

FEASIBILITY REPORT

2018 STREET OVERLAY IMPROVEMENTS

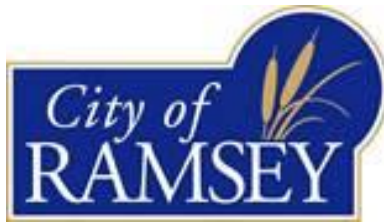
**CITY OF RAMSEY
IMPROVEMENT PROJECT NO. 18-03**



December 7, 2017

Prepared By:

**City of Ramsey
Engineering Department
7550 Sunwood Drive
Ramsey, MN 55303
763-433-9820
763-433-9848 (Fax)**



December 7, 2017

Honorable Mayor and City Council of Ramsey
7550 Sunwood Drive
Ramsey, MN 55303

Re: Feasibility Report – 2018 Street Overlay Improvements
City of Ramsey Improvement Project No. 18-03

Dear Mayor and City Council Members:

Transmitted herewith is a Feasibility Report for the proposed 2018 Street Overlay Improvements, Improvement Project No. 18-03.

The report examines the feasibility of completing 2-inch bituminous pavement overlay improvements on approximately 63,449 square yards of public streets in several areas within the City of Ramsey, and other necessary appurtenant improvements.

This Feasibility Report examines the scope of the proposed improvements, explores estimated costs and available funding sources, defines a preliminary project schedule, examines whether the improvements should be completed as proposed or in connection with another improvement, and provides a determination for the necessity, feasibility and cost-effectiveness of the proposed improvements.

I would welcome the opportunity to discuss this report with you at your convenience. Please feel free to call me at 763-433-9825 with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Bruce Westby".

Bruce Westby, PE
City Engineer

Enclosure

C: Kurt Ulrich, City Administrator*
Diana Lund, Finance Director*
Grant Reimer, Public Works Superintendent*
Leonard Linton, Civil Engineer IV*

*Electronic copy only

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.

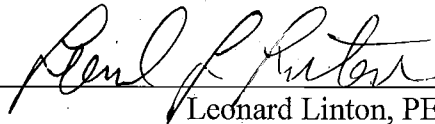


Bruce Westby, PE

Date: December 7, 2017

License No. 40116

I hereby certify that this plan, specification or report was reviewed for Quality Control and Quality Assurance purposes and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Leonard Linton, PE

Date: December 7, 2017

License No. 21112

TABLE OF CONTENTS

TITLE SHEET

LETTER OF TRANSMITTAL

CERTIFICATION SHEET

TABLE OF CONTENTS

1.	EXECUTIVE SUMMARY	3
2.1	Authorization.....	4
2.2	Program Overview	4
2.3	Scope	4
3.	EXISTING CONDITIONS	5
3.1	Existing Streets.....	5
3.2	Watermain	5
3.3	Sanitary Sewer	5
3.4	Storm Sewer/Drainage	5
4.	PROPOSED IMPROVEMENTS	6
4.1	Bituminous Pavement Overlays	6
4.1.1	Pavement Condition Evaluation/Ratings	6
4.1.2	Project Area Selection	6
4.1.3	Other Considerations	6
4.2	Stormwater Improvements	7
4.3	Water Main Improvements	7
4.4	Sanitary Sewer Improvements	7
4.5	Construction Methods	7
4.6	Private Utilities.....	7
4.7	Permits	7
4.8	Right-of-Ways/Easements.....	8
5.	FINANCING	9
5.1	Opinion of Cost.....	9
5.2	Funding	9
5.2.1	Assessments.....	9
5.2.2	City Contribution.....	9
6.	PROJECT SCHEDULE.....	10
7.	CONCLUSIONS AND RECOMMENDATIONS.....	11

TABLE OF CONTENTS (continued)

Appendix A

Project Exhibits

- Exhibit 1 - 2018 Overlay Improvements – Overall Map
- Exhibit A – 2018 Overlay Improvements – Woodland Green
- Exhibit B – 2018 Overlay Improvements – The North Forty 2nd
- Exhibit C – 2018 Overlay Improvements – The North Forty 3rd
- Exhibit D – 2018 Overlay Improvements – Northfork Itasca Shores
- Exhibit E – 2018 Overlay Improvements – Northfork
- Exhibit F – 2018 Overlay Improvements – Northfork 2nd & 3rd
- Exhibit G – 2018 Overlay Improvements – Northfork Oaks

Appendix B

Street Segment Summaries

Appendix C

Opinion of Probable Costs
Preliminary Assessment Maps
Preliminary Assessment Rolls

Appendix D

Ground Penetrating Radar (GPR) Results

1. EXECUTIVE SUMMARY

City Improvement Project 18-03 proposes to complete 2-inch bituminous pavement overlay improvements to numerous public street segments within the City of Ramsey, including other associated appurtenant improvements as outlined in this report. Approximately 63,449 square yards of public streets in several areas of the City are proposed to receive bituminous pavement overlay improvements in 2018. The street segments proposed to receive overlay improvements include the neighborhoods of; Woodland Green, The North Forty 2nd, The North Forty 3rd, Northfork Itasca Shores, Northfork, Northfork 2nd, Northfork 3rd, and Northfork Oaks.

Appendix A includes an overall project location map, as well as exhibits showing the individual project areas.

City staff typically rates the pavement sections of all city streets on an annual basis using the Pavement Surface Evaluation and Rating (PASER) system. The latest PASER rating for each street segment proposed to receive an overlay with this project is included in the street segments summary found in *Appendix B*.

On October 24, 2017 the Ramsey City Council ordered this feasibility report which explores the necessity, feasibility and cost-effectiveness of the proposed improvements by examining the scope of the improvements, exploring estimated costs and available funding sources, defining a preliminary project schedule, and determining whether the improvements should be completed as proposed or in connection with another improvement.

The engineer's opinion of probable costs for this project is \$585,460.78. Estimated costs include 5% contingency costs, plus 14% indirect costs for administrative, engineering, finance and legal costs.

The improvements proposed with this project are identified in the City's current 10-year Capital Improvement Program, and can be funded using a combination of General Obligation Street Reconstruction and Overlay Plan bond funds, special assessments to benefiting properties, and utility enterprise funds. *Appendix C* includes a detailed opinion of probable costs, and preliminary assessment rolls and maps.

The proposed improvements are necessary, feasible, and cost-effective from an engineering standpoint, and can be constructed as proposed herein. The proposed improvements would be most cost-effectively constructed as a separate project and not in connection with other proposed improvements due to the specific nature of the improvements.

2. INTRODUCTION

2.1 Authorization

Preparation of this feasibility report was authorized by the Ramsey City Council on October 24, 2017.

2.2 Program Overview

This project is designated as 2018 Street Overlay Improvements; Improvement Project No. 18-03.

This feasibility report explores proposed bituminous pavement overlay improvements to approximately 63,449 square yards of public streets within several areas of the City. The street segments are proposed to receive 2-inch bituminous overlays with joint milling occurring at driveway aprons and match-in streets. Associated appurtenant improvements are also proposed to be completed as necessary and as outlined in this report.

Maps showing the general location and scope of the proposed improvements are included in *Appendix A*.

2.3 Scope

The scope of this report addresses proposed overlay improvements to approximately 63,449 square yards of public streets within several areas of the City as shown in *Appendix A*.

3. EXISTING CONDITIONS

3.1 Existing Streets

The existing right-of-ways along the street segments proposed to receive overlays as part of this project generally are 66-feet in width. The paved streets vary in width from 30 to 31-feet as measured from the back-of-curb to back-of-curb. All streets in this project were constructed with bituminous pavement and curbing, and many of the street segments contain storm sewer.

Braun Intertec was previously employed to complete a ground penetrating radar (GPR) analysis for the project areas, which included driving the GPR equipped vehicle throughout all street segments within the project areas. Summary tables and charts of the GPR Analysis are attached in *Appendix D*. The GPR Analysis provides bituminous and aggregate base thicknesses. City staff used this data to determine the appropriate treatment for the pavement. The existing bituminous thicknesses varied from between 0.5 inches and 6.3 inches. The average bituminous thicknesses by project area ranged from 2.0 to 3.3 inches, with an overall average of 2.6 inches across all the project areas combined. The average section thickness, including pavement and aggregate base, ranged from 6.8 to 7.7 inches. The City's current residential street pavement section standard includes 3.5 inches of bituminous pavement and 4 inches of aggregate base, totaling 7.5 inches.

City staff visually inspects each public street segment throughout the City, typically on an annual basis, to determine the pavement condition. Staff uses the Pavement Surface Evaluation and Rating (PASER) system to assign a numerical rating between 1 and 10 to each street segment. Streets rated with a 10 are considered to be in excellent condition therefore requiring no improvement. The street segments proposed to receive overlays in 2018 had 2017 PASER ratings of 3, 4, and 5 making them good candidates for bituminous pavement overlay improvements in 2018, which will extend the life of the pavement approximately 20 years.

Based on the manner in which the existing pavement is deteriorating, staff does not believe there are any issues with subgrade soils that will negatively impact the design life of the proposed improvements. Staff also does not believe groundwater will be a concern for any of the proposed improvements.

3.2 Watermain

Watermain does not exist under any of the streets in the proposed project areas.

3.3 Sanitary Sewer

Sanitary sewer does not exist under any of the streets in the proposed project areas.

3.4 Storm Sewer/Drainage

Storm sewer exists under several of the streets in the proposed project areas, but is not proposed to complete any significant repairs or storm sewer construction as part of this project.

4. PROPOSED IMPROVEMENTS

4.1 Bituminous Pavement Overlays

4.1.1 *Pavement Condition Evaluation/Ratings*

City staff generally evaluates and rates the pavement conditions of all city streets on an annual basis using the Pavement Surface Evaluation and Rating (PASER) system. This requires a visual evaluation of each pavement surface throughout the City based on the type, extent and severity of each pavement distress observed. Various types of pavement distresses may exist within a pavement section including, but not limited to, alligator cracking, block cracking, longitudinal cracking, transverse cracking, rutting, raveling, shoving, potholes and patches.

Once staff gathers the updated field data, it is recorded in a Microsoft Excel pavement management database. This database is used by staff to determine the most cost-effective pavement rehabilitation method for each street segment, and to schedule the annual long-term Street Maintenance Program projects.

4.1.2 *Project Area Selection*

Staff reviewed the pavement management database to identify street segments throughout the City with PASER ratings from 3 to 5 as these are the best candidates for overlays. These segments were then evaluated as to proximity and overall scope to determine which segments could be grouped together to help reduce bid prices related to equipment mobilization, which often accounts for 5% or more of bid prices.

The City's 5-year Street Reconstruction and Overlay Plan proposed to overlay several segments in 2018. These include; Woodland Green, The North Forty 2nd, The North Forty 3rd, Northfork Itasca Shores, Northfork, Northfork 2nd, Northfork 3rd, and Northfork Oaks. In total, approximately 63,449 square yards of pavement is proposed to receive overlay improvements. *Exhibits A, B, C, D, E, F, and G in Appendix A* show the location and scope of the proposed 2018 overlay improvements.

4.1.3 *Other Considerations*

Driveways:

Overlaying of existing residential driveway aprons may be needed to varying degrees with this project. The limits of each overlay will vary with each driveway based on the elevation of the street abutting the driveway apron, the driveway pavement condition and type, and the locations of existing driveway pavement joints.

During construction, staff will evaluate the construction limits for each driveway and will work with each property owner to determine the proper overlay limits in the field.

Right-of-entry may be needed from residential property owners to complete work outside City right-of-ways and easements.

Pedestrian Facilities:

Pedestrian facilities exist along several of the street segments proposed to receive an overlay. Staff will evaluate potential impacts to each facility during design and plan preparation to determine whether any adjustments or improvements are needed.

4.2 Stormwater Improvements

No storm sewer construction or repair work is proposed. Only minor structure casting adjustments are proposed. Stormwater improvements will be further evaluated during preparation of plans and specifications.

4.3 Water Main Improvements

No watermain improvements are proposed with this project.

4.4 Sanitary Sewer Improvements

No sanitary sewer improvements are proposed with this project.

4.5 Construction Methods

A 1-inch deep joint mill will first be performed at the street tie-in locations for each street segment. The Woodland Green neighborhood is proposed to receive a 7-foot wide edge mill along both sides of the streets due to severely degraded pavement conditions. Then all existing metal castings for storm sewer will be raised, including grouting of catch basins as needed, after which the pavement will be swept to remove any loose debris. A coating of bituminous tack material will then be applied to the existing pavement which serves as a glue to adhere the bituminous overly to the existing bituminous pavement. Each street will then receive a 2-inch bituminous overlay lift.

4.6 Private Utilities

Staff has not yet met with the private electric, gas, and telecommunications utility companies regarding this project. Once plans and specifications are ordered, staff will meet with private utility companies per the project schedule in this report to discuss the proposed improvements, and to determine if modifications are feasible and/or warranted to minimize impacts to their utilities. Based on preliminary reviews, staff does not anticipate any impacts to private utilities.

Should a utility company decide to upgrade, replace, or otherwise modify their services during this project, any such upgrades, replacements, or modifications will be at the sole discretion and cost of the private utility company. Such work could include burying existing overhead lines.

4.7 Permits

Permits that are anticipated to be required as part of the proposed improvements include:

- Anoka County Highway Department Permit..... Work in Right-of-Way
- MPCA General Stormwater Permit (NPDES)..... Grading and Storm Water

4.8 Right-of-Ways/Easements

All work for this project is anticipated to occur within existing City right-of-ways and easements, but some work may be necessary within Anoka County's right-of-way along County Road 83 / Armstrong Boulevard while matching into the existing pavement section.

If any temporary access is required on private properties, staff will obtain right of entries from property owners.

It is not anticipated that the City will need to acquire any permanent or temporary right-of-way or easements to complete this project.

5. FINANCING

5.1 Opinion of Cost

The engineer's opinion of probable costs for this project is \$585,460.78. A detailed breakdown of project are costs is included in *Appendix C*.

Estimated costs include 5% contingency costs, plus 14% indirect costs for administrative, engineering, finance, and legal costs.

5.2 Funding

5.2.1 Assessments

Assessments are proposed to be levied against 123 properties having direct access to each of the improved street segments. In accordance with the City's Special Assessments Policy, each property is proposed to be assessed based on the "per lot" method for each of the separate project subdivisions. Since projects are generally classified by subdivisions which have similar characteristics and lot sizes, project costs are proposed to be assessed equally within each individual subdivision.

Preliminary assessments vary considerably per project area. The total project assessment cost is \$146,365.19. This represents 25 percent of the total eligible project costs in accordance with the City's adopted Special Assessments Policy, chapter 8 of the City Charter, and State Statute Chapter 429.

Final assessments will be approved by the City Council after final project costs are known and an assessment hearing is held on October 9, 2018. At that time the City Council may choose to reduce the amount of the assessment if final project costs are less than costs estimated with this feasibility report.

A preliminary assessment map and roll, as well as opinion of probable costs, are included in *Appendix C*.

5.2.2 City Contribution

The City contribution to the project includes all funding in excess of the amount collected through special assessments to benefiting properties, which totals \$438,242.72. The City's contribution will be funded using the 5-year General Obligation Street Reconstruction and Overlay Bond funds, though utility enterprise funds can be used for needed utility infrastructure improvements.

No funds were budgeted for this project in 2018, but this improvement project is included in the City's current 10-year Improvement Plan.

