

June 17, 2021

Honorable Mayor and Councilmembers
City of Ham Lake
15544 Central Avenue NE
Ham Lake, Minnesota 55304

Re: Tippecanoe Street Feasibility Report

Dear Mayor and City Council Members,

The City Council directed the preparation of this report on May 3, 2021. The purpose is to determine the project necessity, feasibility, cost effectiveness and recommendations for the re-alignment and re-construction of Tippecanoe Street from Constance Boulevard south to the cul-de-sac. The proposed improvements are for the re-alignment and re-construction of the 1,999 -foot Tippecanoe Street.

Existing Conditions:

Tippecanoe Street is presently 2,588 feet long, starting at Constance Boulevard and ending at the present cul-de-sac. The street is rural with ditches and gravel surface. The graded top surface width is approximately 26 feet, constructed for a future 26-foot-wide bituminous surface with curb and gutter.

Tippecanoe Street makes a sharp turn to the west just south of Constance Boulevard and follows Anoka County Ditch #11. The approximate first 500 feet is shown over a Rifle Peat area per the Anoka County Soils map. No soil borings have been taken to confirm the existence of peat under the present street. Borings should be taken before final preparation of plans.

A City owned parcel I.D. 14-32-23-31-0012 exists between 15990 and 15926 Tippecanoe Street which is 66-feet in width.

Soils:

Soils were evaluated using the Anoka County Soils Map. The soils in the area consist of Zimmerman Fine Sand, Lino Loamy Fine Sand, Isanti Fine Sandy Loam and Rifle Mucky Peat (Figure 2). Zimmerman Fine Sand is suitable for road subbase and is generally well drained. The suitable cut material will be used for fill. This soil generally covers the higher ground. Lino Loamy Fine Sand is a poorly drained soil with a relatively high-water table and will require placement of suitable fill from site excavation or imported soils for roadway construction. Isanti Fine Sandy Loam is in narrow low-lying areas near organic soils. It has high water tables and is poorly drained, usually requiring proper drainage and/or placement of suitable fill for roadway construction. Due to the high-water tables, the Isanti Fine Sandy Loam is not suitable for stormwater infiltration. A low area exists approximately 1,200 feet south of Constance Boulevard extending for approximately 150 feet. This is an area of Rifle Peat. The estimated excavation and granular borrow quantities are included in the estimated project cost.

Wetlands and Flood Zone:

Wetlands most likely exist in the ditches of the existing roadway but most likely do not exist elsewhere on the proposed improvements. Figure 4 illustrates the approximate wetland locations based on the National Wetland Inventory. Wetlands affected by the proposed improvements would be delineated prior to beginning preparation of plans. The Flood Zone Map, Figure 5, indicates there are no flood zones within the project limits.

Right-of-Way and Easements:

It is anticipated that approximately 16,719 square feet of easement will be required for the roadway and stormwater treatment. The City Attorney on the July 15, 2020 Council began negotiations to acquire this land shown on Figure 13. There is a 50-foot wide prescriptive easement on each side of the County Ditch 11 centerline.

Proposed Improvements:

The proposed improvement will prepare the existing surface for a 9-ton 26-foot wide with curb and gutter, and 6 1/2 inches of class 5 per City Standards. Tippecanoe Street from Constance Boulevard to 162nd Lane and 162nd Lane from Tippecanoe Street to the west plat border are being constructed to a 9-ton street section due to the Bug Company at 15941 Tippecanoe Street.

The improvement would include storm sewer, an infiltration basin and a pond. Note the typical street section on Exhibit 7.

A City owned parcel exists between 15990 and 15926 Tippecanoe Street which is 66-feet in width that can potentially be the 160th Avenue right-of-way. Figure 11 shows the potential thoroughfare from Tippecanoe Street westerly. The existing cul-de-sac exceeds the City's requirement for length.

Cost Estimate:

The project cost estimates are based on anticipated 2022 construction prices plus a 17% project development cost, an 8% engineering and inspection cost, and a 5% contingency cost (Figure 3). The final design has not been completed and therefore unknown work is not included in the estimate. Where additional costs may arise are additional subgrade correction and storm water treatment.

The final design has not been completed, and therefore unknown work is not included in the estimate. The estimated project cost is \$ 1,051,950.02.

Anticipated Revenues:

City policy is to assess benefited parcels for the improvement. The total number of assessments is 8 active assessments and 4 deferred assessments. The seven properties on the west side of Tippecanoe Street will be actively assessed. The property on the east side of Tippecanoe has potential to be split into four parcels for deferred assessments and one active assessment.

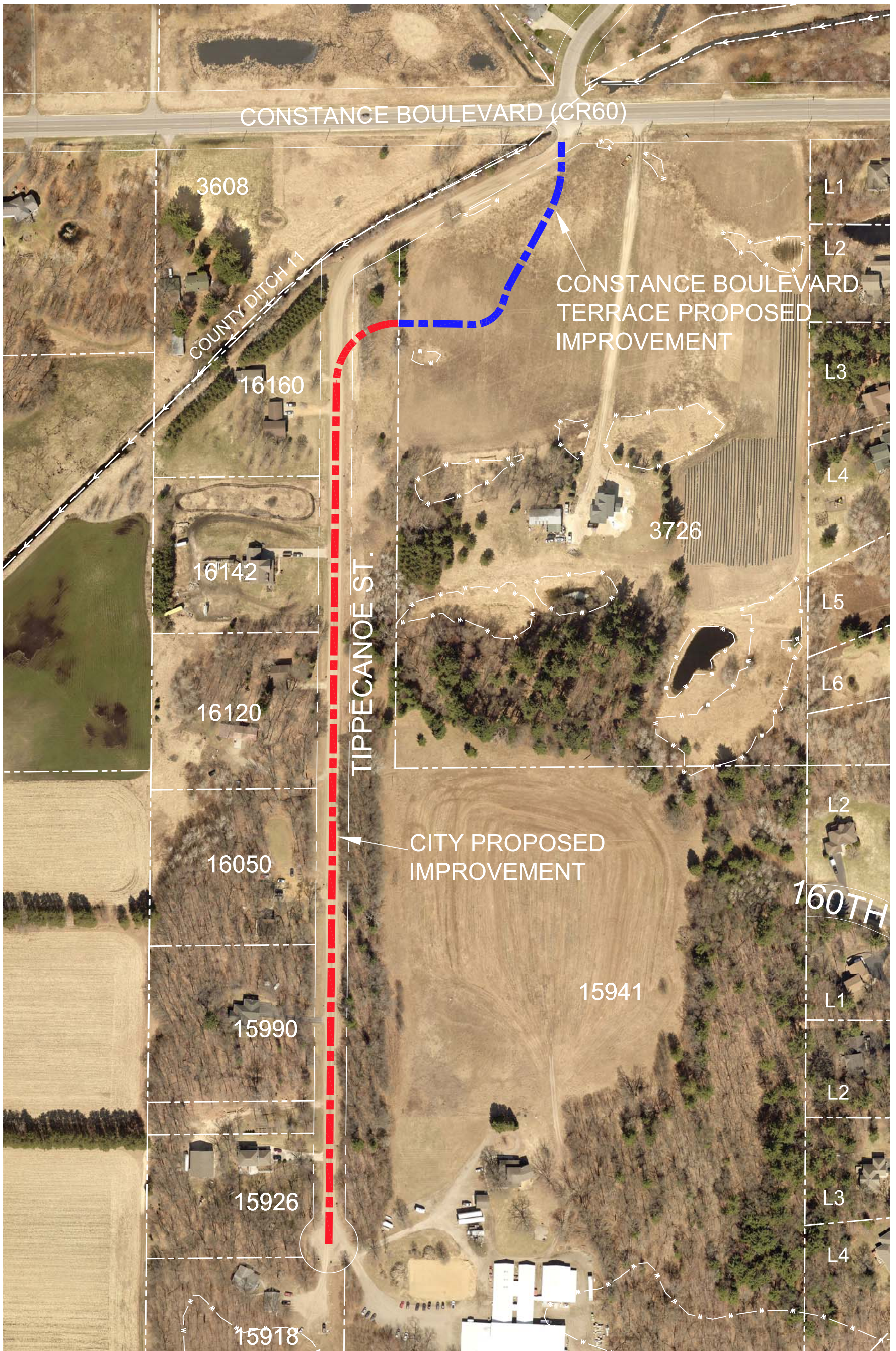
Estimated Construction Cost	\$ 1,051,950.02
8 Active Assessments (\$20,000/Each)	\$ 160,000.00 (15.2%)
4 Deferred Assessments (\$20,000/Each)	\$ 80,000.00 (7.6%)
City Contribution	\$ 811,950.02 (77.2%)

Sincerely,

RFC Engineering, Inc.



