradation	Additional Requirements
Trench backfill Embankment fill	Select grading material	SP, SP-SM, SM, SC, CL	N/A	< 80% silt < 5% OC
Pavement subbase/drainage layer Non-frost-susceptible Utility bedding (dry or moist conditions)	Free-draining Non-frost-susceptible fill MnDOT select granular	GP, GW, SP, SP-SM, SW	See MnDOT 3149.2.B.2	--
Utility bedding (wet, unstable conditions)*	Coarse aggregate bedding	GP, GW, SP, SW	100% passing 1 1/2-inch sieve 0 to 10% passing #4 sieve See MnDOT 3149.G.3	--
Below landscaped surfaces, where subsidence is not a concern	Non-structural fill	--	100% passing 6-inch sieve	< 10% OC

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

We recommend spreading engineered fill in loose lifts of approximately 12 inches thick. We recommend compacting engineered fill in accordance with the criteria presented below in Table 7.

Table 7. Compaction Recommendations Summary*

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

Below landscaped surfaces	90	±5	±4

*Alternatively, use the penetration index method (MnDOT Specification 2106.3.F.3) for soils with P200 < 20%.

*Consult MnDOT 2106.3.B.2 for alternative moisture content controls when using Specified Density for soils.

C.2.d. Excavation Dewatering

We recommend removing groundwater from the excavations. Project planning should include temporary sumps and pumps for excavations in low-permeability soils, such as clays. Dewatering of high-permeability soils (e.g., sands, some silts) from within the excavation with conventional pumps has the potential to loosen the soils, due to upward flow. A well contractor should develop a dewatering plan; the design team should review this plan.

C.2.e. Corrosion Potential

Based on our experience, the soils encountered by the borings are non-to-moderately corrosive to metallic conduits, but only marginally corrosive to concrete. We recommend specifying non-corrosive materials or providing corrosion protection, unless project planning chooses to perform additional tests to demonstrate the soils are not corrosive.

C.3. Pavements

C.3.a. Subgrade Preparation and Proofrolls

For preparation of any exposed subgrades prior to placement of new pavement sections or reclaimed aggregate (see below), we recommend proofrolling the subgrade soils with a loaded tandem-axle truck. This will assist in identifying any soft or weak areas that will require additional soil correction work. Areas that yield or rut more than about 1 inch due to wheel traffic, depending on conditions or as recommended by the geotechnical engineering during proofrolling, should be corrected.

Failed areas should be compacted, or if too wet, we recommend that the upper 1 to 2 feet of the resulting subgrade be scarified, dried to a moisture content not more than 1 percentage point above optimum, and compacted to a minimum of 100 percent of its standard Proctor maximum dry density (ASTM D 698).

If there are areas that still cannot be compacted, we recommend subexcavating the unstable materials to a minimum depth of 1 to 2 feet depending on the outcome of the proofroll, as well replacement material. The soils should be replaced with suitable, properly compacted materials such as select granular material, aggregate base or larger diameter crushed aggregate (“3-inch minus”).

C.3.b. Backfill and Material Compaction

See Section C.2.c for backfill material and compaction recommendations.

C.3.c. Design Sections

Laboratory tests to determine an R-value for pavement design were not included in the scope of this project. Given the most common soils in the top 5 feet of pavement sections, which include mostly silty sand with various other soils granular soils, we recommend using an R-value of 30 for pavement thickness design of the overall project. We assumed the same soil support value for the design of Blake Road.

Based upon the assumed traffic loads and an R-value of 30, we recommend a new pavement section for the streets in the 2019 Street Reconstruction meet the minimum thicknesses presented in Tables 8 and 9.

Table 8. Recommended Bituminous Pavement Thickness Design (Residential Streets)

Layer	Thickness (in.)	MnDOT Specification/Designation
Bituminous wear	2 (1 lift)	SPWEB240C
Bituminous non-wear	2 (1 lift)	SPNWB230C (or SPWEB240C)
Aggregate base (Class 5 or 6) or reclaim	8	3138 3135

Table 9. Recommended Bituminous Pavement Thickness Design (Blake Road)

Layer	Thickness (in.)	MnDOT Specification/Designation
Bituminous wear	4 (2 lift)	SPWEB340C
Bituminous non-wear	2 (1 lift)	SPNWB230B
Aggregate base (Class 5 or 6) or reclaim	8	3138 3135

If a paved surface with a tighter and smoother look is desired for the residential streets, we recommend using a smaller maximum aggregate size in the wear course (SPWEA240C). Differences in performance will generally be minor, though the smaller aggregate size may be more prone to dimpling or distortion under concentrated or static loads.

The above pavement designs are based upon a 20-year performance life. This is the amount of time before major rehabilitation is anticipated. This performance life assumes maintenance such as seal coating and crack sealing is routinely performed. The actual pavement life will vary depending on variations in weather, traffic conditions, and maintenance.

C.3.d. Materials and Compaction

We recommend specifying pavement materials as recommended in Tables 8 and 9.

We recommend compacting the aggregate base or reclaim materials to meet the requirements of MnDOT specification 2211.3.D.2.c. (Penetration Index Method). We recommend compacting bituminous pavements to at least 92 percent of the maximum theoretical Rice density per the Maximum Density Method (specification 2360.3.D.1), with bituminous materials and placement practices meeting the requirements of MnDOT Specification 2360.

C.4. Construction Quality Control

C.4.a. Excavation Observations

We recommend having a geotechnical engineer observe all excavations related to subgrade preparation, utility placement, and pavement construction. The purpose of the observations is to evaluate the competence of the geologic materials exposed in the excavations and the adequacy of required excavation oversizing.

C.4.b. Materials Testing

We recommend density tests be taken in excavation backfill and additional required fill placed below pavements and utilities. This includes DCP tests for aggregate base or reclaim and imported granular materials.

We recommend Gyratory tests on bituminous mixes to evaluate strength and air voids and density tests to evaluate compaction.

C.4.c. Pavement Subgrade Proofroll

We recommend that proofrolling of the pavement subgrades be observed by a geotechnical engineer to determine if the results of the procedure meet project specifications and to delineate the extent of additional pavement subgrade preparation work that may be necessary.

C.4.d. Cold Weather Precautions

If site grading and construction is anticipated during cold weather, all snow and ice should be removed from cut and fill areas prior to additional grading. No fill should be placed on frozen subgrades. No frozen soils should be used as fill.

Concrete delivered to the site should meet the temperature requirements of ASTM C 94. Concrete should not be placed on frozen subgrades. Concrete should be protected from freezing until the necessary strength is attained.

D. Procedures

D.1. Penetration Test Borings

We drilled the penetration test borings with a _-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples at 2 1/2- or 5-foot intervals in general accordance to ASTM D1586. We collected thin-walled tube samples in general accordance with ASTM D1587 at selected depths. The boring logs show the actual sample intervals and corresponding depths. We also collected bulk samples of auger cuttings at selected locations for laboratory testing.

We sealed penetration test boreholes meeting the Minnesota Department of Health (MDH) Environmental Borehole criteria with an MDH-approved grout. We will forward/forwarded a sealing record (or sealing records) for those boreholes to the Minnesota Department of Health Well Management Section.