6. PROJECT SCHEDULE

The proposed project schedule is as follows:

Council Orders Feasibility Report	October 24, 2017
Council Accepts Feasibility Report/Orders Public Hearing	December 12, 2017
Staff Conducts Public Information Meeting	January 3, 2018
Council Conducts Public Hearing/Authorizes Plans and Specifications	January 9, 2018
Council Approves Plans and Specifications/Authorizes Ad for Bids.....	February 27, 2018
Staff Receives Bids	April 3, 2018
Council Accepts Bids/Awards Contract	April 10, 2018
Contractor Begins Construction.....	June 2018
Contractor Completes Construction.....	August 31, 2018
Council Conducts Assessment Hearing	October 9, 2018

7. CONCLUSIONS AND RECOMMENDATIONS

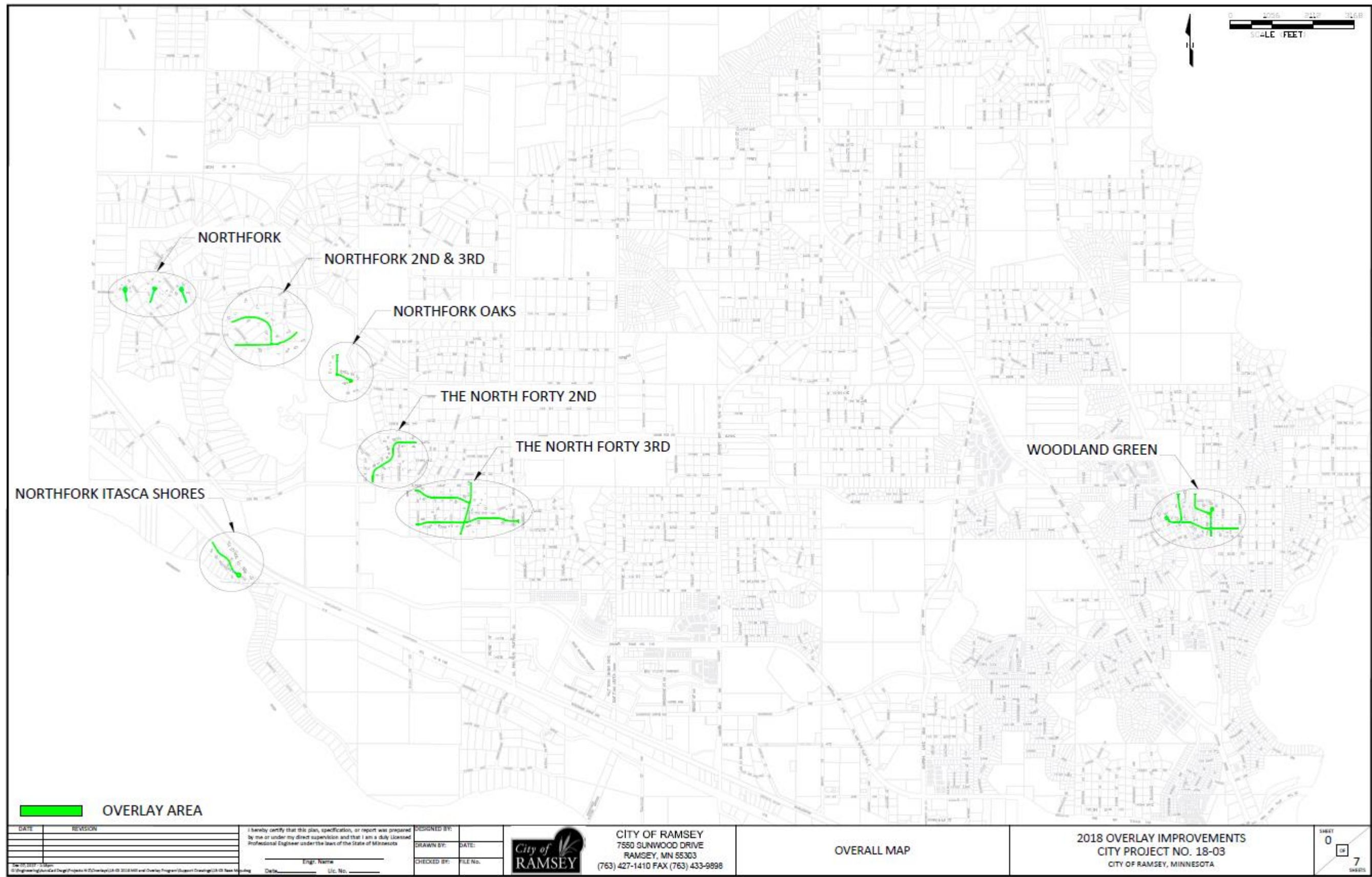
This feasibility report explores proposed bituminous pavement overlay improvements to approximately 63,449 square yards of public streets in several areas of the City. The street segments are proposed to receive 2-inch bituminous overlays. Other associated appurtenant improvements are proposed to be completed as necessary and as outlined in this report.


It is the recommendation of City staff that the improvements proposed with City Improvement Project No. 18-03 are feasible, necessary, and cost-effective from an engineering standpoint. Staff also recommends completing the proposed improvements as proposed within this report and not in connection with other proposed improvements.

APPENDIX A

Project Exhibits

- Exhibit 1 - 2018 Overlay Improvements – Overall Map**
- Exhibit A – 2018 Overlay Improvements – Woodland Green**
- Exhibit B – 2018 Overlay Improvements – The North Forty 2nd**
- Exhibit C – 2018 Overlay Improvements – The North Forty 3rd**
- Exhibit D – 2018 Overlay Improvements – Northfork Itasca Shores**
- Exhibit E – 2018 Overlay Improvements – Northfork**
- Exhibit F – 2018 Overlay Improvements – Northfork 2nd & 3rd**
- Exhibit G – 2018 Overlay Improvements – Northfork Oaks**



 OVERLAY AREA

DATE	REVISION

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.
 Engr. Name: _____
 Date: _____ Lic. No. _____

