CITY OF INVER GROVE HEIGHTS

A G E N D A

CITY COUNCIL WORK SESSION

NOVEMBER 6, 2017 6:00 PM

INVER GROVE HEIGHTS CITY HALL
COUNCIL CHAMBERS

A. CALL TO ORDER – MAYOR TOURVILLE

1. **REVIEW OF CLASSIFICATION AND COMPENSATION STUDY**
2. **2018 BUDGET**
3. **DISCUSS BABCOCK TRAIL FEASIBILITY STUDY**
4. **SUMMARY OF STAFF REVIEW OF "NO PARKING" ON CUL-DE-SACS**
5. **DICKMAN TRAIL 96-INCH DIAMETER CMP STORM WATER OUTFALL**
6. **REVIEW RESULTS OF ADDITIONAL B-LINE TRUNK SANITARY SEWER FLOW MONITORING AND MODELING**

B. ADJOURN

AGENDA ITEM _____

CITY OF INVER GROVE HEIGHTS **REQUEST FOR COUNCIL ACTION**

Review of the Classification and Compensation System Study

Meeting Date:	November 6, 2017
Item Type:	Work Session
Contact:	Janet Shefchik
Prepared by:	Janet Shefchik
Reviewed by:	Joe Lynch

Fiscal/FTE Impact:

[ ]	None
[ ]	Amount included in current budget
[ ]	Budget amendment requested
[ ]	FTE included in current complement
[ ]	New FTE requested – N/A
[X]	Other

PURPOSE/ACTION REQUESTED

To provide a review of the Classification and Compensation System Study.

SUMMARY

In February of 2017, Council approved Bjorklund Compensation Consulting to conduct a study of the City's Compensation and Classification system. As the initial study is complete, the Consultant will present his report findings and recommendations, and address any Council questions.

AGENDA ITEM _____

CITY OF INVER GROVE HEIGHTS **REQUEST FOR COUNCIL ACTION**

2018 Budget

Meeting Date:	November 6, 2017
Item Type:	Work Session
Contact:	Kristi Smith 651-450-2521
Prepared by:	Kristi Smith, Finance Director
Reviewed by:	N/A

Fiscal/FTE Impact:

	None
	Amount included in current budget
	Budget amendment requested
	FTE included in current complement
	New FTE requested – N/A
X	Other – 2018 Budget

PURPOSE/ACTION REQUESTED
Overview of November 6, 2017 Work Session Budget Items

SUMMARY
Work session agenda items were to include the following:

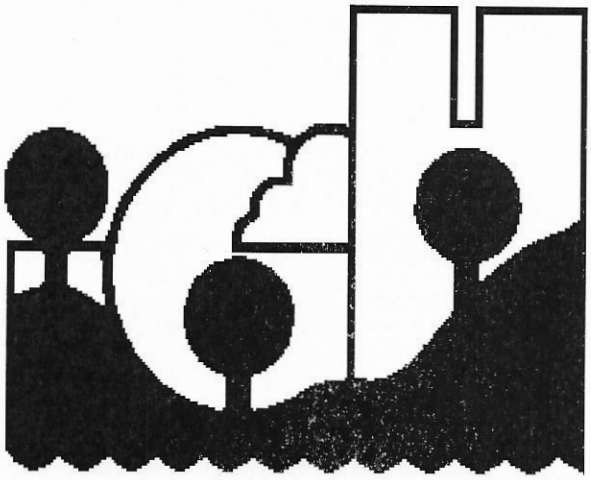
1. Utilities
    a. Water
    b. Sewer
    c. Storm Water
2. Internal Service Funds
    a. Risk Management
    b. Central Equipment
    c. Central Stores
    d. City Facilities
    e. Technology
3. Central Equipment Replacement, see Memo from Scott Thureen, Public Works Director
4. 2018-2022 Capital Improvement Plan (CIP), see separate CIP handout
5. 2017-2021 Capital Improvement Plan (CIP), for the purpose of issuing CIP bonds for Fire Station #2, see separate CIP handout

A complete updated 2018 Budget has been provided. The 2018 budget pages have been updated for:

1. All funds – health insurance costs adjusted ($53,700)
2. General Fund – Police and Fire PERA adjusted to current rates ($20,200)
3. General Fund – Police personnel corrections ($137,800)
4. General Fund – Transfers Out reduced transfer for Emerald Ash Borer ($9,200)
5. VMCC – capital outlay information is included
6. Central Equipment – capital outlay information is included
7. Technology – Other Professional Services increased for broadband JPA costs, all funds with allocations adjusted +$2,400

With the above changes Exhibit D on page 5 shows the 2018 tax rate for base plus additions is .51130, a .99% decrease from the 2017 tax rate of .51644.

2018
PROPOSED BUDGET



Inver Grove Heights, Minnesota

CITY OF INVER GROVE HEIGHTS
2018 BUDGET CALENDAR - 8/31/17

May 1, 2017	Budget Work Session Initial discussion, review/revise calendar, establish direction
August 7, 2017	Budget Work Session Introduction of preliminary 2018 General Fund budget
August 21, 2017	Budget Special Work Session Presentations of General Fund requested budget additions
September 6, 2017 (Wednesday)	Budget Work Session Cash balances, fund balances and reserves, Debt Service Handouts - Base Budget Benefited Positions by Department, Base Budget FTE Benefited Positions and Base Budget Hours and FTE Non-Benefited Positions
September 11, 2017	**City Council** **Adopt 2018 Proposed Budgets & Tax Levies**
September 29, 2017	Final Date to Certifity Proposed Tax Levies & Budgets to Dakota County
October 2, 2017	Budget Work Session Recreation, Community Center, Golf, ADA, EDA and TIF Funds
November 6, 2017	Budget Work Session Water, Sewer, Storm Water, Internal Service Funds, Central Equipment Replacement and CIP
Between 11/10 and 11/24	Dakota County sends out Parcel Specific Notices for Budget Meeting
December 4, 2017	Budget Work Session Final review of 2018 budget and tax levy
December 11, 2017	**City Council Truth-in-Taxation Public Hearing** **Adopt Pay 2018 Final Budgets & Tax Levies**
December 28, 2017	**Final Date to Certify Final Tax Levies & Budgets to Dakota County**

CITY OF INVER GROVE HEIGHTS
2018 BUDGET

MARKET VALUE COMPARISON

	2017	%	Preliminary 2018	%	$ Change	% Change	New Construction	% Change w/o New
Residential	2,425,052,723	74.16%	2,654,381,420	74.35%	229,328,697	9.5%	29,319,200	8.25%
Commercial	312,760,600	9.56%	317,742,700	8.90%	4,982,100	1.6%	1,456,400	1.13%
Industrial	83,770,400	2.56%	90,788,300	2.54%	7,017,900	8.4%	3,610,000	4.07%
Utility	76,668,400	2.34%	76,668,400	2.15%	0	0.0%	0	0.00%
Agricultural	20,990,857	0.64%	17,543,745	0.49%	(3,447,112)	-16.4%	0	-16.42%
Rural Vacant	8,461,500	0.26%	7,690,400	0.22%	(771,100)	-9.1%	0	-9.11%
Apartments	288,142,200	8.81%	350,894,700	9.83%	62,752,500	21.8%	0	21.78%
Railroads	14,486,600	0.44%	14,486,600	0.41%	0	0.0%	0	0.00%
	3,230,333,280		3,530,196,265		299,862,985	9.3%	34,385,600	8.22%
Personal Prop.	39,774,700	1.22%	39,854,900	1.12%	80,200	0.2%	0	0.20%
	3,270,107,980	100.00%	3,570,051,165	100.00%	299,943,185	9.2%	34,385,600	8.12%

NET TAX CAPACITY COMPARISON

	2017	%	Preliminary 2018	%	$ Change	% Change	New Construction	% Change w/o New
Residential	24,507,761	63.46%	26,877,005	64.07%	2,369,244	9.7%	347,173	8.25%
Commercial	6,061,189	15.69%	6,160,681	14.69%	99,492	1.6%	29,128	1.16%
Industrial	1,650,256	4.27%	1,790,613	4.27%	140,357	8.5%	72,200	4.13%
Utility	1,531,868	3.97%	1,531,868	3.65%	0	0.0%	0	0.00%
Agricultural	189,370	0.49%	154,030	0.37%	(35,340)	-18.7%	0	-18.66%
Rural Vacant	75,098	0.19%	69,511	0.17%	(5,587)	-7.4%	0	-7.44%
Apartments	3,528,746	9.14%	4,288,013	10.22%	759,267	21.5%	0	21.52%
Railroads	289,732	0.75%	289,732	0.69%	-	0.0%	0	0.00%
	37,834,020		41,161,453		3,327,433	8.8%	448,501	7.61%
Personal Prop.	787,939	2.04%	789,514	1.88%	1,575	0.2%	0	0.20%
	38,621,959	100.00%	41,950,967	100.00%	3,329,008	8.6%	448,501	7.46%

2018 per Dakota County updated 2/24/17

CITY OF INVER GROVE HEIGHTS
2018 BUDGET
PROPOSED TAX LEVIES

	2015 Adopted	2016 Adopted	2017 Adopted	2018 Base	2018 Additions	2018 Proposed	2017 Adopted - 2018 Base+Additions $ Change as Percentage	2017 Adopted - 2018 Base+Additions $ Change
Operating Levies -								
General Tax Levy (subject to Levy Limit)	14,908,500	15,897,800	16,973,400	18,105,200	1,013,300	19,118,500 *	12.64%	2,145,100
Subtotal Operating Levies	14,908,500	15,897,800	16,973,400	18,105,200	1,013,300	19,118,500	12.64%	2,145,100
Debt Levies								
326 MN Armory Bldg Comm.	63,735	19,600	-	-	-	-		-
City Share of Assessments	233,023	235,201	234,058	205,074	-	205,074	-12.38%	(28,984)
362 2014B G.O. Improvements Bonds	150,000	122,500	150,000	-	-	-	-100.00%	(150,000)
(Contribution from Closed Bond Fund for Reduction to 2014B Debt Levy)	(27,500)	-	-	-	-	-		-
364 2014B G.O. Improvement Bonds	250,000	290,000	445,000	456,482	-	456,482	2.58%	11,482
(Contribution from Closed Bond Fund for Reduction to 2014B Debt Levy)	(27,500)	-	-	-	-	-		-
367 2016A ~~2009A~~ G.O. Capital Improvement Bonds	559,800	674,000	642,800	600,272	-	600,272	-6.62%	(42,528)
(Contribution from Closed Bond Fund for Reduction to 2016A Debt Levy)	(200,000)	(200,000)	(200,000)	(200,000)	-	(200,000)	0.00%	-
355 2010B G.O. Improvement Bonds	172,700	110,000	195,000	195,000	-	195,000	0.00%	-
356 2010C PIR Refunding Bonds	56,308	46,942	-	-	-	-		
358 2011A G.O. Improvement Refunding Bonds	175,000	123,819	99,200	-	-	-	-100.00%	(99,200)
365 2015A G.O. Bonds	-	635,388	634,334	682,482	-	682,482	7.59%	48,148
2017B G.O. Bonds	-	-	-	1,887	-	1,887		1,887
Subtotal City-wide Debt Levies	1,405,566	2,057,450	2,200,392	1,941,197	-	1,941,197	-11.78%	(259,195)
City-Wide Levies	**16,314,066**	**17,955,250**	**19,173,792**	**20,046,397**	**1,013,300**	**21,059,697**	**9.84%**	**1,885,905**
WMTD Levies							4.55%	base only incr., no additions
357 2010C Storm Water Bonds								
Simley Lake	45,683	48,745	24,033	-	-	-	-100.00%	(24,033)
360 2012A Storm Water Refunding Bonds								
Cuneen Trail/College Trail	109,095	18,200	-	-	-	-		-
421 2001-02 70th Street Recon Cahill Ave to Concord Blvd								
Babcock Trail	-	-	-	22,230	-	22,230		22,230
South Grove	-	-	-	41,285	-	41,285		41,285
70th Street	-	-	-	15,879	-	15,879		15,879
WMTD Levies	154,778	66,945	24,033	79,395	-	79,395	230.36%	55,362
Total	16,468,844	18,022,195	19,197,825	20,125,792	1,013,300	21,139,092	**10.11%**	1,941,267
* Levy Limit Amount	N/A	N/A	N/A	N/A	N/A	N/A		

Exhibit D

CITY OF INVER GROVE HEIGHTS
2018 BUDGET
COMPARISON OF 2015, 2016, 2017 ACTUALS, AND 2018 ESTIMATED
CITY TAX CAPACITY RATES

				CONSTANT TAX RATE	BASE BUDGET	BASE PLUS ADDITIONS
	FINAL PAY 2015	FINAL PAY 2016	FINAL PAY 2017	Estimated Tax Levy With Change to Levies To Keep Tax **Rate** the Same as 2017 ESTIMATED PAY PAY 2018	Estimated Tax Levy With Change to Levies To Include the **Base Budget Only** ESTIMATED PAY PAY 2018	Estimated Tax Levy With Change to Levies **Base Budget Plus Additions** ESTIMATED PAY PAY 2018
TOTAL TAX CAPACITY (1)	$35,625,624	$37,895,077	$38,621,959	$41,950,967	$41,950,967	$41,950,967
LESS: TAX INCREMENT (2)	(1,870,734)	(1,824,068)	(1,520,645)	(1,569,193)	(1,569,193)	(1,569,193)
LESS: FISCAL DISPARITIES CONTRIBUTION VALUE (3)	(3,757,226)	(3,798,544)	(4,008,341)	(3,977,498)	(3,977,498)	(3,977,498)
NET CITY TAX CAPACITY	$29,997,664	$32,272,465	$33,092,973	$36,404,276	$36,404,276	$36,404,276
GROSS CITY-WIDE TAX LEVY	$16,314,066	$17,955,250	$19,173,792	$21,246,635	$20,046,397	$21,059,697
LESS CITY-WIDE FISCAL DISPARITIES DISTRIBUTION (4)	(1,919,284)	(2,063,774)	(2,259,396)	(2,446,011)	(2,446,011)	(2,446,011)
CITY-WIDE TAX LEVY	$14,394,782	$15,891,476	$16,914,396	$18,800,624	$17,600,386	$18,613,686
CITY TAX CAPACITY RATE	0.48131	0.49266	0.51644	**0.51644**	**0.48347**	**0.51130**
RATE INCREASE (DECREASE)	0.06374	0.01135	0.02378	**0.00000**	**-0.03297**	**-0.00514**
PERCENT INCREASE (DECREASE) IN RATE	15.26%	2.36%	4.83%	**0.00%**	**-6.38%**	**-0.99%**
CHANGE FROM 2017 TAX LEVY				$2,072,843	$872,605	$1,885,905

ASSUMPTIONS:
(1) THE ESTIMATE OF TAX CAPACITY FOR 2018 IS DAKOTA COUNTY'S DATA AS OF 2/24/17.
(2) THE TAX INCREMENT INFORMATION IS FROM DAKOTA COUNTY AS OF 8/17/17.
(3) THE FISCAL DISPARITIES INFORMATION IS FROM DAKOTA COUNTY AS OF 8/21/17.
(4) THE FISCAL DISPARITIES INFORMATION IS FROM DAKOTA COUNTY AS OF 8/17/17.

CITY OF INVER GROVE HEIGHTS

TAX COMPARISON 2017 VS 2018 CITY TAXES ONLY - BASE BUDGET ONLY

MEAN

RESIDENTIAL HOMESTEAD VALUE =	$ 266,680
2017 TAXABLE MARKET VALUE =	***$ 251,074***
2017	
Tax Capacity -	
1.00% of $ 251,074 =	2,511
Tax Capacity	2,511
x 2017 Rate	0.51644
2017 City Tax	$1,296.65
RESIDENTIAL HOMESTEAD VALUE =	$ 266,680
0.00% Increase in value	
2018 TAXABLE MARKET VALUE =	***$ 251,074***
2018	
Tax Capacity -	
1.00% $ 251,074 =	2,511
Tax Capacity	2,511
x Est. 2018 Rate	0.48347
Est. 2018 City Tax	$1,213.87
Difference	($82.78)
Percent change	-6.38%

MEDIAN

RESIDENTIAL HOMESTEAD VALUE =	$ 232,250
2017 TAXABLE MARKET VALUE =	***$ 215,259***
2017	
Tax Capacity -	
1.00% of $ 215,259 =	2,153
Tax Capacity	2,153
x 2017 Rate	0.51644
2017 City Tax	$1,111.68
RESIDENTIAL HOMESTEAD VALUE =	$ 232,250
0.00% Increase in value	
2018 TAXABLE MARKET VALUE =	***$ 215,259***
2018	
Tax Capacity -	
1.00% of $ 215,259 =	2,153
Tax Capacity	2,153
x Est. 2018 Rate	0.48347
Est. 2018 City Tax	$1,040.71
Difference	($70.97)
Percent change	-6.38%

BUSINESS VALUE = $ 586,900	
2017	
Tax Capacity -	
1.5% of 1st $ 150,000 =	2,250
2.0% of $ 436,900 =	8,738
Tax Capacity	10,988
Less Fiscal Disparities	(4,551)
	6,437
x 2017 Rate	0.51644
2017 City Tax	$3,324.32
BUSINESS VALUE = $ 586,900	
0.00% Increase in value	
2018	
Tax Capacity -	
1.5% of 1st $ 150,000	2,250
2.0% of $ 436,900	8,738
Tax Capacity	10,988
Less Fiscal Disparities Est.	(4,551)
	6,437
x Est. 2018 Rate	0.48347
Est. 2018 City Tax	$3,112.09
Difference	($212.23)
Percent change	-6.38%

BUSINESS VALUE = $ 3,065,500	
2017	
Tax Capacity -	
1.5% of 1st $ 150,000 =	2,250
2.0% of $ 2,915,500 =	58,310
Tax Capacity	60,560
Less Fiscal Disparities	(23,609)
	36,951
x 2017 Rate	0.51644
2017 City Tax	$19,082.98
BUSINESS VALUE = $ 3,065,500	
0.00% Increase in value	
2018	
Tax Capacity -	
1.5% of 1st $ 150,000	2,250
2.0% of $ 2,915,500	58,310
Tax Capacity	60,560
Less Fiscal Disparities Est.	(23,609)
	36,951
x Est. 2018 Rate	0.48347
Est. 2018 City Tax	$17,864.71
Difference	($1,218.27)
Percent change	-6.38%

CITY OF INVER GROVE HEIGHTS

TAX COMPARISON 2017 VS 2018 CITY TAXES ONLY - BASE BUDGET PLUS ADDITIONS

MEAN

RESIDENTIAL HOMESTEAD VALUE =	$ 248,247
2017 TAXABLE MARKET VALUE =	***$ 231,176***
2017	
Tax Capacity -	
1.00% of $ 231,176 =	2,312
Tax Capacity	2,312
x 2017 Rate	0.51644
2017 City Tax	$1,193.89
RESIDENTIAL HOMESTEAD VALUE =	$ 266,680
7.43% Increase in value	
2018 TAXABLE MARKET VALUE =	***$ 251,074***
2018	
Tax Capacity -	
1.00% $ 251,074 =	2,511
Tax Capacity	2,511
x Est. 2018 Rate	0.51130
Est. 2018 City Tax	$1,283.74
Difference	$89.86
Percent change	7.53%

MEDIAN

RESIDENTIAL HOMESTEAD VALUE =	$ 213,550
2017 TAXABLE MARKET VALUE =	***$ 194,834***
2017	
Tax Capacity -	
1.00% of $ 194,834 =	1,948
Tax Capacity	1,948
x 2017 Rate	0.51644
2017 City Tax	$1,006.20
RESIDENTIAL HOMESTEAD VALUE =	$ 232,250
8.76% Increase in value	
2018 TAXABLE MARKET VALUE =	***$ 215,259***
2018	
Tax Capacity -	
1.00% of $ 215,259 =	2,153
Tax Capacity	2,153
x Est. 2018 Rate	0.51130
Est. 2018 City Tax	$1,100.62
Difference	$94.42
Percent change	9.38%

BUSINESS VALUE = $ 563,700	
2017	
Tax Capacity -	
1.5% of 1st $ 150,000 =	2,250
2.0% of $ 413,700 =	8,664
Tax Capacity	10,914
Less Fiscal Disparities	(4,477)
	6,437
x 2017 Rate	0.51644
2017 City Tax	$3,324.32
BUSINESS VALUE = $ 586,900	
4.12% Increase in value	
2018	
Tax Capacity -	
1.5% of 1st $ 150,000	2,250
2.0% of $ 436,900	8,738
Tax Capacity	10,988
Less Fiscal Disparities Est.	(4,477)
	6,511
x Est. 2018 Rate	0.51130
Est. 2018 City Tax	$3,329.07
Difference	$4.75
Percent change	0.14%

BUSINESS VALUE = $ 3,058,200	
2017	
Tax Capacity -	
1.5% of 1st $ 150,000 =	2,250
2.0% of $ 2,908,200 =	58,164
Tax Capacity	60,414
Less Fiscal Disparities	(23,463)
	36,951
x 2017 Rate	0.51644
2017 City Tax	$19,082.98
BUSINESS VALUE = $ 3,065,500	
0.24% Increase in value	
2018	
Tax Capacity -	
1.5% of 1st $ 150,000	2,250
2.0% of $ 2,915,500	58,310
Tax Capacity	60,560
Less Fiscal Disparities Est.	(23,463)
	37,097
x Est. 2018 Rate	0.51130
Est. 2018 City Tax	$18,967.70
Difference	($115.28)
Percent change	-0.60%

City of Inver Grove Heights
General Fund Budget Summary
For Fiscal Year 2018

Account Description	Actual 2015	Actual 2016	2016 Amended Budget	2017 Adopted Budget	2017 Amended Budget	2018 Base Budget	2018 Requested Additions	2018 Preliminary Budget	2019 Preliminary Budget
GENERAL FUND REVENUES									
TAX REVENUE	15,146,879	16,077,810	15,907,800	16,988,400	16,988,400	18,120,200	1,013,300		19,337,500
LICENSES AND PERMITS	844,005	1,133,121	1,147,800	1,173,100	1,173,100	1,131,800	-		1,154,400
INTERGOVERNMENTAL	671,940	676,129	612,300	618,200	618,200	615,700	-		628,000
CHARGES FOR SERVICES	1,131,891	660,604	1,119,300	1,113,800	1,113,800	1,017,800	-		1,038,200
FINES & PENALTIES	120,029	119,855	136,200	128,800	128,800	140,000	-		142,800
MISC. REVENUES	313,776	85,862	339,500	446,600	446,600	300,800	-		306,800
OTHER SOURCES	300,000	781,575	300,000	200,000	200,000	-	100,000		-
TOTAL GENERAL FUND REVENUES	18,528,520	19,534,956	19,562,900	20,668,900	20,668,900	21,326,300	1,113,300	-	22,607,700
GENERAL FUND EXPENDITURES									
MAYOR-COUNCIL	154,950	198,052	166,700	177,000	177,000	179,000	-		181,600
ADMINISTRATION	646,537	750,453	723,900	743,300	743,300	796,400	9,000		829,400
ELECTIONS	47	82,828	54,500	31,000	31,000	88,800	7,200		92,400
FINANCE	862,104	822,398	838,000	864,700	864,700	913,000	1,500		943,800
COMMUNITY DEVELOPMENT	367,589	401,173	390,200	440,000	440,000	465,200	1,000		485,400
PLANNING	317,211	338,261	343,300	458,700	458,700	338,300	-		352,900
INSPECTIONS	499,374	585,492	620,700	693,000	693,000	745,300	5,300		777,200
POLICE	6,179,805	6,926,143	7,083,300	7,409,000	7,409,000	7,702,500	98,400		8,019,700
FIRE	2,170,265	2,414,199	2,494,800	2,615,600	2,711,700	2,702,200	83,000		2,770,800
PUBLIC WORKS	231,352	226,646	232,500	241,700	241,700	248,500	-		262,500
ENGINEERING	992,144	919,693	994,100	1,021,000	1,021,000	1,064,400	63,500		1,114,800
STREETS	2,417,053	2,449,159	2,561,400	2,541,700	2,601,700	2,637,900	30,500		2,719,000
STREET LIGHTING	148,743	132,941	187,200	197,200	197,200	197,200	-		201,100
PARKS	1,812,977	1,695,806	1,868,700	1,903,600	1,943,600	1,978,000	38,900		2,034,900
CONTINGENCY	-	-	-	-	-	-	100,000		-
TRANSFERS	992,867	1,902,400	1,147,400	1,268,400	1,268,400	1,295,200	675,000		1,822,200
TOTAL GENERAL FUND EXPENDITURES	17,793,018	19,845,644	19,706,700	20,605,900	20,802,000	21,351,900	1,113,300	-	22,607,700
NET REVENUES OVER EXPENDITURES	735,502	(310,688)	(143,800)	63,000	(133,100)	(25,600)	-	-	-

City of Inver Grove Heights
Proposed 2018 Budget

General Revenue Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Taxes	15,146,879	15,974,403	16,988,400	18,120,200	1,013,300	0	18,120,200	19,337,500
Licenses And Permits	844,005	1,135,107	1,173,100	1,131,800	0	0	1,131,800	1,154,400
Intergovernmental	671,940	643,729	618,200	615,700	0	0	615,700	628,000
Charges For Services	1,131,891	1,057,688	1,113,800	1,017,800	0	0	1,017,800	1,038,200
Fines And Penalties	120,029	119,855	128,800	140,000	0	0	140,000	142,800
Miscellaneous Revenues	306,903	298,409	440,600	299,800	0	0	299,800	305,800
Special Assessments	6,873	2,605	6,000	1,000	0	0	1,000	1,000
Other Financing Sources	300,000	303,157	200,000	0	100,000	0	0	0
Total Revenue	**18,528,520**	**19,534,953**	**20,668,900**	**21,326,300**	**1,113,300**	**0**	**21,326,300**	**22,607,700**

City of Inver Grove Heights

Proposed 2018 Budget

General Revenue

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
3111000	CURRENT PROPERTY TAXES	13,184,022	14,011,720	15,233,400	16,355,200	1,013,300		16,355,200	
3112000	DELINQUENT PROPERTY TAXES	178,934	94,306	0	0			0	
3113000	CURRENT FISCAL DISPARITY	1,709,714	1,802,095	1,700,000	1,700,000			1,700,000	
3114000	MOBILE HOME PROPERTY TAX	42,327	51,504	40,000	50,000			50,000	
3115000	PENALTIES & INTEREST	31,882	14,779	15,000	15,000			15,000	
Taxes		**15,146,879**	**15,974,403**	**16,988,400**	**18,120,200**	**1,013,300**	**0**	**18,120,200**	**19,337,500**
3210000	BACKGROUND CHECK FEE	0	150	0	0			0	
3211000	LIQUOR - AA	87,385	77,918	72,400	76,000			76,000	
3212000	SUNDAY ON-SALE - AB	2,925	1,500	2,600	2,800			2,800	
3213000	NONINTOXICATING/WINE - AC	2,200	350	2,000	2,000			2,000	
3213500	PAWN BROKER LICENSES	8,000	0	8,000	0			0	
3214000	GARBAGE AND RUBBISH - AD	3,815	630	3,400	3,400			3,400	
3214500	SOLICITOR / PEDDLER LICENSES	975	1,835	1,000	1,300			1,300	
3215000	AUTOMOBILE SALES - AE	5,584	700	5,000	4,700			4,700	
3217500	MASSAGE ENTERPRISE	1,550	1,650	1,400	1,800			1,800	
3218000	SERVICE & REPAIR STATION - AH	1,008	416	1,400	1,100			1,100	
3218500	GRAVEL/EXCAVATION - AI	1,545	472	1,500	1,500			1,500	
3218600	R.O.W. USERS	27,125	17,550	15,000	15,000			15,000	
3218700	RENTAL LICENSES	0	0	61,900	46,000			46,000	
3218750	RENTAL INVESTIGATION FEE	0	0	8,400	2,100			2,100	
3219000	KENNEL LICENSES - AJ	800	0	800	0			0	
3219500	CONTRACTOR LICENSES - AK	15,800	12,946	16,400	15,300			15,300	
3221000	BUILDING PERMITS - AST - AL	360,486	549,333	460,800	541,500			541,500	
3221500	FIRE PLAN CHECK FEES	3,808	6,490	5,000	6,000			6,000	
3221500	PLAN CHECK FEES - AM	166,783	250,431	307,200	232,100			232,100	
3222000	PLUMBING PERMITS - AN	50,321	75,146	78,300	65,000			65,000	
3222500	SPRINKLER/ALARM PERMITS - AO	9,636	13,761	10,800	12,000			12,000	
3223500	CHICKEN LICENSE	225	125	100	200			200	
3224000	HEAT/COOL/GAS PERMITS - AP	71,665	106,029	88,100	86,000			86,000	
3225000	ANIMAL LICENSES - AQ	7,920	3,609	5,900	3,000			3,000	
3225500	BURNING PERMIT FEE	2,095	1,350	1,800	1,800			1,800	
3226000	OTHER MISC CITY PERMITS	5,205	6,450	5,000	5,000			5,000	
3226000	OTHER MISC CITY PERMITS - AR	6,580	4,845	7,400	5,000			5,000	
3227000	OTHER FORMS AND FEES - AS	500	1,070	1,300	1,000			1,000	
3227500	SEPTIC MAINTENANCE PERMIT-PS	70	350	200	200			200	
Licenses And Permits		**844,005**	**1,135,107**	**1,173,100**	**1,131,800**	**0**	**0**	**1,131,800**	**1,154,400**

City of Inver Grove Heights
Proposed 2018 Budget

General Revenue

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
3300500	PD FEDERAL GRANT	15,942	5,666	22,100	6,000			6,000	
3302200	MARKET VALUE HOMESTEAD CR	1,809	3,635	0	0			0	
3303000	POLICE STATE AID	276,488	267,358	254,400	265,000			265,000	
3303500	FIRE STATE AID	190,612	195,016	175,000	185,000			185,000	
3303600	FIRE SUPP. BENEFIT REIMB	1,000	2,000	2,000	2,000			2,000	
3304500	SCHOOL RESOURCE OFFICER	84,810	89,028	83,000	85,000			85,000	
3304600	INVER HILLS COMMUNITY COLLEGE RES	0	13,728	0	0			0	
3307000	POLICE TRAINING AID	10,995	9,693	11,000	11,000			11,000	
3307100	FIRE TRAINING REIMBURSEMENT	14,679	13,200	30,500	21,500			21,500	
3307500	PERA AID	20,190	20,190	20,200	20,200			20,200	
3308000	COUNTY GRAVEL TAX	8,465	21,615	20,000	20,000			20,000	
3308500	STATE GRANTS	46,951	0	0	0			0	
3309000	PS GRANTS	0	2,600	0	0			0	
Intergovernmental		**671,940**	**643,729**	**618,200**	**615,700**	**0**	**0**	**615,700**	**628,000**
3411000	SALE OF SUPPLIES	80	69	200	100			100	
3412000	ASSESSMENT SEARCH - AU	21	11	0	0			0	
3413000	PLANNING/ZONING FEES - AV	23,986	20,748	20,200	22,000			22,000	
3414000	OTHER GEN GOV/CHARGES-SER	1,923	14,900	3,300	2,000			2,000	
3414100	INSPECTIONS/CHARGES-SER	35	10	0	0			0	
3415000	FRANCHISE FEES-CABLE TV	98,221	103,406	103,400	107,400			107,400	
3416000	GIS FEE	8,917	4,825	3,400	3,400			3,400	
3421000	ACCIDENT REPORTS	540	1,061	800	500			500	
3421500	DRIVING DIVERSION PROGRAM	1,875	1,750	2,200	0			0	
3422000	LICENSE/INVESTIGATION FEE-AY	8,483	2,450	5,100	2,500			2,500	
3424000	FIRE REPORTS-BA	0	0	0	0			0	
3425000	OTHER PUBLIC SAFETY	5,409	5,231	6,200	5,200			5,200	
3426000	FALSE ALARM FEES	6,600	5,400	7,000	6,000			6,000	
3428000	PAWN SHOP TRANS FEES	42,598	46,501	76,000	0			0	
3434000	OTHER PUBLIC WORKS	3,096	1,325	3,000	1,500			1,500	
3435000	STREET LIGHTING FEE	16,759	18,050	17,000	17,000			17,000	
3435100	STREET LIGHTS-PENALTIES	237	212	200	200			200	
3445000	RECYCLING REVENUE - BK	34,000	35,000	35,000	50,000			50,000	
3451000	WATER FUND	236,000	236,000	236,000	236,000			236,000	
3452000	SEWER FUND	236,000	236,000	236,000	236,000			236,000	
3453000	ADMIN CHG - CVB	5,318	6,418	5,000	6,000			6,000	
3455000	RESIDENT ENGINEERING	361,908	292,484	330,000	300,000			300,000	
3456100	ADMIN CHG - HCF	16,000	0	0	0			0	
3457000	PLANNING ESCROW	6,722	(1,896)	6,200	3,000			3,000	
3458000	INVESTMENTS	17,163	27,732	17,600	19,000			19,000	
Charges For Services		**1,131,891**	**1,057,688**	**1,113,800**	**1,017,800**	**0**	**0**	**1,017,800**	**1,038,200**

City of Inver Grove Heights

Proposed 2018 Budget

General Revenue

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
3510000	FINES & PENALTIES - BL	120,029	119,855	128,800	140,000			140,000	
Fines And Penalties		**120,029**	**119,855**	**128,800**	**140,000**	**0**	**0**	**140,000**	**142,800**
3610000	INVESTMENT EARNINGS	71,359	47,112	93,100	89,900			89,900	
3620000	RENTS & ROYALTIES - BN	229,335	245,488	245,900	204,900			204,900	
3630000	CONTRIBUTIONS & DONATIONS	15	530	100,000	0	0		0	
3630000	PS CONTRIBUTIONS & DONATIONS	150	0	0	0			0	
3650000	OTHER REVENUES	1,009	47	1,000	0			0	
3660000	OTHER REIMBURSEMENTS	1,014	1,145	600	1,000			1,000	
3660000	OTHER PS REIMBURSEMENTS	3,322	3,962	0	4,000			4,000	
3660500	FIRE OTHER REIMBURSEMENTS	700	125	0	0			0	
Miscellaneous Revenues		**306,903**	**298,409**	**440,600**	**299,800**	**0**	**0**	**299,800**	**305,800**
3701000	SA CURRENT	732	204	6,000	1,000			1,000	
3702000	SA DELINQUENT	116	120	0	0			0	
3703000	SA DEFERRED	5,948	2,225	0	0			0	
3706000	SA PENALTIES & INTEREST	77	56	0	0			0	
Special Assessments		**6,873**	**2,605**	**6,000**	**1,000**	**0**	**0**	**1,000**	**1,000**
3911000	OPERATING TRANSFERS IN	300,000	303,157	200,000	0	100,000		0	
Other Financing Sources		**300,000**	**303,157**	**200,000**	**0**	**100,000**	**0**	**0**	**0**
Total Revenue		**18,528,520**	**19,534,953**	**20,668,900**	**21,326,300**	**1,113,300**	**0**	**21,326,300**	**22,607,700**

City of Inver Grove Heights

Proposed 2018 Budget

Mayor Council Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	49,448	49,480	49,900	49,900	0	0	49,900	49,900
Prof/Tech Services	57,934	79,647	52,900	52,900	0	0	52,900	54,000
Other Purchased Services	47,447	47,755	49,600	51,800	0	0	51,800	52,800
Supplies	121	21,170	24,600	24,400	0	0	24,400	24,900
Total Mayor Council	**154,950**	**198,052**	**177,000**	**179,000**	**0**	**0**	**179,000**	**181,600**

City of Inver Grove Heights

Proposed 2018 Budget

Mayor Council 101.41.1000.413

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10300	TEMPORARY EMPLOYEES	44,199	44,199	44,200	44,200			44,200	
20300	EMPLOYER SOCIAL SECURITY	2,740	2,740	2,700	2,700			2,700	
20350	EMPLOYER MEDICARE	641	641	600	600			600	
20400	EMPLOYER PERA	1,768	1,800	2,200	2,200			2,200	
20750	WORKERS COMPENSATION	100	100	200	200			200	
Personnel		**49,448**	**49,480**	**49,900**	**49,900**	**0**	**0**	**49,900**	**49,900**
30401	CORP. CITY COUNCIL MTGS	2,760	2,760	2,900	2,900			2,900	
30420	CORPORATE	55,174	75,887	50,000	50,000			50,000	
30700	OTHER PROFESSIONAL SERVICES	0	1,000	0	0			0	
Prof/Tech Services		**57,934**	**79,647**	**52,900**	**52,900**	**0**	**0**	**52,900**	**54,000**
50019	INSURANCE ALLOCATION	700	500	300	900			900	
50020	TELEPHONE	2,634	1,855	2,300	2,300			2,300	
50025	ADVERTISING/PUBLISHED NOTICES	1,099	1,099	0	0			0	
50030	PRINTING & BINDING	247	145	0	0			0	
50065	TRAVEL	0	49	500	500			500	
50070	DUES, LICENSES & SUBSCRIPTIONS	41,466	42,432	42,500	43,500			43,500	
50075	MEALS AND LODGING	546	1,275	3,000	3,000			3,000	
50080	CONFERENCES AND SEMINARS	756	400	1,000	1,600			1,600	
Other Purchased Services		**47,447**	**47,755**	**49,600**	**51,800**	**0**	**0**	**51,800**	**52,800**
60040	SM TOOLS & MISC EQUIPMENT	0	106	0	0			0	
60065	SUPPLIES - OTHER	121	164	300	300			300	
60071	TECHNOLOGY ALLOCATION	0	20,900	24,300	24,100			24,100	
Supplies		**121**	**21,170**	**24,600**	**24,400**	**0**	**0**	**24,400**	**24,900**
Total Mayor Council		**154,950**	**198,052**	**177,000**	**179,000**	**0**	**0**	**179,000**	**181,600**

City of Inver Grove Heights

Proposed 2018 Budget

Administration Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	487,554	549,996	563,200	586,400	0	0	586,400	615,100
Prof/Tech Services	26,244	51,842	40,600	46,100	0	0	46,100	47,000
Purch Svcs - Prop/Equip	26,992	21,792	24,400	32,500	0	0	32,500	33,200
Other Purchased Services	57,531	52,997	49,500	58,200	9,000	0	58,200	59,400
Supplies	48,199	73,165	65,600	73,200	0	0	73,200	74,700
Other Expenses/Expenditures	16	660	0	0	0	0	0	0
Total Administration	**646,537**	**750,453**	**743,300**	**796,400**	**9,000**	**0**	**796,400**	**829,400**

City of Inver Grove Heights

Proposed 2018 Budget

Administration 101.41.1100.413

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	335,186	371,575	393,100	410,300			410,300	
10200	PART-TIME EMPLOYEES	2,607	0	0	0			0	
10300	TEMPORARY EMPLOYEES	19,960	32,980	36,500	37,600			37,600	
10400	OVERTIME	1,235	1,458	200	200			200	
20100	FLEX. COMP. SPENDING	16,250	18,528	18,500	18,500			18,500	
20250	CAR ALLOWANCE	4,000	4,000	4,000	4,000			4,000	
20260	ICMA-EMPLOYER SHARE	1,990	2,050	2,000	2,100			2,100	
20300	EMPLOYER SOCIAL SECURITY	21,474	24,490	26,300	27,800			27,800	
20350	EMPLOYER MEDICARE	5,381	6,146	6,600	6,800			6,800	
20400	EMPLOYER PERA	26,934	30,487	32,200	33,600			33,600	
20600	MEDICAL INSURANCE	31,507	37,047	38,000	39,500			39,500	
20620	LIFE INSURANCE	443	516	600	600			600	
20630	LTD INSURANCE	741	1,211	1,400	1,400			1,400	
20750	WORKERS COMPENSATION	2,600	2,900	3,800	4,000			4,000	
20800	COMPENSATED ABSENCES	17,245	16,608	0	0			0	
Personnel		**487,554**	**549,996**	**563,200**	**586,400**	**0**	**0**	**586,400**	**615,100**
30420	CORPORATE	4,306	1,560	4,000	4,000			4,000	
30430	LABOR	3,496	5,011	3,000	3,000			3,000	
30500	PERSONNEL SERVICES	12,401	25,869	15,500	18,000	0		18,000	
30550	FLEX/COMP ACCOUNT FEE	411	508	600	600			600	
30700	OTHER PROFESSIONAL SERVICES	5,631	18,895	17,500	20,500	0		20,500	
Prof/Tech Services		**26,244**	**51,842**	**40,600**	**46,100**	**0**	**0**	**46,100**	**47,000**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	792	792	800	800			800	
40075	CITY FACILITIES ALLOCATION	26,200	21,000	23,600	31,700			31,700	
Purch Svcs - Prop/Equip		**26,992**	**21,792**	**24,400**	**32,500**	**0**	**0**	**32,500**	**33,200**
50019	INSURANCE ALLOCATION	1,400	1,100	1,000	3,700			3,700	
50020	TELEPHONE	2,500	2,691	2,600	2,200			2,200	
50025	ADVERTISING/PUBLISHED NOTICES	2,401	7,133	3,800	3,800			3,800	
50030	PRINTING & BINDING	562	834	500	500			500	
50032	PRINT. & BIND. INSIGHTS	26,838	18,826	15,000	19,100			19,100	
50035	POSTAGE/DELIVERY	15,080	14,415	13,500	14,700			14,700	
50065	TRAVEL	391	750	500	500			500	
50070	DUES, LICENSES & SUBSCRIPTIONS	2,513	1,258	5,400	5,500	9,000		5,500	
50075	MEALS AND LODGING	1,343	4,625	4,500	4,500			4,500	
50080	CONFERENCES AND SEMINARS	4,504	1,365	2,700	3,700			3,700	
Other Purchased Services		**57,531**	**52,997**	**49,500**	**58,200**	**9,000**	**0**	**58,200**	**59,400**

City of Inver Grove Heights

Proposed 2018 Budget

Administration 101.41.1100.413

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
60018	SUPPLIES-TRAINING	753	1,053	200	200			200	
60040	SM TOOLS & MISC EQUIPMENT	2,597	1,603	300	300			300	
60042	MISC-COMPUTER SOFTWARE	0	77	0	0			0	
60065	SUPPLIES - OTHER	1,242	432	2,100	2,100			2,100	
60070	CENTRAL STORES ALLOCATION	11,608	2,200	4,600	10,300			10,300	
60071	TECH ALLOCATION	32,000	67,800	58,400	60,300			60,300	
Supplies		**48,199**	**73,165**	**65,600**	**73,200**	**0**	**0**	**73,200**	**74,700**
70600	OTHER MISCELLANEOUS	16	660	0	0			0	
Other Expenses/Expenditures		**16**	**660**	**0**	**0**	**0**	**0**	**0**	**0**
Total Administration		**646,537**	**750,453**	**743,300**	**796,400**	**9,000**	**0**	**796,400**	**829,400**

City of Inver Grove Heights
Proposed 2018 Budget

Elections Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	230	72,398	24,600	73,700	0	0	73,700	77,000
Prof/Tech Services	0	15	0	0	7,200	0	0	0
Purch Svcs - Prop/Equip	0	1,400	5,400	5,400	0	0	5,400	5,500
Other Purchased Services	(183)	1,043	1,000	1,600	0	0	1,600	1,600
Supplies	0	7,972	0	8,100	0	0	8,100	8,300
Total Elections	**47**	**82,828**	**31,000**	**88,800**	**7,200**	**0**	**88,800**	**92,400**

City of Inver Grove Heights

Proposed 2018 Budget

Elections 101.41.1200.414

		2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10300	TEMPORARY EMPLOYEES	230	69,910	22,400	67,600			67,600	
10400	OVERTIME	0	0	200	300			300	
20300	EMPLOYER SOCIAL SECURITY	0	1,753	1,400	4,200			4,200	
20350	EMPLOYER MEDICARE	0	410	400	1,000			1,000	
20400	EMPLOYER PERA	0	25	0	0			0	
20750	WORKERS COMPENSATION	0	300	200	600			600	
Personnel		**230**	**72,398**	**24,600**	**73,700**	**0**	**0**	**73,700**	**77,000**
30700	OTHER PROFESSIONAL SERVICES	0	15	0	0	7,200		0	
Prof/Tech Services		**0**	**15**	**0**	**0**	**7,200**	**0**	**0**	**0**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	0	0	5,400	5,400			5,400	
40065	OTHER RENTALS	0	1,400	0	0			0	
Purch Svcs - Prop/Equip		**0**	**1,400**	**5,400**	**5,400**	**0**	**0**	**5,400**	**5,500**
50020	TELEPHONE	0	0	500	0			0	
50025	ADVERTISING/PUBLISHED NOTICES	0	771	0	800			800	
50030	PRINTING & BINDING	(183)	85	0	100			100	
50065	TRAVEL	0	187	0	200			200	
50080	CONFERENCES AND SEMINARS	0	0	500	500			500	
Other Purchased Services		**(183)**	**1,043**	**1,000**	**1,600**	**0**	**0**	**1,600**	**1,600**
60010	SUPPLIES - OFFICE	0	326	0	400			400	
60018	SUPPLIES-TRAINING	0	396	0	400			400	
60040	SM TOOLS & MISC EQUIPMENT	0	6,762	0	6,800			6,800	
60065	SUPPLIES - OTHER	0	489	0	500			500	
Supplies		**0**	**7,972**	**0**	**8,100**	**0**	**0**	**8,100**	**8,300**
Total Elections		**47**	**82,828**	**31,000**	**88,800**	**7,200**	**0**	**88,800**	**92,400**

City of Inver Grove Heights

Proposed 2018 Budget

Finance Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	627,354	662,992	687,000	704,600	0	0	704,600	731,300
Prof/Tech Services	49,787	48,654	51,900	52,100	1,500	0	52,100	53,100
Purch Svcs - Prop/Equip	67,073	55,709	58,600	68,100	0	0	68,100	69,500
Other Purchased Services	8,846	6,857	12,200	15,200	0	0	15,200	15,500
Supplies	107,356	46,178	53,400	71,200	0	0	71,200	72,600
Other Expenses/Expenditures	1,687	2,008	1,600	1,800	0	0	1,800	1,800
Total Finance	**862,104**	**822,398**	**864,700**	**913,000**	**1,500**	**0**	**913,000**	**943,800**

City of Inver Grove Heights

Proposed 2018 Budget

Finance 101.41.2000.415

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	416,901	431,144	455,000	466,200			466,200	
10200	PART-TIME EMPLOYEES	36,469	36,987	38,500	39,800			39,800	
10300	TEMPORARY EMPLOYEES	3,684	4,154	9,400	9,500			9,500	
10400	OVERTIME	3,323	7,092	3,500	3,700			3,700	
20100	FLEX. COMP. SPENDING	29,582	29,019	29,900	29,900			29,900	
20300	EMPLOYER SOCIAL SECURITY	28,434	29,069	32,300	33,400			33,400	
20350	EMPLOYER MEDICARE	6,738	6,955	7,800	8,000			8,000	
20400	EMPLOYER PERA	34,584	35,930	38,000	38,900			38,900	
20600	MEDICAL INSURANCE	54,954	59,959	65,100	67,600			67,600	
20620	LIFE INSURANCE	608	637	700	700			700	
20630	LTD INSURANCE	1,516	1,537	2,300	2,300			2,300	
20750	WORKERS COMPENSATION	3,100	3,400	4,500	4,600			4,600	
20800	COMPENSATED ABSENCES	7,461	17,109	0	0			0	
Personnel		**627,354**	**662,992**	**687,000**	**704,600**	**0**	**0**	**704,600**	**731,300**
30100	ACCOUNTING & AUDITING	41,202	44,424	45,900	44,400			44,400	
30420	CORPORATE	0	0	500	500			500	
30550	FLEX/COMP ACCOUNT FEE	1,092	1,049	1,100	1,100			1,100	
30700	OTHER PROFESSIONAL SERVICES	7,493	3,181	4,400	6,100	1,500		6,100	
Prof/Tech Services		**49,787**	**48,654**	**51,900**	**52,100**	**1,500**	**0**	**52,100**	**53,100**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	35,273	36,109	37,100	39,300			39,300	
40070	CENTRAL EQUIP ALLOCATION	100	100	0	0			0	
40075	CITY FACILITIES ALLOCATION	31,700	19,500	21,500	28,800			28,800	
Purch Svcs - Prop/Equip		**67,073**	**55,709**	**58,600**	**68,100**	**0**	**0**	**68,100**	**69,500**
50019	INSURANCE ALLOCATION	2,100	1,500	1,100	4,000			4,000	
50020	TELEPHONE	420	420	500	600			600	
50025	ADVERTISING/PUBLISHED NOTICES	116	1,481	800	800			800	
50030	PRINTING & BINDING	961	1,044	1,900	1,900			1,900	
50035	POSTAGE/DELIVERY	0	0	0	0			0	
50065	TRAVEL	1,301	472	1,600	1,600			1,600	
50070	DUES, LICENSES & SUBSCRIPTIONS	1,228	951	1,900	1,900			1,900	
50075	MEALS AND LODGING	917	292	1,600	1,600			1,600	
50080	CONFERENCES AND SEMINARS	1,804	698	2,800	2,800			2,800	
Other Purchased Services		**8,846**	**6,857**	**12,200**	**15,200**	**0**	**0**	**15,200**	**15,500**
60010	SUPPLIES - OFFICE	1	0	200	200			200	
60018	SUPPLIES-TRAINING	38	0	200	200			200	
60040	SM TOOLS & MISC EQUIPMENT	65	373	500	500			500	
60070	CENTRAL STORES ALLOCATION	15,951	13,504	12,200	29,100			29,100	
60071	TECH ALLOCATION	91,300	32,300	40,300	41,200			41,200	
Supplies		**107,356**	**46,178**	**53,400**	**71,200**	**0**	**0**	**71,200**	**72,600**

City of Inver Grove Heights
Proposed 2018 Budget

Finance 101.41.2000.415

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
70440	BANK CHARGES / CREDIT CARD	1,559	1,922	1,600	1,800			1,800	
70450	CASH OVER/SHORT	0	84	0	0			0	
70460	BAD DEBTS/NSF CHECKS	0	2	0	0			0	
70600	OTHER MISCELLANEOUS	128	0	0	0			0	
Other Expenses/Expenditures		**1,687**	**2,008**	**1,600**	**1,800**	**0**	**0**	**1,800**	**1,800**
Total Finance		**862,104**	**822,398**	**864,700**	**913,000**	**1,500**	**0**	**913,000**	**943,800**

City of Inver Grove Heights
Proposed 2018 Budget

Comm Develop Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	313,024	327,656	337,300	348,600	1,000	0	348,600	366,100
Prof/Tech Services	19,208	19,428	25,300	25,300	0	0	25,300	25,800
Purch Svcs - Prop/Equip	14,400	8,900	9,700	27,900	0	0	27,900	25,500
Other Purchased Services	5,847	7,691	9,600	7,800	0	0	7,800	8,700
Supplies	15,110	37,497	58,100	55,600	0	0	55,600	59,300
Total Comm Develop	**367,589**	**401,173**	**440,000**	**465,200**	**1,000**	**0**	**465,200**	**485,400**

City of Inver Grove Heights

Proposed 2018 Budget

Comm Develop 101.45.3000.419

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	233,387	244,762	253,400	262,300			262,300	
10400	OVERTIME	333	323	600	700	900		700	
20100	FLEX. COMP. SPENDING	13,433	13,433	13,400	13,400			13,400	
20300	EMPLOYER SOCIAL SECURITY	14,268	14,632	15,700	16,600	0		16,600	
20350	EMPLOYER MEDICARE	3,396	3,530	3,900	4,000			4,000	
20400	EMPLOYER PERA	17,212	17,885	19,000	19,700	100		19,700	
20600	MEDICAL INSURANCE	23,921	25,443	27,600	28,600			28,600	
20620	LIFE INSURANCE	311	327	400	400			400	
20630	LTD INSURANCE	648	766	1,000	1,000			1,000	
20750	WORKERS COMPENSATION	1,600	1,700	2,300	1,900			1,900	
20800	COMPENSATED ABSENCES	4,515	4,856	0	0			0	
Personnel		**313,024**	**327,656**	**337,300**	**348,600**	**1,000**	**0**	**348,600**	**366,100**
30420	CORPORATE	13,843	15,769	20,000	20,000			20,000	
30550	FLEX/COMP ACCOUNT FEE	265	274	300	300			300	
30700	OTHER PROFESSIONAL SERVICES	5,100	3,385	5,000	5,000			5,000	
Prof/Tech Services		**19,208**	**19,428**	**25,300**	**25,300**	**0**	**0**	**25,300**	**25,800**
40042	REPAIR & MAINTENANCE-COMPUTERS	0	0	0	500			500	
40044	REPAIR & MAINTENANCE-OFFICE EQUIPMENT	0	0	0	14,500			14,500	
40070	CENTRAL EQUIP ALLOCATION	100	100	0	0			0	
40075	CITY FACILITIES ALLOCATION	14,300	8,800	9,700	12,900			12,900	
Purch Svcs - Prop/Equip		**14,400**	**8,900**	**9,700**	**27,900**	**0**	**0**	**27,900**	**25,500**
50019	INSURANCE ALLOCATION	1,100	3,300	2,900	2,300			2,300	
50020	TELEPHONE	1,038	1,037	1,200	1,000			1,000	
50025	ADVERTISING/PUBLISHED NOTICES	1,113	1,378	0	0			0	
50030	PRINTING & BINDING	0	25	0	0			0	
50065	TRAVEL	536	436	400	400			400	
50070	DUES, LICENSES & SUBSCRIPTIONS	1,045	1,045	1,800	1,400			1,400	
50075	MEALS AND LODGING	0	0	100	100			100	
50080	CONFERENCES AND SEMINARS	1,016	470	2,200	1,600			1,600	
50085	EDUCATIONAL REIMBURSEMENT	0	0	1,000	1,000			1,000	
Other Purchased Services		**5,847**	**7,691**	**9,600**	**7,800**	**0**	**0**	**7,800**	**8,700**
60010	SUPPLIES - OFFICE	137	545	200	200			200	
60040	SM TOOLS & MISC EQUIPMENT	0	352	700	400			400	
60045	UNIFORMS & CLOTHING	158	0	500	500			500	
60065	SUPPLIES - OTHER	0	0	100	100			100	
60070	CENTRAL STORES ALLOCATION	3,516	6,200	4,800	2,000			2,000	
60071	TECH ALLOCATION	11,300	30,400	51,800	52,400			52,400	
Supplies		**15,110**	**37,497**	**58,100**	**55,600**	**0**	**0**	**55,600**	**59,300**
Total Comm Develop		**367,589**	**401,173**	**440,000**	**465,200**	**1,000**	**0**	**465,200**	**485,400**

City of Inver Grove Heights

Proposed 2018 Budget

Planning Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	233,336	249,100	361,300	261,800	0	0	261,800	274,900
Prof/Tech Services	12,562	27,464	32,300	32,300	0	0	32,300	32,900
Purch Svcs - Prop/Equip	9,900	6,100	6,700	8,900	0	0	8,900	9,100
Other Purchased Services	43,543	44,807	41,000	20,900	0	0	20,900	21,300
Supplies	17,870	10,789	17,400	14,400	0	0	14,400	14,700
Total Planning	**317,211**	**338,261**	**458,700**	**338,300**	**0**	**0**	**338,300**	**352,900**

City of Inver Grove Heights

Proposed 2018 Budget

Planning 101.45.3200.419

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	179,989	189,158	272,000	198,600	0		198,600	
10400	OVERTIME	179	0	600	600			600	
20100	FLEX. COMP. SPENDING	9,264	9,264	13,900	9,300	0		9,300	
20300	EMPLOYER SOCIAL SECURITY	11,122	11,521	17,800	12,900	0		12,900	
20350	EMPLOYER MEDICARE	2,601	2,694	4,200	3,000	0		3,000	
20400	EMPLOYER PERA	13,526	13,936	20,400	14,900	0		14,900	
20600	MEDICAL INSURANCE	15,990	16,897	28,500	19,700	0		19,700	
20620	LIFE INSURANCE	247	258	400	300	0		300	
20630	LTD INSURANCE	646	665	1,100	700	0		700	
20750	WORKERS COMPENSATION	1,200	1,300	2,400	1,800	0		1,800	
20800	COMPENSATED ABSENCES	(1,428)	3,407	0	0			0	
Personnel		**233,336**	**249,100**	**361,300**	**261,800**	**0**	**0**	**261,800**	**274,900**
30420	CORPORATE	11,604	26,008	24,000	24,000			24,000	
30550	FLEX/COMP ACCOUNT FEE	206	210	300	300			300	
30600	PLANNING SERVICES	752	1,247	8,000	8,000			8,000	
Prof/Tech Services		**12,562**	**27,464**	**32,300**	**32,300**	**0**	**0**	**32,300**	**32,900**
40070	CENTRAL EQUIP ALLOCATION	100	100	0	0			0	
40075	CITY FACILITIES ALLOCATION	9,800	6,000	6,700	8,900			8,900	
Purch Svcs - Prop/Equip		**9,900**	**6,100**	**6,700**	**8,900**	**0**	**0**	**8,900**	**9,100**
50019	INSURANCE ALLOCATION	41,400	40,600	37,200	17,000			17,000	
50025	ADVERTISING/PUBLISHED NOTICES	239	1,895	500	1,000			1,000	
50030	PRINTING & BINDING	0	108	0	0			0	
50070	DUES, LICENSES & SUBSCRIPTIONS	1,345	345	900	900			900	
50075	MEALS AND LODGING	0	205	0	0			0	
50080	CONFERENCES AND SEMINARS	560	1,654	2,400	2,000			2,000	
Other Purchased Services		**43,543**	**44,807**	**41,000**	**20,900**	**0**	**0**	**20,900**	**21,300**
60010	SUPPLIES - OFFICE	170	89	400	400			400	
60018	SUPPLIES-TRAINING	0	0	100	100			100	
60040	SM TOOLS & MISC EQUIPMENT	0	0	2,500	0	0		0	
60070	CENTRAL STORES ALLOCATION	5,700	1,300	1,600	800			800	
60071	TECH ALLOCATION	12,000	9,400	12,800	13,100			13,100	
Supplies		**17,870**	**10,789**	**17,400**	**14,400**	**0**	**0**	**14,400**	**14,700**
Total Planning		**317,211**	**338,261**	**458,700**	**338,300**	**0**	**0**	**338,300**	**352,900**

City of Inver Grove Heights
Proposed Budget 2018

Inspections Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	399,409	466,833	553,500	576,800	4,900	0	576,800	605,300
Prof/Tech Services	1,531	5,710	9,500	8,600	0	0	8,600	8,800
Purch Svcs - Prop/Equip	57,556	51,627	60,100	74,100	0	0	74,100	75,600
Other Purchased Services	10,233	12,977	14,500	29,500	0	0	29,500	30,100
Supplies	30,645	48,345	55,400	56,300	400	0	56,300	57,400
Total Inspections	**499,374**	**585,492**	**693,000**	**745,300**	**5,300**	**0**	**745,300**	**777,200**

City of Inver Grove Heights

Proposed 2018 Budget

Inspections 101.45.3300.419

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	247,905	330,116	372,300	389,000			389,000	
10300	TEMPORARY EMPLOYEES	43,033	2,427	37,100	39,300	7,400		39,300	
10400	OVERTIME	7,463	9,777	3,200	3,200	(3,200)		3,200	
20100	FLEX. COMP. SPENDING	17,664	21,616	23,200	23,200			23,200	
20300	EMPLOYER SOCIAL SECURITY	19,341	22,286	27,000	28,200	300		28,200	
20350	EMPLOYER MEDICARE	4,523	5,212	6,300	6,600	100		6,600	
20400	EMPLOYER PERA	22,404	25,674	30,900	32,400	300		32,400	
20600	MEDICAL INSURANCE	32,452	42,264	47,500	49,300			49,300	
20620	LIFE INSURANCE	323	448	500	600			600	
20630	LTD INSURANCE	761	1,076	1,800	1,800			1,800	
20750	WORKERS COMPENSATION	2,100	2,700	3,700	3,200	0		3,200	
20800	COMPENSATED ABSENCES	1,440	3,238	0	0			0	
Personnel		**399,409**	**466,833**	**553,500**	**576,800**	**4,900**	**0**	**576,800**	**605,300**
30420	CORPORATE	726	2,627	1,500	1,500			1,500	
30550	FLEX/COMP ACCOUNT FEE	405	548	500	600			600	
30700	OTHER PROFESSIONAL SERVICES	400	2,535	7,500	6,500			6,500	
Prof/Tech Services		**1,531**	**5,710**	**9,500**	**8,600**	**0**	**0**	**8,600**	**8,800**
40041	REPAIR & MAINT - VEHICLES	150	0	700	700			700	
40049	REPAIR & MAINT - COMPUTERS	9,806	9,527	12,000	11,000			11,000	
40070	CENTRAL EQUIP ALLOCATION	29,100	30,000	30,800	40,100			40,100	
40075	CITY FACILITIES ALLOCATION	18,500	12,100	16,600	22,300			22,300	
Purch Svcs - Prop/Equip		**57,556**	**51,627**	**60,100**	**74,100**	**0**	**0**	**74,100**	**75,600**
50019	INSURANCE ALLOCATION	1,900	1,800	1,700	17,000			17,000	
50020	TELEPHONE	4,942	4,827	5,000	5,000			5,000	
50030	PRINTING & BINDING	336	409	500	500			500	
50065	TRAVEL	0	0	100	100			100	
50070	DUES, LICENSES & SUBSCRIPTIONS	255	0	800	800			800	
50075	MEALS AND LODGING	0	171	600	600			600	
50080	CONFERENCES AND SEMINARS	1,800	4,771	4,800	5,500			5,500	
50085	EDUCATIONAL REIMBURSEMENT	1,000	1,000	1,000	0			0	
Other Purchased Services		**10,233**	**12,977**	**14,500**	**29,500**	**0**	**0**	**29,500**	**30,100**
60010	SUPPLIES - OFFICE	114	106	0	0			0	
60018	SUPPLIES-TRAINING	2,742	2,215	1,000	1,600	400		1,600	
60040	SM TOOLS & MISC EQUIPMENT	669	3,023	1,400	1,400			1,400	
60045	UNIFORMS & CLOTHING	1,406	2,108	1,000	1,300			1,300	
60065	SUPPLIES - OTHER	0	39	0	0			0	
60070	CENTRAL STORES ALLOCATION	2,414	3,054	3,000	2,100			2,100	
60071	TECH ALLOCATION	23,300	37,800	49,000	49,900			49,900	
Supplies		**30,645**	**48,345**	**55,400**	**56,300**	**400**	**0**	**56,300**	**57,400**
Total Inspections		**499,374**	**585,492**	**693,000**	**745,300**	**5,300**	**0**	**745,300**	**777,200**

City of Inver Grove Heights
Proposed 2018 Budget

Police Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	4,383,777	4,762,416	5,226,800	5,437,700	91,000	0	5,437,700	5,709,600
Prof/Tech Services	212,700	250,637	261,800	225,900	0	0	225,900	230,400
Purch Svcs - Prop/Equip	504,638	600,158	616,200	730,100	0	0	730,100	744,700
Other Purchased Services	119,568	139,905	149,800	121,000	100	0	121,000	123,400
Supplies	322,480	485,287	506,600	524,500	7,000	0	524,500	535,000
Other Expenses/Expenditures	629,142	680,240	640,300	655,800	300	0	655,800	668,900
Other	7,500	7,500	7,500	7,500	0	0	7,500	7,700
Total Police	**6,179,805**	**6,926,143**	**7,409,000**	**7,702,500**	**98,400**	**0**	**7,702,500**	**8,019,700**

City of Inver Grove Heights
Proposed 2018 Budget

Police 101.42.4000.421

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	2,880,154	3,097,679	3,471,300	3,599,400	61,700		3,599,400	
10300	TEMPORARY EMPLOYEES	34,272	27,077	35,600	39,100	0		39,100	
10400	OVERTIME	93,994	98,997	98,000	103,900			103,900	
20100	FLEX. COMP. SPENDING	173,644	184,846	203,800	203,800	4,600		203,800	
20150	EDUCATION INCENTIVE	113,582	120,619	146,300	129,000			129,000	
20200	LONGEVITY PAY	26,311	20,291	21,000	28,800			28,800	
20300	EMPLOYER SOCIAL SECURITY	17,173	17,949	21,200	22,100	0		22,100	
20350	EMPLOYER MEDICARE	44,327	48,570	57,700	59,500	1,000		59,500	
20400	EMPLOYER PERA	483,816	515,505	583,600	602,800	10,000		602,800	
20600	MEDICAL INSURANCE	329,777	364,330	418,200	434,200	9,900		434,200	
20620	LIFE INSURANCE	3,668	4,121	4,900	5,100	100		5,100	
20630	LTD INSURANCE	9,660	10,407	15,700	15,800	300		15,800	
20700	UNEMPLOYMENT COMPENSATION	0	3,021	0	0	0		0	
20750	WORKERS COMPENSATION	111,600	125,900	149,500	194,200	3,400		194,200	
20800	COMPENSATED ABSENCES	61,799	123,103	0	0	0		0	
Personnel		**4,383,777**	**4,762,416**	**5,226,800**	**5,437,700**	**91,000**	**0**	**5,437,700**	**5,709,600**
30410	PROSECUTION	170,669	192,761	200,000	200,000			200,000	
30420	CORPORATE	1,368	8,648	7,000	7,000			7,000	
30550	FLEX/COMP ACCOUNT FEE	4,127	4,806	4,200	4,800			4,800	
30700	OTHER PROFESSIONAL SERVICES	36,537	44,423	50,600	14,100			14,100	
Prof/Tech Services		**212,700**	**250,637**	**261,800**	**225,900**	**0**	**0**	**225,900**	**230,400**
40042	REPAIR & MAINT - EQUIPMENT	4,171	3,554	4,800	7,400			7,400	
40044	REPAIR & MAINT - OFFICE EQUIPMENT	6,367	8,704	20,900	17,600			17,600	
40070	CENTRAL EQUIP ALLOCATION	333,700	388,000	357,400	391,100			391,100	
40075	CITY FACILITIES ALLOCATION	160,400	199,900	233,100	314,000			314,000	
Purch Svcs - Prop/Equip		**504,638**	**600,158**	**616,200**	**730,100**	**0**	**0**	**730,100**	**744,700**
50019	INSURANCE ALLOCATION	68,500	68,700	65,000	35,300			35,300	
50020	TELEPHONE	16,323	18,097	25,300	27,500			27,500	
50025	ADVERTISING/PUBLISHED NOTICES	0	0	0	0			0	
50030	PRINTING & BINDING	2,310	2,088	3,300	3,300			3,300	
50035	POSTAGE/DELIVERY	205	290	600	600			600	
50040	LAUNDRY	22	0	200	200			200	
50065	TRAVEL	83	126	300	300			300	
50070	DUES, LICENSES & SUBSCRIPTIONS	15,282	14,874	16,200	22,700			22,700	
50075	MEALS AND LODGING	3,716	4,185	4,600	4,600			4,600	
50080	CONFERENCES AND SEMINARS	13,127	31,545	34,300	26,500	100		26,500	
Other Purchased Services		**119,568**	**139,905**	**149,800**	**121,000**	**100**	**0**	**121,000**	**123,400**