Tom Collins, P.E.
Ham Lake City Engineer



Description
LOCATION MAP

Drawn
EMP

Date
6/17/21

Project No.
2102.053

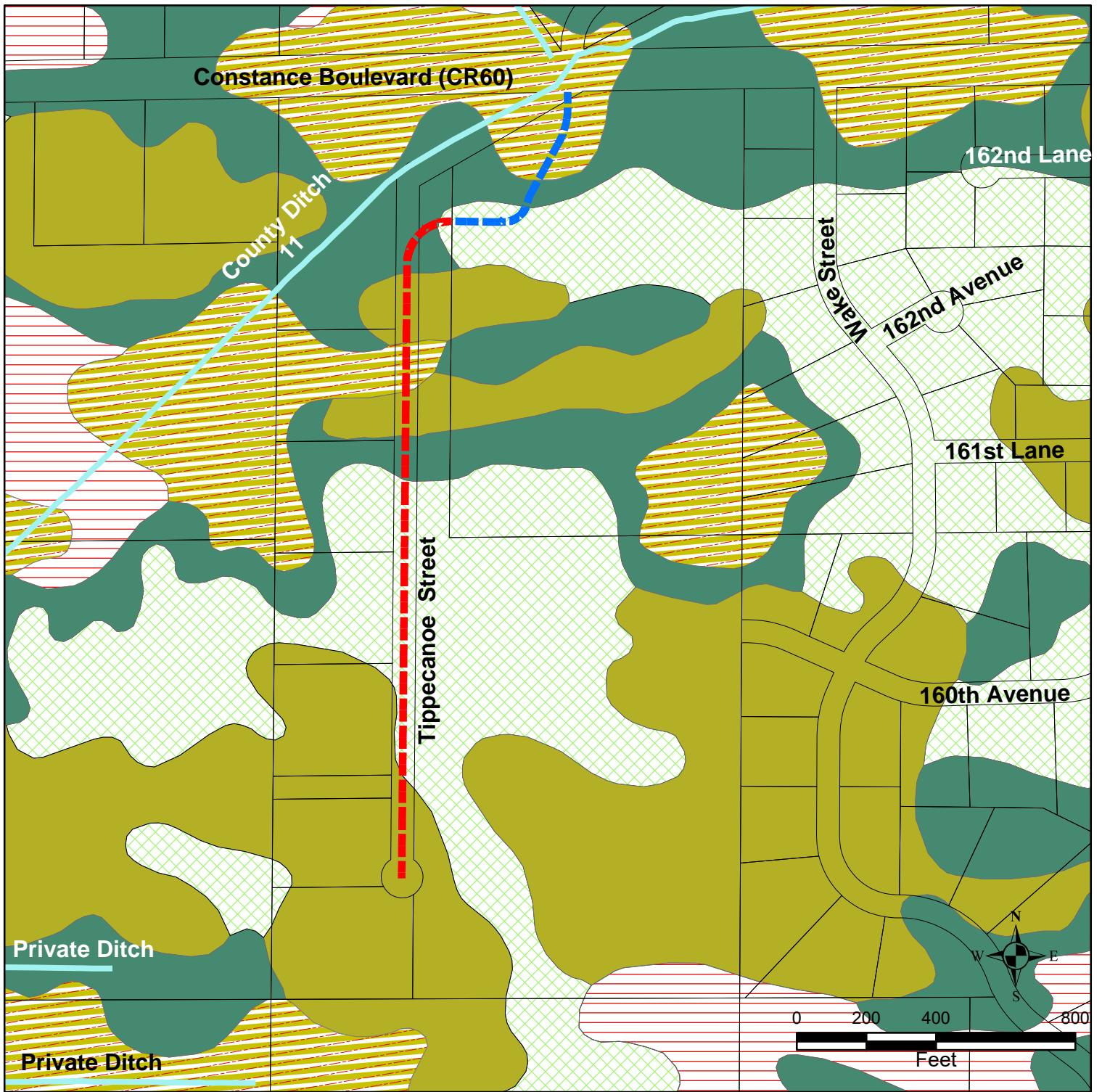
Figure No.
1

Project
TIPPECANOE STREET FEASIBILITY STUDY

13635 Johnson Street
Ham Lake, MN 55304
Voice: 763.862.8000
Fax: 763.862.8042



RFC
Engineering Inc.
Consulting Engineers



- | | | |
|---|---|---|
|  Isanti Fine Sandy Loam (Iw) |  Rifle Mucky Peat (Rf) |  Developer Proposed Construction |
|  Lino Loamy Fine Sand (LnA) |  Zimmerman Fine Sand B (ZmB) |  City Proposed Reconstruction |
|  Markey Muck (Ma) |  Ditches | |