D.2. Exploration Logs

D.2.a. Log of Boring Sheets

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials, and present the results of penetration resistance and other

in-situ tests performed. The logs also present the results of laboratory tests performed on penetration test samples and groundwater measurements.

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

D.2.b. Geologic Origins

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

D.3. Material Classification and Testing

D.3.a. Visual and Manual Classification

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

D.3.b. Laboratory Testing

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

D.4. Groundwater Measurements

The drillers checked for groundwater while advancing the penetration test borings and again after auger withdrawal. We then filled the boreholes as noted on the boring logs.

E. Qualifications

E.1. Variations in Subsurface Conditions

E.1.a. Material Strata

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

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

E.1.b. Groundwater Levels

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

E.2. Continuity of Professional Responsibility

E.2.a. Plan Review

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

E.2.b. Construction Observations and Testing

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

E.3. Use of Report

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

E.4. Standard of Care

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

Appendix

DENOTES APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING

150' 0 300'

SCALE: 1"= 300'

DRAFT
Subject to Change

F:\2019\B1902826.dwg,Geotech,4/26/2019 9:41:08 AM

BRAUN INTERTEC
The Science You Build On.
11001 Hampshire Avenue S
Minneapolis, MN 55438
952.995.2000
braunintertec.com

Drawing Information

Project No:	B1902826
Drawing No:	B1902826
Drawn By:	JAG
Date Drawn:	4/25/19
Checked By:	NGL
Last Modified:	4/26/19

Project Information

Geotechnical Evaluation

Hopkins 2020-2021 Street and Utility Improvements

Hopkins, Minnesota

Soil Boring Location Sketch

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-1**

LOCATION: See attached sketch. Benchmark: Elevations were obtained using GPS and the State of Minnesota's permanent base station network.

NORTHING: 147464	EASTING: 499687		
DRILLER: C. McClain	LOGGED BY: J. Craig	START DATE: 05/06/19	END DATE: 05/06/19
SURFACE ELEVATION: 920.3 ft	RIG: 7514	METHOD: 3 1/4" HSA	SURFACING: Bituminous	WEATHER: Cloudy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
919.3		PAVEMENT, 5 inches of bituminous over 7 inches of aggregate base					
1.0		FILL: SILTY SAND (SM), fine to medium sand, little Gravel, contains seams of Poorly Graded Sand, brown, moist to dry		6-5-4 (9) 14"			
			5	4-2-2 (4) 9"			
913.3							
7.0		FILL: LEAN CLAY (CL), slightly organic, black, moist		2-3-3 (6) 8"		26	OC=4.2%
911.3							
9.0		LEAN CLAY (CL), contains lenses of Poorly Graded Sand, dark gray to gray, moist, stiff to medium (ALLUVIUM)	10	5-7-8 (15) 18"		30	LL=33, PL=15, PI=18
907.3				3-3-3 (6) 18"			
13.0		SANDY LEAN CLAY (CL), gray, moist, stiff (GLACIAL TILL)		4-6 (10) 14"			
905.8							
14.5		END OF BORING	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
		Boring immediately backfilled					
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-2**

LOCATION: See attached sketch

NORTHING: 148039 EASTING: 499687

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/06/19 | END DATE: 05/06/19

SURFACE ELEVATION: 924.8 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
923.9		PAVEMENT, 5 inches of bituminous over 6 inches of aggregate base					
0.9		SILTY SAND (SM), fine to medium sand, little Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		4-5-6 (11) 13"			
919.8			5	7-10-9 (19) 13"			
5.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)					
917.8							
7.0		SILTY SAND (SM), brown to reddish brown, moist, medium dense to dense (GLACIAL TILL)		11-13-14 (27) 6"			
			10	12-12-12 (24) 16"			
				15-13-14 (27) 18"			
910.3				27-20 (47) 8"			
14.5		END OF BORING Boring immediately backfilled	15			5	Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-3**

LOCATION: See attached sketch

NORTHING: 148445 EASTING: 499692

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/06/19 | END DATE: 05/06/19

SURFACE ELEVATION: 919.4 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
918.8		PAVEMENT, 3 inches of bituminous over 4 inches of aggregate base					
0.6		FILL: SILTY SAND (SM), fine to medium sand, with Gravel, dark brown, moist to dry		3-3-2 (5) 8"			
915.4							
4.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, light brown, moist to dry, medium dense (GLACIAL OUTWASH)		3-4-8 (12) 12"			
				4-6-6 (12) 14"			
				8-8-9 (17) 1"			
				5-7-6 (13) 15"			
904.9				5-6 (11) 11"			
14.5		END OF BORING Boring immediately backfilled					Water not observed with 14.5 feet of tooling in the ground while drilling.

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-4**
LOCATION: See attached sketch
NORTHING: 148834 EASTING: 499682
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/03/19 END DATE: 05/03/19
SURFACE ELEVATION: 919.7 ft RIG: 7514 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
918.9		PAVEMENT, 5 inches of bituminous over 4 inches of aggregate base					
0.8		FILL: POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist		2-4-3 (7) 10"			
			5	3-2-3 (5) 9"			
				3-3-3 (6) 8"			
909.7			10	4-3-5 (8) 10"			
10.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, loose (GLACIAL OUTWASH)					
907.7							
12.0		SILTY SAND (SM), fine to medium sand, with Gravel, reddish brown, moist, medium dense (GLACIAL TILL)		10-7-7 (14) 11"			
905.2				9-12 (21) 6"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-5**

LOCATION: See attached sketch

NORTHING: 147264 EASTING: 499999

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/06/19 | END DATE: 05/06/19

SURFACE ELEVATION: 922.4 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
921.4		PAVEMENT, 4 inches of bituminous over 8 inches of aggregate base					
1.0		FILL: SILTY, CLAYEY SAND (SC-SM), fine to medium sand, with Gravel, brown, moist		3-3-2 (5) 7"			
918.4							
4.0		SILTY SAND (SM), fine to medium sand, little Gravel, reddish brown, moist, medium dense (GLACIAL TILL)	5	3-7-7 (14) 14"			
				8-9-10 (19) 12"			
			10	6-8-13 (21) 13"			
				11-10-10 (20) 16"			
907.9				9-10 (19) 15"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-6**
LOCATION: See attached sketch
NORTHING: 147678 EASTING: 500010
DRILLER: C. McClain LOGGED BY: J. Craig
START DATE: 05/06/19 END DATE: 05/06/19
SURFACE ELEVATION: 924.2 ft RIG: 7514 METHOD: 3 1/4" HSA
SURFACING: Bituinous WEATHER: Cloudy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
923.4		PAVEMENT, 5 inches of bituminous over 4 inches of aggregate base					
0.8		FILL: CLAYEY SAND (SC), with Gravel, contains layers of Silty Sand, brown, moist		6-8-7 (15) 14"			
5				6-6-5 (11) 18"			
918.2							
6.0		SILTY SAND (SM), fine to medium sand, with Gravel, brown, moist, medium dense (GLACIAL TILL)		4-3-3 (6) 14"			
915.2							
9.0		CLAYEY SAND (SC), with Gravel, brown, moist, stiff (GLACIAL TILL)		5-6-7 (13) 18"			
10							
911.2				3-6-8 (14) 18"			
13.0		SANDY LEAN CLAY (CL), little Gravel, grayish brown, moist, very stiff (GLACIAL TILL)		7-11 (18) 14"			
909.7							
14.5		END OF BORING					Water not observed with 14.5 feet of tooling in the ground while drilling.
15		Boring immediately backfilled					
20							
25							
30							