City of Inver Grove Heights

Proposed 2018 Budget

Police 101.42.4000.421

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
60006	PUBLIC EDUCATION MATERIAL	5,045	4,196	6,100	6,100			6,100	
60010	SUPPLIES - OFFICE	3,655	532	600	600			600	
60016	SUPPLIES - MAINTENANCE	0	60	300	300			300	
60018	SUPPLIES-TRAINING	21,538	18,747	21,000	20,100	400		20,100	
60040	SM TOOLS & MISC EQUIPMENT	13,840	17,565	9,100	3,000	4,000		3,000	
60045	UNIFORMS & CLOTHING	56,920	86,947	40,300	39,800	2,600		39,800	
60065	SUPPLIES - OTHER	11,582	15,639	17,400	17,400			17,400	
60070	CENTRAL STORES ALLOCATION	10,000	9,800	9,300	8,000			8,000	
60071	TECH ALLOCATION	199,900	331,800	402,500	429,200			429,200	
Supplies		**322,480**	**485,287**	**506,600**	**524,500**	**7,000**	**0**	**524,500**	**535,000**
70300	LEASE PAYMENTS	3,482	3,214	3,600	0			0	
70501	MISCELLANEOUS CONTRACTS	95,164	102,952	105,100	125,800	300		125,800	
70502	DCC CONTRACT	530,496	574,075	531,600	530,000			530,000	
Other Expenses/Expenditures		**629,142**	**680,240**	**640,300**	**655,800**	**300**	**0**	**655,800**	**668,900**
91100	OPERATING TRANSFERS OUT	7,500	7,500	7,500	7,500			7,500	
Other		**7,500**	**7,500**	**7,500**	**7,500**	**0**	**0**	**7,500**	**7,700**
Total Police		**6,179,805**	**6,926,143**	**7,409,000**	**7,702,500**	**98,400**	**0**	**7,702,500**	**8,019,700**

City of Inver Grove Heights
Proposed 2018 Budget

Fire Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	1,227,861	1,413,671	1,541,000	1,549,100	55,500	0	1,549,100	1,594,800
Prof/Tech Services	58,916	65,595	67,800	59,500	0	0	59,500	60,700
Purch Svcs - Prop/Equip	536,988	589,090	660,100	713,900	0	0	713,900	728,200
Other Purchased Services	60,505	68,637	88,000	93,900	4,500	0	93,900	95,800
Supplies	227,051	199,761	277,600	207,100	23,000	0	207,100	211,200
Other Expenses/Expenditures	58,944	77,445	69,400	70,900	0	0	70,900	72,300
Other	0	0	7,800	7,800	0	0	7,800	7,800
Total Fire	**2,170,265**	**2,414,199**	**2,711,700**	**2,702,200**	**83,000**	**0**	**2,702,200**	**2,770,800**

City of Inver Grove Heights

Proposed 2018 Budget

Fire 101.42.4200.423

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	382,532	432,043	447,900	465,000	0		465,000	
10200	PART-TIME EMPLOYEES	-909	0	0	0			0	
10300	TEMPORARY EMPLOYEES	374,206	470,087	603,600	533,600	0		533,600	
10400	OVERTIME	13,345	29,927	17,300	37,600	0		37,600	
20100	FLEX. COMP. SPENDING	18,342	21,816	23,200	23,200	0		23,200	
20300	EMPLOYER SOCIAL SECURITY	31,890	38,819	48,800	44,900	0		44,900	
20350	EMPLOYER MEDICARE	10,860	13,265	15,100	15,400	0		15,400	
20400	EMPLOYER PERA	50,110	58,566	55,800	63,700	0		63,700	
20500	FIRE RELIEF COMPENSATION	191,612	197,016	175,000	185,000			185,000	
20510	FIRE RELIEF COMPENSATION - CITY	50,000	25,000	25,000	25,000	55,500		25,000	
20600	MEDICAL INSURANCE	36,853	46,182	47,500	49,300	0		49,300	
20620	LIFE INSURANCE	486	590	600	700	0		700	
20630	LTD INSURANCE	1,150	1,335	1,800	1,800	0		1,800	
20700	UNEMPLOYMENT COMPENSATION	729	0	0	0			0	
20750	WORKERS COMPENSATION	60,600	65,500	79,400	103,900	0		103,900	
20800	COMPENSATED ABSENCES	6,057	13,526	0	0			0	
Personnel		**1,227,861**	**1,413,671**	**1,541,000**	**1,549,100**	**55,500**	**0**	**1,549,100**	**1,594,800**
30420	CORPORATE	512	48	3,900	2,000			2,000	
30550	FLEX/COMP ACCOUNT FEE	206	306	200	300			300	
30700	OTHER PROFESSIONAL SERVICES	58,198	65,241	63,700	57,200	0		57,200	
Prof/Tech Services		**58,916**	**65,595**	**67,800**	**59,500**	**0**	**0**	**59,500**	**60,700**
40005	WATER UTILITY SERVICES	350	613	700	700			700	
40010	GAS UTILITY SERVICES	11,511	6,561	17,500	17,700			17,700	
40015	SEWER UTILITY SERVICES	480	818	800	800			800	
40020	ELECTRIC UTILITY SERVICES	14,409	14,022	20,500	20,500			20,500	
40030	STORM WATER UTILITY SERVICE	63	63	0	0			0	
40040	REPAIR & MAINT - BUILDINGS	15,509	10,554	10,000	10,000			10,000	
40041	REPAIR & MAINT - VEHICLES	1,391	816	10,400	5,400			5,400	
40042	REPAIR & MAINT - EQUIPMENT	12,674	16,102	11,800	11,800	0		11,800	
40044	REPAIR & MAINT - OFFICE EQUIPMENT	0	442	100	100			100	
40070	CENTRAL EQUIP ALLOCATION	456,400	497,600	538,900	584,600			584,600	
40075	CITY FACILITIES ALLOCATION	24,200	41,500	49,400	62,300			62,300	
Purch Svcs - Prop/Equip		**536,988**	**589,090**	**660,100**	**713,900**	**0**	**0**	**713,900**	**728,200**

City of Inver Grove Heights

Proposed 2018 Budget

Fire 101.42.4200.423

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	17,800	16,200	15,000	30,900			30,900	
50020	TELEPHONE	9,315	9,299	8,300	8,300	3,700		8,300	
50030	PRINTING & BINDING	0	433	400	400			400	
50035	POSTAGE/DELIVERY	140	144	400	400			400	
50065	TRAVEL	2,703	1,594	3,000	3,000	0		3,000	
50070	DUES, LICENSES & SUBSCRIPTIONS	14,660	16,598	16,200	16,200	800		16,200	
50075	MEALS AND LODGING	7,136	5,698	7,200	7,200			7,200	
50080	CONFERENCES AND SEMINARS	8,750	18,671	37,500	27,500	0		27,500	
Other Purchased Services		**60,505**	**68,637**	**88,000**	**93,900**	**4,500**	**0**	**93,900**	**95,800**
60006	PUBLIC EDUCATION MATERIAL	1,691	2,306	2,000	2,000	0		2,000	
60010	SUPPLIES - OFFICE	535	70	200	200			200	
60011	SUPPLIES-JANITOR/CLEANING	2,310	2,211	2,800	2,200			2,200	
60018	SUPPLIES-TRAINING	8,302	5,078	24,200	6,500			6,500	
60040	SM TOOLS & MISC EQUIPMENT	41,890	38,872	41,500	27,700	0		27,700	
60045	UNIFORMS & CLOTHING	38,965	34,328	57,000	32,000	17,400		32,000	
60065	SUPPLIES - OTHER	34,157	27,896	31,700	19,200	5,600		19,200	
60070	CENTRAL STORES ALLOCATION	3,100	4,200	3,600	5,100			5,100	
60071	TECH ALLOCATION	96,100	84,800	114,600	112,200			112,200	
Supplies		**227,051**	**199,761**	**277,600**	**207,100**	**23,000**	**0**	**207,100**	**211,200**
70502	DCC CONTRACT	58,944	77,445	69,400	70,900			70,900	
Other Expenses/Expenditures		**58,944**	**77,445**	**69,400**	**70,900**	**0**	**0**	**70,900**	**72,300**
91100	OPERATING TRANSFERS OUT	0	0	7,800	7,800			7,800	
Other		**0**	**0**	**7,800**	**7,800**	**0**	**0**	**7,800**	**7,800**
Total Fire		**2,170,265**	**2,414,199**	**2,711,700**	**2,702,200**	**83,000**	**0**	**2,702,200**	**2,770,800**

City of Inver Grove Heights
Proposed 2018 Budget

Public Works Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel	187,455	196,763	190,000	195,600	0	0	195,600	208,500
Prof/Tech Services	10,450	3,593	20,200	20,200	0	0	20,200	20,600
Purch Svcs - Prop/Equip	6,800	6,700	9,000	12,500	0	0	12,500	12,800
Other Purchased Services	3,617	4,890	5,200	6,100	0	0	6,100	6,200
Supplies	23,030	14,700	17,300	14,100	0	0	14,100	14,400
Total Public Works	**231,352**	**226,646**	**241,700**	**248,500**	**0**	**0**	**248,500**	**262,500**

City of Inver Grove Heights

Proposed 2018 Budget

Public Works 101.43.5000.441

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	145,224	149,166	147,500	152,000			152,000	
10400	OVERTIME	0	0	900	900			900	
20100	FLEX. COMP. SPENDING	5,835	5,790	5,800	5,800			5,800	
20300	EMPLOYER SOCIAL SECURITY	8,380	8,369	8,600	9,100			9,100	
20350	EMPLOYER MEDICARE	2,094	2,146	2,200	2,300			2,300	
20400	EMPLOYER PERA	10,521	10,775	11,100	11,500			11,500	
20600	MEDICAL INSURANCE	11,633	11,619	11,900	12,300			12,300	
20620	LIFE INSURANCE	189	198	200	200			200	
20630	LTD INSURANCE	396	400	500	500			500	
20750	WORKERS COMPENSATION	900	1,000	1,300	1,000			1,000	
20800	COMPENSATED ABSENCES	2,283	7,301	0	0			0	
Personnel		**187,455**	**196,763**	**190,000**	**195,600**	**0**	**0**	**195,600**	**208,500**
30420	CORPORATE	10,247	3,368	20,000	20,000			20,000	
30550	FLEX/COMP ACCOUNT FEE	203	215	200	200			200	
30700	OTHER PROFESSIONAL SERVICES	0	9	0	0			0	
Prof/Tech Services		**10,450**	**3,593**	**20,200**	**20,200**	**0**	**0**	**20,200**	**20,600**
40070	CENTRAL EQUIP ALLOCATION	600	2,900	4,800	6,900			6,900	
40075	CITY FACILITIES ALLOCATION	6,200	3,800	4,200	5,600			5,600	
Purch Svcs - Prop/Equip		**6,800**	**6,700**	**9,000**	**12,500**	**0**	**0**	**12,500**	**12,800**
50019	INSURANCE ALLOCATION	900	900	900	1,700			1,700	
50020	TELEPHONE	1,053	1,053	1,100	1,100			1,100	
50030	PRINTING & BINDING	66	0	100	100			100	
50070	DUES, LICENSES & SUBSCRIPTIONS	998	1,515	1,500	1,600			1,600	
50075	MEALS AND LODGING	0	0	500	500			500	
50080	CONFERENCES AND SEMINARS	600	1,423	1,100	1,100			1,100	
Other Purchased Services		**3,617**	**4,890**	**5,200**	**6,100**	**0**	**0**	**6,100**	**6,200**
60010	SUPPLIES - OFFICE	0	0	100	100			100	
60018	SUPPLIES-TRAINING	30	0	100	100			100	
60065	SUPPLIES - OTHER	0	0	100	100			100	
60070	CENTRAL STORES ALLOCATION	500	4,200	4,300	900			900	
60071	TECH ALLOCATION	22,500	10,500	12,700	12,900			12,900	
Supplies		**23,030**	**14,700**	**17,300**	**14,100**	**0**	**0**	**14,100**	**14,400**
Total Public Works		**231,352**	**226,646**	**241,700**	**248,500**	**0**	**0**	**248,500**	**262,500**

City of Inver Grove Heights

Proposed 2018 Budget

Engineering Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel		768,631	746,063	812,700	839,700	62,500	0	839,700	885,600
Prof/Tech Services		69,821	23,097	50,800	50,800	0	0	50,800	51,800
Purch Svcs - Prop/Equip		83,618	72,901	62,900	74,900	0	0	74,900	76,400
Other Purchased Services		14,113	18,649	16,600	20,500	1,000	0	20,500	20,900
Supplies		55,963	58,982	78,000	78,500	0	0	78,500	80,100
Total Engineering		**992,144**	**919,693**	**1,021,000**	**1,064,400**	**63,500**	**0**	**1,064,400**	**1,114,800**

City of Inver Grove Heights

Proposed 2018 Budget

Engineering 101.43.5100.442

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	537,098	517,186	565,400	591,600	44,800		591,600	
10300	TEMPORARY EMPLOYEES	6,273	17,256	16,900	18,200			18,200	
10400	OVERTIME	26,122	18,169	26,700	21,300			21,300	
20100	FLEX. COMP. SPENDING	31,017	29,384	32,800	32,800	3,200		32,800	
20300	EMPLOYER SOCIAL SECURITY	35,307	34,592	39,800	41,200	2,900		41,200	
20350	EMPLOYER MEDICARE	8,257	8,090	9,300	9,600	700		9,600	
20400	EMPLOYER PERA	42,333	39,898	45,700	47,300	3,400		47,300	
20600	MEDICAL INSURANCE	59,226	60,331	67,300	69,900	6,900		69,900	
20620	LIFE INSURANCE	630	685	800	800	100		800	
20630	LTD INSURANCE	1,749	1,716	2,500	2,600	200		2,600	
20750	WORKERS COMPENSATION	4,000	4,300	5,500	4,400	300		4,400	
20800	COMPENSATED ABSENCES	16,619	14,454	0	0			0	
Personnel		**768,631**	**746,063**	**812,700**	**839,700**	**62,500**	**0**	**839,700**	**885,600**
30300	ENGINEERING CONSULTANTS	51,845	13,428	30,000	30,000			30,000	
30420	CORPORATE	17,216	8,962	20,000	20,000			20,000	
30550	FLEX/COMP ACCOUNT FEE	760	707	800	800			800	
Prof/Tech Services		**69,821**	**23,097**	**50,800**	**50,800**	**0**	**0**	**50,800**	**51,800**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	17,330	24,401	10,400	12,900			12,900	
40070	CENTRAL EQUIP ALLOCATION	31,488	27,100	28,900	30,400			30,400	
40075	CITY FACILITIES ALLOCATION	34,800	21,400	23,600	31,600			31,600	
Purch Svcs - Prop/Equip		**83,618**	**72,901**	**62,900**	**74,900**	**0**	**0**	**74,900**	**76,400**
50019	INSURANCE ALLOCATION	3,200	2,500	2,100	5,600			5,600	
50020	TELEPHONE	5,547	5,076	5,500	5,700			5,700	
50025	ADVERTISING/PUBLISHED NOTICES	0	2,083	300	300			300	
50030	PRINTING & BINDING	86	329	300	400			400	
50035	POSTAGE/DELIVERY	0	0	200	200			200	
50070	DUES, LICENSES & SUBSCRIPTIONS	925	929	1,400	1,600			1,600	
50080	CONFERENCES AND SEMINARS	4,355	7,732	6,800	6,700			6,700	
50085	EDUCATIONAL REIMBURSEMENT	0	0	0	0	1,000		0	
Other Purchased Services		**14,113**	**18,649**	**16,600**	**20,500**	**1,000**	**0**	**20,500**	**20,900**
60010	SUPPLIES - OFFICE	208	122	500	500			500	
60040	SM TOOLS & MISC EQUIPMENT	1,595	3,378	3,400	3,400			3,400	
60041	COMPUTER HARDWARE	0	0	0	0			0	
60042	MISC-COMPUTER SOFTWARE	4,061	0	500	500			500	
60045	UNIFORMS & CLOTHING	1,994	1,941	2,300	3,600			3,600	
60065	SUPPLIES - OTHER	1,422	1,741	2,600	2,600			2,600	
60070	CENTRAL STORES ALLOCATION	7,682	5,100	4,700	3,100			3,100	
60071	TECH ALLOCATION	39,000	46,700	64,000	64,800			64,800	
Supplies		**55,963**	**58,982**	**78,000**	**78,500**	**0**	**0**	**78,500**	**80,100**
Total Engineering		**992,144**	**919,693**	**1,021,000**	**1,064,400**	**63,500**	**0**	**1,064,400**	**1,114,800**

City of Inver Grove Heights
Proposed 2018 Budget

Streets Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel		777,131	828,115	887,700	939,000	0	0	939,000	986,100
Prof/Tech Services		5,071	4,076	4,400	4,400	500	0	4,400	4,500
Purch Svcs - Prop/Equip		1,150,037	1,154,394	1,150,600	1,189,700	0	0	1,189,700	1,213,500
Other Purchased Services		40,911	31,897	29,500	32,300	0	0	32,300	32,900
Supplies		443,902	430,678	529,500	472,500	30,000	0	472,500	482,000
Total Streets		**2,417,053**	**2,449,159**	**2,601,700**	**2,637,900**	**30,500**	**0**	**2,637,900**	**2,719,000**

City of Inver Grove Heights

Proposed 2018 Budget

Streets 101.43.5200.442

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	503,236	518,713	539,600	565,800			565,800	
10300	TEMPORARY EMPLOYEES	9,181	6,139	22,100	22,700			22,700	
10400	OVERTIME	23,036	43,104	41,600	47,600			47,600	
20100	FLEX. COMP. SPENDING	39,699	40,114	40,500	40,500			40,500	
20300	EMPLOYER SOCIAL SECURITY	34,911	36,829	39,900	42,000			42,000	
20350	EMPLOYER MEDICARE	8,165	8,614	9,300	9,800			9,800	
20400	EMPLOYER PERA	39,377	41,727	45,200	47,700			47,700	
20600	MEDICAL INSURANCE	70,434	75,728	83,200	86,300			86,300	
20620	LIFE INSURANCE	496	692	800	800			800	
20630	LTD INSURANCE	1,789	1,727	3,000	3,100			3,100	
20750	WORKERS COMPENSATION	44,800	49,400	62,500	72,700			72,700	
20800	COMPENSATED ABSENCES	2,007	5,327	0	0			0	
Personnel		**777,131**	**828,115**	**887,700**	**939,000**	**0**	**0**	**939,000**	**986,100**
30550	FLEX/COMP ACCOUNT FEE	512	484	500	500			500	
30700	OTHER PROFESSIONAL SERVICES	4,560	3,592	3,900	3,900	500		3,900	
Prof/Tech Services		**5,071**	**4,076**	**4,400**	**4,400**	**500**	**0**	**4,400**	**4,500**
40020	ELECTRIC UTILITY SERVICES	8,247	14,266	10,000	10,000			10,000	
40030	STORM WATER UTILITY SERVICE	16	16	0	0			0	
40042	REPAIR & MAINT - EQUIPMENT	0	709	0	0			0	
40046	REPAIR & MAINT - ROAD	178,027	139,943	188,000	188,000	0		188,000	
40050	RENTAL OF EQUIPMENT	962	4,760	5,500	5,500			5,500	
40065	OTHER RENTALS	85	0	0	0			0	
40070	CENTRAL EQUIP ALLOCATION	955,300	987,300	938,800	975,100			975,100	
40075	CITY FACILITIES ALLOCATION	7,400	7,400	8,300	11,100			11,100	
Purch Svcs - Prop/Equip		**1,150,037**	**1,154,394**	**1,150,600**	**1,189,700**	**0**	**0**	**1,189,700**	**1,213,500**
50019	INSURANCE ALLOCATION	33,300	24,300	22,900	25,700			25,700	
50020	TELEPHONE	5,519	4,460	4,000	4,000			4,000	
50070	DUES, LICENSES & SUBSCRIPTIONS	0	1,205	600	600			600	
50080	CONFERENCES AND SEMINARS	2,092	1,932	2,000	2,000			2,000	
Other Purchased Services		**40,911**	**31,897**	**29,500**	**32,300**	**0**	**0**	**32,300**	**32,900**
60016	SUPPLIES - MAINTENANCE	406,641	378,281	470,000	410,000	30,000		410,000	
60040	SM TOOLS & MISC EQUIPMENT	1,969	1,512	1,400	1,400			1,400	
60045	UNIFORMS & CLOTHING	5,692	7,485	8,000	8,000			8,000	
60070	CENTRAL STORES ALLOCATION	400	700	700	1,700			1,700	
60071	TECH ALLOCATION	29,200	42,700	49,400	51,400			51,400	
Supplies		**443,902**	**430,678**	**529,500**	**472,500**	**30,000**	**0**	**472,500**	**482,000**
Total Streets		**2,417,053**	**2,449,159**	**2,601,700**	**2,637,900**	**30,500**	**0**	**2,637,900**	**2,719,000**

City of Inver Grove Heights
Proposed 2018 Budget

Street Lights Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Prof/Tech Services		0	0	10,000	10,000	0	0	10,000	10,200
Purch Svcs - Prop/Equip		148,743	132,941	187,200	187,200	0	0	187,200	190,900
Total Street Lights		**148,743**	**132,941**	**197,200**	**197,200**	**0**	**0**	**197,200**	**201,100**

City of Inver Grove Heights

Proposed 2018 Budget

Street Lights 101.43.5400.445

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
30700	OTHER PROFESSIONAL SERVICES	0	0	10,000	10,000			10,000	
Prof/Tech Services		**0**	**0**	**10,000**	**10,000**	**0**	**0**	**10,000**	**10,200**
40020	ELECTRIC UTILITY SERVICES	134,122	121,974	165,200	165,200			165,200	
40042	REPAIR & MAINT - EQUIPMENT	14,621	10,966	22,000	22,000			22,000	
Purch Svcs - Prop/Equip		**148,743**	**132,941**	**187,200**	**187,200**	**0**	**0**	**187,200**	**190,900**
Total Street Lights		**148,743**	**132,941**	**197,200**	**197,200**	**0**	**0**	**197,200**	**201,100**

City of Inver Grove Heights
Proposed 2018 Budget

Parks Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
Personnel		912,906	808,661	970,200	1,029,600	38,900	0	1,029,600	1,067,600
Prof/Tech Services		33,691	40,687	29,800	29,800	0	0	29,800	30,400
Purch Svcs - Prop/Equip		537,757	521,860	582,600	616,500	0	0	616,500	628,800
Other Purchased Services		115,015	103,746	104,500	50,100	0	0	50,100	51,100
Supplies		184,532	190,161	225,500	221,000	0	0	221,000	225,400
Other Expenses/Expenditures		29,077	30,690	31,000	31,000	0	0	31,000	31,600
Total Parks		**1,812,977**	**1,695,806**	**1,943,600**	**1,978,000**	**38,900**	**0**	**1,978,000**	**2,034,900**

City of Inver Grove Heights

Proposed 2018 Budget

Parks 101.44.6000.451

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	530,681	483,739	605,900	630,200	25,700		630,200	
10300	TEMPORARY EMPLOYEES	102,495	96,698	92,400	95,200			95,200	
10400	OVERTIME	12,068	15,622	6,000	19,000			19,000	
20100	FLEX. COMP. SPENDING	34,078	32,198	40,900	40,900	2,300		40,900	
20300	EMPLOYER SOCIAL SECURITY	40,408	36,342	45,400	48,100	1,800		48,100	
20350	EMPLOYER MEDICARE	9,529	8,613	10,800	11,400	400		11,400	
20400	EMPLOYER PERA	41,124	38,063	52,800	55,800	2,000		55,800	
20600	MEDICAL INSURANCE	62,874	61,761	83,900	87,100	4,900		87,100	
20620	LIFE INSURANCE	675	643	900	900	0		900	
20630	LTD INSURANCE	1,712	1,627	3,100	3,200	100		3,200	
20750	WORKERS COMPENSATION	20,700	22,500	28,100	37,800	1,700		37,800	
20800	COMPENSATED ABSENCES	56,563	10,857	0	0			0	
Personnel		**912,906**	**808,661**	**970,200**	**1,029,600**	**38,900**	**0**	**1,029,600**	**1,067,600**
30420	CORPORATE	3,958	9,633	4,000	4,000			4,000	
30550	FLEX/COMP ACCOUNT FEE	762	617	800	800			800	
30700	OTHER PROFESSIONAL SERVICES	28,971	30,437	25,000	25,000			25,000	
Prof/Tech Services		**33,691**	**40,687**	**29,800**	**29,800**	**0**	**0**	**29,800**	**30,400**
40005	WATER UTILITY SERVICES	5,655	8,649	9,300	9,300			9,300	
40010	GAS UTILITY SERVICES	3,923	3,811	5,500	5,100			5,100	
40015	SEWER UTILITY SERVICES	378	383	400	400			400	
40020	ELECTRIC UTILITY SERVICES	47,201	44,242	52,000	52,000			52,000	
40025	REFUSE DISPOSAL	0	256	1,600	1,600			1,600	
40030	STORM WATER UTILITY SERVICE	6,791	6,730	0	7,000			7,000	
40040	REPAIR & MAINT - BUILDINGS	36,886	25,022	28,000	25,000			25,000	
40046	REPAIR & MAINT - ROAD	14,882	20,137	40,000	30,000			30,000	
40047	REPAIR & MAINT - OTHER STRUCTURES	55,004	42,323	62,000	50,000			50,000	
40050	RENTAL OF EQUIPMENT	1,950	2,531	3,000	3,000			3,000	
40065	OTHER RENTALS	13,686	14,577	13,500	15,000			15,000	
40070	CENTRAL EQUIP ALLOCATION	344,000	345,800	359,000	407,000			407,000	
40075	CITY FACILITIES ALLOCATION	7,400	7,400	8,300	11,100			11,100	
Purch Svcs - Prop/Equip		**537,757**	**521,860**	**582,600**	**616,500**	**0**	**0**	**616,500**	**628,800**

City of Inver Grove Heights

Proposed 2018 Budget

Parks 101.44.6000.451

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	93,100	85,100	84,600	27,600			27,600	
50020	TELEPHONE	10,578	9,149	10,500	11,000			11,000	
50025	ADVERTISING/PUBLISHED NOTICES	709	1,013	0	1,100			1,100	
50030	PRINTING & BINDING	1,136	470	800	800			800	
50055	ALARM SERVICES / SYSTEMS	1,676	801	1,500	1,500			1,500	
50065	TRAVEL	73	99	300	300			300	
50070	DUES, LICENSES & SUBSCRIPTIONS	1,945	2,336	1,800	2,300			2,300	
50075	MEALS AND LODGING	356	287	500	500			500	
50080	CONFERENCES AND SEMINARS	5,442	4,491	4,500	5,000			5,000	
Other Purchased Services		**115,015**	**103,746**	**104,500**	**50,100**	**0**	**0**	**50,100**	**51,100**
60011	SUPPLIES-JANITOR/CLEANING	3,059	982	3,300	3,300			3,300	
60012	SUPPLIES - SHOP	418	591	700	700			700	
60016	SUPPLIES - MAINTENANCE	43,658	50,227	45,000	47,000			47,000	
60030	FERTILIZERS	57,197	42,272	55,000	55,000			55,000	
60035	PESTICIDES	14,170	17,559	16,000	19,000			19,000	
60040	SM TOOLS & MISC EQUIPMENT	11,550	11,640	11,200	11,200			11,200	
60045	UNIFORMS & CLOTHING	7,461	7,878	8,000	8,500			8,500	
60065	SUPPLIES - OTHER	27,644	13,262	43,600	28,600			28,600	
60066	SUPPLIES-VANDALISM	4,022	6,649	5,100	5,100			5,100	
60070	CENTRAL STORES ALLOCATION	453	7,600	2,700	4,000			4,000	
60071	TECH ALLOCATION	14,900	31,500	34,900	38,600			38,600	
Supplies		**184,532**	**190,161**	**225,500**	**221,000**	**0**	**0**	**221,000**	**225,400**
70501	MISCELLANEOUS CONTRACTS	29,053	30,690	31,000	31,000			31,000	
70600	OTHER MISCELLANEOUS	24	0	0	0			0	
Other Expenses/Expenditures		**29,077**	**30,690**	**31,000**	**31,000**	**0**	**0**	**31,000**	**31,600**
Total Parks		**1,812,977**	**1,695,806**	**1,943,600**	**1,978,000**	**38,900**	**0**	**1,978,000**	**2,034,900**

City of Inver Grove Heights
Proposed 2018 Budget

Contingency Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
	Classification/Comensation Study Adjustments	0	0	0	0	100,000		0	
Total Contingency		**0**	**0**	**0**	**0**	**100,000**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

Contingency 101.58.9100.580

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
	Classification/Comensation Study Adjustments	0	0	0	0	100,000		0	
Total Contingency		**0**	**0**	**0**	**0**	**100,000**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

Transfers Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
	OPERATING TRANSFERS OUT	992,867	1,902,400	1,268,400	1,295,200	675,000	0	1,295,200	1,822,200

City of Inver Grove Heights

Proposed 2018 Budget

Transfers 101.57.9200.590

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Department Requested Additions	2018 Council Directed Additions	2018 Preliminary Budget	2019 Preliminary Budget
91100	OPERATING TRANSFERS OUT								
	Recreation Fund	331,900	331,900	359,300	352,100			352,100	377,400
	Economic Development Authority	1,900	500	94,100	83,100			83,100	84,800
	Local Improvement Construction Funds	9,067	0	0	0			0	0
	NWA Sewer	0	720,000	0	0			0	0
	Pavement Management Fund	500,000	700,000	665,000	700,000	550,000		700,000	1,200,000
	Parks Capital Replacement Fund	150,000	150,000	150,000	160,000	125,000		160,000	160,000
	OPERATING TRANSFERS OUT	**992,867**	**1,902,400**	**1,268,400**	**1,295,200**	**675,000**	**0**	**1,295,200**	**1,822,200**

City of Inver Grove Heights
Proposed 2018 Budget

Recreation Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Intergovernmental	1,000	665	0	0	0	0
Charges For Services	252,982	211,365	223,000	220,600	0	225,000
Miscellaneous Revenues	17,685	14,493	10,600	14,700	0	15,000
Other Financing Sources	331,900	331,900	359,300	352,100	0	377,400
Total Revenue	**603,567**	**558,422**	**592,900**	**587,400**	**0**	**617,400**
Personnel	414,740	412,646	434,400	432,900	0	458,900
Prof/Tech Services	48,047	42,564	42,900	38,600	0	39,400
Purch Svcs - Prop/Equip	49,903	55,648	54,900	55,700	0	56,800
Other Purchased Services	19,873	21,512	23,200	23,800	0	24,300
Supplies	65,010	54,325	75,500	74,200	0	75,700
Other Expenses/Expenditures	7,236	7,601	7,000	7,200	0	7,300
Capital Outlay	9,440	0	0	0	0	0
Total Expense	**614,249**	**594,296**	**637,900**	**632,400**	**0**	**662,400**
Revenues Over (Under) Expenses			**(45,000)**	**(45,000)**	**0**	**(45,000)**
Increase (Decrease) In Cash			**(45,000)**	**(45,000)**	**0**	**(45,000)**

City of Inver Grove Heights

Proposed 2018 Budget

Recreation 204

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3309000	GRANTS	1,000	665	0	0		
Intergovernmental		**1,000**	**665**	**0**	**0**	**0**	**0**
3470000	RECREATION PROGRAM FEES	187,022	150,920	170,200	159,400		
3471000	FIELD RENTALS	65,959	60,444	52,800	61,200		
Charges For Services		**252,982**	**211,365**	**223,000**	**220,600**	**0**	**225,000**
3610000	INVESTMENT EARNINGS	6,005	3,543	4,600	4,700		
3630000	CONTRIBUTIONS & DONATIONS	10,175	10,950	6,000	10,000		
3650000	OTHER REVENUES	1,505	0	0	0		
Miscellaneous Revenues		**17,685**	**14,493**	**10,600**	**14,700**	**0**	**15,000**
3911000	OPERATING TRANSFERS IN	331,900	331,900	359,300	352,100	0	377,400
Other Financing Sources		**331,900**	**331,900**	**359,300**	**352,100**	**0**	**377,400**
Total Revenue		**603,567**	**558,422**	**592,900**	**587,400**	**0**	**617,400**

City of Inver Grove Heights

Proposed 2018 Budget

Recreation 204

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	271,996	274,037	279,000	291,600		
10200	PART-TIME EMPLOYEES	1,199	5,665	5,800	6,000		
10300	TEMPORARY EMPLOYEES	37,419	26,167	35,000	17,100		
10400	OVERTIME	147	0	0	0		
20100	FLEX. COMP. SPENDING	15,660	15,575	16,500	16,500		
20300	EMPLOYER SOCIAL SECURITY	19,383	19,003	20,700	20,400		
20350	EMPLOYER MEDICARE	4,559	4,478	4,900	4,800		
20400	EMPLOYER PERA	20,397	20,841	24,000	23,600		
20600	MEDICAL INSURANCE	27,478	29,122	34,000	35,300		
20620	LIFE INSURANCE	365	379	400	400		
20630	LTD INSURANCE	943	979	1,300	1,300		
20700	UNEMPLOYMENT COMPENSATION	1,233	0	200	200		
20750	WORKERS COMPENSATION	9,200	10,000	12,600	15,700		
20800	COMPENSATED ABSENCES	4,760	6,401	0	0		
Personnel		**414,740**	**412,646**	**434,400**	**432,900**	**0**	**458,900**
30550	FLEX/COMP ACCOUNT FEE	204	194	300	200		
30700	OTHER PROFESSIONAL SERVICES	47,844	42,370	42,600	38,400		
Prof/Tech Services		**48,047**	**42,564**	**42,900**	**38,600**	**0**	**39,400**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	0	5,640	5,700	5,700		
40050	RENTAL OF EQUIPMENT	0	171	200	200		
40065	OTHER RENTALS	603	1,138	700	600		
40070	CENTRAL EQUIP ALLOCATION	7,000	5,800	4,900	4,700		
40075	CITY FACILITIES ALLOCATION	3,300	2,900	3,400	4,500		
40076	COMMUNITY CTR. ALLOCATION	39,000	40,000	40,000	40,000		
Purch Svcs - Prop/Equip		**49,903**	**55,648**	**54,900**	**55,700**	**0**	**56,800**

City of Inver Grove Heights

Proposed 2018 Budget

Recreation 204

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	1,700	1,300	1,000	3,100		
50020	TELEPHONE	1,131	900	1,200	800		
50030	PRINTING & BINDING	11,503	12,482	12,500	12,500		
50035	POSTAGE/DELIVERY	2,824	3,715	3,500	3,500		
50065	TRAVEL	119	0	0	0		
50070	DUES, LICENSES & SUBSCRIPTIONS	1,950	1,965	3,400	2,200		
50080	CONFERENCES AND SEMINARS	606	1,150	1,600	1,700		
50090	RECREATION ENTRANCE FEES	40	0	0	0		
Other Purchased Services		**19,873**	**21,512**	**23,200**	**23,800**	**0**	**24,300**
60009	RECREATION	14,754	12,432	16,800	14,800		
60010	SUPPLIES - OFFICE	25	117	300	300		
60040	SM TOOLS & MISC EQUIPMENT	1,479	1,219	4,000	4,000		
60045	UNIFORMS & CLOTHING	13,603	10,556	12,100	10,400		
60065	SUPPLIES - OTHER	150	0	0	0		
60070	CENTRAL STORES ALLOCATION	4,000	5,600	8,600	6,200		
60071	TECH ALLOCATION	31,000	24,400	33,700	38,500		
Supplies		**65,010**	**54,325**	**75,500**	**74,200**	**0**	**75,700**
70440	BANK CHARGES / CREDIT CARD	6,897	7,652	7,000	7,200		
70450	CASH OVER/SHORT	(36)	(51)	0	0		
70600	OTHER MISCELLANEOUS	375	0	0	0		
Other Expenses/Expenditures		**7,236**	**7,601**	**7,000**	**7,200**	**0**	**7,300**
80620	COMPUTER SOFTWARE	9,440	0	0	0		
Capital Outlay		**9,440**	**0**	**0**	**0**	**0**	**0**
Total Expense		**614,249**	**594,296**	**637,900**	**632,400**	**0**	**662,400**
Revenues Over (Under) Expenses				**(45,000)**	**(45,000)**	**0**	**(45,000)**
Increase (Decrease) In Cash				**(45,000)**	**(45,000)**	**0**	**(45,000)**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Intergovernmental		0	2,000	0	0	0	0
Charges For Services		2,237,733	2,234,997	2,336,400	2,355,900	0	2,403,000
Miscellaneous Revenues		141,904	145,336	235,200	315,700	0	322,000
Other Financing Sources		774,389	633,277	1,231,700	1,639,200	0	1,763,300
Total Revenue		**3,154,025**	**3,015,611**	**3,803,300**	**4,310,800**	**0**	**4,488,300**
Personnel		1,625,176	1,714,335	1,916,200	1,947,800	0	2,078,000
Prof/Tech Services		23,073	14,387	26,100	24,500	0	25,000
Purch Svcs - Prop/Equip		700,044	717,991	749,100	693,200	0	707,100
Other Purchased Services		90,791	86,639	102,000	145,100	0	148,000
Supplies		226,839	202,961	254,200	240,100	0	244,900
Other Expenses/Expenditures		32,320	47,542	33,100	40,600	0	41,400
Costs Of Sales		86	0	0	0	0	0
Purchases		2,563	2,558	1,300	0	0	0
Capital Outlay		453,133	113,780	721,300	1,219,500	0	1,243,900
Other		0	1,377,358	0	0	0	0
Total Expense		**3,154,025**	**4,277,553**	**3,803,300**	**4,310,800**	**0**	**4,488,300**
Revenues Over (Under) Expenses				**0**	**0**	**0**	**0**
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center 205

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3309000	GRANTS	0	2,000	0	0		
Intergovernmental		**0**	**2,000**	**0**	**0**	**0**	**0**
3468100	RENTAL BY RECREATION FUND	39,000	40,000	40,000	40,000		
3490100	MEMBERSHIPS	927,017	931,651	970,000	970,000		
3490200	ADMISSIONS	148,878	176,965	170,000	190,000		
3490301	ADMISSIONS-MISCELLANEOUS	713	953	800	1,000		
3490400	MEMBERSHIPS MISCELLANEOUS	12,966	11,602	14,000	15,000		
3491500	SWIM MEETS	690	524	500	500		
3491800	DISTRICT 199 POOL RENTAL	0	0	0	39,700		
3492001	DISTRICT 199 ICE RENTAL	97,944	84,226	138,400	98,700		
3492200	ICE RENTALS	407,765	407,089	400,000	410,000		
3492300	TURF RENTALS	24,406	21,284	25,000	26,000		
3492500	ROOM RENTALS	44,963	43,091	40,100	51,400		
3492700	POOL RENTALS	20,473	29,071	22,000	12,000		
3492900	BIRTHDAY PARTIES	35,769	46,531	37,000	41,000		
3493501	LESSONS/TUITION	252,072	255,452	248,300	254,000		
3494202	MISC SUPPLIES & EQUIPMENT	661	722	0	700		
3494401	SKATE RENTAL	1,625	993	1,600	1,200		
3496000	KIDS CAMP	195,191	156,956	200,000	175,000		
3496501	CHILD CARE	2,121	2,023	1,500	1,500		
3497000	CONCESSIONS	13,043	11,690	9,600	9,600		
3497500	VENDING	10,732	14,126	10,000	12,000		
3497700	VENDING/COKE CONTRACT	0	0	1,500	1,500		
3498001	ADVERTISING	1,525	48	5,000	5,000		
3499500	CLOTHING SALES	180	0	1,100	100		
Charges For Services		**2,237,733**	**2,234,997**	**2,336,400**	**2,355,900**	**0**	**2,403,000**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center 205

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	487	69	0	0		
3630000	CONTRIBUTIONS & DONATIONS	115,000	143,000	189,000	268,000		
3650000	OTHER REVENUES	980	285	0	0		
3651000	ATM COMMISSIONS	1,886	1,982	1,200	1,200		
3660000	OTHER REIMBURSEMENTS	23,550	0	45,000	46,500		
Miscellaneous Revenues		**141,904**	**145,267**	**235,200**	**315,700**	**0**	**322,000**
3911000	OPERATING TRANSFERS IN	774,389	633,277	1,231,700	1,639,200	0	1,763,300
Other Financing Sources		**774,389**	**633,277**	**1,231,700**	**1,639,200**	**0**	**1,763,300**
Total Revenue		**3,154,025**	**3,015,611**	**3,803,300**	**4,310,800**	**0**	**4,488,300**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center 205

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	601,281	605,239	669,900	712,700		
10200	PART-TIME EMPLOYEES	88,213	101,788	148,100	153,100		
10300	TEMPORARY EMPLOYEES	567,938	586,928	602,200	602,300		
10400	OVERTIME	12,998	14,925	10,000	5,000		
20100	FLEX. COMP. SPENDING	52,040	52,500	61,500	61,500		
20300	EMPLOYER SOCIAL SECURITY	77,510	80,674	92,500	95,200		
20350	EMPLOYER MEDICARE	18,128	18,867	21,600	22,300		
20400	EMPLOYER PERA	73,582	73,539	107,300	85,500		
20600	MEDICAL INSURANCE	116,963	120,075	137,900	145,700		
20620	LIFE INSURANCE	919	964	1,200	1,200		
20630	LTD INSURANCE	2,416	2,625	4,500	4,700		
20700	UNEMPLOYMENT COMPENSATION	0	0	0	0		
20750	WORKERS COMPENSATION	32,200	35,700	59,500	58,600		
20800	COMPENSATED ABSENCES	(19,012)	20,509	0	0		
Personnel		**1,625,176**	**1,714,335**	**1,916,200**	**1,947,800**	**0**	**2,078,000**
30420	CORPORATE	1,988	1,500	1,500	1,500		
30550	FLEX/COMP ACCOUNT FEE	1,068	1,024	900	900		
30700	OTHER PROFESSIONAL SERVICES	20,018	11,863	23,700	22,100		
Prof/Tech Services		**23,073**	**14,387**	**26,100**	**24,500**	**0**	**25,000**
40005	WATER UTILITY SERVICES	18,129	16,411	22,000	20,000		
40010	GAS UTILITY SERVICES	94,749	84,746	160,000	110,000		
40015	SEWER UTILITY SERVICES	20,358	17,841	22,000	20,000		
40020	ELECTRIC UTILITY SERVICES	270,563	299,067	280,000	280,000		
40025	REFUSE DISPOSAL	2,859	485	3,000	2,000		
40030	STORM WATER UTILITY SERVICE	1,159	1,174	1,200	1,200		
40040	REPAIR & MAINT - BUILDINGS	256,171	253,668	210,000	210,000		
40042	REPAIR & MAINT - EQUIPMENT	12,421	12,845	18,500	17,500		
40044	REPAIR & MAINT - OFFICE EQUIPMENT	0	8,460	8,500	8,900		
40050	RENTAL OF EQUIPMENT	606	475	1,200	900		
40065	OTHER RENTALS	330	119	0	0		
40070	CENTRAL EQUIP ALLOCATION	22,700	22,700	22,700	22,700		
Purch Svcs - Prop/Equip		**700,044**	**717,991**	**749,100**	**693,200**	**0**	**707,100**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center 205

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	28,000	26,500	25,000	55,300		
50020	TELEPHONE	4,906	3,439	4,700	3,900		
50025	ADVERTISING/PUBLISHED NOTICES	10,948	8,084	9,700	8,200		
50030	PRINTING & BINDING	21,135	21,005	26,300	28,000		
50035	POSTAGE/DELIVERY	2,828	3,735	6,700	4,400		
50055	ALARM SERVICES / SYSTEMS	4,621	1,908	3,000	3,000		
50065	TRAVEL	999	750	1,500	1,500		
50070	DUES, LICENSES & SUBSCRIPTIONS	10,138	10,391	10,600	11,800		
50075	MEALS AND LODGING	907	1,615	800	1,000		
50080	CONFERENCES AND SEMINARS	2,891	5,393	6,200	5,200		
50090	RECREATION ENTRANCE FEES	3,418	3,819	7,500	22,800		
Other Purchased Services		**90,791**	**86,639**	**102,000**	**145,100**	**0**	**148,000**
60011	SUPPLIES-JANITOR/CLEANING	27,394	33,094	26,400	30,000		
60012	SUPPLIES - SHOP	368	582	1,000	1,000		
60016	SUPPLIES - MAINTENANCE	20,174	19,490	40,000	33,900		
60018	SUPPLIES-TRAINING	942	2,408	1,800	5,000		
60024	POOL CHEMICALS	35,654	31,142	40,000	35,000		
60040	SM TOOLS & MISC EQUIPMENT	28,794	20,289	33,200	28,700		
60045	UNIFORMS & CLOTHING	4,862	5,160	3,600	3,900		
60065	SUPPLIES - OTHER	19,252	18,697	25,600	21,200		
60070	CENTRAL STORES ALLOCATION	23,900	21,500	21,900	19,900		
60071	TECH ALLOCATION	65,500	50,600	60,700	61,500		
Supplies		**226,839**	**202,961**	**254,200**	**240,100**	**0**	**244,900**
70310	LEASE OF ARMORY	0	5,500	0	5,500		
70440	BANK CHARGES / CREDIT CARD	27,386	36,023	28,000	30,000		
70450	CASH OVER/SHORT	130	(130)	100	100		
70600	OTHER MISCELLANEOUS	1,839	3,914	1,000	1,000		
70610	TRANSPORTATION	2,964	2,235	4,000	4,000		
Other Expenses/Expenditures		**32,320**	**47,542**	**33,100**	**40,600**	**0**	**41,400**
75050	FOOD INVENTORY	86	0	0	0		
Costs Of Sales		**86**	**0**	**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Community Center 205

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
76050	FOOD	1,652	1,966	1,300	0		
76100	BEVERAGES	911	592	0	0		
Purchases		**2,563**	**2,558**	**1,300**	**0**	**0**	**0**
80200	BUILDINGS	327,640	34,978	625,000	100,000		
80300	IMPROVEMENTS (NON-BLDG)	67,700	26,887	40,000	1,060,500		
80620	COMPUTER SOFTWARE	14,160	0	1,300	0		
80800	OTHER EQUIPMENT	43,633	51,916	55,000	59,000		
Capital Outlay		**453,133**	**113,780**	**721,300**	**1,219,500**	**0**	**1,243,900**
91100	OPERATING TRANSFERS OUT	0	1,377,358	0	0		
Other		**0**	**1,377,358**	**0**	**0**	**0**	**0**
Total Expense		**3,154,025**	**4,277,553**	**3,803,300**	**4,310,800**	**0**	**4,488,300**
Revenues Over (Under) Expenses				**0**	**0**	**0**	**0**
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

EDA Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues		510	382	300	200	0	200
Other Financing Sources		293,865	446,149	94,100	83,100	0	84,800
Revenue		**294,375**	**446,531**	**94,400**	**83,300**	**0**	**85,000**
Personnel		16,512	16,919	16,700	17,800	0	18,200
Prof/Tech Services		117,147	50,358	67,600	51,600	0	52,600
Purch Svcs - Prop/Equip		572	1,997	300	400	0	400
Other Purchased Services		27,332	26,737	9,800	13,400	0	13,700
Supplies		0	0	0	100	0	100
Capital Outlay		214,985	425,885	0	0	0	0
Expense		**376,548**	**521,895**	**94,400**	**83,300**	**0**	**85,000**
Revenues Over (Under) Expenses		**(82,174)**	**(75,364)**	**0**	**0**	**0**	**0**
Increase (Decrease) In Cash		**(82,174)**	**(75,364)**	**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

EDA 290

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	510	382	300	200		
Miscellaneous Revenues		**510**	**382**	**300**	**200**	**0**	**200**
3911000	OPERATING TRANSFERS IN	293,865	446,149	94,100	83,100		
Other Financing Sources		**293,865**	**446,149**	**94,100**	**83,100**	**0**	**84,800**
Total Revenue		**294,375**	**446,531**	**94,400**	**83,300**	**0**	**85,000**

City of Inver Grove Heights
Proposed 2018 Budget

EDA 290

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	12,956	13,342	13,200	13,600		
10400	OVERTIME	0	0	0	500		
20100	FLEX. COMP. SPENDING	463	463	500	400		
20300	EMPLOYER SOCIAL SECURITY	738	738	700	800		
20350	EMPLOYER MEDICARE	179	185	200	200		
20400	EMPLOYER PERA	937	964	1,000	1,100		
20600	MEDICAL INSURANCE	897	950	1,000	1,100		
20620	LIFE INSURANCE	17	18	0	0		
20630	LTD INSURANCE	34	34	0	0		
20750	WORKERS COMPENSATION	100	100	100	100		
20800	COMPENSATED ABSENCES	191	125	0	0		
Personnel		**16,512**	**16,919**	**16,700**	**17,800**	**0**	**18,200**
30150	FISCAL CONSULTANTS	0	108	0	0		
30420	CORPORATE	6,537	9,739	13,000	10,000		
30550	FLEX/COMP ACCOUNT FEE	22	25	100	100		
30700	OTHER PROFESSIONAL SERVICES	110,588	40,486	54,500	41,500		
Prof/Tech Services		**117,147**	**50,358**	**67,600**	**51,600**	**0**	**52,600**
40030	STORM WATER UTILITY SERVICE	72	1,697	0	0		
40075	CITY FACILITIES ALLOCATION	500	300	300	400		
Purch Svcs - Prop/Equip		**572**	**1,997**	**300**	**400**	**0**	**400**
50019	INSURANCE ALLOCATION	400	400	100	400		
50025	ADVERTISING/PUBLISHED NOTICES	542	694	3,000	3,500		
50070	DUES, LICENSES & SUBSCRIPTIONS	25,590	25,598	6,100	8,600		
50080	CONFERENCES AND SEMINARS	800	45	600	900		
Other Purchased Services		**27,332**	**26,737**	**9,800**	**13,400**	**0**	**13,700**

City of Inver Grove Heights

Proposed 2018 Budget

EDA 290

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
60018	SUPPLIES-TRAINING	0	0	0	100		
Supplies		**0**	**0**	**0**	**100**	**0**	**100**
80100	LAND	214,985	425,885	0	0		
Capital Outlay		**214,985**	**425,885**	**0**	**0**	**0**	**0**
Total Expense		**376,548**	**521,895**	**94,400**	**83,300**	**0**	**85,000**
Revenues Over (Under) Expenses		**(82,174)**	**(75,364)**	**0**	**0**	**0**	**0**
Increase (Decrease) In Cash		**(82,174)**	**(75,364)**	**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Storm Water Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	0	693	2,600	4,000	0	4,100
Charges For Services	178,643	320,048	306,100	510,300	0	521,600
Other Financing Sources	500,000	0	0	0	0	0
Total Revenue	**678,643**	**320,741**	**308,700**	**514,300**	**0**	**525,700**
Personnel	0	0	0	38,800	0	0
Prof/Tech Services	28,218	16,753	50,000	50,000	0	51,000
Purch Svcs - Prop/Equip	24,374	19,947	120,800	294,300	0	300,200
Other Purchased Services	33,368	36,203	40,100	41,900	0	42,700
Other Expenses/Expenditures	1,069	457	97,800	89,300	0	91,100
Capital Outlay	11,650	26,229	0	0	0	0
Total Expense	**98,679**	**99,590**	**308,700**	**514,300**	**0**	**485,000**
Revenues Over (Under) Expenses			**0**	**0**	**0**	**0**
Increase (Decrease) In Cash			**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Storm Water 441

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	0	693	2,600	4,000		
Miscellaneous Revenues		**0**	**693**	**2,600**	**4,000**	**0**	**4,100**
3433500	STORM WATER MGMT FEE	162,884	300,577	285,600	488,400		
3433501	STORM WATER MGMT FEE - EAGAN	11,786	15,548	20,200	21,600		
3433502	STORM WATER MGMT FEE - SSP	233	243	300	300		
3433600	STORM WATER CHG-PENALTIES	2,379	3,609	0	0		
3434000	OTHER PUBLIC WORKS	1,360	72	0	0		
Charges For Services		**178,643**	**320,048**	**306,100**	**510,300**	**0**	**521,600**
3911000	OPERATING TRANSFERS IN	500,000	0	0	0		
Other Financing Sources		**500,000**	**0**	**0**	**0**	**0**	**0**
Total Revenue		**678,643**	**320,741**	**308,700**	**514,300**	**0**	**525,700**

City of Inver Grove Heights

Proposed 2018 Budget

Storm Water 441

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	0	0	0	25,700		
20100	FLEX. COMP. SPENDING	0	0	0	2,300		
20300	EMPLOYER SOCIAL SECURITY	0	0	0	1,700		
20350	EMPLOYER MEDICARE	0	0	0	400		
20400	EMPLOYER PERA	0	0	0	1,900		
20600	MEDICAL INSURANCE	0	0	0	4,900		
20620	LIFE INSURANCE	0	0	0	0		
20630	LTD INSURANCE	0	0	0	200		
20750	WORKERS COMPENSATION	0	0	0	1,700		
Personnel		**0**	**0**	**0**	**38,800**	**0**	**40,700**
30300	ENGINEERING CONSULTANTS	21,588	15,303	50,000	50,000		
30700	OTHER PROFESSIONAL SERVICES	6,630	1,450	0	0		
Prof/Tech Services		**28,218**	**16,753**	**50,000**	**50,000**	**0**	**51,000**
40020	ELECTRIC UTILITY SERVICE	0	0	0	13,800		
40030	STORM WATER UTILITY SERVICE	11,786	15,548	20,500	21,800		
40066	REPAIR & MAINT - STORM WATER	12,588	4,399	100,300	258,700		
Purch Svcs - Prop/Equip		**24,374**	**19,947**	**120,800**	**294,300**	**0**	**300,200**
50019	INSURANCE ALLOCATION	700	500	500	500		
50070	DUES, LICENSES & SUBSCRIPTIONS	32,668	35,703	39,600	41,400		
Other Purchased Services		**33,368**	**36,203**	**40,100**	**41,900**	**0**	**42,700**
70510	UT SERVICE FOR LIBRARY	391	391	400	400		
70600	OTHER MISCELLANEOUS	678	66	97,400	88,900		
Other Expenses/Expenditures		**1,069**	**457**	**97,800**	**89,300**	**0**	**91,100**
80100	LAND	11,650	0	0	0		
80300	IMPROVEMENTS (NON-BLDG)	0	26,229	0	0		
Capital Outlay		**11,650**	**26,229**	**0**	**0**	**0**	**0**
Total Expense		**98,679**	**99,590**	**308,700**	**514,300**	**0**	**525,700**
Revenues Over (Under) Expenses				**0**	**0**	**0**	**0**
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

Storm Water - NWA Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	7,438	6,054	4,500	11,300	0	17,300
Charges For Services	308,216	701,137	131,800	581,200	0	601,600
Special Assessments	1,426	1,348	1,300	1,200	0	0
Total Revenue	**317,080**	**708,538**	**137,600**	**593,700**	**0**	**618,900**
Prof/Tech Services	0	9,943	0	0	0	0
Other Expenses/Expenditures	175	136	0	0	0	0
Other	511,166	53,332	0	0	0	0
Total Expense	**511,341**	**63,410**	**0**	**0**	**0**	**0**
Revenues Over (Under) Expenses			**137,600**	**593,700**	**0**	**618,900**
Increase (Decrease) In Cash			**137,600**	**593,700**	**0**	**618,900**

City of Inver Grove Heights

Proposed 2018 Budget

Storm Water - NWA 448

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	7,438	6,054	4,500	11,300		
Miscellaneous Revenues		**7,438**	**6,054**	**4,500**	**11,300**	**0**	**17,300**
3433500	STORM WATER MGMT FEE - NWA	308,216	701,137	131,800	581,200		
Charges For Services		**308,216**	**701,137**	**131,800**	**581,200**	**0**	**601,600**
3701000	SA CURRENT	1,426	1,348	1,300	1,200		
Special Assessments		**1,426**	**1,348**	**1,300**	**1,200**	**0**	**0**
Total Revenue		**317,080**	**708,538**	**137,600**	**593,700**	**0**	**618,900**

City of Inver Grove Heights

Proposed 2018 Budget

Storm Water - NWA 448

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30300	ENGINEERING CONSULTANTS	0	9,943	0	0		
Prof/Tech Services		**0**	**9,943**	**0**	**0**	**0**	**0**
70600	OTHER MISCELLANEOUS	175	136	0	0		
Other Expenses/Expenditures		**175**	**136**	**0**	**0**	**0**	**0**
91100	OPERATING TRANSFERS OUT	511,166	53,332	0	0		
Other		**511,166**	**53,332**	**0**	**0**	**0**	**0**
Total Expense		**511,341**	**63,410**	**0**	**0**	**0**	**0**
Revenues Over (Under) Expenses				**137,600**	**593,700**	**0**	**618,900**
Increase (Decrease) In Cash				**137,600**	**593,700**	**0**	**618,900**

City of Inver Grove Heights
Proposed 2018 Budget

ADA Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	474	416	0	0	0	0
Other Financing Sources	33,800	36,600	41,800	52,000	0	66,500
Total Revenue	**34,274**	**37,016**	**41,800**	**52,000**	**0**	**66,500**
Purch Svcs - Prop/Equip	24,335	13,039	138,300	52,000	0	66,500
Total Expense	**24,335**	**13,039**	**138,300**	**52,000**	**0**	**66,500**
Revenues Over (Under) Expenses			**(96,500)**	**0**	**0**	**0**
Increase (Decrease) In Cash			**(96,500)**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

ADA 447

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	474	416	0	0		
Miscellaneous Revenues		**474**	**416**	**0**	**0**	**0**	**0**
3911000	OPERATING TRANSFERS IN	33,800	36,600	41,800	52,000		
Other Financing Sources		**33,800**	**36,600**	**41,800**	**52,000**	**0**	**66,500**
Total Revenue		**34,274**	**37,016**	**41,800**	**52,000**	**0**	**66,500**

City of Inver Grove Heights
Proposed 2018 Budget

ADA 447

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
40040	REPAIR & MAINT - BUILDINGS	24,335	1,039	138,300	52,000		
40047	REPAIR & MAINT - OTHER STRUCTURES	0	12,000	0	0		
Purch Svcs - Prop/Equip		**24,335**	**13,039**	**138,300**	**52,000**	**0**	**66,500**
Total Expense		**24,335**	**13,039**	**138,300**	**52,000**	**0**	**66,500**
Revenues Over (Under) Expenses				**(96,500)**	**0**	**0**	**0**
Increase (Decrease) In Cash				**(96,500)**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

Water Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	107,497	53,373	27,700	30,600	0	31,200
Special Assessments	5,377	5,724	0	0	0	0
Utility Revenues	2,894,405	2,872,371	3,035,000	3,099,300	0	3,161,300
Other Financing Sources	2,967,146	1,298,655	0	0	0	0
Total Revenue	**5,974,425**	**4,230,123**	**3,062,700**	**3,129,900**	**0**	**3,192,500**
Personnel	530,580	546,316	647,500	709,000	0	700,100
Prof/Tech Services	80,698	94,680	143,700	133,900	0	136,600
Purch Svcs - Prop/Equip	665,044	753,156	1,135,200	1,110,500	0	1,132,700
Other Purchased Services	39,969	37,767	46,300	89,800	0	91,600
Supplies	101,880	71,241	136,000	137,900	0	140,700
Other Expenses/Expenditures	1,109,032	1,187,299	1,160,000	1,219,700	0	1,244,100
Costs Of Sales	17,454	7,366	18,800	18,800	0	19,200
Total Expense	**2,544,657**	**2,697,825**	**3,287,500**	**3,419,600**	**0**	**3,465,000**
Revenues Over (Under) Expenses			**(224,800)**	**(289,700)**	**0**	**(272,500)**
Additional Cash Outlays:						
OPERATING TRANSFER OUT			**667,500**	**202,800**	**0**	**199,100**
Increase (Decrease) In Cash			**20,200**	**474,700**	**0**	**(471,600)**

City of Inver Grove Heights
Proposed 2018 Budget

Water 501

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	94,910	46,299	27,700	30,600		
3650000	OTHER REVENUES	3,994	5,448	0	0		
3660000	OTHER REIMBURSEMENTS	8,320	1,626	0	0		
3670000	INSURANCE REIMBURSEMENTS	273	0	0	0		
Miscellaneous Revenues		**107,497**	**53,373**	**27,700**	**30,600**	**0**	**31,200**
3702000	SA DELINQUENT	0	3,522	0	0		
3703000	SA DEFERRED	1,218	0	0	0		
3706000	SA PENALTIES & INTEREST	4,159	2,202	0	0		
Special Assessments		**5,377**	**5,724**	**0**	**0**	**0**	**0**
3811000	WATER CHARGES	2,788,924	2,753,347	2,754,000	2,809,100		
3811100	EAGAN	0	0	187,200	196,600		
3811200	SO. ST. PAUL	1,418	1,541	1,100	1,100		
3812000	WATER SALES-PENALTIES	55,725	56,926	35,000	35,000		
3813000	OTHER WATER CHGS/SERVICES	7,403	7,945	5,000	5,000		
3814000	METER SALES-WD	7,504	19,380	18,800	18,800		
3815000	SO WATER-PINE BEND LANDFI	33,433	33,232	33,900	33,700		
Utility Revenues		**2,894,405**	**2,872,371**	**3,035,000**	**3,099,300**	**0**	**3,161,300**
3970000	CAPITAL CONTRIBUTIONS	2,967,146	1,298,655	0	0		
Other Financing Sources		**2,967,146**	**1,298,655**	**0**	**0**	**0**	**0**
Total Revenue		**5,974,425**	**4,230,123**	**3,062,700**	**3,129,900**	**0**	**3,192,500**

City of Inver Grove Heights

Proposed 2018 Budget

Water 501

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	322,475	358,618	396,400	434,500		
10300	TEMPORARY EMPLOYEES	13,591	10,861	17,900	18,400		
10400	OVERTIME	17,872	13,109	22,700	32,200		
20100	FLEX. COMP. SPENDING	24,882	25,050	29,000	29,700		
20300	EMPLOYER SOCIAL SECURITY	22,239	23,508	28,900	31,900		
20350	EMPLOYER MEDICARE	5,201	5,499	6,800	7,500		
20400	EMPLOYER PERA	25,294	27,452	32,800	36,400		
20550	PENSION EXPENSE	27,200	0	27,200	27,200		
20600	MEDICAL INSURANCE	44,610	49,660	59,400	63,200		
20620	LIFE INSURANCE	425	473	600	600		
20630	LTD INSURANCE	1,033	1,234	2,200	2,300		
20750	WORKERS COMPENSATION	14,400	16,200	21,600	23,100		
20800	COMPENSATED ABSENCES	9,299	12,843	0	0		
20850	OPEB	2,058	1,809	2,000	2,000		
Personnel		**530,580**	**546,316**	**647,500**	**709,000**	**0**	**700,100**
30300	ENGINEERING CONSULTANTS	3,727	35,780	70,000	43,000		
30420	CORPORATE	36	168	2,000	2,000		
30550	FLEX/COMP ACCOUNT FEE	582	721	600	700		
30700	OTHER PROFESSIONAL SERVICES	76,353	58,011	71,100	88,200		
Prof/Tech Services		**80,698**	**94,680**	**143,700**	**133,900**	**0**	**136,600**

City of Inver Grove Heights

Proposed 2018 Budget

Water 501

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
40005	WATER UTILITY SERVICES	136,786	157,029	204,300	213,700		
40010	GAS UTILITY SERVICES	12,963	11,838	19,800	19,000		
40015	SEWER UTILITY SERVICES	6,065	22,266	30,800	30,800		
40020	ELECTRIC UTILITY SERVICES	182,540	201,099	220,900	217,900		
40030	STORM WATER UTILITY SERVICE	896	896	1,000	1,000		
40040	REPAIR & MAINT - BUILDINGS	28,230	70,550	250,700	247,800		
40042	REPAIR & MAINT - EQUIPMENT	72,703	50,982	149,000	94,000		
40043	REPAIR & MAINT - UTILITIES	48,809	73,305	61,500	81,500		
40044	REPAIR & MAINT - OFFICE EQUIPMENT	1,570	1,893	1,500	1,500		
40046	REPAIR & MAINT - ROAD	57,182	47,098	60,000	60,000		
40050	RENTAL OF EQUIPMENT	0	0	1,500	1,500		
40070	CENTRAL EQUIP ALLOCATION	112,400	110,900	129,500	133,900		
40075	CITY FACILITIES ALLOCATION	4,900	5,300	4,700	7,900		
Purch Svcs - Prop/Equip		**665,044**	**753,156**	**1,135,200**	**1,110,500**	**0**	**1,132,700**
50019	INSURANCE ALLOCATION	20,100	17,000	16,900	59,600		
50020	TELEPHONE	5,820	6,457	5,900	6,700		
50030	PRINTING & BINDING	1,906	486	5,200	5,200		
50032	PRINT. & BIND. INSIGHTS	5,850	6,643	6,000	6,000		
50035	POSTAGE/DELIVERY	2,483	2,445	3,000	3,000		
50070	DUES, LICENSES & SUBSCRIPTIONS	2,411	2,018	2,400	2,400		
50075	MEALS AND LODGING	0	0	1,000	1,000		
50080	CONFERENCES AND SEMINARS	1,399	2,718	5,900	5,900		
Other Purchased Services		**39,969**	**37,767**	**46,300**	**89,800**	**0**	**91,600**
60011	SUPPLIES-JANITOR/CLEANING	1,477	1,278	1,000	1,000		
60012	SUPPLIES - SHOP	0	54	0	0		
60016	SUPPLIES - MAINTENANCE	21,333	11,086	40,000	40,000		
60019	SUPPLIES-UTIL SYS (CHEM)	51,384	30,447	60,000	60,000		
60022	LUBRICANTS	1,295	0	1,400	1,400		
60040	SM TOOLS & MISC EQUIPMENT	987	1,515	2,200	2,200		
60045	UNIFORMS & CLOTHING	2,389	2,291	3,200	3,200		
60065	SUPPLIES - OTHER	441	1,869	1,500	1,500		
60070	CENTRAL STORES ALLOCATION	374	1,100	300	900		
60071	TECH ALLOCATION	22,200	21,600	26,400	27,700		
Supplies		**101,880**	**71,241**	**136,000**	**137,900**	**0**	**140,700**