Sheet Title:
SOILS MAP

Drawn:
EMP

Date:
6/17/2021

Project No.
2102.053

Figure No.
2

Project:
FEASIBILITY STUDY
TIPPECANOE STREET

13635 Johnson Street
Ham Lake, MN 55304
Telephone (763) 862-8000
Fax (763) 862-8042

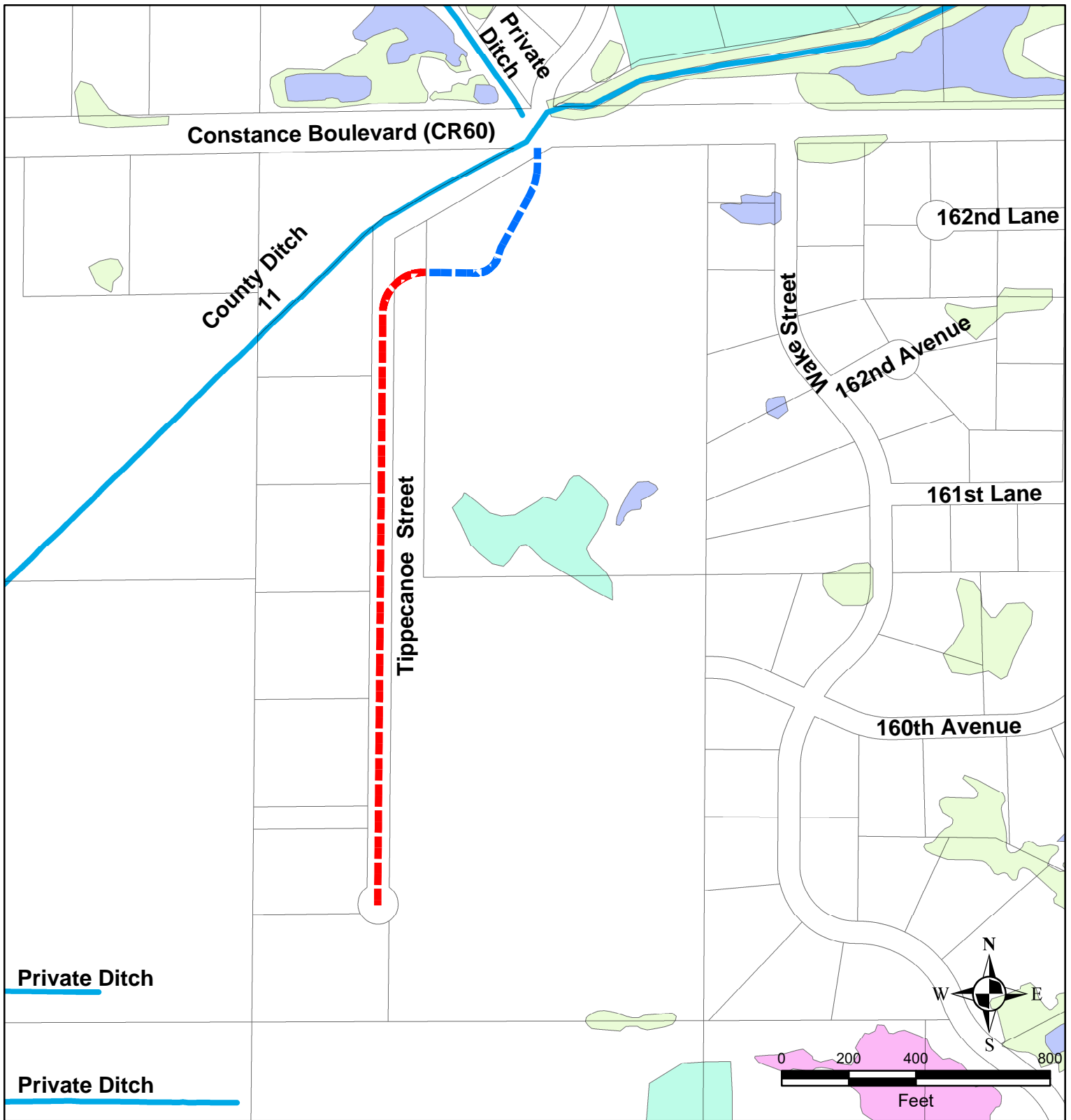


FIGURE 3

CONSTRUCTION COST ESTIMATE
TIPPECANOE STREET SOUTH OF CONSTANCE BOULEVARD

6/17/2021

ITEM NUMBER	ITEM DESCRIPTION	UNIT	EST	UNIT PRICE	TOTAL
2021.501	MOBILIZATION	LUMP SUM	1	\$59,000.00	\$59,000.00
2101.505	CLEARING	ACRE	1	\$9,313.17	\$9,313.17
2101.505	GRUBBING	ACRE	1	\$4,496.03	\$4,496.03
2104.502	SALVAGE MAIL BOX SUPPORT	EACH	11	\$1.82	\$20.02
2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	32	\$5.35	\$171.20
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	26	\$4.17	\$108.42
2104.503	REMOVE GUARDRAIL	LIN FT	116	\$5.35	\$620.60
2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	67	\$13.16	\$881.72
2105.501	COMMON EXCAVATION	CU YD	1,915	\$20.87	\$39,966.05
2105.504	GEOTEXTILE FABRIC TYPE 1	SQ YD	400	\$4.07	\$1,628.00
2105.507	MUCK EXCAVATION (LV)	CU YD	1,522	\$19.15	\$29,146.30
2105.521	GRANULAR BORROW (CV)	CU YD	2,821	\$27.50	\$77,577.50
2105.607	CHANNEL AND POND EXCAVATION	CU YD	680	\$56.71	\$38,562.80
2211.501	AGGREGATE BASE, CLASS 5 OR 7	TON	2,692	\$23.75	\$63,935.00
2211.507	AGGREGATE BASE CLASS 5 - DRIVEWAY	CU YD	38	\$63.99	\$2,431.62
2360.504	TYPE SP 9.5 WEARING COURSE MIXTURE (2C) COMM. DRIVEWAY 1.0" THICK	SQ YD	2	\$16.48	\$32.96
2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (2;B) DRIVEWAY 2.0" THICK	SQ YD	14	\$11.88	\$166.32
2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2,B OR C)	TON	738.0	\$97.16	\$71,704.08
2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (2;C)	TON	738	\$85.60	\$63,172.80
2501.502	24" CS PIPE APRON	EACH	5	\$824.97	\$4,124.85
2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	5	\$1,188.77	\$5,943.85
2503.503	24" CP PIPE SEWER	LIN FT	162.0	\$74.04	\$11,994.48
2503.511	15" RC PIPE SEWER CLASS IV	LIN FT	874.0	\$72.97	\$63,775.78
2503.511	18" RC PIPE SEWER CLASS IV	LIN FT	915	\$84.53	\$77,344.95
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 1	EACH	6	\$2,518.78	\$15,112.68
2506.602	CATCH BASIN	EACH	6	\$3,323.42	\$19,940.52
2511.501	RANDOM RIPRAP CLASS III	CU YD	40	\$19.26	\$770.40
2531.501	CONCRETE CURB & GUTTER DESIGN D312 (MODIFIED)	LIN FT	4,062	\$15.62	\$63,448.44
2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	66.8	\$81.96	\$5,474.93
2540.602	INSTALL MAIL BOX SUPPORT-SWING TYPE	EACH	11	\$159.43	\$1,753.73
2563.601	TRAFFIC CONTROL	LUMP SUM	1	\$10,453.90	\$10,453.90
2564.531	SIGN PANELS TYPE C	SQ FT	59	\$59.81	\$3,528.79
2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	\$4,711.85	\$4,711.85
2573.502	SILT FENCE, TYPE HEAVY DUTY	LIN FT	2,000	\$3.00	\$6,000.00
2573.502	STORM DRAIN INLET PROTECTION	EACH	14	\$179.23	\$2,509.22
2573.560	CULVERT END CONTROLS	EACH	6	\$285.48	\$1,712.88
2574.507	COMMON TOPSOIL BORROW	CU YD	482	\$33.49	\$16,142.18
2575.605	TURF ESTABLISHMENT	ACRE	2.0	\$6,741.00	\$13,482.00
TOTAL ESTIMATED CONSTRUCTION COST					\$791,160.02
PROJECT DEVELOPMENT COSTS (17%)					\$134,497.20
CONSTRUCTION ENGINEERING & INSPECTION COSTS (8%)					\$63,292.80
LAND ACQUISITION					\$63,000.00
TOTAL PROJECT COST					\$1,051,950.02
8 Active Assessments (\$20,000/Each)					\$160,000.00
4 Deferred Assessments (\$20,000/Each)					\$80,000.00
City Cost					\$811,950.02



Private Ditch

Private Ditch

- Emergent Wetland
- Pond
- Forested Wetland
- Shrub/Emergent Wetland
- City Proposed Reconstruction
- Developer Proposed Construction
- Ditches

Sheet Title:
NATIONAL WETLAND INVENTORY

Drawn:
EMP

Date:
6/17/2021

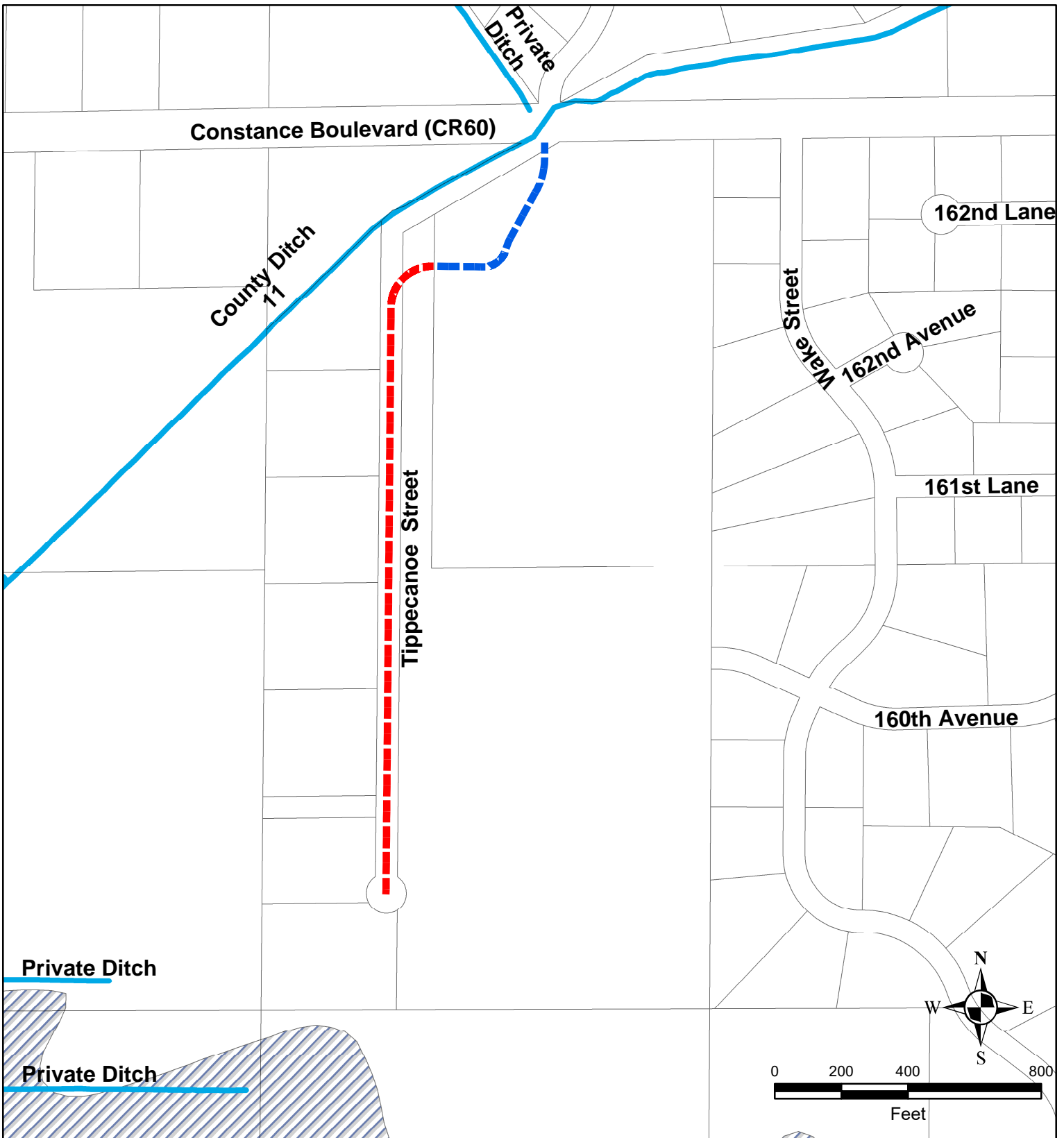
Project No.
2102.053

Figure No.
4

Project:
FEASIBILITY STUDY
TIPPECANOE STREET

13635 Johnson Street
Ham Lake, MN 55304
Telephone (763) 862-8000
Fax (763) 862-8042





- Flood Zone A
- Developer Proposed Construction
- Ditches
- City Proposed Construction