DESIGNED BY: _____
 DRAWN BY: _____ DATE: _____
 CHECKED BY: _____ FILE No. _____



CITY OF RAMSEY
 7550 SUNWOOD DRIVE
 RAMSEY, MN 55303
 (763) 427-1410 FAX (763) 433-9898

OVERALL MAP

2018 OVERLAY IMPROVEMENTS
 CITY PROJECT NO. 18-03
 CITY OF RAMSEY, MINNESOTA

SHEET 0 OF 7 SHEETS

Exhibit 1 – 2018 Overlay Improvements – Overall Map

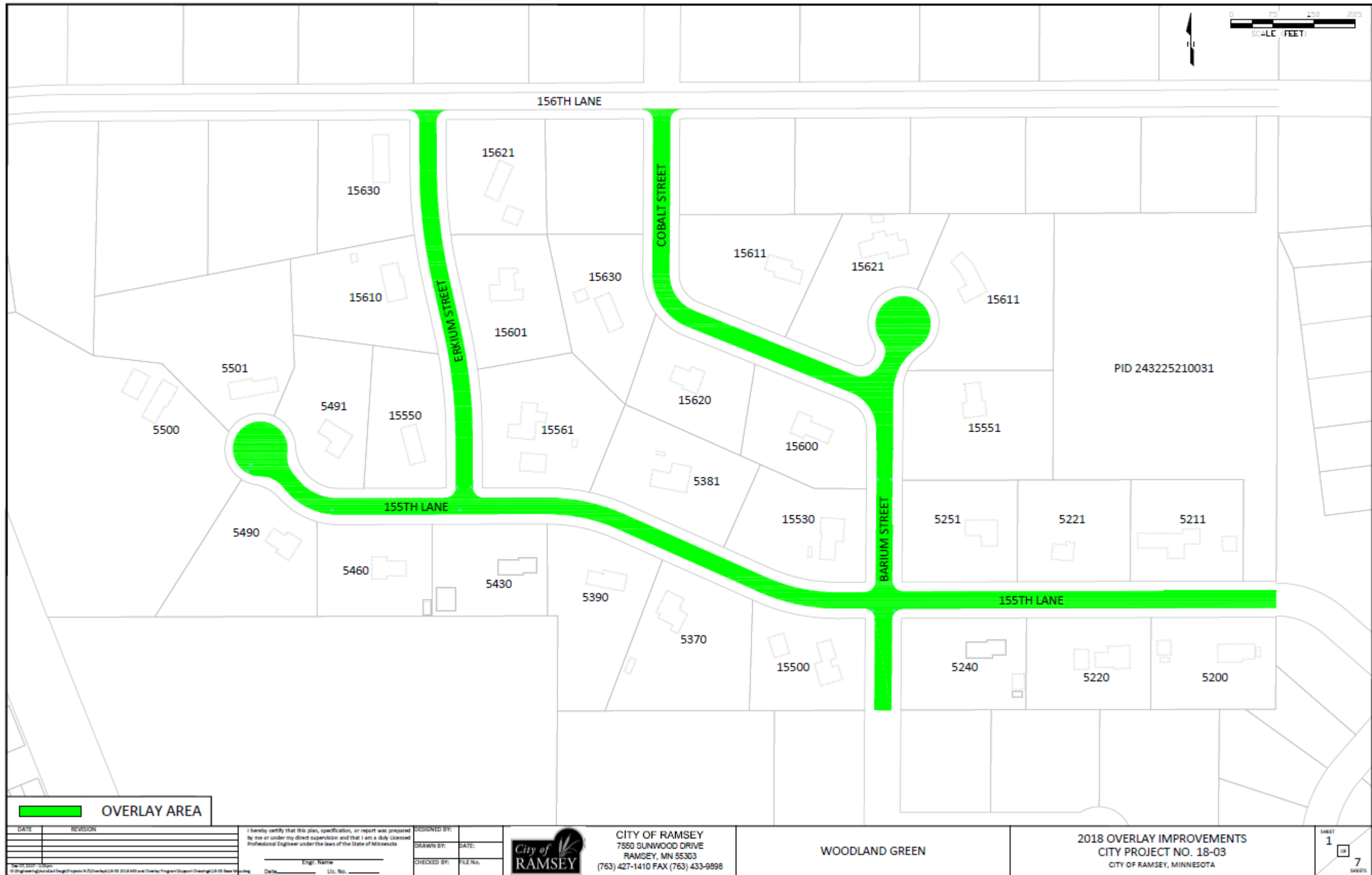


Exhibit A – 2018 Overlay Improvements – Woodland Green

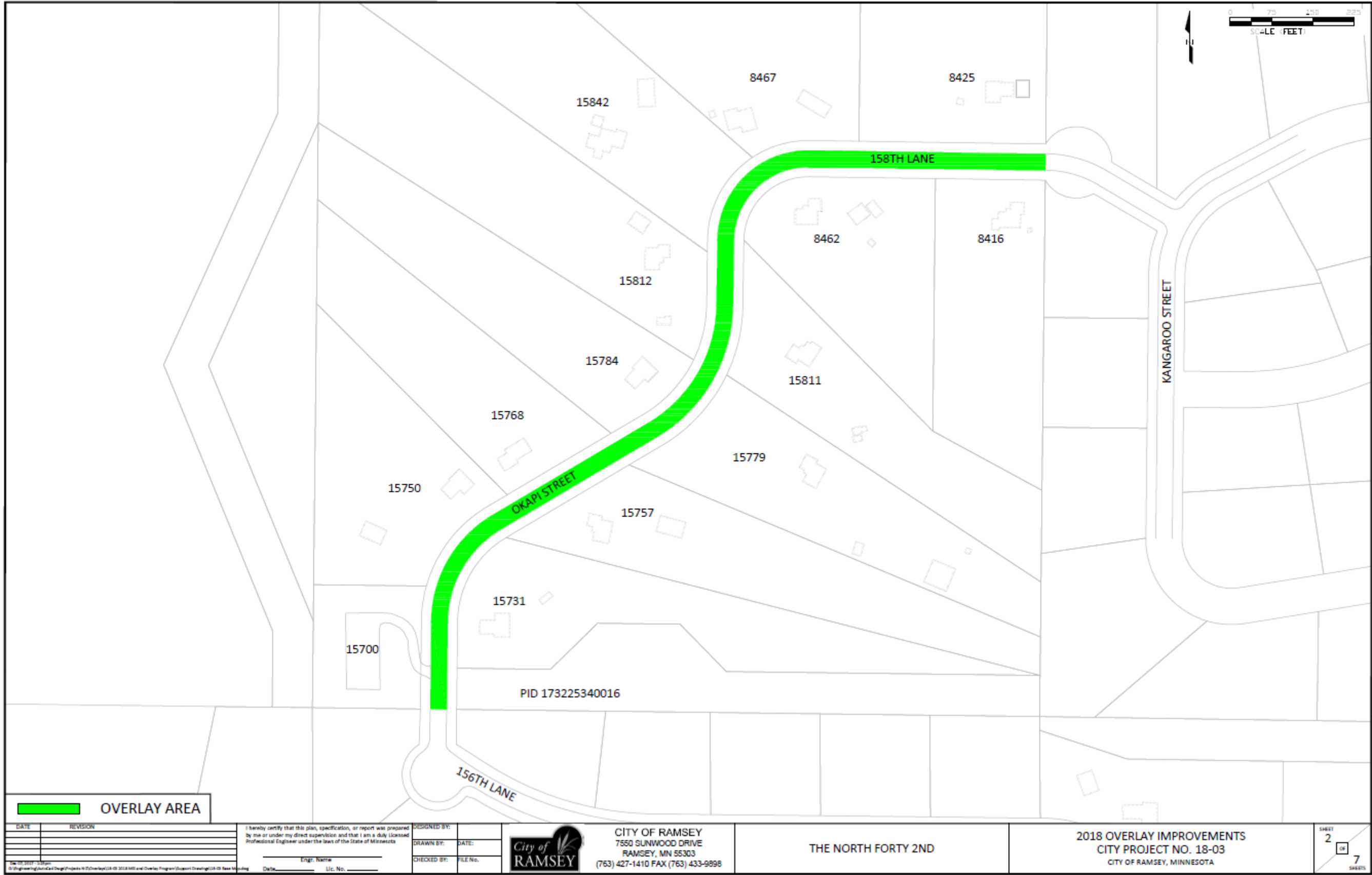


Exhibit B – 2018 Overlay Improvements – The North Forty 2nd

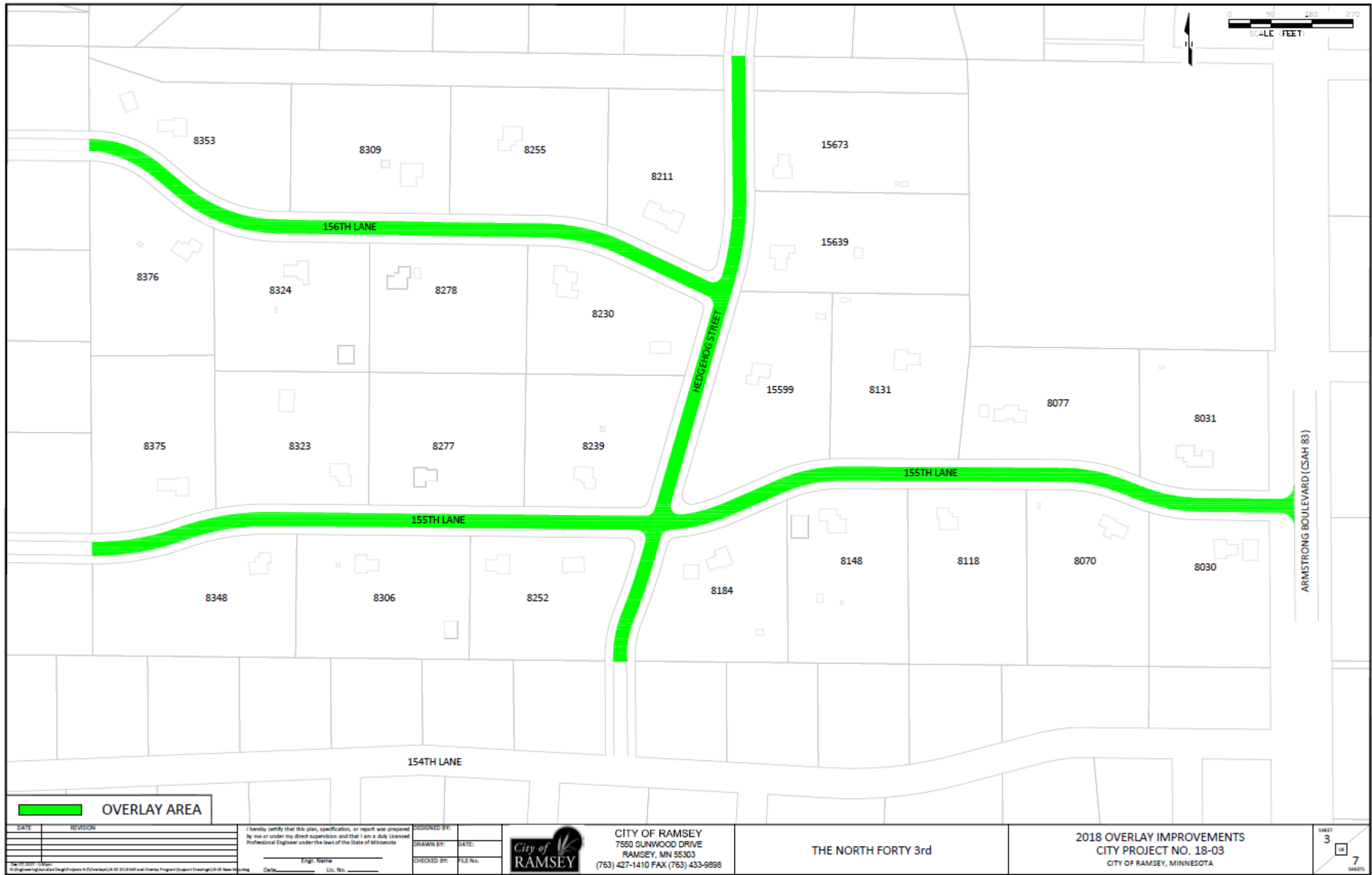
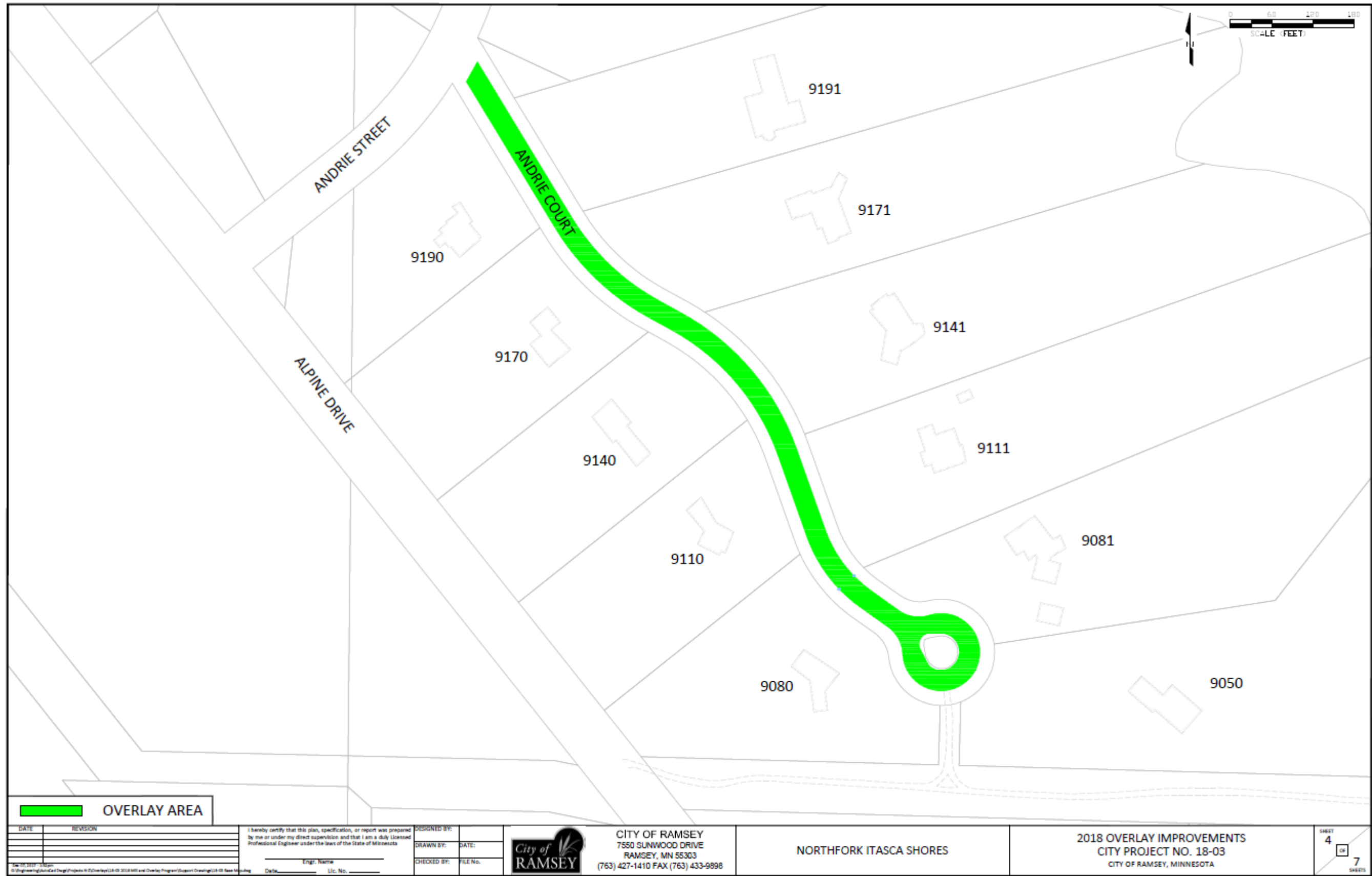



Exhibit C – 2018 Overlay Improvements – The North Forty 3rd




 OVERLAY AREA

DATE	REVISION

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Engr. Name: _____ Date: _____ Lic. No.: _____

DESIGNED BY: _____
 DRAWN BY: _____ DATE: _____
 CHECKED BY: _____ FILE No. _____

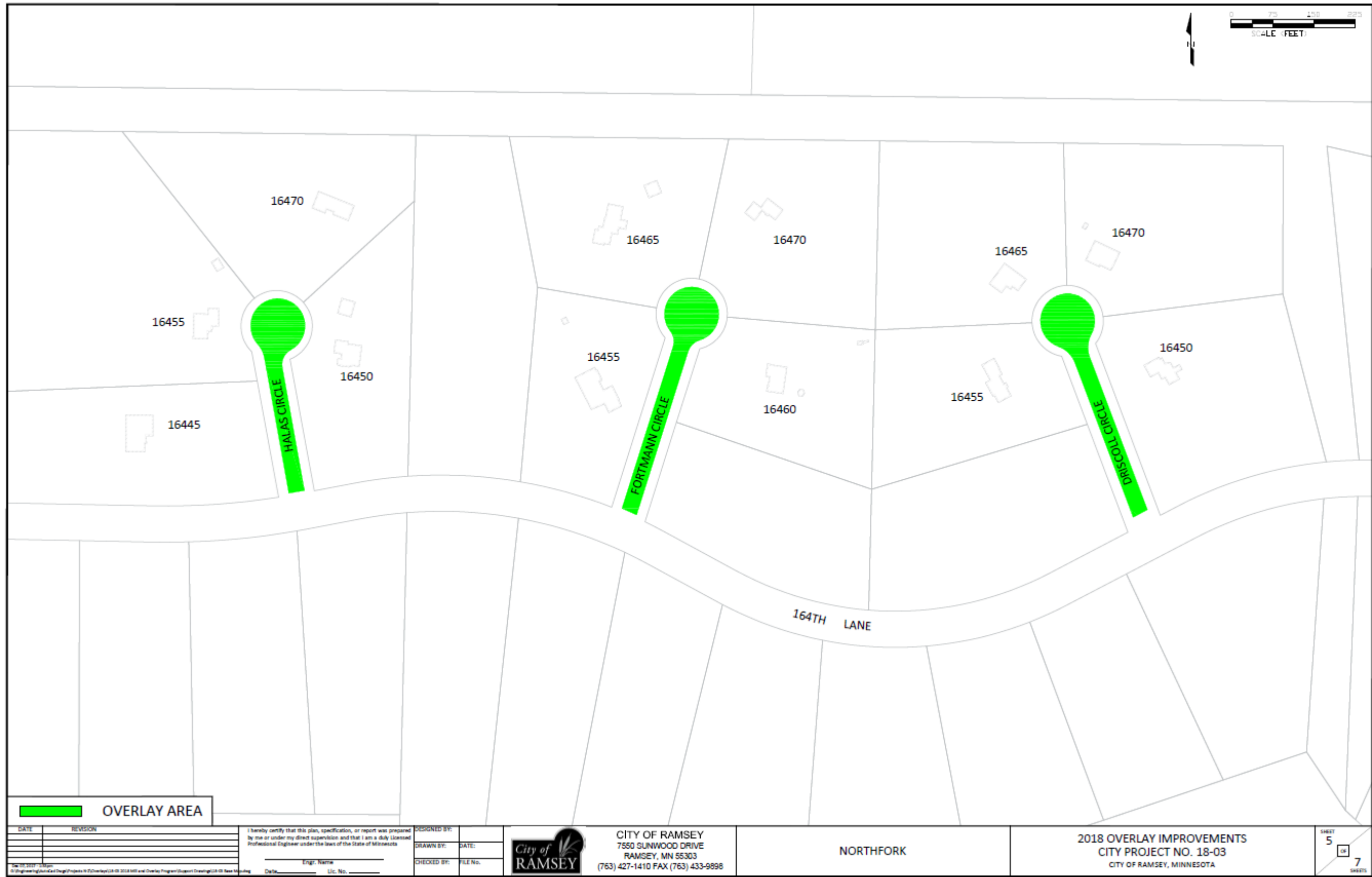
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NORTHFORK ITASCA SHORES

2018 OVERLAY IMPROVEMENTS
 CITY PROJECT NO. 18-03
 CITY OF RAMSEY, MINNESOTA

SHEET 4 OF 7

Exhibit D – 2018 Overlay Improvements – Northfork Itasca Shores




 OVERLAY AREA

DATE	REVISION

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.

Engr. Name: _____
 Date: _____ Lic. No. _____

DESIGNED BY: _____
 DRAWN BY: _____ DATE: _____
 CHECKED BY: _____ FILE No. _____

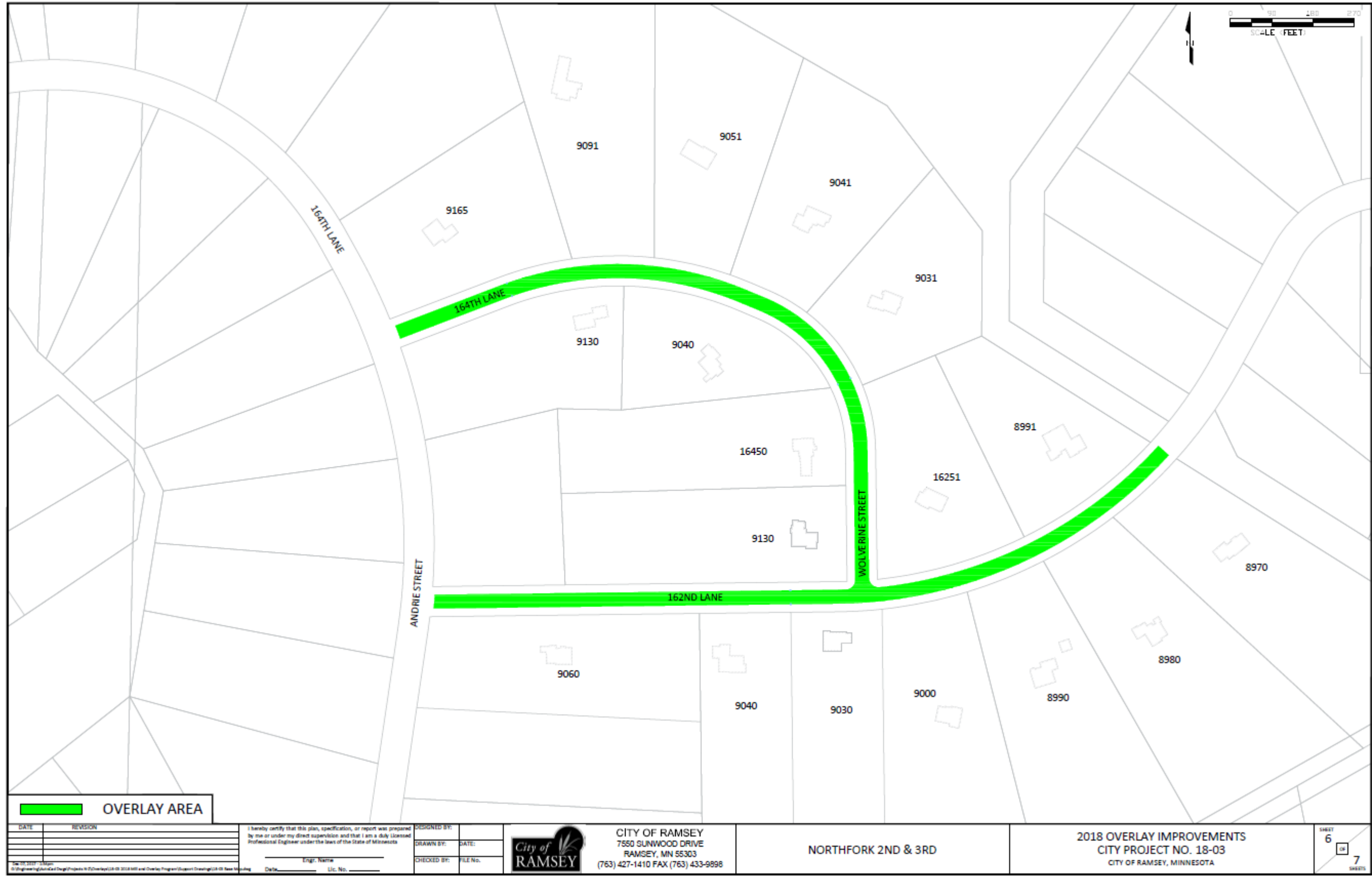
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NORTHFORK

2018 OVERLAY IMPROVEMENTS
 CITY PROJECT NO. 18-03
 CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 7

Exhibit E – 2018 Overlay Improvements – Northfork



OVERLAY AREA

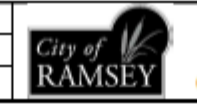
DATE	REVISION

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.