City of Inver Grove Heights
Proposed 2018 Budget

Water 501

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
70100	DEPRECIATION EXPENSE	863,730	939,495	912,500	967,200		
70440	BANK CHARGES / CREDIT CARD	7,829	10,672	8,000	13,000		
70510	UT SERVICE FOR LIBRARY	1,473	1,132	3,500	3,500		
70700	ADMINISTRATIVE CHARGES	236,000	236,000	236,000	236,000		
Other Expenses/Expenditures		**1,109,032**	**1,187,299**	**1,160,000**	**1,219,700**	**0**	**1,244,100**
75500	METERS	17,454	7,366	18,800	18,800		
Costs Of Sales		**17,454**	**7,366**	**18,800**	**18,800**	**0**	**19,200**
Total Expense		**2,544,657**	**2,697,825**	**3,287,500**	**3,419,600**	**0**	**3,465,000**
Revenues Over (Under) Expenses				**(224,800)**	**(289,700)**	**0**	**(272,500)**
Additional Cash Outlays:							
	OPERATING TRANSFER OUT			667,500	202,800		199,100
Increase (Decrease) In Cash				**20,200**	**474,700**	**0**	**(471,600)**

City of Inver Grove Heights

Proposed 2018 Budget

Water Rev Ref 2012A Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues		(257)	1,665	0	0	0	0
Other Financing Sources		0	0	0	0	0	0
Total Revenue		**(257)**	**1,665**	**0**	**0**	**0**	**0**
Prof/Tech Services		0	2,067	0	0	0	0
Debt Service		46,974	39,635	36,000	28,500	0	21,100
Total Expense		**46,974**	**41,702**	**36,000**	**28,500**	**0**	**21,100**
Revenues Over (Under) Expenses:				**(36,000)**	**(28,500)**	**0**	**(21,100)**
Additional Cash Receipts:							
3911000	OPERATING TRANSFERS IN			398,100	405,600	0	398,200
Additional Cash Outlays:							
90100	PRINCIPAL PAYMENTS			355,000	370,000	0	370,000
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Water Rev Ref 2012A 361

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	(257)	1,665	0	0		0
Miscellaneous Revenues		**(257)**	**1,665**	**0**	**0**	**0**	**0**
Total Revenue		**(257)**	**1,665**	**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Water Rev Ref 2012A 361

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	0	2,067	0	0		0
Prof/Tech Services		**0**	**2,067**	**0**	**0**	**0**	**0**
90200	INTEREST PAYMENTS	53,367	46,475	42,400	35,100		27,700
90300	PAYING AGENT FEES	720	273	700	500		500
90500	AMORTIZATION	(7,113)	(7,113)	(7,100)	(7,100)		(7,100)
Debt Service		**46,974**	**39,635**	**36,000**	**28,500**	**0**	**21,100**
Total Expense		**46,974**	**41,702**	**36,000**	**28,500**	**0**	**21,100**
Revenues Over (Under) Expenses:				**(36,000)**	**(28,500)**	**0**	**(21,100)**
Additional Cash Receipts:							
3911000	OPERATING TRANSFERS IN			398,100	405,600		398,200
Additional Cash Outlays:							
90100	PRINCIPAL PAYMENTS			355,000	370,000		370,000
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Water Connection Fund Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	633	329	0	2,300	0	1,000
Charges For Services	134,770	271,380	105,300	168,300	0	173,900
Special Assessments	283	236	0	0	0	0
Total Revenue	**135,686**	**271,945**	**105,300**	**170,600**	**0**	**174,900**
Revenues Over (Under) Expenses			**105,300**	**170,600**	**0**	**174,900**
Additional Cash Outlays:						
OPERATING TRANSFER OUT			**199,100**	**202,800**	**0**	**199,100**
Increase (Decrease) In Cash			**(93,800)**	**(32,200)**	**0**	**(24,200)**

City of Inver Grove Heights

Proposed 2018 Budget

Water Connection Fund 403

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	633	329	0	2,300		
Miscellaneous Revenues		**633**	**329**	**0**	**2,300**	**0**	**1,000**
3431000	CONNECTION FEES-WATER	112,510	170,405	105,300	168,300		
3432500	WATER TREATMENT PLANT FEE	22,260	100,975	0	0		
Charges For Services		**134,770**	**271,380**	**105,300**	**168,300**	**0**	**173,900**
3701000	SA CURRENT	283	236	0	0		
Special Assessments		**283**	**236**	**0**	**0**	**0**	**0**
Total Revenue		**135,686**	**271,945**	**105,300**	**170,600**	**0**	**174,900**
Revenues Over (Under) Expenses				**105,300**	**170,600**	**0**	**174,900**
Additional Cash Outlays:							
	OPERATING TRANSFER OUT			**199,100**	**202,800**		**199,100**
Increase (Decrease) In Cash				**(93,800)**	**(32,200)**	**0**	**(24,200)**

City of Inver Grove Heights
Proposed 2018 Budget

Water - NWA Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	10,853	16,217	0	46,500	0	28,800
Charges For Services	35,870	283,980	308,800	416,400	0	431,000
Special Assessments	5,275	3,956	2,600	1,300	0	0
Other Financing Sources	(45,877)	4,837,500	0	0	0	0
Total Revenue	**6,121**	**5,141,654**	**311,400**	**464,200**	**0**	**459,800**
Prof/Tech Services	4,877	4,659	5,000	5,000	0	5,000
Capital Outlay	0	0	0	0	0	0
Other	283,395	1,492,987	0	0	0	0
Total Expense	**288,272**	**1,497,646**	**5,000**	**5,000**	**0**	**5,000**
Revenues Over (Under) Expenses			**306,400**	**459,200**	**0**	**454,800**
Additional Cash Receipts:						
SPECIAL ASSESSMENTS-PRINCIPAL			**18,800**	**18,800**	**0**	**0**
Additional Cash Outlays:						
CAPITAL OUTLAY			**0**	**2,255,100**	**0**	**0**
Increase (Decrease) In Cash			**325,200**	**(1,777,100)**	**0**	**454,800**

City of Inver Grove Heights

Proposed 2018 Budget

Water - NWA 511

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	10,853	16,217	0	46,500		
Miscellaneous Revenues		**10,853**	**16,217**	**0**	**46,500**	**0**	**28,800**
3431100	PLAT CONNECT CHG-NW AREA WA	18,910	95,270	102,400	106,100		
3431200	PERMIT CONNECT-NW AREA WA	16,960	188,710	206,400	310,300		
Charges For Services		**35,870**	**283,980**	**308,800**	**416,400**	**0**	**431,000**
3701000	SA CURRENT	5,275	3,956	2,600	1,300		
Special Assessments		**5,275**	**3,956**	**2,600**	**1,300**	**0**	**0**
3911000	OPERATING TRANSFERS IN	0	4,985,543	0	0		
3970000	CAPITAL CONTRIBUTIONS	(45,877)	(148,043)	0	0		
Other Financing Sources		**(45,877)**	**4,837,500**	**0**	**0**	**0**	**0**
Total Revenue		**6,121**	**5,141,654**	**311,400**	**464,200**	**0**	**459,800**

City of Inver Grove Heights
Proposed 2018 Budget

Water - NWA 511

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	4,877	4,635	5,000	5,000		
30420	CORPORATE	0	24	0	0		
Prof/Tech Services		**4,877**	**4,659**	**5,000**	**5,000**	**0**	**5,000**
80900	DISTRIBUTION SYSTEM	0	0	0	0		
Capital Outlay		**0**	**0**	**0**	**0**	**0**	**0**
91100	OPERATING TRANSFERS OUT	283,395	1,492,987	0	0		
Other		**283,395**	**1,492,987**	**0**	**0**	**0**	**0**
Total Expense		**288,272**	**1,497,646**	**5,000**	**5,000**	**0**	**5,000**
Revenues Over (Under) Expenses				**306,400**	**459,200**	**0**	**454,800**
Additional Cash Receipts:							
	SPECIAL ASSESSMENTS-PRINCIPAL			18,800	18,800		0
Additional Cash Outlays:							
	CAPITAL OUTLAY			0	2,255,100		0
Increase (Decrease) In Cash				**325,200**	**(1,777,100)**	**0**	**454,800**

City of Inver Grove Heights
Proposed 2018 Budget

Sewer Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues		86,681	48,496	42,900	48,200	0	49,200
Utility Revenues		3,084,538	3,281,356	3,434,800	3,550,000	0	3,621,000
Other Financing Sources		613,194	3,121,394	0	0	0	0
Total Revenue		**3,784,413**	**6,451,246**	**3,477,700**	**3,598,200**	**0**	**3,670,200**
Personnel		340,582	366,519	402,100	433,400	0	422,400
Prof/Tech Services		303	393	300	400	0	400
Purch Svcs - Prop/Equip		2,240,154	1,984,260	2,273,200	2,332,100	0	2,378,700
Other Purchased Services		30,110	28,710	28,700	30,200	0	30,800
Supplies		26,401	26,132	33,100	34,100	0	34,800
Other Expenses/Expenditures		850,446	868,797	850,700	1,016,300	0	1,036,600
Other		295,195	3,596,321	0	0	0	0
Total Expense		**3,783,190**	**6,871,133**	**3,588,100**	**3,846,500**	**0**	**3,903,700**
Revenues Over (Under) Expenses				**(110,400)**	**(248,300)**	**0**	**(233,500)**
Additional Cash Outlays:							
	CAPITAL OUTLAY			**44,000**	**0**	**0**	**0**
Increase (Decrease) In Cash				**451,900**	**518,600**	**0**	**(233,500)**

City of Inver Grove Heights

Proposed 2018 Budget

Sewer 502

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	82,561	48,496	42,900	48,200		
3650000	OTHER REVENUES	4,120	0	0	0		
Miscellaneous Revenues		**86,681**	**48,496**	**42,900**	**48,200**	**0**	**49,200**
3821000	SEWER CHARGES	3,046,268	3,241,896	3,220,900	3,330,000		
3821100	EAGAN	0	0	187,000	192,900		
3821200	SO. ST. PAUL	1,682	1,427	1,900	2,100		
3822000	SEWER CHARGES-PENALTIES	36,588	38,033	25,000	25,000		
Utility Revenues		**3,084,538**	**3,281,356**	**3,434,800**	**3,550,000**	**0**	**3,621,000**
3970000	CAPITAL CONTRIBUTIONS	613,194	3,121,394	0	0		
Other Financing Sources		**613,194**	**3,121,394**	**0**	**0**	**0**	**0**
Total Revenue		**3,784,413**	**6,451,246**	**3,477,700**	**3,598,200**	**0**	**3,670,200**

City of Inver Grove Heights

Proposed 2018 Budget

Sewer 502

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	208,232	237,245	244,900	267,300		
10300	TEMPORARY EMPLOYEES	11,166	13,901	17,900	18,400		
10400	OVERTIME	8,683	6,471	10,200	10,500		
20100	FLEX. COMP. SPENDING	15,713	16,779	17,400	18,100		
20300	EMPLOYER SOCIAL SECURITY	14,951	16,581	18,000	19,500		
20350	EMPLOYER MEDICARE	3,496	3,877	4,200	4,600		
20400	EMPLOYER PERA	16,187	18,107	20,500	22,200		
20550	PENSION EXPENSE	16,166	0	16,200	16,200		
20600	MEDICAL INSURANCE	26,079	30,076	35,600	38,500		
20620	LIFE INSURANCE	278	318	300	400		
20630	LTD INSURANCE	727	853	1,300	1,400		
20750	WORKERS COMPENSATION	9,300	10,400	14,100	14,800		
20800	COMPENSATED ABSENCES	8,271	10,715	0	0		
20850	OPEB	1,333	1,196	1,500	1,500		
Personnel		**340,582**	**366,519**	**402,100**	**433,400**	**0**	**422,400**
30550	FLEX/COMP ACCOUNT FEE	303	393	300	400		
Prof/Tech Services		**303**	**393**	**300**	**400**	**0**	**400**
40010	GAS UTILITY SERVICES	1,387	1,377	3,200	3,000		
40015	SEWER UTILITY SERVICES	2,015,578	1,790,147	2,034,300	2,098,900		
40020	ELECTRIC UTILITY SERVICES	11,497	12,236	15,400	15,200		
40030	STORM WATER UTILITY SERVICE	618	465	1,500	1,500		
40042	REPAIR & MAINT - EQUIPMENT	13,013	2,607	10,000	23,700		
40043	REPAIR & MAINT - UTILITIES	82,460	63,328	75,000	50,400		
40050	RENTAL OF EQUIPMENT	0	0	800	800		
40070	CENTRAL EQUIP ALLOCATION	112,400	110,900	129,500	133,900		
40075	CITY FACILITIES ALLOCATION	3,200	3,200	3,500	4,700		
Purch Svcs - Prop/Equip		**2,240,154**	**1,984,260**	**2,273,200**	**2,332,100**	**0**	**2,378,700**
50019	INSURANCE ALLOCATION	28,400	27,300	25,500	27,000		
50030	PRINTING & BINDING	0	0	500	500		
50080	CONFERENCES AND SEMINARS	1,710	1,410	2,700	2,700		
Other Purchased Services		**30,110**	**28,710**	**28,700**	**30,200**	**0**	**30,800**

City of Inver Grove Heights

Proposed 2018 Budget

Sewer 502

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
60016	SUPPLIES - MAINTENANCE	870	6,024	8,200	8,200		
60040	SM TOOLS & MISC EQUIPMENT	0	171	1,000	1,000		
60045	UNIFORMS & CLOTHING	2,891	2,738	3,500	3,500		
60065	SUPPLIES - OTHER	40	0	500	500		
60070	CENTRAL STORES ALLOCATION	400	1,100	300	900		
60071	TECH ALLOCATION	22,200	16,100	19,600	20,000		
Supplies		**26,401**	**26,132**	**33,100**	**34,100**	**0**	**34,800**
70100	DEPRECIATION EXPENSE	606,332	621,841	606,300	766,900		
70440	BANK CHARGES / CREDIT CARD	7,828	10,672	8,000	13,000		
70510	UT SERVICE FOR LIBRARY	286	284	400	400		
70700	ADMINISTRATIVE CHARGES	236,000	236,000	236,000	236,000		
Other Expenses/Expenditures		**850,446**	**868,797**	**850,700**	**1,016,300**	**0**	**1,036,600**
91100	OPERATING TRANSFERS OUT	295,195	3,596,321	0	0		
Other		**295,195**	**3,596,321**	**0**	**0**	**0**	**0**
Total Expense		**3,783,190**	**6,871,133**	**3,588,100**	**3,846,500**	**0**	**3,903,700**
Revenues Over (Under) Expenses				**(110,400)**	**(248,300)**	**0**	**(233,500)**
Additional Cash Outlays:							
	IMPROVEMENTS (NON-BUILDING)			**44,000**			
Increase (Decrease) In Cash				**451,900**	**518,600**	**0**	**(233,500)**

City of Inver Grove Heights
Proposed 2018 Budget

GO Sewer Rev 2010A Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Prof/Tech Services	3,000	0	0	0	0	3,000
Debt Service	216,142	211,250	439,000	438,700	0	100,600
Total Expense	**219,142**	**211,250**	**439,000**	**438,700**	**0**	**103,600**
Revenues Over (Under) Expenses:			**(209,000)**	**(203,700)**	**0**	**(103,600)**
Additional Cash Receipts:						
OPERATING TRANSFERS IN			**439,000**	**438,700**	**0**	**343,600**
Additional Cash Outlays:						
PRINCIPAL PAYMENTS			**230,000**	**235,000**	**0**	**240,000**
Increase (Decrease) In Cash			**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Rev 2010A 354

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	3,000	0	0	0		3,000
Prof/Tech Services		**3,000**	**0**	**0**	**0**	**0**	**3,000**
90200	INTEREST PAYMENTS	215,742	211,250	208,600	203,300		100,200
90300	PAYING AGENT FEES	400	0	400	400		400
Debt Service		**216,142**	**211,250**	**209,000**	**203,700**	**0**	**100,600**
Total Expense		**219,142**	**211,250**	**209,000**	**203,700**	**0**	**103,600**
Revenues Over (Under) Expenses:				**(209,000)**	**(203,700)**	**0**	**(103,600)**
Additional Cash Receipts:							
3911000	OPERATING TRANSFERS IN			439,000	438,700		343,600
Additional Cash Outlays:							
90100	PRINCIPAL PAYMENTS			230,000	235,000		240,000
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

GO Sewer Ref Rev 2014B Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	6	0	0	0	0	0
Total Revenue	**6**	**0**	**0**	**0**	**0**	**0**
Prof/Tech Services	0	0	0	0	0	3,000
Debt Service	128,532	127,782	105,600	118,200	0	111,400
Total Expense	**128,532**	**127,782**	**105,600**	**118,200**	**0**	**114,400**
Revenues Over (Under) Expenses:			**(105,600)**	**(118,200)**	**0**	**(114,400)**
Additional Cash Receipts:						
OPERATING TRANSFERS IN			**422,200**	**437,500**	**0**	**438,700**
Additional Cash Outlays:						
PRINCIPAL PAYMENTS			**325,000**	**330,000**	**0**	**335,000**
Increase (Decrease) In Cash			**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Ref Rev 2014B 363

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	6	0	0	0		
Miscellaneous Revenues		**6**	**0**	**0**	**0**	**0**	**0**
Total Revenue		**6**	**0**	**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Ref Rev 2014B 363

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	0	0	0	0		3,000
Prof/Tech Services		**0**	**0**	**0**	**0**	**0**	**3,000**
90200	INTEREST PAYMENTS	117,814	116,846	113,500	107,000		100,200
90300	PAYING AGENT FEES	0	218	500	500		500
90500	AMORTIZATION	10,719	10,719	(8,400)	10,700		10,700
Debt Service		**128,532**	**127,782**	**105,600**	**118,200**	**0**	**111,400**
Total Expense		**128,532**	**127,782**	**105,600**	**118,200**	**0**	**114,400**
Revenues Over (Under) Expenses:				**(105,600)**	**(118,200)**	**0**	**(114,400)**
Additional Cash Receipts:							
3911000	OPERATING TRANSFERS IN			422,200	437,500		438,700
Additional Cash Outlays:							
90100	PRINCIPAL PAYMENTS			325,000	330,000		335,000
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Rev 2015B Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Prof/Tech Services	34,577	2,250	0	3,000	0	0
Debt Service	56,502	147,866	128,600	121,400	0	112,300
Other	2,417,263	1,951,350	0	0	0	0
Total Expense	**2,508,342**	**2,101,466**	**128,600**	**124,400**	**0**	**112,300**
Revenues Over (Under) Expenses:			**(128,600)**	**(124,400)**	**0**	**(112,300)**
Additional Cash Receipts:						
OPERATING TRANSFERS IN			**272,700**	**365,300**	**0**	**358,200**
Additional Cash Outlays:						
PRINCIPAL PAYMENTS			**160,000**	**225,000**	**0**	**230,000**
Increase (Decrease) In Cash			**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Rev 2015B 366

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	0	2,250	0	3,000		0
30900	BOND ISSUANCE COSTS	34,577	0	0	0		0
Prof/Tech Services		**34,577**	**2,250**	**0**	**3,000**	**0**	**0**
90200	INTEREST PAYMENTS	28,628	161,741	144,500	136,800		127,700
90300	PAYING AGENT FEES	0	2,000	0	500		500
90400	UNDERWRITER'S DISCOUNT	35,811	0	0	0		0
90500	AMORTIZATION	(7,938)	(15,875)	(15,900)	(15,900)		(15,900)
Debt Service		**56,502**	**147,866**	**128,600**	**121,400**	**0**	**112,300**
91100	OPERATING TRANSFERS OUT	2,417,263	1,951,350	0	0		0
Other		**2,417,263**	**1,951,350**	**0**	**0**	**0**	**0**
Total Expense		**2,508,342**	**2,101,466**	**128,600**	**124,400**	**0**	**112,300**
Revenues Over (Under) Expenses:				**(128,600)**	**(124,400)**	**0**	**(112,300)**
Additional Cash Receipts:							
3911000	OPERATING TRANSFERS IN			272,700	365,300	0	358,200
Additional Cash Outlays:							
90100	PRINCIPAL PAYMENTS			160,000	225,000		230,000
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Rev 2017A Summary

Acct Number	Account Description	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Debt Service		154,800	0	154,800
Total Expense		**154,800**	**0**	**154,800**
Revenues Over (Under) Expenses:		**(154,800)**	**0**	**(154,800)**
Additional Cash Receipts:				
	OPERATING TRANSFERS IN	159,800	0	159,800
Increase (Decrease) In Cash		**0**	**0**	**0**

New fund in 2017, new budget in 2018

City of Inver Grove Heights

Proposed 2018 Budget

GO Sewer Rev 2017A 368

Acct Number	Account Description	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
90200	INTEREST PAYMENTS	159,800		159,800
90500	AMORTIZATION	(5,000)		(5,000)
Debt Service		**154,800**	**0**	**154,800**
Total Expense		**154,800**	**0**	**154,800**
Revenues Over (Under) Expenses:		**(154,800)**	**0**	**(154,800)**
Additional Cash Receipts:				
3911000	OPERATING TRANSFERS IN	159,800		159,800
Increase (Decrease) In Cash		**0**	**0**	**0**

New fund in 2017, new budget in 2018

City of Inver Grove Heights
Proposed 2018 Budget

Sewer Connection Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	9,100	5,854	8,500	9,200	0	10,200
Charges For Services	48,325	69,395	33,900	53,900	0	55,800
Special Assessments	315	7,106	0	0	0	0
Total Revenues	**57,740**	**82,354**	**42,400**	**63,100**	**0**	**66,000**
Revenues Over (Under) Expenses			**42,400**	**63,100**	**0**	**66,000**
Increase (Decrease) In Cash			**42,400**	**63,100**	**0**	**66,000**

City of Inver Grove Heights

Proposed 2018 Budget

Sewer Connection 404

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	9,100	5,854	8,500	9,200		
Miscellaneous Revenues		**9,100**	**5,854**	**8,500**	**9,200**	**0**	**10,200**
3432000	CONNECTION FEES-SEWER	48,325	69,395	33,900	53,900		
Charges For Services		**48,325**	**69,395**	**33,900**	**53,900**	**0**	**55,800**
3701000	SA CURRENT	164	7,106	0	0		
3706000	SA PENALTIES & INTEREST	150	0	0	0		
Special Assessments		**315**	**7,106**	**0**	**0**	**0**	**0**
Total Revenues		**57,740**	**82,354**	**42,400**	**63,100**	**0**	**66,000**
Revenues Over (Under) Expenses				**42,400**	**63,100**	**0**	**66,000**
Increase (Decrease) In Cash				**42,400**	**63,100**	**0**	**66,000**

City of Inver Grove Heights
Proposed 2018 Budget

NWA - Sewer Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Base Budget	2018 Preliminary Budget	2019 Preliminary Budget
Miscellaneous Revenues	0	3,481	0	600	0	0
Charges For Services	169,686	443,141	492,500	693,200	0	727,800
Special Assessments	8,656	6,492	4,300	2,200	0	0
Other Financing Sources	0	4,643,149	0	539,300	0	652,600
Total Revenue	**178,342**	**5,096,264**	**496,800**	**1,235,300**	**0**	**1,380,400**
Prof/Tech Services	4,877	4,659	5,000	5,000	0	5,000
Other	844,913	2,956,233	0	0	0	0
Total Expense	**849,790**	**2,960,892**	**5,000**	**5,000**	**0**	**5,000**
Revenues Over (Under) Expenses			**491,800**	**1,230,300**	**0**	**1,375,400**
Additional Cash Receipts:						
SPECIAL ASSESSMENTS-PRINCIPAL			**30,900**	**30,900**	**0**	**0**
Additional Cash Outlays:						
CAPITAL OUTLAY			**0**	**2,234,300**	**0**	**0**
OPERATING TRANSFER OUT			**924,000**	**1,401,300**	**0**	**1,300,300**
Increase (Decrease) In Cash			**(401,300)**	**(2,374,400)**	**0**	**75,100**

City of Inver Grove Heights

Proposed 2018 Budget

NWA - Sewer 512

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3610000	INVESTMENT EARNINGS	0	3,481	0	600		
Miscellaneous Revenues		**0**	**3,481**	**0**	**600**	**0**	**0**
3432100	PLAT CONNECT CHG-NW AREA SR	90,801	151,091	163,400	176,400		
3432200	PERMIT CONNECT-NW AREA SR	78,885	292,050	329,100	516,800		
Charges For Services		**169,686**	**443,141**	**492,500**	**693,200**	**0**	**727,800**
3701000	SA CURRENT	8,656	6,492	4,300	2,200		
Special Assessments		**8,656**	**6,492**	**4,300**	**2,200**	**0**	**0**
3911000	OPERATING TRANSFERS IN	0	4,900,389	0	539,300		
3970000	CAPITAL CONTRIBUTIONS	0	(257,240)	0	0		
Other Financing Sources		**0**	**4,643,149**	**0**	**539,300**	**0**	**652,600**
Total Revenue		**178,342**	**5,096,264**	**496,800**	**1,235,300**	**0**	**1,380,400**

City of Inver Grove Heights
Proposed 2018 Budget

NWA - Sewer 512

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
30150	FISCAL CONSULTANTS	4,877	4,635	5,000	5,000		
30420	CORPORATE	0	24	0	0		
Prof/Tech Services		**4,877**	**4,659**	**5,000**	**5,000**	**0**	**5,000**
91100	OPERATING TRANSFERS OUT	844,913	2,956,233	0	0		
Other		**844,913**	**2,956,233**	**0**	**0**	**0**	**0**
Total Expense		**849,790**	**2,960,892**	**5,000**	**5,000**	**0**	**5,000**
Revenues Over (Under) Expenses				**491,800**	**1,230,300**	**0**	**1,375,400**
Additional Cash Receipts:							
	SPECIAL ASSESSMENTS-PRINCIPAL			30,900	30,900		0
Additional Cash Outlays:							
	CAPITAL OUTLAY			0	2,234,300		0
	OPERATING TRANSFER OUT			924,000	1,401,300		1,300,300
Increase (Decrease) In Cash				**(401,300)**	**(2,374,400)**	**0**	**75,100**

City of Inver Grove Heights
Proposed 2018 Budget

Golf 503 Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Charges For Services	1,633,850	1,303,498	1,676,400	1,680,200	0	1,713,800
Miscellaneous Revenues	1,778	7,824	0	2,800	0	2,900
Other Financing Sources	100,000	100,000	100,000	0	0	0
Total Revenue	**1,735,628**	**1,411,322**	**1,776,400**	**1,683,000**	**0**	**1,716,700**
Personnel	818,006	818,934	909,600	933,900	0	928,900
Prof/Tech Services	1,187	3,557	800	800	0	800
Purch Svcs - Prop/Equip	93,351	77,508	104,000	107,200	0	109,300
Other Purchased Services	46,826	44,922	50,000	50,600	0	51,600
Supplies	188,055	178,231	241,600	233,000	0	237,700
Other Expenses/Expenditures	302,771	272,423	366,200	312,400	0	318,600
Costs Of Sales	128,875	115,651	141,000	138,600	0	141,400
Purchases	429	(2,516)	0	0	0	16,300
Debt Service	1,808	463	0	0	0	0
Other	0	2,179,528	0	0	0	0
Total Expense	**1,581,309**	**3,688,701**	**1,813,200**	**1,776,500**	**0**	**1,804,600**
Revenues Over (Under) Expenses			**(36,800)**	**(99,500)**	**0**	**(87,900)**
Additional Cash Receipts:						
INTERFUND LOAN RECEIPT			**0**	**150,000**	**0**	**180,000**
Additional Cash Outlays						
CAPITAL OUTLAY			**150,000**	**150,000**	**0**	**180,000**
INTERFUND LOAN REPAYMENT			**30,800**	**162,800**	**0**	**162,000**
Increase (Decrease) In Cash			**107,800**	**10,500**	**0**	**22,900**

City of Inver Grove Heights

Proposed 2018 Budget

Golf 503

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3481000	18 HOLE GREEN FEES-REG.	906,504	702,028	891,000	886,900	0	
3481100	FOOT GOLF	8,863	4,825	12,000	6,600	0	
3482800	OTHER REVENUES-OPERATIONS	0	0	0	0	0	
3483200	HANDICAP SERVICES	7,186	6,784	6,900	7,700	0	
3483400	CLUB RENTALS	5,700	4,838	5,000	5,000	0	
3483700	SEASON PASSES	10,642	15,403	22,000	19,500	0	
3483800	PLAYER CARDS	15,011	12,341	18,700	15,000	0	
3484000	PRAC CEN-RANGE BALLS	118,722	82,325	126,000	147,000	0	
3484200	PRAC CEN-INSTR. INCOME	9,360	8,415	11,000	11,100	0	
3485000	GOLF SHOP-APPAREL	22,459	20,375	24,600	24,600	0	
3485200	GOLF SHOP-CLUBS	4,237	4,378	5,000	5,000	0	
3485400	GOLF SHOP-BALLS	15,498	13,608	14,100	13,000	0	
3485600	GOLF SHOP-GLOVES	7,685	7,023	6,800	6,800	0	
3485800	GOLF SHOP-BAGS	2,149	4,592	3,000	3,000	0	
3486000	GOLF SHOP-ACCESSORIES	5,580	8,217	4,100	4,100	0	
3486400	FOOD & BEV/FOOD-CLUBHOUSE	37,551	29,204	40,000	39,000	0	
3486800	FOOD & BEV/BEV-CLUBHOUSE	28,379	27,700	31,300	31,000	0	
3487200	BEER/ALCOHOL	71,004	64,494	100,000	100,000	0	
3487400	FOOD & BEV/VENDING MACH	2,975	1,322	4,900	4,900	0	
3487600	GOLF CARS-18 HOLE RENTALS	354,343	285,627	350,000	350,000	0	
Charges For Services		**1,633,850**	**1,303,498**	**1,676,400**	**1,680,200**	**0**	**1,713,800**
3000000	PERA PENSION OTHER REVENUE	0	2,204	0	0	0	
3610000	INVESTMENT EARNINGS	1,400	2,957	0	2,800	0	
3650000	OTHER REVENUES	378	0	0	0	0	
3660000	OTHER REIMBURSEMENTS	0	2,663	0	0	0	
Miscellaneous Revenues		**1,778**	**7,824**	**0**	**2,800**	**0**	**2,900**
3911000	OPERATING TRANSFERS IN	100,000	100,000	100,000	0	0	
Other Financing Sources		**100,000**	**100,000**	**100,000**	**0**	**0**	**0**
Total Revenue		**1,735,628**	**1,411,322**	**1,776,400**	**1,683,000**	**0**	**1,716,700**

City of Inver Grove Heights

Proposed 2018 Budget

Golf 503

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	400,351	405,642	372,600	390,200	0	
10200	PART-TIME EMPLOYEES	0	0	74,700	75,900	0	
10300	TEMPORARY EMPLOYEES	211,020	186,001	212,000	214,000	0	
10400	OVERTIME	2,009	1,056	600	600	0	
20100	FLEX. COMP. SPENDING	29,874	30,408	32,800	32,800	0	
20300	EMPLOYER SOCIAL SECURITY	35,798	34,673	43,000	44,300	0	
20350	EMPLOYER MEDICARE	8,372	8,109	10,100	10,300	0	
20400	EMPLOYER PERA	35,845	32,734	49,500	41,100	0	
20550	PENSION EXPENSE	(20,347)	0	0	0	0	
20600	MEDICAL INSURANCE	60,317	64,783	67,300	69,900	0	
20620	LIFE INSURANCE	481	492	600	700	0	
20630	LTD INSURANCE	1,125	1,303	2,100	2,200	0	
20700	UNEMPLOYMENT COMPENSATION	19,369	20,771	19,300	20,700	0	
20750	WORKERS COMPENSATION	16,400	16,700	22,300	18,700	0	
20800	COMPENSATED ABSENCES	14,806	14,198	0	0	0	
20850	OPEB	2,588	2,066	2,700	2,500	0	
Personnel		**818,006**	**818,934**	**909,600**	**923,900**	**0**	**928,900**
30420	CORPORATE	434	2,904	0	0	0	
30550	FLEX/COMP ACCOUNT FEE	753	653	800	800	0	
Prof/Tech Services		**1,187**	**3,557**	**800**	**800**	**0**	**800**
40005	WATER UTILITY SERVICES	146	182	200	200	0	
40010	GAS UTILITY SERVICES	3,626	2,411	5,500	5,600	0	
40015	SEWER UTILITY SERVICES	400	0	1,000	1,000	0	
40020	ELECTRIC UTILITY SERVICES	30,573	29,055	35,000	35,500	0	
40030	STORM WATER UTILITY SERVICE	486	510	300	300	0	
40040	REPAIR & MAINT - BUILDINGS	19,041	14,065	18,500	19,000	0	
40041	REPAIR & MAINT - VEHICLES	2,722	2,254	2,000	2,000	0	
40042	REPAIR & MAINT - EQUIPMENT	29,607	27,059	33,000	38,000	0	
40045	REPAIR & MAINT - FENCE	0	0	1,000	300	0	
40047	REPAIR & MAINT - OTHER STRUCTURES	91	0	2,000	0	0	
40050	RENTAL OF EQUIPMENT	2,227	109	2,000	2,000	0	
40055	RENTAL CLUBS	0	0	1,000	800	0	
40065	OTHER RENTALS	4,432	1,863	2,500	2,500	0	
Purch Svcs - Prop/Equip		**93,351**	**77,508**	**104,000**	**107,200**	**0**	**109,300**

City of Inver Grove Heights
Proposed 2018 Budget

Golf 503

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
50014	LIQUOR (DRAM SHOP)	2,397	1,768	2,600	2,500	0	
50019	INSURANCE ALLOCATION	14,300	13,600	12,500	11,200	0	
50020	TELEPHONE	6,079	5,641	6,000	5,000	0	
50025	ADVERTISING/PUBLISHED NOTICES	6,043	4,917	7,000	8,000	0	
50030	PRINTING & BINDING	5,389	5,968	7,000	8,700	0	
50035	POSTAGE/DELIVERY	15	18	200	100	0	
50045	OUTSIDE LABOR	3,017	4,155	2,000	2,500	0	
50050	SIGNAGE	0	82	0	0	0	
50055	ALARM SERVICES / SYSTEMS	1,562	2,039	3,500	3,500	0	
50065	TRAVEL	0	258	200	100	0	
50070	DUES, LICENSES & SUBSCRIPTIONS	6,509	7,261	8,000	8,000	0	
50080	CONFERENCES AND SEMINARS	1,515	(784)	1,000	1,000	0	
Other Purchased Services		**46,826**	**44,922**	**50,000**	**50,600**	**0**	**51,600**
60008	IRRIGATION SUPPLIES	10,576	8,074	8,000	6,000	0	
60010	SUPPLIES - OFFICE	2,820	1,812	2,000	1,900	0	
60012	SUPPLIES - SHOP	3,512	3,103	1,000	1,000	0	
60014	SUPPLIES - TIRES	1,052	735	1,500	1,500	0	
60015	SUPPLIES - EQUIPMENT	6,276	944	500	800	0	
60017	SUPPLIES - PRICING	0	18	100	100	0	
60018	SUPPLIES-TRAINING	636	0	600	600	0	
60020	SUPPLIES - GOLF COURSE	10,789	16,248	14,000	14,000	0	
60021	FUELS	23,242	20,497	35,000	35,000	0	
60022	LUBRICANTS	1,919	3,401	4,000	4,000	0	
60030	FERTILIZERS	25,361	39,131	33,000	34,000	0	
60035	PESTICIDES	46,889	27,566	41,000	41,000	0	
60040	SM TOOLS & MISC EQUIPMENT	5,827	1,795	4,000	4,500	0	
60042	MISC-COMPUTER SOFTWARE	0	0	3,500	3,400	0	
60045	UNIFORMS & CLOTHING	5,761	4,979	5,300	5,300	0	
60050	GOLF COURSE ACCESSORIES	3,712	4,416	3,000	3,000	0	
60060	GOLF BALLS-RANGE	3,187	3,507	4,000	4,000	0	
60065	SUPPLIES - OTHER	2,798	4,406	18,500	18,300	0	
60071	TECH ALLOCATION	33,700	37,600	62,600	54,600	0	
Supplies		**188,055**	**178,231**	**241,600**	**233,000**	**0**	**237,700**

City of Inver Grove Heights

Proposed 2018 Budget

Golf 503

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
70100	DEPRECIATION EXPENSE	262,553	235,176	325,400	272,800	0	
70250	HANDICAPS	6,036	5,728	5,500	5,500	0	
70400	GOLF SHOP FIXTURES	12	0	100	100	0	
70440	BANK CHARGES / CREDIT CARD	31,971	26,040	34,000	33,000	0	
70450	CASH OVER/SHORT	(497)	213	700	500	0	
70600	OTHER MISCELLANEOUS	2,696	2,881	500	500	0	
70800	LOSS DISPOSAL FIXED ASSET	0	2,385	0	0	0	
Other Expenses/Expenditures		**302,771**	**272,423**	**366,200**	**312,400**	**0**	**318,600**
75050	FOOD INVENTORY	36,265	28,703	35,000	35,000	0	
75100	BEVERAGES	17,636	20,298	16,000	16,000	0	
75150	BEER AND WINE	20,808	16,747	40,000	40,000	0	
75200	GOLF COURSE RESALE-APPAREL	24,904	19,634	24,000	22,500	0	
75250	GOLF COURSE RESALE-CLUBS	3,360	5,790	4,000	3,500	0	
75300	GOLF COURSE RESALE-GLOVES	4,065	5,395	4,700	4,600	0	
75350	GOLF COURSE RESALE-BAGS	1,552	7,685	2,800	2,500	0	
75400	GOLF COURSE RESALE-ACCESS	3,493	2,600	3,000	3,000	0	
75450	GOLF COURSE RESALE-BALLS	16,792	8,800	11,500	11,500	0	
Costs Of Sales		**128,875**	**115,651**	**141,000**	**138,600**	**0**	**141,400**
76050	FOOD	0	0	0	0	0	
76100	BEVERAGES	0	(1,295)	0	16,000	0	
76150	BEER	0	0	0	0	0	
76200	APPAREL	196	0	0	0	0	
76250	CLUBS	233	0	0	0	0	
76300	GLOVES	0	0	0	0	0	
76350	BAGS	0	0	0	0	0	
76400	ACCESSORIES	0	0	0	0	0	
76450	BALLS	0	(1,221)	0	0	0	
Purchases		**429**	**(2,516)**	**0**	**16,000**	**0**	**16,300**

City of Inver Grove Heights

Proposed 2018 Budget

Golf 503

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
90200	INTEREST	1,808	463	0	0	0	
Debt Service		**1,808**	**463**	**0**	**0**	**0**	**0**
91100	OPERATING TRANSFERS OUT	0	2,179,528	0	0	0	
Other		**0**	**2,179,528**	**0**	**0**	**0**	**0**
Total Expense		**1,581,309**	**3,688,701**	**1,813,200**	**1,782,500**	**0**	**1,804,600**
Revenues Over (Under) Expenses				**(36,800)**	**(99,500)**	**0**	**(87,900)**
Additional Cash Receipts:							
	INTERFUND LOAN RECEIPT			0	150,000		180,000
Additional Cash Outlays							
	FUTURE CAPITAL OUTLAY			100,000	0		0
	IMPROVEMENTS (NON-BLDG)			50,000	0		0
	HEAVY MACHINERY & EQUIPMENT			0	150,000		180,000
	INTERFUND LOAN REPAYMENT			30,800	162,800		162,000
Increase (Decrease) In Cash				**107,800**	**10,500**	**0**	**22,900**

City of Inver Grove Heights

Proposed 2018 Budget

Risk Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Charges For Services	734,700	741,400	832,100	954,800	0	974,500
Miscellaneous Revenues	122,369	191,360	68,100	68,600	0	70,000
Total Revenue	**857,069**	**932,760**	**900,200**	**1,023,400**	**0**	**1,044,500**
Personnel	16,055	17,401	17,800	18,400	0	19,400
Prof/Tech Services	25,891	23,350	50,000	0	0	0
Purch Svcs - Prop/Equip	5,076	45,312	0	50,000	0	51,000
Other Purchased Services	680,645	770,194	832,400	905,000	0	923,100
Supplies	6,310	0	0	0	0	0
Other Expenses/Expenditures	13,689	26,393	50,000	50,000	0	51,000
Total Expense	**747,666**	**882,650**	**950,200**	**1,023,400**	**0**	**1,044,500**
Revenues Over (Under) Expenses			**(50,000)**	**0**	**0**	**0**
Increase (Decrease) In Cash			**(50,000)**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Risk 602

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3461000	W.C. INTERNAL REVENUES	350,800	386,500	494,900	589,100	0	
3462000	INSURANCE INTERNAL REV.	383,900	354,900	337,200	365,700	0	
Charges For Services		**734,700**	**741,400**	**832,100**	**954,800**	**0**	**974,500**
3610000	INVESTMENT EARNINGS	8,121	5,551	8,100	8,600		
3660000	OTHER REIMBURSEMENTS	114,248	173,010	60,000	60,000		
3670000	INSURANCE REIMBURSEMENTS	0	12,799	0	0		
Miscellaneous Revenues		**122,369**	**191,360**	**68,100**	**68,600**	**0**	**70,000**
Total Revenue		**857,069**	**932,760**	**900,200**	**1,023,400**	**0**	**1,044,500**

City of Inver Grove Heights

Proposed 2018 Budget

Risk 602

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	12,045	12,978	13,500	13,900		
10400	OVERTIME	14	6	0	0		
20100	FLEX. COMP. SPENDING	668	668	700	700		
20300	EMPLOYER SOCIAL SECURITY	741	786	800	900		
20350	EMPLOYER MEDICARE	178	192	200	200		
20400	EMPLOYER PERA	906	974	1,000	1,000		
20550	PENSION EXPENSE	(460)	0	0	0		
20600	MEDICAL INSURANCE	1,182	1,318	1,400	1,500		
20620	LIFE INSURANCE	16	18	0	0		
20630	LTD INSURANCE	39	42	100	100		
20750	WORKERS COMPENSATION	100	100	100	100		
20800	COMPENSATED ABSENCES	626	321	0	0		
Personnel		**16,055**	**17,401**	**17,800**	**18,400**	**0**	**19,400**
30420	CORPORATE	25,866	8,681	0	0		
30550	FLEX/COMP ACCOUNT FEE	25	24	0	0		
30700	OTHER PROFESSIONAL SERVICES	0	14,645	50,000	0		
Prof/Tech Services		**25,891**	**23,350**	**50,000**	**0**	**0**	**0**
40048	REPAIR & MAINT - INS PAID CLAIM	5,076	45,312	0	50,000		
Purch Svcs - Prop/Equip		**5,076**	**45,312**	**0**	**50,000**	**0**	**51,000**
50009	WORKERS' COMP INSURANCE	319,568	432,308	494,900	589,100		
50010	GENERAL LIAB. INSURANCE	162,735	152,277	147,900	150,000		
50011	PROPERTY DAMAGE INSURANCE	139,676	128,693	132,700	119,800		
50012	AUTOMOBILE INSURANCE	37,544	36,709	38,300	37,500		
50014	LIQUOR (DRAM SHOP)	0	0	0	0		
50015	BONDS INSURANCE	2,573	1,789	1,600	2,100		
50016	MOBILE INSURANCE	11,935	11,264	10,700	0		
50018	OTHER INSURANCE	263	859	0	0		
50080	CONFERENCES AND SEMINARS	6,351	6,294	6,300	6,500		
Other Purchased Services		**680,645**	**770,194**	**832,400**	**905,000**	**0**	**923,100**

City of Inver Grove Heights

Proposed 2018 Budget

Risk 602

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
60065	SUPPLIES - OTHER	6,310	0	0	0		
Supplies		**6,310**	**0**	**0**	**0**	**0**	**0**
70200	INS CLAIMS-DEDUCTIBLE	13,689	26,393	50,000	50,000		
Other Expenses/Expenditures		**13,689**	**26,393**	**50,000**	**50,000**	**0**	**51,000**
Total Expense		**747,666**	**882,650**	**950,200**	**1,023,400**	**0**	**1,044,500**
Revenues Over (Under) Expenses				**(50,000)**	**0**	**0**	**0**
Increase (Decrease) In Cash				**(50,000)**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

Central Equipment Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
	Charges For Services	2,399,700	2,529,300	2,545,200	2,730,400	0	2,785,000
	Miscellaneous Revenues	152,439	166,198	94,400	101,300	0	103,300
	Other Financing Sources	0	0	0	0	0	0
	Total Revenue	**2,552,139**	**2,695,498**	**2,639,600**	**2,831,700**	**0**	**2,888,300**
	Personnel	310,929	348,044	370,000	379,300	0	398,300
	Prof/Tech Services	155	156	200	200	0	200
	Purch Svcs - Prop/Equip	314,823	273,830	385,900	557,200	0	568,300
	Other Purchased Services	8,712	8,233	10,400	12,300	0	12,500
	Supplies	316,063	246,876	419,000	419,000	0	427,400
	Other Expenses/Expenditures	824,511	946,819	1,167,000	1,266,900	0	1,292,200
	Total Expense	**1,775,193**	**1,823,958**	**2,352,500**	**2,634,900**	**0**	**2,698,900**
	Revenues Over (Under) Expenses			**287,100**	**196,800**	**0**	**189,400**
	Additional Cash Receipts:						
	Interfund Loan Receipt			**30,800**	**162,800**	**0**	**162,000**
	Additional Cash Outlays:						
	Interfund Loan Disbursement			**0**	**150,000**	**0**	**180,000**
	Capital Outlay			**1,284,700**	**1,001,100**	**0**	**0**
	Increase (Decrease) In Cash			**200,200**	**625,400**	**0**	**351,400**

City of Inver Grove Heights

Proposed 2018 Budget

Central Equipment 603

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3466000	VEHICLE RENTAL REVENUE	2,399,700	2,529,300	2,545,200	2,730,400		
Charges For Services		**2,399,700**	**2,529,300**	**2,545,200**	**2,730,400**	**0**	**2,785,000**
3610000	INVESTMENT EARNINGS	137,862	87,254	94,400	101,300		
3650000	OTHER REVENUES	766	208	0	0		
3660000	OTHER REIMBURSEMENTS	756	192	0	0		
3670000	INSURANCE REIMBURSEMENTS	1,985	0	0	0		
3680000	GAIN ON DISPOSAL OF FIXED ASSET	11,070	78,545	0	0		
Miscellaneous Revenues		**152,439**	**166,198**	**94,400**	**101,300**	**0**	**103,300**
3900100	PROCEEDS FROM SALE OF F/A	0	0	0	0		
Other Financing Sources		**0**	**0**	**0**	**0**	**0**	**0**
Total Revenue		**2,552,139**	**2,695,498**	**2,639,600**	**2,831,700**	**0**	**2,888,300**

City of Inver Grove Heights

Proposed 2018 Budget

Central Equipment 603

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	220,971	232,663	238,000	245,300		
10300	TEMPORARY EMPLOYEES	6,107	9,184	15,500	16,000		
10400	OVERTIME	2,457	6,360	10,600	11,000		
20100	FLEX. COMP. SPENDING	14,868	14,868	16,200	16,200		
20300	EMPLOYER SOCIAL SECURITY	14,206	15,204	17,400	17,900		
20350	EMPLOYER MEDICARE	3,322	3,555	4,100	4,200		
20400	EMPLOYER PERA	16,763	17,872	19,800	20,400		
20550	PENSION EXPENSE	(11,446)	0	0	0		
20600	MEDICAL INSURANCE	28,038	29,883	33,300	34,500		
20620	LIFE INSURANCE	305	318	300	300		
20630	LTD INSURANCE	818	861	1,300	1,300		
20750	WORKERS COMPENSATION	10,600	10,400	13,500	12,200		
20800	COMPENSATED ABSENCES	3,920	6,874	0	0		
Personnel		**310,929**	**348,044**	**370,000**	**379,300**	**0**	**398,300**
30550	FLEX/COMP ACCOUNT FEE	155	156	200	200		
Prof/Tech Services		**155**	**156**	**200**	**200**	**0**	**200**
40005	WATER UTILITY SERVICES	2,563	3,384	4,200	4,200		
40010	GAS UTILITY SERVICES	8,173	7,908	18,000	18,000		
40015	SEWER UTILITY SERVICES	3,178	4,237	5,100	5,100		
40020	ELECTRIC UTILITY SERVICES	16,821	18,115	22,000	22,300		
40025	REFUSE DISPOSAL	1,228	421	1,400	1,400		
40040	REPAIR & MAINT - BUILDINGS	74,838	41,587	32,000	203,000		
40041	REPAIR & MAINT - VEHICLES	192,287	174,669	250,000	250,000		
40042	REPAIR & MAINT - EQUIPMENT	8,675	14,799	46,000	46,000		
40044	REPAIR & MAINT - OFFICE EQUIPMENT	0	221	0	0		
40050	RENTAL OF EQUIPMENT	0	0	500	500		
40065	OTHER RENTALS	7,061	8,489	6,700	6,700		
Purch Svcs - Prop/Equip		**314,823**	**273,830**	**385,900**	**557,200**	**0**	**568,300**

City of Inver Grove Heights

Proposed 2018 Budget

Central Equipment 603

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	6,500	6,200	6,100	8,000		
50020	TELEPHONE	1,328	1,362	1,500	1,500		
50025	ADVERTISING/PUBLISHED NOTICES	0	0	200	200		
50070	DUES, LICENSES & SUBSCRIPTIONS	128	209	1,600	1,600		
50080	CONFERENCES AND SEMINARS	756	462	1,000	1,000		
Other Purchased Services		**8,712**	**8,233**	**10,400**	**12,300**	**0**	**12,500**
60010	SUPPLIES - OFFICE	537	63	600	600		
60011	SUPPLIES-JANITOR/CLEANING	4,140	2,392	4,200	4,200		
60012	SUPPLIES - SHOP	10,609	9,911	12,000	12,000		
60014	SUPPLIES - TIRES	24,313	27,276	24,000	24,000		
60016	SUPPLIES - MAINTENANCE	711	6,793	1,000	1,000		
60021	FUELS	231,148	170,924	347,500	347,500		
60022	LUBRICANTS	11,881	15,265	16,800	16,800		
60040	SM TOOLS & MISC EQUIPMENT	29,717	7,934	8,400	8,400		
60045	UNIFORMS & CLOTHING	2,836	3,151	3,500	3,500		
60065	SUPPLIES - OTHER	172	3,167	1,000	1,000		
Supplies		**316,063**	**246,876**	**419,000**	**419,000**	**0**	**427,400**

City of Inver Grove Heights
Proposed 2018 Budget

Central Equipment 603

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
70100	DEPRECIATION EXPENSE	798,935	935,247	1,167,000	1,266,900		
70600	OTHER MISCELLANEOUS	25,576	11,572	0	0		
Other Expenses/Expenditures		**824,511**	**946,819**	**1,167,000**	**1,266,900**	**0**	**1,292,200**
Total Expense		**1,775,193**	**1,823,958**	**2,352,500**	**2,634,900**	**0**	**2,698,900**
Revenues Over (Under) Expenses				**287,100**	**196,800**	**0**	**189,400**
Additional Cash Receipts:							
	INTERFUND LOAN RECEIPT			30,800	162,800		162,000
Additional Cash Outlays:							
	INTERFUND LOAN DISBURSEMENT				150,000		180,000
	HEAVY MACHINERY & EQUIPMENT			283,500	83,400		
	MOTOR VEHICLES			930,200	768,500		
	OTHER EQUIPMENT			71,000	149,200		
Increase (Decrease) In Cash				**200,200**	**625,400**	**0**	**351,400**

City of Inver Grove Heights

Proposed 2018 Budget

Central Stores Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Charges For Services	88,200	86,700	82,600	95,000	0	95,600
Miscellaneous Revenues	5,715	4,754	5,000	4,900	0	5,000
Total Revenue	**93,915**	**91,454**	**87,600**	**99,900**	**0**	**100,600**
Purch Svcs - Prop/Equip	56,778	66,105	57,600	67,400	0	67,400
Supplies	27,564	30,355	30,000	32,500	0	33,200
Total Expense	**84,343**	**96,460**	**87,600**	**99,900**	**0**	**100,600**
Revenues Over (Under) Expenses			**0**	**0**	**0**	**0**
Increase (Decrease) In Cash			**0**	**0**	**0**	**0**

City of Inver Grove Heights

Proposed 2018 Budget

Central Stores 604

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3467000	CENTRAL STORES INT. REV.	88,200	86,700	82,600	95,000		
Charges For Services		**88,200**	**86,700**	**82,600**	**95,000**	**0**	**95,600**
3610000	INVESTMENT EARNINGS	5,384	3,455	5,000	4,900		
3650000	OTHER REVENUES	331	1,299	0	0		
Miscellaneous Revenues		**5,715**	**4,754**	**5,000**	**4,900**	**0**	**5,000**
Total Revenue		**93,915**	**91,454**	**87,600**	**99,900**	**0**	**100,600**

City of Inver Grove Heights
Proposed 2018 Budget

Central Stores 604

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
40050	RENTAL OF EQUIPMENT	56,778	66,105	57,600	67,400		
Purch Svcs - Prop/Equip		**56,778**	**66,105**	**57,600**	**67,400**	**0**	**67,400**
60005	SUPPLIES - COPY	2,807	1,578	4,000	2,500		
60010	SUPPLIES - OFFICE	24,757	28,777	26,000	30,000		
Supplies		**27,564**	**30,355**	**30,000**	**32,500**	**0**	**33,200**
Total Expense		**84,343**	**96,460**	**87,600**	**99,900**	**0**	**100,600**
Revenues Over (Under) Expenses				**0**	**0**	**0**	**0**
Increase (Decrease) In Cash				**0**	**0**	**0**	**0**

City of Inver Grove Heights
Proposed 2018 Budget

City Facilities Summary

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Requested Additions	2018 Preliminary Budget	2019 Preliminary Budget
Charges For Services		352,800	360,500	416,900	557,800	0	569,000
Miscellaneous Revenues		7,882	18,191	10,600	10,500	0	10,700
Other Financing Sources		15,700,645	0	0	0	0	0
Total Revenue		**16,061,328**	**378,691**	**427,500**	**568,300**	**0**	**579,700**
Personnel		71,537	79,779	79,500	81,800	0	85,900
Prof/Tech Services		30,493	4,750	7,100	65,100	0	66,400
Purch Svcs - Prop/Equip		208,407	223,890	270,400	273,000	0	278,500
Other Purchased Services		53,932	60,755	62,000	76,400	0	77,900
Supplies		11,625	14,028	33,000	28,200	0	28,800
Other Expenses/Expenditures		117,558	632,941	632,200	629,800	0	642,400
Other		14,700	16,300	20,300	32,300	0	41,200
Total Expense		**508,252**	**1,032,443**	**1,104,500**	**1,186,600**	**0**	**1,221,100**
Revenues Over (Under) Expenses				**(677,000)**	**(618,300)**	**0**	**(641,400)**
Increase (Decrease) In Cash				**(44,800)**	**11,500**	**0**	**(641,400)**

City of Inver Grove Heights

Proposed 2018 Budget

City Facilities 605

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3468000	BUILDINGS INTERNAL CHARGE	352,800	360,500	416,900	557,800		
Charges For Services		**352,800**	**360,500**	**416,900**	**557,800**	**0**	**569,000**
3620000	RENTS & ROYALTIES	5,602	8,963	9,000	9,000		
3610000	INVESTMENT EARNINGS	2,281	1,251	1,600	1,500		
3660000	OTHER REIMBURSEMENTS	0	7,977	0	0		
Miscellaneous Revenues		**7,882**	**18,191**	**10,600**	**10,500**	**0**	**10,700**
3970000	CAPITAL CONTRIBUTIONS	15,700,645	0	0	0		
Other Financing Sources		**15,700,645**	**0**	**0**	**0**	**0**	**0**
Total Revenue		**16,061,328**	**378,691**	**427,500**	**568,300**	**0**	**579,700**

City of Inver Grove Heights

Proposed 2018 Budget

City Facilities 605

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	50,270	54,970	53,000	54,600		
20100	FLEX. COMP. SPENDING	3,960	3,960	4,600	4,600		
20300	EMPLOYER SOCIAL SECURITY	2,347	2,603	3,600	3,700		
20350	EMPLOYER MEDICARE	549	609	800	900		
20400	EMPLOYER PERA	3,633	3,975	4,000	4,100		
20550	PENSION EXPENSE	(1,988)	0	0	0		
20600	MEDICAL INSURANCE	9,310	9,878	9,500	9,900		
20620	LIFE INSURANCE	68	70	100	100		
20630	LTD INSURANCE	182	195	300	300		
20750	WORKERS COMPENSATION	2,600	2,800	3,600	3,600		
20800	COMPENSATED ABSENCES	606	719	0	0		
Personnel		**71,537**	**79,779**	**79,500**	**81,800**	**0**	**85,900**
30550	FLEX/COMP ACCOUNT FEE	49	46	100	100		
30700	OTHER PROFESSIONAL SERVICES	30,445	4,704	7,000	65,000		
Prof/Tech Services		**30,493**	**4,750**	**7,100**	**65,100**	**0**	**66,400**
40005	WATER UTILITY SERVICES	3,094	2,956	2,500	3,000		
40015	SEWER UTILITY SERVICES	845	863	800	900		
40020	ELECTRIC UTILITY SERVICES	79,854	88,904	91,000	91,000		
40030	STORM WATER UTILITY SERVICE	2,227	244	2,500	2,500		
40040	REPAIR & MAINT - BUILDINGS	114,831	121,182	164,500	165,000		
40042	REPAIR & MAINT - EQUIPMENT	609	334	1,100	1,100		
40044	REPAIR & MAINT - OFFICE EQUIPMENT	3,317	3,124	2,000	3,000		
40047	REPAIR & MAINT - OTHER STRUCTURES	222	3,269	500	500		
40050	RENTAL OF EQUIPMENT	0	0	3,000	3,000		
40065	OTHER RENTALS	3,408	3,015	2,500	3,000		
Purch Svcs - Prop/Equip		**208,407**	**223,890**	**270,400**	**273,000**	**0**	**278,500**

City of Inver Grove Heights

Proposed 2018 Budget

City Facilities 605

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
50019	INSURANCE ALLOCATION	18,400	15,600	15,000	29,400		
50035	POSTAGE/DELIVERY	42,445	44,251	45,000	45,000		
50055	ALARM SERVICES / SYSTEMS	994	904	1,000	1,000		
50070	DUES, LICENSES & SUBSCRIPTIONS	(7,906)	0	1,000	1,000		
Other Purchased Services		**53,932**	**60,755**	**62,000**	**76,400**	**0**	**77,900**
60010	SUPPLIES - OFFICE	0	0	3,000	3,000		
60011	SUPPLIES-JANITOR/CLEANING	2,190	1,318	8,000	6,000		
60016	SUPPLIES - MAINTENANCE	6,042	5,443	5,000	6,000		
60040	SM TOOLS & MISC EQUIPMENT	839	992	6,500	4,000		
60045	UNIFORMS & CLOTHING	90	115	200	200		
60065	SUPPLIES - OTHER	2,463	6,160	10,300	9,000		
Supplies		**11,625**	**14,028**	**33,000**	**28,200**	**0**	**28,800**
70100	DEPRECIATION EXPENSE	17,153	632,716	632,200	629,800		
70500	OTHER MISCELLANEOUS	5	225	0	0		
70800	LOSS DISPOSAL FIXED ASSET	100,401	0	0	0		
Other Expenses/Expenditures		**117,558**	**632,941**	**632,200**	**629,800**	**0**	**642,400**
91100	OPERATING TRANSFERS OUT	14,700	16,300	20,300	32,300		
Other		**14,700**	**16,300**	**20,300**	**32,300**	**0**	**41,200**
Total Expense		**508,252**	**1,032,443**	**1,104,500**	**1,186,600**	**0**	**1,221,100**
Revenues Over (Under) Expenses				**(677,000)**	**(618,300)**	**0**	**(641,400)**
Increase (Decrease) In Cash				**(44,800)**	**11,500**	**0**	**(641,400)**

City of Inver Grove Heights
Proposed 2018 Budget

Technology Summary

	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
Intergovernmental	0	9,559	0	0	0	0
Charges For Services	746,100	896,900	1,117,700	1,152,400	0	1,175,400
Miscellaneous Revenues	7,763	5,775	8,000	10,000	0	10,200
Revenue	**753,863**	**912,235**	**1,125,700**	**1,162,400**	**0**	**1,185,600**
Personnel	315,787	320,591	414,800	452,200	0	474,700
Prof/Tech Services	158,626	164,648	71,800	78,100	0	79,700
Purch Svcs - Prop/Equip	151	2,032	29,000	29,000	0	29,600
Other Purchased Services	65,660	65,052	151,200	157,600	0	160,800
Supplies	78,940	132,143	37,900	53,100	0	54,200
Other Expenses/Expenditures	41,634	55,715	36,300	27,200	0	27,700
Expense	**660,797**	**740,180**	**741,000**	**797,200**	**0**	**826,700**
Revenues Over (Under) Expenses			**384,700**	**365,200**	**0**	**358,900**
Additional Cash Outlays:						
Capital Outlay			**272,300**	**140,600**	**0**	**0**
Increase (Decrease) In Cash			**148,700**	**251,800**	**0**	**386,600**

City of Inver Grove Heights

Proposed 2018 Budget

Technology 606

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
3300500	FEDERAL GRANTS	0	9,559	0	0		
Intergovernmental		**0**	**9,559**	**0**	**0**	**0**	**0**
3467100	COMPUTER MAINTENANCE	746,100	896,900	1,117,700	1,152,400		
Charges For Services		**746,100**	**896,900**	**1,117,700**	**1,152,400**	**0**	**1,175,400**
3610000	INVESTMENT EARNINGS	7,763	5,775	8,000	10,000		
3660000	OTHER REIMBURSEMENTS	0	0	0	0		
Miscellaneous Revenues		**7,763**	**5,775**	**8,000**	**10,000**	**0**	**10,200**
Total Revenue		**753,863**	**912,235**	**1,125,700**	**1,162,400**	**0**	**1,185,600**

City of Inver Grove Heights

Proposed 2018 Budget

Technology 606

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
10100	REGULAR FULL-TIME	231,395	237,510	306,000	323,400		
10400	OVERTIME	0	0	0	13,400		
20100	FLEX. COMP. SPENDING	13,224	13,224	18,500	18,500		
20300	EMPLOYER SOCIAL SECURITY	13,988	14,317	20,100	22,000		
20350	EMPLOYER MEDICARE	3,271	3,348	4,700	5,200		
20400	EMPLOYER PERA	17,371	17,813	23,000	25,300		
20550	PENSION EXPENSE	4,419	0	0	0		
20600	MEDICAL INSURANCE	25,073	26,643	38,000	39,500		
20620	LIFE INSURANCE	307	326	400	500		
20630	LTD INSURANCE	798	854	1,400	1,400		
20750	WORKERS COMPENSATION	1,500	1,900	2,700	3,000		
20800	COMPENSATED ABSENCES	4,440	4,657	0	0		
Personnel		**315,787**	**320,591**	**414,800**	**452,200**	**0**	**474,700**
30550	FLEX/COMP ACCOUNT FEE	234	261	300	300		
30700	OTHER PROFESSIONAL SERVICES	152,752	164,063	67,500	73,800		
30750	I-NET SERVICES	5,639	325	4,000	4,000		
Prof/Tech Services		**158,626**	**164,648**	**71,800**	**78,100**	**0**	**79,700**
40044	REPAIR & MAINT - OFFICE EQUIPMENT	151	2,032	4,000	4,000		
40049	REPAIR & MAINT - COMPUTERS	0	0	25,000	25,000		
Purch Svcs - Prop/Equip		**151**	**2,032**	**29,000**	**29,000**	**0**	**29,600**
50020	TELEPHONE	38,279	37,691	30,200	31,700		
50065	TRAVEL	2,872	1,077	500	2,500		
50070	DUES, LICENSES & SUBSCRIPTIONS	22,209	22,420	104,700	110,400		
50075	MEALS AND LODGING	0	51	0	0		
50080	CONFERENCES AND SEMINARS	2,301	3,812	15,800	13,000		
Other Purchased Services		**65,660**	**65,052**	**151,200**	**157,600**	**0**	**160,800**

City of Inver Grove Heights

Proposed 2018 Budget

Technology 606

Acct Number	Account Description	2015 Actual	2016 Actual	2017 Amended Budget	2018 Department Request	2018 Preliminary Budget	2019 Preliminary Budget
60010	SUPPLIES - OFFICE	8,596	2,300	10,000	10,800		
60015	SUPPLIES - EQUIPMENT	98	5	0	0		
60040	SM TOOLS & MISC EQUIPMENT	2,712	355	300	500		
60041	MISC COMPUTER HARDWARE	63,728	114,141	21,100	35,300		
60042	MISC-COMPUTER SOFTWARE	1,581	14,404	4,000	4,000		
60065	SUPPLIES - OTHER	2,225	938	2,500	2,500		
Supplies		**78,940**	**132,143**	**37,900**	**53,100**	**0**	**54,200**
70100	DEPRECIATION EXPENSE	41,634	55,715	36,300	27,200		
Other Expenses/Expenditures		**41,634**	**55,715**	**36,300**	**27,200**	**0**	**27,700**
Total Expense		**660,797**	**740,180**	**741,000**	**797,200**	**0**	**826,700**
Revenues Over (Under) Expenses				**384,700**	**365,200**	**0**	**358,900**
Additional Cash Outlays:							
Capital Outlay							
80600	OFFICE EQUIPMENT						
80610	COMPUTER HARDWARE				140,600		
80620	COMPUTER SOFTWARE			272,300			
Increase (Decrease) In Cash				**148,700**	**251,800**	**0**	**386,600**

MEMO

CITY OF INVER GROVE HEIGHTS

TO: Mayor and City Council
Joe Lynch, City Administrator

FROM: Scott D. Thureen, Public Works Director

DATE: November 2, 2017

SUBJECT: 2018 Capital Equipment Replacement Request

Attached you will find memos from the Street Maintenance Superintendent, Lead Mechanic, Utilities Superintendent, Park Superintendent and Interim Police Chief providing background information for their Division/Department requests for equipment replacement.

In addition, the Street Maintenance Superintendent has provided a spreadsheet showing the subject equipment and the estimated acquisition cost, the results of the Vehicle Condition Index (VCI) rating for each piece of equipment and photos of the equipment.

Staff from the various Divisions/Departments will be available to answer questions concerning their requests.

SDT/kf
Attachments

City of Inver Grove Heights
Streets/Central Equipment

MEMORANDUM

TO: Scott Thureen, Public Works Director

FROM: Barry Underdahl, Street Superintendent
Rick Jackson, Lead Mechanic

SUBJECT: Proposed 2018 Capital Equipment Replacements

DATE: October 31, 2017

During the annual review of the City's Vehicle Replacement Schedule thirty-six items came up for replacement in seven divisions. Upon review of these vehicles and equipment the thirty-six items were reduced to nineteen with the remaining seventeen vehicles and equipment items postponed to a later date. The final proposed list includes four in Streets, two for Utilities, five in Parks, one for Inspections, five in the Police Department, and two for the Fire Department.