Sheet Title:
FLOOD ZONE MAP

Drawn:
EMP

Date:
6/17/2021

Project No.
2102.053

Figure No.
5

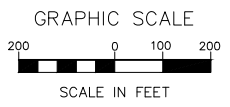
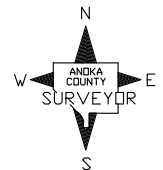
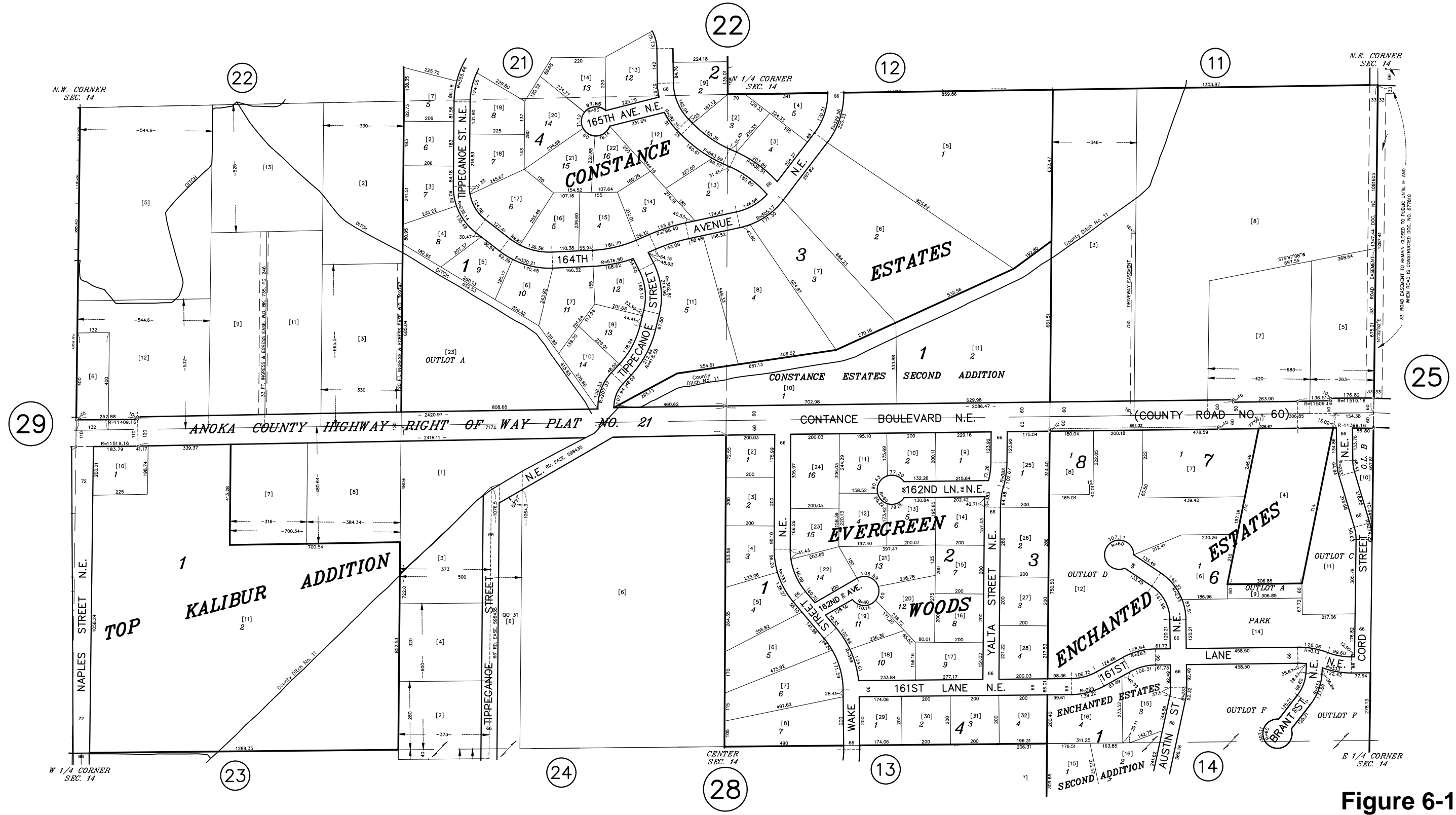
Project:
FEASIBILITY STUDY
TIPPECANOE STREET

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N 1/2 SECTION 14, T. 32, R. 23

CITY OF HAM LAKE



ANOKA COUNTY
SURVEYOR'S OFFICE
ROOM 224
2100 3RD AVENUE
ANOKA, MN 55303
(763) 324-3200

QUARTER QUARTER INDEX

22	21	12	11
23	24	13	14
32	31	42	41
33	34	43	44

NORTH HALF OF SECTION

SOUTH HALF OF SECTION

PROPERTY IDENTIFICATION NUMBER

Section Township Range Quarter Specific
Number Number Number Quarter Parcel
XX XX XX XX XXXX

SPECIFIC PARCEL NUMBERS ARE IN BRACKETS: [1]
EXAMPLE OF PIN NUMBER: 14-32-23-13-0030

THIS IS A COMPILATION OF RECORDS AS THEY APPEAR IN THE ANOKA COUNTY OFFICES AFFECTING THE AREA SHOWN. THIS DRAWING IS TO BE USED ONLY FOR REFERENCE PURPOSES AND THE COUNTY IS NOT RESPONSIBLE FOR ANY INACCURACIES HEREIN CONTAINED.

S 1/2 SECTION 14, T. 32, R. 23

CITY OF HAM LAKE

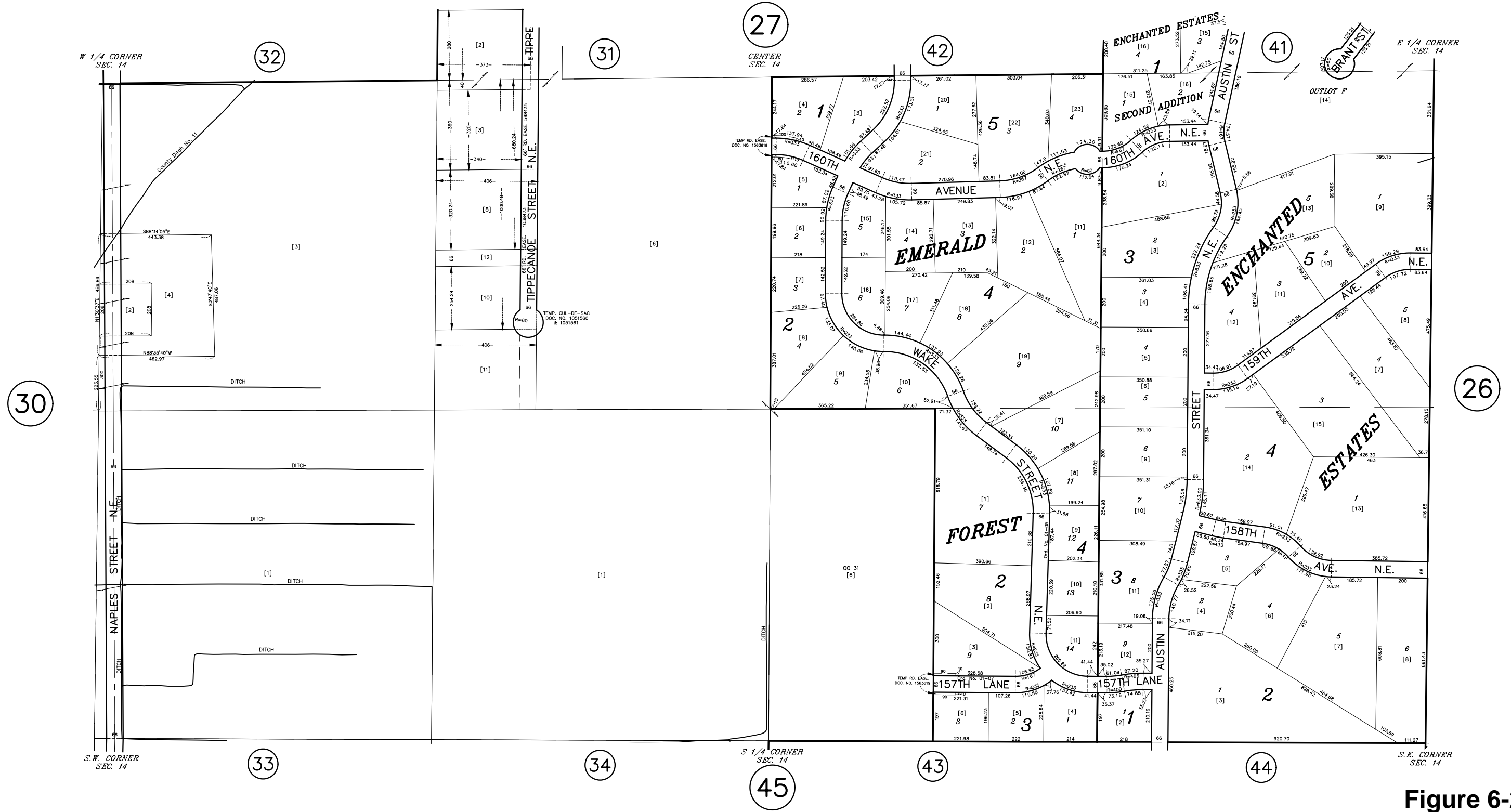
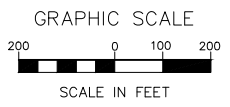
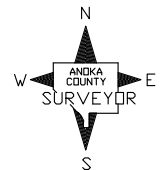