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See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
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Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-7**

LOCATION: See attached sketch

NORTHING: 148225 EASTING: 500005

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/06/19 | END DATE: 05/06/19

SURFACE ELEVATION: 923.5 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
922.7		PAVEMENT, 5 inches of bituminous over 4 inches of aggregate base					
0.8		FILL: SILTY SAND (SM), fine to medium sand, with Gravel, brown, moist		2-2-2 (4) 11"			
			5	1-1-1 (2) 9"			
916.5							
7.0		SILTY SAND (SM), fine to medium sand, little Gravel, brown, moist, very loose (GLACIAL OUTWASH)		1-2-2 (4) 12"			
914.5							
9.0		SILTY SAND (SM), fine to medium sand, little Gravel, contains seams of Poorly Graded Sand, reddish brown, moist, medium dense (GLACIAL TILL)	10	6-9-9 (18) 16"			
				8-7-8 (15) 12"		7	
909.0				7-11 (18) 11"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-8**

LOCATION: See attached sketch

NORTHING: 147487 EASTING: 500334

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/06/19 | END DATE: 05/06/19

SURFACE ELEVATION: 927.6 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
927.1		PAVEMENT, 3 inches of bituminous over 3 inches of aggregate base					
0.5		SILTY SAND (SM), fine to medium sand, trace Gravel, brown, moist, loose (GLACIAL OUTWASH)		4-4-3 (7) 10"			
923.6							
4.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, trace Gravel, brown, moist, loose (GLACIAL OUTWASH)	5	4-4-2 (6) 9"			
921.6							
6.0		SILT (ML), contains seams of Poorly Graded Sand, gray, moist, stiff (GLACIAL OUTWASH)		3-3-10 (13) 16"			
919.6							
8.0		POORLY GRADED SAND with SILT (SP-SM), with Gravel, brown, moist to dry, dense (GLACIAL OUTWASH)	10	13-17-15 (32) 14"			
916.6							
11.0		SILTY SAND (SM), fine sand, with Gravel, contains seams of Poorly Graded Sand, brown, moist, medium dense (GLACIAL TILL)		6-9-7 (16) 14"			
913.1				9-20 (29) 15"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-9**
LOCATION: See attached sketch
NORTHING: 148096 EASTING: 500340
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/08/19 END DATE: 05/08/19
SURFACE ELEVATION: 917.7 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
916.8		PAVEMENT, 4 inches of bituminous over 7 inches of aggregate base					
0.9		FILL: SILTY SAND (SM), fine to medium sand, little Gravel, brown to black, moist		3-3-4 (7) 11"			
912.7			5				
5.0		CLAYEY SAND (SC), trace Gravel, brown, moist, loose (GLACIAL TILL)		2-3-4 (7) 11"			
910.7							
7.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, trace Gravel, brown, moist, loose (GLACIAL TILL)		5-3-3 (6) 13"			
908.7							
9.0		SANDY LEAN CLAY (CL), trace Gravel, with Clayey Sand, brown, moist, stiff (GLACIAL TILL)	10	3-5-5 (10) 16"			
904.7				5-8-13 (21) 16"			
13.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, moist, dense (GLACIAL OUTWASH)		13-18 (31) 8"			
903.2							
14.5		END OF BORING	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
		Boring immediately backfilled					
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-10**
LOCATION: See attached sketch
NORTHING: 148418 EASTING: 500344
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 919.6 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
918.8		PAVEMENT, 5 inches of bituminous over 5 inches of aggregate base					
0.8		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown and dark brown, moist		1-2-3 (5) 10"			
913.6			5	2-3-4 (7) 14"			
6.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, light brown, moist, medium dense (GLACIAL OUTWASH)		4-7-8 (15) 15"			
908.6			10	9-14-16 (30) 5"			
11.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		5-6-11 (17) 12"			
905.1				10-11 (21) 8"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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Hopkins 2020-2021 Street and Utility Improvements
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Hopkins, Minnesota

BORING: **ST-11**

LOCATION: See attached sketch

NORTHING: 147530 EASTING: 500662

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/13/19 | END DATE: 05/13/19

SURFACE ELEVATION: 919.9 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
919.4		PAVEMENT, thickness not obtained					
0.5		FILL: SANDY LEAN CLAY (CL), trace Gravel, contains seams of Poorly Graded Sand, brown, moist		1-1-3 (4) 10"			
			5	1-1-2 (3) 4"		12	
				11-7-8 (15) 8"			
911.4							
8.5		END OF BORING Boring immediately backfilled	10				Water not observed with 8.5 feet of tooling in the ground while drilling.
			15				
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-12**

LOCATION: See attached sketch

NORTHING: 148177 EASTING: 500669

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/09/19 | END DATE: 05/09/19

SURFACE ELEVATION: 919.9 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
919.3		PAVEMENT, 4 inches of bituminous over 3 inches of aggregate base					1 1/2 inches of blacktop under aggregate base
0.6		CLAYEY SAND (SC), trace Gravel, brown, moist (POSSIBLE FILL)		1-2-6 (8) 12"			
914.9			5	3-3-3 (6) 14"			
5.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, loose to medium dense (GLACIAL OUTWASH)		3-5-3 (8) 14"			
			10	4-5-4 (9) 8"			
				5-4-6 (10) 12"			
905.4				8-8 (16) 13"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-13**

LOCATION: See attached sketch

NORTHING: 148645 EASTING: 500675

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/13/19 | END DATE: 05/13/19

SURFACE ELEVATION: 916.7 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
916.1		PAVEMENT, 4 inches of bituminous over 3 inches of aggregate base					
0.6		FILL: POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, trace bituminous, brown, moist		1-3-3 (6) 7"			
			5	3-2-2 (4) 14"			
910.7							
6.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, loose to medium dense (GLACIAL OUTWASH)		4-3-3 (6) 12"			
			10	4-6-5 (11) 10"			
				5-5-6 (11) 14"			
902.2				5-5 (10) 8"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-14**
LOCATION: See attached sketch
NORTHING: 148990 EASTING: 500686
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/10/19 END DATE: 05/10/19
SURFACE ELEVATION: 913.4 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
912.8		PAVEMENT, 4 inches of bituminous over 3 inches of aggregate base					
0.6		LEAN CLAY (CL), contains seams of Poorly Graded Sand, gray and brown, moist, stiff to medium (GLACIAL OUTWASH)		1-4-6 (10) 14"			
			5	1-3-3 (6) 15"		21	
907.4							
6.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		3-5-8 (13) 13"			
			10	8-14-15 (29) 14"			
				9-12-15 (27) 15"			
898.9				12-10 (22) 10"			
14.5		END OF BORING	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
		Boring immediately backfilled					
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-15**