Street Maintenance

The following equipment is recommended to be replaced in 2018. This list was reduced from eleven scheduled items down to four. The acquisition of these four items leaves a budget surplus in the replacement schedule. This surplus is due to; past delays in purchases, adjusting the replacement life cycle of dump trucks from 7 years to 10 years, excellent state contract pricing, and very good trade values.

Sterling Single Axle Dump Truck #311 (2007)

Truck #311 is used for plowing and de-icing one of eight major plow routes, towing, and hauling maintenance materials. All eight trucks in our winter maintenance fleet would be equipped with Precise GPS capabilities allowing more accurate tracking of salt use and plow route management. This truck came due in 2017 but its request for replacement was delayed until 2018.

Ford F250 #315 (2008)

This pickup is used year-round in the performance of the Street Division's maintenance duties. It transports staff, equipment, tools and materials, and is used for towing and plowing duties. Our mechanics have experienced expensive engine problems in this diesel engine family and they are recommending its replacement due to likely repair costs that could total more than this truck's current value.

Ford F550 #318 (2007)

This heavy-duty pickup truck is used year-round in the performance of the Street Division's maintenance duties. This truck transports equipment, tools, and materials as well as towing, hauling, plowing and anti-icing duties. F550's are a versatile work truck and the workhorse of the Street Division.

Mauldin Tack Oil Trailer/Sprayer #322 (2012)

Well used, this trailer is instrumental in properly applying a tack coat to pavement before patching, especially before broad area patching. Replacing this trailer will ensure even application and reduce the possibility of delays in prepping asphalt surfaces before paving. Avoiding delays, to reduce heat loss from truckloads of hot asphalt, is very important when feeding the paver during broad area patching.

Utilities Division

Four Utilities vehicles came due on the replacement schedule for 2018. This list has been reduced from four items down to two. One is a pickup truck with contractor body. The other is an emergency generator. The attached memo, from the Utilities Superintendent, explains the two items recommended for replacement.

Park Maintenance

Eleven Park Maintenance vehicles came due on the schedule for replacement. Six items are being deferred and five are recommended for replacement in 2018. See the attached memo, from the Park Maintenance Superintendent, outlining the vehicles and equipment recommended for replacement.

Inspections

Two inspections vehicles came due on the replacement schedule. #804 is recommended for replacement.

Police Department

It is recommended to replace five Police vehicles in 2018 with four marked Interceptor SUVs and a Civilian Explorer XLT. See the attached memo, from Interim Police Chief Sean Folmar, outlining the Police vehicles recommended for replacement.

Fire Department

The Fire Department is recommending replacing the Fire Marshal's 2007 Ford F150 pickup #2740 and the 2010 Ford Expedition Squad S2.

*Final costs may vary slightly depending on contract dates and vehicle or equipment manufacturing cutoff dates. This could mean a cost increase which is generally no more than 5%.
The acquisition of these items leaves a budget surplus in the equipment replacement schedule for the listed vehicles and equipment.

City of Inver Grove Heights
UTILITY DIVISION

MEMORANDUM

TO: Barry Underdahl

FROM: Dan Helling

SUBJECT: **2018 Utility Truck and Generator Replacement**

DATE: October 31, 2017

The following is a description of the one Utility Division vehicle and one Utility Portable Generator that are recommended for replacement in 2018.

2004 Chevrolet K2500 Pickup # 415 is a Utility work truck with an extended cab and a short box. This truck is primarily used in the summer as a work truck for lawn maintenance at our Water Treatment Plant, well houses, water towers and lift stations. It is used for hauling our mower trailer and at times our smaller portable generator to our lift stations. This is a 13-year-old truck with 78,424 miles and our maintenance staff recommends that it be traded in.

1988 Portable Generator # 412 is a Portable Generator that is used by the Utility Division to provide emergency power to Well houses and Booster Stations. It is also used to provide scheduled interrupted power as mandated by Excel energy at our Well Houses. This Generator is 29 years old with 926 hours of use on it. Our maintenance staff recommends, due to age, that this Generator be traded in.

MEMO

TO: Barry Underdahl, Streets Superintendent

FROM: Brian Swoboda, Parks Superintendent

DATE: October 23, 2017

SUBJECT: Proposed 2018 Parks Capital Equipment Purchases

The following prioritized list of Parks equipment is recommended for replacement in 2018. Each piece of equipment contains an explanation as to why it should be considered for replacement and or traded for multi-purpose equipment.

- #507 2008 Ford F250
- #508 2008 Ford F250
- #526 2008 Toro Workman Truckster with Accessories
- #533 2011 Toro 72" Z-mower
- #539 2011 Toro 60" Z-mower

#507/#508 These two Ford F250's are 10 years old. Both are equipped with plows and one with a lift gate. The trucks are used for pulling mower trailers, hauling material, hauling trash, and are used for plowing parking lots, trails, and skate sites. They are also used to assist the Street Division with snow removal. Staff recommends replacing both trucks and temporarily delaying the trade of #508 due to the shortage of trucks seasonally, this truck would no longer be on the replacement schedule and disposed of in near future equipment purchases without replacement.
It is also recommended to transfer truck #507 to the Golf Course replacing their 1999 Ford F250 and using it for trade. Both #507 and #508 are essential pieces of equipment for Parks.

#526 This piece of equipment is necessary for weekly athletic field line painting, field dragging, and pesticide/ herbicide turf applications. Staff recommends combining the accumulated cash in the replacement schedule for #526 with the accumulated cash for #545, an eighteen-year-old herbicide pesticide sprayer, to set up a Toro Workman Truckster for multi-use to accomplish both tasks with one unit. Depending on the task, we would be able to slide either a paint unit or herbicide unit into the box to get the maximum use out of a specialized piece of equipment, and free up the tractor that is currently used to pull the herbicide/pesticide trailer sprayer #545.

#533/#539 These two "Z" lawn mowers are 7 years old and are essential pieces of equipment that cut grass Every day during the growing season. These mowers are very maneuverable and can cut a lot of grass in a short period of time, accomplishing work efficiently and effectively. With increased mowing acreage and heavy use, staff recommends replacing these two mowers to avoid major repairs, downtime, and further depreciation.

CITY OF INVER GROVE HEIGHTS

MEMORANDUM

TO: Scott Thureen, Public Works Director

FROM: Interim Chief Sean Folmar

SUBJECT: 2018 vehicle replacement

DATE: October 31, 2017

For the calendar year 2018, the Police Department would like to replace the following vehicles;

3 Explorer Interceptor SUV's to replace the 3 2015 Interceptor SUV's currently in service.

1 Explorer Interceptor SUV to replace the Ford F-150 truck that is 10 years old and was used by the Community Service Officers. Since we no longer employ Community Service Officers this vehicle will be used either as a K-9 vehicle or an addition to the patrol fleet.

1 Explorer XLT (civilian model) to replace 0819 a Ford Taurus (civilian model) that is 10 years old and is used as an investigator/staff vehicle. The Explorer is more advantageous for storing crime scene equipment for quicker response to crime scenes.

The vehicles above are at their scheduled replacement period and there are budgeted funds to replace them. We would like to keep and use 0850 a 2008 Dodge Caravan for one additional year due to its low mileage and good condition and replace it in 2019 instead of 2018.

Vehicle #	Description	Vendor	Budget	Vehicle	Trade Value	Equipment	Acquisition Cost
	Streets		**12/31/2017**				
#201	2008 Ford F150 Pickup						
#306	2006 Case Wheel Loader						
#311	2007 Sterling Single Axle	Nuss Truck/Towmaster	$218,930.00	$112,000.00	$35,000.00	$105,000.00	$182,000.00
#315	2008 Ford F250 Pickup	Nelson Auto Center	$45,843.00	$29,900.00	$5,000.00	$10,500.00	$35,400.00
#318	2007 Ford F550 Truck	Midway Ford/Truck Utilities	$99,358.00	$42,000.00	$12,000.00	$35,000.00	$65,000.00
#322	Mauldin Tack Distributor	Ruffridge Johnson	$15,052.00	$30,500.00	$500.00	$0.00	$30,000.00
#332	2011 Bobcat Toolcat						
#332A	Cold Planer Attachment						
	Alitech Stump Grinder						
#339	2008 Ford F150 Pickup						
#5302	Caterpillar Forklift						
	Utilities						
#405	2008 Ford F250 Pickup						
#415	2004 Chevrolet K2500 Pickup	Nelson Auto /Truck Utilities	$41,426.00	$29,900.00	$1,000.00	$15,500.00	$44,400.00
#417	2005 Chevrolet K2500 Pickup						
#412	1988 Portable Generator	Cat Power	$149,234.00	$138,000.00	$1,500.00	$0.00	$136,500.00
	Park Maintenance						
#506	2007 Ford F250						
#507	2008 Ford F250	Midway Ford/Truck Utilities	$37,732.00	$29,500.00	$700.00	$10,500.00	$39,300.00
#508	2008 Ford F250	Midway Ford/Truck Utilities	$39,940.00	$29,900.00	Seasonals	$10,000.00	$39,900.00
#520	2012 John Deere Skidloader						
#526	2008 Toro Workman	MTI	$36,247.00	$25,500.00	$4,000.00	$13,500.00	$35,000.00
#533	2011 Toro Z597 Mower	MTI	$18,677.00	$10,200.00	$2,250.00	$0.00	$7,950.00
#538	Rear Flail Mower						
#539	2011 Toro Z597 Mower	MTI	$18,133.00	$10,200.00	$2,400.00	$0.00	$7,800.00
#540	2000 Towmaster Trailer						
#541	2000 Towmaster Trailer	.					
#544	2006 Felling Trailer						

Vehicle #	Description	Vendor	Budget	Vehicle	Trade Value	Equipment	Acquisition Cost
	Inspections						
#803	2008 Ford Escape						
#804	2006 Ford Escape	Midway Ford/Truck Utilities	$31,504.00	$30,000.00	$3,000.00	$2,000.00	$29,000.00
	Engineering						
#705	2005 Ford F150						
	Police Department						
#0819	2008 Ford Taurus	Midway Ford	$28,701.00	$32,500.00	$3,000.00	$0.00	$29,500.00
#0860	2008 Ford F150 Pickup	Nelson Auto Center	$28,948.00	$29,000.00	$4,000.00	$8,000.00	$33,000.00
TBD	2015 Police Interceptor	Nelson Auto Center	$35,231.00	$29,000.00	$5,000.00	$5,000.00	$29,000.00
TBD	2015 Police Interceptor	Nelson Auto Center	$35,231.00	$29,000.00	$5,000.00	$5,000.00	$29,000.00
TBD	2015 Police Interceptor	Nelson Auto Center	$34,311.00	$29,000.00	$5,000.00	$5,000.00	$29,000.00
	Fire Department						
#2740	2007 Ford F150 Fire Marshal	Midway Ford	$40,156.00	$30,000.00	$4,500.00	$2,000.00	$27,500.00
S2	2010 Ford Expedition Squad #2	Midway Ford	$34,042.00	$42,000.00	$2,500.00	$2,000.00	$41,500.00
		Total budget: All divisions:	$988,636.00		Total acquisition cost: All divisions:		$870,750.00

Vehicles and/or equipment replacement request
These items came up for replacement on the schedule but have been deferred.

2018 Capital Equipment Purchases Vehicle Condition Index-Streets							
		Vehicle Numbers					
Factor	Points	**311**	**315**	**318**	**322**		
Age	One point for each year of chronological age, based on in service date.	11	10	11	7		
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	7	7	11	5		
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	5	3	5	3		
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	2	1	2	3		
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	3	2	3	2		
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	3	3	4	4		
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1	1	1	2		
	Total	32	27	37	26		

NOTATIONS FOR CHART VCI POINTS:		
Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

2018 Capital Equipment Purchases Vehicle Condition Index-Utilities							
		Vehicle Numbers					
Factor	Points	**415**	**412**				
Age	One point for each year of chronological age, based on in service date.	14	30				
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	7.8	3				
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	3	5				
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	1	1				
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	1	1				
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	4	3				
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1	1				
	Total	31.8	44				

NOTATIONS FOR CHART VCI POINTS:		
Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

2018 Capital Equipment Purchases Vehicle Condition Index-Parks						
		Vehicle Numbers				
Factor	Points	**507**	**508**	**526**	**533**	**539**
Age	One point for each year of chronological age, based on in service date.	10	10	10	7	7
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	6.7	5.4	6	6	6
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	3	3	3	5	5
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	1	1	2	4	4
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	1	2	1	2	2
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	3	2	2	3	3
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1	2	1	1	1
	Total	25.7	25.4	25	28	28

NOTATIONS FOR CHART VCI POINTS:

Points Ranges:

Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

2018 Capital Equipment Purchases Vehicle Condition Index-Inspections							
		Vehicle Numbers					
Factor	Points	**804**					
Age	One point for each year of chronological age, based on in service date.	12					
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	5					
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	3					
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	1					
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	1					
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	2					
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1					
	Total	25					

NOTATIONS FOR CHART VCI POINTS:		
Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

2018 Capital Equipment Purchases Vehicle Condition Index-Police							
		Vehicle Numbers					
Factor	Points	**819**	**860**	**Squad**	**Squad**	**Squad**	
Age	One point for each year of chronological age, based on in service date.	10	10	3	3	3	
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	7.8	8.4	9	9	9	
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	3	3	5	5	5	
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	1	1	3	3	3	
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	1	1	2	2	2	
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	2	2	3	3	3	
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1	1	1	1	1	
	Total	25.8	26.4	26	26	26	

NOTATIONS FOR CHART VCI POINTS:		
Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

2018 Capital Equipment Purchases Vehicle Condition Index-Fire Department							
		Vehicle Numbers					
Factor	Points	**2740**	**S2**				
Age	One point for each year of chronological age, based on in service date.	11	8				
Miles/Hours	One point for each 10,000 miles of use. One point for each 325 hours of use.	7	7				
Type of Service	1, 3, or 5 points are assigned based on the type of service that vehicle receives. For instance, a police patrol car would be given a 5 because it is in severe duty service. In contrast, an administrative sedan would be given a 1.	3	5				
Reliability	Points are assigned as 1, 2, 3, 4 or 5 depending on the frequency or repair/downtime. A 5 would be assigned to a vehicle that has 4.0 to 5.0% downtime or more; 4 for 3.0 to 4.0% downtime; 3 for 2.0 to 3.0% downtime; 2 for 1.0 to 2.0% downtime; and 1 point would be assigned for vehicles with less than 1% downtime.	1	1				
Maintenance and Repair costs (M&R)	1 to 5 points are assigned based on total life M&R costs equal to or greater than the vehicle's original purchase price, while a 1 is given to a vehicle with life M&R costs equal to 20% or less of its original purchase cost.	1	1				
Condition	This category takes into consideration body condition, rust, interior condition, accident history, anticipated repairs, etc. A scale of 1 to 5 points is used with 5 being poor condition	2	2				
Cost per Mile	Points are assigned as 1, 2, 3, 4 or 5 depending on the cost per mile relative to class. A 5 would be assigned to a vehicle with costs per mile in excess of 20% for the class, 4 - 15%> than class; 3 - 10%> than class; 1 - equal to class.	1	1				
	Total	26	25				

NOTATIONS FOR CHART VCI POINTS:		
Under 21 points	Condition I	Excellent
21 to 25 points	Condition II	Good
>25 to 30 points	Condition III	Qualifies for Replacement
>30 points	Condition IV	Needs immediate consideration

PROPOSED EQUIPMENT PURCHASES 2018

STREET MAINTENANCE

#311

2007 STERLING

SINGLE AXLE DUMP TRUCK

2300 hours

Condition Index: 31.7 points





#315
2008 Ford F250
2500 hours
Condition Index: 27 points



2007 Ford F550

#318

3700 hours

Condition Index: 37 points





#322
Mauldin Tack Distributor



UTILITIES DIVISION

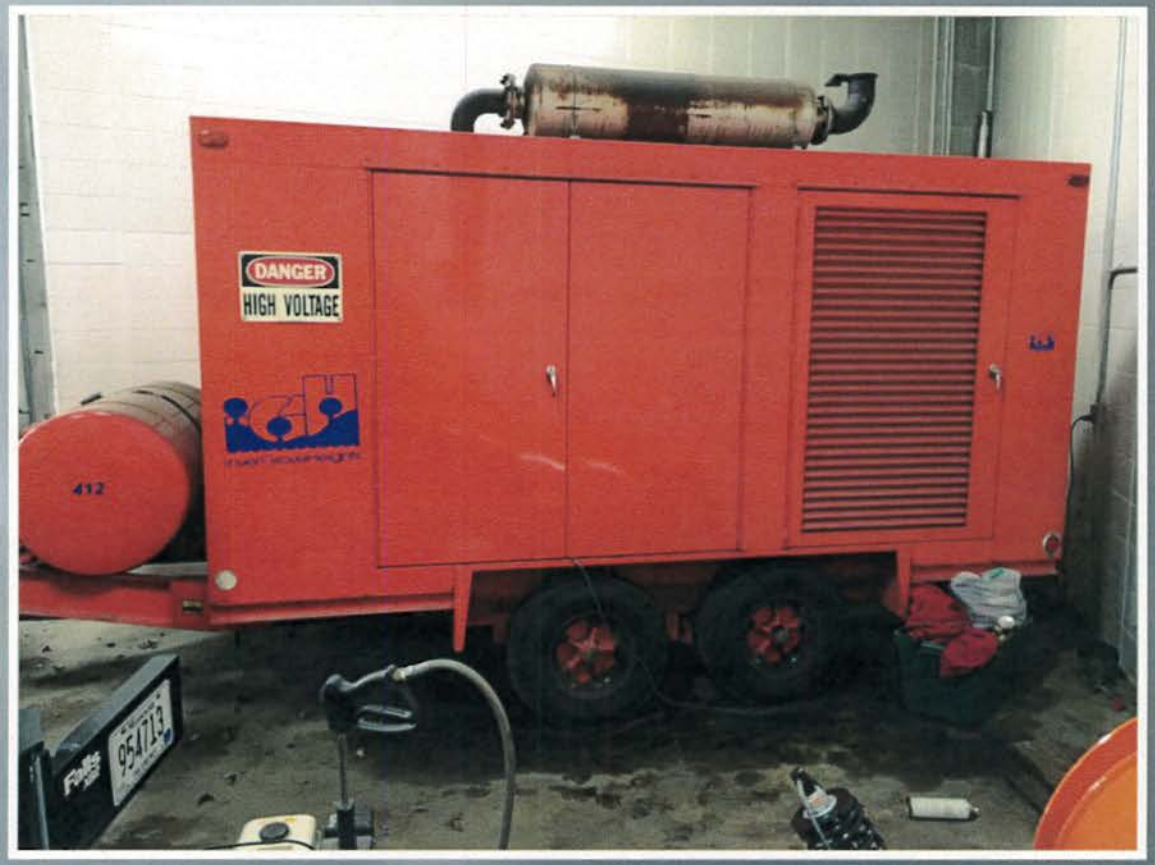
2004 Chevrolet K2500
#415
79,000 miles
Condition Index: 31.8 points



#412
1988 Portable Generator

926 hours

Condition Index: 44 points



Park Maintenance

2008 Ford F250
#507

68,000 miles

Condition Index: 25.7 points





2007 Ford F250
#508

55,000 miles
Condition Index: 25.4 points



2008 Toro Workman
#526
2200 hours
Condition Index: 25 points



2011 Toro Z597 Mower
#533

2200 hours

Condition Index: 28 points



2011 Toro Z597 Mower
#539
2,200 hours
Condition Index: 28



Inspections

#804

2006 Ford Escape

50,000 miles

Condition Index: 25 points



Police Department



2008 Ford Taurus

#0819

78,000 miles

Condition Index: 25.8 points



2008 Ford F150

#0860

84,000 miles

Condition Index: 26.4 points

Police Interceptor SUV's (3)

90,000 miles
Condition Index: 26 points





FIRE DEPARTMENT

#2740
2007 Ford F150

70,000 miles
Condition Index: 26 points



2010 Ford Expedition
Squad #2

71,000 miles
Condition Index: 25 points



November 2017

Financing Plan for the 2018 – 2022 Capital Improvement Plan

City of Inver Grove Heights, Minnesota



Prepared By:

City Staff
And
Ehlers

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Introduction and Summary

The City of Inver Grove Heights has developed a multi-year financing plan for its capital improvement plan (CIP). Going beyond the basic "what, when, where and cost" that is typical of many CIPs, this CIP financing plan incorporates cash and debt funding sources so City leaders can determine the appropriate future fiscal impacts of the proposed capital projects. The goal of this CIP financing plan is to prioritize the use of the City's resources in funding capital projects, and to develop a coherent framework that helps to explain the City's spending decisions to Inver Grove Heights residents and taxpayers.

The purpose of this study is to create a 2018-2022 CIP financing plan that reflects all relevant capital project information, matches anticipated project expenditures with cash and/or debt funding sources, and **identifies the impact of future capital projects on property tax rates over the next five years**.

The Capital Improvement Plan as summarized below includes capital projects anticipated for non-utility related funds. We have included the Golf Course Enterprise Fund in the analysis because of its ongoing financial condition. We have not included Water or Sanitary Sewer Enterprise Funds because these funds operate similar to a business and capital projects are funded by rates and charges, rather than general property taxes. It is important to note that this CIP document does not address the expected shortfalls in the sewer and storm water enterprise funds related to the Northwest Area.

During the update of this report in November 2016, the City Council gave staff direction to keep the annual debt levy at 10% of general fund expenditures. In response, staff proposed reducing and/or delaying the following major projects:

- Fire Station in 2018 reduced from $9.5 million to $6.2 million
- Maintenance Facility postponed from 2019 to 2022 and reduced from $9.6 million to $6.2 million
- 117th Street reduced from $9.5 million to $4.475 million

The result was that the 2016-2021 Plan anticipated $56.6 million of non-utility City capital expenditures over the 5-year planning period, which was an $18.3 million reduction to CIP draft dated October 2016.

This current CIP includes $80.1 million of non-utility capital related expenditures, or a $23.5 million increase over the final Plan last year. It reflects actual anticipated costs for the Fire Station, Public Works Maintenance Facility. To finance all of the proposed improvements, the City's annual debt levy will more than double, and increase as a percent of General Fund expenditures from 11% in 2017 to 17% in 2022.

The funds that are part of the CIP include: General Fund, Park Acquisition and Development, Park Capital Replacement, Host Community, Community Projects, Pavement Management, Closed Bond, City Facilities, Golf Course, Local Improvement, Community Center, Capital Facilities and Economic Development Authority.

Projected capital expenditures for the years 2018 through 2022 as summarized on pages 5-6, are as follows:

• 2018:	$ 32,069,272
• 2019:	$ 13,842,000
• 2020:	$ 11,942,800
• 2021:	$ 6,644,700
• 2022:	$ 15,651,219
Total:	**$ 80,149,991***

*The amounts listed are not inflated and are based on staff estimates. The proposed capital costs for the projects are increased for inflation within each of the fund summaries that are found in Exhibits B-M

The same $80.1 million of non-utility CIP expenditures grouped by fund are as follows:

• Parks Acquisition and Development	$ 6,668,022
• Park Capital Replacement	$ 1,245,000
• Community Projects	$ 150,919
• Pavement Management	$ 23,237,600
• City Facilities	$ 20,561,450
• Golf Course	$ 250,000
• Local Improvement	$ 23,486,700
• Community Center	$ 4,550,300
Total:	**$ 80,149,991**

In order to maintain adequate cash reserves, 52% of the anticipated future capital costs, or approximately $41.9 million, will need to be financed over the next five years. A common measure of debt capacity is to look at the net annual debt levy as a percent of the total general fund expenditures. The chart below shows that, according to this measure, the City's annual debt load will more than double from 11% of general fund expenditures in 2017 to 17% by 2022.

Net Debt Levy as a % of Total General Fund Expenditures

2016	2017	2018	2019	2020 PROJECTED	2021	2022
10%	11%	9%	11%	14%	17%	17%

The debt anticipated in this plan is summarized in the chart below. The proposed financings do not include potential future bond issues for utility related projects or potential street projects anticipated beyond 2022.

Proposed Project Financing

	2017	2018	2019	2020	2021	2022
Bonds for New Projects						
Pavement Management	$ 3,625,000	$ -	$ -	$ -	$ -	$ -
Fire Station		$ 9,700,000				
Maintenance Facility Expansion						$ 9,900,000
Local Improvement (Street Reconstruction)	$ -	$ -	$ 9,900,000	$ 9,900,000	$ 2,500,000	$ -
Refunding Bonds						
2017A (Refunds Northwest Area Sewer Bonds)	$ 5,755,000					
Total	**9,380,000**	**9,700,000**	**9,900,000**	**9,900,000**	**2,500,000**	**9,900,000**

The 2018 CIP financing plan includes detailed assumptions and forecasts for the City General Fund revenues and expenditures in 2018 through 2022. This detail should help the City monitor the overall accuracy of the General Fund cashflow estimates in future years and better positions the City to make adjustments as necessary. The detailed analysis includes the following assumptions:

- 2% annual increases in non-property tax revenues;
- 2018 General Fund operating costs increase by 5% per year from 2018-2022;
- 4% inflation on Capital Project costs, starting from the $80.1 million in costs identified in the City's 2018-2022 CIP.
- The 2018 taxable net tax capacity for the City is expected to be $36,404,276 which represents an 11% increase in tax capacity over 2017. We are assuming that City's existing tax capacity will increase 2.5% in 2018 and each year thereafter. Exhibit A shows the estimated tax capacity being returned to the general tax rolls for TIF District 4-1 that will be decertified in 2019 for

taxes payable in 2020. Increased tax capacity is also projected from growth within the Northwest Area starting at an additional 38 homes for taxes payable in 2018 and 70 homes per year thereafter.

- General Fund balance remains stable at approximately $9.5 million.

The following table illustrates the effect of operating cost increases, capital improvement projects and the related debt levy on the tax rate, given the above assumptions.

General Fund	2017	2018	2019	2020	2021	2022
City Tax Capacity Rate	51.644%	52.242%	54.650%	56.142%	59.227%	60.698%
% Change in Rate	4.83%	1.16%	4.61%	2.73%	5.50%	2.48%
City Property Tax on Median Residential Property	$ 1,013	$ 1,055	$ 1,136	$ 1,202	$ 1,305	$ 1,377
% Change in City Taxes Paid	8%	4%	8%	6%	9%	6%
Median Residential Market Value	$ 214,100	$ 219,453	$ 224,939	$ 230,562	$ 236,326	$ 242,234

It is important to point out that while the City has developed a Capital Improvement Plan, the plan represents a conceptual overview of the City's capital improvement needs over the next 5 years and as such is a planning tool. The presence of any particular capital expenditure and the designation of an anticipated funding source or sources do not authorize the acquisition of an asset or construction of a project. The actual asset/project must be specifically authorized by the City Council as part of each year's formal budgeting process or project authorization process.

The conclusions and recommendations resulting from this study are based on information provided to Ehlers. The City will periodically review and update the Capital Improvement Plan to reflect the actual cost of capital projects as they are completed and to incorporate any changes in anticipated future capital improvements (e.g. timing, cost, funding sources).

The summary table that follows identifies the proposed capital projects, by year. These amounts have not been inflated. The impact of inflation is found on the fund projections that are shown on Exhibits B through M.

	Park Acquisition and Development	Park Capital Replacement	Community Projects	Pavement Management	City Facilities	Golf Course	Local Improvement	Community Center	Yearly Total
Exhibit	*B*	*C*	*E*	*F*	*H*	*I*	*J*	*K*	
2018									
Heritage Village park	3,475,022								
Upper 55th trail	125,000								
NW park acquisition	400,000								
NW park development	400,000								
NW trail development	50,000								
VMCC Babcock Trail	68,000								
Streetscapes		10,000							
Tennis court/basketball repair		50,000							
Election equipment			10,700						
Rich Valley well-backstop hoods		80,000							
Upper 55th St				400,000					
Maintenance facility expansion					250,000				
Broderick Blvd				5,620,000					
65th St TH3 to Argenta							2,522,600		
70th Street-Eagan to TH 3							500,000		
Abigail/93rd St				1,107,000					
Park trails and parking lots				2,000,000					
Emerald Ash Borer			33,000						
Fire Station #2					10,378,450				
Seidl's Lake Outlet							250,000		
70th St roundabout							1,770,000		
117th/TH55 to Rich Valley							800,000		
Cracksealing and sealcoating				500,000					
CIP						50,000		1,219,500	
Total Year (not inflated)	**4,518,022**	**140,000**	**43,700**	**9,627,000**	**10,628,450**	**50,000**	**5,842,600**	**1,219,500**	**32,069,272**
2019									
Streetscapes		10,000							
NW park acquisition	300,000								
Playground equipment		100,000							
Update Seidl's master plan	100,000								
North Valley/South Valley master plan	300,000								
North Valley/South Valley picnic shelter		500,000							
Rich Valley tennis courts		45,000							
Tennis court/basketball repair		50,000							
Fishing pier		50,000							
50th Street neighborhood				5,936,200					
117th/TH55 to Rich Valley							1,200,000		
70th St/Eagan to TH3							1,000,000		
65th St TH3 to Argenta Trail							2,989,100		
Park trails and parking lots				250,000					
Cracksealing and sealcoating				500,000					
Emerald Ash Borer			33,000						
CIP						50,000		428,700	
Total Year (not inflated)	**700,000**	**755,000**	**33,000**	**6,686,200**	**-**	**50,000**	**5,189,100**	**428,700**	**13,842,000**

	Park Acquisition and Development	Park Capital Replacement	Community Projects	Pavement Management	City Facilities	Golf Course	Local Improvement	Community Center	Yearly Total
Exhibit	*B*	*C*	*E*	*F*	*H*	*I*	*J*	*K*	
2020									
NW trail development	50,000								
NW park development	200,000								
Playground equipment		75,000							
Streetscapes		10,000							
Tennis court/basketball repair		20,000							
Orchard Trail							80,000		
Cracksealing and sealcoating				500,000					
Park trails and parking lots				250,000					
70th St/Eagan to TH3							4,400,000		
117th/TH55 to Rich Valley							6,000,000		
Emerald Ash Borer			33,000						
CIP						50,000		274,800	
Total Year (not inflated)	**250,000**	**105,000**	**33,000**	**750,000**	**-**	**50,000**	**10,480,000**	**274,800**	**11,942,800**
2021									
NW park acquisition	400,000								
Streetscapes		10,000							
Playground equipment		150,000							
80th St east of roundabout							575,000		
Cracksealing and sealcoating				500,000					
Carleda				2,104,400					
Park Trail and Parking Lot				320,000					
Maintenance Facility expansion					320,000				
Emerald Ash Borer			33,000						
CIP						50,000		2,182,300	
Total Year (not inflated)	**400,000**	**160,000**	**33,000**	**2,924,400**	**320,000**	**50,000**	**575,000**	**2,182,300**	**6,644,700**
2022									
Park Trail-NW Area									
NW trail development	100,000								
Dawn Way				2,500,000					
NWA grade separated crossing	700,000								
Cracksealing and sealcoating				500,000					
Playground equipment		75,000							
Streetscapes		10,000							
Park Trail and Parking Lot				250,000					
Maintenance Facility expansion					9,613,000				
Emerald Ash Borer			8,219						
80th St east of roundabout							1,400,000		
CIP						50,000		445,000	
Total Year (not inflated)	**800,000**	**85,000**	**8,219**	**3,250,000**	**9,613,000**	**50,000**	**1,400,000**	**445,000**	**15,651,219**
FIVE YEAR TOTAL	**6,668,022**	**1,245,000**	**150,919**	**23,237,600**	**20,561,450**	**250,000**	**23,486,700**	**4,550,300**	**80,149,991**

Funds

General Fund (Exhibit A)

Exhibit A shows the General Fund operations and property tax levy. Included are existing levies for debt, which include street projects and the City Hall/Public Safety project. The model includes the above mentioned assumptions for tax base. The model shows transfers out to other funds and includes any capital improvement project to be funded out of the General Fund. It should be noted that equipment replacement is funded through the operating budgets and a separate schedule is not included here. We have not assumed any increase in ending fund balance for the General Fund. At this time, the 2018 budget includes the base budget plus additional requests as preliminarily approved in September 2017.

Park Acquisition and Development Fund (Exhibit B)

The Park Acquisition and Development Fund accounts for park dedication fees, related revenues and park and trail improvements. This fund has a beginning fund balance of $2,390,922 for 2017. A total of $6.6M in capital costs have been identified in this fund. Of that, approximately $2.6M is identified to be spent in the Northwest Area for park acquisition and park and trail development, which is nearly 140% higher than the previous year's estimate of $1.9M

Park Capital Replacement Fund (Exhibit C)

This fund accounts for the cost to replace existing parks facilities. This fund will receive an annual transfer from the General Fund in the amount of an average of $285,000 per year from 2018-2022. Park dedication fees cannot be used for maintaining existing parks. The inflated capital costs from 2018 to 2022 equals $1.3 million.

Host Community Fund (Exhibit D)

This fund accounts for revenues received from agreements related to solid waste disposal/storage. This fund has received approximately $1.8 million per year from these agreements. Revenue is expected to decline to approximately $1.4M per year. This fund also accounts for annual transfers to the General Fund, to the Community Center Fund, and the ADA Fund. The fund balance in this fund is expected to decline to approximately $1.4M by 2022. It is important to note that projected deficits in the Northwest Area funds are not reflected in the cashflow for this Fund. With the expected level of projects, this fund will have limited available cash to fund those deficits.

Community Projects (Exhibit E)

This fund accounts for resources reserved for future community improvement projects. Expenditures for the Emerald Ash Borer project and election equipment are programmed from 2018 to 2022.

Pavement Management (Exhibit F)

This fund accounts for the project costs and the related special assessment revenue used to finance the City's yearly Pavement Management Program. This fund receives the City's new franchise fee revenues, and an annual transfer from the General Fund. Debt service related to prior bonds issued for pavement management projects are shown on Exhibit A page 15 for each related debt issue. It is assumed that 20% of the street reconstruction projects are specially assessed.

Closed Bond (Exhibit G)

This fund accounts for monies that remain in debt service funds after the debt has been fully paid. The model shows adequate cash balances after contributions to reduce the debt levy.

City Facilities (Exhibit H)

This fund accounts for costs related to maintaining City Hall, the Maintenance Facility and the Fire Stations. The projects slated for this fund are the Maintenance Facility Expansion in 2022 and a Fire Station in 2018. Sufficient cash does not exist for these projects so this plan assumes they will be financed with bonds to be repaid with a property tax levy. The issuance of bonds will require the City Council to seek authorization under appropriate state statute. The model includes debt levies for these projects. Currently funds are not set aside for capital needs (roof, HVAC, etc) and the fund is expected to have a negative balance by the end of 2022, which will be solved with excess fire station land sale proceeds.

Golf Course (Exhibit I)

This fund accounts for the revenues and expenditures related to operating the Golf Course. Exhibit I shows the projected cash flow of this fund. Golf course revenues cover operating expenses and the golf cart lease payments. The model shows positive cash balances going forward.

Local Improvement (Exhibit J)

This fund accounts for the revenues and expenses related to street construction projects that are not accounted for in the Pavement Management Fund and include projects from the Street Reconstruction and Overlay Plan. The model assumes all future projects will be paid with bond proceeds, special assessments and state aids. The debt service to repay the bonds is assumed to be paid by a property tax debt levy. The projects scheduled for this fund include improvements to 70th Street, Argenta/TH55, 65th Street, Seidl's Lake outlet and 80th Street. There is a projected future debt levy starting in 2018 and increasing thereafter as shown in the model.

Community Center (Exhibit K)

This fund accounts for the revenues and expenses related to the operation of the Community Center. The model shows the actual 2016 ending fund balance and future annual transfers from various funds in order to make up the shortage of operating revenues as compared to expenses. Previously, capital needs were primarily financed form the Community Projects Fund or the Capital Facilities Fund. Beginning in 2018, operating shortfalls and capital needs will be financed with transfers from the Host Community Fund.

Capital Facilities (Exhibit L)

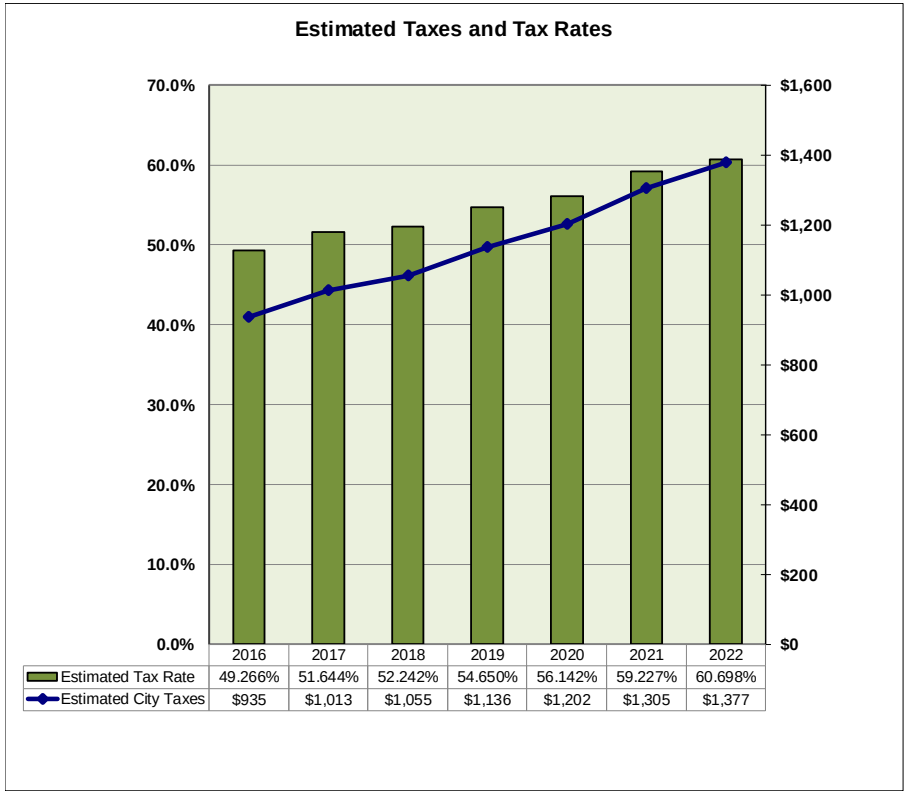
This fund accounts for the revenues and expenses reserved for future City capital projects. The existing cash balance is being used for annual transfers to the Community Center Fund for capital needs and Park Capital Replacement.

Economic Development (Exhibit M)

This fund accounts for the revenues and expenses related economic development activities in the city. The model shows a transfer in from the General Fund.

Tax Rate Impact

The resulting tax rate and tax impact are shown in the chart below.



	2016	2017	2018	2019	2020	2021	2022
Estimated Tax Rate	49.266%	51.644%	52.242%	54.650%	56.142%	59.227%	60.698%
Estimated City Taxes	$935	$1,013	$1,055	$1,136	$1,202	$1,305	$1,377

Taxes are calculated factoring in the market value exclusion, calculated on a median value homestead residential property valued at $214,100 in 2017, 219,453 in 2018 and inflated by 2.5% thereafter.

Policy Considerations

The Council can prioritize the various capital projects or additional transfers by using the table below as a decision guide. The chart below shows the incremental tax that would be required on the average valued home, given the assumptions for tax base and tax rate for estimated payable 2018, at different expenditure levels. The table shows the impact of an increase in the levy at $50,000, $100,000, $200,000, $300,000 and $400,000, the resulting incremental increase in the tax rate and the effect on taxes.

Expenditure Level	Increase to Taxes	Additional Tax Rate
$50,000	$2.70	0.137%
$100,000	$5.40	0.275%
$200,000	$10.80	0.549%
$300,000	$16.20	0.824%
$400,000	$21.50	1.099%

The table illustrates that, for a $100,000 expense, the increase on estimated taxes would be $5.40 on a residential home valued at $214,100. Annual debt levy of $100,000 would support a bond issue of approximately $1,150,000. Another way to put it is that for every additional $100,000 in levy, the City can pay for $1.15 million in project costs.

Options

If the projected tax impacts are too high, the City could pursue the following options:

- Prioritize the Capital Improvement Project list. One option could be to postpone one or more of the major facilities or Local Improvement street projects.
- Consider establishing a budget cap for certain projects.
- Consider exploring alternative funding options for projects as the City did with the addition of franchise fees.
- Establish an acceptable level of tax increases, and direct staff and consultants to determine which of the priority projects can be accomplished within the desired tax levies.

Exhibits

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City of Inver Grove Heights
General Fund -Exhibit A

EHLERS & ASSOCIATES INC

Baseline Model plus Additions

Inflation Assumptions-non property tax revenues			2.00%	2.00%	2.00%	2.00%
Inflation Assumptions-expenditures			5.00%	5.00%	5.00%	5.00%

	GENERAL FUND	2016 Actual	2017 Amended	2018 Base plus Additions	2019	2020	2021	2022
					PROJECTED			
1	**REVENUE**							
2	GENERAL PROPERTY TAX	14,157,530	15,273,400	17,625,000	18,473,673	19,509,183	20,598,422	21,744,212
	FISCAL DISPARITIES	1,802,095	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000
	OTHER levy	14,779	15,000	15,000	15,000	15,000	15,000	15,000
3	FRANCHISE FEES	103,406	103,400	107,400	109,548	111,739	113,974	116,253
4	LICENSES & PERMITS	1,133,121	1,173,100	1,131,800	1,154,436	1,177,525	1,201,075	1,225,097
5	OTHER INTERGOVERNMENTAL	676,129	618,200	615,700	628,014	640,574	653,386	666,453
6	CHARGES FOR SERVICES	660,604	1,010,400	910,400	928,608	947,180	966,124	985,446
7	FINES & FORFEITS	119,855	128,800	140,000	142,800	145,656	148,569	151,541
8	INTEREST	74,848	93,100	89,900	91,698	93,532	95,403	97,311
9	MISC. REVENUE	11,014	353,500	210,900	215,118	219,420	223,809	228,285
10	TRANSFERS	781,575	200,000	100,000	102,000	104,040	106,121	108,243
11								
12	**TOTAL REVENUE**	**19,534,956**	**20,668,900**	**22,646,100**	**23,560,895**	**24,663,850**	**25,821,882**	**27,037,841**
13								
14	**EXPENDITURES**							
15	GENERAL GOVERNMENT	1,853,731	1,816,000	1,999,100	2,099,055	2,204,008	2,314,208	2,429,919
16	PUBLIC SAFETY	9,332,846	10,120,700	10,763,800	11,301,990	11,867,090	12,460,444	13,083,466
17	PUBLIC WORKS	3,728,436	4,061,600	4,248,500	4,460,925	4,683,971	4,918,170	5,164,078
18	PARKS	1,695,806	1,943,600	2,020,500	2,121,525	2,227,601	2,338,981	2,455,930
19	COMMUNITY DEVELOPMENT	1,324,928	1,591,700	1,558,600	1,636,530	1,718,357	1,804,274	1,894,488
20	TRANSFER OUT		-		-	-	-	-
21	to Park Cap Repl Fund 444	150,000	150,000	294,700	285,000	285,000	285,000	285,000
22	to Park AcquisitionFund 402							
23	to Rec Fund 204	331,900	359,300	353,400	371,070	389,624	409,105	429,560
24	to Pavement Mgmt Fund 440	700,000	665,000	1,250,000	1,200,000	1,200,000	1,200,000	1,200,000
25	to EDA	500	94,100	83,100	84,800	88,200	91,700	95,400
26	to Local Improvements							
27	to Sewer fund	720,000						
28	to Equipment Acquisition	7,500						
29	CAPITAL OUTLAY							
30								
31	CONTINGENCY			100,000				
32								
33		-	-	-	-	-	-	-
34	**OPERATING EXPENDITURES**	**19,845,647**	**20,802,000**	**22,671,700**	**23,560,895**	**24,663,850**	**25,821,882**	**27,037,841**
35								

City of Inver Grove Heights
General Fund -Exhibit A

Baseline Model plus Additions

	GENERAL FUND	2016 Actual	2017 Amended	2018 Base plus Additions	2019	2020	2021	2022
					PROJECTED			
36								
37	**GENERAL FUND OPERATING TAX LEVY**	15,897,800	16,973,400	19,325,000	20,173,673	21,209,183	22,298,422	23,444,212
44	ANNUAL INCREASE	5.2%	6.8%	13.9%	4.4%	5.1%	5.1%	5.1%
46								
47	**SPECIAL LEVIES**							
48	**Bonds**							
49	**MN Armory Bldg (final pymt 2016)**	**19,600**						
50	**City share of assessments**	**235,201**	**234,058**	**205,074**	**197,561**	**190,049**	**181,836**	**142,359**
51	**~~2002A~~ 2010C PIR Bonds (final pymt 2018)**	**46,942**						
52	**~~2006A~~ 2011A Improvements Bonds (final pymt 2019)**	**123,819**	**99,200**					
53	**~~2007B~~ 2014B Improvements (final pymt 2019)**	**122,500**	**150,000**					
54	**~~2008A~~ 2014B Improvements (final pymt 2020)**	**290,000**	**445,000**	**456,482**				
55	**~~2009~~ 2016A Refunding Bonds (final pymt 2034)**	**674,000**	**642,800**	**600,272**	**616,284**	**636,759**	**656,289**	**695,874**
56	**~~2010B~~ 2017A GO Improvements (final pymt 2027)**	**110,000**	**195,000**	**195,000**	**175,000**	**175,000**	**175,000**	**175,000**
57	**2015A GO Improvements (final pymt 2031)**	**635,388**	**634,334**	**682,482**	**628,003**	**630,268**	**627,324**	**630,422**
58	**2017B GO Bonds**				**275,393**	**273,448**	**276,343**	**273,613**
59	**Offset from Closed Bond Fund**	**(200,000)**	**(200,000)**	**(200,000)**				**0**
60	**EXISTING DEBT LEVIES**	**2,057,450**	**2,200,392**	**1,939,310**	**1,892,241**	**1,905,524**	**1,916,792**	**1,917,268**
61								
61	**FUTURE LEVIES**							
62	**Public Facilities**							
63	**City Facilities**	**0**	**0**	**0**	**700,513**	**700,513**	**700,513**	**700,513**
65	**Local Improvement**	**0**	**0**	**0**	**0**	**855,783**	**1,717,874**	**1,944,420**
66	**Pavement Management**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
67								
68	**TOTAL SPECIAL LEVY**	**2,057,450**	**2,200,392**	**1,939,310**	**2,592,754**	**3,461,820**	**4,335,178**	**4,562,201**
69								
70	**Beginning Fund Balance**	**9,926,618**	**9,615,927**	**9,482,827**	**9,557,227**	**9,557,227**	**9,557,227**	**9,557,227**
71	**Ending Fund Balance**	**9,615,927**	**9,482,827**	**9,557,227**	**9,557,227**	**9,557,227**	**9,557,227**	**9,557,227**
72	TOTAL TAX LEVY	17,955,250	19,173,792	21,264,310	22,766,427	24,671,003	26,633,601	28,006,413
73	ADJUSTMENTS -FD Distribution	(2,063,774)	(2,259,396)	(2,246,011)	(2,246,011)	(2,246,011)	(2,246,011)	(2,246,011)
74	NET LEVY TO TAXPAYERS	15,891,476	16,914,396	19,018,299	20,520,416	22,424,992	24,387,590	25,760,402
75	Ending Fund Balance as a Percent of Expenditures	48%	46%	42%	41%	39%	37%	35%
76	EXISTING TAX BASE	32,272,465	32,751,978	36,404,276	37,314,383	38,487,605	40,942,033	42,205,946
77	Growth-Single Family Residential-tax capacity	0	0	0	234,500	234,500	234,500	234,500
78	-Townhomes-Residential-tax capacity	0	0	0	0	0	0	0
79								
80	TIF District Decertifying-TIF 4-1 SE Quadrant					1,221,341		
81	TOTAL TAX CAPACITY	32,272,465	32,751,978	36,404,276	37,548,883	39,943,446	41,176,533	42,440,446
82								
83	TAX RATE ON TAX CAPACITY	49.266%	51.644%	52.242%	54.650%	56.142%	59.227%	60.698%
84	**TAX RATE % CHANGE**	**2.36%**	**4.83%**	**1.16%**	**4.61%**	**2.73%**	**5.50%**	**2.48%**

City of Inver Grove Heights
Park Acquisition and Development Fund 402 - Exhibit B

Inflation for capital items	4.00%	4.00%	4.00%	**4.00%**	**4.00%**	**4.00%**	**4.00%**
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Beginning Fund Balance	**1,668,560**	**2,390,922**	**2,744,831**	**1,077,655**	**690,431**	**756,935**	**644,559**
Sources of Funds							
Charges for services	718,805	330,000	330,000	330,000	330,000	330,000	330,000
State bonding grant			1,500,000				
Other			455,647				
Transfer in			537,750				
Interest	**12,792**	**23,909**	**27,448**	**10,777**	**6,904**	**7,569**	**6,446**
Total Sources of Funds	**731,597**	**353,909**	**2,850,845**	**340,777**	**336,904**	**337,569**	**336,446**
Expenditures							
Current							
Future projects							
Capital outlay	8,911						
Heritage Village Park			3,475,022				
NWA park acquisition			400,000	300,000		400,000	
NWA park development			400,000		200,000		
NWA trail development			50,000		50,000		100,000
NWA grade separated crossing							700,000
VMCC Babcock Trail			68,000				
Update Seidl's master plan				100,000			
North Valley/South Valley master plan				300,000			
Arbor Pointe basketball court							
Upper 55th Trail			125,000				
Transfer out	324						
Transfer to Salem Shelter							
Total Expenditures	**9,235**	**0**	**4,518,022**	**700,000**	**250,000**	**400,000**	**800,000**
Inflation-capital only	**9,235**	**0**	**4,518,022**	**728,000**	**270,400**	**449,946**	**935,887**
Ending Fund Balance	**2,390,922**	**2,744,831**	**1,077,655**	**690,431**	**756,935**	**644,559**	**45,118**

City of Inver Grove Heights
Park Capital Replacement Fund 444 - Exhibit C

Inflation for capital items	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Balance	**1,012,375**	**1,084,752**	**1,295,600**	**1,453,556**	**967,891**	**1,149,002**	**1,265,514**
Sources of Funds							
Franchise fees							
Transfer from General Fund	150,000	150,000	285,000	285,000	285,000	285,000	285,000
Transfer from Capital Facilities	25,000	25,000	0	0	0	0	0
Transfer from Host Community	25,000	25,000	0	0	0	0	0
Interest	**6,345**	**10,848**	**12,956**	**14,536**	**9,679**	**11,490**	**12,655**
Total Sources of Funds	**206,345**	**210,848**	**297,956**	**299,536**	**294,679**	**296,490**	**297,655**
Expenditures							
Current	61,191						
Capital outlay	72,777						
Playground equipment				100,000	75,000	150,000	75,000
North Valley/South Valley picnic shelter				500,000			
Tennis court/basketball repair			50,000	50,000	20,000		
Rich Valley well-backstop hoods			80,000				
Fishing pier				50,000			
Rich Valley tennis courts				45,000			
Streetscapes			10,000	10,000	10,000	10,000	10,000
Transfer out							
Total Expenditures	**133,968**	**0**	**140,000**	**755,000**	**105,000**	**160,000**	**85,000**
Inflation-capital only	**133,968**	**0**	**140,000**	**785,200**	**113,568**	**179,978**	**99,438**
Ending Fund Balance	**1,084,752**	**1,295,600**	**1,453,556**	**967,891**	**1,149,002**	**1,265,514**	**1,463,731**

City of Inver Grove Heights
Host Community Fund 451- Exhibit D

Inflation for capital items	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Beginning Fund Balance	**4,536,162**	**3,690,777**	**2,311,942**	**1,673,456**	**1,949,768**	**2,439,654**	**1,066,677**
Sources of Funds							
Land fill agreements	1,974,102	1,487,970	1,356,000	1,398,000	1,440,000	1,482,000	1,528,000
Intefund loan	4,404						
Interest	**37,793**	**36,908**	**23,119**	**16,735**	**19,498**	**24,397**	**10,667**
Total Sources of Funds	**2,016,299**	**1,524,878**	**1,379,119**	**1,414,735**	**1,459,498**	**1,506,397**	**1,538,667**
Expenditures							
Miscellaneous	89,257	109,397	82,910	82,910	82,910	82,910	82,910
Argenta Trail		540,954					
HVP Grant		248,750					
Transfer out -VMCC Operations	404,081	511,700	419,700	519,400	529,788	540,384	556,600
Transfer out -VMCC Capital	0	205,000	1,219,500	428,700	274,800	2,182,300	445,000
Transfer out -VMCC Rink Project			73,780	73,780	73,780	73,780	73,780
Transfer out -Golf Course Fund	100,000	100,000					
Transfer out-Economic Development	445,649	132,210					
Transfer out-Park Capital Replacement	25,000	25,000					
Transfer out-Local Improvement	977,397						
Transfer out-ADA	20,300	21,500	19,700	25,300			
Transfer out-Central Equipment							
Transfer out-General Fund	300,000	200,000	100,000				
Transfer out-PMP Fund Street Recon	500,000	500,000					
Transfer out -Other Funds		309,202	8,333	8,333	8,333		
Interfund loan							
Bond principal and interest	0	0	93,682	0	0	0	0
Total Expenditures	**2,861,684**	**2,903,713**	**2,017,605**	**1,138,423**	**969,611**	**2,879,374**	**1,158,290**
Ending Fund Balance	**3,690,777**	**2,311,942**	**1,673,456**	**1,949,768**	**2,439,654**	**1,066,677**	**1,447,054**

City of Inver Grove Heights
Community Projects Fund 450- Exhibit E

Inflation for capital items	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Balance	**299,634**	**249,588**	**147,179**	**104,951**	**73,000**	**40,730**	**8,137**
Sources of Funds							
Transfer in							
Interest	**1,997**	**2,496**	**1,472**	**1,050**	**730**	**407**	**81**
Total Sources of Funds	**1,997**	**2,496**	**1,472**	**1,050**	**730**	**407**	**81**
Expenditures							
Miscellaneous							
Emerald Ash Borer	41,343	94,205	33,000	33,000	33,000	33,000	8,219
Election Equipment	10,700	10,700	10,700		-	-	-
Total Expenditures	**52,043**	**104,905**	**43,700**	**33,000**	**33,000**	**33,000**	**8,219**
Inflation-capital only	**52,043**	**104,905**	**43,700**	**33,000**	**33,000**	**33,000**	**8,219**
Ending Fund Balance	**249,588**	**147,179**	**104,951**	**73,000**	**40,730**	**8,137**	**(0)**

City of Inver Grove Heights
Pavement Management Fund 440 - Exhibit F

Inflation for capital items	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Beginning Fund Balance	**2,599,272**	**2,319,917**	**5,980,674**	**2,917,741**	**981,219**	**2,928,750**	**2,358,743**
Sources of Funds							
Transfer from Host Community Fund	500,000	500,000	0	0	0	0	0
Transfer from General Fund	700,000	665,000	1,250,000	1,200,000	1,200,000	1,200,000	1,200,000
Franchise fees			1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
State aid construction and maintenance	438,917	380,035	2,532,500	2,590,040	380,000	380,000	380,000
Other	80,525	565,673	1,523,851				
Special assessments on rolls	354,569	363,438	149,387	149,387	130,209	91,023	68,546
NEW Special assessments	0	0	48,522	48,522	48,522	48,522	48,522
Bond proceeds		3,625,000					
Property tax levy	128,958	0	0	0			
Interest	**13,607**	**23,199**	**59,807**	**29,177**			
Total Sources of Funds	**2,216,576**	**6,122,345**	**6,564,067**	**5,017,126**	**2,758,731**	**2,719,545**	**2,697,068**
Expenditures							
Capital Outlay	2,489,849	14,745					
PMP Program							
Broderick Blvd (2015-09D/2013-09F)			5,620,000				
50th St West neighborhood (2020-09D)				5,936,200			
Bancroft area (2016-09E)		1,894,125					
Carleda (1609F)						2,104,400	
Abigail/93rd St (2017-09E)			1,107,000				
Dawn Way S (2209D)							2,500,000
Upper 55th Street (2010-09F)			400,000				
Park trails and parking lots		33,000	2,000,000	250,000	250,000	320,000	250,000
Cracksealing, sealcoating		519,718	500,000	500,000	500,000	500,000	500,000
Bond principal and interest	-	-	-	-	-	-	-
Transfers out	6,082						
Total Expenditures	**2,495,931**	**2,461,588**	**9,627,000**	**6,686,200**	**750,000**	**2,924,400**	**3,250,000**
Inflation-street projects only	**2,489,849**	**2,461,588**	**9,627,000**	**6,953,648**	**811,200**	**3,289,552**	**3,802,040**
Ending Fund Balance	**2,319,917**	**5,980,674**	**2,917,741**	**981,219**	**2,928,750**	**2,358,743**	**1,253,771**

City of Inver Grove Heights
Closed Bond Debt Service Fund 399- Exhibit G

Inflation for capital items	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Beginning Fund Balance	**2,322,686**	**2,281,481**	**1,981,346**	**1,801,159**	**1,819,171**	**1,750,835**	**1,768,343**
Sources of Funds							
Transfer from closed debt service funds	144,538						
Other							
Property tax levy and special assessments	32,238	-	-	-	-	-	-
Interest	**(5,170)**	**22,815**	**19,813**	**18,012**	**18,192**	**17,508**	**17,683**
Total Sources of Funds	**171,606**	**22,815**	**19,813**	**18,012**	**18,192**	**17,508**	**17,683**
Expenditures							
Current	12,811	122,950					
Orchard trail					80,000		
Transfer out to Park Acquisition		50,000					
Debt service reduction to debt levy	200,000	200,000	200,000				
Transfers out to EDA							
Total Expenditures	**212,811**	**372,950**	**200,000**	**-**	**80,000**	**-**	**-**
Inflation-capital only	**12,811**	**122,950**	**0**	**0**	**86,528**	**0**	**0**
Ending Fund Balance	**2,281,481**	**1,981,346**	**1,801,159**	**1,819,171**	**1,750,835**	**1,768,343**	**1,786,026**

City of Inver Grove Heights
City Facilities Internal Service Fund 605- Exhibit H

Inflation for capital items	2016	2017	2018	2019	2020	2021	2022
Beginning Cash Balance	**156,110**	**150,297**	**69,288**	**(847,162)**	**(806,204)**	**(770,846)**	**(1,055,489)**
Sources of Funds							
Charges for services	369,463	416,900	557,800	569,000	543,448	565,546	588,528
Rent/Other	7,977	9,000	9,000	9,000	9,000	9,000	9,000
Bond proceeds			9,700,000				9,900,000
Special assessments (20% of construction)	0	0	0	0			
Property tax levy	0	0	0	700,513	700,513	700,513	700,513
Interest	**1,240**	**2,000**	**2,000**	**2,000**	**2,000**	**2,000**	**2,000**
Total Sources of Funds	**378,680**	**427,900**	**10,268,800**	**1,280,513**	**1,254,961**	**1,277,059**	**11,200,041**
Expenditures							
Current							
Public Safety							
Public Works							
Operations	368,193	452,000	524,500	531,200	552,448	574,546	597,528
Mte Facility Expansion (2005-05)		26,700	250,000			320,000	9,613,000
Park and Rec System Plan		9,909					
Fire Station (2014-10)			10,378,450				
Transfer to ADA Fund	16,300	20,300	32,300	41,200			
Bond principal and interest	0	0	0	667,155	667,155	667,155	667,155
Total Expenditures	**384,493**	**508,909**	**11,185,250**	**1,239,555**	**1,219,603**	**1,561,701**	**10,877,683**
Inflation-capital only	**0**	**36,609**	**10,628,450**	**0**	**0**	**320,000**	**9,613,000**
Ending Cash	**150,297**	**69,288**	**(847,162)**	**(806,204)**	**(770,846)**	**(1,055,489)**	**(733,131)**

City of Inver Grove Heights
Golf Course Enterprise Fund 503- Exhibit I

Inflation for capital items	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
	2016	2017	2018	2019	2020	2021	2022
Beginning Cash Balance	**449,563**	**283,368**	**394,002**	**388,242**	**348,870**	**310,580**	**273,411**
Sources of Funds							
Transfer from Host Community	100,000	100,000	0	0	0	0	0
Operations	1,301,627	1,676,400	1,680,200	1,713,804	1,748,080	1,783,042	1,818,703
Other							
Interfund loan	2,047,700				-	-	-
Interest	**2,586**	**2,834**	**3,940**	**3,882**	**3,489**	**3,106**	**2,734**
Total Sources of Funds	**3,451,913**	**1,779,234**	**1,684,140**	**1,717,686**	**1,751,569**	**1,786,147**	**1,821,437**
Expenditures							
Operations	1,342,168	1,487,800	1,505,900	1,536,018	1,566,738	1,598,073	1,630,035
Future capital improvements		50,000	50,000	50,000	50,000	50,000	50,000
Capital Equipment & Capital Outlay	2,190,727	100,000	50,000	50,000	50,000	50,000	60,000
Interfund loan repayment	55,629	30,800	82,000	82,000	82,000	82,000	82,000
Golf carts	29,584			35,000	35,000	35,000	35,000
Total Expenditures	**3,618,108**	**1,668,600**	**1,687,900**	**1,753,018**	**1,783,738**	**1,815,073**	**1,857,035**
Inflation-capital only	**2,190,727**	**150,000**	**102,000**	**104,040**	**106,121**	**108,243**	**121,449**
Ending Cash	**283,368**	**394,002**	**388,242**	**348,870**	**310,580**	**273,411**	**226,364**

City of Inver Grove Heights
Local Improvement Fund - Exhibit J

Inflation for capital items	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Balance	**2,486,282**	**1,468,432**	**(3,362,688)**	**(5,438,842)**	**402,495**	**(795,612)**	**1,326,969**
Sources of Funds							
Transfer in	2,654,795		881,151				
Bond proceeds				9,900,000	9,900,000	2,500,000	
State aid	1,562,587	3,822,500	2,660,700	1,105,020			
Other	516,778						
Special assessments on rolls	318,379	247,696	210,291	202,005	160,295	154,115	188,220
NEW Special assessments (20% of construction)	0	0	14,304	30,976	52,257	83,112	86,105
Property tax levy	26,044	0	0	0	855,783	1,717,874	1,944,420
Interest	**25,520**	**14,684**	**0**	**0**	**4,025**	**0**	**13,270**
Total Sources of Funds	**5,104,103**	**4,084,880**	**3,766,446**	**11,238,001**	**10,972,360**	**4,455,101**	**2,232,015**
Expenditures							
Capital Outlay	6,118,796						
Street Reconstruction and Overlay Plan:							
Argenta/TH55 (2014-11)		5,780,000					
70th St -Eagan to TH 3 (2015-08 + 2010-02 + 2016-02)		250,000	500,000	1,000,000	4,400,000		
70th St @ TH 3 roundabout (2009-25 + 2016-08)			1,770,000				
117th St, TH 52 to Rich Valley Blvd (2005-03 + 2016-17)		225,000	800,000	1,200,000	6,000,000		
65th St TH 3 to Argenta Trail (2015-03)		2,661,000	2,522,600	2,989,100			
Seidl's Lk outlet (2014-12)			250,000				
Orchard Trail (2011-15)					80,000		
80th Street east of roundabout (2015-02 & 2006-01 & 2008-05)						575,000	1,400,000
Bond principal and interest	0	0	0	0	835,299	1,685,723	1,685,723
Transfers out	3,157						
Total Expenditures	**6,121,953**	**8,916,000**	**5,842,600**	**5,189,100**	**11,315,299**	**2,260,723**	**3,085,723**
Inflation-street projects only	**0**	**8,916,000**	**5,842,600**	**5,396,664**	**11,335,168**	**646,797**	**1,637,802**
Ending Fund Balance	**1,468,432**	**(3,362,688)**	**(5,438,842)**	**402,495**	**(795,612)**	**1,326,969**	**235,459**

City of Inver Grove Heights
Community Center Special Revenue Fund 205- Exhibit K

Inflation for capital items	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Balance	**149,247**	**(1,112,695)**	**(1,112,695)**	**(1,040,815)**	**(967,035)**	**(955,567)**	**(1,010,813)**
Sources of Funds							
Transfer from Host Community Fund for Operations	404,081	511,700	419,700	519,400	529,788	540,384	556,600
Transfer from Host Community Fund for Capital	0	205,000	1,219,500	428,700	274,800	2,182,300	445,000
Transfer from Host Community Fund for Rink Project			73,780	73,780	73,780	73,780	73,780
Transfer from Community Projects	0	0	0	0	0	0	0
Transfer from Capital Facilities	229,196	515,000	0	0	0	0	0
Transfer in							
Central Equipment IFL							
Operations							
Charges	2,234,997	2,336,400	2,355,900	2,403,000	2,451,060	2,500,081	2,550,083
Miscellaneous	147,267	235,200	315,700	322,000	328,440	335,009	341,709
Interest	**69**						
Total Sources of Funds	**3,015,610**	**3,803,300**	**4,384,580**	**3,746,880**	**3,657,868**	**5,631,554**	**3,967,172**
Expenditures							
Operations	2,786,413	3,082,000	3,093,200	3,244,400	3,371,600	3,504,500	3,643,300
Capital Outlay							
CIP	1,491,139	721,300	1,219,500	428,700	274,800	2,182,300	445,000
Transfer out							
Total Expenditures	**4,277,552**	**3,803,300**	**4,312,700**	**3,673,100**	**3,646,400**	**5,686,800**	**4,088,300**
Ending Fund Balance	**(1,112,695)**	**(1,112,695)**	**(1,040,815)**	**(967,035)**	**(955,567)**	**(1,010,813)**	**(1,131,941)**

City of Inver Grove Heights
Capital Facilities Fund 400- Exhibit L

Inflation for capital items	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
	2016	2017	2018	2019	2020	2021	2022
Beginning Cash Balance	**836,095**	**591,370**	**27,284**	**27,557**	**27,832**	**28,110**	**28,392**
Sources of Funds							
Other							
Interest	**9,471**	**5,914**	**273**	**276**	**278**	**281**	**284**
Total Sources of Funds	**9,471**	**5,914**	**273**	**276**	**278**	**281**	**284**
Expenditures							
Capital Outlay							
HVP Remediation		30,000					
Transfer to VMCC	229,196	515,000					
Transfer to Park Capital Replacement	25,000	25,000					
Total Expenditures	**254,196**	**570,000**	**0**	**0**	**0**	**0**	**0**
Inflation-capital only	**0**	**30,000**	**0**	**0**	**0**	**0**	**0**
Ending Cash	**591,370**	**27,284**	**27,557**	**27,832**	**28,110**	**28,392**	**28,675**

City of Inver Grove Heights
Economic Development Special Revenue Fund 290- Exhibit M

	2016	2017	2018	4.00% 2019	4.00% 2020	4.00% 2021	4.00% 2022
Beginning Fund Balance	236,816	161,452	710,902	717,811	724,789	731,837	738,919
Source of Funds							
Transfer in General Fund	500	94,100	83,100	84,800	88,200	91,700	95,400
Transfer In Closed Bond Fund	0	0	0	0	0	0	0
Transfer in Host Community Fund	445,649	132,210	0	0	0	0	0
Transfer in Capital Facilities Fund	0	0	0	0	0	0	0
DEED Grant		415,625					
Interest/Other	382	1,615	7,109	7,178	7,248	7,318	7,389
Total	446,531	643,550	90,209	91,978	95,448	99,018	102,789
Use of Funds							
Economic development operations	96,010	94,100	83,300	85,000	88,400	91,936	95,613
Development Activities	425,885						
Total	521,895	94,100	83,300	85,000	88,400	91,936	95,613
Excess (Use) of Funds	(75,364)	549,450	6,909	6,978	7,048	7,082	7,176
Ending Fund Balance	161,452	710,902	717,811	724,789	731,837	738,919	746,095

2017 through 2021

Five-Year Capital Improvement Plan for the

City of Inver Grove Heights, Minnesota

November 1, 2017

Prepared by:

Ehlers & Associates, Inc.
3060 Centre Pointe Drive
Roseville, MN 55113



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City of Inver Grove Heights

Five-Year Capital Improvement Plan

2017 through 2021

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I. INTRODUCTION

In 2003, the Minnesota State Legislature adopted a statute (Section 475.521, referred to herein as the "CIP Act") that allows cities to issue municipal bonds under a capital improvement plan without the usual referendum requirement (except for the so-called "reverse referendum" described below). The CIP Act applies to capital improvements consisting of city halls, public works, and public safety facilities. The 2005 Legislature added towns to the meaning of a municipality and town halls and libraries to the meaning of a capital improvement under the CIP Act.