Figure 6-2



ANOKA COUNTY
SURVEYOR'S OFFICE
ROOM 224
2100 3RD AVENUE
ANOKA, MN 55303
(763) 324-3200

QUARTER QUARTER INDEX

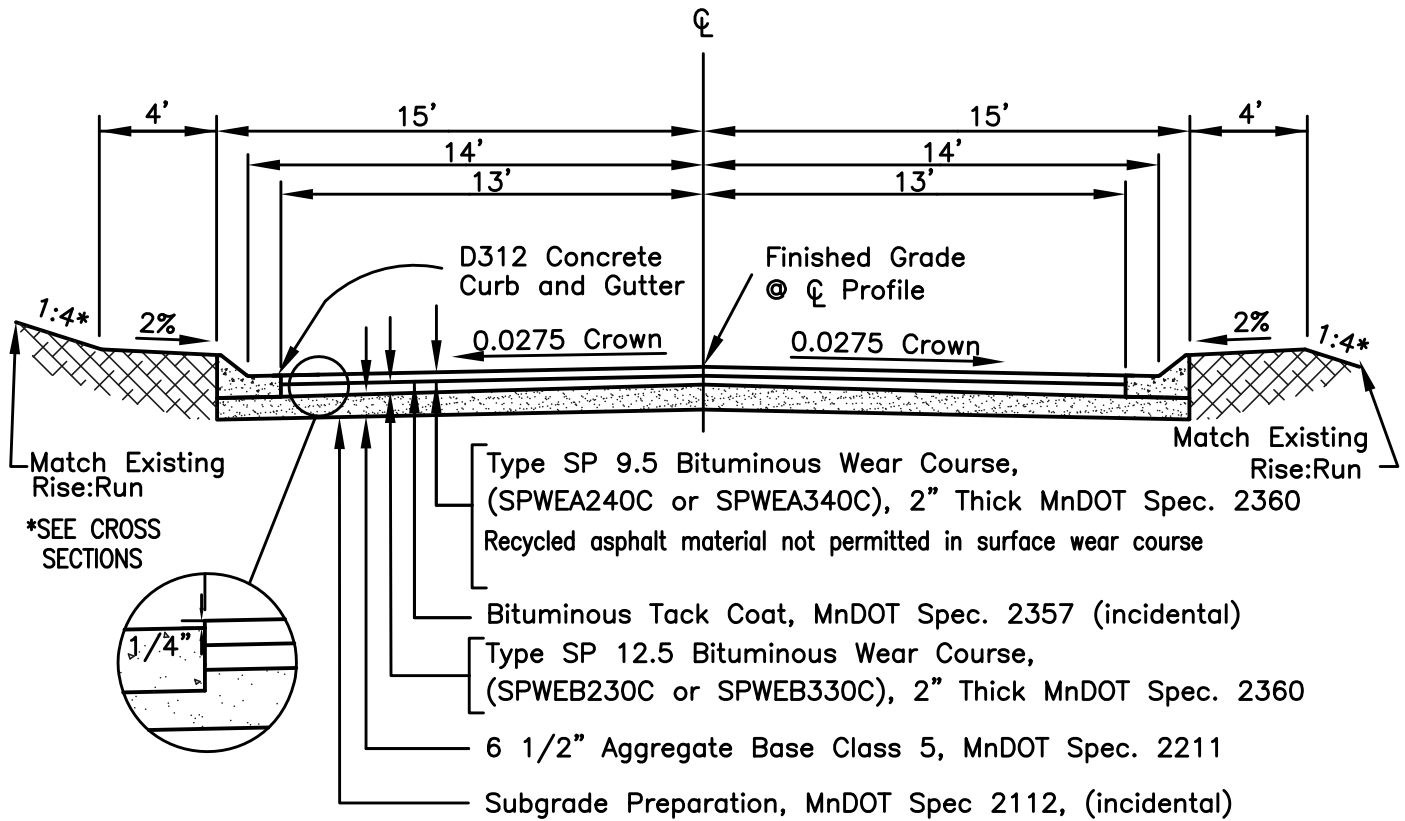
22	21	12	11
23	24	13	14
NORTH HALF OF SECTION			
32	31	42	41
33	34	43	44
SOUTH HALF OF SECTION			

PROPERTY IDENTIFICATION NUMBER

Section Number	Township Number	Range Number	Quarter Number	Specific Parcel
XX	XX	XX	XX	XXXX

SPECIFIC PARCEL NUMBERS ARE IN BRACKETS: [1]
EXAMPLE OF PIN NUMBER: 14-32-23-43-0003

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TYPICAL URBAN SECTION


TYPICAL STREET SECTION
COMMERCIAL 9-TON RFC-366B12

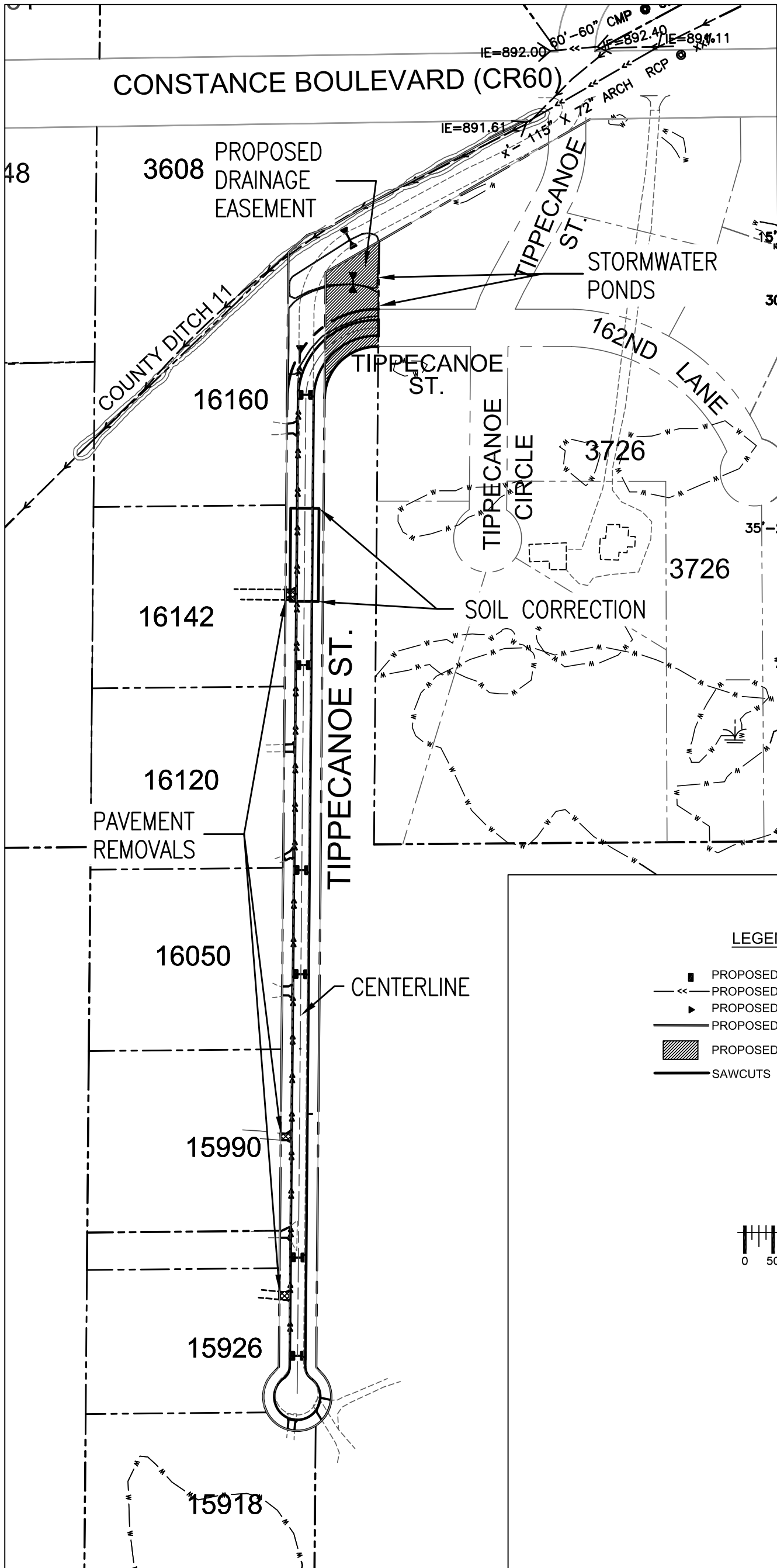
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Sheet Title PROPOSED TYPICAL SECTION	Drawn CSA	Date 6/17/21	Project No. 2102.053	Figure No. 7
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Project TIPPECANOE STREET FEASIBILITY STUDY
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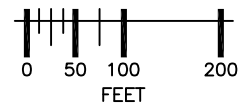
13635 Johnson Street
 Ham Lake, MN 55304
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 Fax (763) 862-8042