LOCATION: See attached sketch

NORTHING: 147362 EASTING: 500985

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/09/19 | END DATE: 05/09/19

SURFACE ELEVATION: 904.0 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
903.3		PAVEMENT, 4 inches of bituminous over 5 inches of aggregate base					
0.8		SILTY SAND (SM), fine to medium sand, little Gravel, reddish brown, moist, medium dense to dense (GLACIAL TILL)		7-8-10 (18) 11"			Crew noted odor
			5	9-9-11 (20) 15"			
				14-17-16 (33) 17"			
			10	6-15-25 (40) 16"			
891.0				9-15-16 (31) 11"			
13.0		POORLY GRADED SAND with SILT (SP-SM), fine sand, brown, wet (GLACIAL OUTWASH)		4-7 (11) 14"			
889.5	▽						
14.5		END OF BORING	15				Water observed at 14.5 feet with 14.5 feet of tooling in the ground while drilling.
		Boring immediately backfilled					
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-17**
LOCATION: See attached sketch
NORTHING: 148743 EASTING: 501008
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 906.8 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
906.3		PAVEMENT, 3 inches of bituminous over 2 inches of aggregate base					
0.5		FILL: POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry		3-3-5 (8) 8"			
903.8							
3.0		ORGANIC CLAY (OL), black, moist, medium to stiff (BURIED TOPSOIL)		2-3-4 (7) 10"		38	OC=8.3%
897.8				2-4-5 (9) 18"			
9.0		CLAYEY SAND (SC), little Gravel, brown, moist (GLACIAL OUTWASH)		2-4-5 (9) 13"			
895.8							
11.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, moist, very loose to loose (GLACIAL OUTWASH)		2-2-2 (4) 16"			
892.3				2-3 (5) 1"			
14.5		END OF BORING Boring immediately backfilled					Water not observed with 14.5 feet of tooling in the ground while drilling.

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-18**
LOCATION: See attached sketch
NORTHING: 147648 EASTING: 501322
DRILLER: C. McClain LOGGED BY: J. Craig
START DATE: 05/09/19 END DATE: 05/09/19
SURFACE ELEVATION: 910.4 ft RIG: 7511 METHOD: 3 1/4" HSA
SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
909.6		PAVEMENT, 5 inches of bituminous over 4 inches of aggregate base					
0.8		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, moist		1-3-3 (6) 13"		11	
		Piece of bituminous at 5 feet	5	3-1-2 (3) 15"			
901.4				3-2-2 (4) 15"			
9.0		LEAN CLAY (CL), contains seams of Poorly Graded Sand, gray, moist, stiff (GLACIAL OUTWASH)	10	3-4-6 (10) 12"			
899.4							
11.0		SANDY LEAN CLAY (CL), little Gravel, gray, moist, stiff (GLACIAL TILL)		5-5-5 (10) 15"			
895.9				4-7 (11) 16"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
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Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-19**

LOCATION: See attached sketch

NORTHING: 148289 EASTING: 501328

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/13/19 | END DATE: 05/13/19

SURFACE ELEVATION: 908.6 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
908.0		PAVEMENT, 3 inches of bituminous over 4 inches of aggregate base					
0.6		FILL: LEAN CLAY (CL), dark brown to black, moist		1-4-5 (9) 17"		17	
903.6			5	4-2-3 (5) 8"			
5.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, trace Gravel, brown, moist, medium dense (GLACIAL OUTWASH)					
901.6				6-8-9 (17) 18"			
7.0		SILTY SAND (SM), fine sand, brown, moist, medium dense (GLACIAL OUTWASH)					
899.6			10	9-11-14 (25) 14"			
9.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense (GLACIAL OUTWASH)					
				2-7-9 (16) 16"			
894.1				10-7 (17) 12"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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Hopkins, Minnesota

BORING: **ST-20**
LOCATION: See attached sketch
NORTHING: 149030 EASTING: 501332
START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 905.9 ft
DRILLER: C. McClain LOGGED BY: J. Craig
RIG: 7511 METHOD: 3 1/4" HSA
SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
905.3		PAVEMENT, 4 inches of bituminous over 3 inches of aggregate base					
0.6		POORLY GRADED SAND (SP), fine to coarse sand, little Gravel, brown, moist (POSSIBLE FILL)		2-4-4 (8*) 0"			*No sample recovery
			5	3-4-3 (7) 6"			
				5-7-6 (13) 11"			
895.9			10	6-10-9 (19) 14"			
10.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		6-9-9 (18) 15"			
891.4				8-8 (16) 12"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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Hopkins 2020-2021 Street and Utility Improvements
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BORING: **ST-21**
LOCATION: See attached sketch
NORTHING: 147556 EASTING: 501639
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/09/19 END DATE: 05/09/19
SURFACE ELEVATION: 904.5 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
903.7		PAVEMENT, 4 inches of bituminous over 5 inches of aggregate base					
0.8		FILL: CLAYEY SAND (SC), trace Gravel, brown, moist		1-3-4 (7) 8"			
900.5							
4.0		FILL: SILTY SAND (SM), fine to medium sand, little Gravel, brown, moist	5	3-7-9 (16) 17"			
				6-8-6 (14) 16"			
895.5							
9.0		SANDY LEAN CLAY (CL), little Gravel, brown, moist, stiff (GLACIAL TILL)	10	6-5-6 (11) 18"			
893.5							
11.0		SILTY SAND (SM), fine to medium sand, with Gravel, reddish brown, moist, medium dense (GLACIAL TILL)		9-11-13 (24) 15"			
890.0				12-8 (20) 11"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-22**
LOCATION: See attached sketch
NORTHING: 148081 EASTING: 501643
START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 908.2 ft RIG: 7511 METHOD: 3 1/4" HSA
SURFACING: Bituminous WEATHER: Sunny
DRILLER: C. McClain LOGGED BY: J. Craig

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
907.2		PAVEMENT, 4 inches of bituminous over 7 inches of aggregate base					
1.0		FILL: CLAYEY SAND (SC), with Lean Clay, and Poorly Graded Sand, dark brown, moist		1-2-4 (6) 13"			Slight odor noted by crew
904.2							
4.0		POORLY GRADED SAND (SP), fine sand, trace Gravel, contains seams of Clayey Sand, brown, moist, medium dense (GLACIAL OUTWASH)	5	5-5-6 (11) 14"			
				5-6-7 (13) 15"			
899.2							
9.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, light brown, moist, loose to dense (GLACIAL OUTWASH)	10	4-5-5 (10) 15"			
				5-4-6 (10) 13"			
893.7				17-23 (40) 4"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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BORING: **ST-23**
LOCATION: See attached sketch
NORTHING: 148605 EASTING: 501646
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 904.0 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
903.1		PAVEMENT, 5 inches of bituminous over 5 inches of aggregate base					
0.9		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, with Gravel, brown, moist, loose (POSSIBLE FILL)		1-3-3 (6) 17"			
			5	2-3-4 (7) 11"			
898.0							
6.0		POORLY GRADED SAND (SP), fine to coarse sand, little Gravel, brown, moist, loose (GLACIAL OUTWASH)		4-4-4 (8) 14"			
			10	4-4-4 (8) 16"			
				3-3-4 (7) 14"			
889.5				5-5 (10) 9"		4	
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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BORING: **ST-25**
LOCATION: See attached sketch
NORTHING: 147743 EASTING: 501962
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/10/19 END DATE: 05/10/19
SURFACE ELEVATION: 901.4 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
900.1		PAVEMENT, 11 inches of bituminous over 4 inches of aggregate base					
1.3 897.4		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, moist		3-4-4 (8) 10"			Crew noted odor
4.0 895.4		FILL: SANDY LEAN CLAY (CL), trace Gravel, dark brown, moist	5	2-4-6 (10) 11"			
6.0 892.4		FILL: SILTY SAND (SM), trace Gravel, dark brown, moist		2-2-2 (4) 11"			
9.0 888.4		SILTY SAND (SM), contains seams of Lean Clay, dark brown, moist (POSSIBLE FILL)	10	3-2-5 (7) 12"			
13.0 883.4	▽	POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, dark brown, wet, loose (GLACIAL OUTWASH)		1-4-4 (8) 18"			
			15	2-2-2 (4) 18"			
18.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, wet, medium dense (GLACIAL OUTWASH)	20	3-8-7 (15) 8"			
			25	14-11-11 (22) 18"			
875.4 26.0		END OF BORING Boring immediately backfilled with bentonite grout	30				Water observed at 17.0 feet with 24.0 feet of tooling in the ground while drilling.