 Engr. Name

 Lic. No. _____

DESIGNED BY: _____
 DRAWN BY: _____ DATE: _____
 CHECKED BY: _____ FILE No. _____



CITY OF RAMSEY
 7550 SUNWOOD DRIVE
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NORTHFORK 2ND & 3RD

2018 OVERLAY IMPROVEMENTS
 CITY PROJECT NO. 18-03
 CITY OF RAMSEY, MINNESOTA

SHEET **6** OF **7**
SHEETS

Exhibit F – 2018 Overlay Improvements – Northfork 2nd & 3rd

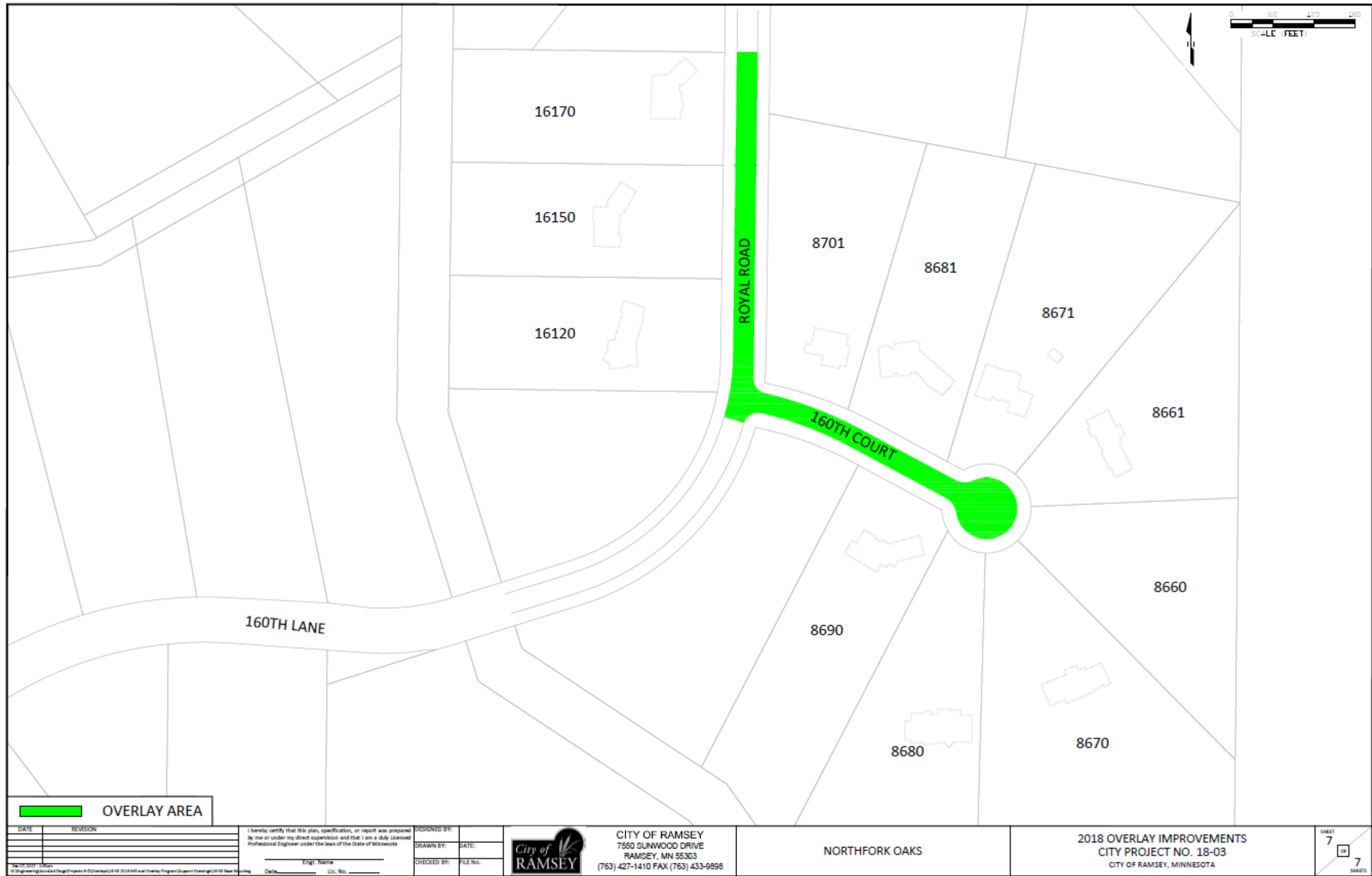


Exhibit G – 2018 Overlay Improvements – Northfork Oaks

Appendix B
Street Segment Summaries

18-03 OVERLAY IMPROVEMENTS

STREET SEGMENT SUMMARIES

WOODLAND GREEN

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
155th Lane	CDS / E EOP	1924	30 / 31	Bit / No Curb	4	1974	SC 1 - 1981	OL - 1990	SC 2 - 1996
Barium Street	S EOP / CDS	907	30 / 31	Bit / No Curb	4	1974	SC 1 - 1981	OL - 1990	SC 2 - 1996
Cobalt Street	N EOP / Barium St	775	31	Bit	4	1974	SC 1 - 1981	OL - 1990	SC 2 - 1996
Erkium Street	155th Ln / 156th Ln	727	31	Bit	4	1974	SC 1 - 1981	OL - 1990	SC 2 - 1996

THE NORTH FORTY 2ND

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
158th Lane	NE PC Okapi St & 158th Ln / E EOP	548	31	Bit	4	1989	SC 1 - 1998		
Okapi Street	S EOP / NE PC 158th Ln & Okapi St	1219	31	Bit	4	1989	SC 1 - 1998		

THE NORTH FORTY 3RD

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
155th Lane	W EOP / Armstrong Blvd	2943	30.5	Bit	4	1990	SC 1 - 1995	SC 2 - 2003	
156th Lane	W EOP / Hedgehog St	1464	30.5	Bit	4	1990	SC 1 - 1995	SC 2 - 2003	
Hedgehog Street	S EOP / N EOP	1362	30.5	Bit	4	1990	SC 1 - 1995	SC 2 - 2003	

NORTHFORK ITASCA SHORES

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
Andrie Court	Andrie St / CDS	1117	30	Bit	5	1996	SC 1 - 1999		

NORTHFORK

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
Driscoll Circle	164th Ln / CDS	395	30	Bit	4	1985	SC 1 - 1992	SC 2 - 1999	
Fortmann Circle	164th Ln / CDS	383	30	Bit	4	1985	SC 1 - 1992	SC 2 - 1999	
Halas Circle	164th Ln / CDS	307	30	Bit	3	1985	SC 1 - 1992	SC 2 - 1999	

NORTHFORK 2ND & 3RD

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
162nd Lane	Andrie St / E EOP	1693	31	Bit	4	1990	SC 1 - 1999		
164th Lane	Andrie St / E EOP					1985	SC 1 - 1992	SC 2 - 1999	
164th Lane	W EOP / Wolverine St	1101	31	Bit	4	1990	SC 1 - 1999		
Wolverine Street	162nd Ln / 164th Ln	462	31	Bit	3	1990	SC 1 - 1999		

NORTHFORK OAKS

Street	Segment Description	Length	Width	Curb	2017 Rating	Year Bulit	Maintenance 1	Maintenance 2	Maintenance 3
160th Court	Royal Rd / CDS	397	30	Bit	4	1994	SC 1 - 1999		
Royal Road	160th Crt / E EOP	537	30	Bit	4	1994	SC 1 - 1999		

Appendix C

Opinion of Probable Costs Preliminary Assessment Maps Preliminary Assessment Rolls

**18-03 OVERLAY IMPROVEMENTS
PRELIMINARY ENGINEER ESTIMATES**

PRELMIINARY ESTIMATE – WOODLAND GREEN

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$2,000.00	\$2,000.00
2	Sawing Bituminous Pavement – Full Depth	LF	212	\$3.00	\$636.00
3	Mill Bituminous Pavement (7 Foot Edge Mill 0” – 2” Depth)	SY	6572	\$1.25	\$8,215.00
4	Bituminous Material for Tack Coat	GAL	1,077	\$2.50	\$2,692.50
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	1,692	\$63.00	\$106,596.00
6	Adjust Casting (Storm Sewer)	EA	10	\$375.00	\$3,750.00
7	6” Concrete Walk	SF	73	\$6.50	\$474.50
8	Truncated Domes	SF	16	\$40.00	\$640.00
9	Traffic Control	LS	1	\$1,000.00	\$1,000.00
Woodland Green Construction Cost					\$126,004.00
5% Contingency Cost					\$6,300.20
14% Indirect Cost					\$18,522.59
Woodland Green Preliminary Project Cost					\$150,826.79

PRELMIINARY ESTIMATE – THE NORTH FORTY 2ND

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$800.00	\$800.00
2	Sawing Bituminous Pavement – Full Depth	LF	68	\$3.00	\$204.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	100	\$1.25	\$125.00
4	Bituminous Material for Tack Coat	GAL	412	\$2.50	\$1,030.00
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	648	\$63.00	\$40,824.00
6	6” Concrete Walk	SF	70	\$6.50	\$455.00
7	Truncated Domes	SF	16	\$40.00	\$640.00
8	Traffic Control	LS	1	\$1,000.00	\$1,000.00
The North Forty 2 nd Construction Cost					\$45,078.00
5% Contingency Cost					\$2,253.90
14% Indirect Cost					\$6,626.47
The North Forty 2nd Preliminary Project Cost					\$53,958.37

PRELMIINARY ESTIMATE – THE NORTH FORTY 3RD

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$2,000.00	\$2,000.00
2	Sawing Bituminous Pavement – Full Depth	LF	205	\$3.00	\$615.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	460	\$1.25	\$575.00
4	Bituminous Material for Tack Coat	GAL	1,256	\$2.50	\$3,140.00
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	1,974	\$63.00	\$124,362.00
6	Traffic Control	LS	1	\$1,000.00	\$1,000.00
The North Forty 3 rd Construction Cost					\$131,692.00
5% Contingency Cost					\$6,584.60
14% Indirect Cost					\$19,358.72
The North Forty 3rd Preliminary Project Cost					\$157,635.32

PRELMIINARY ESTIMATE – NORTHFORK ITASCA SHORES

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$600.00	\$600.00
2	Sawing Bituminous Pavement – Full Depth	LF	41	\$3.00	\$123.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	50	\$1.25	\$62.50
4	Bituminous Material for Tack Coat	GAL	300	\$2.50	\$750.00
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	472	\$63.00	\$29,736.00
6	Adjust Casting (Storm Sewer)	EA	2	\$375.00	\$750.00
7	6” Concrete Walk	SF	78	\$6.50	\$507.00
8	Truncated Domes	SF	16	\$40.00	\$640.00
9	Traffic Control	LS	1	\$1,000.00	\$1,000.00
Northfork Itasca Shores Construction Cost					\$34,168.50
5% Contingency Cost					\$1,708.43
14% Indirect Cost					\$5,022.77
Northfork Itasca Shores Preliminary Project Cost					\$40,899.69

PRELMIINARY ESTIMATE – NORTHFORK

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$800.00	\$800.00
2	Sawing Bituminous Pavement – Full Depth	LF	57	\$3.00	\$171.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	145	\$1.25	\$181.25
4	Bituminous Material for Tack Coat	GAL	389	\$2.50	\$972.50
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	612	\$63.00	\$38,556.00
6	Traffic Control	LS	1	\$1,000.00	\$1,000.00
Northfork Construction Cost					\$41,680.75
5% Contingency Cost					\$2,084.04
14% Indirect Cost					\$6,127.07
Northfork Preliminary Project Cost					\$49,891.86

PRELMIINARY ESTIMATE – NORTHFORK 2ND & 3RD

Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$2,000.00	\$2,000.00
2	Sawing Bituminous Pavement – Full Depth	LF	90	\$3.00	\$270.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	145	\$1.25	\$181.25
4	Bituminous Material for Tack Coat	GAL	755	\$2.50	\$1,887.50
5	Type SP 9.5 Wearing Course Mixture (SPWEA340C) (2.0”)	TON	1,186	\$63.00	\$74,718.00
6	Adjust Casting (Storm Sewer)	EA	6	\$375.00	\$2,250.00
7	Traffic Control	LS	1	\$1,000.00	\$1,000.00
Northfork 2 nd & 3 rd Construction Cost					\$82,306.75
5% Contingency Cost					\$4,115.34
14% Indirect Cost					\$12,099.09
Northfork 2nd & 3rd Preliminary Project Cost					\$98,521.18

PRELIMINARY ESTIMATE – NORTHFORK OAKS

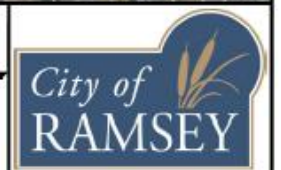
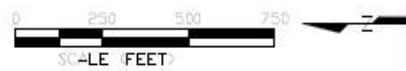
Item No.	Description	Unit	Estimated Quantity	Unit Cost	Cost Extension
1	Mobilization	LS	1	\$600.00	\$600.00
2	Sawing Bituminous Pavement – Full Depth	LF	60	\$3.00	\$180.00
3	Mill Bituminous Pavement (2” Depth – Street Tie-in)	SY	55	\$1.25	\$68.75
4	Bituminous Material for Tack Coat	GAL	252	\$2.50	\$630.00
5	Type SP Wearing Course Mixture (SPWEA340C) (2.0”)	TON	396	\$63.00	\$24,948.00
6	Adjust Casting (Storm Sewer)	EA	2	\$375.00	\$750.00
7	Traffic Control	LS	1	\$1,000.00	\$1,000.00
Northfork Oaks Construction Cost					\$28,176.75
5% Contingency Cost					\$1,408.84
14% Indirect Cost					\$4,141.98
Northfork Oaks Preliminary Project Cost					\$33,727.57

18-03 PRELIMINARY ESTIMATE SUMMARY

PROJECT AREA	PROJECT COST	TOTAL ASSESSMENT (25%)
WOODLAND GREEN	\$150,826.79	\$37,706.70
THE NORTH FORTY 2 ND	\$53,958.37	\$13,489.59
THE NORTH FORTY 3 RD	\$157,635.32	\$39,408.83
NORTHFORK ITASCA SHORES	\$40,899.69	\$10,224.92
NORTHFORK	\$49,891.86	\$12,472.96
NORTHFORK 2 ND & 3 RD	\$98,521.18	\$24,630.29
NORTHFORK OAKS	\$33,727.57	\$8,431.89
PRELIMINARY TOTAL	\$585,460.78	\$146,365.19

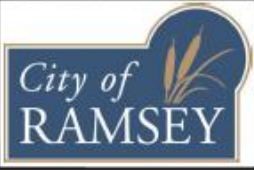


**WOODLAND GREEN
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



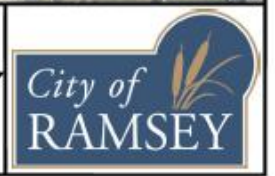


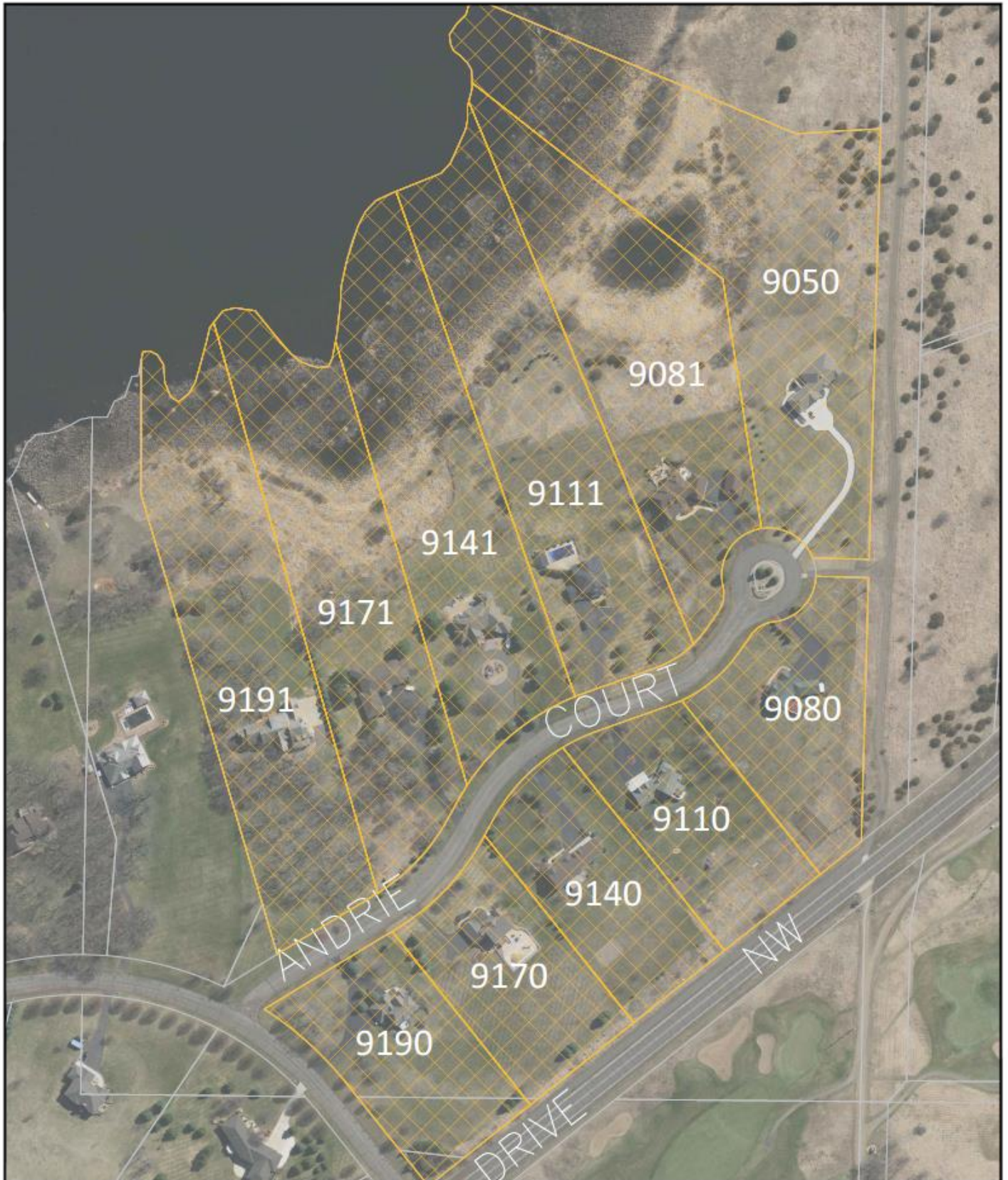
**THE NORTH FORTY 2ND
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