LEGEND

- PROPOSED CATCH BASIN
- <<— PROPOSED STORM SEWER
- ▶ PROPOSED FES
- PROPOSED D312 CURB & GUTTER
- ▨ PROPOSED EASEMENT ACQUISITION
- SAWCUTS



Description
PROPOSED IMPROVEMENTS

Drawn
CSA

Date
6/17/21

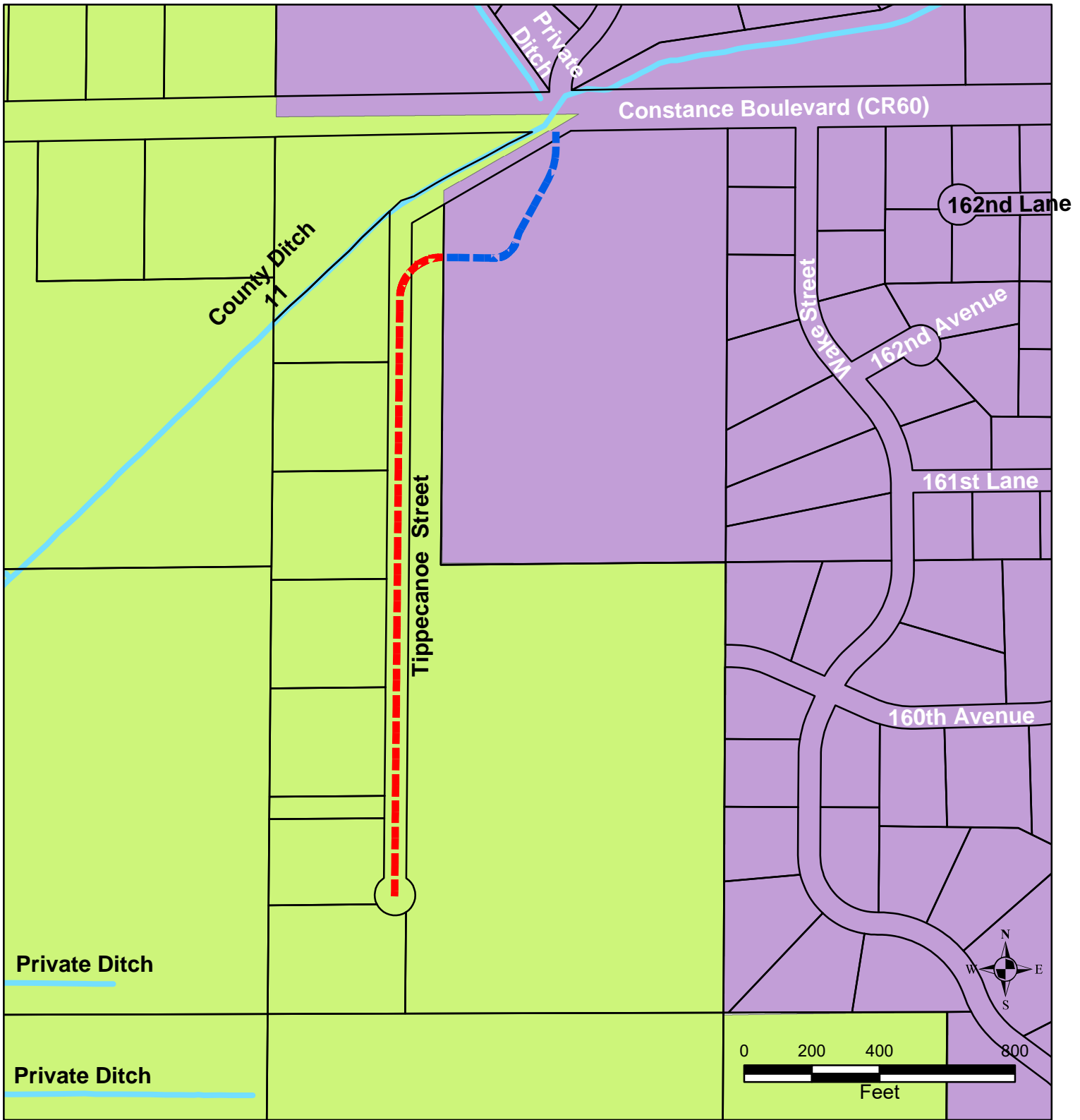
Project No.
2102.053

Sheet No.
8

Project
TIPPECANOE STREET FEASIBILITY STUDY

13635 Johnson Street
Ham Lake, MN 55304
Voice: 763.862.8000
Fax: 763.862.8042





- R-A Rural Single Family Residential
- R-1 Single Family Residential
- Ditches
- Developer Proposed Construction
- City Proposed Reconstruction

Sheet Title:
ZONING MAP

Drawn:
EMP

Date:
6/17/2021

Project No.
2102.053

Figure No.
9

Project:
FEASIBILITY STUDY
TIPPECANOE STREET

13635 Johnson Street
Ham Lake, MN 55304
Telephone (763) 862-8000
Fax (763) 862-8042

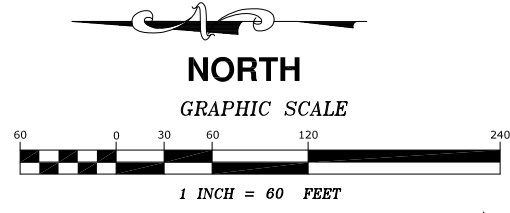
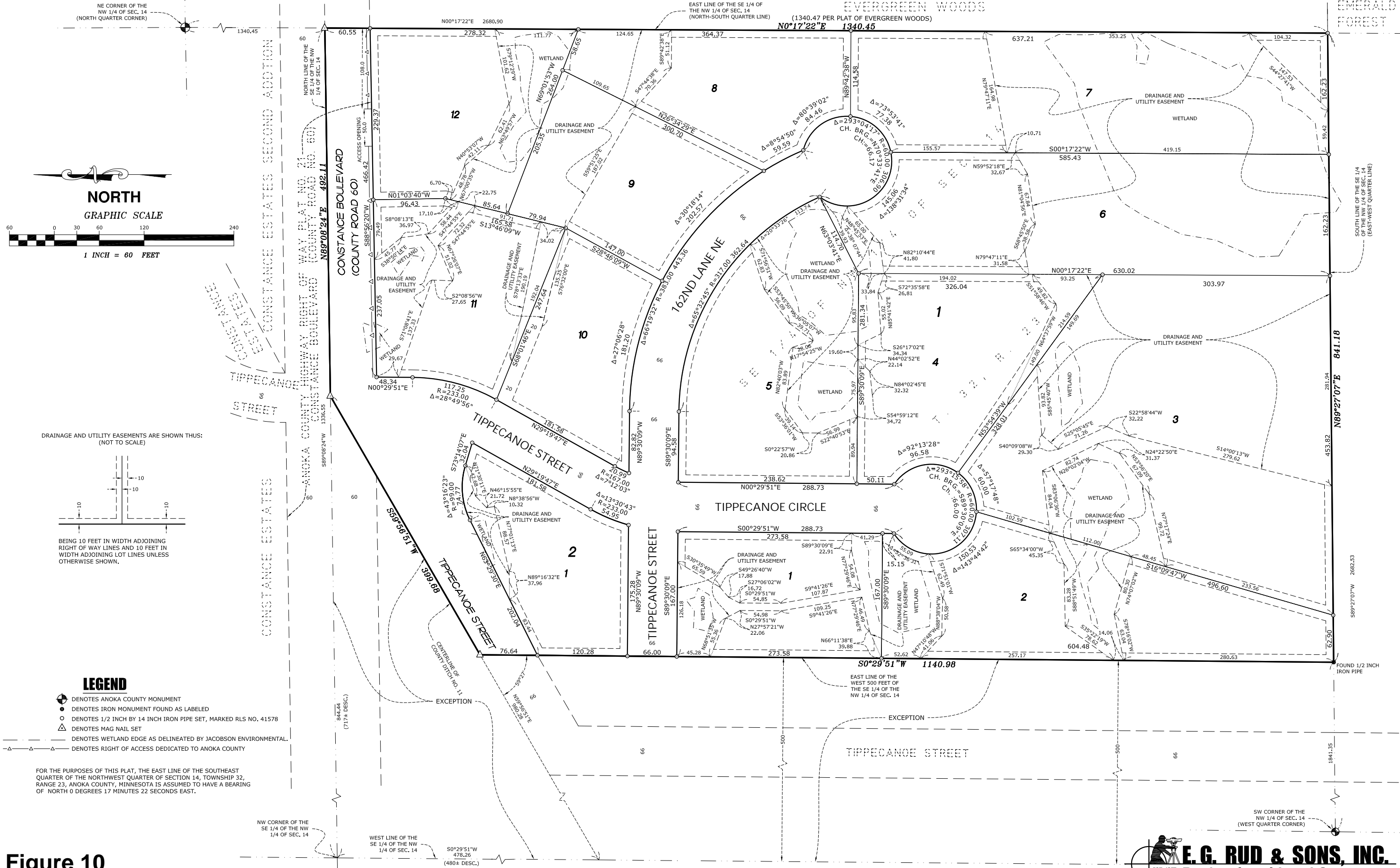