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BORING: **ST-26**
LOCATION: See attached sketch
NORTHING: 148160 EASTING: 501976
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/10/19 END DATE: 05/10/19
SURFACE ELEVATION: 899.3 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
898.4		PAVEMENT, 3 inches of bituminous over 7 inches of aggregate base					
0.9		FILL: SILTY SAND (SM), fine to medium sand, little Gravel, dark brown, moist		2-3-5 (8) 14"			
896.3							Crew noted odor
3.0		FILL: SANDY LEAN CLAY (CL), trace Gravel, dark brown, moist					
			5	3-2-4 (6) 16"			
893.3							
6.0		ORGANIC CLAY (OL), black, moist, medium (BURIED TOPSOIL)		2-3-5 (8) 16"		32	OC=5.5%
890.3							
9.0		LEAN CLAY (CL), trace roots, gray, moist, stiff (GLACIAL OUTWASH)	10	4-6-6 (12) 14"		22	
				2-4-5 (9) 13"			
885.3							
14.0	▽	POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, wet, very loose to loose (GLACIAL OUTWASH)	15	2-2-1 (3) 16"			
			20	3-2-4 (6) 3"		14	
			25	4-3-4 (7) 18"			
873.3							
26.0		END OF BORING					Water observed at 15.0 feet with 15.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout					
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

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SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-27**
LOCATION: See attached sketch
NORTHING: 148688 EASTING: 501983
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/10/19 END DATE: 05/10/19
SURFACE ELEVATION: 899.4 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
898.8		PAVEMENT, 4 inches of bituminous over 3 inches of aggregate base					
0.6		FILL: POORLY GRADED SAND (SP), fine to medium sand, trace Gravel, brown, moist		1-2-5 (7) 12"			
896.4							
3.0		FILL: LEAN CLAY (CL), slightly organic, contains layers of Clayey Sand, black and brown, moist					Crew noted odor
			5	2-2-2 (4) 14"			
				2-2-3 (5) 6"			
890.4							
9.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense to loose (GLACIAL OUTWASH)	10	6-6-7 (13) 14"			
	▽	*Wet at 12 feet*		5-5-6 (11) 14"			
			15	4-3-5 (8) 16"			
880.4							
19.0		SILTY SAND (SM), fine sand, little Gravel, reddish brown, wet, loose (GLACIAL TILL)	20	4-5-5 (10) 18"			
876.4							
23.0		CLAYEY SAND (SC), fine sand, little Gravel, brown to reddish brown, moist, medium dense (GLACIAL TILL)	25	8-7-5 (12) 18"			
873.4							
26.0		END OF BORING					Water observed at 13.0 feet with 24.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout					
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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Hopkins, Minnesota

BORING: **ST-28**

LOCATION: See attached sketch

NORTHING: 149074 EASTING: 501984

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/10/19 | END DATE: 05/10/19

SURFACE ELEVATION: 899.7 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
899.2		PAVEMENT, 3 inches of bituminous over 2 inches of aggregate base					
0.5		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist (POSSIBLE FILL)		1-4-3 (7) 13"			
			5	5-2-2 (4) 14"			Crew noted odor
				5-7-8 (15) 13"			
890.7							
9.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to wet, medium dense (GLACIAL OUTWASH)	10	5-6-7 (13) 15"			
	▽			3-6-8 (14) 6"			
			15	16-11-10 (21) 6"			
			20	5-8-7 (15) 13"			
			25	4-11-14 (25) 17"			
873.7							
26.0		END OF BORING Boring immediately backfilled with bentonite grout	30				Water observed at 12.5 feet with 12.5 feet of tooling in the ground while drilling.

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-29**

LOCATION: See attached sketch

NORTHING: 147892 EASTING: 499570

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/07/19 | END DATE: 05/07/19

SURFACE ELEVATION: 926.9 ft | RIG: 7514 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
926.0		PAVEMENT, 4 inches of bituminous over 6 inches of aggregate base					
0.9		FILL: SILTY SAND (SM), fine to medium sand, with Gravel, brown and black, dry *With pieces of bituminous*		1-1-1 (2) 1"			
921.9			5	1-1-2 (3) 7"		10	
5.0		FILL: CLAYEY SAND (SC), little Gravel, dark brown, moist		1-1-1 (2) 5"			
916.9			10	1-1-2 (3) 7"			
10.0		CLAYEY SAND (SC), little Gravel, reddish brown, moist, very loose (GLACIAL TILL)					
914.9				2-2-4 (6) 12"			
12.0		SILTY SAND (SM), fine to medium sand, little Gravel, reddish brown, moist, loose to medium dense (GLACIAL TILL)	15	6-7-7 (14) 16"			
			20	8-9-12 (21) 17"			
903.9							
23.0		CLAYEY SAND (SC), little Gravel, reddish brown, moist, loose (GLACIAL TILL)	25	3-3-5 (8) 15"			
900.9							
26.0		END OF BORING Boring immediately backfilled with bentonite grout	30				Water not observed with 26.0 feet of tooling in the ground while drilling.

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-30**
LOCATION: See attached sketch
NORTHING: 147881 EASTING: 500079
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/07/19 END DATE: 05/07/19
SURFACE ELEVATION: 924.3 ft RIG: 7514 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
923.4		PAVEMENT, 4 inches of bituminous over 6 inches of aggregate base					
0.9		FILL: CLAYEY SAND (SC), fine to medium sand, with Gravel, dark brown, dry		1-1-3 (4) 7"			
			5	3-3-5 (8) 12"			
				5-12-22 (34) 15"			
915.3							
9.0		SILTY SAND (SM), little Gravel, reddish brown, moist, dense to medium dense (GLACIAL TILL)	10	10-13-19 (32) 14"			
				17-21-16 (37) 18"			
			15	15-16-17 (33) 18"			
		With a layer of Poorly Graded Sand at 20 feet	20	12-20-18 (38) 18"			
			25	11-12-13 (25) 16"		7	
898.3							
26.0		END OF BORING					Water not observed with 26.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout	30				

