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Feasibility Report for
2018 Roadway
Rehabilitation Project –
City Centre Drive

City of Woodbury

City Project No. 14-2017-01
BMI Project No. N12.113563

January 19, 2018

(BASED ON LOW BID REC'D 3/30/2018)

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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.

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Date: January 19, 2018

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I. INTRODUCTION

The City of Woodbury is planning to rehabilitate several residential streets during the 2018 construction season, in accordance with its Capital Improvement Plan. There are approximately 19 miles of public streets scheduled for rehabilitation as part of this project, which consists of several locations within the City. This report focuses on City Centre Drive, from Valley Creek Road (C.S.A.H 16) to Radio Drive (C.S.A.H. 13). Approximately 1,200 linear feet of City Centre Drive is proposed to be rehabilitated as shown on Figure 1 in Appendix A.

This segment of City Centre Drive was constructed in 1988 as part of the Woodbury City Centre Utility and Street Improvements project. It is a 2-lane, undivided urban roadway, 48-feet wide (from face of curb to face of curb), with B618 concrete curb and gutter. Concrete medians exist at both ends of the street. City Centre Drive is classified as a commercial roadway within the City's transportation system.

As part of the City's pavement management program, selected streets and neighborhoods have been analyzed relative to pavement condition and possible improvements. This segment of City Centre Drive is included in the City's current Capital Improvement Plan as a 2018 Roadway Rehabilitation project.

The Pavement Condition Index (PCI) of this segment of City Centre Drive is 32. Pothole repairs and thin overlays have been performed continuously to keep the road in a drivable and relatively smooth condition. A significant amount of street maintenance funds are used or are anticipated in upcoming maintenance cycles in this area.

A neighborhood meeting was held with the adjacent property owners on August 22, 2016. The proposed project scope, costs, and funding sources were discussed at the meeting. Property owners had an opportunity to comment on the project and ask questions. Overall, those in attendance supported the proposed project. Additional neighborhood meetings will be held during the design process to allow for additional input from the property owners and prior to the start of construction.

This report includes a discussion of the improvements required to rehabilitate City Centre Drive, from Valley Creek Road to Radio Drive. It also provides preliminary cost estimates for the proposed improvements and identifies funding sources to finance the work.

II. REQUIRED IMPROVEMENTS

A. SANITARY SEWER

The existing sanitary sewer was constructed in 1988 and consists of 8-inch diameter vitrified clay pipe (VCP). The City has televised the existing sanitary sewer to determine the existing pipe condition. The televising reports show that the pipe is in relatively good condition. However, there is a build-up of grease in the invert of some of the pipes that is starting to restrict flow. City Public Works staff will perform appropriate maintenance to clear the grease buildup and re-televiser.

The sanitary sewer manhole castings will be salvaged and reinstalled. The existing concrete adjusting rings will be replaced with new high density polyethylene (HDPE) adjusting rings to conform to current City standards.

B. WATER MAIN

The existing water main along this segment of City Centre Drive is 8-inch diameter ductile iron pipe (DIP) and was installed in 1988. The bolts (i.e. bonnet bolts and nuts, stuffing box bolts and nuts, wrench nut cap screw) and operating nut would be replaced on all valves within the street. In addition, the valve boxes would also be replaced with a new three piece ductile iron valve box. Finally, the hydrants along this segment of City Centre Drive would be sandblasted, painted, and equipped with a new flag.

C. STORM SEWER

The existing storm sewer along City Centre Drive consists of various sizes of reinforced concrete pipe (RCP). The City televised the storm pipe this summer. The pipe is in relatively good condition, however some cracked pipes were encountered. Costs have been included in this report to account for these minor inline repairs.

The existing structures are in good condition with the exception of some minor patching of doghouses being required. Storm sewer manhole castings and catch basin castings will be salvaged and reinstalled, or replaced if damaged. Existing concrete adjusting rings will be replaced with new high density polyethylene (HDPE) adjusting rings to conform to current City standards.