CONSTANCE BOULEVARD TERRACE

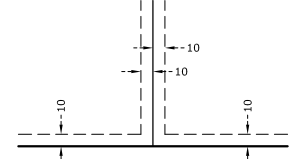
City of Ham Lake
County of Anoka
Sec. 14, T32, R23

PRELIMINARY COPY

LAST SAVED BY: MDAVICH on Tuesday, October 6, 2020 at 2:13:42 PM
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FILESIZE: 19,02MB



DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:
(NOT TO SCALE)



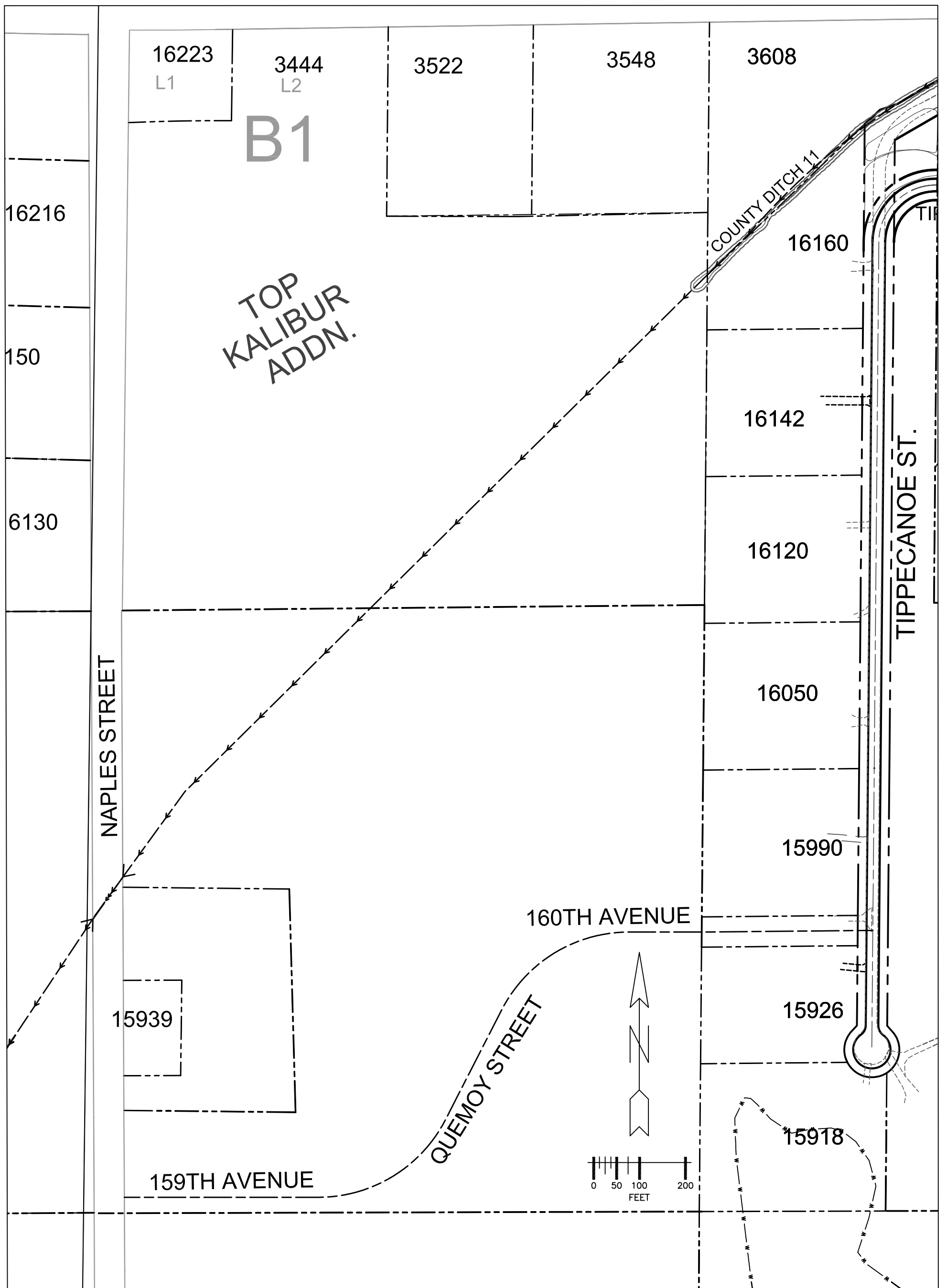
BEING 10 FEET IN WIDTH ADJOINING
RIGHT OF WAY LINES AND 10 FEET IN
WIDTH ADJOINING LOT LINES UNLESS
OTHERWISE SHOWN.

LEGEND

- DENOTES ANOKA COUNTY MONUMENT
- DENOTES IRON MONUMENT FOUND AS LABELED
- DENOTES 1/2 INCH BY 14 INCH IRON PIPE SET, MARKED RLS NO. 41578
- △ DENOTES MAG NAIL SET
- DENOTES WETLAND EDGE AS DELINEATED BY JACOBSON ENVIRONMENTAL.
- ▲-▲-▲- DENOTES RIGHT OF ACCESS DEDICATED TO ANOKA COUNTY

FOR THE PURPOSES OF THIS PLAT, THE EAST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 32, RANGE 23, ANOKA COUNTY, MINNESOTA IS ASSUMED TO HAVE A BEARING OF NORTH 0 DEGREES 17 MINUTES 22 SECONDS EAST.