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BORING: **ST-31**
LOCATION: See attached sketch
NORTHING: 147878 EASTING: 500770
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/07/19 END DATE: 05/07/19
SURFACE ELEVATION: 906.5 ft RIG: 7514 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
905.3		PAVEMENT, 7 inches of bituminous over 7 inches of aggregate base					
1.2		FILL: POORLY GRADED SAND (SP), fine sand, yellowish brown, moist		1-1-3 (4) 10"			
902.5							
4.0		FILL: SILTY SAND (SM), fine to medium sand, little Gravel, brown, moist	5	4-8-8 (16) 11"			
899.5							
7.0		CLAYEY SAND (SC), little Gravel, contains seams of Poorly Graded Sand, brown to gray, moist, medium dense (GLACIAL TILL)		4-7-8 (15) 15"			
			10	8-6-5 (11) 16"			
893.5				5-6-10 (16) 18"			
13.0		SILTY SAND (SM), fine to medium sand, little Gravel, reddish brown, moist, medium dense (GLACIAL TILL)	15	7-12-18 (30) 18"			
888.5							
18.0	▽	POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, wet, medium dense to very dense (GLACIAL OUTWASH)	20	8-8-3 (11) 12"			
			25	12-26-35 (61) 14"			
880.5							
26.0		END OF BORING Boring immediately backfilled with bentonite grout	30				Water observed at 20.0 feet with 20.0 feet of tooling in the ground while drilling.

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BORING: **ST-32**

LOCATION: See attached sketch

NORTHING: 147880	EASTING: 501229		
DRILLER: C. McClain	LOGGED BY: J. Craig	START DATE: 05/07/19	END DATE: 05/07/19
SURFACE ELEVATION: 911.6 ft	RIG: 7511	METHOD: 3 1/4" HSA	SURFACING: Bituminous	WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
911.1		PAVEMENT, 3 inches of bituminous over 4 inches of aggregate base					
0.5		POORLY GRADED SAND (SP), fine to medium sand, trace Gravel, brown, moist, loose to medium dense (GLACIAL OUTWASH)		1-2-3 (5) 13"		3	
			5	5-5-6 (11) 14"			
				4-5-5 (10) 16"			
		With layers of Silt at 10 feet	10	5-3-3 (6) 8"			
				6-7-7 (14) 18"			
			15	7-6-9 (15) 13"			
893.6							
18.0		(SP-SM), fine sand, brown, moist to wet, medium dense (GLACIAL OUTWASH)	20	8-13-12 (25) 17"			
	▽	*With a layer of Clayey Sand at 24 feet*	25	9-14-14 (28) 16"			
885.6							
26.0		END OF BORING					Water observed at 24.0 feet with 24.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout	30				

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BORING: **ST-33**
LOCATION: See attached sketch
NORTHING: 147876 EASTING: 501748
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/13/19 END DATE: 05/13/19
SURFACE ELEVATION: 909.2 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
908.4		PAVEMENT, 5 inches of bituminous over 5 inches of aggregate base					
0.8		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown and dark brown, moist		1-2-2 (4) 14"			Slight odor
905.2							
4.0		POORLY GRADED SAND (SP), fine to coarse sand, little Gravel, brown, moist, loose (GLACIAL OUTWASH)	5	2-3-3 (6) 14"			
				3-2-3 (5) 13"			Slight odor
		With seams of Silty Sand	10	3-4-5 (9) 17"			
897.2							
12.0		POORLY GRADED SAND (SP), fine to medium sand, trace Gravel, brown, moist, loose (GLACIAL OUTWASH)		5-5-5 (10) 15"			
894.2			15				
15.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, medium dense, rust staining (GLACIAL OUTWASH)		6-8-9 (17) 15"			
890.2							
19.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, moist, medium dense (GLACIAL OUTWASH)	20	9-9-10 (19) 14"			
885.2							
24.0	▽	POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, wet, medium dense (GLACIAL OUTWASH)	25	2-8-10 (18) 15"		10	Water observed at 25.0 feet with 25.0 feet of tooling in the ground while drilling.
883.2							
26.0		END OF BORING					
		Boring immediately backfilled with bentonite grout					
			30				

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BORING: **ST-34**

LOCATION: See attached sketch

NORTHING: 148558 EASTING: 499496

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/09/19 | END DATE: 05/09/19

SURFACE ELEVATION: 918.7 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
917.8		PAVEMENT, 5 inches of bituminous over 5 inches of aggregate base					
0.9		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, loose to dense (GLACIAL OUTWASH)		3-3-4 (7) 10"			
			5	4-4-3 (7) 13"			
				5-5-7 (12) 10"			
			10	6-5-5 (10) 14"			
				4-5-6 (11) 16"			
904.2				21-15 (36) 13"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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BORING: **ST-35**

LOCATION: See attached sketch

NORTHING: 148571 EASTING: 500102

DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/08/19 END DATE: 05/08/19

SURFACE ELEVATION: 922.2 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
919.8		PAVEMENT, 5 inches of bituminous over 24 inches of aggregate base					
2.4		POORLY GRADED SAND (SP), fine to coarse sand, little Gravel, brown, moist to dry, loose to medium dense (GLACIAL OUTWASH)		3-3-4 (7) 11"			
				3-3-4 (7) 13"			
				2-3-4 (7) 14"			
				5-4-3 (7) 13"			
909.2				11-11-13 (24) 7"			
13.0		SILTY SAND (SM), fine sand, with Gravel, reddish brown, moist, medium dense (GLACIAL TILL)		14-12 (26) 10"			
907.7							
14.5		END OF BORING					Water not observed with 14.5 feet of tooling in the ground while drilling.
		Boring immediately backfilled					

5 10 15 20 25 30

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BORING: **ST-36**

LOCATION: See attached sketch

NORTHING: 148562 EASTING: 500859

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/09/19 | END DATE: 05/09/19

SURFACE ELEVATION: 915.5 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
914.8		PAVEMENT, 4 inches of bituminous over 4 nches of aggregate base					
0.7		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense to loose (GLACIAL OUTWASH)		5-6-6 (12) 10"			
			5	4-4-6 (10) 14"			
				3-3-3 (6) 15"			
			10	5-5-3 (8) 13"			
				4-4-5 (9) 8"			
901.0				4-4			
14.5		END OF BORING Boring immediately backfilled	15	(8) 9"			Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-37**
LOCATION: See attached sketch
NORTHING: 148549 EASTING: 501262
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/09/19 END DATE: 05/09/19
SURFACE ELEVATION: 905.8 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
905.1		PAVEMENT, 4 inches of bituminous over 4 inches of aggregate base					
0.7		CLAYEY SAND (SC), trace Gravel, brown, moist (POSSIBLE FILL)		1-1-4 (5) 8"			Crew noted odor
900.8			5	2-2-4 (6) 16"			
5.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, moist, loose (GLACIAL OUTWASH)		6-3-5 (8) 14"			
896.8							
9.0		POORLY GRADED SAND (SP), fine to coarse sand, little Gravel, brown, moist to dry, loose to medium dense (GLACIAL OUTWASH)	10	6-8-2 (10) 10"			
				5-7-4 (11) 15"			
891.3				5-3 (8) 7"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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BORING: **ST-38**
LOCATION: See attached sketch
NORTHING: 148541 EASTING: 501831
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/09/19 END DATE: 05/09/19
SURFACE ELEVATION: 901.2 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
900.7		PAVEMENT, 3 inches of bituminous over 3 inches of aggregate base					
0.5		FILL: POORLY GRADED SAND (SP), fine to medium sand, trace Gravel, brown, moist		1-2-2 (4) 7"			
897.7							
3.5		LEAN CLAY (CL), slightly organic, black, moist (POSSIBLE FILL)		3-4-5 (9) 15"		24	OC=4.7%
895.2			5				
6.0		LEAN CLAY (CL), trace Gravel, brown, moist (POSSIBLE FILL)		3-3-4 (7) 14"			
891.2							
10.0		POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, little Gravel, brown, moist, medium dense (GLACIAL OUTWASH)	10	4-3-8 (11) 15"			
889.2							
12.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		9-9-10 (19) 13"			
886.7				10-9 (19) 12"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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BORING: **ST-39**