Throughout this plan, the term "capital improvement" refers only to those improvements identified in the CIP Act, as summarized above. Capital expenditures for other public improvements in the City will be financed through other means, and are not governed by this plan.

II. PURPOSE

A capital improvement is a major expenditure of municipal funds for the acquisition or betterment to public lands, buildings, or other improvements used as a city hall, town hall, library, public safety, or public works facility, which has a useful life of 5 years or more. For the purposes of the CIP Act, capital improvements do not include light rail transit or related activities, parks, road/bridges, administrative buildings other than city or town hall, or land for those facilities. A Capital Improvement Plan ("CIP") is a document designed to anticipate capital improvement expenditures and schedule them over a five-year period so that they may be purchased in the most efficient and cost-effective method possible. A CIP allows the matching of expenditures with anticipated income. As potential expenditures are reviewed, the municipality considers the benefits, costs, alternatives and impact on operating expenditures.

The City of Inver Grove Heights, Minnesota (the "City") believes the capital improvement process is an important element of responsible fiscal management. Major capital expenditures can be anticipated and coordinated so as to minimize potentially adverse financial impacts caused by the timing and magnitude of capital outlays. This coordination of capital expenditures is important to the City in achieving its goals of adequate physical assets and sound fiscal management. Good planning is essential for the wise use of limited financial resources.

The Capital Improvement Plan may be updated on an annual basis. In this manner, it becomes an ongoing fiscal planning tool that continually anticipated future capital expenditures and funding sources.

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III. THE CAPITAL IMPROVEMENT PLANNING PROCESS

The process begins with analysis of the City's five-year capital improvement needs and funding sources. The City may solicit input from citizens and other governmental units at an early stage, if desired.

The City Council then directs staff or consultants to prepare a plan that sets forth the estimated schedule, timing and details of specific capital improvements by year, together with the estimated cost, the need for the improvement, and the sources of revenue for the improvement. The City Council then holds a public hearing on the CIP, with notice published not more than 30 days and not less than seven days for the hearing (except as described below). The Council may either approve the CIP immediately after the hearing, or based on input may make revisions and approve the CIP at a later meeting.

If the CIP calls for general obligation bonds to finance certain improvements, the City Council must follow an additional set of procedures. The Council must hold a public hearing regarding issuance of the bonds. Notice of such hearing must be published in the official newspaper of the municipality at least 14, but not more than 28 days prior to the date of the public hearing. In addition, the notice may be posted on the City's official web site. (The public hearings on the CIP and the bonds may be combined into a single hearing, in which case the notice requirements for bonds must be followed.)

The Council must approve the sale of CIP bonds by a 3/5ths vote of its membership. However, the bonds are subject to a so-called "reverse referendum:" if a petition signed by voters equal to at least five percent of the votes cast in the City in last general election is filed with the City Clerk within 30 days after the public hearing regarding the bonds, the bonds may not be issued unless approved by the voters (by a majority of those voting on the question). Further, the maximum debt service in any year on all outstanding CIP Bonds is .16% of the estimated market value of property in the city, using the market value for the taxes-payable year in which the bonds are issued.

After the CIP has been approved and bonds have been authorized, the City works with its municipal advisor to prepare a bond sale and repayment schedule. Assuming no petition for a referendum is filed, the bonds are sold, and when proceeds from the sale of the bonds (and any other identified

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revenue sources) become available, the expenditures for specified capital improvements can be made.

In subsequent years, the process is repeated as expenditures are completed and as new needs arise. Capital improvement planning looks five or more years into the future from the date of the CIP.

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IV. PROJECT SUMMARY

The expenditures to be undertaken with this CIP are limited to those listed below. All other foreseeable capital expenditures within the municipal government will come through other means. The following expenditures have been submitted for inclusion in this CIP:

2017 Expenditures

- Land acquisition and project costs related to construction of Fire Station #2

2018 Expenditures

- Project costs related to construction of Fire Station #2

2019 Expenditures

- Project costs related to construction of Fire Station #2

2020 Expenditures

- None contemplated at this time

2021 Expenditures

- None contemplated at this time

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The CIP Act requires the City Council to consider eight factors in preparing the CIP:

1. Condition of the City's existing infrastructure, including projected need for repair or replacement.
2. Likely demand for the improvement.
3. Estimated cost of the improvement.
4. Available public resources.
5. Level of overlapping debt in the City.
6. Relative benefits and costs of alternative uses of funds.
7. Operating costs of the proposed improvements.
8. Alternatives for providing services most efficiently through shared facilities with other cities or local governments.

The City has considered the eight points as they relate to the addition of Fire Station #2 through the issuance of CIP Bonds. The findings are as follows:

PROJECTS

Conditions of City Infrastructure and Need for the Projects

The City commissioned a report entitled "Analysis of Fire Station Locations for the City of Inver Grove Heights" to evaluate fire facility needs. This report is attached as Exhibit A. The report found that certain areas within the City are experiencing longer response times, existing facilities are not in proximity to existing fire fighters, and that anticipated future population growth will exacerbate the needs.

The Analysis of Fire Station Locations for the City of Inver Grove Heights recommends a new station location that can respond to underserved populations within the City, is conveniently located with proximity to existing fire fighters and serves areas of the City that are expecting future growth.

Demand for Projects

The Analysis of Fire Station Locations for the City of Inver Grove Heights identifies anticipated population growth and areas that will require enhanced response times as drivers for demand for the new fire station. The report in Appendix A outlines this in greater detail.

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Estimated Cost of the Projects

The total cost for the fire station project is estimated to be approximately $10.4 million. At this time the project has not been bid.

Availability of Public Resources

The City plans to fund the project through the issuance of up to $12,500,000 in General Obligation Bonds. This total bond issue amount allows for bids to come in approximately 15% above the estimated cost of $10.4 million. Approval of this CIP does not commit the City to award bids or proceed with the project.

Level of Overlapping Debt

Taxing District	2016/17 Taxable Net Tax Capacity	% in City	Total GO Debt	City's Proportionate Share
Dakota County County	$ 42,417,622	77.2273%	$ 20,910,000	$ 16,148,228
ISD No. 196 (Rosemount-Apple Valley-Eagan)	$ 155,699,716	5.2378%	$ 158,470,000	$ 8,300,342
ISD No. 197 (West St. Paul-Mendota Heights-Eagan)	$ 57,669,437	0.7822%	$ 37,860,000	$ 296,141
ISD No. 199 (Inver Grove Heights)	$ 25,883,037	93.3106%	$ 60,495,000	$ 56,448,247
Metropolitan Council	$ 3,696,732,996	0.8861%	$ 186,185,000	$ 1,649,785
City's Share Total of Overlapping Debt				**$ 82,842,744**

Relative Costs and Benefits of Alternative Uses of the Funds

Upon establishing the need for a new fire station facility, the City explored several alternatives for a facility that provides the level of service necessary for residents. These alternatives included several different locations for the facility. The report included in Appendix A further details the analysis of alternatives.

Operating Costs of the Proposed Improvements

The operating cost of the new facility is unknown at this point. The new facility will be designed to achieve maximum savings through energy efficiency and service delivery. Because it is a new, additional facility, overall operating expenses are expected to be higher than the current facility.

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Options for Shared Facilities with Other Cities or Local Government

Providing fire protection services requires geographic proximity to the area that is served, making it difficult to share facilities with other jurisdictions. The City, however, intends to explore opportunities to leverage this investment and share with other cities or local governments. Inver Grove Heights has discussed the possibility of a shared training facility with Northern Dakota County cities as one possibility. In addition, the City continues a dialogue with Dakota County regarding consolidation of county services and public safety training facilities. Fire station #2 and the surrounding property may offer a future shared facility opportunity with these entities.

V. FINANCING THE CAPITAL IMPROVEMENT PLAN

The total principal amount of requested expenditures under this Capital Improvement Plan is $12,500,000. This amount represents the maximum principal amount of CIP Bonds that may be issued to finance a new fire station facility. Principal and interest on the CIP Bonds will be paid through a tax levy over the term of the CIP Bonds, further described in Appendix B.

At this time, the City anticipates issuing non-Bank Qualified (BQ) bonds in one year due to the small spread in interest rates between BQ and non BQ bonds. However, if prior to the call for the sale of bonds, the spread increases significantly, thus increasing overall financing costs, the Council in its own discretion may determine that it should issue BQ bonds over a two (2) year period.

In the financing of the Capital Improvement Plan, two significant statutory limitations apply.

1. Under Chapter 475, with few exceptions, municipalities cannot incur debt in excess of 3% of the assessor's estimated market value for the municipality. In the City, the estimated market value is $3,462,768,500. Therefore, the total amount of outstanding debt cannot exceed $103,883,055. These values are for 2016/17 tax year. As of November 1, 2017, the City has $8,775,000 subject to the legal debt limit (this amount includes the City's 2009A and 2016A bonds). Once the 2018A bonds are issued, the City will have up to 21,275,000

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subject to the legal debt limit. As such, issuance of the CIP Bonds will be within the overall statutory debt limit for the City.

2. A separate limitation under the CIP Act is that, without referendum, the total amount of principal and interest in any one year on all CIP Bonds issued by the City cannot exceed 0.16% of the total estimated market value in the municipality. In the City, that maximum annual debt service amount is $5,540,430 for the 2016/17 tax year ($3,462,768,500 x .0016). The annual principal and interest payments on the CIP Bonds proposed to be issued under this CIP will average approximately $868,000. The annual debt service on the City's other outstanding CIP bonds averages approximately $700,000. As such, debt service on all the City's CIP Bonds will be well within the annual limits under the CIP Act.

Details regarding the proposed terms of the CIP Bonds under this CIP are shown in Appendix B. A schedule of events for approval of the CIP and issuance of the CIP Bonds is shown in Appendix C.

Continuation of the Capital Improvement Plan

This Capital Improvement Plan should be reviewed annually by the City Council using the process outlined in this Plan. It should review proposed expenditures, make priority decisions, and seek funding for those expenditures it deems necessary for the City. If deemed appropriate, the Council should prepare an update to this Plan.

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APPENDIX A

ANALYSIS OF FIRE STATION LOCATIONS FOR THE CITY OF INVER GROVE HEIGHTS

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DRAFT REPORT
December 20, 2011

Analysis of Fire Station Locations for the City of Inver Grove Heights

TriData Division

DLR Group

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612/977-3500 p
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Executive Summary

Introductions and Acknowledgements

On May 9th of 2011, the City of Inver Grove Heights contracted with the Team of DLR Group, TriData Corporation and Bonestroo to perform an analysis of station locations for the City of Inver Grove Heights Fire Department. The intent of the study is to analyze the Inver Grove Heights Fire Department's current fire and EMS response, determine existing risks and propose new locations for a future fire station that will resolve any deficiencies identified by the study that may exist currently or are likely to develop in the future.

In the course of the study, the team met with a number of people from the City of Inver Grove Heights that provided valuable data and insight into the City and the Fire Department. Some of those individuals include:

Judy Thill, Fire Chief

Eric Bergum, Deputy Fire Chief

Joe Lynch, City Administrator

Jenelle Teppen, Assistant City Administrator

Tom Link, Community Development Director

Jim Sweeney, Utility Superintendent

Scott Thrureen, Public Works Director

Barry Underdahl, Streets Maintenance Superintendent

The data and insights into the City of Inver Grove Heights, the Fire Department, and current and future growth potentials provided by these individuals were invaluable in the development of this report.

Process

The study process utilized includes three major steps:

1. Data gathering and analysis including a review of past fire and EMS call data, City Zoning and Comprehensive Plans, demographic data and growth patterns.

2. Development of a risk and response time analysis to determine where potential risks exist in the City and what potential response times would be to respond to those areas and to the City in general.

3. Determination of potential sites meeting requirements necessary to meet the needs of a future fire station.

Major Findings

The data gathering and risk analysis portions of the study produced the following major findings:

1. Portions of the industrial properties in the southeast quadrant of the City are experiencing longer response times than industry standards leading to potentially increased insurance costs for high-risk properties due to less favorable ISO ratings. See ***Figure 7***.
2. Portions of the southern half of the City are experiencing response times from Inver Grove Heights Fire Department that exceed recommendations from NFPA. See ***Figure 7***.
3. The majority of the current compliment of fire fighters lives in the middle and eastern portions of the City. The ability of fire fighters to respond to the stations is a major consideration in locating the new facility. See ***Figure 8.***
4. The City of Inver Grove Heights Comprehensive Plan projects the following for growth over the next several decades:

    a. The northern third of the City will experience slow and limited growth.
    b. The eastern half of the City will experience slow and limited growth.
    c. The south half will experience little growth.
    d. The southeast industrial corridor will moderate growth.
    e. The northwest quadrant of the City will experience steady and more aggressive growth.

    See ***Figure 4***.

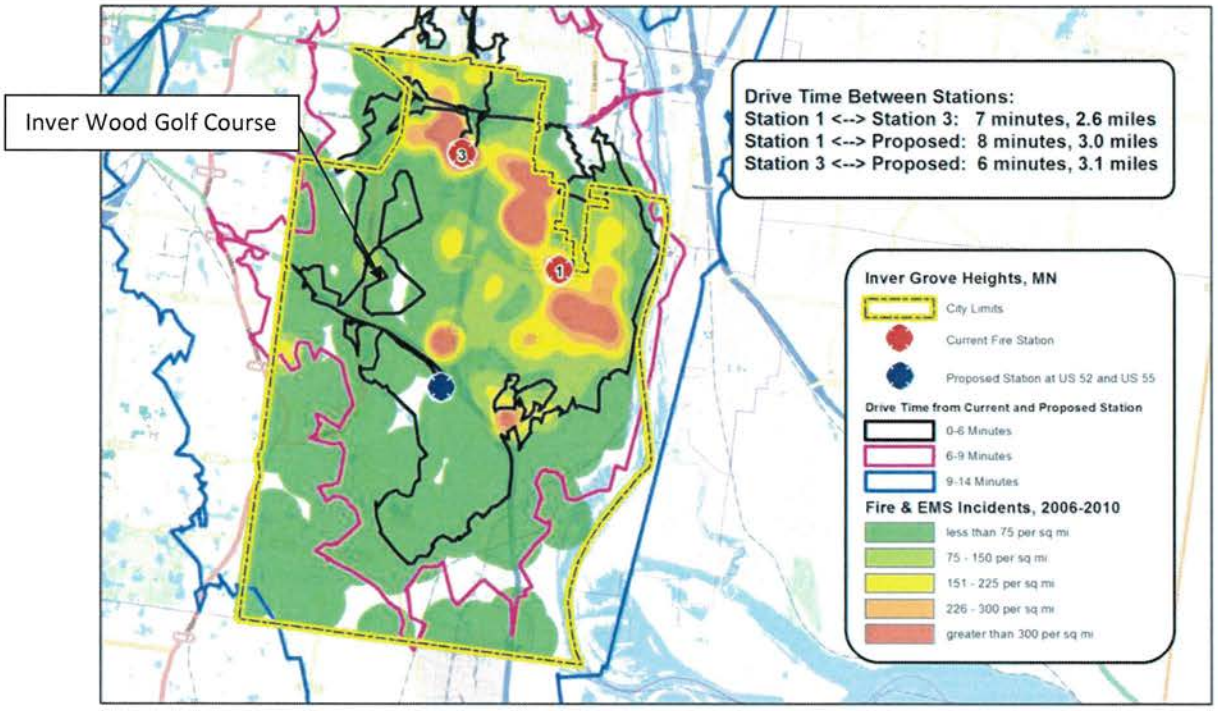
Ideally the new station location will improve response to the underserved portions of the City, be located to provide easy and convenient access to the fire fighters, and serve the areas of the City that are expecting future growth.

Conclusions

Analysis of GIS data provided by the City determined that a new fire station located south of the Highway 55 and 52 interchange on Courthouse Boulevard East between Barnes Avenue East and Concord Boulevard East would provide the best possible location for a balanced fire and EMS response to the City in general. It will improve the current long response times to the southeast industrial properties and the southern residential properties which now fail to meet NFPA standards. When combined with the existing stations, it will provide response to the future growth in the northwest quadrant.

This proposed station location when combined with the existing stations, shows a well balanced response that provides an acceptable level of coverage to meet the requirements of NFPA 1720. ***Figure 1*** is a summary of the combined fire and EMS call data, the location of the two existing stations, the proposed new station, and expected response times for the proposed configuration of the facilities. ***Figure 1*** also includes information regarding the distance in both miles and drive time between the three (two existing and one proposed) fire stations. The body of the reports contains detailed analysis of this data as well as additional support for these conclusions.

Figure 1 Summary Call Data and Response Time Map



The proposed new station location indicated in ***Figure 1*** offers the following improvements to the City of Inver Grove Heights fire protection plan:

1. It addresses the current service needs to the high risk industrial properties in the south east quadrant of the City.
2. It addresses current service needs per industry standards to the southern half of the City.
3. It is located such that fire fighters can easily access the station along major arterial roadways in the City passing through a minimum of controlled intersections and without passing existing stations.
4. It provides service per industry standards to the northwest quadrant of the City that is planned for the most growth in the coming decades.

It should be noted that other proposed new station locations that moved the station north and west of the herein proposed location risk providing too little coverage in the south or southeast quadrants and required responding fire fighters to pass one or both of the existing stations in order to respond. While the study notes that future growth in the City will increase residential and commercial density in the northwest quadrant, it is also expected that it will be some time before there is adequate emergency call volume to support a new fire station there or residential growth sufficient to provide housing for future volunteer fire fighters to staff the new station.

The proposed station location south of the Highway 55/52 interchange on Courthouse Boulevard East between Barnes Avenue East and Concorde Boulevard East provides the best possible fire services coverage today as well as for the future for all the businesses, industries, and citizens of Inver Grove Heights.

Specific Site Recommendations

The study identified four potential sites that exist in the area of the City identified by the risk analysis and response time portion of the study that meet the minimum requirements developed for a potential new station location. In all cases these properties represent more total acreage than would be necessary for a new fire station. The report identifies portions of each property that could be acquired for the use of the Fire Department.

Finally, the report recommends two of the sites that provide the best potential for purchase by the City as a location for the new fire station:

1. 8680 Courthouse Boulevard East
2. 2574 90th Street East.

See ***Figure 11***, Potential Fire Station Sites.

Some of the qualities that these sites possess that make them superior to others include:

- Availability: Either for sale or owned by the State of Minnesota.
- Location: As far west as possible within the selection zone identified to best serve future growth in the northwest quadrant.
- Site Characteristics: Require less investment in grading and infrastructure than others.

See ***Table 3*** for a detailed review of all sites.

Introduction

Background

Inver Grove Heights currently delivers fire services from two stations: Station #1 is located at 7015 Clayton Avenue and was constructed in 1987. Station #3 is located at 2059 upper 55th Street and was constructed in 1970 and added onto in 1980. There was also a Station #2 located at 65th and Concord, but this facility was closed in the late 1970's.

The City of Inver Grove Heights utilizes a paid on-call response system with three career personnel: fire chief, fire marshal and a part-time administrative assistant. The current complement includes approximately 60 paid on-call fire fighters. Emergency operations are based on calling volunteers (paid on-call members) for responses on an as-needed basis or an "all call" system.

Apparatus includes:

- 3 engines – includes 75' quint
- 1 ladder
- 2 tenders
- 1 rescue
- 2 brush rigs
- 1 squad
- 1 utility unit

Also included are staff units, trailers, and other support units.

The IGHFD responds to about 1,200 calls annually within the 32 square mile response district and has an ISO public protection classification of four in the hydranted areas.

Scope of Work

Inver Grove Heights requested the assistance of an outside professional service to conduct an analysis of potential future fire station locations in the jurisdiction. The scope of work included: Determining (for each hazard classification identified in the City) the following critical service benchmarks:

A. Appropriate location
B. Response times for fulfilling – both present and anticipated – ISO response requirements for Engine and Ladder Companies

Identifying participation of any additional stakeholders in the process and the added potential value realized.

Barriers to acquisition or use of each option identified. Recommendations are provided based on ISO, NFPA, CPSE, ICMA, and industry standards for comparable size U.S. cities with an

ISO Class 4/9 rating or better. Response time is defined as the time from the 911 call until the determined number of personnel and apparatus have arrived on scene.

Implementation of a master Fire Department location program to meet the service benchmarks identified in item 1 above.

Report Structure

This report consists of three chapters:

Chapter 1 – Risk and Demand Analysis: This chapter will analyze the current and future risks in the City and review previous demands for service to develop an envelope of future demand for service.

Chapter 2 – Fire Department Analysis: This chapter will review the current structure, operations, and administration of IGHFD to develop a plan for the future which will provide the same high level of service delivery to the citizens that they are now receiving from IGHFD.

Chapter 3 – Future Service Delivery Options: This chapter will include options for station locations for the near and long-term needs of Inver Grove Heights. It will also present service delivery options for the future which will provide mechanisms to keep fire service delivery at the same high level of performance that is now seen in IGHFD.

Chapter 1 – Risk and Demand Analysis

Population Growth and Development

Inver Grove Heights has had an increasing population for the last 40 years at a fairly steady rate.

Figure 2 shows us actual and projected population growth from 1970 to 2014. Inver Grove Heights had a population of 33,880 in the 2010 Census and it is expected that over the next four years this population will grow another five percent to 35,554.

Figure 2: Actual (solid) and Projected (dashed) Population, 1970-2014

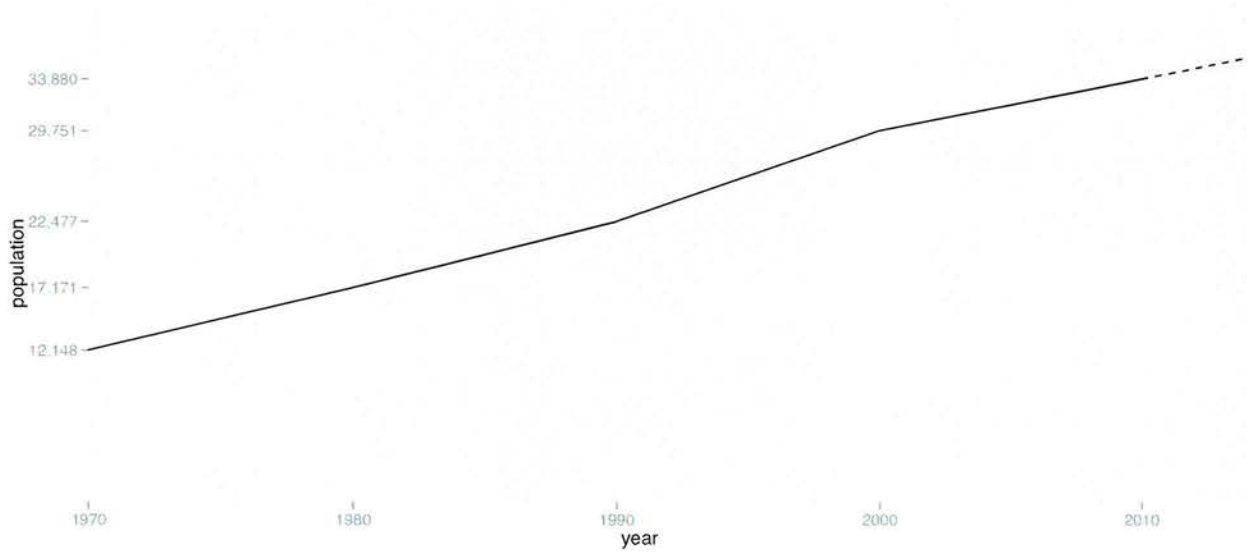
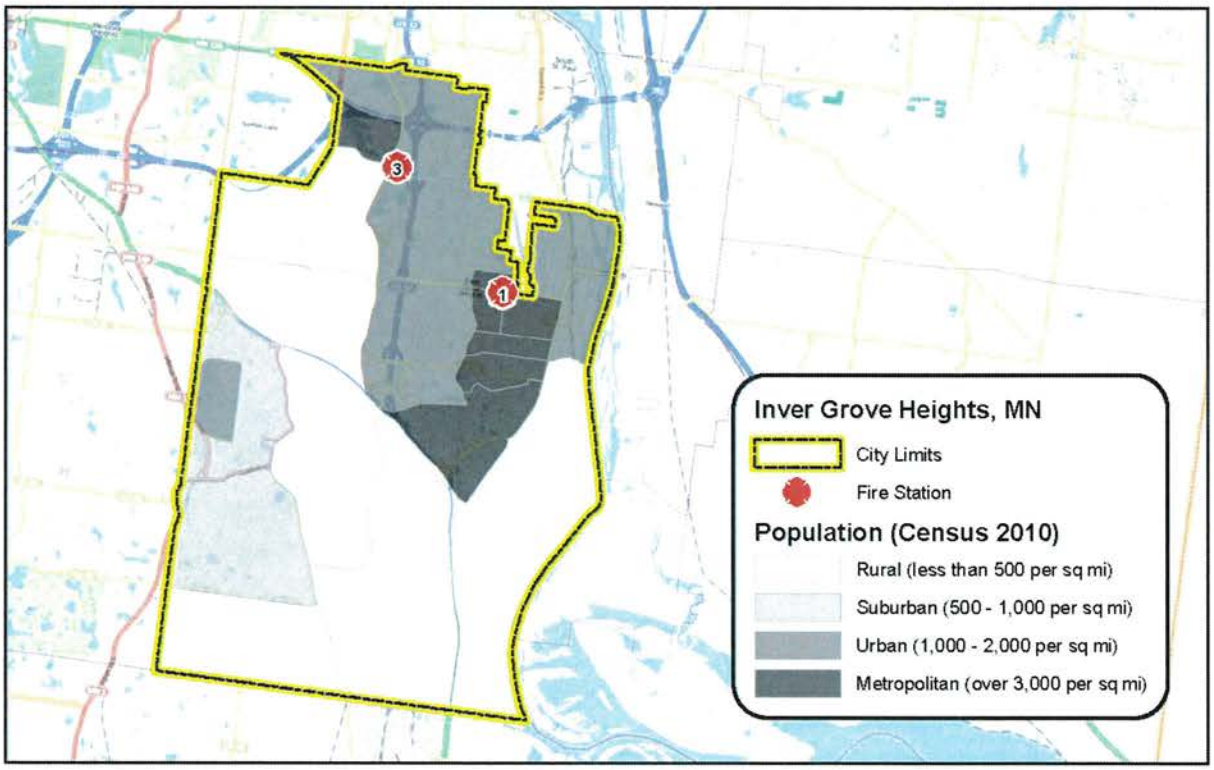


Figure 3 shows us the current population density (compiled using 2010 United States Census data). The map shows that Inver Grove Heights, unlike most other cities (which usually have very homogeneous population densities), has a large spectrum of population densities ranging from rural to metropolitan. The key for providing good fire service is to make sure that apparatus deployment is tailored to these differences in population density. Generally, the area south of Courthouse Boulevard (US 55) is rural with the areas of higher population density located above Courthouse Boulevard and east of Babcock Trail. There is significant planned growth over the next decade west of Babcock Trail. Both the current population distribution and planned development areas will be particularly important when looking at alternative station location configurations.

Figure 3: Population Density, Census 2010



Future population density as projected by the City of Inver Grove Heights Comprehensive Plan of 2010 indicates a relatively stable growth pattern for the City. Most areas of the City are designated as Established Development or Rural Development. These areas are either mostly built out or designated as low density residential that will likely see slow and steady growth over the coming decades.

Only the northwest quadrant of the City is indicated as a Future Growth Area. The northwest quadrant is projected for mixed-use retail, residential, commercial, and industrial land uses with steady if not aggressive growth in the coming years.

Fire service to these future growth areas, specifically the northwest quadrant, will increase as density increases. Studies conducted by the City indicate a total build-out of the following:

- 7,054 residential units
- 2,214,625 square feet of retail and service commercial development
- 2,384,910 square feet of industrial development

These levels are anticipated by the year 2035 with most of this development expected after the year 2020.

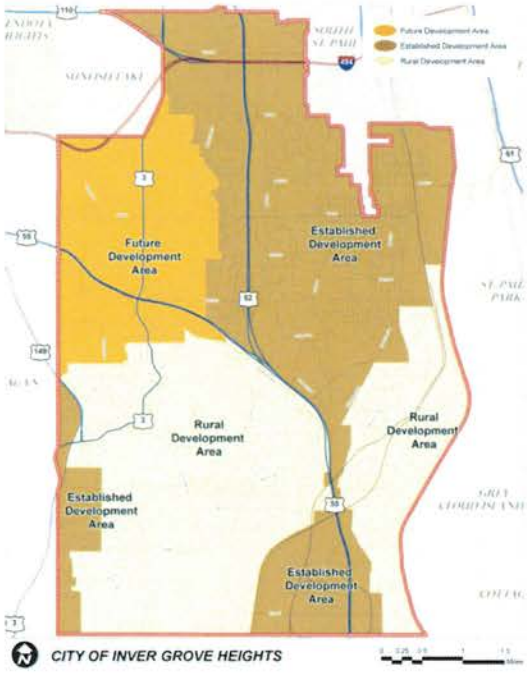


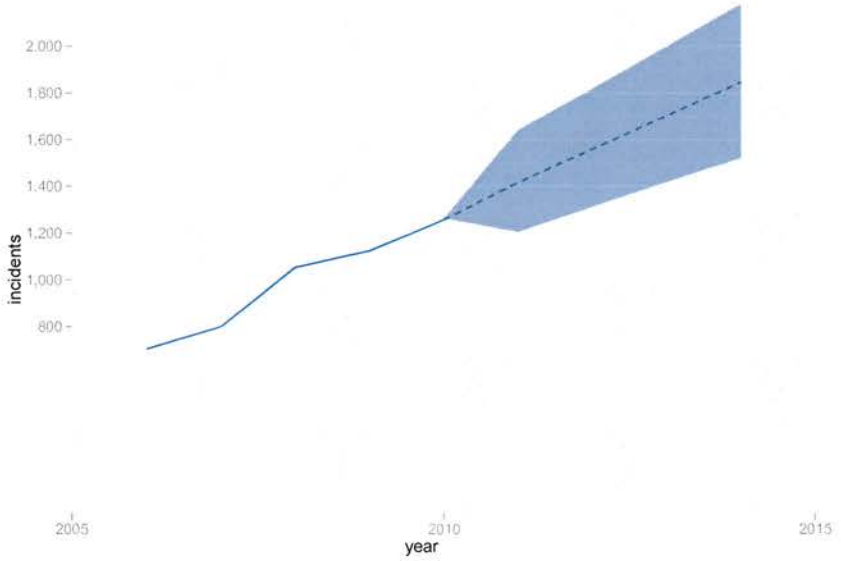
Figure 4: Future Development Density Projections – Inver Grove Heights Comprehensive Plan 2030

A common benchmark indicating need for a new fire station, or modification of fire service model, would be if an area is receiving more than 500 emergency service calls per year. It is not anticipated that the northwest quadrant would reach that level until after the year 2025. A new station to serve this area would best work with the existing infrastructure to share coverage of the northwest quadrant with existing Station #3 with a goal of providing service of current limited need, but continuing to meet service benchmarks as growth occurs.

Incident Type Trends

Figure 5 shows total incident trends over the last five years. The solid line shows actual incident totals, the dashed line shows predicted incident totals, and the shaded blue area shows the 95 percent confidence interval for the predicted totals (meaning there is a 95 percent chance that the total incidents will fall within the blue shaded area). An incident is described as any call involving the dispatch of the fire department including: structure fires, rescues, accidents, good intent, false alarms and EMS. The significant finding in this data is the rate at which emergency service incidents are increasing. Total emergency service incidents increased from 705 in 2006 to 1257 in 2010, an almost 80 percent increase in only five years. Using a multi-linear regression technique, we predict that fire department incidents will continue to increase over the next years.

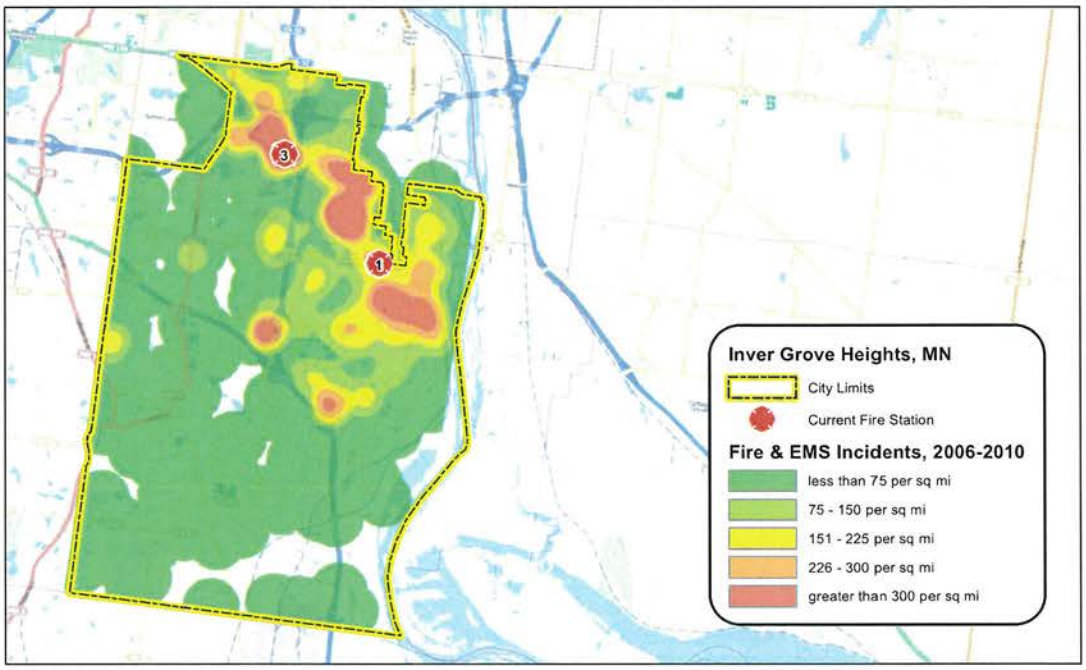
Figure 5: Incident Trends by Year, 2006-2010



Geospatial Mapping of Fire and EMS Demand

This section shows fire and EMS incident densities using GIS software. This allows us to pinpoint high-demand areas. ***Figure 6*** shows the combined fire and EMS incident densities.

Figure 6: Total Incident Density, 2006-2010



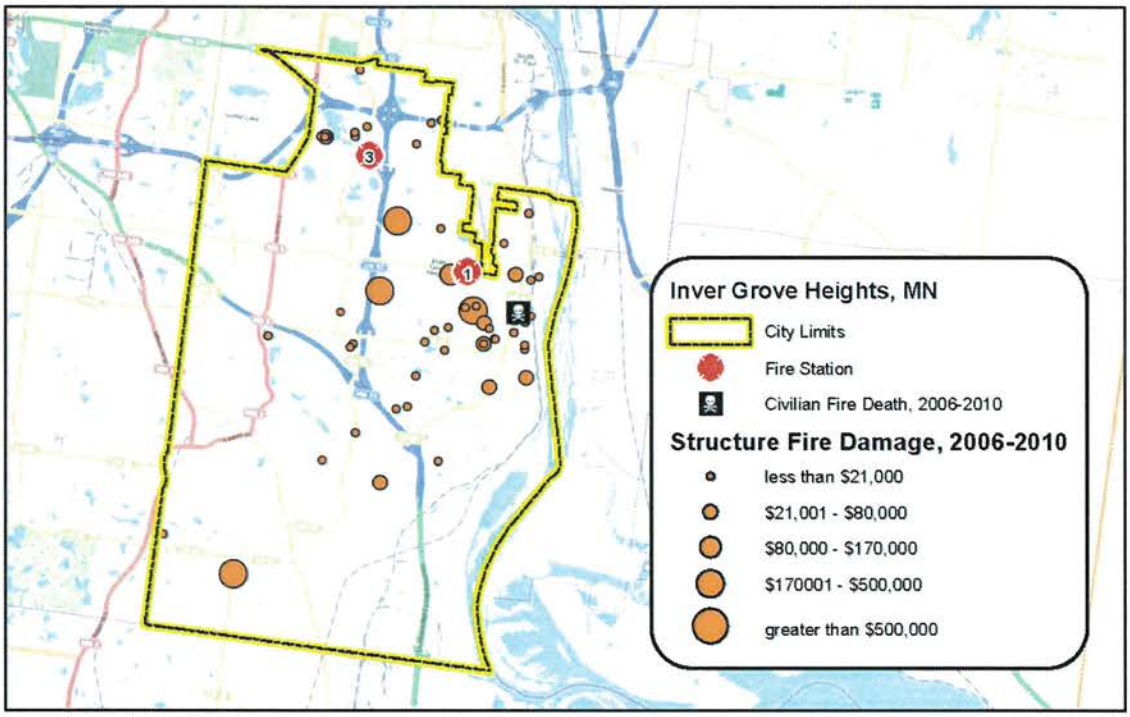
Based on the total incident density map, we identified the following high demand areas:

- Area around 80th Street and Highway 52
- The area generally surrounded by 72nd Street East to the north, 80th Street East to the South, Clayton Avenue to the West and Dickman Trail to the east
- The area around the intersection of Cahill Avenue East and 65th Street East
- The area around Lake Cove Village, Greystone Heights and Salem Green Apartments

Designation as a high incident demand area does not necessarily mean an area is any less safe than other areas of the City. Incident density typically tracks with general population density or other call generators such as nursing homes, major intersections, construction sites and industrial areas where increased density will naturally lead to increased chance of accidents and fires.

Figure 6 shows us the location of all structure fires and associated fire loss (dollar loss and deaths.)

Figure 6: Structure Fires, 2006-2010

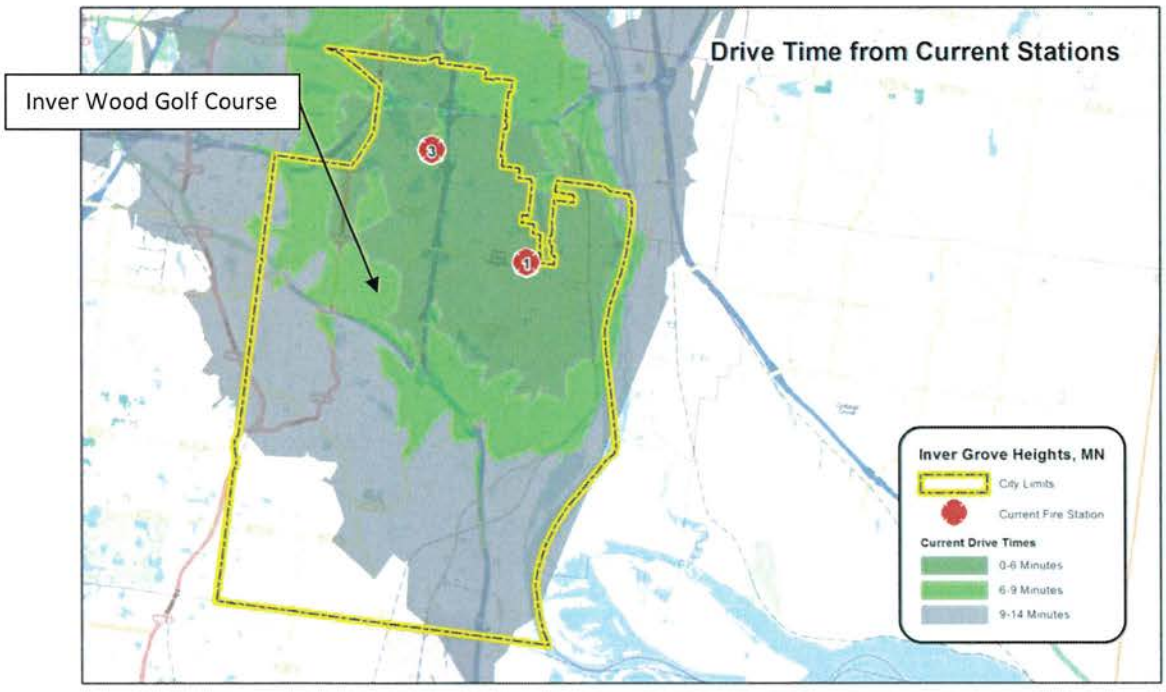


Station Location Analysis

In this section we present an analysis of fire station locations using Geographic Information System (GIS) software (ArcGIS 10). ***Figure 7*** shows the theoretical travel time from the two current fire stations. Areas in dark green can theoretically be reached in 6 minutes, areas in light green in 9 minutes, and areas in grey can be reached in 14 minutes. According to NFPA 1720, the rural areas should have a total response time (dispatch to unit arrival) of less than 14 minutes, the suburban areas less than 10 minutes, and the urban and metropolitan areas less than 9 minutes. Assuming 4 minutes for volunteers to respond to the station and turnout, travel times should be around 10, 6, and 5 minutes for rural, suburban, and urban areas respectively. Although it appears that not all the urban areas (includes what we have categorized as "metropolitan") are completely covered by a 5-minute drive time, the standard allows 20 percent of calls to exceed the response time standard. Because most of the areas of highest demand are near the station, Inver Grove Heights likely is meeting the NFPA 1720 standard for urban areas.

There are both urban and suburban areas on the west side of Inver Grove Heights, but responses to this area are handled by mutual aid agreement. The rest of Inver Grove Heights (predominantly the area south of US 55) is rural. Except for areas that are farther than 8 minutes from the nearest fire station (considered a remote area), travel times to this area should be about 10-minutes. It does not appear that coverage from the current stations meets this standard.

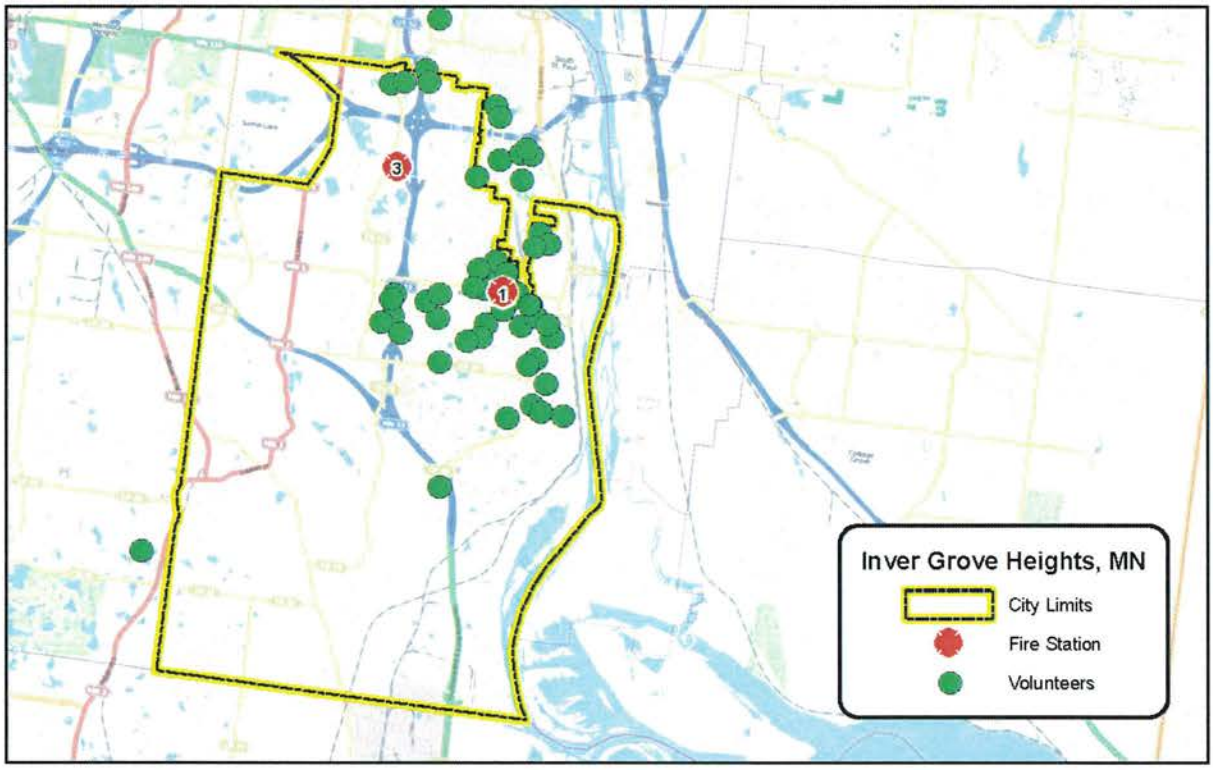
Figure 7: Current Station Layout



- *All unshaded areas drive times exceed 14 minutes from the identified stations*

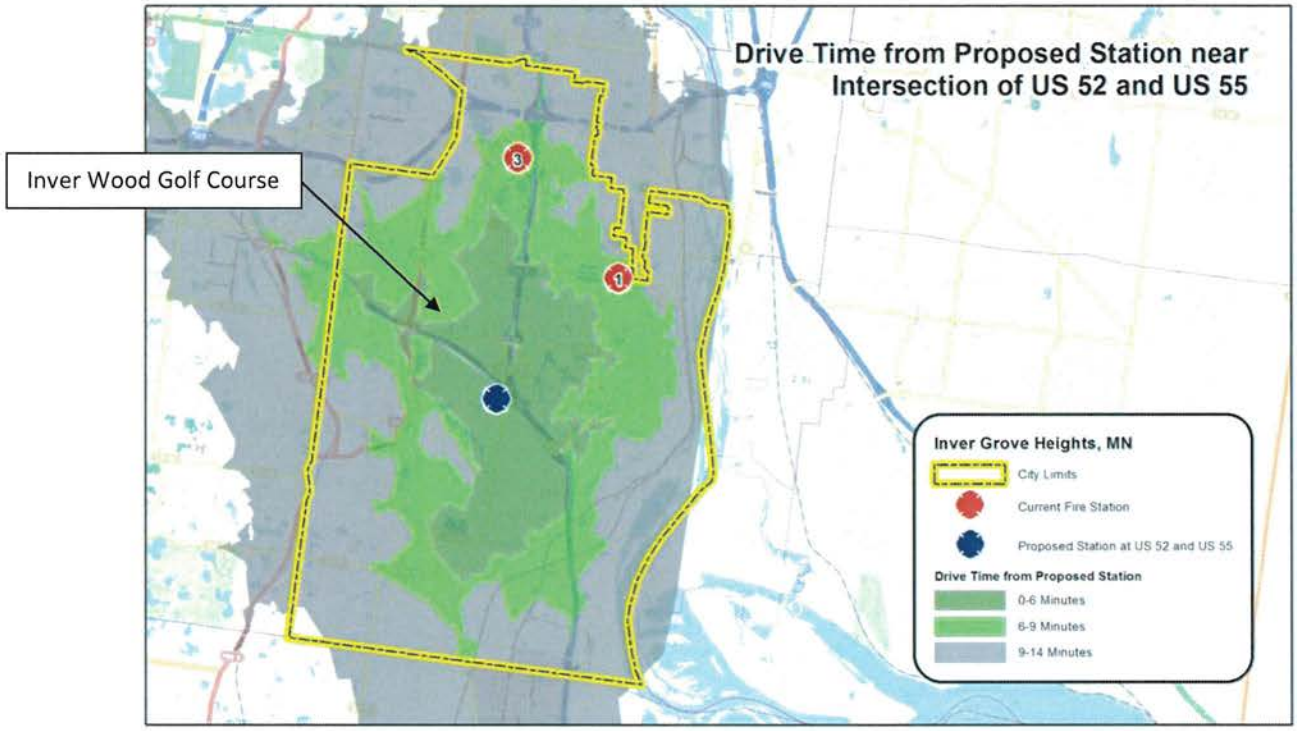
The location of volunteers as shown in ***Figure 8*** is also important to achieving the required response time because the clock is ticking while volunteers respond to the station. We have assumed a volunteer turnout time of four minutes when looking at appropriate travel times from stations. It appears that this assumption holds true for Station #1 which has many volunteers in close proximity. It is unlikely that enough volunteers to staff an engine can respond to Station #3 in four minutes and it is also likely that the lack of nearby volunteers is prolonging response times from this station.

Figure 8: Location of IGHFD Members



As a result of planned development in the northwest of Inver Grove Heights and the desire to provide generally better coverage, a centralized location as shown in ***Figure 9,*** near the intersection of US 52 and 55 is the best possible location of a new third station.

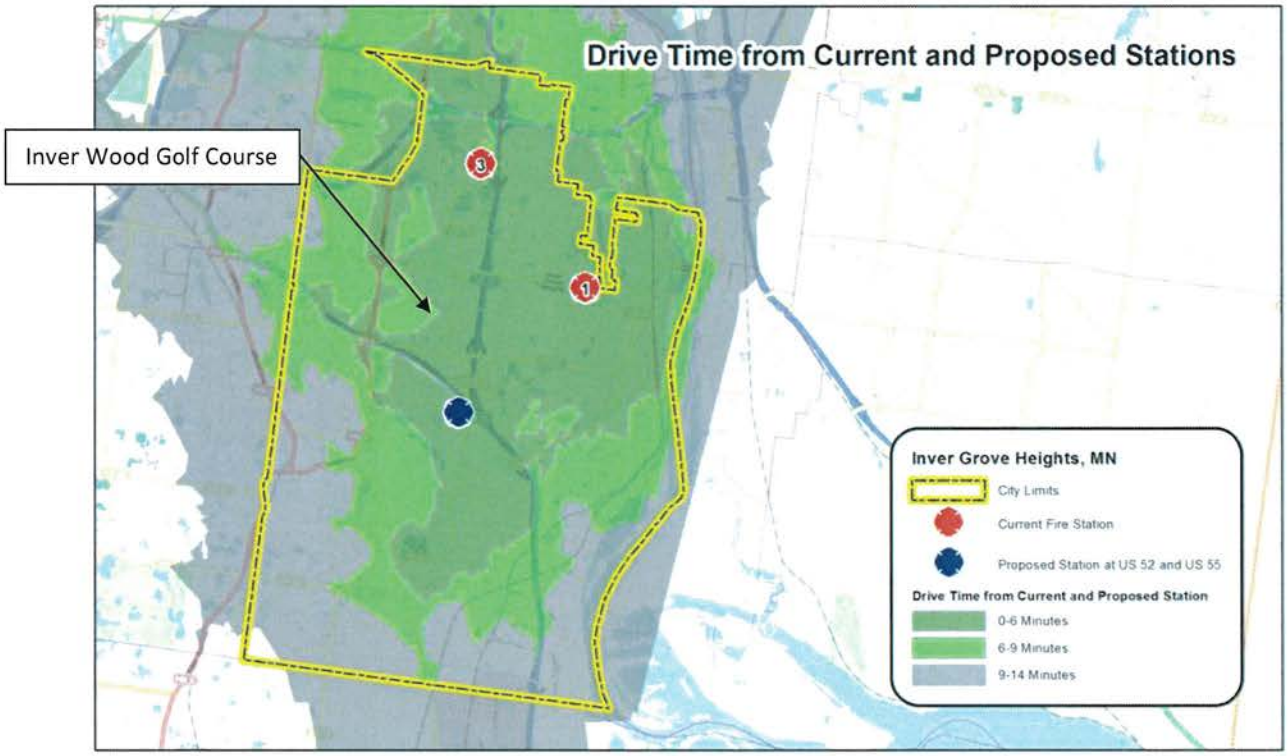
Figure 9: Drive time from Proposed Station near Intersection of US 52 and US 55



- All unshaded areas drive times exceed 14 minutes from identified station

This location provides improved coverage and fits well into a strategic plan to improve fire service deployment. ***Figure 10*** shows the improvement in coverage for the developed areas along US 55 and the more rural areas to the south. Where neither Station #1 nor Station #3 could meet the NFPA response time requirements to development areas near the Government Center at Highway 52 and 80th Street. (fire and EMS high demand area) or the shopping center at the intersection of Concord Boulevard East and Broderick Boulevard (EMS high demand area), the addition of the proposed third station would provide excellent coverage for these areas. Additionally, where Inver Grove Heights was not meeting the NFPA 1720 standard for its rural areas to the south, this new station would provide that needed coverage.

Figure 10: Drive Times from Current Stations and Proposed Station at Intersection of US 52 and US 55

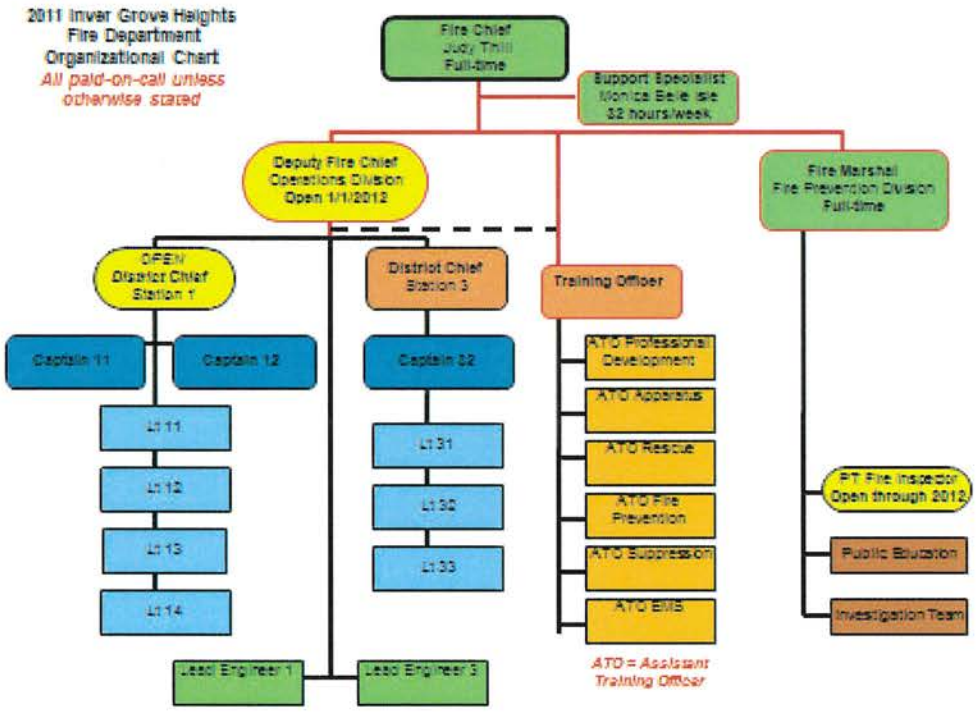


- All unshaded areas drive times exceed 14 minutes from identified station

Chapter 2 - Fire Department Analysis

Organizational Structure

Organizational Structure: Inver Grove Heights Fire Department is a combination career and paid-on-call department with career fire chief, fire marshal, and administrative assistant. All other positions are paid-on-call positions (60+). The organizational structure is displayed below:



Duties and Responsibilities: The chief is the only one of the three career positions that has the responsibility for responding to emergencies. The fire marshal only responds for fire investigations and alarm system issues. The administrative assistant has current training as a fire fighter, but does not respond to calls. The career positions are basically 8 a.m. to 5 p.m. weekdays. The chief is available for after-hours callback on significant incidents. However, because of the long response time to the southern part of the City and the fact the chief lives in that area, the chief responds to all calls in that area after-hours. The career chief officer position is responsible for departmental administration and operations as well as supervision of the paid-on-call staff. The fire marshal is responsible for fire code inspections, plan review, fire investigations and public education program development / delivery. The administrative assistant handles all records including payroll, personnel, finance, and inspections.

Paid-on-call personnel provide emergency response staffing for fire, rescue, and EMS incidents. Additionally they keep equipment and apparatus ready for emergencies and facilities clean, as well as, assist in training and public education program delivery. Paid-on-call personnel must respond to at least 15% of all fire calls on a quarterly basis and 67% of all scheduled training sessions including 100% of all required drills.

Organizational Effectiveness: The Inver Grove Heights Fire Department is a very effective and efficient operation. The use of paid-on-call personnel to provide 24/7 staffing gives the citizens an excellent value for the tax dollar spent in comparison to a fully career operation. This system also keeps the paid-on-call personnel interested in their duties as fire fighters and helps maintain critical operational skills. Morale is very good, the departmental roster is full, and applicants are plentiful. This is only the third such example of full rosters seen by the TriData analyst in over 100 volunteer fire departments studied in the past five years.

The key to maintaining this very efficient and effective operational model is recruiting and retaining volunteer / paid-on-call fire fighters. There are numerous professional organizations that have developed model programs that can be used in this recruitment and retention effort. There is no reason to "reinvent the wheel" if tried and proven programs exist to assist Volunteer fire-rescue organizations with these matters. The National Volunteer Fire Council at www.nvfc.org and the Fireman's Association of the State of New York (FASNY) at www.fasny.com both have quality programs and provide assistance that can help this program get started. From the Pennsylvania General Assembly, the Legislative Budget and Finance Committee developed an excellent report titled, *The Feasibility of Regionalizing Pennsylvania's Volunteer Fire Companies*. This report also provides some ideas and guidance pertaining to the recruitment and retention problems within the volunteer fire service.

Assistance can also be obtained through the Federal Emergency Management Association (FEMA) and the U.S. Fire Administration (USFA) at www.usfa.fema.gov. Both of these organizations have published numerous free reports on Recruitment and Retention among the Volunteer Fire Service. One such resource publication, *Recruitment and Retention in the Volunteer Fire Service: Problems and Solutions Final Report December 1998* outlines numerous programs and resources that have been tried and have proven successful throughout the nation.

Fire / Rescue / EMS Operations

Current System: Inver Grove Heights Fire Department uses a very innovative and efficient operational service delivery system for fire and EMS calls. The current system makes excellent use of paid-on-call personnel to deliver the initial fire or EMS response. This in-house system is also augmented by the use of automatic and mutual aid from neighboring departments as listed below.

Auto Aid: IGHFD uses Eagan Fire for auto-aid in beats 2A and 2E for confirmed structure fires only. They have a pumper / tender they send to that area. IGHFD is also working with Rosemount for an auto-aid for a tender, because 2 A, B, D, E, F have no hydrants with the exception of a small piece in the far western part of 2E.

Mutual Aid: IGHFD uses all of surrounding communities: Eagan to the west, Rosemount to the south, Mendota Heights to the northwest and South Metro (West St. Paul and South St. Paul) to the north for any mutual aid they may need. There is also a county-wide agreement. IGHFD also has a mutual aid agreement with departments across the river into the neighboring County.

EMS service delivery is also a combined departmental operation but this process uses IGH police and fire personnel to provide incidents for BLS response to the most serious medical emergencies. Minor EMS calls are handled only by police personnel. Serious EMS calls are dispatched by 911 operators to police and fire simultaneously. Both police and fire personnel proceed to the call and initiate patient assessment and treatment. This hybrid system works very well with police and fire sharing all duties on-scene. The process was formalized with the addition of the new county 911 dispatch center so police personnel know when fire has been dispatched or when they need to request them. Both police and fire have begun training together to continue improving procedures and efficiency.

Comparison of IGHFD to Federal Regulations and Industry Standards

To protect the safety of fire fighters, the United States Department of Labor and OSHA have enacted 29CFR1910.134, known as the two-in/two-out rule that requires four personnel on scene at all structure fires before initial interior attack begins.

There are also two specific NFPA standards which are applicable to the fire service delivery system in Inver Grove Heights. Both are set out below:

Table 1: NFPA 1720 - Staffing and Response Time Standards

Demand Zone	Demographics	Staffing / Response Times	Percentage of calls
Special Risks	Authority Having Jurisdiction (AHJ)	AHJ	90
Urban	>1000 people/mi	15/9	90
Suburban	500-1000 people/mi	10/10	80
Rural	<500 people/mi	6/14	80
Remote*	Travel dist ≥8 mi.	4	90

* Upon assembling the necessary resources at the emergency scene, the fire department should have the capability to safely commence an initial attack within two minutes 90 percent of the time. Source: NFPA 1720, 2004 Edition.

Table 2: NFPA Handbook - Response Level by Risk

Low Hazard	Medium Hazard	High Hazard
– Comprised of 1, 2, or 3 family dwellings and scattered small businesses. – Response – 2 engines, 1 ladder, 1 command = 13 personnel	– Comprised of apartments, offices, mercantile, and light industrial – Response - 3 engines, 1 ladder, and 1 command = 17 personnel	– Comprised of schools, hospitals, nursing homes, heavy industrial, and high rises – Response – 4 engines, 2 ladders, 2 command = 25 personnel

Source NFPA handbook 18th edition, table 10-2A.

Technology has improved dramatically in the past several years, but the basic goal of firefighting is still to:

- Stabilize the incident
- Rescue anyone in danger
- Extinguish the fire

This type of incident tasking requires emergency responders to operate in high risk environments. Thus, the safety and accountability of all suppression personnel is critical to a successful operation.

IGHFD is currently meeting these industry benchmarks in most areas with the exception of the southern parts of the City, with departmental career chief and on-call staff and the use of auto and mutual aid.

EMS in Inver Grove Heights is a two tiered system with Inver Grove Heights Police Department as the first responder agency for all medical calls and IGHFD augmenting the response on the most serious calls. With the advent of the new dispatching classification for medical calls, as well as the increase in aging population, the annual EMS call volume has more than doubled in the past two years.

Chapter 3 - Future Service Delivery Options

New Station Locations

Based upon the risk analysis, projected response times and location of staff, a new station located along Courthouse Boulevard East between Barnes Avenue East and Concord Boulevard East would provide a balanced coverage to improve service to the southern residential properties, the southeast industrial corridor and the planned future growth in the northwest quadrant of the City when combined with the existing stations. This Chapter of the report will provide general recommendations for sites within these boundaries that meet the requirements of the City of Inver Grove Heights and the Inver Grove Heights Fire Department.

The City of Inver Grove Heights established the following site selection criteria for sites to be considered:

- Availability
- Land already owned by the City
- Property that could be exchanged for land already owned by the City
- City sewer and water presently available or planned to be in before fire stations construction begins
- Land dimensions suitable for drive-through bays
- Exit on to City-maintained street
- Minimum of three buildable acres
- No environmental clean-up required
- Land not owned by anyone who would have a conflict of interest with the City

The Inver Grove Heights Fire Department established the following criteria as important to their operations:

- Priority be given to sites that best meet their need for responding to and from the station
- Sites should minimize response through currently or future controlled intersections

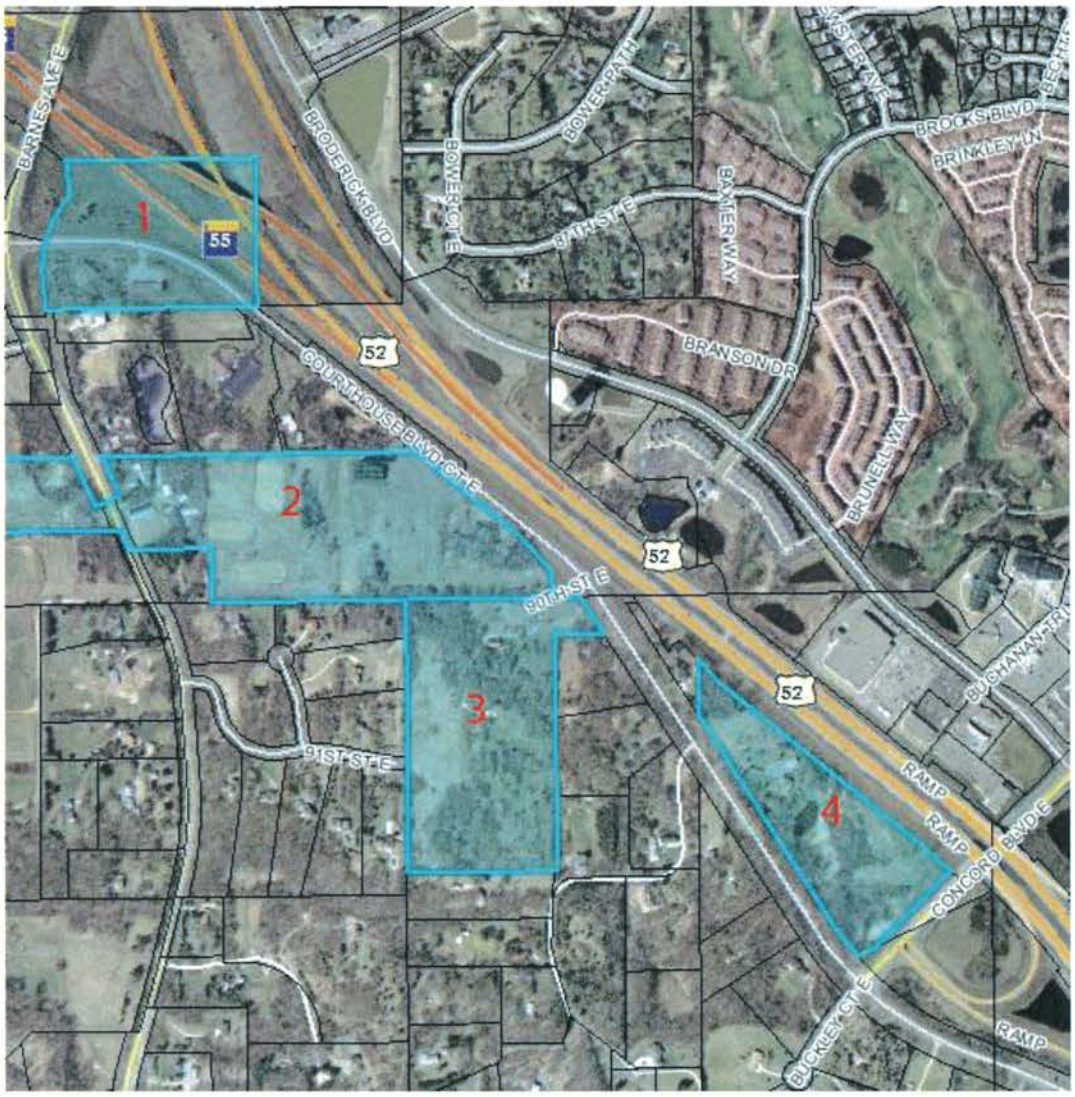
The study also considered other critical factors for the siting of a fire station that include the following:

- Shape of the property
- Contours
- Soil Conditions
- Zoning
- Property Value
- Ground water availability

Considering these selection criteria, the team identified four properties within the boundaries established by the Risk and Response Time portion of the study that met the majority of the requirements. See ***Figure 11*** for locations:

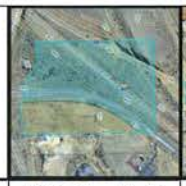
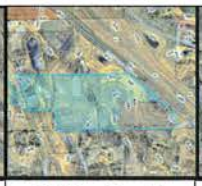
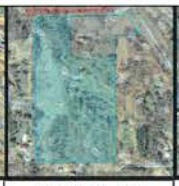
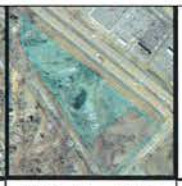
1. 8680 Courthouse Boulevard East
2. 8897 Barnes Avenue East
3. 2574 90th Street East
4. 9250 Courthouse Boulevard East

Figure 11: Potential Fire Station Sites



The specific attributes of these four sites are included in Table 3 on the following page.