D. STORM WATER QUALITY IMPROVEMENTS

City staff is currently reviewing stormwater quality improvement needs within the project area. A portion of these improvements may be included in the 2018 Roadway Rehabilitation project, with the remaining improvements constructed in the winter of 2017/2018 under a separate project. The scope of the improvements within the 2018 Roadway Rehabilitation project will be determined during the design phase of the project.

Costs have been included in this report to replace two existing structures with new 5-foot diameter storm sewer catch basin manholes with 4-foot deep sumps to trap sediment prior to entering an existing stormwater pond.

E. STREETS

City Centre Drive is currently 48 feet wide, from face of curb to face of curb, with B618 concrete curb and gutter. The road is striped as two 24-foot wide lanes. It is proposed to re-stripe City Centre Drive as a 3-lane configuration with a continuous center left turn lane. All three lanes would be 14 feet wide for a total width of 42 feet. The street would be narrowed 6 feet on the northwest side. In addition, the median near Radio Drive would be narrowed to allow for an additional dedicated left turn lane. The existing thru/left turn lane would become a dedicated thru lane.

According to the record plans, the existing street section includes 6.5 inches of bituminous pavement, 8 inches of class 5 gravel base, and 12 inches of aggregate backfill material. Based on the deteriorated condition of the existing pavement, the proposed rehabilitation method is full depth pavement removal and replacement.

The existing B618 concrete curb and gutter has been evaluated, and it is recommended that 100% be removed and replaced with this project. Concrete median approach noses would be added to each end of the existing concrete medians. There are eight commercial concrete driveway aprons. Two of the aprons are newer and in good condition. The other six are in poor condition and would be replaced with this project.

There is an 8-foot wide bituminous trail within the northwesterly boulevard that is also in poor condition. It is proposed to remove and replace the pavement on the trail and widen the trail to a 10-foot wide surface. The trail would remain in its current location, but would be widened toward the street. All existing ped ramps would need to be removed and replaced to meet current Americans with Disabilities Act (ADA) standards.

Washington County has indicated the need for a traffic signal at the City Centre Drive/Valley Creek Road intersection and has requested the City to construct it with this project. Therefore, costs for the signal and associated assessments have been included in this report.

In addition, Washington County has requested the City to construct a $\frac{3}{4}$ access at the intersection of Radio Drive (C.S.A.H. 13) and Donegal Drive. This would eliminate left turn movements from Donegal Drive onto Radio Drive as shown on attached Figure 3 in Appendix A.

III. PERMITS AND EASEMENTS REQUIRED

This segment of City Centre Drive is located within the Ramsey Washington Metro Watershed District (RWMWD). Because there will be no disturbance to the existing subgrade, a permit is not required; however, plans will be submitted to RWMWD for review. Because this project is considered a maintenance project that would not create any new impervious surfaces and would not change the existing grade, hydraulics, or purpose of the roadway, the Phase II General Storm Water Permit from the MPCA is not required. A permit from Washington County would be required for the traffic signal and for work within their right-of-way where City Centre Drive intersects with Valley Creek Road (C.S.A.H. 16) and Radio Drive (C.S.A.H. 13), along with the $\frac{3}{4}$ access on Radio Drive at Donegal Drive.

All proposed work is located on public right-of-way or City owned land. Permanent or temporary easements are not anticipated to be necessary to accomplish the proposed improvements.

IV. ESTIMATED COSTS

Detailed estimates of probable construction costs have been prepared for the improvements described in this report and are included in Appendix B. All costs are based on anticipated unit prices for the 2018 construction season and include a 25% percent allowance for engineering, administrative costs, and financing. Following is an overall summary of the estimated costs:

Estimated Project Costs	
Proposed Improvements	Estimated Costs
Sanitary Sewer	\$9,818.06
Water Main	\$26,758.51
Storm Sewer	\$37,381.81
Storm Water Quality	\$23,724.30
Streets	\$641,372.29
Traffic Signal	\$355,290.38
3/4 Access (Donegal/Radio Intersection)	\$102,480.20
Total Estimated Project Costs	\$1,196,825.55

V. COST ALLOCATION

This segment of City Centre Drive is fronted by 12 commercial properties. All properties are either adjacent to City Centre Drive or have direct private driveway/parking lot access, and therefore, are assessable under the City's current assessment policy. Attached Figure 2 shows these benefitted properties.