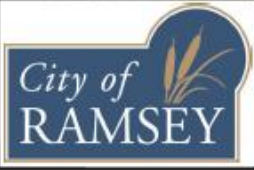
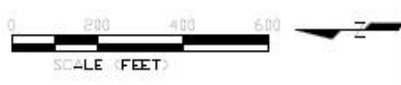


**THE NORTH FORTY 3RD
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



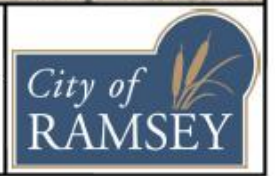
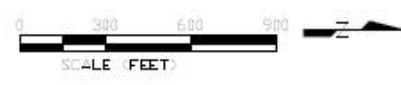


**NORTHFORK ITASCA SHORES
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



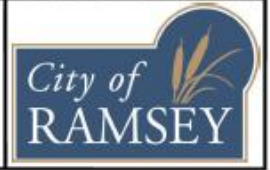


**NORTHFORK
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



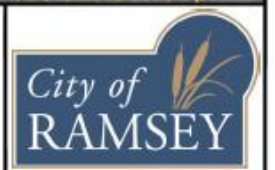


**NORTHFORK 2ND & 3RD
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**





**NORTHFORK OAKS
ASSESSABLE PROPERTIES
2018 OVERLAY IMPROVEMENTS**



PROPOSED ASSESSMENT ROLL - 18-03 WOODLAND GREEN							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
243225210012	FLOYD JESSICA	15611 COBALT ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210013	ARENDTS BARBARA	15621 BARIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210014	MORAVETZ PAUL	15611 BARIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210015	LORETZ JAMES R & M K	15551 BARIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210016	WESTERVELD DONNA LYNN	5251 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210017	GIVENS ANDREW	5221 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210018	NELSON TIMOTHY C & BARBARA A	5211 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210019	CASSIDY MEGAN	5240 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210020	CIKOTTE THOMAS D & SHELLEY	5220 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210021	THIEL MARK	5200 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210023	SWEET LAURA	15630 COBALT ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210024	JAMES CORRINE	15620 COBALT ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210025	FISCHER TIMOTHY A & NANCY A	15600 COBALT ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210026	WATSON JUDY	15530 BARIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210027	NYARA JOSEPH C	5381 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210028	VANG LA	5390 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210029	HOEKE CURTIS	5370 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210030	HATCH JOHN S	15500 BARIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225210031	CITY OF RAMSEY		RAMSEY	MN	55303	1	\$ 1,216.35
243225220008	AHLQUIST TRUSTEE JOHN & AHLQUIST TRUSTEE PEGGY	15561 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220009	MCCALLA ANNETTE	15601 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220010	HAMMOCK JERRY	15621 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220015	HALTER JONATHAN T & GINA L	15630 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220017	MAJKRZAK THOMAS J	15610 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220018	SCHMID RICHARD & JACQUELINE	5491 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220019	KIGER GREGORY A	15550 ERKIUM ST NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220021	MILLER MARYLEE	5490 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220022	ZIMMERMANN RONALD G & D J	5460 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220023	POMEROY GEORGE A	5430 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220025	SCOTT DOROTHY	5501 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
243225220027	ROSE GARY L & G C	5500 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,216.35
TOTALS						31	\$ 37,706.70

PROPOSED ASSESSMENT ROLL - 18-03 THE NORTH FORTY 2ND							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
173225340002	COULT BRENDA	8425 158TH LN NW	RAMSEY	MN	55303	1	\$ 899.31
173225340003	GEISSLER JOSEPH & KIMBERLY	8467 158TH LN NW	RAMSEY	MN	55303	1	\$ 899.31
173225340004	GRONAU SHANE	15842 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340005	JOHNSON PATRICIA	15812 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340006	LEVENICK EMMA	15784 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340007	WISE LYLE D & JEAN R	15768 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340008	BERRY FRANCIS P	15750 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340009	TRUONG KY	8416 158TH LN NW	RAMSEY	MN	55303	1	\$ 899.31
173225340010	HASTINGS SHERRY	8462 158TH LN NW	RAMSEY	MN	55303	1	\$ 899.31
173225340011	OLSON THOMAS C & CARRIE M	15811 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340012	MOLDENHAUER AMANDA	15779 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340013	JOY ANDREW C & JERI L	15757 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340014	WARZONEK ZACHERY	15731 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340015	CITY OF RAMSEY	15700 OKAPI ST NW	RAMSEY	MN	55303	1	\$ 899.31
173225340016	CITY OF RAMSEY		RAMSEY	MN	55303	1	\$ 899.31
TOTALS						15	\$ 13,489.59

PROPOSED ASSESSMENT ROLL – 18-03 THE NORTH FORTY 3RD							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
203225110004	BACKMAN JEANINE	8030 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110005	CHISMAR PAMELA	8070 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110006	GOODMAN JOHN D & MIKA JONI R	8118 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110007	BORELL RONALD J & SANDRA A	8148 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110008	SCHUETTE JOAN	8184 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110009	MORLEY JOHN	8031 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110010	SUOMALA ERIN	8077 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110011	BABKIN VYACHESLAV	8131 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110012	DUSTERHOFT KYLE J & MELANIE A	15599 HEDGEHOG ST NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110013	GRANHOLT LUANN	15639 HEDGEHOG ST NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225110014	NORMAN MARVIN G & MARIA K	15673 HEDGEHOG ST NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120003	GUSTAVSON GENE E & LANETTE J	8211 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120004	ANDERSON HARLAN	8255 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120005	WULF RONDA	8309 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120006	LATOUR GREGORY	8353 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120007	HEINEMAN THOMAS	8239 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120008	MOORE DANIEL	8277 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120009	TRASK BENJAMIN J	8323 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120010	TREPTOW THERESA	8375 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120011	BOBB MICHAEL J	8376 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120012	NORMAN MICHAEL	8324 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120013	WIDEL LAURA	8278 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120014	MAU DAVID	8230 156TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120015	DAVIS ALLISON	8252 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120016	ROUSE MICHAEL	8306 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
203225120017	PETERSON CHAD	8348 155TH LN NW	RAMSEY	MN	55303	1	\$ 1,515.72
TOTALS						26	\$ 39,408.83

PROPOSED ASSESSMENT ROLL – 18-03 NORTHFORK ITASCA SHORES							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
193225130013	TAMAN TARIK & EUSTICE HEIDI T	9191 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130014	SCHROEDER RICHARD M & PENNY M	9171 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130015	TEAL DALE	9141 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130016	MCDONALD ROBERT G & DENISE A	9111 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130017	FIORE EDWARD	9081 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130018	MISNER ALBA	9050 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130020	JORDAN KEVIN L & SUE A	9170 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130021	OLSON MITCHELL A & MICHELLE L	9140 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130022	PAULEY MARIE	9110 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
193225130023	CHRISTIANSON LINDSEY	9080 ANDRIE CT NW	RAMSEY	MN	55303	1	\$ 1,022.49
TOTALS						10	\$ 10,224.92

PROPOSED ASSESSMENT ROLL – 18-03 NORTHFORK							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
183225210002	SHERER MOLLY	16470 FORTMANN CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225210003	KOEHLER MICHAEL	16460 FORTMANN CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225210006	ADAMS LYNN	16455 DRISCOLL CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225210007	WITTER KELLY	16465 DRISCOLL CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225210008	FOOTE CLIFFORD L & SHIRLEY	16470 DRISCOLL CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225210009	RESECH DAVID G & SHAREN J	16450 DRISCOLL CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220002	LYNCH TERRANCE M & SMITH SUSAN	16445 HALAS CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220003	TERNUS JESSE	16455 HALAS CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220004	HANSON ELLEN M	16470 HALAS CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220005	SKYBERG JASON D & JOANN M	16450 HALAS CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220007	ANDERSON II TRUSTEE	16455 FORTMANN CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
183225220008	RUDY TRUSTEE CAROL	16465 FORTMANN CIR NW	RAMSEY	MN	55303	1	\$ 1,039.41
TOTALS						12	\$ 12,472.96

PROPOSED ASSESSMENT ROLL – 18-03 NORTHFORK 2 ND & 3 RD							
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
183225110004	PELUF LAWRENCE & PATRICIA	9041 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225110005	SHUGA TOM & IDA S	9031 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225120005	MORTENSON CYNTHIA	9165 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225120006	SMITH TRUSTEE JILL & SMITH TRUSTEE STEPHEN	9130 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225120012	FREDERICKSON JOAN M & THOMAS A	9040 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225120013	WEBSTER MITCHELL W & NANCY W	9091 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225120014	SCHOENEMAN CRAIG & JOHNSON E A	9051 164TH LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225130008	FLAVIN RANDY & JOAN	9060 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225130012	KUNKEL NICHOLAS V & NANCY L	9040 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225130013	FIELD ROBERT & LORI	16250 WOLVERINE ST NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225130014	BARBER JAMES	16450 WOLVERINE ST NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140002	CHRISTENSEN SCOTT M & LISA E	8970 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140003	HARTER GREGORY J & LYNNE M	8980 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140005	WATSON BARBARA	9000 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140006	MALECK KATHLEEN M	9030 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140007	ZIERDEN SCOTT M & JULIE M	16251 WOLVERINE ST NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140008	QUICK BRYAN R & MARY M	8991 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
183225140020	MCGERR PATRICIA R TRUSTEE	8990 162ND LN NW	RAMSEY	MN	55303	1	\$ 1,368.35
TOTALS						18	\$ 24,630.29

PROPOSED ASSESSMENT ROLL – 18-03 NORTHFORK OAKS

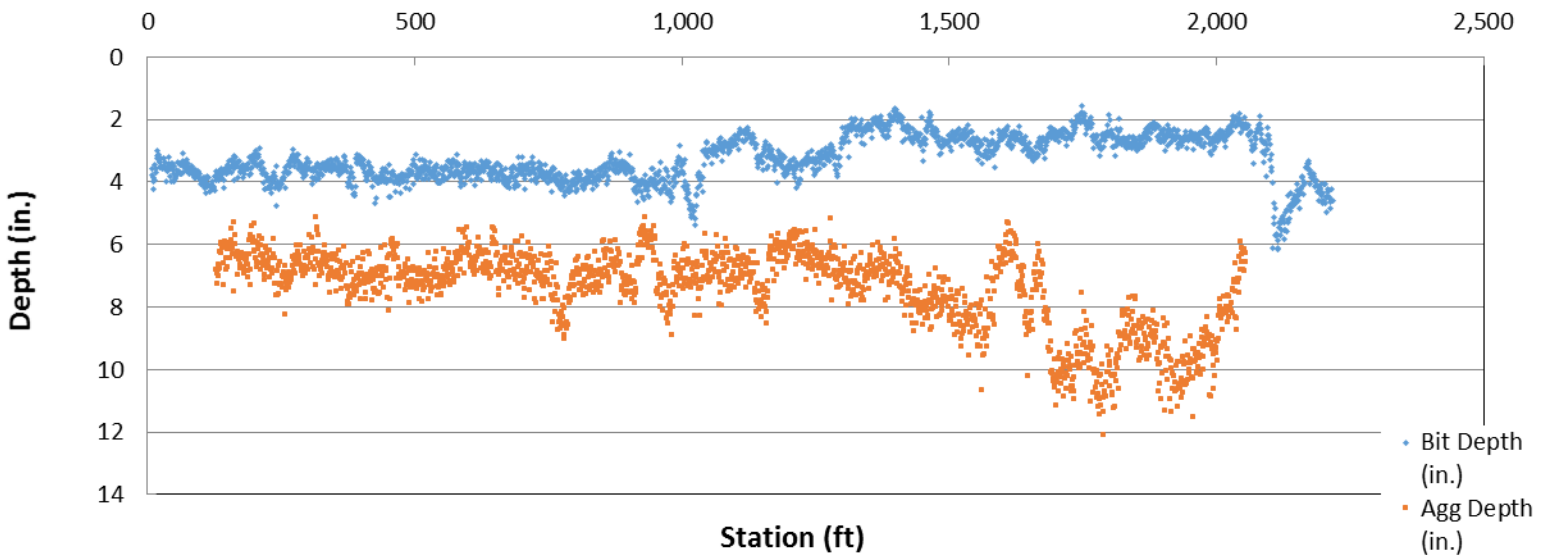
PID	Name/Owner	Address 1	City	State	Zip	Assessable Units	Proposed Assessment
173225230006	SERIANO KIMBERLY	16170 ROYAL RD NW	RAMSEY	MN	55303	1	\$ 766.54
173225230007	HANSON JOHN	16150 ROYAL RD NW	RAMSEY	MN	55303	1	\$ 766.54
173225230008	KUZMA MARK E & WENDY J	16120 ROYAL RD NW	RAMSEY	MN	55303	1	\$ 766.54
173225230009	MENTH JEFFREY & O'BERRY E M	8701 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225230010	SOGN BRUCE	8681 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225230011	FOGGIA JOSEPH M & KAREN S	8671 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225230012	FROLIK JON	8661 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225320004	PARENT CUSTOM HOMES LLC	8660 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225320005	SAXON TED	8670 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225320006	BIRD DANIEL	8680 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
173225320007	BRUSVEN DAVID D & MARY G	8690 160TH CT NW	RAMSEY	MN	55303	1	\$ 766.54
TOTALS						11	\$ 8,431.89

Appendix D

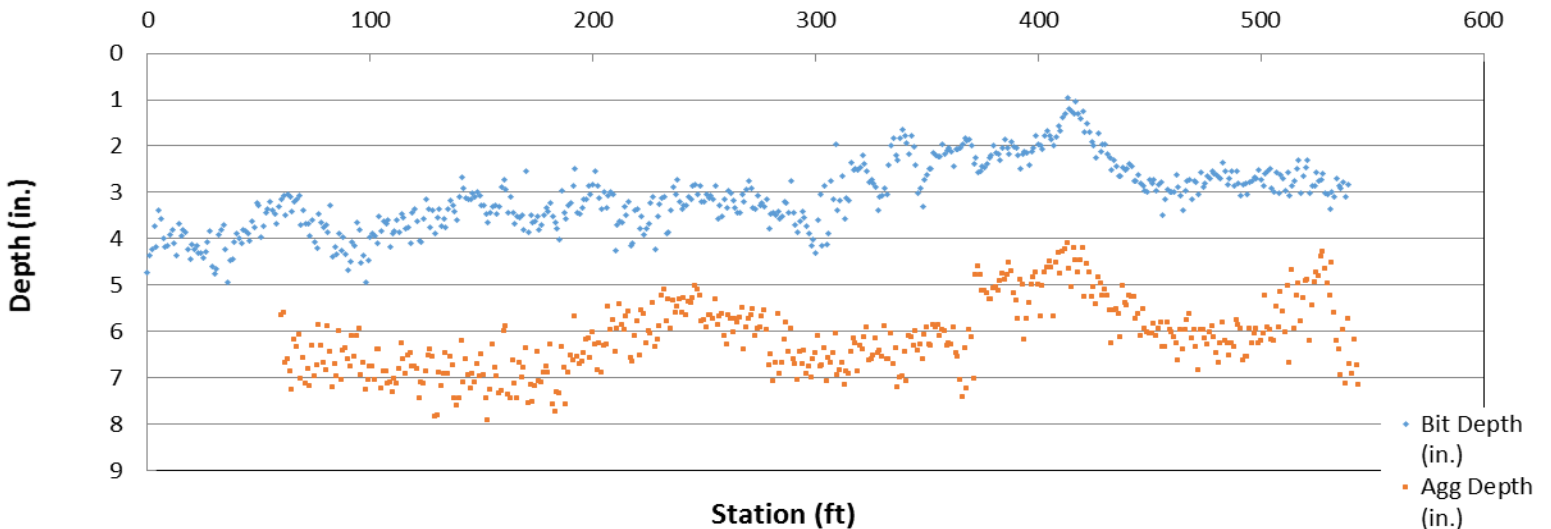
Ground Penetrating Radar (GPR) Results Tables and Data Charts