LOCATION: See attached sketch

NORTHING: 148879 EASTING: 499957

DRILLER: C. McClain | LOGGED BY: J. Craig | START DATE: 05/08/19 | END DATE: 05/08/19

SURFACE ELEVATION: 919.4 ft | RIG: 7511 | METHOD: 3 1/4" HSA | SURFACING: Bituminous | WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
918.1		PAVEMENT, 6 inches of bituminous over 10 inches of aggregate base					
1.3		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, contains layers of Clayey Sand, brown, moist to dry (POSSIBLE FILL)		2-2-3 (5) 5"		8	
915.4							
4.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense (GLACIAL OUTWASH)	5	4-5-5 (10) 14"			
				11-13-18 (31) 9"			
			10	12-9-9 (18) 13"			
				14-13-14 (27*) 0"			*No recovery
904.9				15-8 (23) 9"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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See Descriptive Terminology sheet for explanation of abbreviations

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BORING: **ST-40**
LOCATION: See attached sketch
NORTHING: 148933 EASTING: 500486
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/08/19 END DATE: 05/08/19
SURFACE ELEVATION: 916.2 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Rainy

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
915.1		PAVEMENT, 3 inches of bituminous over 10 inches of aggregate base					
1.1 912.2		FILL: POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry		2-9-3 (12) 12"			
4.0 910.2		LEAN CLAY with SAND (CL), slightly organic, black, moist (BURIED TOPSOIL)	5	2-3-3 (6) 13"			
6.0 907.2		CLAYEY SAND (SC), reddish brown, moist, medium (GLACIAL TILL)		2-3-2 (5) 9"			
9.0 901.7		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense (GLACIAL OUTWASH)	10	9-9-14 (23) 16" 12-13-12 (25) 14"			
14.5		END OF BORING Boring immediately backfilled	15 20 25 30	15-12 (27) 12"			Water not observed with 14.5 feet of tooling in the ground while drilling.

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-41**
LOCATION: See attached sketch
NORTHING: 148932 EASTING: 501096
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/10/19 END DATE: 05/10/19
SURFACE ELEVATION: 907.1 ft RIG: 7511 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
906.6		PAVEMENT, 3 inches of bituminous over 3 inches of aggregate base					
0.5		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium sand, with Gravel, contains layers of Silty Sand, brown, moist		2-3-3 (6) 10"			
			5	3-3-3 (6) 12"			
900.1							
7.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		6-6-12 (18) 9"			
898.1							
9.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, moist to dry, medium dense (GLACIAL OUTWASH)	10	6-6-8 (14) 14"			
				7-8-9 (17) 14"			
892.6				7-7 (14) 16"			
14.5		END OF BORING Boring immediately backfilled	15				Water not observed with 14.5 feet of tooling in the ground while drilling.
			20				
			25				
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-43**
LOCATION: See attached sketch
NORTHING: 148012 EASTING: 499346
DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/03/19 END DATE: 05/03/19
SURFACE ELEVATION: 928.3 ft RIG: 7514 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
927.2		PAVEMENT, 9 inches of bituminous over 4 inches of aggregate base					
1.1		SILTY SAND (SM), fine to medium sand, with Gravel, reddish brown, dry to moist (POSSIBLE FILL)		3-6-5 (11) 12"			
924.3							
4.0		CLAYEY SAND (SC), fine to medium sand, with Gravel, reddish brown, dry to moist (POSSIBLE FILL)	5	2-11-10 (21) 12"			
922.3							
6.0		SILTY SAND (SM), fine to medium sand, with Gravel, reddish brown, dry to moist, dense to medium dense (GLACIAL TILL)		20-17-17 (34) 3"			Auger encountered Cobbles from 7 to 20 feet
			10	4-5-7 (12) 18"			
				7-6-9 (15) 16"			
			15	4-4-5 (9) 17"			
			20	2-10-10 (20) 6"			
904.3							
24.0		POORLY GRADED SAND (SP), fine to medium sand, little Gravel, light brown, moist, medium dense (GLACIAL OUTWASH)	25	10-10-9 (19) 14"			
902.3							
26.0		END OF BORING					Water not observed with 26.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout					
			30				

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LOG OF BORING

See Descriptive Terminology sheet for explanation of abbreviations

Project Number B1902826
Geotechnical Evaluation
Hopkins 2020-2021 Street and Utility Improvements
SE Quadrant of Blake Rd and Excelsior Blvd
Hopkins, Minnesota

BORING: **ST-44**

LOCATION: See attached sketch

NORTHING: 148481 EASTING: 499349

DRILLER: C. McClain LOGGED BY: J. Craig START DATE: 05/03/19 END DATE: 05/03/19

SURFACE ELEVATION: 919.1 ft RIG: 7514 METHOD: 3 1/4" HSA SURFACING: Bituminous WEATHER: Sunny

Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q_p tsf	MC %	Tests or Remarks
918.0		PAVEMENT, 7 inches of bituminous over 6 inches of aggregate base					
1.1		FILL: SILTY SAND (SM), fine to medium sand, with Gravel, black, moist					
917.1				3-5-4 (9) 9"			
2.0		FILL: SILTY SAND (SM), fine to medium sand, with Gravel, brown, moist					
915.1							
4.0		POORLY GRADED SAND (SP), fine to medium sand, with Gravel, contains layers of Silty Sand, brown, moist to dry (POSSIBLE FILL)	5	4-6-6 (12) 12"			
				4-5-7 (12) 6"			
910.1							
9.0		POORLY GRADED SAND (SP), fine to coarse sand, with Gravel, brown, dry to moist, medium dense (GLACIAL OUTWASH)	10	6-6-6 (12) 9"			Auger encountered Cobbles from 9 to 25 feet
				6-6-5 (11) 11"			
			15	9-12-12 (24) 8"			
901.1							
18.0		SILTY SAND (SM), fine to medium sand, little Gravel, contains seams of Poorly Graded Sand, reddish brown, moist to wet, medium dense (GLACIAL TILL)	20	2-8-6 (14) 14"		11	
895.1							
24.0		SILTY SAND (SM), fine to medium sand, with Gravel, brown, moist to wet, medium dense (GLACIAL TILL)	25	3-6-5 (11) 9"			
893.1							
26.0		END OF BORING					Water not observed with 26.0 feet of tooling in the ground while drilling.
		Boring immediately backfilled with bentonite grout					
			30				