Figure 10



Description
POTENTIAL THOROUGHFARE

Drawn
CSA

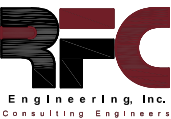
Date
6/17/21

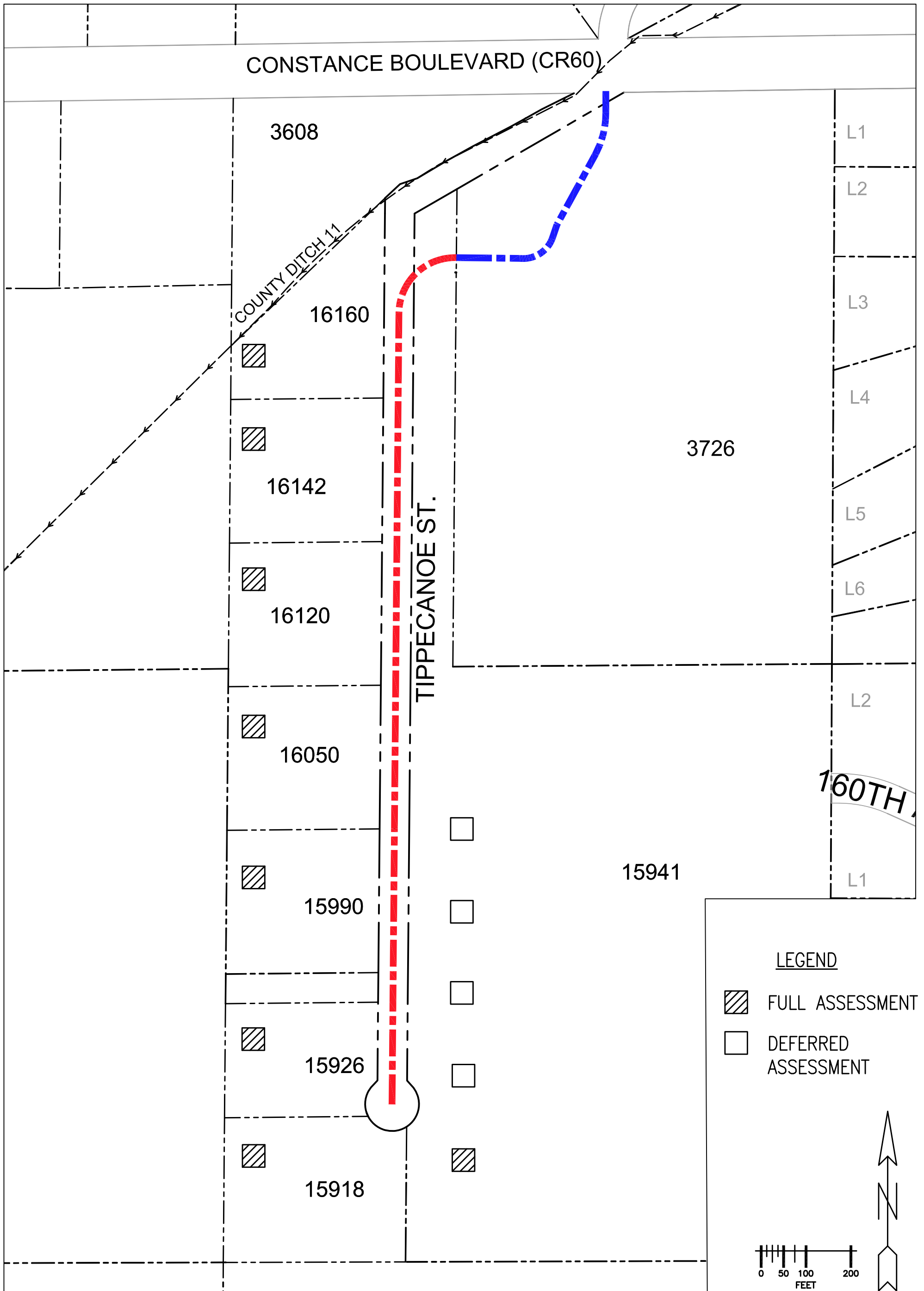
Project No.
2102.053

Figure No.
11

Project
TIPPECANOE STREET FEASIBILITY STUDY

13635 Johnson Street
Ham Lake, MN 55304
Voice: 763.862.8000
Fax: 763.862.8042





Description
ASSESSMENT MAP

Drawn
EMP

Date
6/17/21

Project No.
2102.053

Figure No.
12

Project
FEASIBILITY STUDY
TIPPECANOE STREET

13635 Johnson Street
Ham Lake, MN 55304
Voice: 763.862.8000
Fax: 763.862.8042



SKETCH AND DESCRIPTION

~for~ RFC ENGINEERING

ANOKA COUNTY HIGHWAY RIGHT OF WAY PLAT NO. 21
 CONSTANCE BOULEVARD (COUNTY ROAD NO. 60)

PROPOSED RIGHT OF WAY DESCRIPTION

That part of the east 94.00 feet of the west 500.00 feet of the Southeast Quarter of the Northwest Quarter of Section 14, Township 32, Range 23, Anoka County, Minnesota, lying southerly of the southerly right-of-way line of Tippecanoe Street N.E. as described in Document Number 598435 and northerly of the following described line:

Commencing at the southeast corner of said west 500 feet of the Southeast Quarter of the Northwest Quarter of Section 14; thence on an assumed bearing of North 0 degrees 29 minutes 51 seconds East along the east line of said west 500.00 feet of the Southeast Quarter of the Northwest Quarter of Section 14 a distance of 878.06 feet to the point of beginning of the line to be described; thence North 89 degrees 30 minutes 09 seconds West a distance of 2.00 feet; thence 144.51 feet southwesterly along a tangential curve, concave to the southeast, said curve having a radius of 92.00 feet and a central angle of 90 degrees 00 minutes 00 seconds to the west line of the east 94.00 feet of said west 500.00 feet of the Southeast Quarter of the Northwest Quarter of Section 14 and said line there terminating.

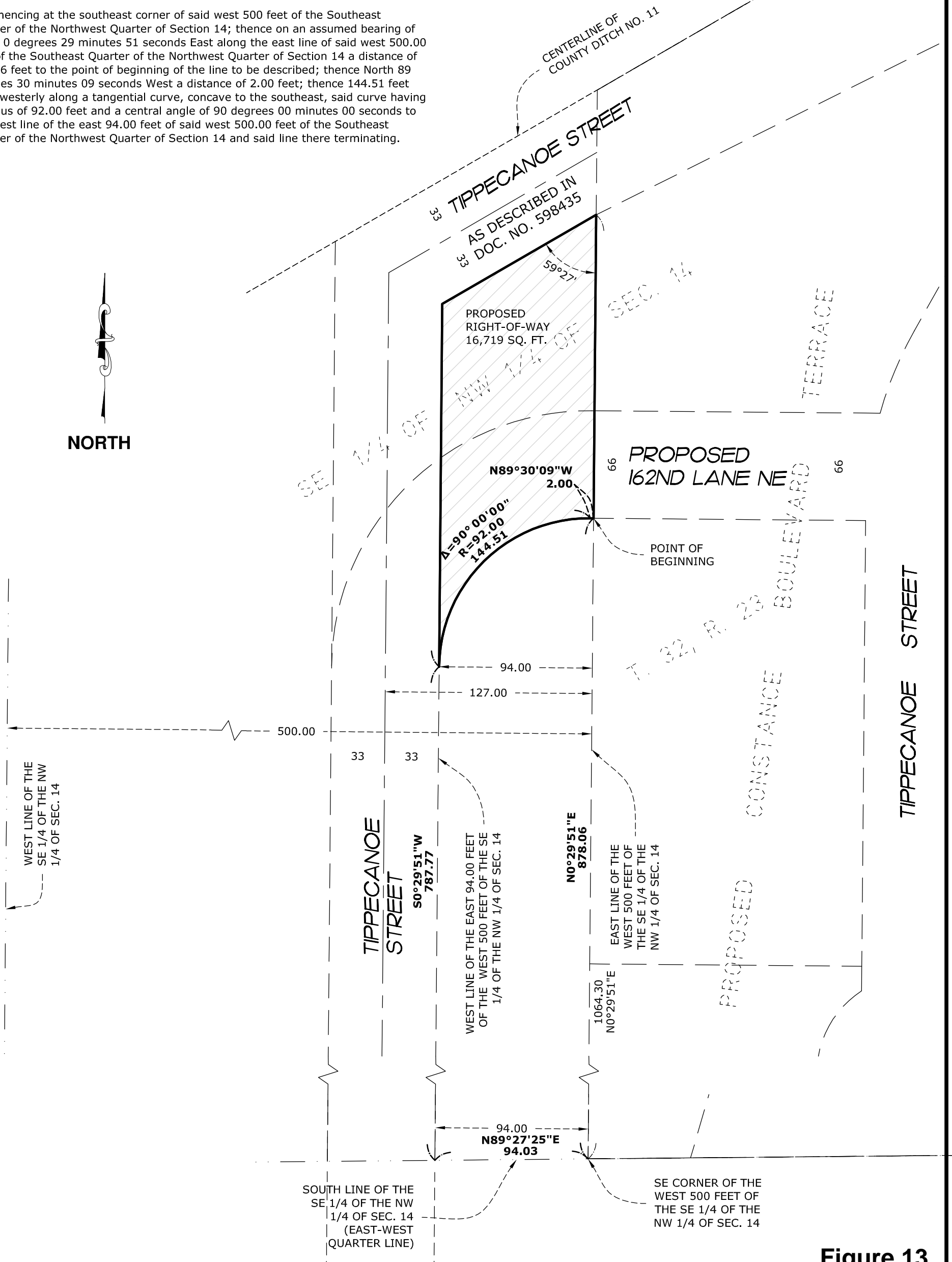


Figure 13

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

By: *[Signature]*
 Minnesota License No. 41578

Dated 8th day of September 2020.

DATUM: Assumed

JOB NO. 201003ED

REVISIONS			
1			
2			
3			
NO.	DATE	DESCRIPTION	BY

SCALE: 1" = 60'

DATE: 9/4/2020

DRAWN BY: BPN

CREW:



E. G. RUD & SONS, INC.
 Professional Land Surveyors
 6776 Lake Drive NE, Suite 110
 Lino Lakes, MN 55014
 Tel. (651) 361-8200 Fax (651) 361-8701
 www.egrud.com