Woodland Green GPR Summary										
Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
155 th Lane	E EOP / CDS	1.6	6.2	3.3	1.9	9.6	4.9	7.4	5.1	316' West of E EOP.
Barium Street	S EOP / CDS	1.0	4.9	3.1	1.5	7.2	3.2	6.1	4.09	130' North of 155 th Lane.
Cobalt Street	N EOP / Barium St	2.3	4.9	3.3	1.3	5.3	3.1	6.4	4.11	126' Northwest of Barium Street.
Erkium Street	155 th Ln / 156 th Ln	1.8	6.3	3.8	0.6	3.7	2.0	5.9	4.2	167' South of 156 th Lane
<i>Project Summary</i>		<i>1.0</i>	<i>6.3</i>	<i>3.3</i>	<i>0.6</i>	<i>9.6</i>	<i>3.6</i>	<i>6.8</i>	<i>4.09</i>	<i>Barium Street, 130' North of 155th Lane.</i>

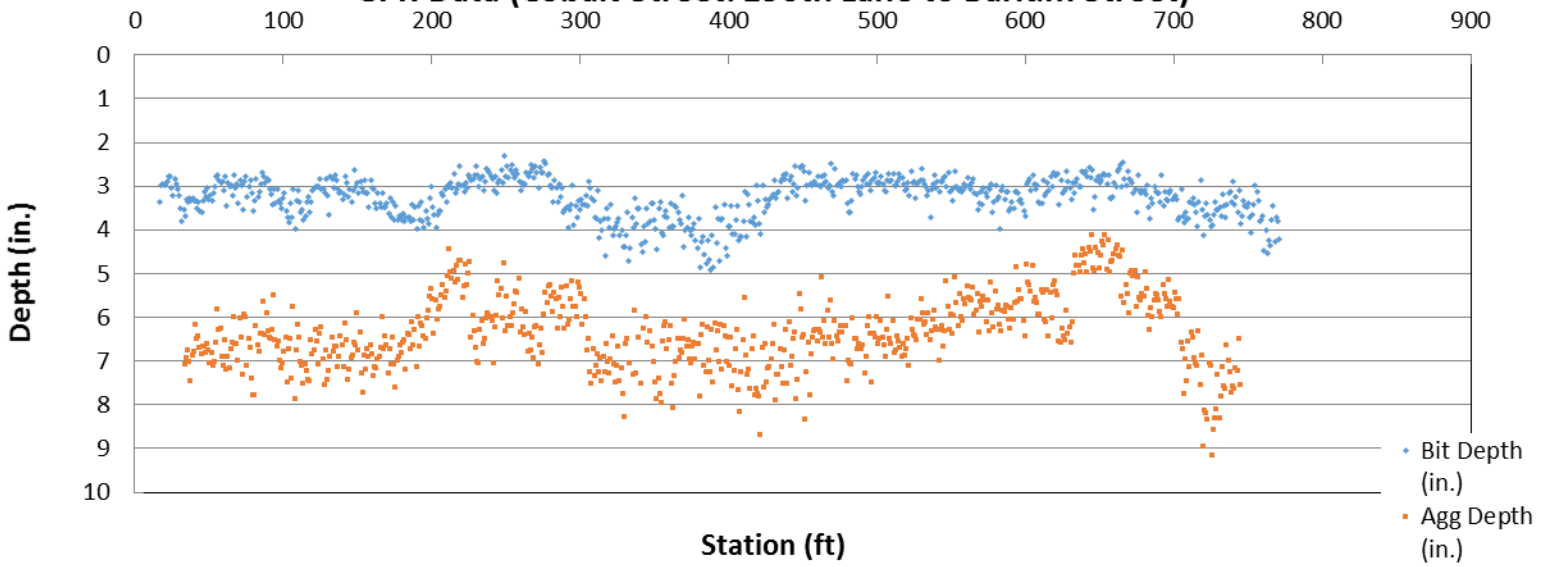
GPR Data (155th Lane: E EOP to CDS)



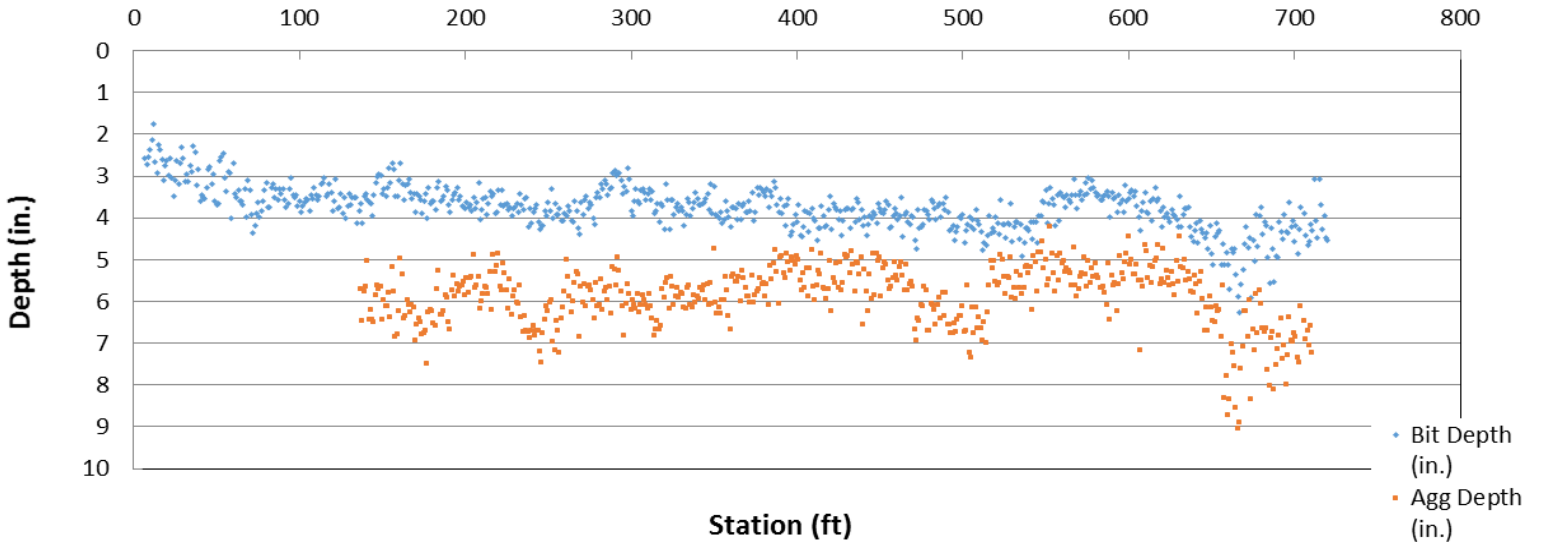
GPR Data (Barium Street: CDS to 155th Lane)



GPR Data (Cobalt Street: 156th Lane to Barium Street)



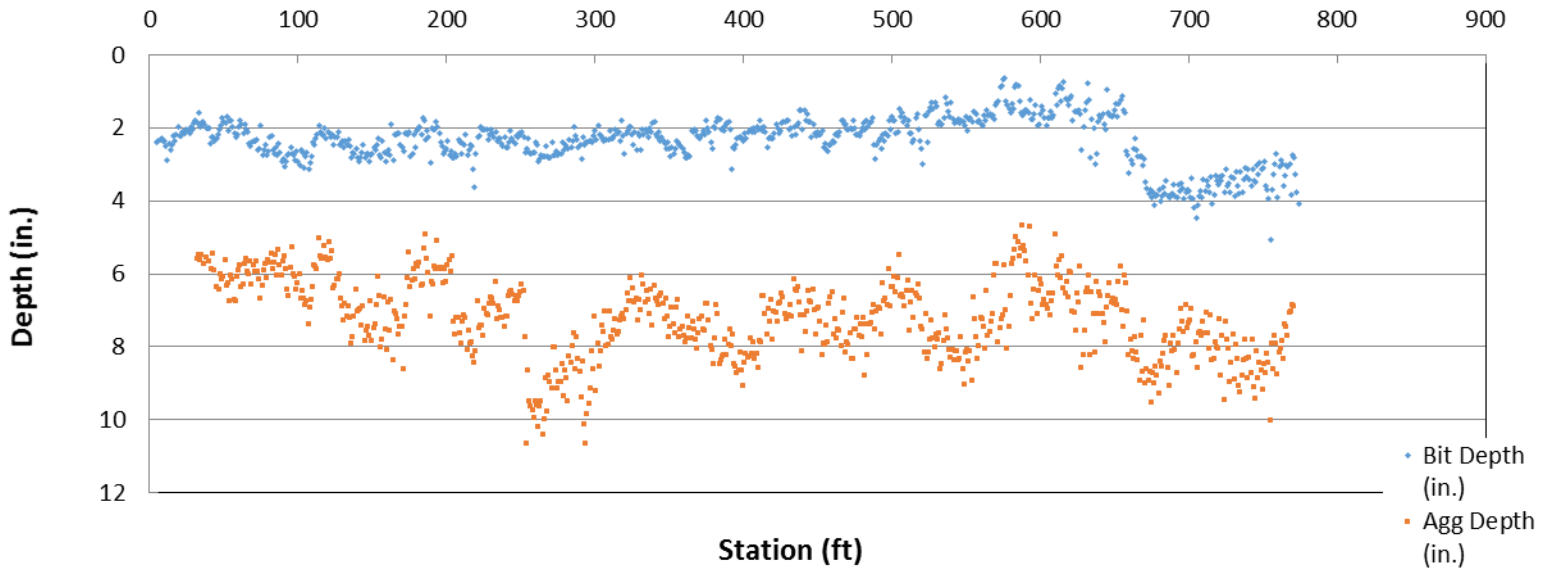
GPR Data (Erkium Street: 155th Lane to 156th Lane)



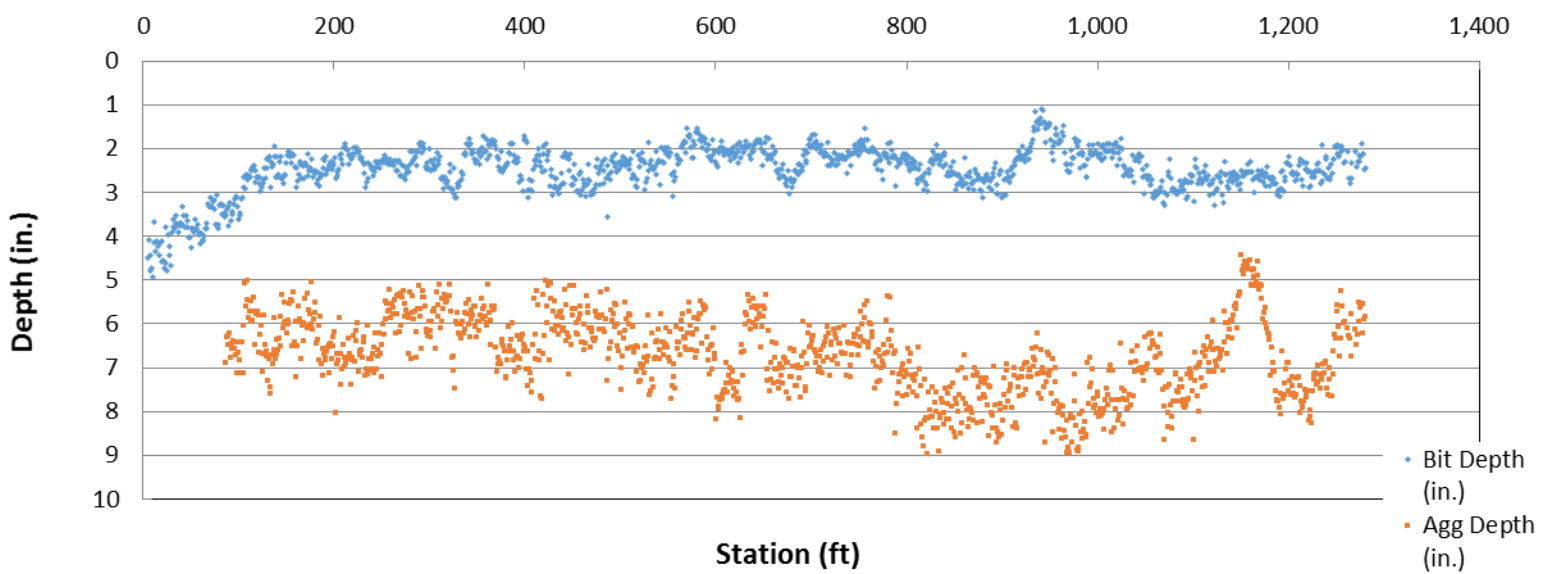
The North Forty 2nd GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
158 th Lane	NE PC Okapi St & 158 th Ln / E EOP	0.7	5.1	2.3	2.5	8.3	4.6	7.2	4.7	187' West of E EOP.
Okapi Street	S EOP / NE PC 158 th Ln & Okapi St	1.1	4.9	2.5	1.9	7.1	4.3	6.7	4.4	130' North of S EOP.
<i>Project Summary</i>		<i>0.7</i>	<i>5.1</i>	<i>2.4</i>	<i>1.9</i>	<i>8.3</i>	<i>4.4</i>	<i>6.9</i>	<i>4.4</i>	<i>Okapi Street, 130' North of S EOP.</i>

GPR Data (158th Lane: Okapi Street to E EOP)



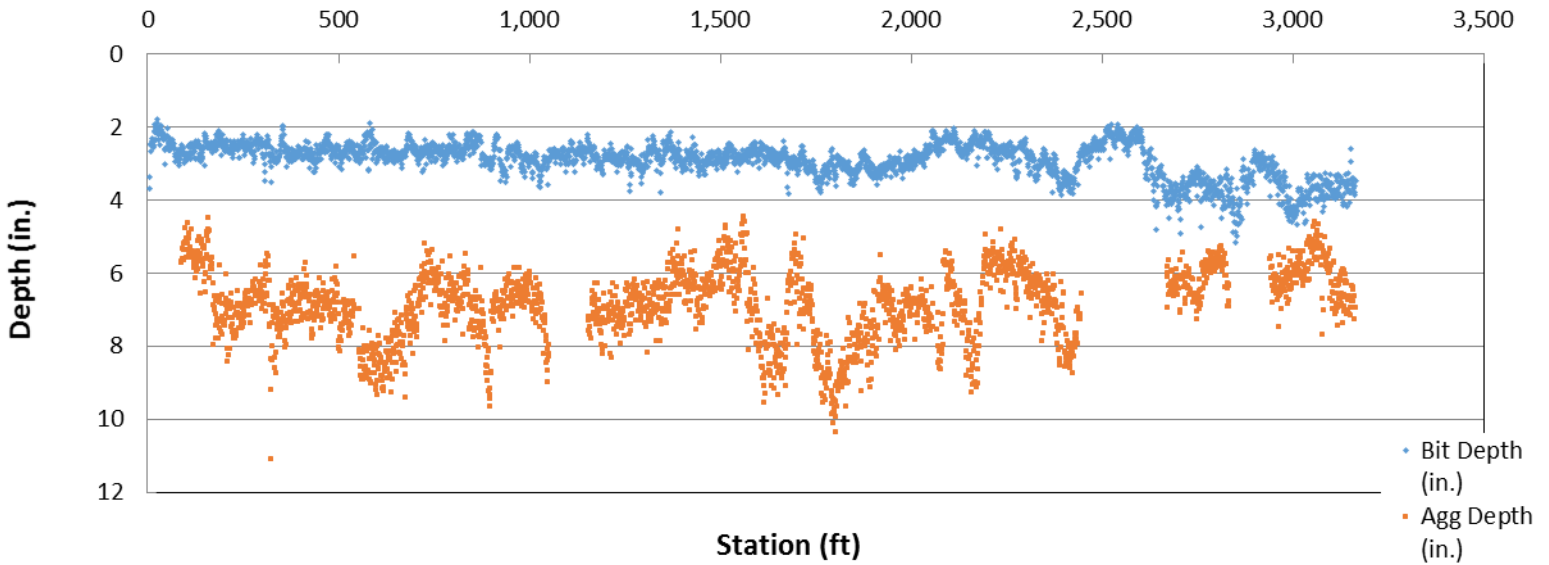
GPR Data (Okapi Street: 156th Lane to 158th Lane)