Table 3: Site Selection Matrix

SELECTION CRITERIA					REMARKS
Address	8680 Courthouse Blvd. E.	8897 Barnes Avenue E.	2574 90th Street E.	9250 Courthouse Blvd E.	
Size (Total Acreage/recommended size)	13.85/3.5 Acres	33.14/5 Acres	19.41/3.5 Acres	11.68/3.5 acres	
Appraised Value (Land Only)	$312,500 (Building and property)	$691,900	$304,300	$187,700	
Value of recommended size	$78,971	$104,390	$54,871	$56,246	(Appraised value/ Total Acreage) X Recommended Acreage
Availability	State Owned	Privately Owned	Privately Owned - For Sale	Privately Owned	
Owned By City	-	-	-	-	
Exchangeable for Land Owned by City	Potentially	Unknown	Unknown	Unknown	
City Sewer & Water	-	-	-	-	
Suitable for Drive Thru Bays	+	+	+	+	
On Streets Maintained by City	+	+	+	+	
3 Acres Min.	+	+	+	+	
No Environmental Clean-up Required	+	+	+	+	
No Conflict of Interest	+	+	+	+	
Other Comments	Best positioned for emergency response of sites considered	Site contours will cause purchase of additional land for buildable site	Currently for sale	Too far east for best emergency response and coverage	
	Relatively flat, but long and narrow	Not for sale and desirable portions are currently farmed	Single, narrow access point to City owned street	Zoned Commercial	
	Lengthy acquisition process to obtain from State of MN	Zoned Agricultural	Relatively flat, buildable portions of property available near road.	Some engineered fill likely required to raise site	
	Potential for land swap with south neighbor to create a more rectangular shaped site.		Zoned Agricultural		

General Site Selection Discussion

The following general discussion points apply to all of the sites being considered.

Availability and Ownership: None of the properties within the area shown to provide best fire response is currently owned by the City and only one of the properties is currently for sale. No effort has been made as part of this study to investigate the desire of any of the current property owners to sell their property to the City.

Purchase price of properties is often a selection criterion in site selection studies. Potential values for properties (table 2) have been determined for the subject properties using property tax information obtained from Dakota County GIS web site. These values are representative of the relative value of each property and should not be construed as potential acquisition prices.

Water and Sewer: None of the sites are currently served by City water and sewer and no water or sewer service is projected to this area in the City's Comprehensive Plan. Extending water and sewer under Highway 52/55 to serve a single site such as the fire station would be cost prohibitive. A looped water service would appear to be possible by extending service from the Arbor Points Tower and connecting to the Industrial park loop west of Barnes Avenue East. This would again be cost prohibitive if borne exclusively by the project.

Allowances should be made as part of the construction process to install a high capacity well and storage tank system to supply the Fire Station with domestic water, emergency water service and truck-fill water for fire service needs.

Property Size, Shape and Contours: While three acres is a minimum recommended acreage for a fire station with drive-through bays, there are additional considerations that should be taken in assessing a potential site. Shape, contour and buildability of the site must also be considered to assure that room is available for development needs such as access drives, turning radius, parking, landscaping and other site development needs.

All of the properties in consideration have more property available than is required. Table 2 includes diagrams of the potential properties with highlighted areas indicating portions of the site that provide good site access, relatively level ground for construction, and minimize other site acquisition and development costs. In all cases it is recommended that a site larger than three acres be purchased to assure adequate fit for a future station. Table 2 details the recommended acreage.

No effort at site design has been made as part of this study. Future steps in the Site Acquisition process should include a feasibility study that provides for a space program and fit test for the new station.

Soils: Soil testing done for the Arbor Pointe Water Tower on the north side of Highway 55/52 by American Engineering Testing encountered soils that consist of top soil, silty sand and clayey sand. It can be reasonably assumed that these soils will be consistent for the sites under consideration. These soils will make a reasonable base for a fire station facility with no major soils corrections concerns. Soil borings should be taken at any sites prior to purchase to verify these conditions.

No water was encountered in the 81 feet of the Arbor Pointe Water Tower borings. Well drillers in the area indicate that water for a well will likely be encountered at approximately 200 feet. Water should be available in capacities to service the new Fire Station. This will require a high capacity well to serve the fire protection needs as well as fill an approximately 10,000 gallon holding tank for truck filling and domestic water service. Costs for this type of domestic and fire protection water service will likely be in the range of $50,000 to $75,000 which is less than the cost to extend water under the highway.

Recommendations and Conclusions – Site Selection

Four sites in the selection zone meet the minimal requirements for the new fire station. Of those four, two appear to best meet the requirements set forth in this section; 8680 Courthouse Boulevard East (Site 1), and 2574 90th Street East (Site 3).

8680 Courthouse Boulevard East is most westerly of the sites. This will provide the best long-term location as additional development occurs in the City's northwest quadrant. This site is also well situated for access by responders as well as service to the rest of the City. Further the site provides multiple points of access to Courthouse Boulevard East, is relatively flat and appears to be buildable.

This property is owned by the State of Minnesota which may present some challenges to acquisition. Further it is long and narrow which may present some challenges to site development.

Consideration might be given to a land swap with the neighbor to the south, exchanging property at the corner of Courthouse Boulevard East for property at the neighbor's east end. This would make both properties more regular in size and shape. This will also allow for more buffering of the fire station from the residential property and move it closer to the church property to the east.

2574 90th Street East is currently for sale making the property more easily obtainable. The property is only marginally further east than 8680 Courthouse Boulevard East making it acceptable from an access and response perspective. The property contains a variety of sites that would appear to provide adequate buildable area for the new station.

The property has a narrow entrance that connects to Courthouse Boulevard East that will only allow one point of access to Courthouse Boulevard East. Two points of access to the site would be preferable for emergency response. This can be resolved with a connection through to 91st Street East which may involve more planning and site acquisition.

PROPOSED 2018 CIP BOND ISSUE

Sources & Uses

Dated 07/01/2018 | Delivered 07/01/2018

Sources Of Funds

Par Amount of Bonds	$12,500,000.00
Total Sources	**$12,500,000.00**

Uses Of Funds

Total Underwriter's Discount (1.000%)	125,000.00
Costs of Issuance	77,000.00
Deposit to Capitalized Interest (CIF) Fund	218,417.50
Deposit to Project Fund	12,079,582.50
Total Uses	**$12,500,000.00**

DRA

Debt Service Schedule

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	105% of Total
02/01/2019	-	-	218,417.50	218,417.50	(218,417.50)	-	-
02/01/2020	495,000.00	1.550%	374,430.00	869,430.00	-	869,430.00	912,901.50
02/01/2021	500,000.00	1.650%	366,757.50	866,757.50	-	866,757.50	910,095.38
02/01/2022	510,000.00	1.750%	358,507.50	868,507.50	-	868,507.50	911,932.88
02/01/2023	520,000.00	1.900%	349,582.50	869,582.50	-	869,582.50	913,061.63
02/01/2024	530,000.00	2.000%	339,702.50	869,702.50	-	869,702.50	913,187.63
02/01/2025	540,000.00	2.200%	329,102.50	869,102.50	-	869,102.50	912,557.63
02/01/2026	550,000.00	2.350%	317,222.50	867,222.50	-	867,222.50	910,583.63
02/01/2027	565,000.00	2.500%	304,297.50	869,297.50	-	869,297.50	912,762.38
02/01/2028	575,000.00	2.550%	290,172.50	865,172.50	-	865,172.50	908,431.13
02/01/2029	590,000.00	2.800%	275,510.00	865,510.00	-	865,510.00	908,785.50
02/01/2030	610,000.00	3.050%	258,990.00	868,990.00	-	868,990.00	912,439.50
02/01/2031	625,000.00	3.200%	240,385.00	865,385.00	-	865,385.00	908,654.25
02/01/2032	645,000.00	3.400%	220,385.00	865,385.00	-	865,385.00	908,654.25
02/01/2033	670,000.00	3.500%	198,455.00	868,455.00	-	868,455.00	911,877.75
02/01/2034	695,000.00	3.600%	175,005.00	870,005.00	-	870,005.00	913,505.25
02/01/2035	720,000.00	3.700%	149,985.00	869,985.00	-	869,985.00	913,484.25
02/01/2036	745,000.00	3.800%	123,345.00	868,345.00	-	868,345.00	911,762.25
02/01/2037	775,000.00	3.850%	95,035.00	870,035.00	-	870,035.00	913,536.75
02/01/2038	805,000.00	3.950%	65,197.50	870,197.50	-	870,197.50	913,707.38
02/01/2039	835,000.00	4.000%	33,400.00	868,400.00	-	868,400.00	911,820.00
Total	**$12,500,000.00**	-	**$5,083,885.00**	**$17,583,885.00**	**(218,417.50)**	**$17,365,467.50**	**$18,233,740.88**

Significant Dates

Dated	7/01/2018
First Coupon Date	2/01/2019

Yield Statistics

Bond Year Dollars	$150,261.67
Average Life	12.021 Years
Average Coupon	3.3833546%
Net Interest Cost (NIC)	3.4665428%
True Interest Cost (TIC)	3.4406544%
Bond Yield for Arbitrage Purposes	3.3356428%
All Inclusive Cost (AIC)	3.5060883%

APPENDIX C

Pre-Sale Schedule dated November 1, 2017___
5-Year City Capital Improvement Plan Bond Issuance
City of Inver Grove Heights, Minnesota

The City Council must take the following actions before Bonds can be issued:

- City Council directs preparation of a 5-Year Capital Improvement Plan.
- City Council conducts a Public Hearing on issuance of Bonds and Capital Improvement Plan.
- City Council approves Bonds and Capital Improvement Plan by at least a 3/5ths vote of the governing body membership.

The table below lists the steps in the issuing process:

10/23/2017	City Council adopts Resolution calling for Public Hearing on issuance of Bonds and on Capital Improvement Plan.
11/15/2017	Close date to get Notice of Public Hearing on issuance of Bonds and on Capital Improvement Plan to official newspaper for publication (4:00 p.m. deadline).
11/19/2017	Publish Notice of Public Hearing on issuance of Bonds and on Capital Improvement Plan (publication no more than 28 days and no less than 14 days prior to hearing date). Additionally, notice may be posted on the City's official web site, if any.
12/11/2017 @ 7:00 p.m.	City Council holds Public Hearing on Bonds and on Capital Improvement Plan and adopts resolution giving preliminary approval for their issuance and approving Capital Improvement Plan by at least a 3/5ths vote of the governing body membership.
1/10/2018	Reverse referendum period ends (within 30 days of the public hearing).
TBD	City Council provides for sale of Bonds.
TBD	City Council accepts offer for Bonds and adopts Resolution-Approving sale of Bonds.
TBD	Tentative closing/receipt of funds.

Net Debt Limit		Annual Levy Limit	
Assessor's Estimated Market Value	3,462,768,500	Assessor's Estimated Market Value	$3,462,768,500.00
Multiply by 3%	0.03	Multiply by .16%	0.0016
Statutory Debt Limit	103,883,055	Statutory Levy Limit	5,540,430
Less: Debt Paid Solely from Taxes	(8,775,000)	Less: Annual Levy under CIP	1,568,000
Unused Debt Limit	95,108,055	Unused Levy Limit	7,108,430

DRAFT

AGENDA ITEM _____

CITY OF INVER GROVE HEIGHTS **REQUEST FOR COUNCIL ACTION**

Discuss Babcock Trail Feasibility Study

Meeting Date:	November 6, 2017
Item Type:	Work Study Session
Contact:	Eric Carlson – 651.450.2587
Prepared by:	Eric Carlson
Reviewed by:	Eric Carlson – Parks & Recreation

Fiscal/FTE Impact:

[ ]	None
[ ]	Amount included in current budget
[ ]	Budget amendment requested
[ ]	FTE included in current complement
[ ]	New FTE requested – N/A
[X]	Other

PURPOSE/ACTION REQUESTED

Review Babcock Trail Feasibility Report drafted by WSB & Associates, Inc.

SUMMARY

The City of Inver Grove Heights completed a Trail Gap Study in 2011 (copy attached) and the study identified a number of "gaps" in the city's trail/sidewalk network. Since then, the City has pursued closing these "gaps" at opportune times in conjunction with development, street improvement project and/or park improvement projects.

Funding for this feasibility study was provided by a $20,000 grant from the Dakota County Public Health Department and the Statewide Health Improvement Program. The purpose of the grant was to fund the hiring of a consultant that would assist the City in developing alternatives, meeting with stakeholders, and developing 30% set of engineering plans for the preferred trail plan.

The trail gap along Babcock Trail identified by the letter "B" is a critical connection because there are approximately 1,200 units of multi-family moderate/low income housing to the west and one of the city's largest employers (CHS Inc.) to the east employing over 1,000 people.

In October/November 2016 the Commission and Council approved hiring WSB & Associates Inc., to perform a feasibility study the included the following scope of work:

- Develop and assess potential pedestrian and bicycle infrastructure improvements for County Road 73 between Upper 55th and Interstate 494
- Identify preferred improvements
- Develop cost estimates for evaluated improvements
- Develop and assess potential connections to existing non-motorized transportation infrastructure and transit in the corridor
- Complete preliminary engineering (30% plan set) for the preferred improvement
- Evaluate benefits and impacts to SHIP priority populations

The anticipated outcomes of the study included:

- Installation of shared use trail on one or both sides of County Road 73 the length of the project corridor
- Installation of on-street bicycle facilities on County Road 73 the length of the project corridor
- Installation of a sidewalk on one or both sides of County Road 73 the length of the project corridor
- Any combination of the above
- Others yet to be developed

Attached you will find a copy of the Feasibility Study, a plan sheet showing the proposed improvements along with a cost estimate based on the 30% plan set. As the study got started early this year, Dakota County asked for the project area to be expanded to include pedestrian improvements south of Upper 55th St to 63rd St. E. The County provided the additional funding for this additional scope of work.

A summary of the recommendations from the Parks and Recreation Commission are as follows:

- Work with CHS Inc. on right-a-way acquisition and Dakota County on a funding partnership to construct a 10' bituminous trail on the east side of County Road 73 (Babcock Trail) from Upper 55th to Interstate 494 with a goal of construction during the 2019 construction season.
- Install a pedestrian actuated signal at Greystone (WSB estimate is ($10,000 - $20,000)
- Work with Dakota County on a funding partnership to construct a 5' concrete sidewalk on the west side of County Road 73 (Babcock Trail) from Upper 55th to Greystone Drive coordinating construction with the reconstruction of Upper 55th between Hwy 3 and County Road 73 (Babcock Trail).
- Work with Dakota County and Independent School District 199 to fund a Safe Routes to School Study for future consideration of pedestrian improvements south of Upper 55th.

PREPARED FOR
the City of Inver Grove Heights

PREPARED BY
Hoisington Koegler Group



TRAIL AND SIDEWALK GAP STUDY

JUNE1, 2011



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REPORT



INTRODUCTION

The City of Inver Grove Heights trail and sidewalk system works well, but has gaps and missing segments which hinder full use of the network. The City hired Hoisington Koegler Group (HKGi) to evaluate the trail and sidewalk network and to prioritize improvements that will be cost effective and fill the gaps and enhance the trail system. The Trail and Sidewalk Gap Study was funded by a Dakota County Active Living grant.

Study Goal:

Prioritize trail and sidewalk improvements to enhance connectivity and safety.

Study Objectives:

- Identify gaps in the trail and sidewalk network.
- Develop criteria to prioritize trail gap improvements.
- Make recommendations for trail gap improvements (locations, cost estimates and implementation strategies).





28% OF ALL TRIPS ARE 1 MILE OR LESS (5 MINUTE BIKE RIDE OR 20 MINUTE WALK)

BENEFITS OF A CONNECTED TRAIL AND SIDEWALK SYSTEM

A trail and sidewalk "Best Practices" presentation was prepared and shown to the City officials and the public. The presentation portrays the benefits of trails and sidewalks for community livability, property values, economic development and sustainability. Some benefits of a connected trail and sidewalk system to Inver Grove Heights are:

Popular and cost effective - Trails and sidewalks are usable by all ages and abilities. Trails are the #1 desired recreation feature in IGH. Trails and sidewalks allow self-directed recreation (no staff or programming required).

Promote healthy active living - Trails and sidewalks provide health benefits and exercise while going about daily activities. Trails and sidewalks improve individual and community health and reduce health care costs.

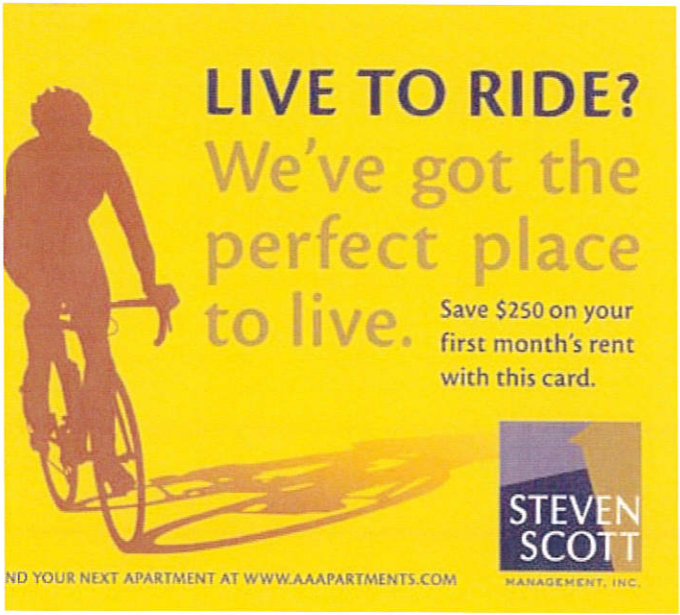
Provide environmental benefits - Allow people to connect with nature. Save energy and reduce emissions.

Encourage economic development - Promote tourism. Attract residents and businesses. Increase property values.

Enhance quality of life and community livability - Build sense of community. Foster social interaction. Connect people and neighborhoods.

Increased transportation options and mobility - Commuting, errands, to/from school, options for non-drivers (1/3rd of population), recreation and transportation roles, essential for an efficient transit system.





PLANNING PROCESS

The trail and sidewalk planning process included:

- Field evaluation of existing trails and sidewalks.
- Analysis of destinations, barriers, connectivity options, opportunities and bike/walk needs.
- Use of existing plans and the recent Inver Grove Heights community survey.
- Coordination with planned road improvements.
- Identification and mapping of trail and sidewalk gaps.
- Preparing criteria for prioritizing improvements.
- Application of the criteria to the gaps to select recommended priority improvements.
- Preparation of cost estimates, potential funding sources and concept plans.
- Input and direction from the community, City officials and City staff.

COMMUNITY AND STAKEHOLDER INPUT

The public, City officials, stakeholders and City staff helped identify trail and bikeway needs, and define priorities for improvements. Meeting and input methods included:

- City staff coordination and planning meetings and field evaluations.
- City Council work session meeting and input.
- Parks and Recreation Commission meeting and input.
- Planning Commission meeting and input.
- Community Open House meeting – review and prioritization of gaps.

EXISTING CONDITIONS

The City of Inver Grove Heights has a system of approximately 35 miles of paved multi-use off road trails and 30 miles of sidewalks. Most of the sidewalks and trails are located in the largely developed central and north central portion of the city. These paved trails and walkways are supplemented by some natural surface trails in City parks and by Dakota County's Mississippi River Trail (MRT).

COMMUNITY OPEN HOUSE

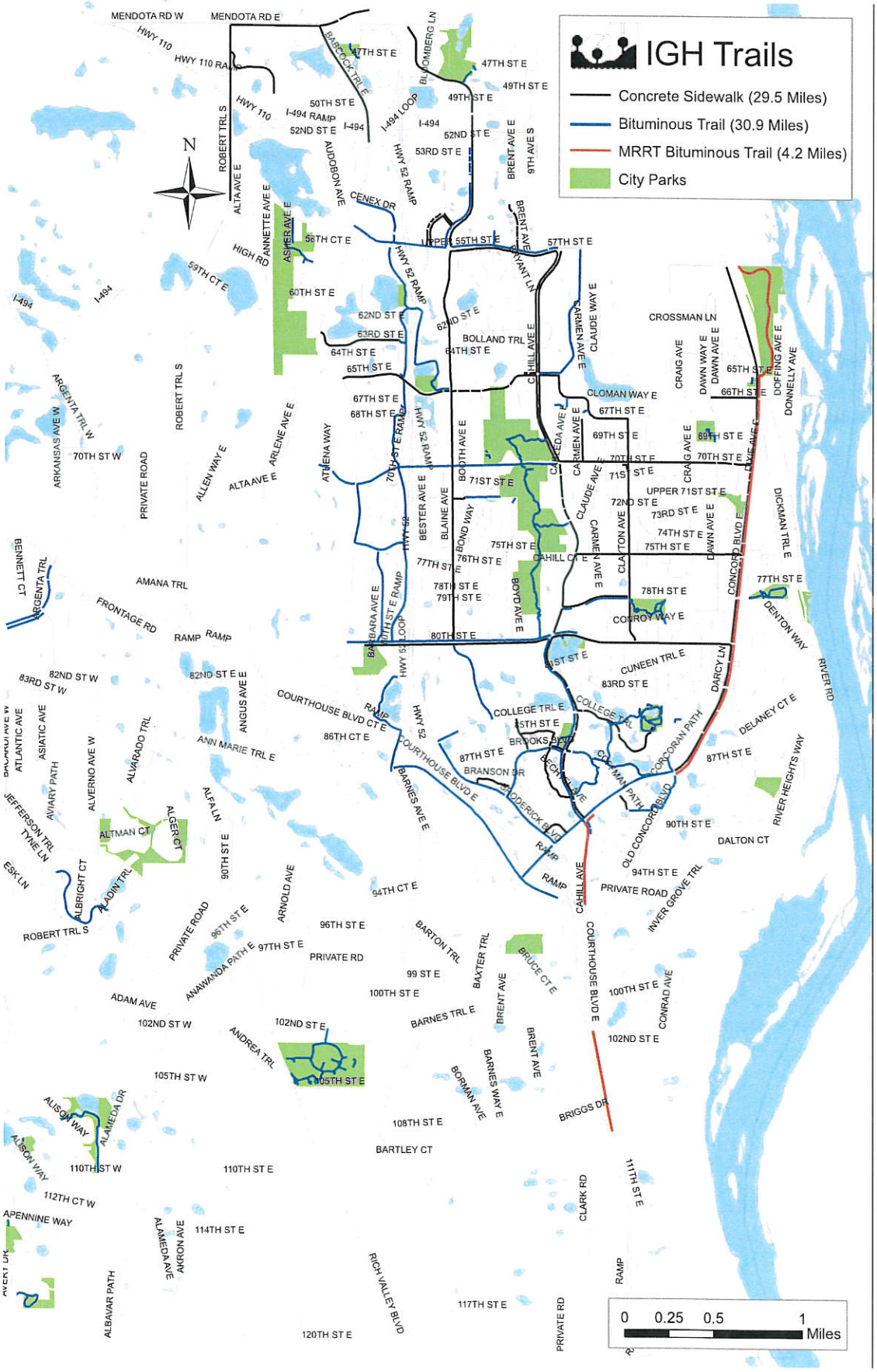
A community open house was held March 16, 2011.

Overall, Open House attendees were supportive of improving conditions for biking and walking. They identified the following needs for improving bike-walk conditions:

- Improve bike-walk to the entrances to the Community Center.
- Improve the street crossing at Barbara Ave and 80th Street.
- Pave trail connections to North and South Valley Park.
- Complete trail and sidewalk gaps.
- Create safer street crossings at busy roads.
- Add on-road bike lanes and wide shoulders for cyclists.
- Interest in a 'Complete Street' network where pedestrians, cyclists, transit and vehicles are accommodated.



Figure 1: Existing Trails and Sidewalks



GAPS AND NEEDS

The existing trails and sidewalk system is generally in good condition and serves the developed portion of the City well. There are several gaps in the sidewalk and trail the system which are problematic for users.

Gaps and needs within the Inver Grove Heights trail and sidewalk system include:

A. Improved east-west connections for biking and walking.

B. Improved bikeway connections to the Mississippi River Trail and the Mississippi River.

C. Fill gaps to create loop trails connecting parks and neighborhoods on either side of TH 52.

D. Enhancing walkability and safety at some schools and around City Hall/Community Center campus.

E. Improving pedestrian and bicycle safety and convenience on some narrow and well traveled roads.

Identified trail and sidewalk gaps are shown on the Inver Grove Heights Trail and Sidewalk Gap Map.



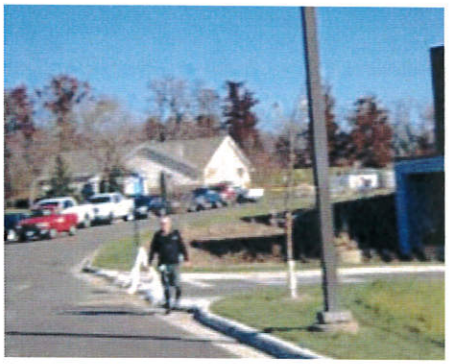




GAP CRITERIA FOR PRIORITIZATION

Based on community and stakeholder input the following criteria were prepared for use in identifying priority improvement needs within the system.

1. Connects existing trails and sidewalks
2. Connects residents to key destinations - parks, regional trails, shops, senior housing, restaurants and community buildings (schools, library, community center, etc.)
3. Located primarily in the developed area of the City
4. Enhances safety
5. Minimal land use concerns
6. Increases recreation opportunities: Creates loop trails and/or connects to MRT
7. Has available right of way/public land
8. Is feasible and cost effective
9. Can be coordinated with planned road improvements



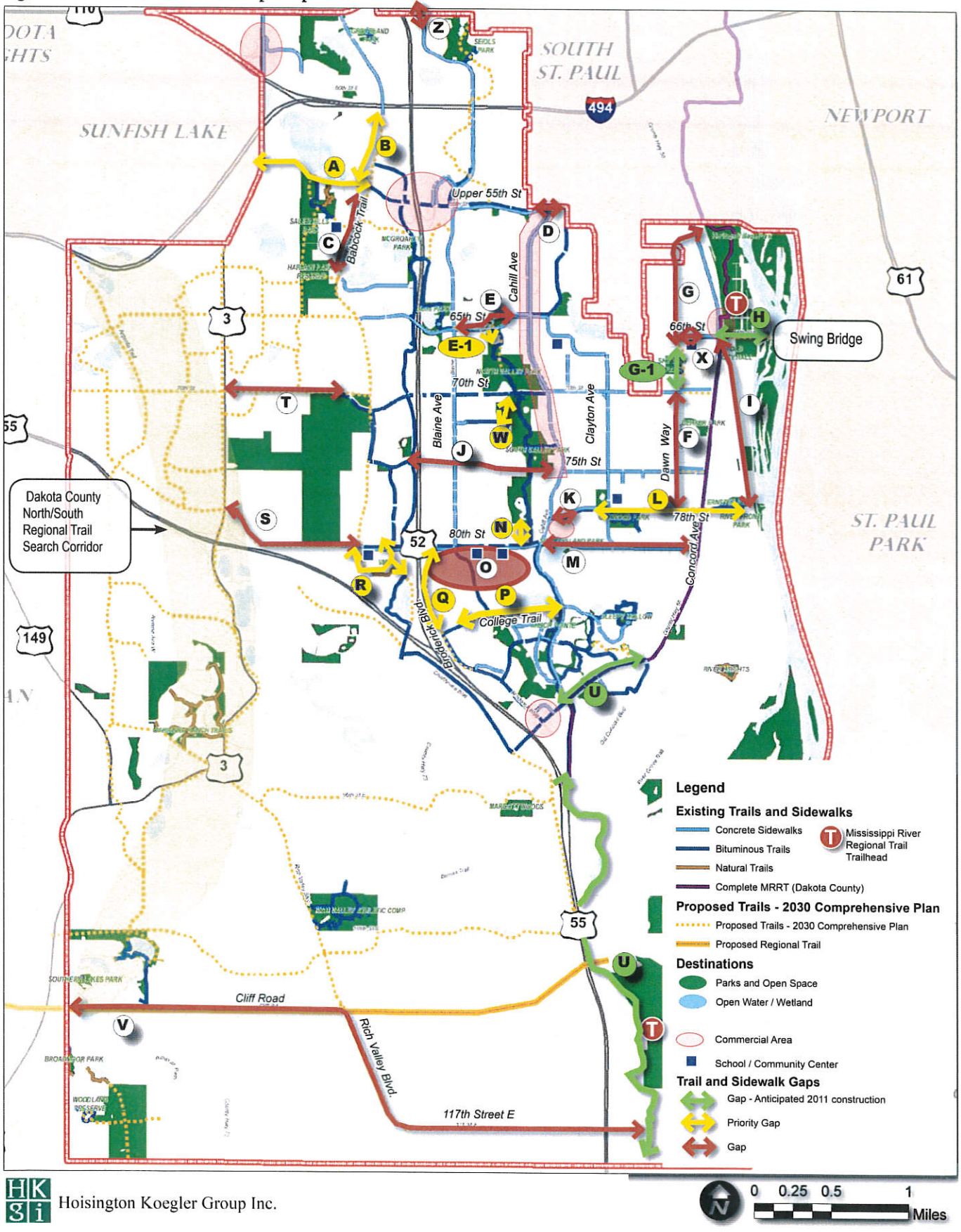


GAPS AND PRIORITY TRAIL AND SIDEWALK IMPROVEMENTS

The recommended trail and sidewalk improvements are shown on the Trail and Sidewalk Gap Map and are listed below. Specific recommendations can be found in Table 1 which follows. Priority projects highlighted in yellow and projects anticipated for 2011 construction are highlighted in green. Figure 3 on page 12 shows a detail of one of the highest priority projects, improvements to the Civic Campus (gap R).

A. **Upper 55th Street from Highway 3/South Robert Trail to County Highyway 73/Babcock Trail**
B. County Highway 73/Babcock Trail from 494 Bridge to Upper 55th Street
C. County Highway 73/Babcock Trail Upper 55th St. to Upper 63rd St.
D. Upper 55th St. from Cahill Ave to 5th Ave South
E. Trail link between North Valley Park and Cahill: add trail on 65th St. between Blaine Ave. and Cahill Ave.
E-1 Trail link to North Valley Park: pave north end of North Valley Park Trail
F. Dawn Ave from 70th St E to 78th St E
G. Dawn Ave from 66th Street to Concord
G-1Dawn Way from 70th St. to 65th St.
H. 66th St. from Dawn Way to the Swing Bridge
I. River Road from 66th St. E to 78th St E
J. 75th St E from Highway 52 Trail to Cahill Ave.
K. 78th St E just east of Cahill (south side sidewalk)
L. 78th St E from Clayton Ave E to River Road
M. 80th St. from Cahill Ave to Concord/MRT
N. South end of South Valley Park: address grades and safety
O. Connections between schools/college/library
P. College Trail from Blaine Ave to Cahill Ave
Q. East side of Broderick Street from College Trail to 80th Street
R. Loop trail around Civic Campus south of 80th St E. (City Hall, Community Center, etc.)
S. 80th St. from Babcock Trail to Hwy 3
T. 70th St. from Babcock Trail to Hwy 3
U. Mississippi River Regional Trail
V. Cliff Road/117th
W. Connection to paved trail in South Valley Park
X. Sidewalk on south side of 66th east of Dawn Way
Y. Not Used
Z. Blaine Ave - extend sidewalk north to South Saint Paul/ 21st. Ave.

Figure 2: Trail and Sidewalk Gap Map



Hoisington Koegler Group Inc.

Table 1: Trail and Sidewalk Gap Recommendations

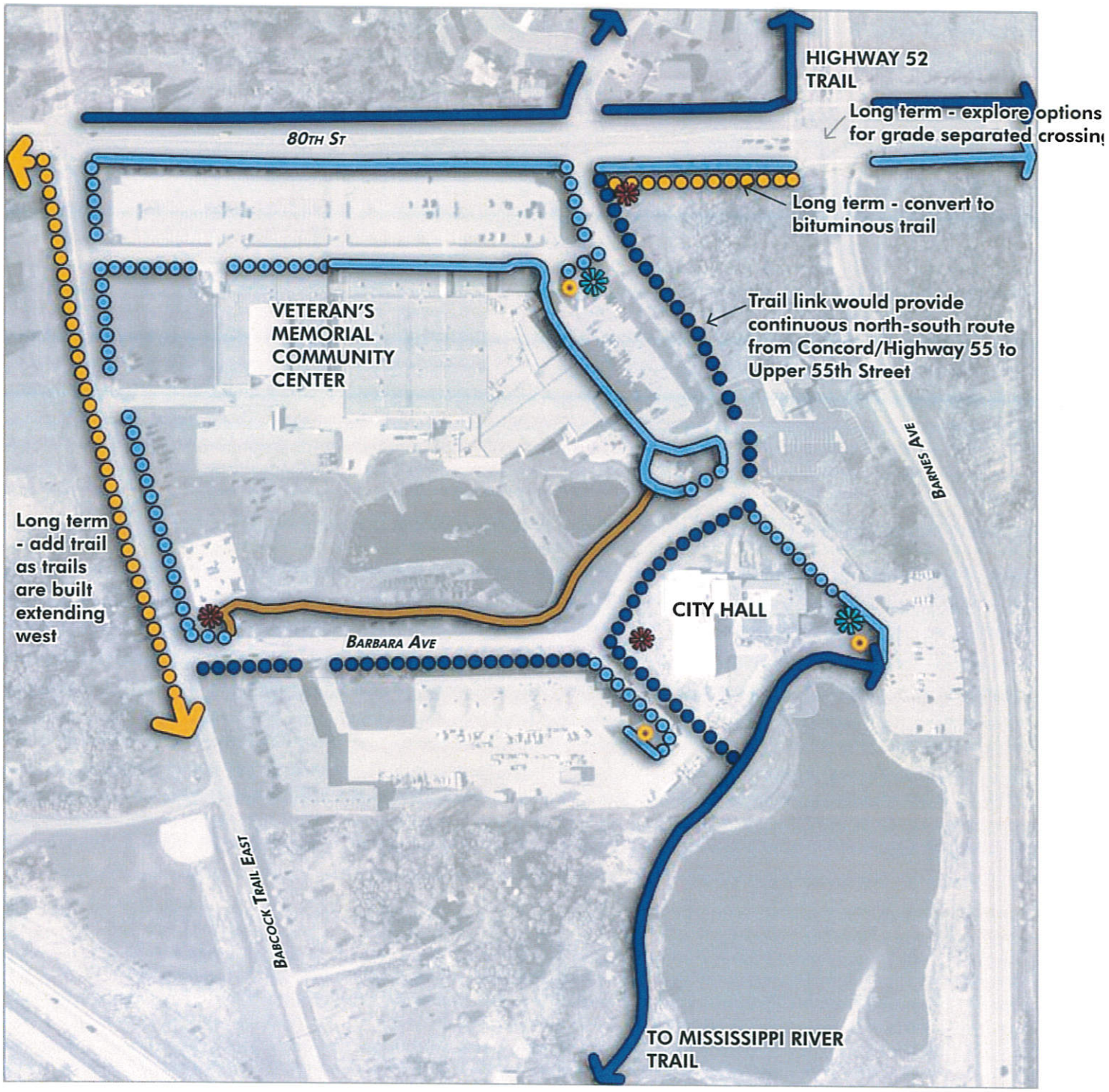
TRAIL AND SIDEWALK GAPS			CRITERIA ■ Meets Criteria Well □ Meets Criteria Moderately Well Blank - meets criteria poorly									
Letter	Description	Length (feet)	Connects existing trails and sidewalks	Connects residents to key destinations	Located primarily in the developed area of the City	Enhances safety	Minimal land use concerns	Creates loop trail opportunities	Has available right-of-way	Is feasible and cost effective	Can be coordinated with planned road improvements	Priority
A	Upper 55th Street from Highway 3/South Robert Trail to County Highway 73/ Babcock Trail	3900	■	■	□	■			□	□	■	✓
B	County Highway 73/Babcock Trail from I- 494 Bridge to Upper 55th Street.	2510	■	■	■	□	■		■	■		✓
C	County Highway 73/Babcock Trail Upper 55th Street to 63rd Street.	3310	■	■	■	■						
D	Upper 55th St. from Cahill Ave to 5th Ave South	660	■	■	■	■				□		
E	Trail link between North Valley Park and Cahill: add trail on 65th St. between Blaine Ave & Cahill Ave.	3410	□	■	■		■	□		□	■	✓
E-1	Pave north end of North Valley Park trail	1,300	■	■	■		■	■	■	□		✓
F	Dawn Way from 70th St. E to 78th St. E	2690	□	■	■							
G	Dawn Way from 70th Street to Concord	3740	□	□	■	■		□	■	□	■	
G-1	Dawn Way from 70th Street to 65th Street		□	■	■	■		□	■	□	■	Planned 2011 con-struction
H	66th Street from Dawn Way to the Swing Bridge		■	■	■	□	■	■	■	■	■	Planned 2011 con-struction
I	River Road from 66th St. E to 78th St. E	5725	■	■	□			■	□			
J	75th St. E from Highway 52 Trail to Cahill Ave.	4850	■	□	■	□	□	■	■	□		
K	78th Street east of Cahill (south side sidewalk)	180	■	■	■	□	■	□	■	□		
L	78th St. E from Clayton Ave E to River Road	5130	■	■	■	□	□	■	□	□	□	✓
M	Trail on north side of 80th Cahill Ave to Concord Ave/ MRT	5345	□	□	■	□		■	□			

RECOMMENDATIONS -PRIORITIES ARE HIGHLIGHTED IN YELLOW	Letter
Install bituminous trail on both sides of the road along with road reconstruction (CIP 2017). Additional right-of-way, slopes and wetlands will need to be addressed. *Notes:* *Feasible in conjunction with road improvements that address R.O.W acquisition, slopes and wet areas.*	A
Install bituminous trail on east side. *Notes:* *Right-of-way is narrow at northeast corner of Upper 55th and Babcock Trail. Coordination with Zion Methodist Church & CHS Industries will be needed.*	B
Long-term: rebuild Babcock Trail as a complete street with bituminous trail on east and west side of the road for walking and biking and on-road bike lanes for more advanced cyclists. *Notes:* *Single family homes with driveway entrances, variable right-of-way, and utility corridor on east side.*	C
Complete sidewalk gap on south side of the street. *Notes:* *Today, there is insufficient space. Additional space would need to be captured from the roadway or from the adjacent business' parking lot/ circulation to complete this gap.*	D
Install bituminous trail on north side 65th and consider on-road bike lanes along with road reconstruction (CIP 2012). Consideration for mid-block crossing at North Valley Park. *Notes:* *Approximately 15' of right-of-way available on north side.*	E
Pave trail connection within North Valley Park on north end. *Notes:* *Very steep slopes. Trail will need to be built along the hillside with switchbacks.*	E-1
Long-term, consider sidewalks, trails and/or on-road bikeways as opportunities arise. *Notes:* *Limited right-of-way from 69th to 75th street, sidewalk installation will require some tree removal.*	F
Install concrete sidewalk on west side of the road along with road reconstruction (CIP 2015). Consider on-road bike lanes. *Notes:* *Steep slopes near Concord Blvd..*	G
Install concrete sidewalks on west side of the road along with 2011 road improvements.	G-1
Planned & funded 2011 trail construction.	H
Install wayfinding signage from MRT to City parks along the river road. Long-term consider trail on side of the road or bike boulevard treatment.	I
Install bituminous trail on north side of road. *Notes:* *Steep slopes In South Valley Park*	J
Install sidewalk on south side of road. *Notes:* *Culvert*	K
Install bituminous trail on south side and/or bike lanes. *Notes:* *Crossing enhancements at Concord Blvd. needed; on-road bikeway east of Ernster Park.*	L
Install bituminous trail on north side. *Notes:* *Steep slopes between Clayton Ave. and Cahill Ave.; Crossing enhancements at Concord Blvd. needed; on-road bikeway east of Ernster Pk.*	M

TRAIL AND SIDEWALK GAPS			CRITERIA	■ Meets Criteria Well			□ Meets Criteria Moderately Well				Blank - Meets Criteria Poorly	
Letter	Description	Length (feet)	Connects existing trails and sidewalks	Connects residents to key destinations	Located primarily in the developed area of the City	Enhances safety	Minimal land use concerns	Creates loop trail opportunities	Has available right-of-way	Is feasible and cost effective	Can be coordinated with planned road improvements	Priority
N	South end of South Valley Park	2,000	■	■	■	■		■				✓
O	Connections between schools/college/library		□	■	■	□	■		■	■		
P	College Trail from Blaine Ave to Cahill Ave	3300	■	■	■	■	□		■	□	■	✓
Q	East side of Broderick Street from College Trail to 80th Street	3105	■	■	■	■	□	■			■	✓
R	Loop trail around Civic Campus south of 80th St. E. (City Hall, Community Center, etc.)	2785	■	■	■	■	■	■	■	■		✓
S	80th St. from Babcock Trail to Hwy 3	5370				□	□	□	□	□	□	
T	70th St. from Babcock Trail to Hwy 3	4930				■	■	□	■	□		
U	Mississippi River Regional Trail		■	■	■	■	■	■	□		■	Planned 2011 con-struction
V	Cliff Road	22500				□	■	□	■	□	■	
W	Connection to paved trail in South Valley Park		■	■	■		■	■	■	□		✓
X	Sidewalk on south side of 66th Street east of Dawn Way	700	■		■	■			■			
Y	Not Used											
Z	Blaine Ave - extend sidewalk north to South Saint Paul / 21st Ave.			□	■	□	■			■		

RECOMMENDATIONS - PRIORITIES ARE HIGHLIGHTED IN YELLOW	
	Letter
Tunnel needed or discuss possible opportunities with adjacent landowners (Vermillion State Bank & 7900 Boyd Ave) for building a trail along the slope/creating switchbacks. *Notes:* *Extremely steep slopes are a safety issue.*	N
Engage school, library and college in discussions about connectivity needs and opportunities.	O
Install bituminous trail on both sides of the road along with road improvements (CIP 2016). *Notes:* *Wet areas and slopes near Cahill Ave.*	P
Install bituminous trail on east side of road along with road improvements (CIP 2014). Steep grades and proximity to ponds/ wetlands will need to be addressed. *Notes:* *Feasible in conjunction with road improvements that address R.O.W acquisition, slopes and wet areas.*	Q
Civic campus could be a showcase for bike/walk/active living.	R
Long-term: create a complete street with bituminous trail on north and sidewalk on the south side of the road for walking and biking and on-road bike lanes for more advanced cyclists.	S
Long-term: create a complete street with bituminous trail on south and sidewalk on the north side of the road for walking and biking and on-road bike lanes for more advanced cyclists from Highway 3 to the MRT.	T
Dakota County Mississippi River Regional Trail. Planned 2011 completion.	U
County road/regional trail. Coordinate with Dakota County.	V
Build bituminous trail within park to link between 72nd St. E and 73rd St. E. *Notes:* *Steep slopes, switchbacks and grading will be needed.*	W
Construct sidewalk missing sidewalk on south side of the street.	X
Not used	
Construct sidewalk to 21st Ave.	Z

Figure 3: Civic Campus Trail Diagram



SAFE ROAD CROSSINGS

Safe pedestrian and bicycle crossings at busy streets is an essential component of a complete trail network. Perceived safety is as important is actual safety. If people do not feel that a crossing is safe they may choose not to, or allow their children, to bike or walk at all. Without safe crossings, arterial and collector roads can act as major barriers for non-motorized transportation across the City. The following are general guidelines for improving crossing safety.

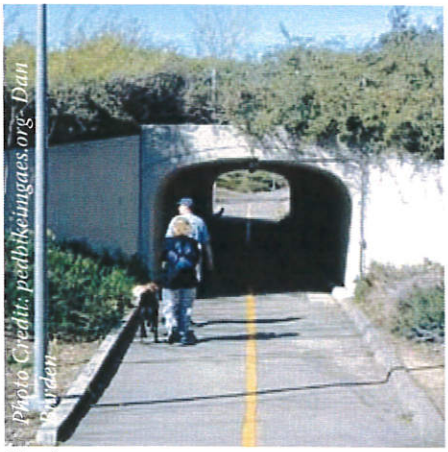
Grade Separated Crossings

The feasibility of installing ped-bike underpasses at trail crossings should be explored with all new road construction and road reconstruction projects for all minor-arterial roads or higher. Many of these are State or County roads and cross-jurisdictional coordination will be needed in advance of projects to determine locations, feasibility, cost and funding sources. Underpasses not only provide for safe pedestrian and bicycle crossings but can also be designed to achieve other community goals such as stormwater movement and habitat connectivity. In key locations, if an underpass is not feasible, overpasses should be considered.

Improvements to signalized intersections

Long crossing distances, free right turns on red, vehicle speeds, crossing time, lighting and sight-lines all contribute to real and perceived safety at signalized intercessions. Though detailed design and engineering is needed to balance vehicle and bicycle movement needs, the following techniques can be considered to reduce crossing distances, increase walk-bike crossing times, slow vehicle speeds and make drivers more aware of pedestrians and cyclists.

- High visibility pavement markings such as zebra, ladder, continental or triple four.
- Increase signal time for pedestrians and separate vehicle movements from pedestrian-cyclist crossings.
- Pedestrian countdown signals.
- Bicycle signal.
- Adequate driver visibility through proper sight distance triangles.
- Design for slow vehicle right turn movements (tighter turning radii: 5-25 ft).
- Eliminate right-turn on red.
- Break up complex intersections with pedestrian refuge islands.
- Adequate lighting.



Underpass



Pedestrian refuge island and bike lane continues to crosswalk



Pedestrian signal



Bicycle signal

GENERAL COSTS

The following table outlines general costs for pedestrian and bicycle improvements. While many factors contribute to cost, these rule of thumb costs are useful when budgeting for specific improvements and applying for grants.

Table 2: General Costs Associated with Various Pedestrian and Bicycle Improvements

Improvement	Factors Impacting Cost	Cost	Potential Funding Sources
Trails	Land acquisition costs, new structures needed, the type of trail surface, the width of the trail, and the facilities that are provided for trail users.	$100,000 - $300,000/mile	Grants Park Dedication Partnerships Donations City General Fund New Development State Aid
Sidewalk	Availability of right-of-way, topography, soil conditions, utilities.	Sidewalk $10/ square foot	State Aid New Development City General Fund
Bicycle Lanes	Condition of the pavement, the need to remove and repaint the lane lines, the need to adjust signalization. It is most cost efficient to install improvements during street reconstruction, street resurfacing, or at the time of original construction.	$10,000 to $50,000/mile	Grants Developer / New Construction State Aid (when eligible) City General Fund
Crosswalk	Size of intersection (linear feet) and number of crossing legs.	Stripping $100-$300/leg Patterned concrete $20,000/ leg	State Aid (when eligible) City General Fund
Pedestrian Signals; Mid-block Crossing	Utilities, solar powered signals are available	$20,000 to $40,000	State Aid Grants Partnerships Donations City General Fund
Directional and Wayfinding Signs	Number of signs, design	$50 to $300 per sign	Grants Partnerships Donations City General Fund
Crossing Island	Size of island, materials (concrete or asphalt), utilities.	$4,000 to $30,000	Grants Partnerships State Aid (when eligible) City General Fund
Over/ Underpass	Site conditions, topography, utilities	$400,000 to $4 million	Grants – Federal / State Aid Park Dedication Partnerships Donations City General Fund / CIP

FUNDING STRATEGY

The quality of a city's walk-bike system is a reflection of the community's ability to strategically leverage existing internal and external resources. Similar to roads, a long-term funding strategy that is updated annually is needed to design, build and maintain the pedestrian and bicycle system. Creating a multi-year funding strategy can be useful in identifying when funding should be solicited so it is available when the City would like to do the project. As most grant awards are made more than four months after the date of application, it is too late to seek funding if one is already in the construction year or must be actively conducting engineering for it. For example, if the City is envisioning a trail improvement project that is tied to a road reconstruction, then one would want to apply for grant funding a year in advance of the construction commencing to have the funds in place in time. Most grant programs will not allow costs expended prior to the grant award to be considered for either reimbursement or part of the needed match.

The development of a funding strategy begins with the identification and prioritization of trail segments. Gathering information about desired segments in one location will ease future analysis and sequencing of funding sources. Information should include features such as segment location, type, length, property ownership status, preliminary costs, and related environmental improvements. Recognizing that available external sources may not always align with the community's top priorities, this type of information should be gathered about many segments rather than just the community's favorites.

Once the list of potential segments is identified, it is helpful to identify potential funding sources. Selecting appropriate projects for each funding source is one of the factors that contribute to a community's success in securing non-city funding. In linking projects to funding consideration should be given not only to the types of projects the funder seeks, but being aware of the maximum grant award, amount of match required, and preferred project size. For example, one grant may seek to fund trails as part of a park experience getting people connected to nature rather than trails that connect people from place to place. That same grant may have a maximum grant award of $200,000 with a 50% match. Since many funders are concerned if there is a significant gap in funding that the City must contribute, it would be more appropriate to select a project with a cost ranging from $400,000 to $500,000 than one costing $1 million if no other funds are available. However, if the City is able to secure other funding to reduce the gap, then the $1 million may be an appropriate fit for the grant.

When exploring funding sources it is also important to consider grant program requirements. Some grants, particularly ones with federal funds, have specific

design or reporting requirements that can raise project costs or add extra administrative costs. Care should be taken in selecting projects where the extra design requirements are not an issue or the extra reporting requirements are reasonable because of the large piece of funding the grant program provides. For example, in considering an application for a state grant with federal funds, it may make more sense to submit a grant for a $1 million overpass then a $300,000 trail project.

Another key to success in securing non-city funding for trail systems is developing a persuasive statement of need that fits the characteristics of the funding program. For some funders, the project should address a significant safety issue such as getting children across a busy road to school. For others, it is about having a large number of users and connecting those users to transit, shopping, or employment. Demonstrating the public need for the project is one of the most important components of any grant application. Where possible, this need should be demonstrated through letters of support and community partnerships.

General Funds

General funds can be used to develop the walk-bike system. These funds are best used for smaller projects within the already developed portion of the City such as completing short sidewalk gaps on local streets that may not be eligible for grants. General funds are the primary funding source for on-going maintenance cost such as crosswalk painting, snow plowing and street sweeping.

State Aid Funds

State aid funds are available for pedestrian and bicycle improvements on state aid streets. This funding source is particularly useful at the time of street construction or re-construction.

Trails and Sidewalks Built Along with Development

Developers can be required to provide trails and sidewalks at the time of development. This requirement can be negotiated during the site review process or formalized through the City's subdivision and zoning code.

Park and Trail Dedication

Minnesota Statutes allow local governments to require dedication of land or cash in-lieu of land for parks and trails from new subdivisions. The dedication must be reasonable and rationally related to the recreation demand created by the development. Cities can also require dedication of right-of-way or easements for sidewalks or trails. Park and trail dedication is a frequently used tool to help pay for recreation facilities. Some cities, such as Chanhassen, MN, have adopted a separate trail fee or dedication requirement.

Partnerships

Partnerships with both public and private organizations are an essential component to achieve individual projects outlined in the plan. Organizations with partner funding can also provide assistance with design, outreach and maintenance. Local trail clubs can be used to help maintain trails. Partnerships and relationships with private businesses can also result in easements and use agreements for trails across private land.

Potential partnership organizations include:

- Dakota County.
- Watershed District.
- Dakota County Active Living Partnership.
- School District.
- Northern Dakota County Regional Chamber of Commerce.
- Friends of Dakota County Parks.
- Area Businesses.
- Rotary Club.
- Lions Club.
- Railroads.

Donations

Private donations are another potential funding source. These may be financial donations from individuals or area corporations or donations of labor from recreation clubs or use agreements or trail easements from landowners. Programs such as "adopt-a-trail" by an organization, business, or individuals have successfully been used in many communities to help with maintenance tasks and raise awareness.

Grants

Grants are a way to make the City's dollars go further. Below is a sample of some grant opportunities that may be available along with websites to visit for more information.

Minnesota DNR

Website: *www.dnr.state.mn.us/grants/index.html*

The Minnesota DNR is one of the most comprehensive resources when it comes to state funding for trail programs. They offer a variety of grant programs and technical assistance. Current programs provide assistance for cross country skiing trails, all-terrain vehicle trails, snowmobile trails, mountain biking trails, horseback riding trails and recreational trails. Some programs also offer assistance for the development of parks or for trail amenities such as restrooms, lightning, benches, etc. It is important to note that none of the current programs covers sidewalk construction. Any program with the word "Legacy" in its title is funded through the Clean Water, Land and Legacy Amendment.

Each of the Minnesota DNR grant programs is unique. While many have an annual application window in the first quarter, some are available more frequently and others only once every few years. The DNR should be consulted before pursuing a grant to clarify funding availability and qualifications.

Minnesota DOT

Website: *http://www.dot.state.mn.us/grants/*

Most trail or sidewalk improvement projects funded through Minnesota DOT also have a portion which is federal dollars. Since June 9, 1998 we have seen three federal bills (TEA-21, ISTEA & SAFETEA-LU) enacted to fund the bulk of our transportation improvements. The current program in place today, SAFETEA-LU expired on September 30, 2009. The reauthorization of this bill will likely occur in some form and fashion and will fund transportation improvements across the United States for the next six years. Examples of

programs typically funding trail or sidewalk improvement projects include Transportation Enhancements or Safe Routes to Schools. While the essence of these bills has primarily supported roadway and safety improvements, roadway projects that have integrated trails have faired better than others during the solicitation process. The City should begin collaborating with other roadway jurisdictions to prioritize projects for the next round of federal transportation dollars. Building early support across multiple jurisdictions will better position the City in obtaining federal dollars.

Dakota County State Health Improvement Project (SHIP)

Website: *http://www.co.dakota.mn.us/Departments/PublicHealth/Projects/SHIP*

The State Health Improvement Program (SHIP) provides funds to reduce the burden of chronic diseases through increasing physical activity, improving nutrition, and reducing tobacco use. The current SHIP program will be ending June 30, 2011 unless the State of Minnesota extends it. These funds are administered by the Dakota County Public Health Department and the City has access to them through participation in the Dakota County Active Living group. Grant requests associated with increasing physical activity are most closely related to this funding source and must focus on policy (laws or regulations), system (organizations or institutions operation) or environmental (land use, zoning or community design) changes. Examples of related projects funded through SHIP include pedestrian/bike master plans, wayfinding signs, bike racks, and trail master plans, as well as Safe Routes to School (SRTS) comprehensive plans for local schools and funds for events to promote walking and biking to school. While SHIP funds cannot be used for construction projects, Dakota County has contracted with a local firm to seek and write grants for projects that meet the goals of Active Living and SHIP.

Clean Water, Land and Legacy Amendment

On Nov. 4 2008, Minnesota voters approved the Clean Water, Land and Legacy Amendment to the Minnesota State Constitution which increased the general sales and use tax rate by three-eighths of one percentage point (0.375%) to 6.875% and dedicated the additional proceeds as follows:

14.25% to a newly created Parks and Trails Fund to support parks and trails of regional or statewide significance.

33% to a newly created Outdoor Heritage Fund to be spent only to restore, protect, and enhance wetlands, prairies, forests and habitat for game, fish and wildlife.

33% to a newly-created Clean Water Fund to be spent only to protect, enhance, and restore water quality in lakes, rivers, streams and groundwater, with at least 5% of the fund spent to protect drinking water sources.

19.75% to a newly created Arts and Cultural Heritage Fund to be spent only for arts, arts education, and arts access, and to preserve Minnesota's history and cultural heritage.

Funding from the Legacy Amendment is administered by a variety of agencies such as the Department of Natural Resources, Pollution Control Agency, Department of Health, Historical Society, and regional art councils. A number of new grant programs were created, including the Parks and Trail Legacy Grant Programs, Solar Energy Legacy Grant Program, Lessard-Sams Conservation Partners Legacy Program and Minnesota Historical and Cultural Grants. Information about grant opportunities can be found on individual state department and organization websites.

NPS Rivers, Trails, and Conservation Assistance Program

Website: *www.nps.gov/ncrc/programs/rtca/*

The National Parks Service's (NPS) "Rivers, Trails and Conservation Assistance Program" (RTCA) is designed to provide communities technical assistance to conserve rivers, preserve open space, and develop trails and greenways. The RTCA program also implements the natural resource conservation and outdoor recreation mission of the National Park Service in communities across America. The NPS highly encourages communities to contact them before submitting an application for assistance.

Recovery and Reinvestment Act

Website: *www.recovery.gov*

The Recovery and Reinvestment Act was signed on February 17, 2009 and infused our government with a number of new grants and technical assistance programs. These programs and others are a great opportunity for local governments to fulfill the funding gaps they've seen with the economic downturn. These funding sources have a small window of opportunity and require quick action. These opportunities are focused heavily on energy efficiencies and job growth, but trail projects may also be eligible.

Environment & Natural Resources Trust Fund

Website: *www.lottery.state.mn.us/etf.html*

The Environment and Natural Resources Trust Fund is a program funded through the Minnesota State Lottery proceeds. Between 2003 and 2008 the Trust Fund has shown a strong support for trail projects.

CURA – University of Minnesota

Website: *www.cura.mn.edu*

The Center for Urban and Regional Affairs (CURA) is an all-University applied research and technical assistance center. The program is designed to connect the University with nonprofit organizations, businesses, neighborhoods, local governments, and state agencies in Minnesota by providing grants and technical assistance programs.

One program in particular, Center for Community and Regional Research is located on the University of Minnesota Duluth Campus. The program is designed to provide research and technical assistance to local agencies on community projects that serve a local importance. The community is linked with faculty and staff and typically requires a cost sharing agreement. This program and others offered through CURA offer a unique opportunity to partner with the academics for further planning initiatives.

Foundations & Non-Profits

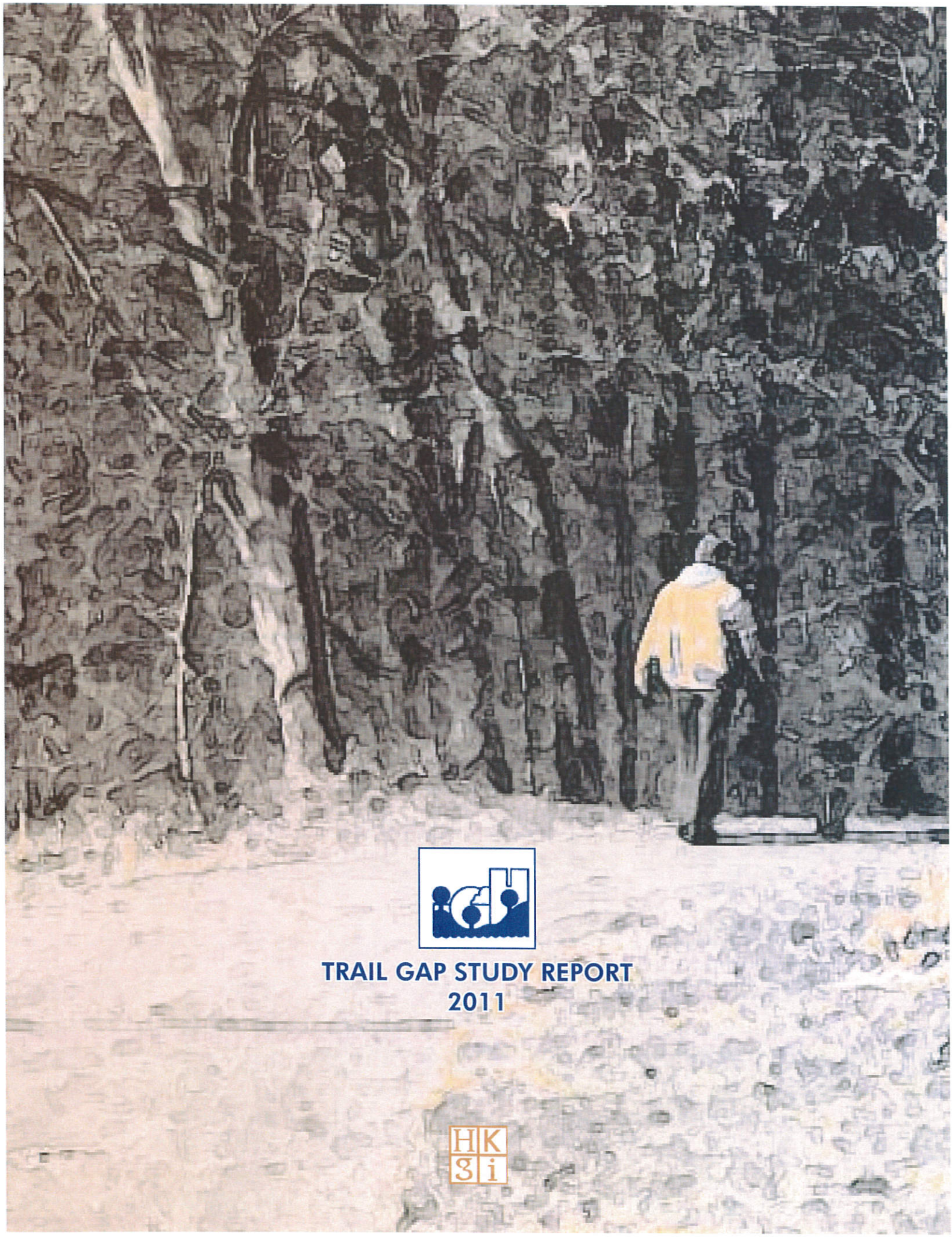
There are foundations and non-profits throughout the State and Country that are interested in fulfilling their missions by supporting local projects. Identifying these sources can be an overwhelming task. There are a number of on-line tools that can assist with this process. The Minnesota Council of Foundations is a great starting point for identifying local foundations. Another good starting point is to consider the businesses within your community and using their websites to see if they have a foundation or charitable giving department. In addition to retailers and manufacturers, be sure to consider businesses such as the railroad, energy providers and communications companies.

Before pursuing a foundation, it is important to recognize that each one operates differently. An applicant should be cognizant of the foundation's mission and be sure the proposed project aligns with the foundation's priorities. It is important to contact a foundation early-on in the solicitation process to clarify whether a project would be considered. It is also important to recognize that most funders do not want to be the sole source of funding for a project. Rather they want to see that community members, businesses and organization are actively supporting the project and have committed some of their own funds, however

small. A funding strategy for an individual trail project would be to engage the community and foster some small amounts of financial support and then start writing funding requests to foundations and non-profits.

One challenge for local governments in pursuing foundation and non-profit funding is that many require the applicant to be non-profit with federal 501(c) designation. Opportunities to partner with local non-profits should be considered and relationships built so these partnerships are ready when there is a funding opportunity to pursue. Starting a new nonprofit, such as a "Friends of Rosemount Parks and Trail" may be an option. However, starting a nonprofit is neither easy nor quick. The Minnesota Council on Foundations provides a 15 step process on their website, www.mncn.org, that includes steps such as determining the organization's mission, recruiting board members, adopting articles of incorporation and bylaws and state and federal filings and registrations.





TRAIL GAP STUDY REPORT
2011

FEASIBILITY STUDY

COUNTY ROAD 73 / BABCOCK TRAIL FROM I-494 BRIDGE TO 63RD STREET EAST

DRAFT

Prepared for:
City of Inver Grove Heights and Dakota County

WSB PROJECT NO. 1702-28

County Road 73 / Babcock Trail Feasibility Study

PRELIMINARY DESIGN

County Road 73 / Babcock Trail from I-494 Bridge to 63rd Street East

Prepared By:

WSB

ship
statewide health improvement partnership

Dakota COUNTY

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Appendix 1 – 30% Preliminary Design Plans

Appendix 2 – Opinion of Probable Costs

Executive Summary

The City of Inver Grove Heights, Minnesota had identified the corridor of County Road 73/Babcock Trail, between Upper 55th Street East and the bridge over Interstate 494 (I-494), as a high priority location to conduct a feasibility study for pedestrian and bicycle infrastructure. At the start of the planning study, the City of Inver Grove Heights (the City) and Dakota County expanded the study area to extend south down to 63rd Street East. This report summarizes the design process, design option considerations that were investigated, and the feasibility of implementing the preliminary design.

The feasibility study separates the corridor into two sections: one starting at the I-494 bridge to Upper 55th Street East, and the second from Upper 55th Street East to 63rd Street East.

The north section of the Babcock Trail corridor (North Babcock segment) starts at the I-494 bridge. The bridge has wide shoulders with a pedestrian walkway on the east side of the bridge that connects to a pedestrian walkway on the north side of I-494. The walkway ultimately connects into the River to River trail system and some large commercial areas. The north section of Babcock Trail has varying road widths and conditions, contains numerous public transit stops, and traverses past high density housing units and the headquarters site of CHS which is a large cooperative owned by farmers, ranchers and co-ops across the United States. There is an existing trail on the north side of Upper 55th at the intersection with Babcock Trail that extends east and connects to a larger system of sidewalks and community trail systems. These systems provide connections to the greater community, as well as destination areas including various commercial areas with restaurants on the west side of Highway 52, the Mississippi River Trail system, and Swing Bridge trailhead. Creating a pedestrian route in the north section of Babcock Trail would close off a gap providing an important connection for the community. The City also prepared a separate planning study for a trail along Upper 55th Street to South Robert Trail to complete the trail to the west.