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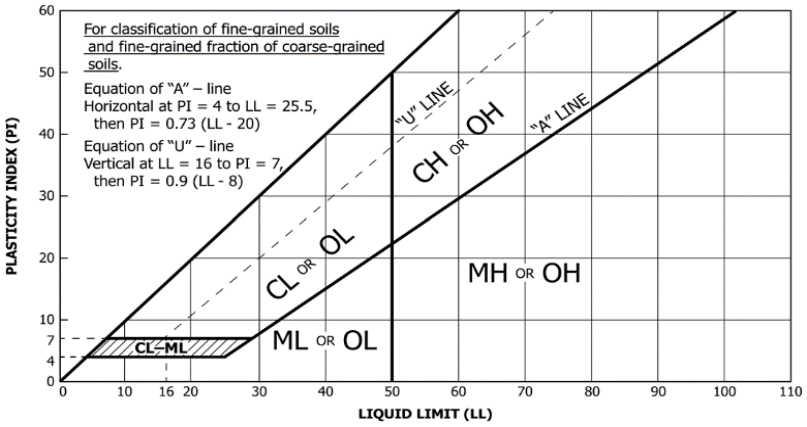
Descriptive Terminology of Soil

Based on Standards ASTM D 2487-11/2488-09a
(Unified Soil Classification System)

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

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



Particle Size Identification

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

Relative Proportions[L, M]

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

Inclusion Thicknesses

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

Apparent Relative Density of Cohesionless Soils

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

Consistency of Cohesive Soils	Blows Per Foot	Approximate Unconfined Compressive Strength
Very soft	0 to 1 BPF	< 1/4 tsf
Soft	2 to 4 BPF	1/4 to 1/2 tsf
Medium	5 to 8 BPF	1/2 to 1 tsf
Stiff	9 to 15 BPF	1 to 2 tsf
Very Stiff	16 to 30 BPF	2 to 4 tsf
Hard	over 30 BPF	> 4 tsf

Moisture Content:

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

Drilling Notes:

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6 inches into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6-inch increments, and added to get BPF.

Partial Penetration: If the sampler cannot be driven the full 12 inches beyond the initial 6-inch set, the number of blows for that partial penetration is shown as "No./X" (i.e., 50/2"). If the sampler cannot be advanced beyond the initial 6-inch set, the depth of penetration will be recorded in the Notes column as "No. to set X" (i.e., 50 to set 4").

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

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

WL: WL indicates the water level measured by the drillers either while drilling or following drilling.

Laboratory Tests

DD	Dry Density, pcf	**OC**	Organic content, %	**PL**	Plastic limit, %
WD	Wet Density, pcf	**q_p**	Pocket penetrometer strength	**LL**	Liquid limit, %
P200	% Passing #200 sieve	**MC**	Moisture conent, %	**PI**	Plasticity Index, %

State Aid 10 Ton ESAL Traffic Forecast Calculator

This ESAL calculator is for use with default Heavy Commerical Traffic values; click "User Defined Traffic Values" sheet below if you wish to enter your own Heavy Commercial Traffic values.

Instructions: All yellow boxes require an input value.
Dropdown choices are provided for Base Year (C18), Number of Lanes (C19), and Urban or Rural (C21).
You must click on cells C18, C19, and C21 to access the dropdown choices.

General Information

Date	6/29/2019	
Forecast Performed by	NGL/Braun Intertec	
Name of County or City	Hopkins	
Project Number	Braun Intertec project B1902826	
Project Description	Blake Road, Spruce to Boyce	
Route Number	MSAS 355	
Base Year (i.e. opening to traffic)	2020	
Number of Lanes (total both directions)	2 = typical 2 lane	
Current AADT		
Urban or Rural	Urban	
Historical AADT (enter a minimum of two years)	**Year**	**AADT**
Enter oldest traffic data here	2012	7,300
Enter second oldest traffic data here	2016	7,400
Enter third oldest traffic data here		
Enter fourth oldest traffic data here		
Base Year AADT	2020	7,500
20-Year AADT	2040	8,250
35-Year AADT	2055	8,813
Growth Rate	0.50%	

Vehicle Type	Vehicle Class %	ESAL Factors Flexible	Rigid
2AX-6TIRE SU	1.37%	0.25	0.24
3AX+SU	0.06%	0.58	0.85
3AX TST	0.09%	0.39	0.37
4AX TST	0.18%	0.51	0.53
5AX+TST	1.45%	1.13	1.89
TR TR, BUSES	0.67%	0.57	0.74
TWIN TRAILERS	0.00%	2.40	2.33
Total	**3.83%**	**NA**	**NA**

20-Year Flexible Forecast (10 Ton) = 855,000
20-Year Rigid Forecast (10 Ton) = 1,268,000
35-Year Flexible Forecast (10 Ton) = 1,518,000
35-Year Rigid Forecast (10 Ton) = 2,251,000

Note: This ESAL Calculator provides reasonable estimation of ESAL's based on accurate AADT values. It is limited to an AADT value of 20,0000. For roadways exceeding an AADT of 20,000, it is recommended to use the MnDOT ESAL Forecasting Tool found on MnDOT's Pavement Design web page at:

http://www.dot.state.mn.us/materials/pvmtdesign/software.html

For State Aid questions and information concerning this tool, please contact State Aid Pavement Engineer Joel Ulring at joel.ulring@state.mn.us or 651-366-3831.

Revised: 6/19/2018

MnPAVE Design Summary

MnPAVE 6.405 Simulation Input File: blake_road
Confidence Level for Preliminary Life Estimate = 70%70%
Confidence and Reliability may not agree. Thickness and modulus are reduced when Confidence > 50%.
Monte Carlo Reliability randomly selects values for each layer. Use Reliability for final design. Use Reliability for final desi

Preliminary Life Estimate		20-Year Reliability (5,000 cycles)	
Fatigue	**Rutting**	**Fatigue**	**Rutting**
>50 years	**33 years**	**100%**	**98.5%**

Project Information

District	County	City
Metro	Hennepin	Hopkins

Project Number	Route	Reference Post
--	MSAS 355	from -- to --

Letting Date	Construction Type
01/01/20	RC

Designer	Soils Engineer
Bolton & Menk	Braun Intertec

Climate Information

Seasons	Location
5	44˚ 59’ Latitude, 93˚ 27’ Longitude

Structural Information (Design Level: Intermediate)

Layer	Type	Subtype	Height (in.)
1a	Hot-Mix Asphalt (Pb = 5.0%)	PG58-34 (2360F 1/2")	4.00
1b	Hot-Mix Asphalt (Pb = 5.0%)	PG58-28 (2360F 1/2")	2.00
2	Aggregate Base	MnDOT Class 5	8.00
3	Engineered Soil	R-Value = 30 (SM)	12.00
4	Undisturbed Soil	Engineered Soil Modulus/2	

Traffic Information (Speed = 60 mph)

Load Type	First Year ESAL	Growth Rate	Axle Repetitions
ESAL	40,810	0.5% (simple)	855,000

Notes
Blake Road design

Printed Saturday, July 27, 2019 at 14:36:26

Services Provided:

Civil and Municipal Engineering
Water and Wastewater Engineering
Traffic and Transportation Engineering
Aviation Planning and Engineering
Water Resources Engineering
Coatings Inspection Services
Landscape Architecture Services
Surveying and Mapping
Geographic Information System Services

Funding Assistance

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