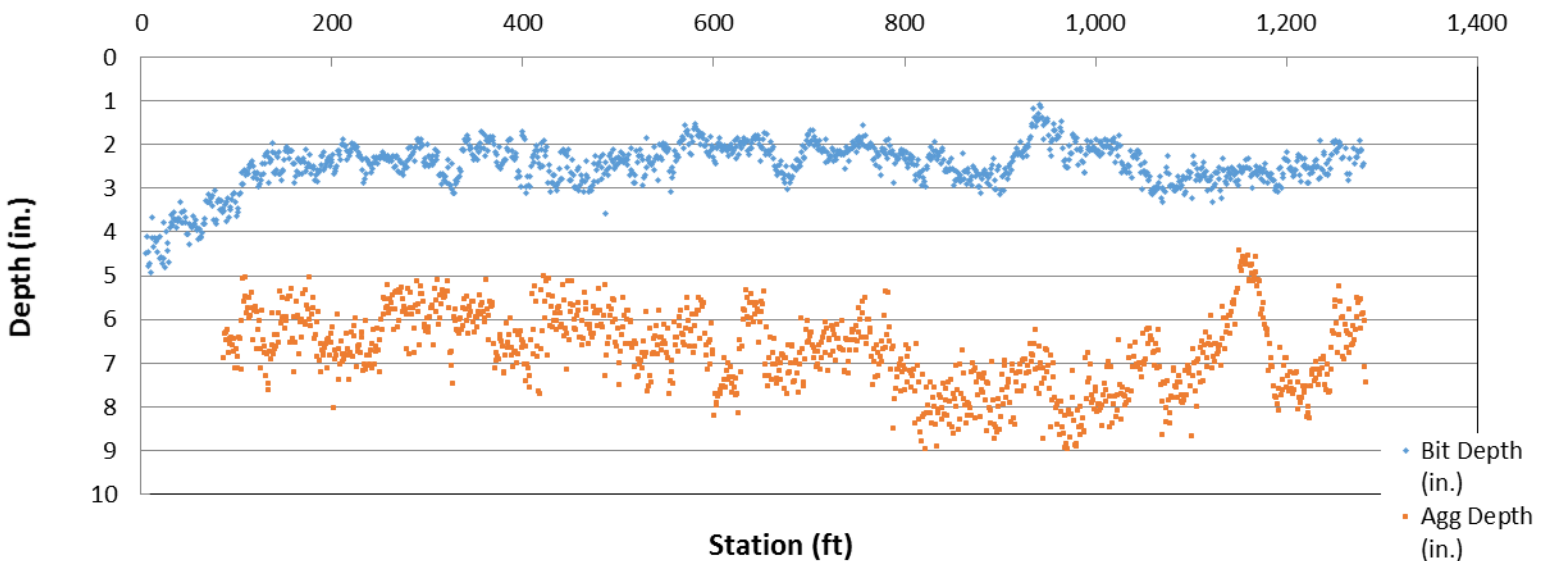
The North Forty 3rd GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
155 th Lane	W EOP / Armstrong Blvd	1.8	5.2	2.9	1.2	7.0	3.7	6.9	4.5	52' West of Hedgehog Street.
156 th Lane	W EOP / Hedgehog St	1.1	4.9	2.5	1.9	7.4	4.1	6.7	4.4	137' East of W EOP.
Hedgehog Street	S EOP / N EOP	1.7	5.3	2.8	1.6	9.4	4.4	7.2	4.7	216' North of S EOP.
<i>Project Summary</i>		<i>1.1</i>	<i>5.3</i>	<i>2.8</i>	<i>1.2</i>	<i>9.4</i>	<i>4.0</i>	<i>6.9</i>	<i>4.4</i>	<i>156th Lane, 137' East of W EOP.</i>

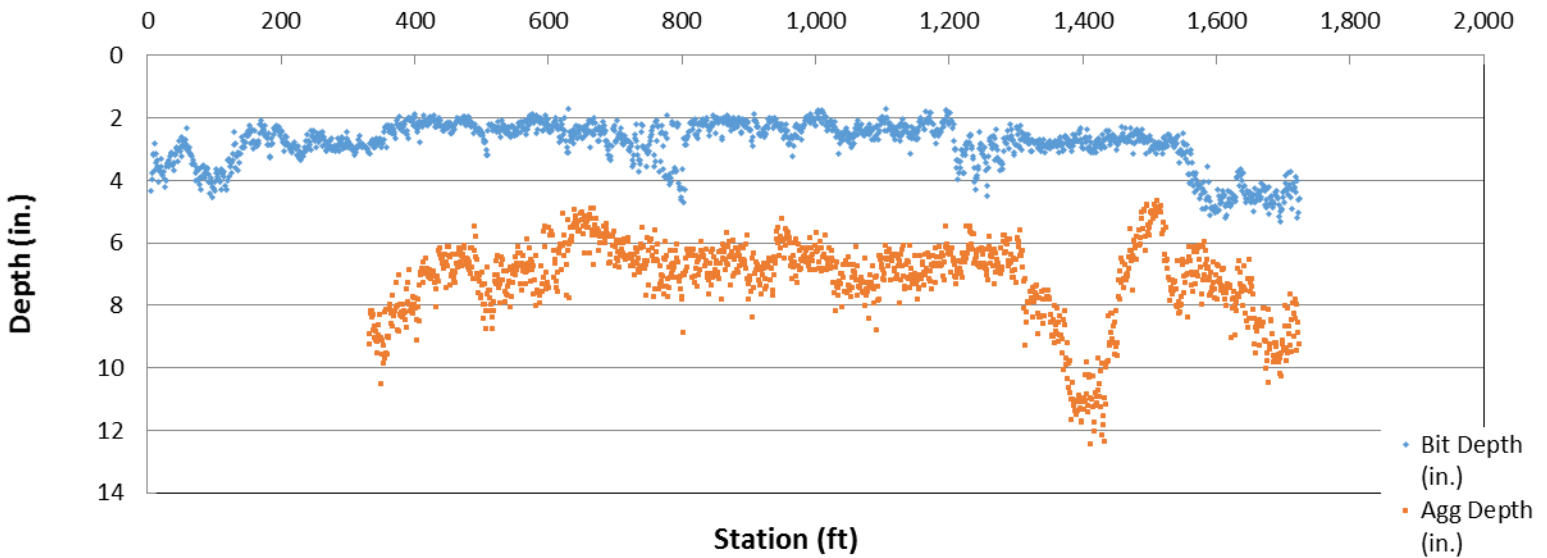
GPR Data (155th Lane: Armstrong Boulevard to Nutria Street)



GPR Data (156th Lane: Hedgehog Street to Okapi Street)

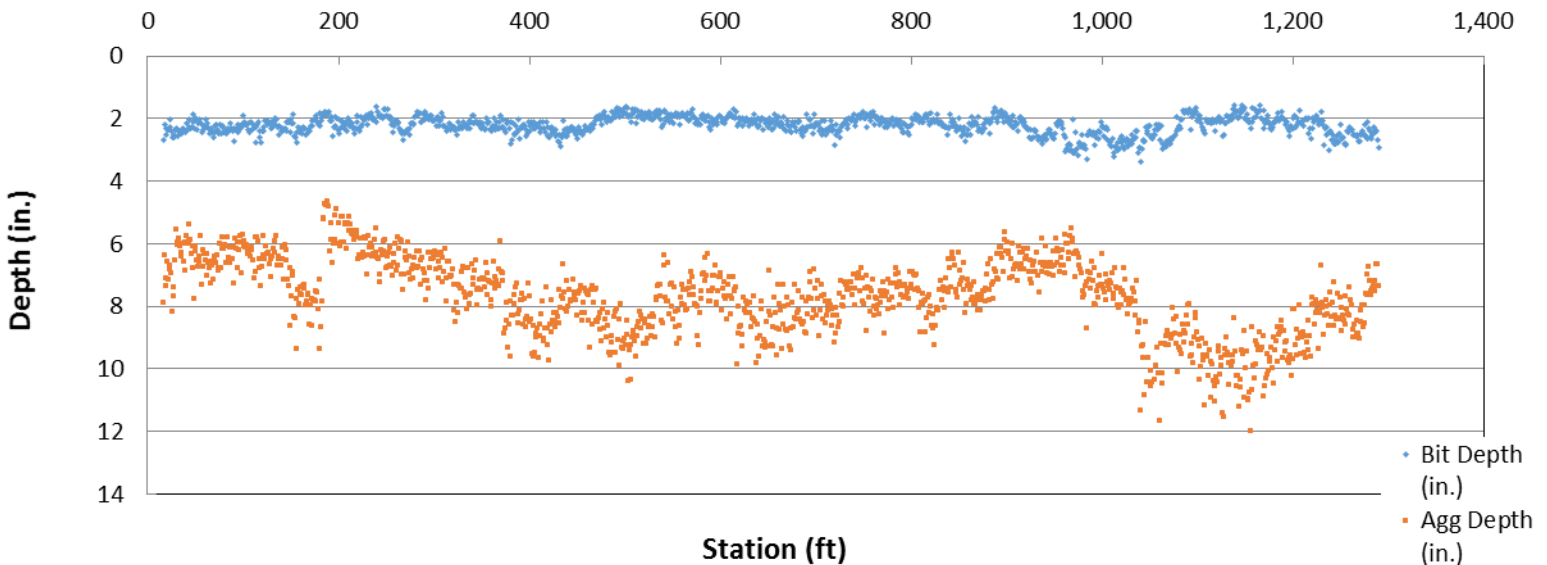


GPR Data (Hedgehog Street: 157th Lane to S EOP)



Northfork Itasca Shores GPR Summary										
Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
Andrie Court	Andrie St / CDS	1.6	3.4	2.2	2.5	9.7	5.5	7.7	4.7	189' East of Andrie Street.
<i>Project Summary</i>		<i>1.6</i>	<i>3.4</i>	<i>2.2</i>	<i>2.5</i>	<i>9.7</i>	<i>5.5</i>	<i>7.7</i>	<i>4.7</i>	<i>Andrie Court, 189' East of Andrie Street.</i>

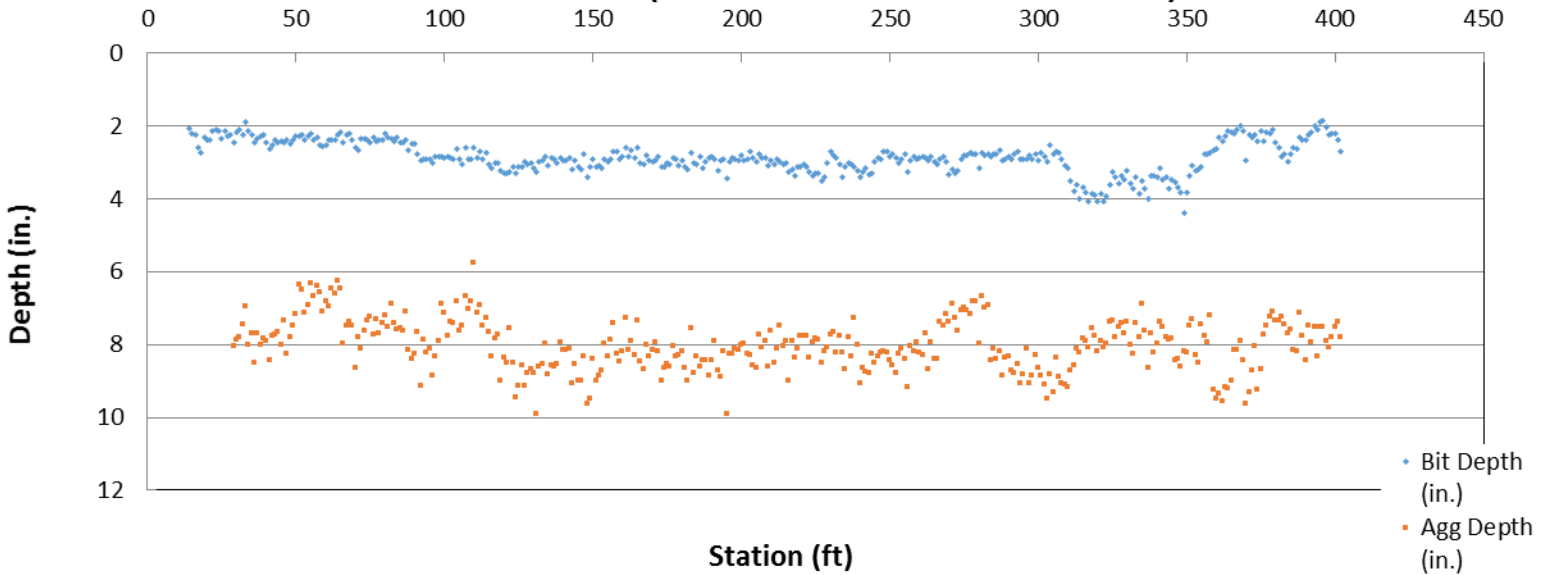
GPR Data (Andrie Court: Andrie Street to CDS)



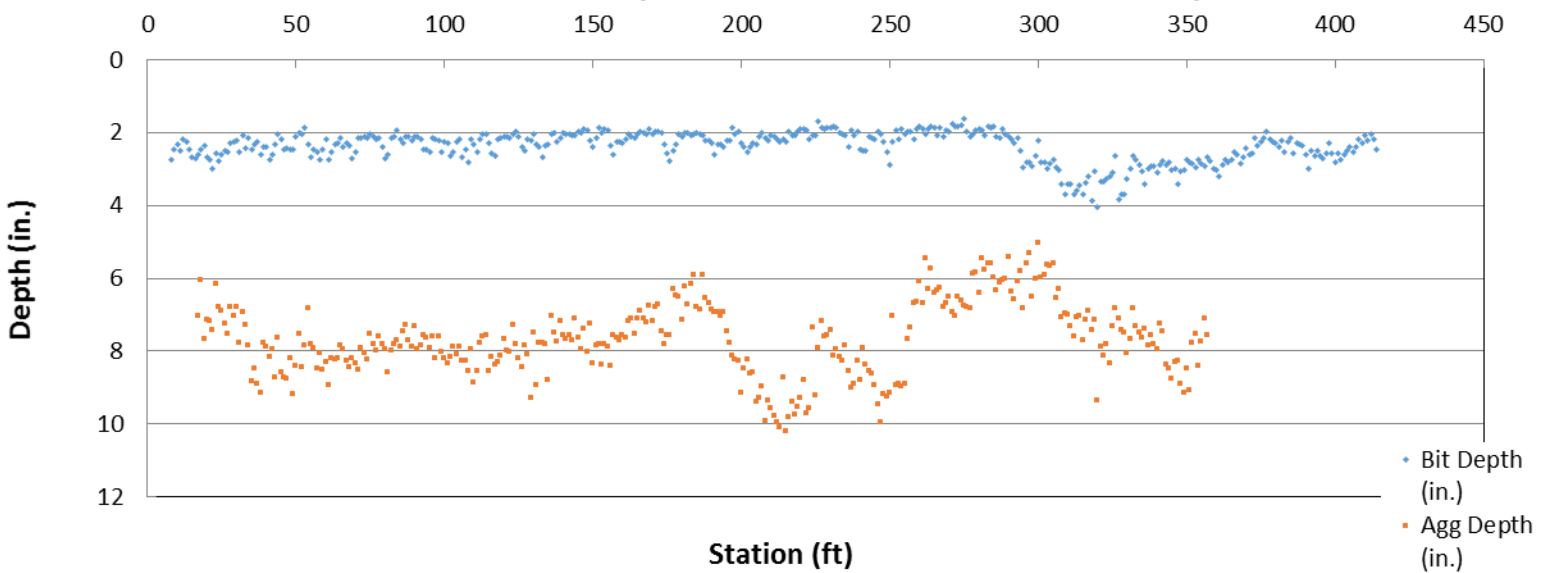
Northfork GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
Driscoll Circle	164 th Ln / CDS	1.9	4.4	2.9	3.2	7.1	5.2	8.0	5.8	110' North of 164 th Lane.
Fortmann Circle	164 th Ln / CDS	1.6	4.1	2.4	2.5	7.9	5.3	7.7	5.0	294' North of 164 th Lane.
Halas Circle	164 th Ln / CDS	1.6	3.6	2.4	2.1	6.2	4.6	6.9	4.0	25' North of 164 th Lane.
<i>Project Summary</i>		<i>1.6</i>	<i>4.4</i>	<i>2.6</i>	<i>2.1</i>	<i>7.9</i>	<i>5.0</i>	<i>7.6</i>	<i>4.0</i>	<i>Halas Circle, 25' North of 164th Lane.</i>