The South Babcock segment of the corridor starts from Upper 55th Street East and continues south to 63rd Street East. There is an existing sidewalk along the north side of 63rd Street that goes east and connects to the larger community trail network system. This section of Babcock Trail is very narrow with numerous constraints along the corridor, such as areas with limited right-of-way, drainage ditches on both sides of the roadway, and overhead utilities. It has many single-family homes along the route as well as the Salem Hills Elementary School. Due to the importance of providing a pedestrian connection to the school, this section of the corridor was added to the overall planning scope.

In general, impacts to properties and related costs were considered when selecting the alignment and options. The result is a layout that includes pedestrian and bicycle routes that connect the important gaps with the least amount of impacts. The preliminary preferred layout has been developed for approval by the Inver Grove Heights City Council and Dakota County. This report provides background, context, and justification for the preferred layout of each section of the corridor.

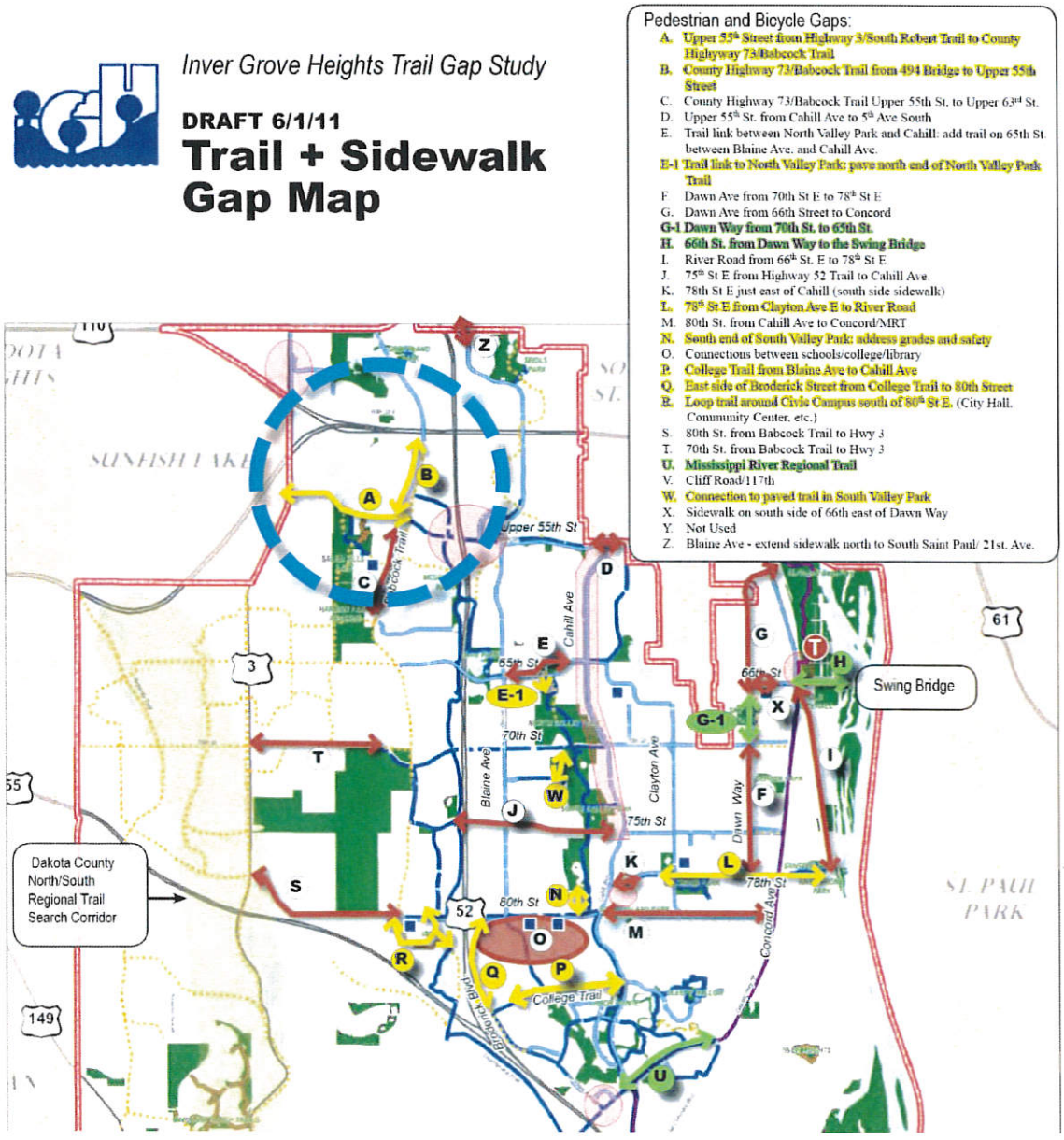
Preliminary Design

1 PROJECT BACKGROUND

1.1 PROJECT PRIORITY

The City had previously identified the corridor of County Road 73/Babcock Trail, between Upper 55th Street East up to the bridge over I-494, as a high priority pedestrian and bicycle gap. The area is shown within the blue circle of the **Image 1** and noted as gaps B and C.

Image 1.0: Portion of the Inver Grove Heights Trail + Sidewalk Gap Map



The City received a grant from the Statewide Health Improvement Program (SHIP) through Dakota County with a 10 percent funding match requirement to aid in the planning study. The City selected WSB & Associates, Inc. to study the identified corridor and prepare the preliminary plan to a 30 percent design level to understand where the pedestrian and bicycle facilities could be implemented based upon existing opportunities, constraints, and corresponding site and cost factors for this identified gap location.

The goal of the study is to identify preferred pedestrian and bicycle improvements for the connection of pedestrian routes through input gathered from key stakeholders and the public as well as evaluate benefits and impacts to SHIP priority populations (people 60 or older, children, people with low incomes, or others experiencing a health disparity).

In conjunction with this study, the City also undertook a separate study of a pedestrian and bike route along Upper 55th Street East starting at Babcock Trail and extending west to South Robert Trail. This is shown as gap A on **Image 1.0**.

The City is anticipating that section one of the pedestrian and bicycle improvements along Babcock Trail from Upper 55th Street to the I-494 bridge could be completed as early as 2019, assuming the City can cooperatively fund the design and construction of the trail section.

1.2 Local and Regional Trail Connections

Closing the gaps within these two sections of the corridor would allow connections to the following trails that both tie into a larger community trail system that parallels Highway 52 and provides access to many community destinations:

- Trail connection at Babcock Trail and Upper 55th Street
- Sidewalk connection at 63rd Street East

It also has potential to allow for connection to the future Mendota Lebanon Regional Greenway and the following regional trail systems:

- **Mississippi River Trail**

  The Mississippi River Trail (MRT) is an extensive network of trail systems and bicycle routes that run along the Mississippi River starting at the headwaters location in Itasca Park traversing to Louisiana. The MRT extends through Inver Grove Heights mainly along Concord Street South and travels through Heritage Village Park on the Mississippi community park. Dakota County has a trailhead to provide access to the Mississippi River Trail located at the Swing Bridge site in Inver Grove Heights, located just south of the park. A pedestrian trail along Babcock Trail would connect to existing community trails and a bicycle friendly route along 80th Street East and provide a route to the to MRT and trailhead.

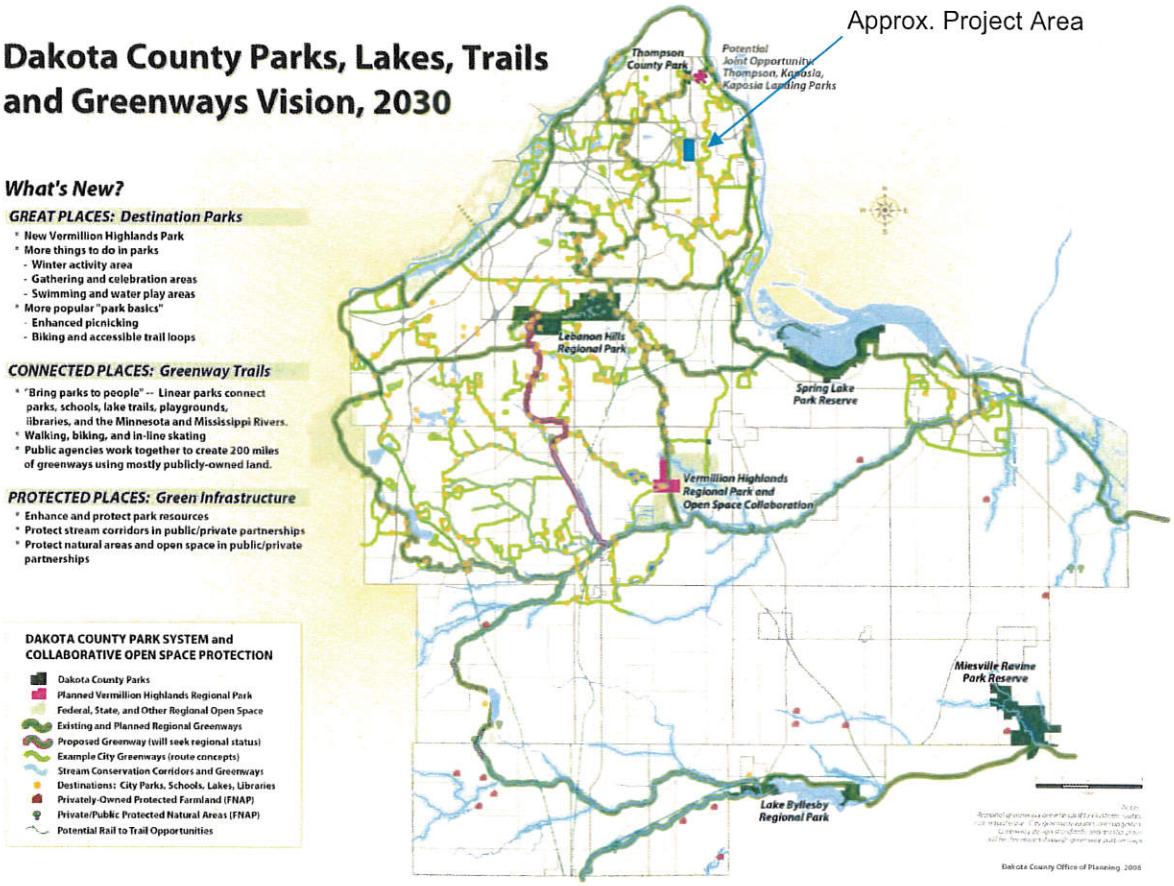
  As it extends north along the Mississippi River from Inver Grove Heights to South St. Paul, the MRT becomes the River to River Greenway system and other trail networks with 85 miles of trails in the metro region alone.

- **River to River Greenway**

  The River to River Greenway, part of the MRT, creates a link between the Mississippi River and the Minnesota River. One end of the greenway is just upstream of where the Minnesota River flows into the Mississippi River. The opposite end is located where the Mississippi River flows along Kaposia Landing Park in South St. Paul. Between these two connection points lies an urban and suburban landscape full of residential neighborhoods, commercial corridors, and parks and open spaces.

The River to River Greenway area contains a rich cultural history with stories of key historical figures, movement corridors, cultural sites, and open space preservation areas. Below is the Dakota County 2030 trail map with the project area identified.

Image 1.1: Dakota County Parks, Lakes, Trails and Greenway Vision Map



A pedestrian trail along Babcock Trail would provide a link to the north side of I-494, which connects to Mendota Road East. At the intersection of Mendota Road East and South Robert Trail is the North Urban Trail connection to the River to River Greenway system. Future pedestrian routes and trails along Mendota Road East will provide a complete connection to the River to River trail.

2 DESIGN PROCESS

2.1 PLANNING STUDY OBJECTIVES

In 2016, the City Council authorized the feasibility study along County Road 73/Babcock Trail from I-494 to Upper 55th Street (North Babcock segment), and further extending the study to 63rd Street East (South Babcock segment), with the following objectives:

- Develop and assess potential pedestrian and bicycle infrastructure improvements meeting regional trail requirements.
- Explore alternatives for shared use trails, on-street bicycle lanes, sidewalks on one or both sides of the corridor, or a combination of these.
- Evaluate benefits and impacts to SHIP priority population.
- Complete 30 percent preliminary engineering plans for preferred alignment.
- Develop cost estimate associated with preferred alignment.

2.2 PROCESS AND PARTICIPANTS

Various project data was collected during the design process, including identifying transit stops along the corridor, destinations outside of the corridor, trail connections, SHIP populations, stakeholders, and reviewing related planning projects. The entire corridor was reviewed to identify site constraints and opportunities including topography, drainage, utilities and conflicts that would affect design considerations and alternatives.

As part of the design process, meetings and public outreach efforts were conducted to gather input and review from the stakeholders within this project area.

2.2.1 Stakeholders and SHIP Populations

A variety of project stakeholders, including SHIP populations, are located within or near the project study areas.

North Babcock Section

- CHS Inc.: CHS is a large cooperative owned by farmers, ranchers and co-ops across the United States and is one of the City of Inver Grove Heights largest employer. The building headquarters is located on the east side of Babcock Trail and has trail access to the greater community trail system along Cenex Drive that ends at Babcock Trail. A pedestrian and bicycle route along Babcock Trail would create a loop system allowing their employees to benefit from walking and exercise and connect to the greater trail system to help those who wanted to walk or bike to and from work.

- Multi-Family Housing: There are numerous multi-family housing areas located on the west side of Babcock Trail. The Greystone Heights Apartments, Pearlwood Estates, Lake Cove Village Apartments and Cedarwoods Condominium are located directly along the corridor. Near the project area is the Woodlyn Heights Senior Living and Salem Green Apartments.

- Other: Other businesses and facilities in the area include a convenience store, gas station, and restaurant adjacent to the multi-family housing area, and the Cross Roads Church, a fire station, and pharmacy are all located to the east of Babcock Trail.

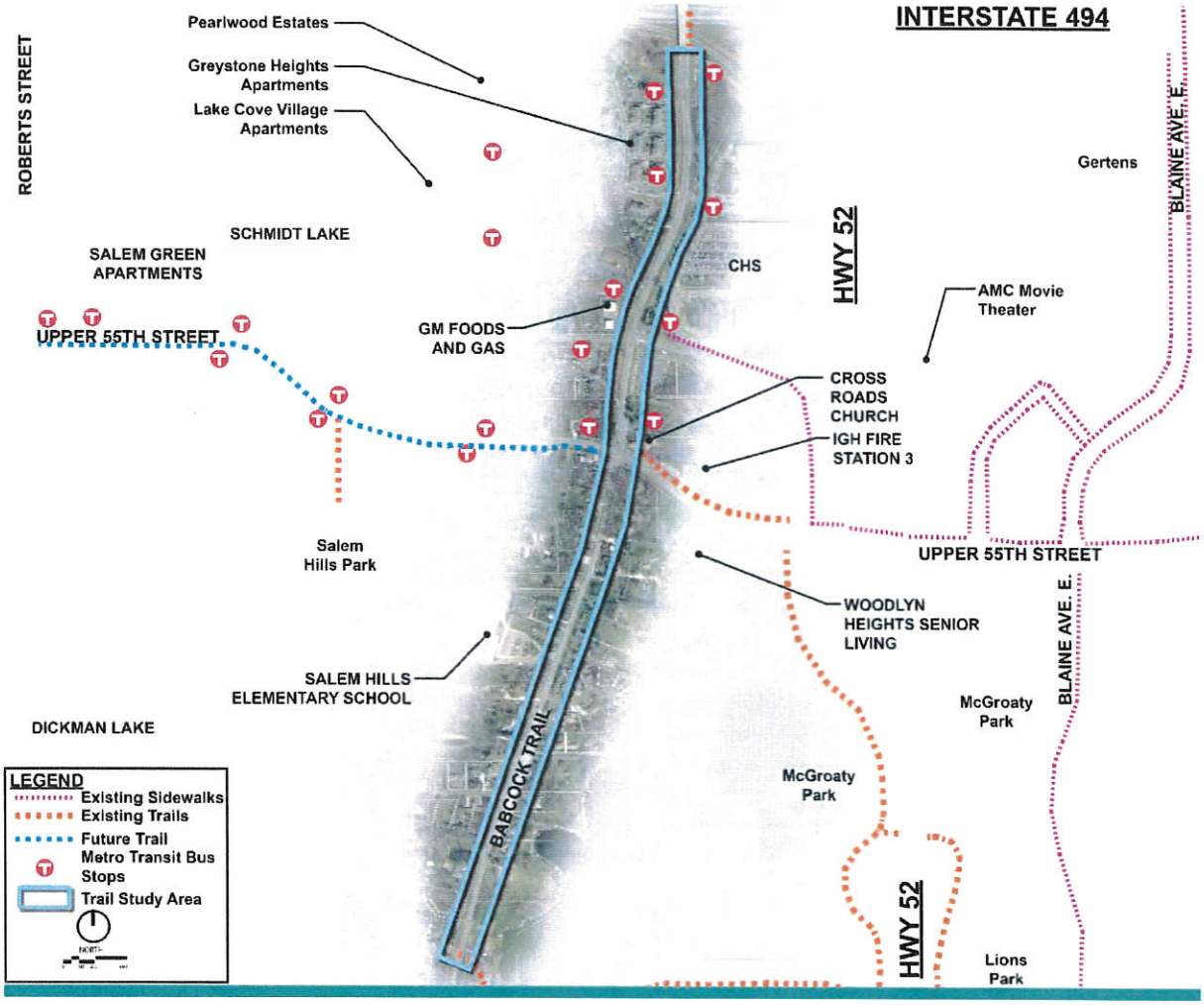
South Babcock Section

- Salem Hills Elementary: Salem Hills Elementary is located directly on Babcock Trail and contains grades kindergarten through 5th grade and has a Title One Program. Salem Hills Elementary is also a site for a summer free meal program for kids and teens.

- Single Family: Single family residences exist on both sides of Babcock Trail from Upper 55th to 63rd Street East.

Image 2.0 illustrates the corridor and identifies the land uses, destinations, and populations areas along the corridor.

Image 2.0: Land Use Map



2.2.2 Existing Conditions & Issues (North Babcock)

Numerous pedestrians routinely use this section of the corridor. Pedestrians and bicyclists can be found on the road shoulder and there is a pedestrian path worn through the turf that leads to Cenex Drive along the western edge of the corridor from the residents of the multi-family housing area. Just beyond the Cenex Drive intersection, the pedestrian worn path meets up to Babcock Trail because of steeper ditches that are heavily vegetated. There is also a pedestrian path worn on the eastern side of Babcock Trail from CHS which connects to the I-494 bridge.

The section of the corridor from the I-494 bridge to just south of Cenex Drive at the approximate location of the cemetery has adequate width in the road shoulders for shared use by pedestrians and bicyclists. Most of the right-of-way is adequate, though some areas on the western side jog in and out. The eastern side of the road has more consistent right-of-way width.

The conditions of the shoulder in this section range from good to poor condition. Poor conditions on the shoulder will push pedestrian and bicycle uses on to the road, potentially causing conflict and dangerous situations. The speed limit is 40 mph and vehicular traffic tends to go faster than the posted limit making pedestrians feel unsafe.

Starting at the cemetery and extending south to Upper 55th Street, the paved road shoulders narrow considerably on both sides to under 24 inches beyond the lane stripe. The west side of the road has steeper grades leading down to the ditch and is more heavily vegetated. The east side of the road contains a cemetery at the church that extends close to the road and has some significant upslope grade changes. The right-of-way along both sides of the road become narrower in this location. There are overhead utilities on the entire west side of this corridor section.

2.2.3 Existing Conditions & Issues (Intersection of Babcock Trail & Upper 55th Street)

An existing asphalt trail on the north side of Upper 55th Street meets up to the intersection from the east and ends with no extension of a trail or sidewalk, and no crosswalk.

The intersection of Babcock Trail and Upper 55th Street has a four-way stop. Upper 55th Street has two lanes of traffic entering the intersection from both sides and Babcock Trail has two lanes of traffic entering from the north and one lane entering from the south. Due to multiple lanes of traffic, there are issues with vehicles not following the proper procedure and pedestrians do not feel safe at this intersection. In a separate 2016 study for Upper 55th Street, a crash analysis was conducted that showed a higher than normal crash rate for this intersection, but it did not exceed the critical crash rate.

2.2.4 Existing Conditions & Issues (South Babcock)

Babcock Trail from Upper 55th Street going south is in good condition and has a narrow shoulder (roughly four-feet-wide) on both sides of the road. Both sides of the road have steep grades and drainage ditches beyond the shoulder. There are overhead utilities that start on the west side of the road and then cross over to both sides. The right-of-way along this section of corridor varies from 66 feet to 88 feet and even up to 112 feet in some areas.

The speed limit remains at 40 mph through the corridor, even at the location of Salem Elementary School. It has been noted that parents dropping or picking up kids will stack their vehicles along the western shoulder of Babcock Trail as they wait to enter the school and during school functions. The steep grades of the adjacent ditches leave little room for vehicles on the shoulder of the road, causing the vehicles to be partially located in the drive lane. Vehicles stacked up on the shoulder also cause issues with residents by blocking driveways on this side of the. The City has recently placed No Parking signs along this section of road to try and eliminate these conflicts.

2.2.5 Stakeholder Input

The trail feasibility study received input from City staff, County staff, CHS and other interested stakeholders through a variety of methods including:

- Project information and surveys placed on the City website and distributed through email directly to stakeholder contacts
- Meeting with Salem Elementary School principal and select staff
- Meeting with Salem Elementary PTSA group
- Project information and surveys placed on the Facebook page of the PTSA
- Meeting with CHS staff and Fit 360 wellness program manager
- Meeting with CHS employees in the lunch room
- Distributing project flyers prior to public meetings through the school and their contact list, directly to the apartment buildings, and through email to stakeholder contacts
- Two public meetings held at the Cross Roads Church

Comments that resulted from the stakeholder outreach included:

- CHS promotes well-being and activities for their employees and a safe bike and pedestrian route would be very advantageous.
- CHS employees who take the trail on Cenex Drive don't typically walk beyond Upper 55th and will instead turn around and walk back. A route along Babcock Trail would create a trail loop that may be more desirable.
- A safe pedestrian and bike route along Babcock Trail would be more desirable than the existing trail that parallels Highway 52 due to the noise and poor air quality on that trail segment.
- Residents generally feel that Babcock Trail south of Upper 55th Street is so dangerous that people who live close or even directly across the street from Salem Elementary School do not feel safe crossing the road to get to the school.
- People going the school from north of Upper 55th will sometimes take Upper 55th and go through Salem Hills Park to access the school from the back side and avoid Babcock Trail.
- There are bicyclists who enter Babcock Trail at 63rd Street East and then go north across I-494, or vice versa, but don't feel safe south of Upper 55th Street.
- The school will hold events or visits to the church, fire station, and senior living facility along Upper 55th Street and will bus the students, rather than walking, to avoid Babcock Trail.
- Many felt there should be a sign to reduce speed in the school zone when children are present.
- The school may get better attendance at their summer lunch program with a safe pedestrian route to the school.
- More kids would bike or walk to school if there were a safe route and this is also important in the summer when kids want to go to the playground.
- There may be a way to create a more defined trail into the school from the park to avoid Babcock Trail in the interim, though this would not be as direct for some residents.

3 PRELIMINARY DESIGN

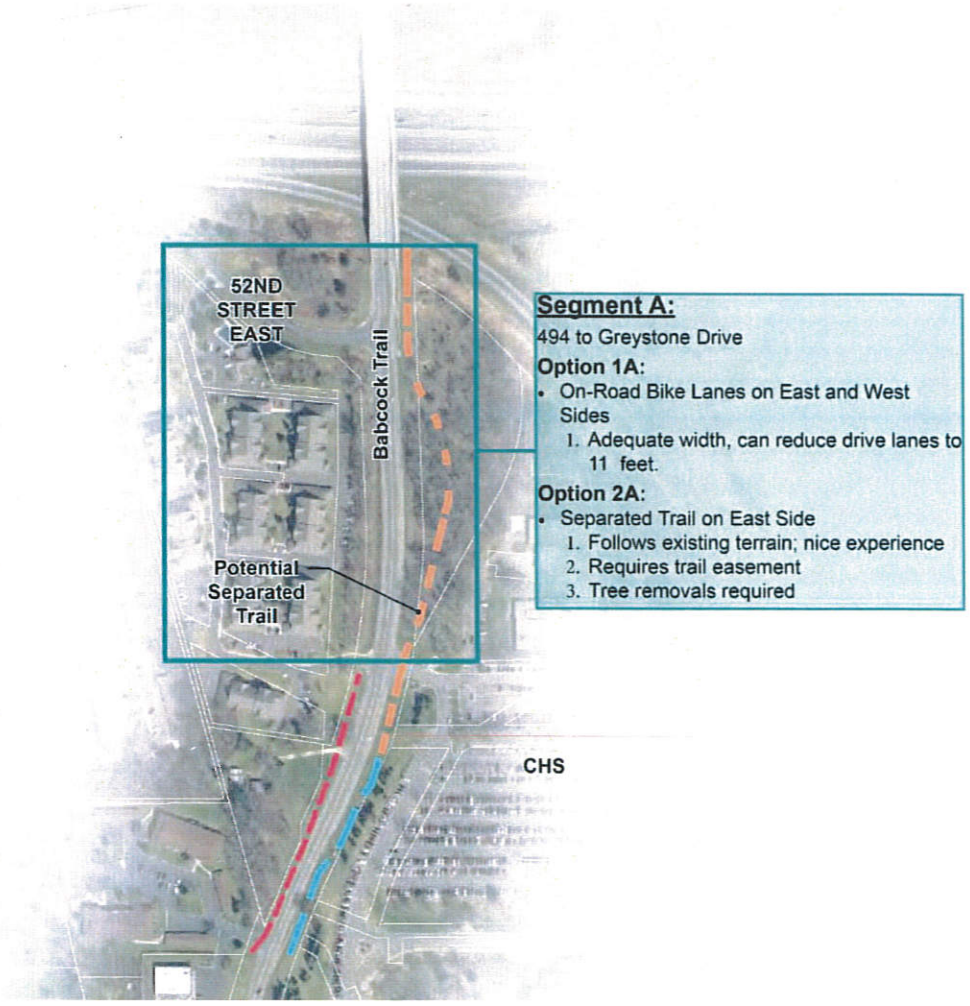
3.1 PRELIMINARY LAYOUT OPTIONS

Preliminary design options were created for review and comment by the public. The corridor was broken into several segments with the varying options color coded to reflect degree of difficulty for implementation with orange being low difficulty, blue medium difficulty, and red high difficulty.

Segment A (North Babcock): I-494 bridge to Greystone Drive

- Option 1A: On-road bike lanes on east and west sides of the road. Adequate lane widths exist and the drive lanes can be reduced to 11-feet-wide for wider bike lanes.

- Option 2A: A separated bituminous trail, 8- to 10-feet-wide on the east side of the road. There is the potential to meander the trail through CHS property resulting in pleasing trail experience in an area where people are already walking, though it could remain within the existing right-of-way. The trail on CHS property would require an easement or land acquisition, though there may be a partnership opportunity with CHS.

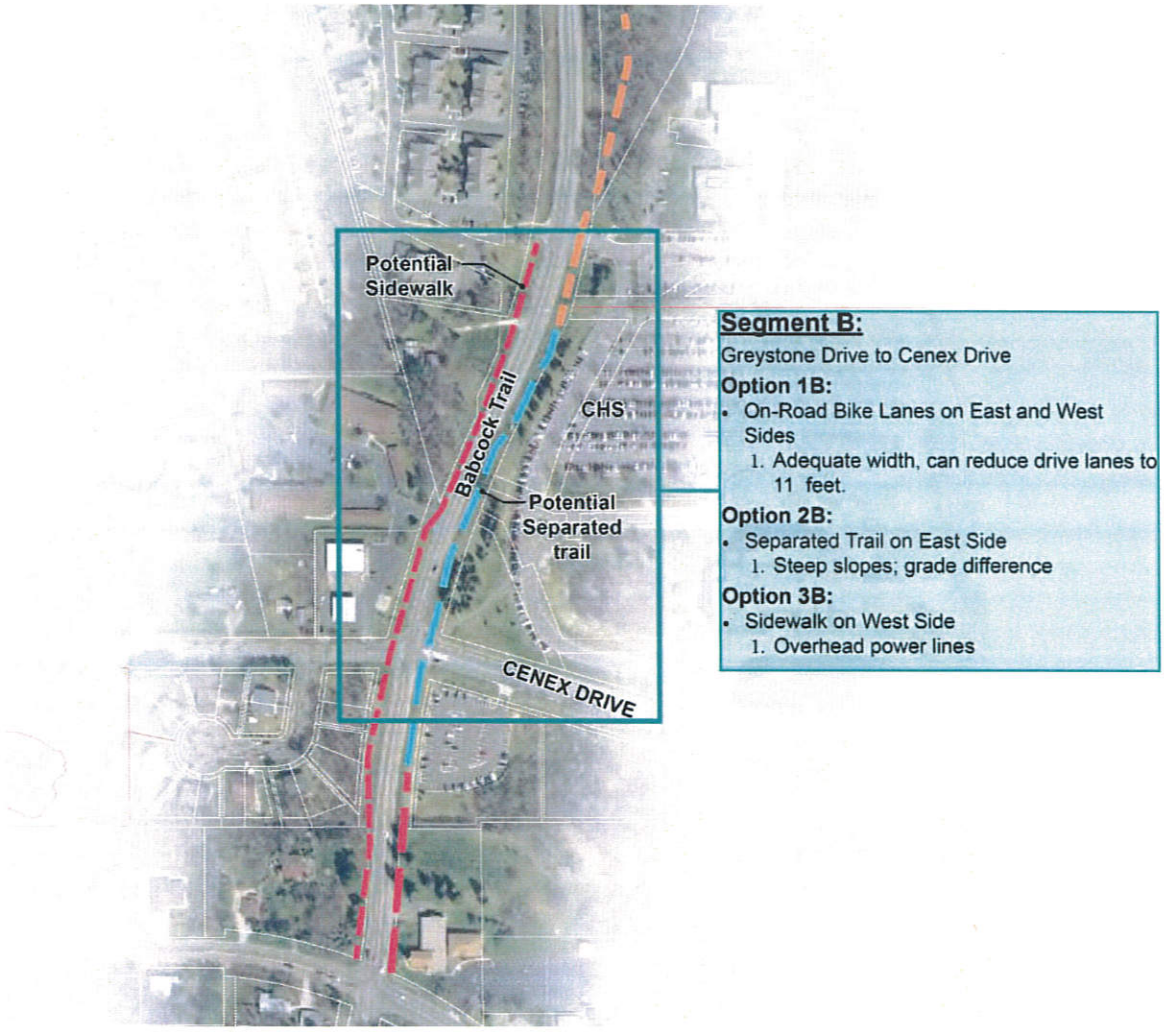


Segment B (North Babcock): Greystone Drive to Cenex Drive

- Option 1B: On-road bike lanes on east and west sides of the road. Adequate lane width exists and drive lanes can also be reduced to 11-feet-wide for wider bike lanes.

- Option 2B: A separated bituminous trail, 8- to 10-feet-wide on the east side of the road in existing right-of-way. There are steep slopes so some significant regrading will be necessary.

- Option 3B: A concrete sidewalk on west side of the road, minimum five-feet-wide. There are overhead power lines in this section.

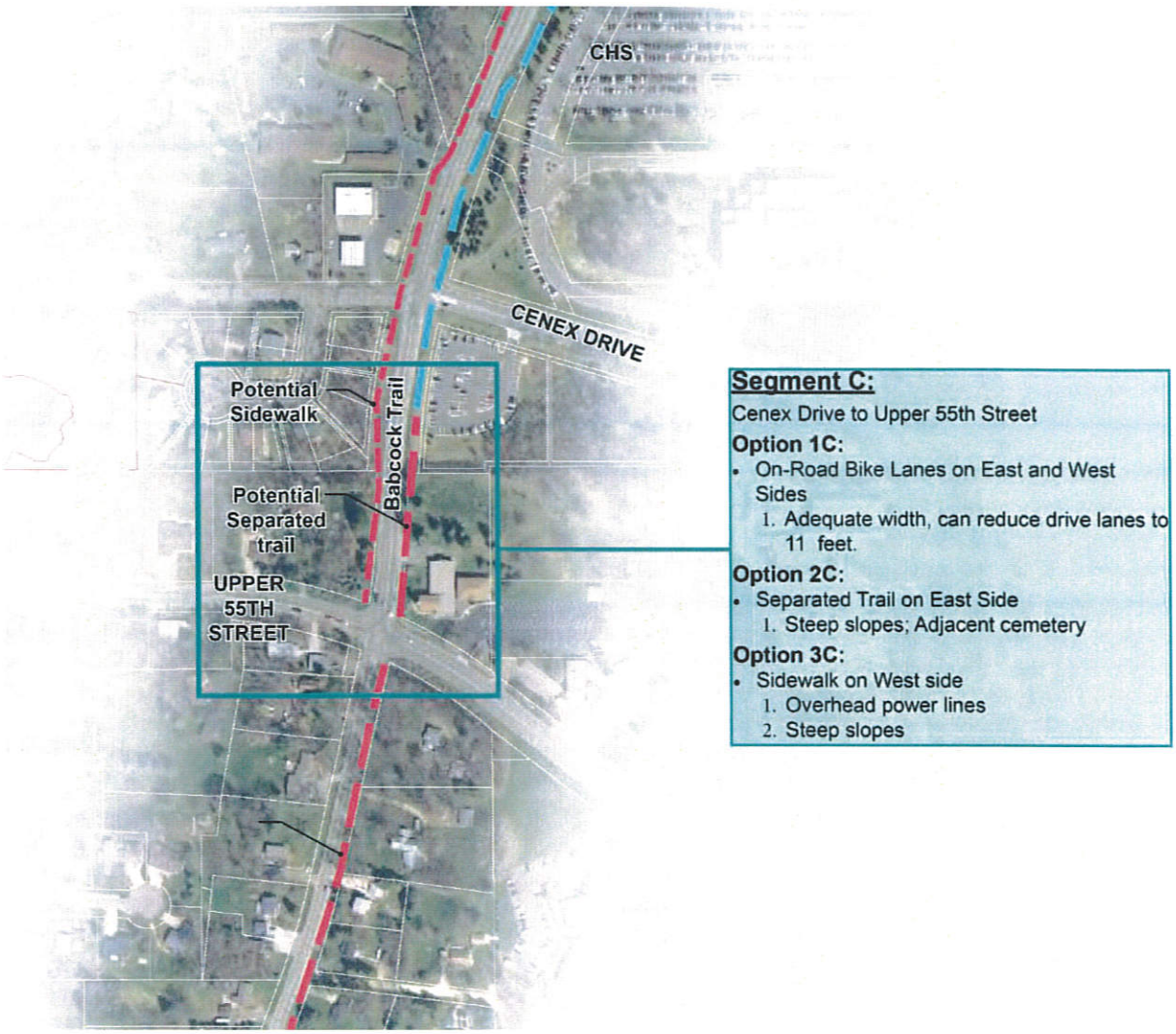


Segment C (North Babcock): Cenex Drive to Upper 55th Street

- Option 1C: On-road bike lanes on east and west sides of the road. Adequate lane widths exist for a portion and drive lanes can be reduced to 11-feet-wide for wider bike lanes.

- Option 2C: A separated bituminous trail, 8- to 10-feet-wide on the east side of the road in existing right-of-way. The existing cemetery has a significant grade difference and the trail may be limited to a width of eight feet with the adjacent retaining walls.

- Option 3C: A concrete sidewalk on west side of the road, minimum five-feet-wide. There are overhead power lines, steep slopes, and dense vegetation in some areas.

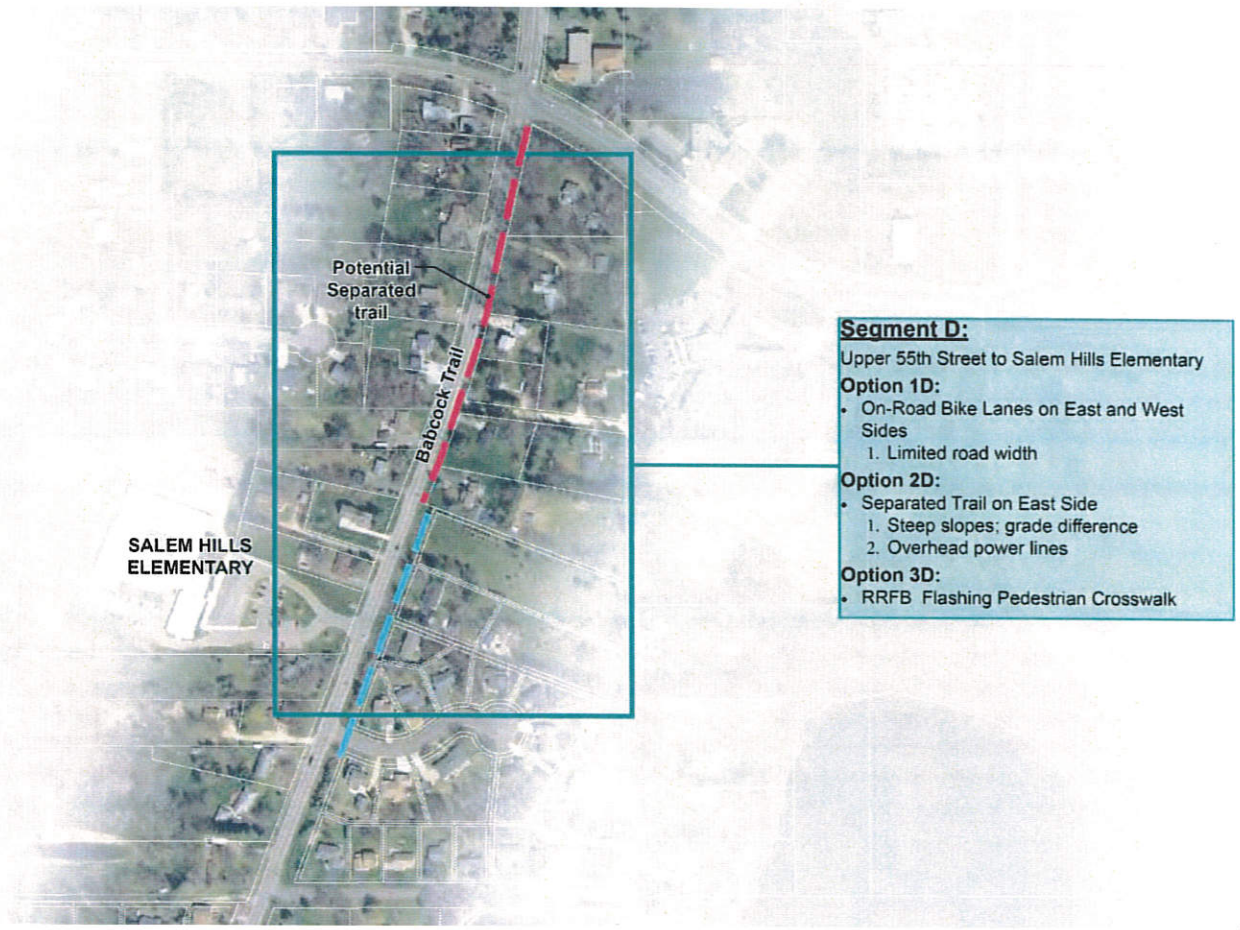


Segment D (South Babcock): Upper 55th Street to Salem Hills Elementary School

- Option 1D: On-road bike lanes on east and west sides of the road. There is limited road width, but the drive lanes can be reduced to 11-feet-wide for wider bike lanes. The road may need to be widened which may impact drainage ditches. There are overhead power lines.

- Option 2D: A separated bituminous trail, 8- to 10-feet-wide on the east side of the road in existing right-of-way. This will require eliminating the drainage ditch on east side. There are overhead power lines in some areas.

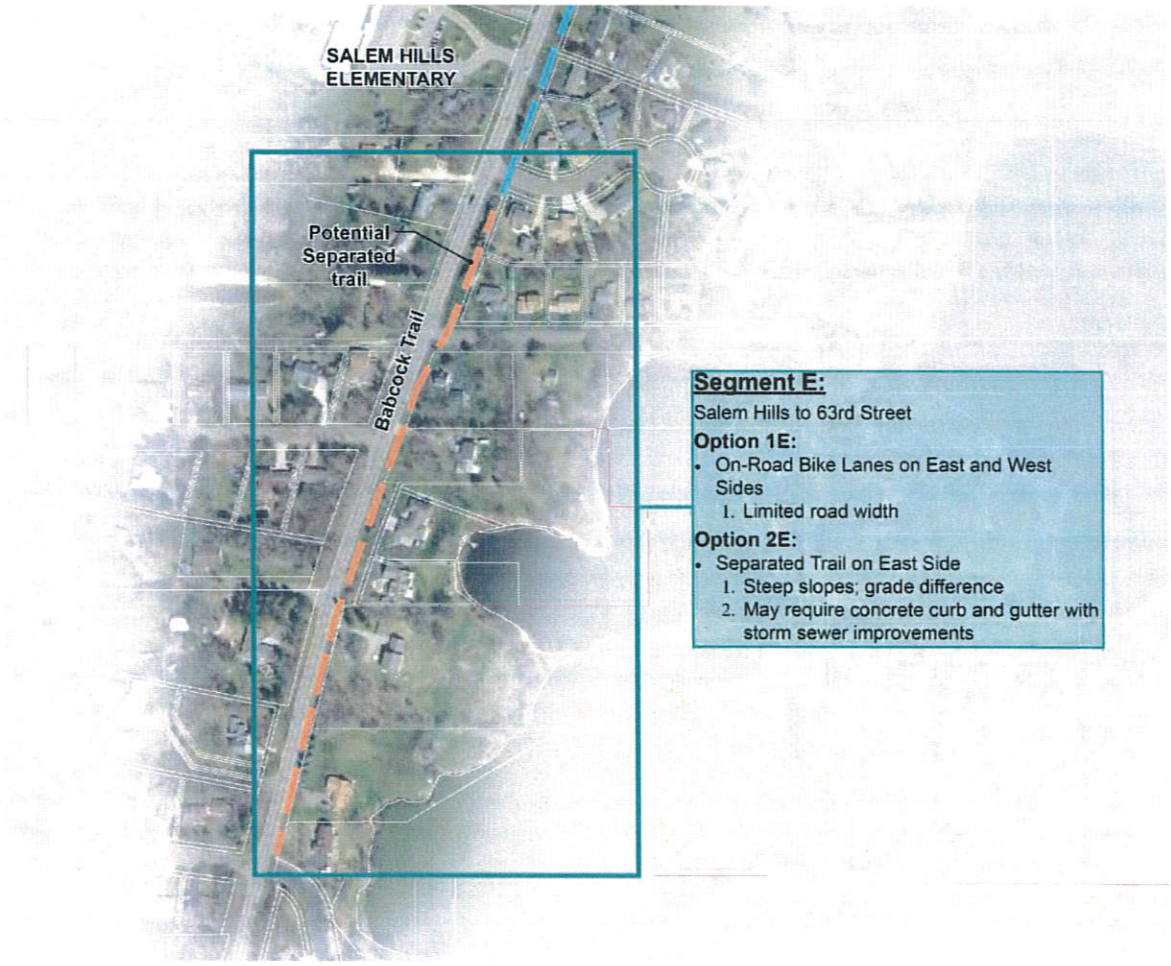
- Option 3D: RRFB Flashing pedestrian crosswalk across Babcock Trail to the school site.



Segment E (South Babcock): Salem Hills Elementary School to 63rd Street East

- Option 1E: On-road bike lanes on east and west sides of the road. There is limited road width, but the drive lanes can be reduced to 11-feet-wide for wider bike lanes. The road may need to be widened which may impact drainage ditches. There are overhead power lines.

- Option 2E: A separated bituminous trail, 8- to 10-feet-wide on the east side of the road in the existing right-of-way. This will require eliminating a drainage ditch on east side. There are overhead power lines. Some areas have limited right-of-way width which will may require right-of-way acquisition or a curb and gutter design of the roadway and trail along the curb.



Overall, there was support for any improvements. Some general comments and findings from the schematic design plan reviews included:

- A crosswalk at the school would need advance warning due to limited sight distances.
- There should be an option to extend a sidewalk from Upper 55th Street to the school on the west side of the road.
- Only an on-road bike lane only is not desired, a separated trail is also needed for the safety of kids.
- General concerns related to direct impacts to property owners along Babcock Trail.
- Concerns about costs assessed to the residents for any of the proposed improvements.

- Concerns about the stormwater drainage impacts and how this would be altered
- A crossing at the school should be south of the school driveway since vehicles are parked north of the driveway
- Can the school adjust their bus and vehicular access from the park side to reduce conflicts on Babcock Trail?

3.2 Preferred Layout

The preferred layout was created based upon input by the stakeholders, the City, and Dakota County that reduced the impacts as much as possible and created an access route to the school. The preferred layout was developed into a 30 percent complete plan as illustrated on Image 3.0 – Preferred Preliminary Layout Plan and as described in the following segments.

3.2.1 North Babcock from I-494 to Upper 55th Street

This section of the corridor offers a great benefit to the residents in the multi-family residential area, as well as the CHS employees. It has been noted as a high priority trail gap for the City. This link has also been identified as a High Pedestrian Link in Figure 20 of the Dakota County 2030 Transportation Plan as it fills a gap and creates a regional link between County Road 14 and the trails along Highway 52 that ultimately provide access to the MRT. Some direct benefits by creating this north-south route include:

- Connection to areas north of I-494 to include commercial areas, parks, and the River to River Greenway trail system.
- More complete trail and walkway access to and from this location for employees of CHS and residents of the multi-family housing areas.
- Pedestrian crossings at intersections.
- Proper connection from multi-family housing areas to the adjacent convenience store, restaurant, and church along Upper 55th Street.
- Connection to the existing trail along Upper 55th Street that connects to existing trails and walks reaching multiple commercial areas, parks, the Mississippi River Trail and Swing Bridge trailhead, Simley High School, and Inver Hills Community College, to name a few.

This segment of the corridor completes a critical gap connecting areas north of I-494 to the areas south of I-494 and is more feasible to implement in a shorter time frame due to limited impacts and potential partnership opportunities.

The County standard for shoulder width is eight feet and for boulevards is ten feet. These standards are important for safety, user experience, snow storage, and management of utilities. The preliminary plan set shows that some areas that do not meet the design standards due to right-of-way constraints and conflicts with adjacent land uses. As the plan moves forward, modifications that may allow the design to meet the standards will need to be discussed with the Transportation Department before anything would be considered along County 73/Babcock Trail.

Preliminary design highlights for this section of the corridor include:

Segment A: I-494 Overpass to Greystone Drive

- Construct a ten-foot trail on the east side with a variable boulevard in order to follow the existing goat path through CHS property. Easement or acquisition is necessary for this alignment.
- Construct ADA compliant pedestrian ramps at all intersections.
- Connect the trail to transit stops where possible.
- Repave the shoulders areas as needed.

Segment B: Greystone Drive to Cenex Drive

- Construct a ten-foot trail on the east side with a variable boulevard (10 feet or wider) to avoid utility box conflicts.
- Construct a retaining wall to minimize ROW and landscaping impacts to Cenex.
- Construct a six-foot concrete walk on the west side with a 10-18-foot boulevard. Power lines would need to be relocated or buried.
- Construct ADA compliant pedestrian ramps at all intersections.
- Connect the trail to transit stops where possible.
- Stripe crosswalks at the intersection of Cenex Drive.
- Repave shoulders as needed.

Segment C: Cenex Drive to Upper 55th Street

- Construct a ten-foot trail on the east side with minimum boulevard width of two feet and curb and gutter to avoid ROW conflicts at cemetery.
- Construct a six-foot walk on the west side with a four-foot boulevard and retaining wall in order to limit ROW, vegetation, and shed impacts. Power lines would need to be relocated or buried.
- Construct ADA compliant pedestrian ramps at all intersections.
- Connect the trail to transit stops.
- Stripe crosswalks at the intersection of Upper 55th Street.

3.2.2 South Babcock from I-494 to Upper 55th Street

This section of the corridor is more difficult and costly. The main factor for proceeding with any improvements within this section of the corridor would be to provide a safe pedestrian route to Salem Elementary School. While this route would connect to an existing walkway at 63rd Street East which ties into the larger community trail and walk system, this connection can be accomplished with the northern route as well, which is currently more feasible.

The County standard for shoulder width is eight feet and for boulevards is ten feet. These standards are important for safety, user experience, snow storage, and management of utilities. The preliminary plan set shows that some areas that do not meet the design standards due to right-of-way constraints and conflicts with adjacent land uses. As the plan moves forward, design modifications that may allow the design to meet the standards will need to be discussed with the Transportation Department before anything would be considered along County 73/Babcock Trail.

If a project moves forward in this segment, depending on the scope of the project further study will be required regarding the drainage design. Specifically, the amount of storm water runoff that directed to the east side of the road to the pond at the northeast corner of 63rd Street E and Babcock Trail will need to be studied.

In addition, since there will be significant cost and construction impacts outside of the existing right-of-way, combined with the age and condition of the roadway, the County would likely not be interested constructing the trail independent of a road reconstruction/redesign project. When the City is interested in advancing this portion of the trail, further study and discussion would be needed to assess the need and benefit for road reconstruction/redesign and potential extents for the project.

The study resulted in recommending the City, County and School to prepare a Safe Routes to School Plan for Salem Elementary as a next step. The plan would identify pedestrian access that explores various options, including possible alternatives routes to the school, so that when the time for a road improvement project is created for this segment of the corridor it can be timed and constructed appropriately.

Preliminary design highlights for this section of the corridor include:

Segment D: Upper 55th Street to Salem Hills Elementary School

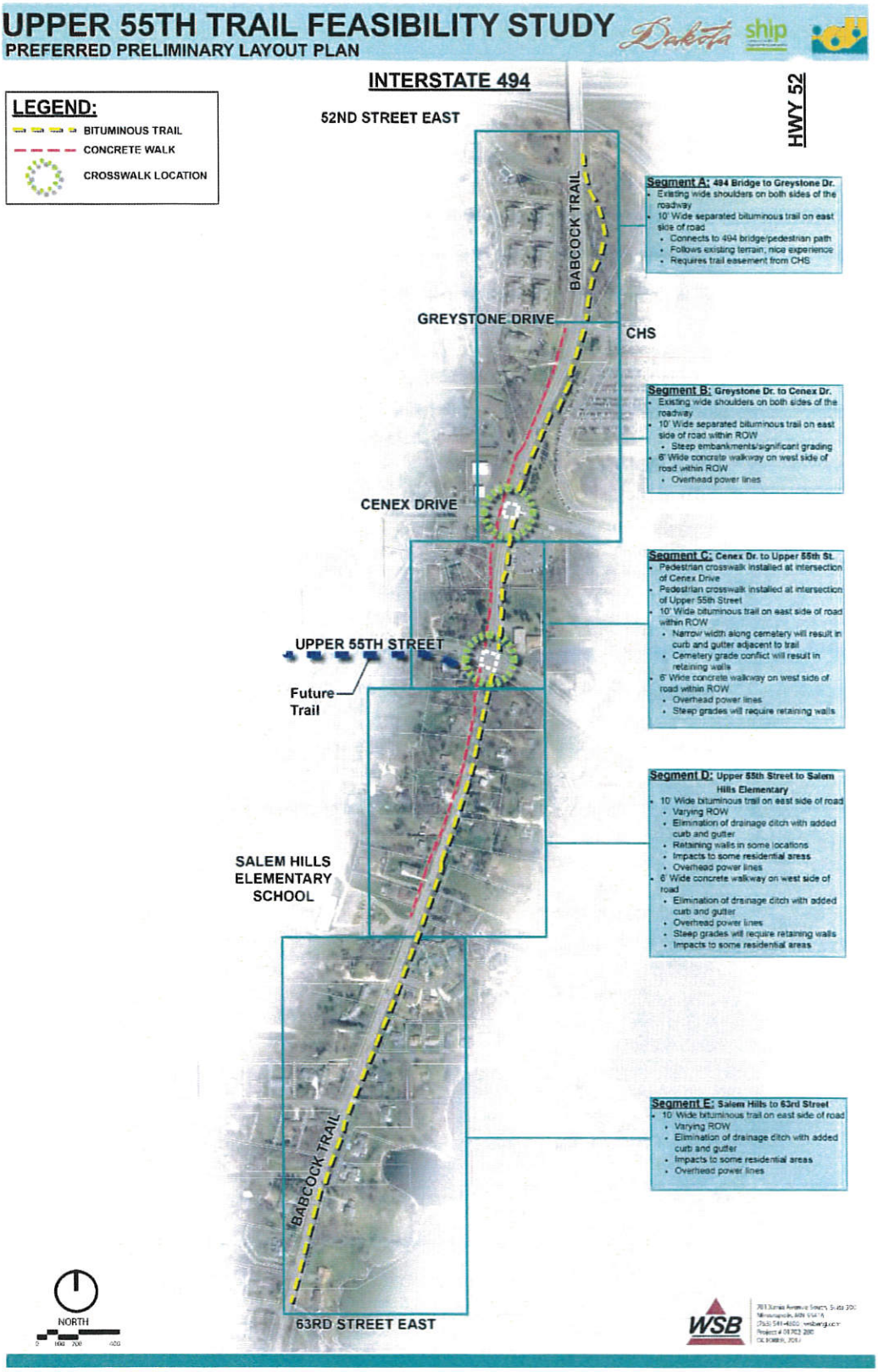
- Construct a ten-foot trail on the east side with a two to four-foot boulevard and curb and gutter to avoid ROW and landscaping impacts.
- Construct a six-foot walk on the west side with six-foot boulevard, retaining walls as necessary, and curb and gutter to avoid ROW impacts.
- Construct ADA compliant pedestrian ramps at all intersections.
- Overhead utilities will be affected.
- Storm water drainage will be affected.

Segment E: Salem Hills Elementary School to 63rd Street East

- Construct a ten-foot trail on the east side with a five-foot boulevard, retaining walls as necessary, and curb and gutter to avoid ROW and landscaping impacts.
- Construct ADA compliant pedestrian ramps at all intersections.
- Overhead utilities will be affected.
- Storm water drainage will be affected.

Refer to **Appendix 1** for the preliminary plan sheets with the Preferred Preliminary Layout Plan shown on the following page

Image 3.0: Preferred Preliminary Layout Plan



3.3 Probable Costs and Priorities

A budget-level estimate of the preliminary design improvements was prepared for each section of the County Road 73/Babcock Trail corridor. This estimate was based on general understanding of the limits of the typical sections as proposed and current construction prices at a 30 percent plan level. The total project cost was estimated to be approximately $500,000 for the North Babcock section and approximately $900,000 for the South Babcock section. These estimates do not include right-of-way acquisition, burying or moving overhead power lines, engineering, permitting, environmental, legal, or administrative costs. The estimates are based upon installation of new stormwater utilities for the corridor without further site and drainage investigations that may affect the costs of actual implementation

The estimates can be found in the **Appendix 2**.

Based upon the cost estimates, potential impacts and partnership opportunities, the City and Dakota County are interested in further study and discussion of County Road 73/Babcock Trail from Upper 55th Street north to the I-494 bridge.

3.4 Summary

The trail realignment planning process studied trail routing options considering impacts to the surrounding land uses within the road corridor as well as pedestrian safety.

Preliminary design (30 percent) plans for the preferred alignment of County Road 73/Babcock Trail north of Upper 55th Street includes a ten-foot-wide bituminous trail on the east side of Babcock Trail for the entire segment starting at I-494 that connects to an existing trail at Upper 55th Street, a six-foot-wide concrete sidewalk starting at Greystone Drive extending to Upper 55th Street on the west side of Babcock Trail, and new striped crosswalks at the intersections of Cenex Drive and Upper 55th Street. The proposed improvements in this section remain a high priority.

Preliminary design (30 percent) plans for the preferred alignment of County Road 73/Babcock Trail south of Upper 55th Street includes a ten-foot-wide bituminous trail on the east side of Babcock Trail for the entire segment that connects to an existing sidewalk at 63rd Street East, and a six-foot-wide concrete sidewalk starting at Upper 55th Street extending to Salem Elementary School on the west side of Babcock Trail. The proposed improvements in this section of the corridor were not determined to be of high priority at the time of the study. The City and Dakota County recommend an interim Safe Routes to School study be completed for this section for consideration when a road improvement project is planned.

Appendix 1 – 30% Preliminary Design Plans

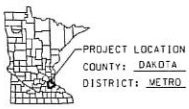
MINNESOTA DEPARTMENT OF TRANSPORTATION
CITY OF INVER GROVE HEIGHTS

CONCRETE CURB & GUTTER, GRADING, BITUMINOUS AND CONCRETE SURFACING, ADA IMPROVEMENTS, AND STORM SEWER

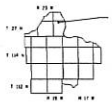
CONSTRUCTION PLAN FOR

LOCATED ON CO. RD. 73 (BABCOCK TRAIL) FROM 2580' NORTH OF CO. RD. 18 (UPPER 55TH ST E)
TO 3270' SOUTH OF CO. RD. 18 (UPPER 55TH ST E)

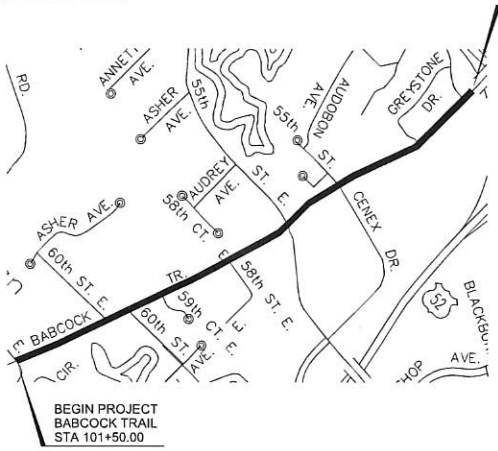
GROSS LENGTH	5,850.00	ft	1.108	miles
BRIDGES-LENGTH		ft		miles
EXCEPTIONS-LENGTH		ft		miles
NET LENGTH	5,850.00	ft	1.108	miles



PROJECT LOCATION
COUNTY: DAKOTA
DISTRICT: METRO



PROJECT LOCATION
DAKOTA COUNTY



DESIGN DESIGNATION

CO. RD. 73 (BABCOCK TRAIL)

ADT (Current Year) 2017 = 7300
ADT (Future Year) 2037 = 7300
D (DIRECTIONAL DISTR.) = 50/50
ESALS 1,885,000
DESIGN SPEED 40 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 3.5 HEIGHT OF OBJECT 2.0
DESIGN SPEED NOT ACHIEVED AT: N/A
FUNCTIONAL CLASSIFICATION MINOR COLLECTOR
NO. OF TRAFFIC LANES 2
NO. OF PARKING LANES 1 (STATION 121+05 TO 132+59)
SHOULDER WIDTH 0'-4"
TON DESIGN 10

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

GOVERNING SPECIFICATIONS

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONES.

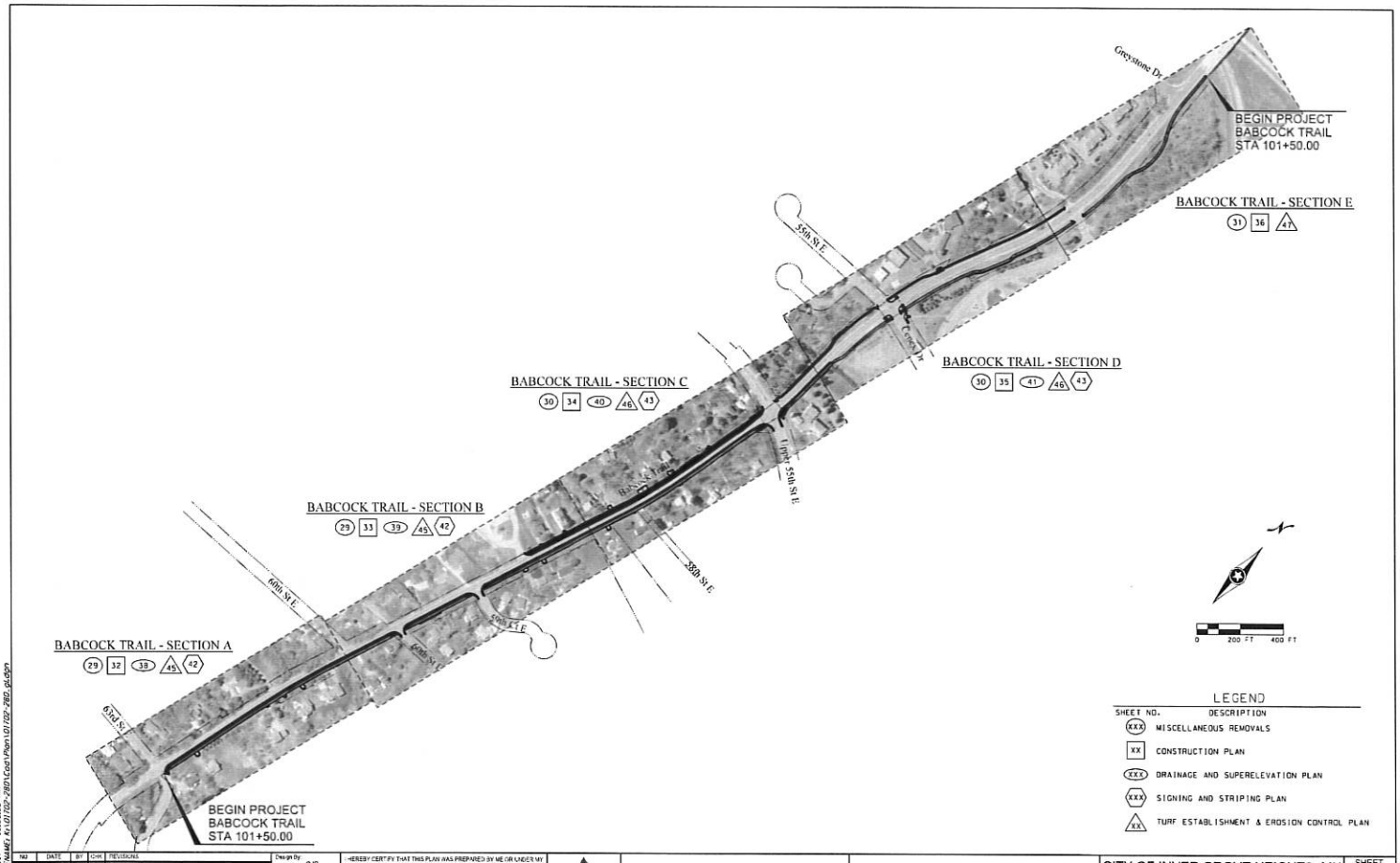
INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3	ESTIMATED QUANTITIES
4	CONSTRUCTION NOTES & STANDARD PLATES
5	QUANTITY TABULATIONS
6	EARTHWORK SUMMARY & TABULATION
7 - 11	TYPICAL SECTIONS
12 - 26	MISCELLANEOUS DETAILS
27 - 28	ALIGNMENT PLANS & TABULATIONS
29 - 31	MISCELLANEOUS REMOVAL PLAN
32 - 37	CONSTRUCTION PLAN & PROFILE
38 - 41	DRAINAGE PLAN
42 - 43	SIGNING & STRIPING PLAN
44 - 47	TURF ESTABLISHMENT & EROSION CONTROL PLAN
X1 - X13	CROSS-SECTIONS

THIS PLAN CONTAINS 60 SHEETS.

SHEET NO. 1 OF 47 SHEETS

Date Printed: 8/4/2017
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DATE: 8/4/2017 10:09:53 AM
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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE: 8/7/2017 LICENSE NO. 44201

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

GENERAL LAYOUT

SHEET 2 OF 47 SHEETS

ESTIMATED QUANTITIES

TABLE	SHEET	ITEM NUMBER	DESCRIPTION	NOTES	UNITS	PROJECT TOTAL QUANTITY
-	-	2021.501	MOBILIZATION	-	LUMP SUM	1
A	5	2101.501	CLEARING	1	ACRE	1
A	5	2101.502	CLEARING	1	TREE	29
A	5	2101.506	GRUBBING	1	ACRE	1
A	5	2101.507	GRUBBING	1	TREE	29
A	5	2104.501	REMOVE PIPE CULVERTS		LIN FT	429
A	5	2104.501	REMOVE CURB AND GUTTER		LIN FT	481
A	5	2104.503	REMOVE BITUMINOUS WALK		SQ FT	787
A	5	2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ FT	8015
A	5	2104.505	REMOVE CONCRETE WALK		SQ FT	141
A	5	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ FT	2223
A	5	2104.505	REMOVE BITUMINOUS PAVEMENT	2	SQ YD	3850
A	5	2104.509	REMOVE PIPE APRON		EACH	28
A	5	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	2	LIN FT	10217
A	5	2104.521	SALVAGE SIGN TYPE C		EACH	15
A	5	2104.521	SALVAGE SIGN TYPE SPECIAL		EACH	8
A	5	2104.523	SALVAGE MAIL BOX SUPPORT		EACH	33
		2105.604	GEOTEXTILE FABRIC TYPE IV		SQ YD	24
E	6	2106.501	EXCAVATION - COMMON		CU YD	8602
E	6	2106.523	COMMON EMBANKMENT (CV)		CU YD	10747
		2123.501	COMMON LABORERS	3	HOUR	20
		2123.509	DOZER	3	HOUR	20
		2123.510	10 CU YD TRUCK	3	HOUR	20
		2123.610	STREET SWEEPER (WITH PICKUP BROOM)	3	HOUR	20
B	5	2211.503	AGGREGATE BASE (CV) CLASS 5		CU YD	1268
B	5	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)		TON	442
B	5	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B)		TON	427
		2501.515	24" RC PIPE APRON		EACH	1
		2503.511	15" RC PIPE SEWER CLASS V		LIN FT	2849
		2503.511	18" RC PIPE SEWER CLASS III		LIN FT	453
		2503.511	24" RC PIPE SEWER CLASS III		LIN FT	556
		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020		LIN FT	115
		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020		LIN FT	14
		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020		LIN FT	12
		2511.501	RANDOM RIPRAP CLASS III		CU YD	12
C	5	2521.501	4" CONCRETE WALK		SQ FT	15672
C	5	2521.501	6" CONCRETE WALK		SQ FT	4311
B	5	2521.511	3" BITUMINOUS WALK		SQ FT	54769
C	5	2531.501	CONCRETE CURB AND GUTTER DESIGN B624		LIN FT	5574
C	5	2531.618	TRUNCATED DOMES		SQ FT	448
A	5	2540.602	INSTALL MAIL BOX SUPPORT		EACH	33
		2540.618	STONE RETAINING WALL		SQ FT	4689
		2563.601	TRAFFIC CONTROL		LUMP SUM	1
A	5	2564.537	INSTALL SIGN TYPE C		EACH	15
A	5	2564.537	INSTALL SIGN TYPE SPECIAL		EACH	8
D	5	2573.502	SILT FENCE, TYPE MS		LIN FT	14226
D	5	2573.530	STORM DRAIN INLET PROTECTION		EACH	26
D	5	2573.533	SEDIMENT CONTROL LOG TYPE WOOD FIBER		LIN FT	961
D	5	2573.560	CULVERT END CONTROLS		EACH	1
D	5	2574.508	FERTILIZER TYPE 3		POUND	337
E	6	2574.525	BOULEVARD TOPSOIL BORROW		CU YD	3124
D	5	2575.502	SEED MIXTURE 25-151		POUND	114
D	5	2575.505	SODDING TYPE LAWN		SQ YD	7826
		2575.572	RAPID STABILIZATION METHOD 4	3	SQ YD	2000
		2582.503	CROSSWALK PREFORM THERMOPLASTIC GROUND IN		SQ FT	1242

NOTES

1. CONTRACTOR SHALL NOT REMOVE ANY TREES WITHOUT PERMISSION FROM THE ENGINEER.
2. ASSUMED PAVEMENT DEPTH ON BABCOCK TRAIL IS 5"
3. TO BE USED AS DIRECTED BY THE ENGINEER.