It is proposed that the project costs be assessed to the benefitted properties utilizing the City's current assessment policy, which requires commercial properties to pay for 100% of the street and storm sewer rehabilitation costs on commercial streets, based on the adjacent footage of street being improved. The City would be responsible for 100% of the storm water quality, sanitary sewer, and water main improvements. This is consistent with City policy.

The City of Woodbury and Washington County would each be responsible for 50% of the traffic signal costs, since two of the legs of the intersection are City-owned streets and two are County-owned streets. The north leg, or 25% of the overall signal costs (\$88,822.59), would be assessed to the benefitted properties along City Centre Drive in the same manner as the street and storm sewer improvements. The City of Woodbury would cover the costs of the south leg into City Hall (\$88,822.59) and Washington County would cover the remaining costs (\$177,645.19) for the east and west legs of the intersection. This is consistent with Washington County's current cost sharing policy.

Washington County would be responsible for all work within Radio Drive related to the ¾ access (\$89,020.96 of \$102,480.20). The City of Woodbury would be responsible for the remaining median and striping costs along Donegal Drive (\$13,459.24 of \$102,480.20). This is consistent with Washington County's current cost sharing policy. The costs for the Radio Drive/Donegal Drive intersections improvements will not be assessed.

There are 2,297 feet of adjacent footage on this segment of City Centre Drive, all of which is assessable commercial property. A list of the property owners and adjacent footage is as follows:

Adjacent Footage		
Geocode	Owner	Adjacent Footage
09-028-21-34-0007	Bellwood LLC	342
09-028-21-34-0008	City Centre Properties LLC	160
09-028-21-34-0009	Miller Family Trs	144
09-028-21-34-0010	Convenience Store Inv	435
09-028-21-34-0014	Bellwood LLC	255
09-028-21-34-0018	Sherman Irving J Trs	30
09-028-21-34-0021	First Federal Bank Eau Claire	158
09-028-21-34-0023	Suh Shin Jae Trs & Jai M Suh T	0
09-028-21-34-0024	Bellwood LLC	0
09-028-21-34-0025	Bellwood LLC	225
09-028-21-34-0026	Bellwood LLC	246
09-028-21-34-0027	Bellwood LLC	302
Total Adjacent Footage		2,297

Dividing the estimated project by the total adjacent footage results in the following costs per adjacent foot:

Costs per Adjacent Foot			
Item	Estimated Project Costs	Adjacent Footage	Cost per Adjacent Foot
Sanitary Sewer	\$9,818.06	2297	\$4.27
Water Main	\$26,758.51	2297	\$11.65
Storm Sewer	\$37,381.81	2297	\$16.27
Storm Water Quality	\$23,724.30	2297	\$10.33
Streets	\$641,372.29	2297	\$279.22
Traffic Signal	\$355,290.38	2297	\$154.68
3/4 Access (Donegal/Radio Intersection)	\$102,480.20	2297	\$44.61
Totals	\$1,196,825.55		\$521.04

Based on the City's current assessment policy, the proposed assessment per adjacent foot for commercial properties is shown below (as mentioned previously, none of the ¾ access costs and only 25% of the traffic signal costs (i.e. the north leg) would be assessed to the properties adjacent to City Centre Drive):