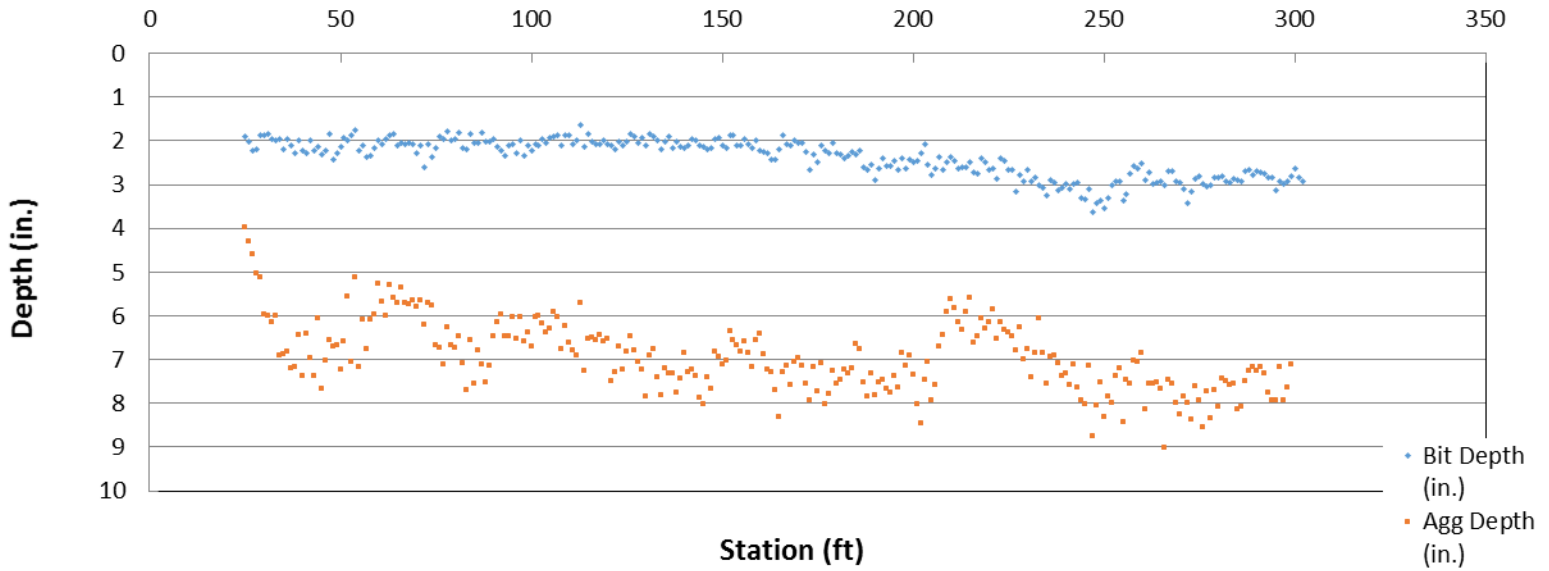
GPR Data (Driscoll Circle: 164th Lane to CDS)



GPR Data (Fortmann Circle: 164th Lane to CDS)



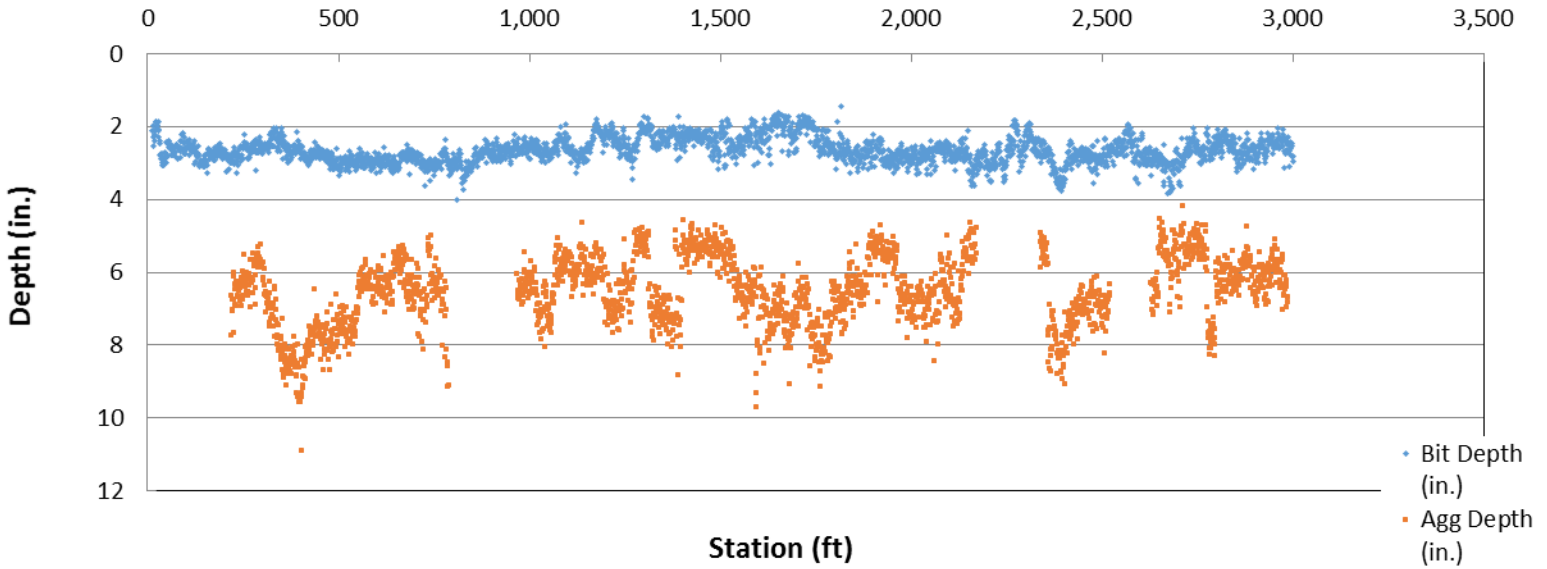
GPR Data (Halas Circle: 164th Lane to CDS)



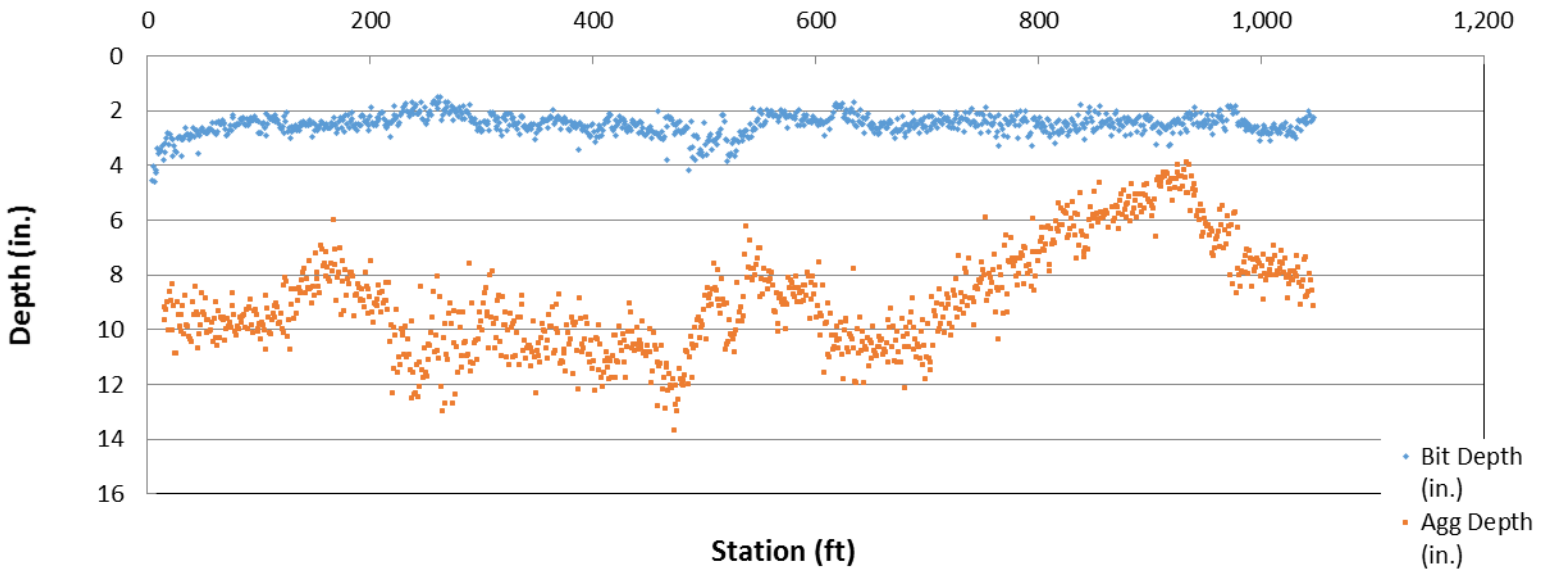
Northfork 2nd & 3rd GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
162 nd Lane	Andrie St / Wolverine St	1.4	4.0	2.7	1.3	7.2	3.8	6.5	4.2	287' East of Andrie Street
164 th Lane	Andrie St / E EOP	1.5	4.6	2.5	3.8	10.8	7.0	8.9	3.88	116' West of Wolverine Street.
Wolverine Street	162 nd Ln / 164 th Ln	2.0	3.6	2.7	1.4	5.4	3.3	6.1	3.86	144' North of 162 nd Lane.
<i>Project Summary</i>		<i>1.4</i>	<i>4.6</i>	<i>2.6</i>	<i>1.3</i>	<i>10.8</i>	<i>4.1</i>	<i>7.1</i>	<i>3.86</i>	<i>Wolverine Street, 144' North of 162nd Lane.</i>

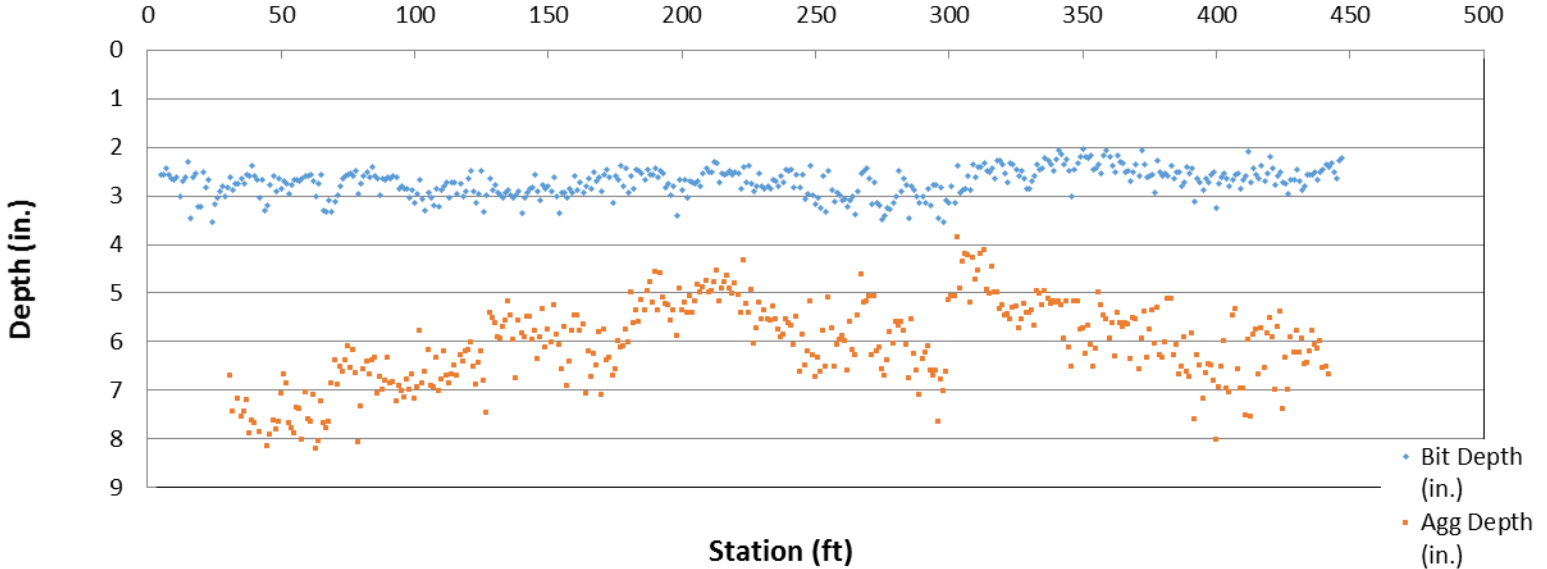
GPR Data (162nd Lane: Andrie Street to Wolverine Street)



GPR Data (164th Lane: Andrie Street to E EOP)



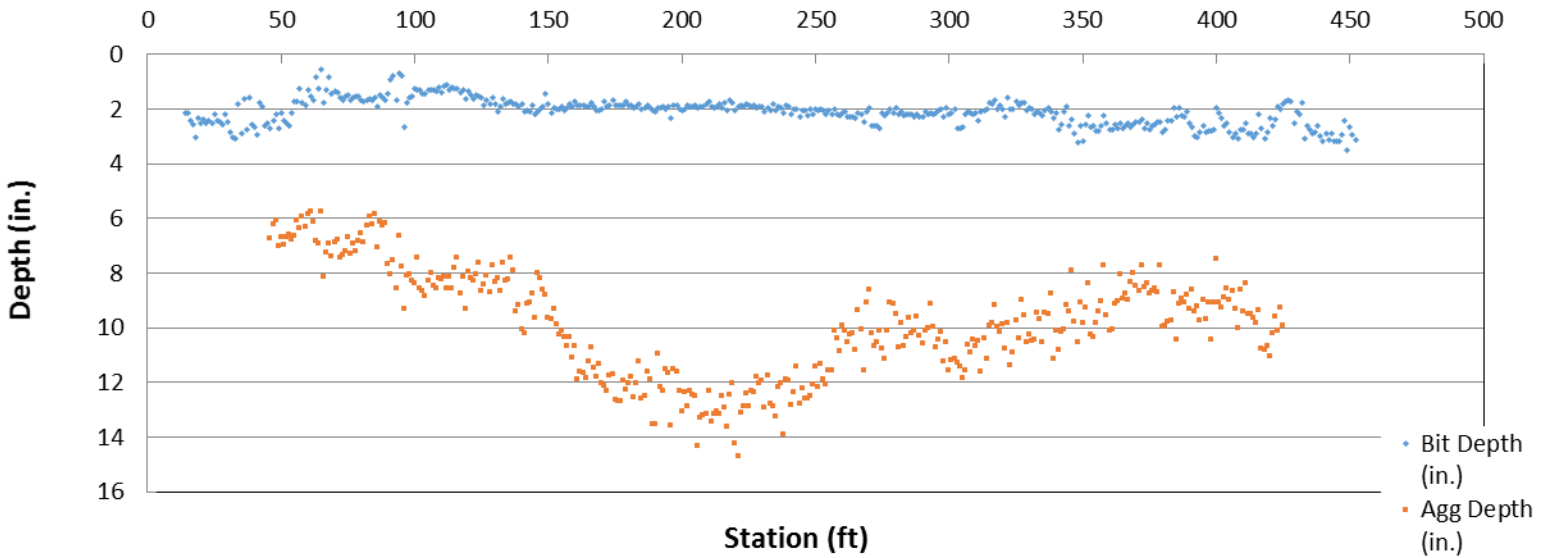
GPR Data (Wolverine Street: 164th Lane to 162nd Lane)



Northfork Oaks GPR Summary

Project Segment		Pavement			Aggregate			Section		
Street	Segment Description	Min	Max	Avg	Min	Max	Avg	Avg	Min	Location
160 th Court	Royal Rd / CDS	0.5	3.5	2.1	3.8	12.8	8.1	9.9	5.7	49' East of Royal Road.
Royal Road	160 th Crt / E EOP	0.7	4.2	2.0	0.7	8.2	4.9	6.8	3.8	209' North of 160 th Court.
<i>Project Summary</i>		<i>0.5</i>	<i>4.2</i>	<i>2.0</i>	<i>0.7</i>	<i>12.8</i>	<i>5.3</i>	<i>7.3</i>	<i>3.8</i>	<i>Royal Road, 209' North of 160th Court.</i>

GPR Data (160th Court: Royal Road to CDS)



GPR Data (Royal Road: 160th Lane to 162nd Lane)