Assessment per Adjacent Foot			
Item	Estimated Project Costs	Percent Assessed	Assessment per Adjacent Foot
Sanitary Sewer	\$4.27	0%	\$0.00
Water Main	\$11.65	0%	\$0.00
Storm Sewer	\$16.27	100%	\$16.27
Storm Water Quality	\$10.33	0%	\$0.00
Streets	\$279.22	100%	\$279.22
Traffic Signal	\$154.68	25%	\$38.67
3/4 Access (Donegal/Radio Intersection)	\$44.61	0%	\$0.00
Totals	\$521.04		\$334.16

Applying the City's current assessment policy and using the cost estimate contained herein results in the assessment summary shown below:

Assessment Summary						
Item	Assessable Footage	Assessment per Adjacent Foot	Assessed Costs	Washington County Costs	Remaining City Costs	Total Estimated Project Costs
Sanitary Sewer	2297	\$0.00	\$0.00	\$0.00	\$9,818.06	\$9,818.06
Water Main	2297	\$0.00	\$0.00	\$0.00	\$26,758.51	\$26,758.51
Storm Sewer	2297	\$16.27	\$37,381.81	\$0.00	\$0.00	\$37,381.81
Storm Water Quality	2297	\$0.00	\$0.00	\$0.00	\$23,724.30	\$23,724.30
Streets	2297	\$279.22	\$641,372.29	\$0.00	(\$0.00)	\$641,372.29
Traffic Signal	2297	\$38.67	\$88,822.59	\$177,645.19	\$88,822.59	\$355,290.38
3/4 Access (Donegal/Radio Intersection)	NA	NA	\$0.00	\$89,020.96	\$13,459.24	\$102,480.20
Totals		\$334.16	\$767,576.69	\$266,666.15	\$162,582.71	\$1,196,825.55

The assessments would be applied to the commercial properties based on their adjacent footage. However, there are six parcels on the northwesterly side of City Centre Drive that are irregular, such that some have large areas with very small frontage and others have no adjacent frontage. The City's current assessment policy does not address these types of parcels. Therefore, it is proposed that the assessments for these six parcels be applied to their total frontage and divided proportionately based on their area. These six parcels are listed in the table below, along with their adjacent footage and percent of area:

Irregular Parcels				
Geocode	Owner	Adjacent Footage	Area (SF)	Area (%)
09-028-21-34-0018	Sherman Irving J Trs	30	152,504	38.2%
09-028-21-34-0021	First Federal Bank Eau Claire	158	53,508	13.4%
09-028-21-34-0023	Suh Shin Jae Trs & Jai M Suh T	0	41,462	10.4%
09-028-21-34-0024	Bellwood LLC	0	61,912	15.5%
09-028-21-34-0025	Bellwood LLC	225	44,505	11.1%
09-028-21-34-0026	Bellwood LLC	246	45,367	11.4%
Total Adjacent Footage		659	399,258	100%

Applying the assessment rates as described above, results in the following preliminary assessment roll:

Preliminary Assessment Roll				
		Assessable Footage	Area (%)	Total Assessment (\$334.16/LF)
09-028-21-34-0007	Bellwood LLC	342	NA	\$114,284.38
09-028-21-34-0008	City Centre Properties LLC	160	NA	\$53,466.38
09-028-21-34-0009	Miller Family Trs	144	NA	\$48,119.74
09-028-21-34-0010	Convenience Store Inv	435	NA	\$145,361.72
09-028-21-34-0014	Bellwood LLC	255	NA	\$85,212.04
09-028-21-34-0018	Sherman Irving J Trs	659	38.2%	\$84,121.99
09-028-21-34-0021	First Federal Bank Eau Claire		13.4%	\$29,508.76
09-028-21-34-0023	Suh Shin Jae Trs & Jai M Suh T		10.4%	\$22,902.32
09-028-21-34-0024	Bellwood LLC		15.5%	\$34,133.27
09-028-21-34-0025	Bellwood LLC		11.1%	\$24,443.83
09-028-21-34-0026	Bellwood LLC		11.4%	\$25,104.47
09-028-21-34-0027	Bellwood LLC	302	NA	\$100,917.79
Totals		2,297		\$767,576.69

VI. FINANCING

Based on the previous Assessment Summary table, the total project cost assigned to the City would be **\$162,582.71**. Various funds would be used to finance the City's portion of each improvement cost as shown the following financing summary table:

Financing Summary		
Item	City Costs	Fund
Sanitary Sewer	\$9,818.06	Water and Sewer Utility Fund
Water Main	\$26,758.51	Water and Sewer Utility Fund
Storm Sewer	\$0.00	Storm Water Utility Fund
Storm Water Quality	\$23,724.30	Storm Water Utility Fund (Non-Degradation Retrofit for Street Rehabilitation Projects allocation)
Streets	(\$0.00)	Street Reconstruction / Maintenance Fund
Traffic Signal	\$88,822.59	Street Reconstruction / Maintenance Fund
3/4 Access (Donegal/Radio Intersection)	\$13,459.24	Street Reconstruction / Maintenance Fund
Sub-Total (City Costs)	\$162,582.71	
Assessments	\$767,576.69	
Washington County Costs	\$266,666.15	
Total Project Costs	\$1,196,825.55	

Assessments would be levied against the benefitting residential properties in accordance with the City's current assessment policy.

VII. SCHEDULE

The following schedule allows for construction to be completed during the 2017 construction season:

Proposed Project Schedule	
Order preliminary report	June 14, 2017
Neighborhood meeting #1	August 22, 2017
Authorize plans/specs	November 29, 2017
Neighborhood meeting #2	January 25, 2018
Approve report, public improvement hearing, order project	February 14, 2018
Approve plans/specs, set bid date	February 28, 2018
Advertise in local paper	March 7, 2018
Open bids	March 29, 2018
Neighborhood meeting #3	Week of April 9, 2018
Assessment hearing, award contract	April 25, 2018
Neighborhood meeting #4	Week of May 7, 2018
Begin construction	May 2018
Complete construction	October 2018

VIII. FEASIBILITY, NECESSITY, AND COST EFFECTIVENESS

The following table compares the cost per linear foot of this project versus the costs shown in the preliminary reports of other similar rehabilitation projects recently constructed within the City:

Project Cost Comparison	
Project	Cost per Linear Foot
2013 Roadway Rehabilitation - Tamarack Road	\$330
2014 Roadway Rehabilitation - Currell Boulevard	\$417
2018 Roadway Rehabilitation - City Centre Drive	\$602

Based on the previous table, the cost to rehabilitate this segment of City Centre Drive is higher than previous projects. This is due to the fact that 100% of the pavement and concrete curb and gutter will be removed and replaced on this project, whereas the other projects were partial depth mill/overlays with spot curb repair. Also, this project includes replacement of the bituminous trail.

This project is financially feasible. Financial responsibilities have been determined based on estimated project costs and adopted City policy. Funding sources consist of assessments to benefitted properties and use of existing designated City funds.

The deteriorated condition of the pavement surface, but stable condition of the subgrade suggest that full depth pavement removal and replacement be performed. The improvements are cost effective as they utilize the existing subgrade.

From an engineering standpoint, this project is feasible, necessary, and cost effective.

IX. PUBLIC HEARING

This project will be partially funded by assessing the benefitted properties. Therefore, the City will need to hold a public improvement hearing to receive comments on the proposed project and to determine what further action should be taken. For purposes of the hearing, the following information should be utilized:

Estimated Cost:	\$1,196,825.55
Total Assessed Cost:	\$767,576.69

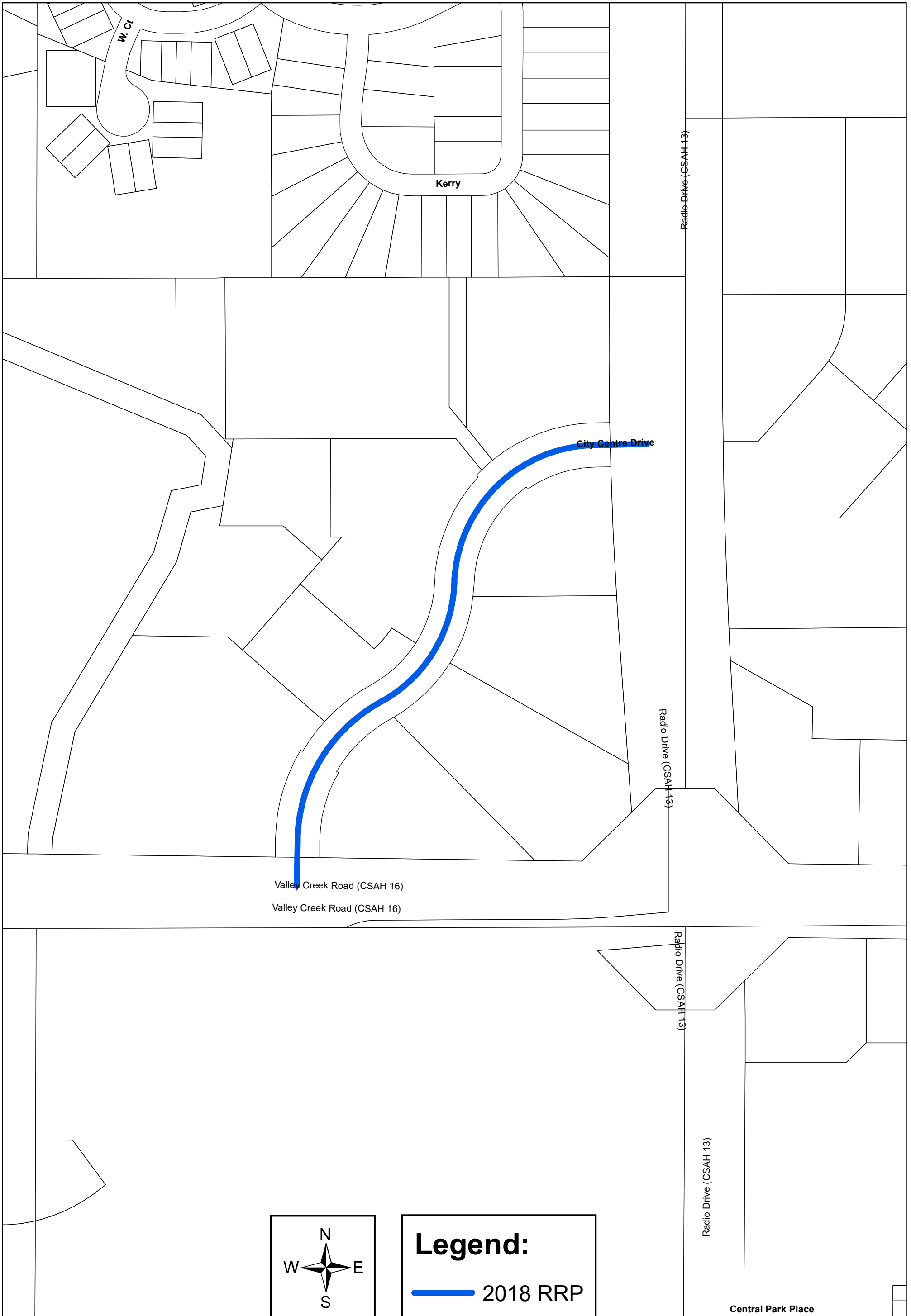
Benefited Area:

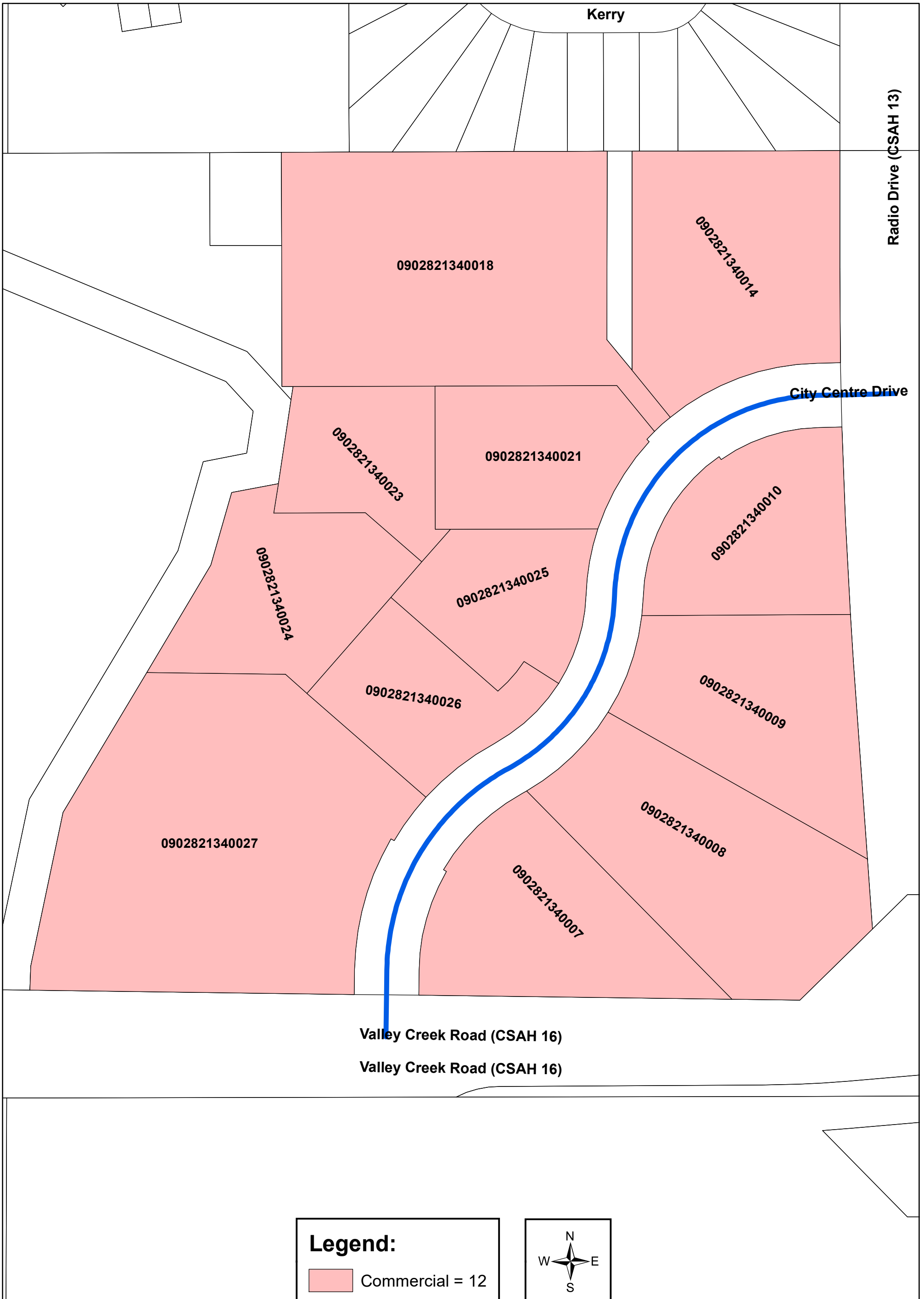
All parcels within the southeast quarter of the southwest quarter Section 9, Township 28N, Range 21W, City of Woodbury, County of Washington, State of Minnesota that have direct driveway or private driveway/parking lot access to City Centre Drive, between Valley Creek Road and Radio Drive.

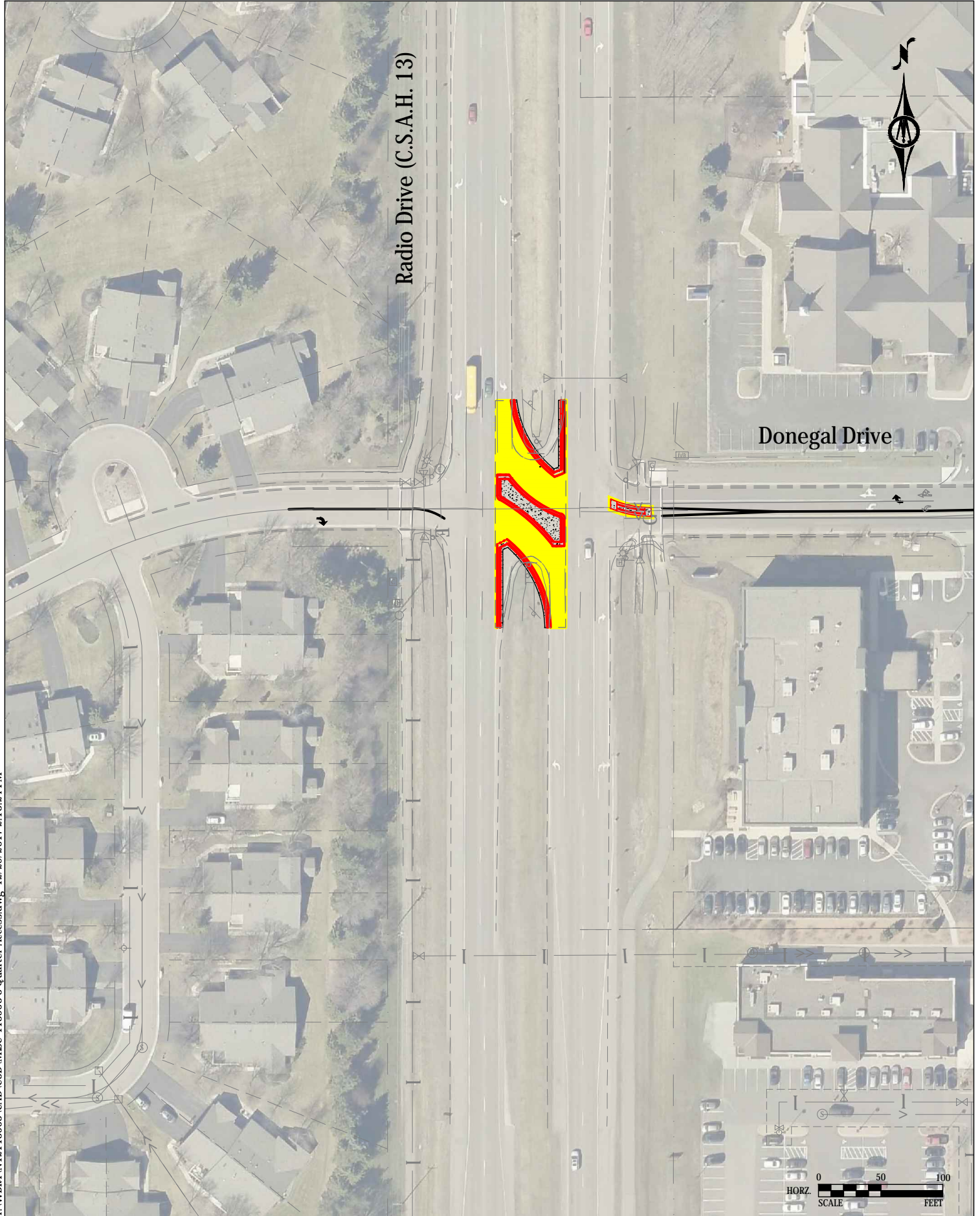
X. RECOMMENDATIONS

It is recommended that this report be used as a guide for the layout, design and cost allocation for the public improvements to be made as part of the 2018 Roadway Rehabilitation – City Centre Drive project. It is further recommended that the owners of properties within the project limits be properly notified of the proposed improvements in order to provide comment.

Appendix A: Figures







Appendix B: Preliminary Opinion of Probable Cost