TABULATION INDEX

TAB	SHEET NO.	TABULATION
A	5	REMOVALS
B	5	BITUMINOUS & AGGREGATE
C	5	CONCRETE
D	5	TURF ESTABLISHMENT & EROSION CONTROL
E	6	EARTHWORK

BASIS FOR QUANTITIES

UNIT WEIGHT OF BITUMINOUS MIX:
- 2360 MIX.....113 LBS/SY/IN

TACK COAT:
- NEW SURFACES.....0.05 GAL/SY

NO	DATE	BY	CHK	REVISIONS

Design By:
Plan By:
Checked By:
Approved By:

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE _____

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

ESTIMATED QUANTITIES

SHEET 3 OF 47 SHEETS

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CONSTRUCTION AND SOIL NOTES

1. TOP OF THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. COMMON EMBANKMENT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, PEAT, MUCK, AND OTHER ORGANIC OR OTHER UNSTABLE MATERIAL.
3. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1(V):2(H) OR FLATTER SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
4. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF PRIVATE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF PRIVATE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR WILL CALL GOPHER STATE ONE A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.
5. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
6. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
7. OBTAIN COMPACTION OF THE GRADING AND AGGREGATE PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS AS INDICATED IN 2211.3.D.2.A.
8. NO EXTRA PAYMENT WILL BE MADE FOR MOVING, PLACING, OR TEMPORARY STOCKPILING OF EXCAVATION, EMBANKMENT AND/OR BORROW MATERIAL.
9. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND MAY BE RECYCLED OR DISPOSED OF OFF THE RIGHT OF WAY.
10. PROVIDE A UNIFORM TACK COAT AS DOCUMENTED IN THE MOST CURRENT SPEC. 2357 - BITUMINOUS TACK COAT REQUIREMENTS, WHICH SHALL BE INCIDENTAL.
11. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SELECT GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. TEMPORARY EROSION CONTROL - TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO CONDUCT HIS CONSTRUCTION IN A MANNER THAT WILL CONTROL EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MNDOT SPECIFICATIONS 1717, 1803, 2101, 2105, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.
13. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THE FOLLOWING STANDARD PLATES APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY TO THIS PROJECT.

MN/DOT STANDARD PLATES

PLATE NO.	DESCRIPTION
1103K	TYPICAL DOWEL BAR ASSEMBLY (2 SHEETS)
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4024A	48" DIAMETER PRECAST SHALLOW DEPTH CATCH BASIN
4160D	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 823A AND 833A
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB & GUTTER)
8000J	CHANNELIZERS
9000E	APPROACHES AND ENTRANCES (RECOMMENDED STANDARDS)

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW PLOWMAN, PE
DATE 6/7/2017 LICENSE NO. 46703

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
CONSTRUCTION NOTES AND STANDARD PLATES

SHEET 4 OF 47 SHEETS

REMOVALS TABULATION — A

LOCATION	REMOVE CONCRETE WALK	REMOVE BITUMINOUS WALK	REMOVE CONCRETE DRIVEWAY	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	REMOVE BITUMINOUS PAVEMENT	REMOVE CURB & GUTTER	SALVAGE AND INSTALL MAILBOX	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	CLEARING & GRUBBING	CLEARING & GRUBBING	SALVAGE & INSTALL SIGN TYPE SPECIAL	SALVAGE & INSTALL SIGN TYPE C	REMOVE PIPE CULVERTS	REMOVE PIPE APRON
	SQ FT	SQ FT	SQ FT	SQ FT	SQ YD	LIN FT	EACH	LIN FT	EACH	ACRE	EACH	EACH	LN FT	EACH
BABCOCK TRAIL														
101+50 TO 111+48	141			2212	800	55	10	2027	7	0.08		2		
111+48 TO 124+25			355	1773	1342	49	10	3358			2	1	162	10
124+25 TO 137+07		141	1868	3400	1651	24	13	4671	2	0.25	4	10	267	18
137+07 TO 149+92		646		630	57	223		161	18	0.25	2	1		
149+92 TO 160+00						130			2	0.15		1		
TOTAL	141	787	2223	8015	3950	481	33	10217	29	0.74	8	15	429	28

BITUMINOUS & AGGREGATE TABULATION — B

LOCATION	BITUMINOUS			AGGREGATE
	TYPE SP 9.5 WEARING COURSE MIX (SPWEA340C)	TYPE SP 12.5 NON-WEARING COURSE MIX (SPNWB330B)	3" BITUMINOUS WALK	AGGREGATE BASE (CV) CLASS 5
	TON	TON	SQ FT	CU YD
BABCOCK TRAIL				
101+50 TO 111+48	100	85	9651	271
111+48 TO 124+25	130	140	10831	391
124+25 TO 137+07	195	196	11624	572
137+07 TO 149+92	18	7	12490	35
149+92 TO 160+00			9672	
TOTAL	442	427	54269	1268

CONCRETE TABULATION — C

LOCATION	CURB AND GUTTER DESIGN B624	4" CONCRETE WALK	6" CONCRETE WALK	6" CONCRETE DRIVEWAY PAVEMENT	TRUNCATED DOMES
	LIN FT	SQ FT	SQ FT	SQ YD	SQ FT
BABCOCK TRAIL					
101+50 TO 111+48	1048	62	239		32
111+48 TO 124+25	1748	1933	1335	27	148
124+25 TO 137+07	2421	7072	932	153	96
137+07 TO 149+92	295	6103	1484		112
149+92 TO 160+00	62	503	321		56
TOTAL	5574	15672	4311	180	444

TURF ESTABLISHMENT & EROSION CONTROL TABULATION — D

LOCATION	SEED MIXTURE 25-151 120 LBS/ACRE	FERTILIZER TYPE 3 (22-5-10) 350 LBS/ACRE	STORM DRAIN INLET PROTECTION	CULVERT END CONTROLS	SODDING TYPE LAWN	SEDIMENT CONTROL LOG TYPE WOOD FIBER	SILT FENCE, TYPE MS
	POUND	POUND	EACH	EACH	SQ YD	LIN FT	LIN FT
BABCOCK TRAIL							
101+50 TO 111+48			3	1	2023		2452
111+48 TO 124+25			8		2130	270	2093
124+25 TO 137+07	12	35	14		3674	211	1238
137+07 TO 149+92	80	235	1				
149+92 TO 160+00	22	66				481	8444
TOTAL	114	337	26	1	7826	961	14226

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW J. PLOWMAN, PE
DATE: 6/7/2017 LICENSE NO. 44705

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

TABULATED QUANTITIES

SHEET 5 OF 47 SHEETS

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EARTHWORK TABULATION E

STATION	EXCAVATION		EMBANKMENT			
	EXCAVATION - COMMON		COMMON EMBANKMENT		BOULEVARD TOPSOIL BORROW	
	AREA SF	VOLUME CY	AREA SF	VOLUME CY	AREA SF	VOLUME CY
BABCOCK TRAIL						
102+00	14		17		5	
103+00	16	56	26	80	7	22
104+00	19	64	37	117	9	30
105+00	31	93	247	525	25	63
106+00	18	92	54	556	10	63
107+00	13	58	9	116	4	26
108+00	15	52	3	23	3	14
109+00	5	37	20	43	4	14
110+00	17	40	78	181	9	25
111+00	17	64	37	212	9	34
112+00	17	64	42	147	8	32
113+00	16	62	4	86	4	22
114+00	15	58	14	34	5	17
115+00	22	69	50	119	12	32
116+00	19	76	56	196	10	40
117+00	16	66	43	183	7	32
118+00	15	58	13	105	5	23
119+00	15	57	43	105	7	22
120+00	14	55	22	121	7	26
121+00	15	53	24	86	4	21
122+00	23	71	46	130	10	28
123+00	29	96	29	138	9	36
124+00	24	98	79	199	14	43
125+00	22	85	17	215	9	44
126+00	22	81	70	198	11	38
127+00	22	82	52	225	12	44
128+00	26	89	64	261	13	47
129+00	40	123	54	255	17	56
130+00	47	163	111	305	28	84
131+00	27	138	68	332	14	79
132+00	30	106	138	382	20	65
133+00	32	115	108	455	17	69
134+00	17	92	12	222	8	45
135+00	118	268	51	117	27	66
136+00	42	297	135	342	23	92
137+00	68	204	35	313	16	72
138+00	35	191	41	142	16	60
139+00	59	174	77	219	24	74
140+00	62	225	163	445	38	114
141+00	79	261	53	400	30	127
142+00	77	289	23	140	23	98
143+00	111	350	28	94	28	94
144+00	105	400	25	99	25	99
145+00	89	359	72	184	35	113
146+00	96	344	151	416	33	127
147+00	246	633	93	456	34	124
148+00	94	529	33	237	21	102
149+00	62	289	39	133	18	73
150+00	61	228	16	102	16	65
151+00	34	176	11	51	11	51
152+00	20	101	29	67	14	47
153+00	36	103	15	74	15	55
154+00	25	113	40	103	13	52
155+00	34	111	15	102	15	51
156+00	7	78	15	54	5	37
157+00	42	93	16	58	16	40
158+00	20	117	4	39	4	39
159+00	18	72	5	18	5	18
SUBTOTAL (BABCOCK TRAIL)		8602		10747		3124

NOTES:

1. PLACING, HAULING AND DISPOSING OF EXCAVATED MATERIALS IS CONSIDERED INCIDENTAL.
2. PAVEMENT REMOVAL HAS BEEN SUBTRACTED FROM THE COMMON EXCAVATION QUANTITIES. THE ASSUMED PAVEMENT DEPTH ON BABCOCK TRAIL IS 5".
3. ALL STOCKPILE AREAS SHALL BE APPROVED BY THE ENGINEER.
4. EXCESS SOILS NOT USED ON THE PROJECT SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE OF THE RIGHT OF WAY. NO DIRECT COMPENSATION WILL BE PAID FOR THE PREPARATION OF AN ACCEPTABLE DISPOSAL PLAN OR FOR OFF-PROJECT DISPOSAL OF EXCESS MATERIALS. DISPOSAL SITES SHALL BE LEFT IN A WELL GRADED CONDITION WITH ALL SOLID WASTES AND BOULDERS ADEQUATELY COVERED.
5. UNLESS DIRECTED OTHERWISE BY THE PROJECT ENGINEER, ANY MATERIAL THAT IS FOUND TO BE UNNECESSARY FOR THE CONSTRUCTION OF THE ROADWAY EMBANKMENT AND DISPOSAL OF SAME BECOMES NECESSARY, ON OR OFF THE PROJECT, THE DISPOSAL AND ALL RELATED ITEMS WILL BE CONSIDERED INCIDENTAL.

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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

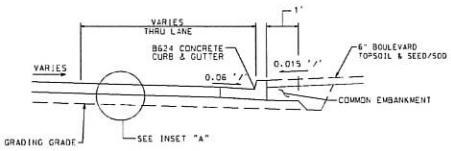
ANDREW PLOWMAN, PE
DATE: 8/2/2017 LICENSE NO. 46701

CITY OF INVER GROVE HEIGHTS

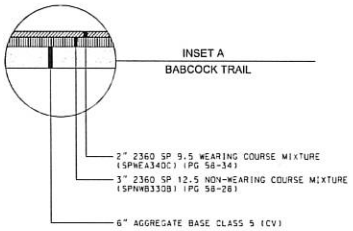
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
EARTHWORK TABULATION

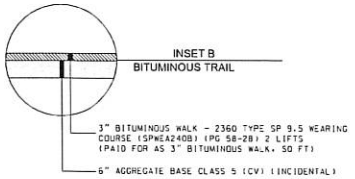
SHEET 6 OF 47 SHEETS



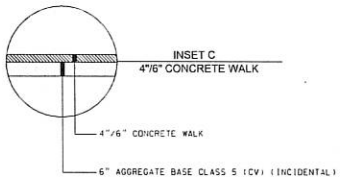
DETAIL A
CURB AND GUTTER



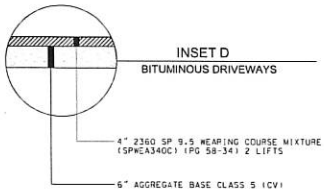
INSET A
BABCOCK TRAIL



INSET B
BITUMINOUS TRAIL



INSET C
4"/6" CONCRETE WALK



INSET D
BITUMINOUS DRIVEWAYS

NOTES:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE PROJECT. THIS MATERIAL SHALL BE PLACED ON BACK SLOPES.
2. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE NOTED.
3. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
4. CLEAR ZONE SHALL BE AT LEAST 2 FEET ON EACH SIDE OF TRAIL. NO OBSTRUCTIONS SHALL BE PLACED WITHIN THIS ZONE.

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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW J. PLOWMAN, PE
DATE: 8/7/2017 LICENSE NO. 46703

WSB

CITY OF INVER GROVE HEIGHTS

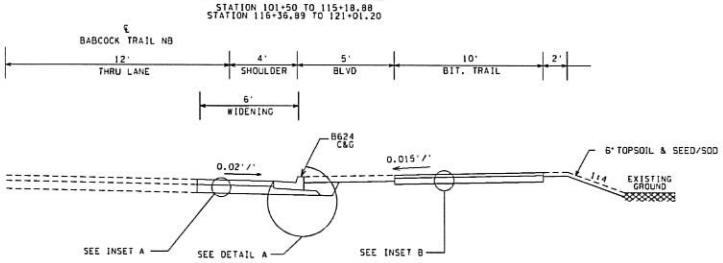
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
TYPICAL SECTIONS

SHEET 7 OF 47 SHEETS

BABCOCK TRAIL (CO. RD. 73)

STATION 101+50 TO 115+18.88
STATION 116+36.89 TO 121+01.20

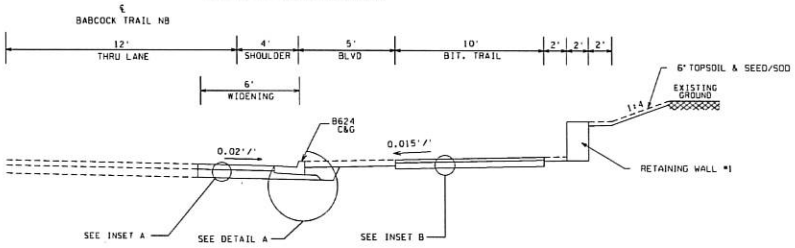


NOTES:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE PROJECT. THIS MATERIAL SHALL BE PLACED ON BACK SLOPES.
2. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE NOTED.
3. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
4. CLEAR ZONE SHALL BE AT LEAST 2 FEET ON EACH SIDE OF TRAIL. NO OBSTRUCTIONS SHALL BE PLACED WITHIN THIS ZONE.

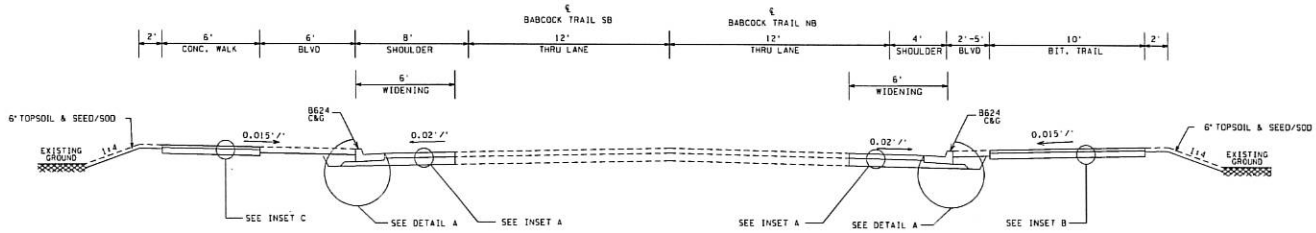
BABCOCK TRAIL (CO. RD. 73)

STATION 115+18.88 TO 116+36.89



BABCOCK TRAIL (CO. RD. 73)

STATION 121+01.20 TO 129+31.15
STATION 130+33.33 TO 132+38.66



DATE: 8/14/2017 10:32:25 AM
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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.
ANDREW PLOWMAN, PE
DATE: 8/7/2017 LICENSE NO. 46201

WSB

CITY OF INVER GROVE HEIGHTS

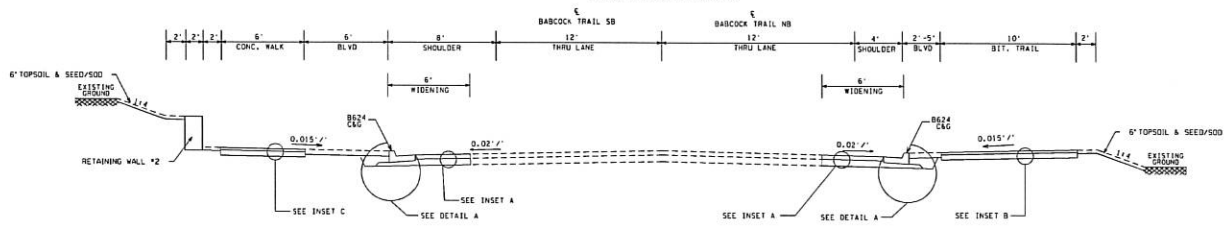
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

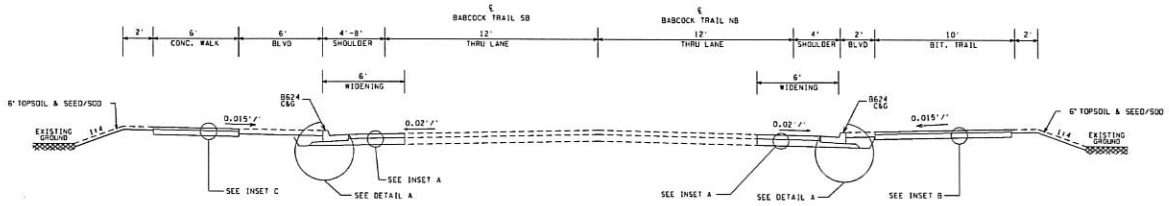
TYPICAL SECTIONS

SHEET 8 OF 47 SHEETS

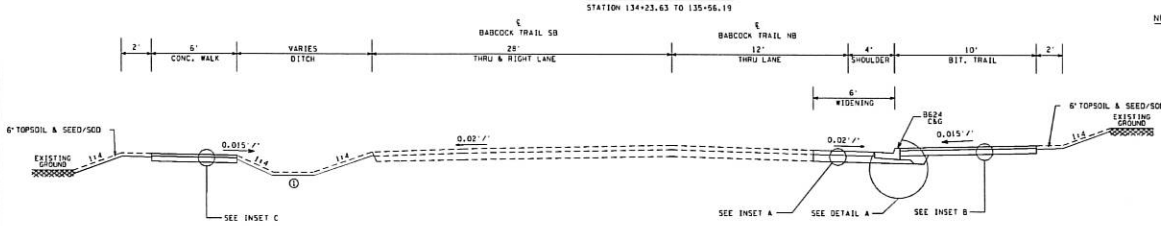
BABCOCK TRAIL (CO. RD. 73)
STATION 129+31.15 TO 130+33.33



BABCOCK TRAIL (CO. RD. 73)
STATION 132+38.66 TO 134+23.63



BABCOCK TRAIL (CO. RD. 73)
STATION 134+23.63 TO 135+56.19



NOTES:

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2. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE NOTED.
3. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
4. CLEAR ZONE SHALL BE AT LEAST 2 FEET ON EACH SIDE OF TRAIL. NO OBSTRUCTIONS SHALL BE PLACED WITHIN THIS ZONE.

① SEE CROSS-SECTIONS FOR EXACT DITCH ELEVATIONS.

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE: 8/3/2017 LICENSE NO. 44701

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

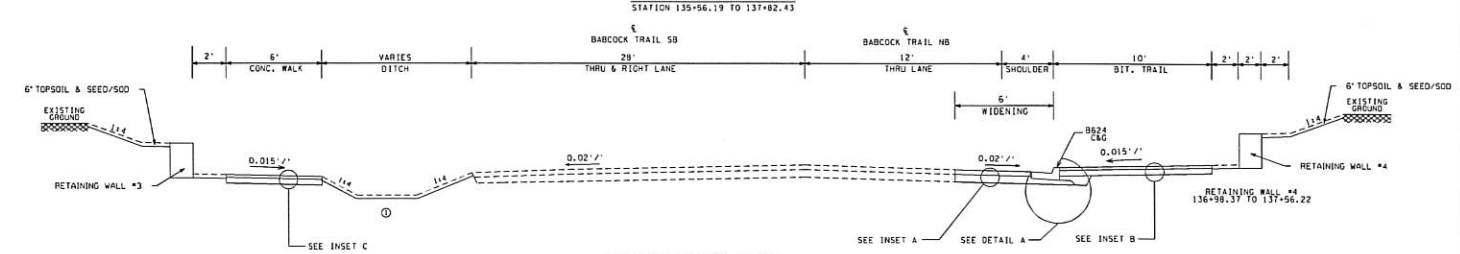
CITY OF INVER GROVE HEIGHTS, MN

TYPICAL SECTIONS

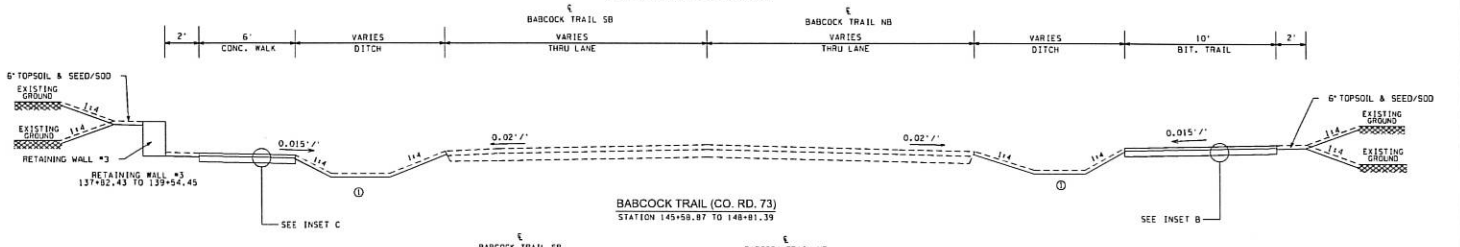
SHEET 9 OF 47 SHEETS

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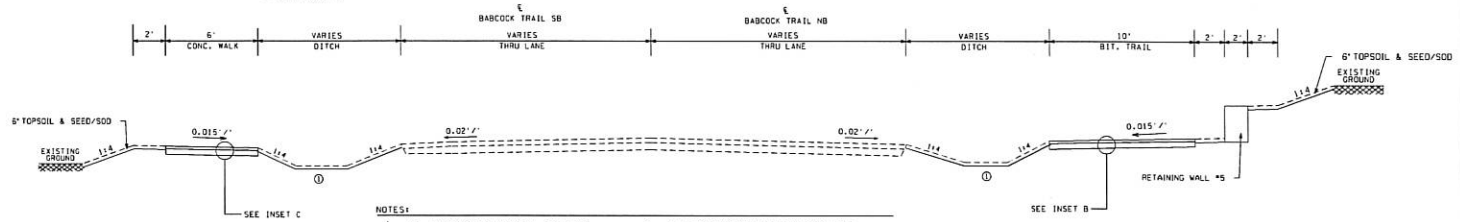
BABCOCK TRAIL (CO. RD. 73)
STATION 135+56.19 TO 137+82.43



BABCOCK TRAIL (CO. RD. 73)
STATION 137+82.43 TO 145+58.87
STATION 148+81.39 TO 151+00.72



BABCOCK TRAIL (CO. RD. 73)
STATION 145+58.87 TO 148+81.39



NOTES:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE PROJECT. THIS MATERIAL SHALL BE PLACED ON BACK SLOPES.
2. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE NOTED.
3. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER. ALL CONCRETE AND BITUMINOUS REMOVAL MUST BE DISPOSED OF OFF-SITE. REMOVAL AND DISPOSAL OF EXCESS MATERIAL SHALL BE INCIDENTAL.
4. CLEAR ZONE SHALL BE AT LEAST 2 FEET ON EACH SIDE OF TRAIL. NO OBSTRUCTIONS SHALL BE PLACED WITHIN THIS ZONE.

① SEE CROSS-SECTIONS FOR EXACT DITCH ELEVATIONS.

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW P. CUMMINS, PE
DATE: 8/7/2017 LICENSE NO. 46705

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

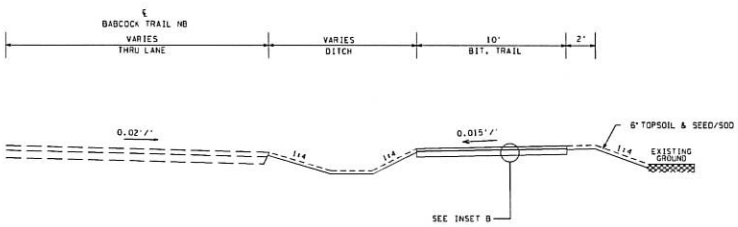
CITY OF INVER GROVE HEIGHTS, MN
TYPICAL SECTIONS

SHEET 10 OF 47 SHEETS

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BABCOCK TRAIL (CO. RD. 73)

STATION 151+00.72 TO 160+00



NOTES:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE PROJECT. THIS MATERIAL SHALL BE PLACED ON BACK SLOPES.
2. ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE PAVEMENT UNLESS OTHERWISE NOTED.
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4. CLEAR ZONE SHALL BE AT LEAST 2 FEET ON EACH SIDE OF TRAIL. NO OBSTRUCTIONS SHALL BE PLACED WITHIN THIS ZONE.

(1) SEE CROSS-SECTIONS FOR EXACT DITCH ELEVATIONS.

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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE 8/4/2017 LICENSE NO. 44302

WSB

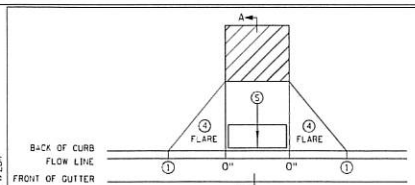
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

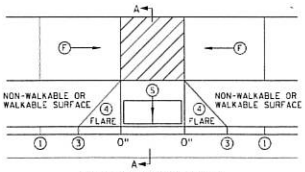
CITY OF INVER GROVE HEIGHTS, MN

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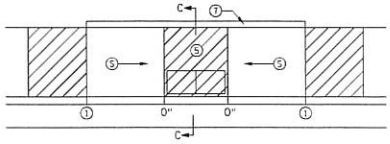
SHEET 11 OF 47 SHEETS



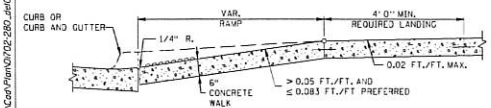
PERPENDICULAR



TIERED PERPENDICULAR

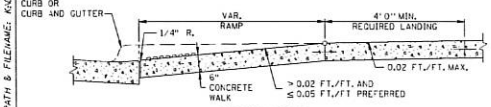


PARALLEL



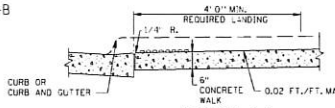
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



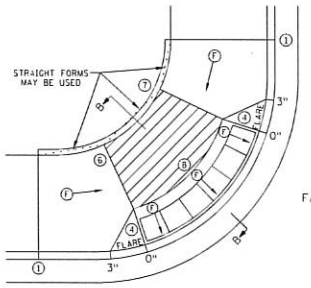
SECTION B-B

FAN

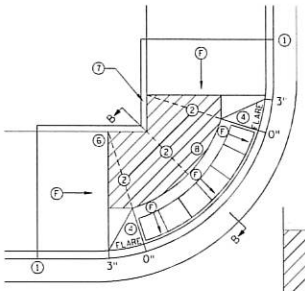


SECTION C-C

PARALLEL/DEPRESSED CORNER

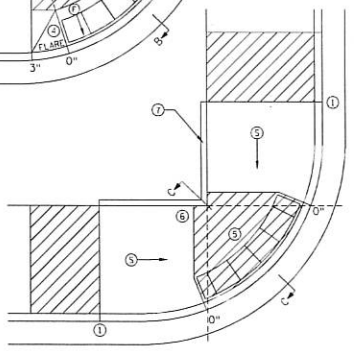


FAN⑩

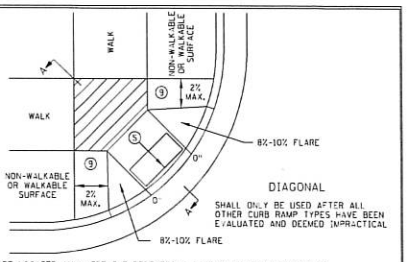


MODIFIED FAN⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 3%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR, 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, EXCEPT AS STATED IN (5) BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

(1) MATCH FULL HEIGHT CURB.
(2) 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
(3) 3" HIGH CURB WHEN USING A 3' LONG RAMP. 4" HIGH CURB WHEN USING A 4' LONG RAMP.
(4) SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
(5) DETECTABLE WARNINGS MAY BE PART OF THE 4'X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
(6) THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
(7) WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
(8) A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
(9) PAVE FULL WALK WIDTH.
(10) "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED:

STATE DESIGN ENGINEER

1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 1 OF 6)

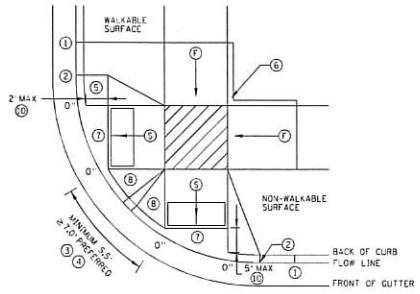
SHEET NO. 12 OF 47

PLOTTED/REVISED: 8/4/2017

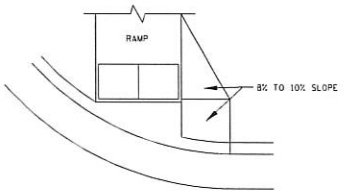
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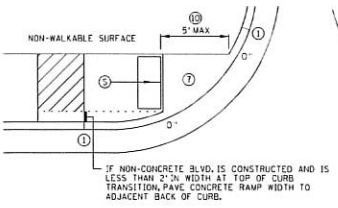
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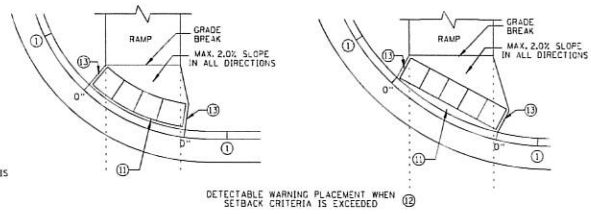
COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE



STANDARD ONE-WAY DIRECTIONAL ⑨



ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR, 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

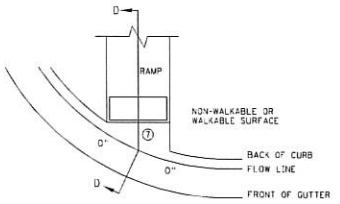
WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

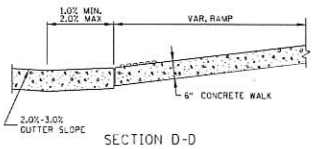
4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑫ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

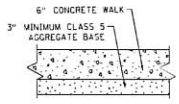
① MATCH FULL CURB HEIGHT.
② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.
⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
⑧ 8% TO 10% WALKABLE FLARE.
⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

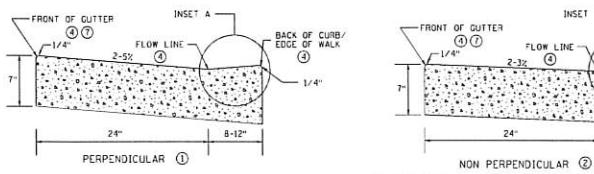
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

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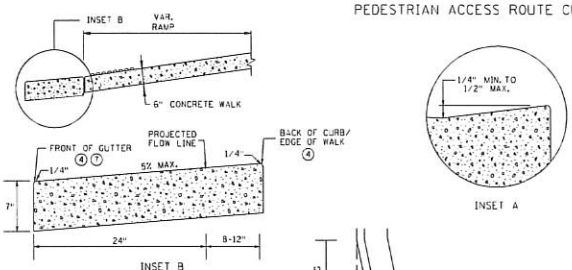
PEDESTRIAN CURB RAMP DETAILS
STANDARD PLAN 5-297.250 (SHEET 2 OF 6)
SHEET NO. 13 OF 47

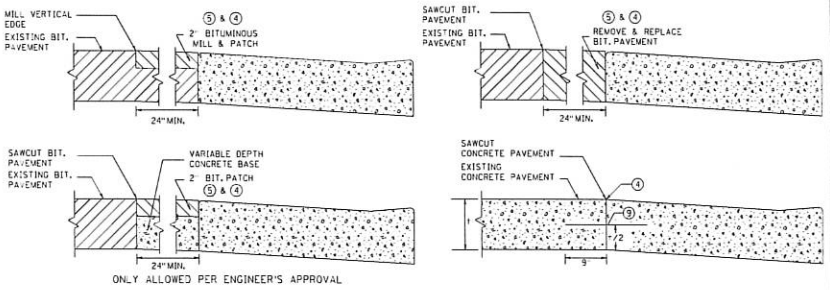


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB

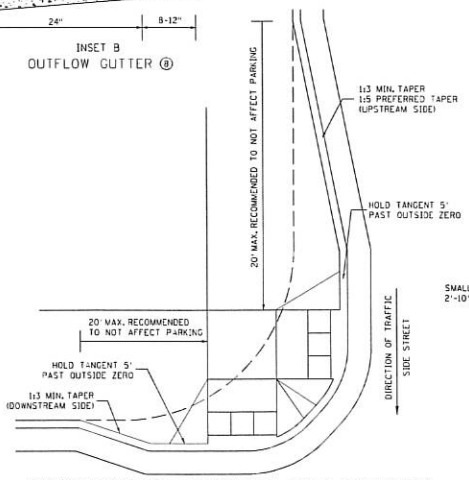
CONCRETE SILL TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



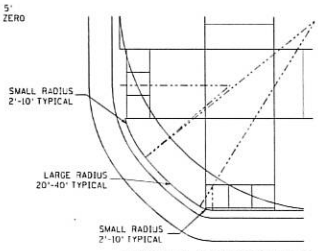


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



COMBINED DIRECTIONAL ⑩ (COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1" MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

⑰ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑲ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

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PEDESTRIAN CURB RAMP DETAILS

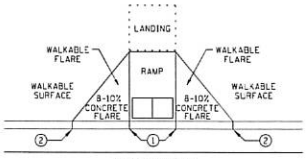
STANDARD PLAN 5-297.250 (SHEET 3 OF 6)

SHEET NO. 14 OF 47

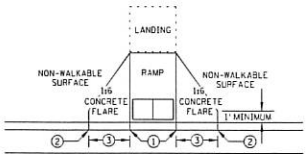
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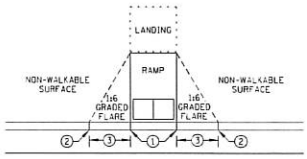
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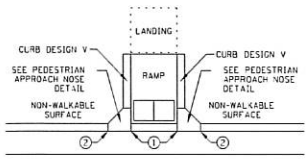
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

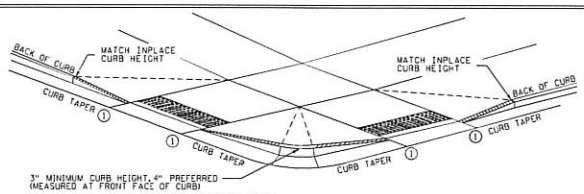


GRADED FLARES

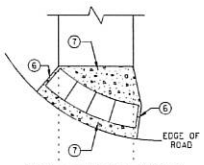


RETURNED CURB ⑤

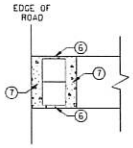
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

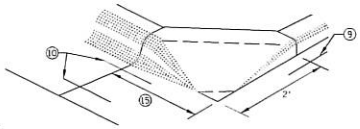


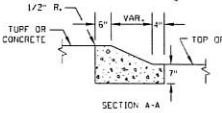
RADIAL DETECTABLE WARNING



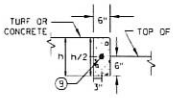
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

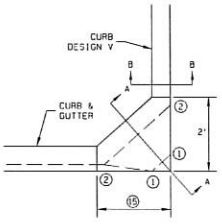




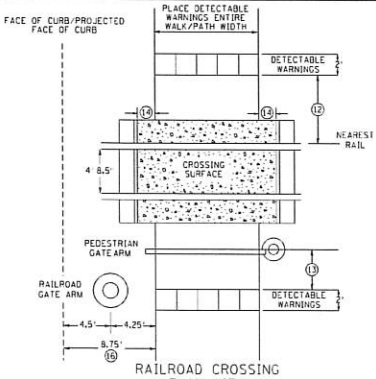
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑨ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3' OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑩ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑪ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

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PEDESTRIAN CURB RAMP DETAILS

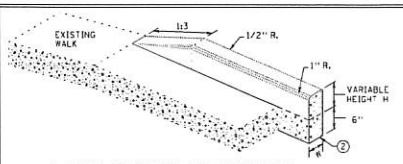
STANDARD PLAN 5-297.250 (SHEET 4 OF 6)

SHEET NO. 15 OF 47

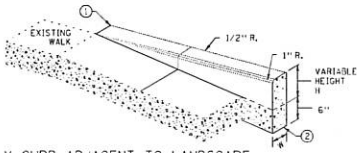
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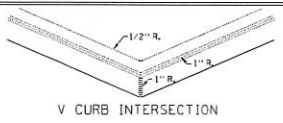
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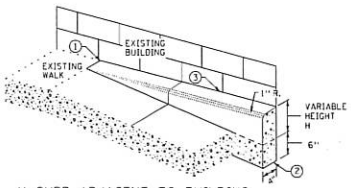
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

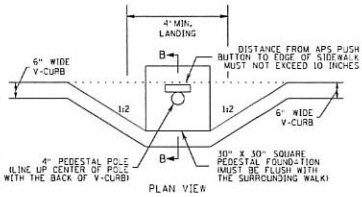


V CURB INTERSECTION

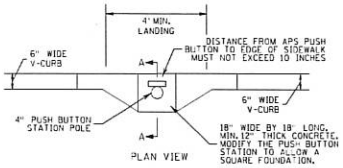


V CURB ADJACENT TO BUILDING OR BARRIER

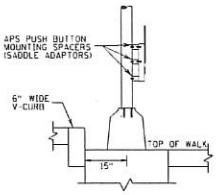
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"



PLAN VIEW

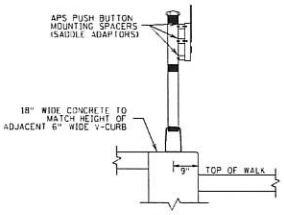


PLAN VIEW



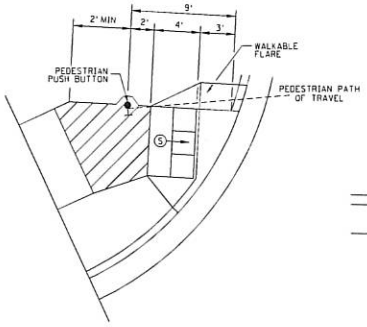
SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

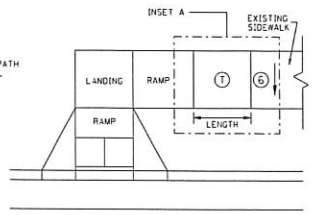
PUSH BUTTON STATION (V-CURB)

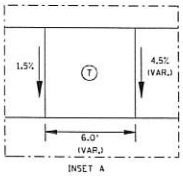


SEMI-DIRECTIONAL RAMP (3,4,9)

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAIR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)





TRANSITION PANEL ④⑤

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

① TRANSITION PANELISH - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

REVISED:
APPROVED: 1-23-2017
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 5 OF 6)

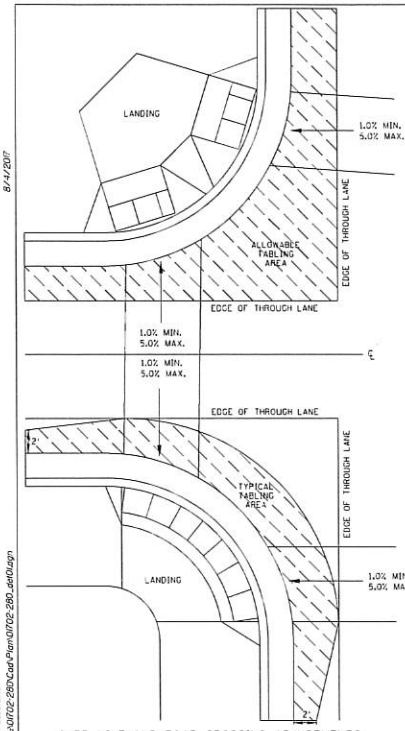
SHEET NO. 16 OF 47

PLOTTED/REVISED: 8/4/2017
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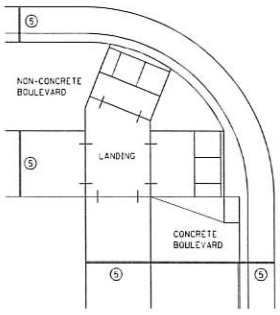
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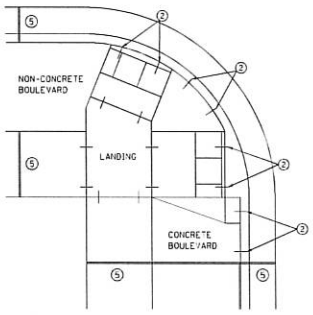
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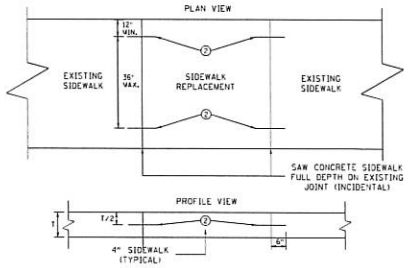
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

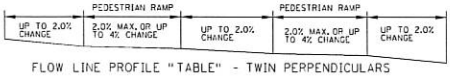


OPTIONAL CURB LINE REINFORCEMENT ④ PLACEMENT ON BITUMINOUS ROADWAYS

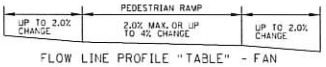


OPTIONAL SIDEWALK REINFORCEMENT

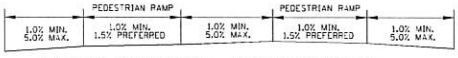
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



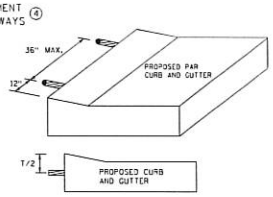
FLOW LINE PROFILE "TABLE" - FAN



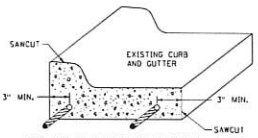
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



FLOW LINE PROFILE RAISE - FAN

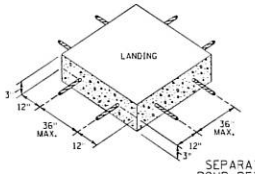


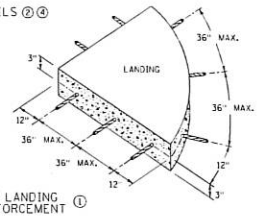
OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④



FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③





SEPARATE LANDING POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:
1) 1.0% MIN. AND 5.0% MAXIMUM CROSS SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE ON EITHER SIDE OF PEDESTRIAN RAMP TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:
① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

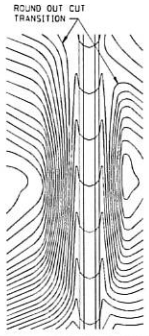
REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

REVISED:
APPROVED:
STATE DESIGN ENGINEER
1-23-2017

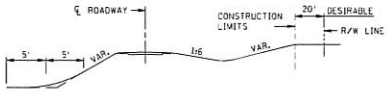
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 (SHEET 6 OF 6)

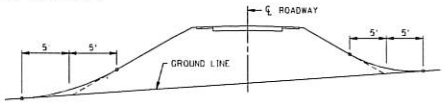
SHEET NO. 17 OF 47



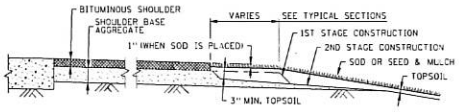
CONTOURING ROAD CUTS



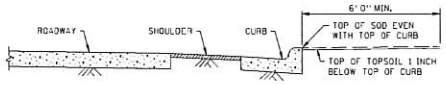
ROUNDING SHOULDERS AND BACKSLOPES



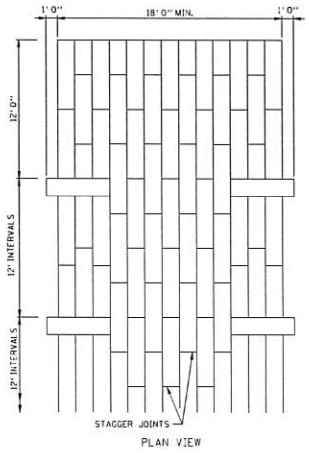
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



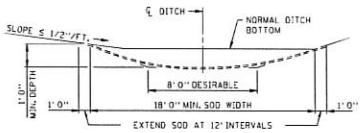
SHAPING AND TOPSOILING INSLOPES



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

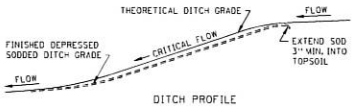


PLAN VIEW



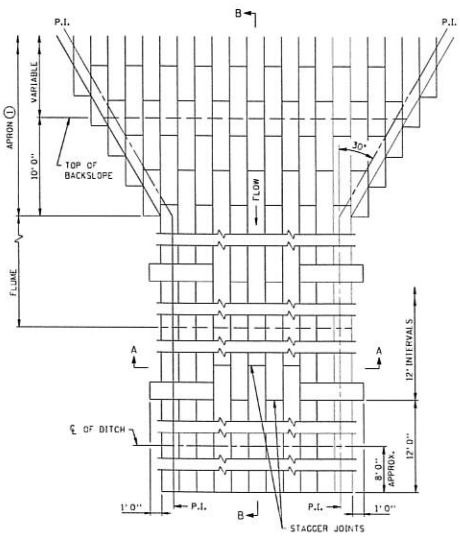
SODDED DITCH CROSS SECTION

WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.

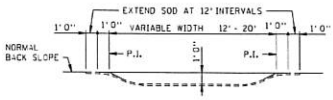


DITCH PROFILE

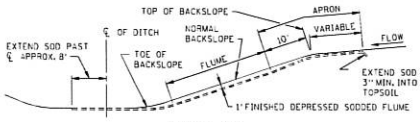
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

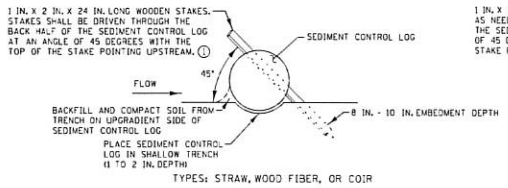
NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:
APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

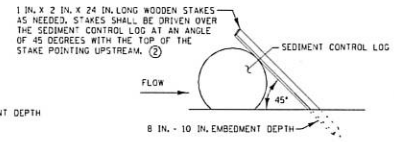
MINNESOTA DEPARTMENT OF TRANSPORTATION
REVISED:
STATE DESIGN ENGINEER
APPROVED: 2-28-2017

PERMANENT EROSION CONTROL
STANDARD PLAN 5-297.404 (SHEET 1 OF 1)
SHEET NO. 18 OF 47

PLOTTED/REVISED: 8/4/2017
DISTRICT *: MnDOT DISTRICT
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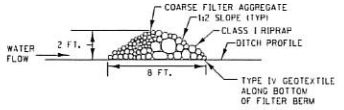


TYPES: STRAW, WOOD FIBER, OR COIR

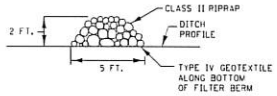


TYPES: WOOD CHIP, COMPOST, OR ROCK

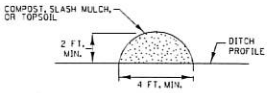
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

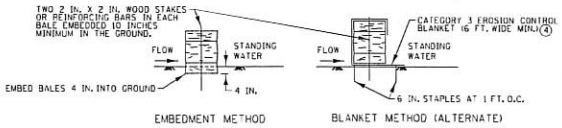


TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

FILTER BERMS



EMBEDMENT METHOD BLANKET METHOD (ALTERNATE)

BALE BARRIERS (3)

NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

(1) SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.

(2) PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.

(3) TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.

(4) INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

PLOTTED/REVISED: 8/4/2017

DISTRICT: METRO DISTRICT
USER NAME: WSB & Associates
PATH & FILENAME: K:\Oh702\280\Cad\Plan\Oh702-280_det03.dgn

FILE NAME: Oh702-280_det03.dgn

REVISIONS
APPROVED: 2-28-2017
DISTRICT ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

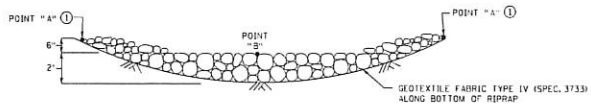
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APPROVED: 2-28-2017

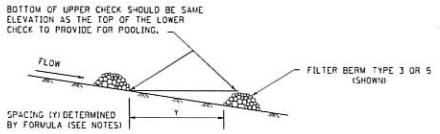
TEMPORARY SEDIMENT CONTROL

STANDARD PLAN 5-297.405 (SHEET 2 OF 7)

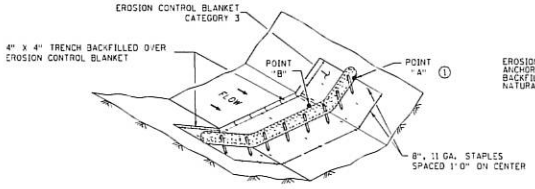
SHEET NO. 19 OF 47

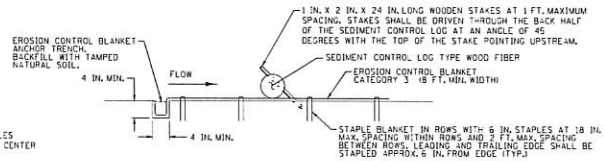


ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ②③
(FOR USE ON ROUGH GRADED AREAS)

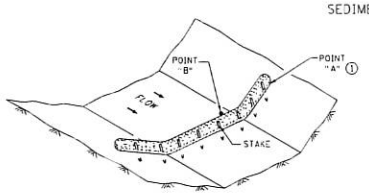


DITCH CHECK SPACING
(FOR ALL FILTER BERM TYPES)





SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤
(FOR USE ON ROUGH GRADED AREAS)

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

APPROXIMATE SPACING OF DITCH CHECKS (FT.) = Y = $\frac{\text{DITCH CHECK HEIGHT (FT)}}{\text{\% CHANNEL SLOPE}} \times 100$

① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..

⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 2-28-2017

TEMPORARY SEDIMENT CONTROL

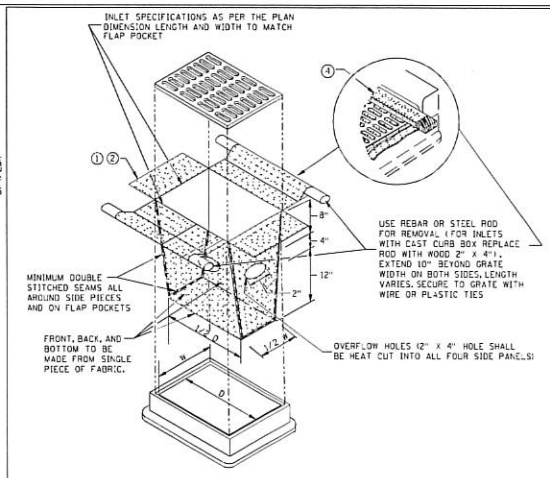
STANDARD PLAN 5-297.405 (SHEET 3 OF 7)

SHEET NO. 20 OF 47

PLOTTED/REVISED: 8/4/2017

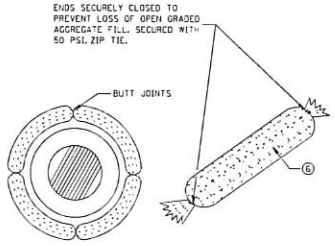
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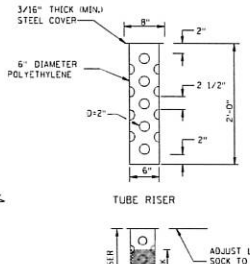


FILTER BAG INSERT ③

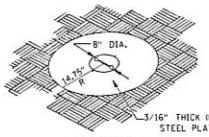
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



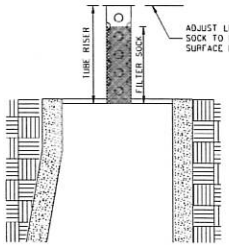
ROCK LOG/COMPOST LOG



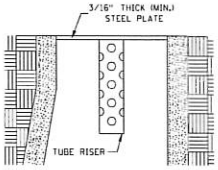
TUBE RISER



PERSPECTIVE VIEW

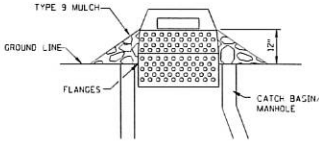


SECTION
(UP POSITION)



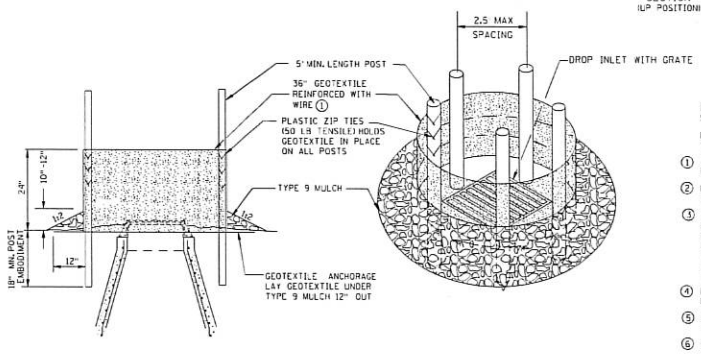
SECTION
(DOWN POSITION)

POP-UP HEAD



SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.

② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.

④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.

⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.

⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER, SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

APPROVED: 2-28-2017

STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

STANDARD PLAN 5-297.405 (SHEET 4 OF 7)

SHEET NO. 21 OF 47

PLOTTED/REVISED: 8/4/2017

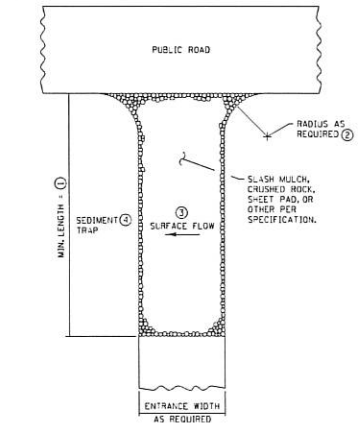
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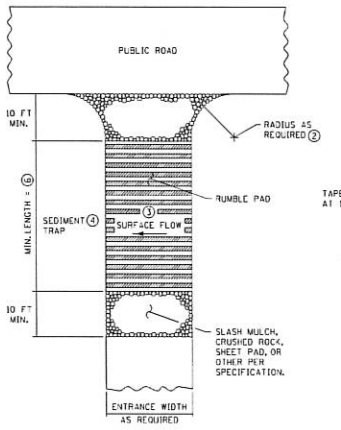
PLOTTED/REVISED:
8/4/2017

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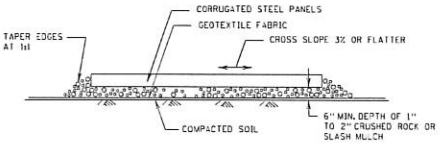
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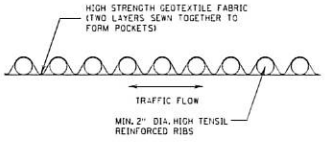
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



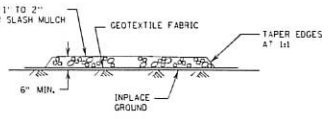
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

(1) MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

(2) PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

(3) IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

(4) IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

(5) IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

(6) MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

(7) MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION#:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

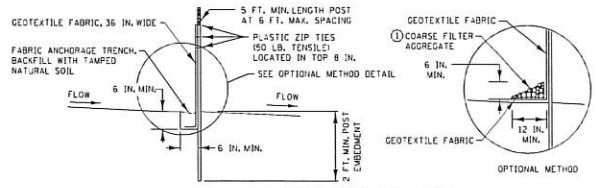
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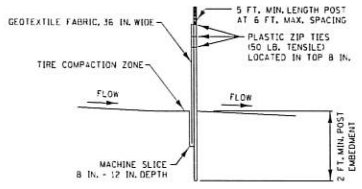
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TEMPORARY SEDIMENT CONTROL

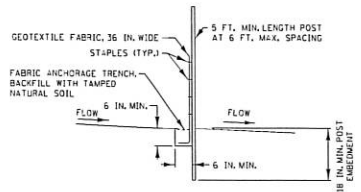
STANDARD PLAN 5-297.405 (SHEET 5 OF 7)



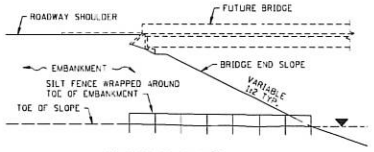
SILT FENCE TYPE HI ②
(HAND INSTALLED)



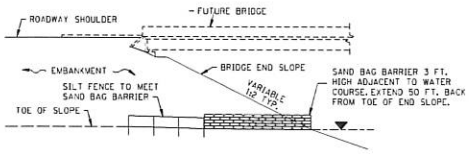
SILT FENCE TYPE MS ②
(MACHINE SLICED)



SILT FENCE TYPE PA ③
(PREASSEMBLED)

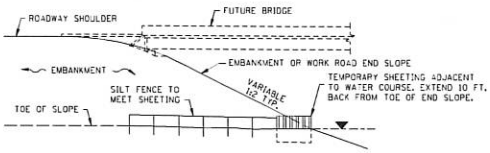


SILT FENCE ONLY ④

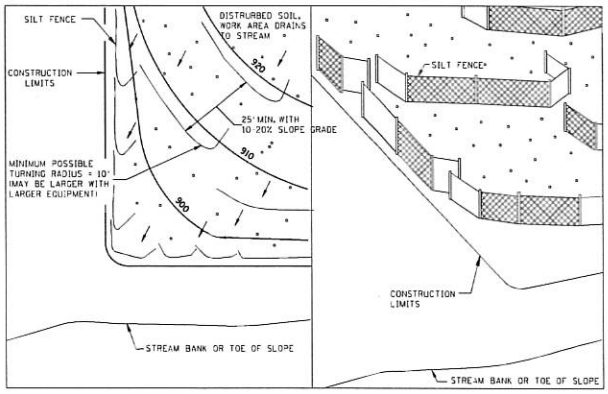


SILT FENCE WITH SAND BAGS ⑤

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



SILT FENCE WITH SHEETING ⑥



PLAN VIEW PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:
SEE SPECS. 2573, 3149 & 3886.
① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.
③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.
④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.
⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.
⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:
APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:
APPROVED: 2-28-2017
STATE DESIGN ENGINEER

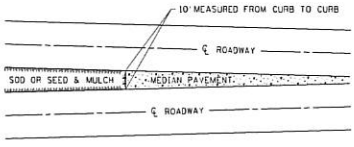
TEMPORARY SEDIMENT CONTROL
STANDARD PLAN 5-297.405 (SHEET 6 OF 7)
SHEET NO. 23 OF 47

PLOTTED/REVISED: 8/4/2017
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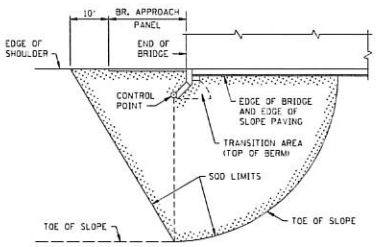
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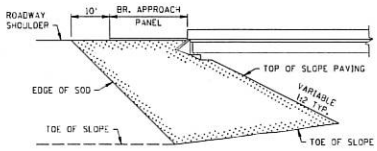
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SODDING LIMITS AT GORE AREA

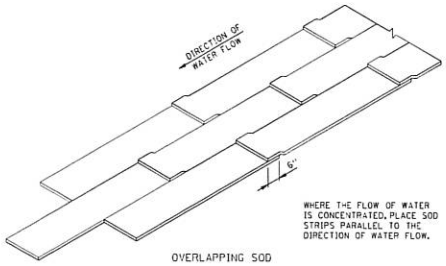


PLAN

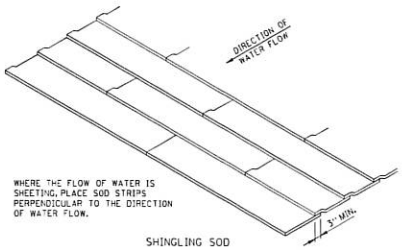


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

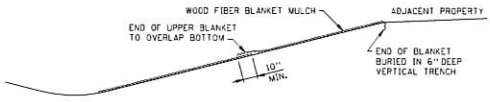


OVERLAPPING SOD

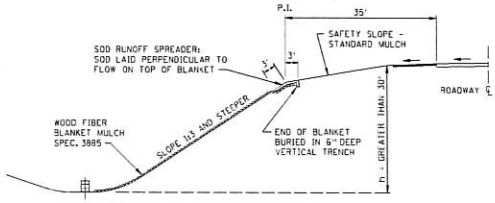


SHINGLING SOD

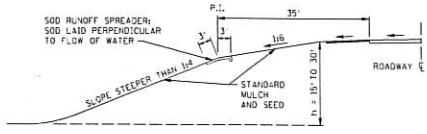
SPECIAL SOD PLACEMENT TECHNIQUES



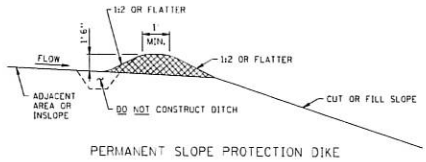
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



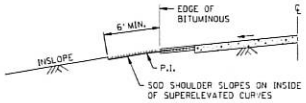
WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE



SODDING INSLOPES OF SUPERELEVATED CURVES

REVISION:
APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

REVISED:
APPROVED: 8-6-2014
STATE DESIGN ENGINEER

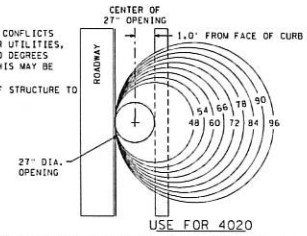
PERMANENT SEDIMENT CONTROL
STANDARD PLAN 5-297.406 (SHEET 1 OF 1)
SHEET NO. 24 OF 47

TABLE A

4020 DIAMETER	*OFFSET FEET
48"	0.79
54"	1.08
60"	1.29
66"	1.58
72"	1.79
78"	2.08
84"	2.29
90"	2.58
96"	2.88
102"	3.17
108"	3.29
120"	3.79

WHERE THE 4020 DIAMETER CONFLICTS WITH OTHER STRUCTURES OR UTILITIES, ROTATE THE STRUCTURE 180 DEGREES TO PROVIDE CLEARANCE. THIS MAY BE ADJUSTED IN THE FIELD.

* OFFSET IS FROM CENTER OF STRUCTURE TO CENTER OF OPENING.

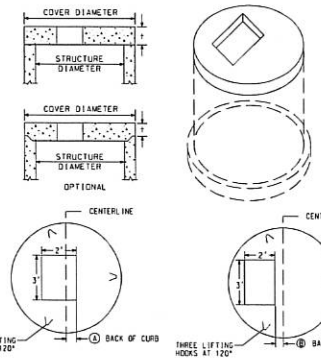


USE FOR 4020

THE FOLLOWING PLACEMENT LOCATIONS SHALL BE USED WITH CONCRETE CURB AND GUTTER.

1. THE CENTER OF GRATE STATION AND OFFSET LOCATION IS GIVEN IN THE DRAINAGE TABULATION
2. THE OFFSET FROM THE CENTER OF STRUCTURE TO THE CENTER OF GRATE IS GIVEN IN TABLE "A" TO THE LEFT FOR 4020 STRUCTURES. OFFSET FOR 4005 STRUCTURES IS 0.9 FT.
3. THE CENTER OF OPENING IS 1.0' TOWARD THE ROADWAY FROM THE FACE OF CURB.
4. THE STRUCTURES THAT HAVE STEPS SHALL BE LOCATED ON THE ROADSIDE OF THE 27" OPENING AND MUST BE EASILY ACCESSIBLE. THE STEP LOCATION MAY NEED TO BE ADJUSTED IF THERE IS A LARGE PIPE DIRECTLY BELOW THE OPENING.

STRUCTURE LOCATION
NO SCALE



FOR 48" - 66" STRUCTURE DIAMETER

FOR 72" - 120" STRUCTURE DIAMETER

MANHOLE TOP SLAB WITH OFF-SET 2'X3' HOLE

STRUCTURE DIAMETER (IN)	COVER DIAMETER (IN)	MINIMUM t (IN)	A (IN)	B (IN)	WEIGHT OF COVER (LBS)
48	58	6.0	9.9		930
54	65	8.0	6.0		1710
60	72	8.0	3.3		2230
66	79	8.0	0.0		2810
72	86	8.0		3.0	3440
78	93	8.0		6.0	4120
84	100	8.0		9.0	4860
90	108	8.0		12.0	5760
96	114	8.0		15.0	6490
102	120	8.0		18.0	7260
108	126	12.0		21.0	12100
120	144	12.0		24.0	16100

4022 TOP SLAB WITH RECTANGULAR OPENING
NO SCALE

STRUCTURE LOCATION
NO SCALE

NO	DATE	BY	CHK	REVISIONS

Design By:
Plan By:
Checked By:
Approved By:

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE _____

WSB

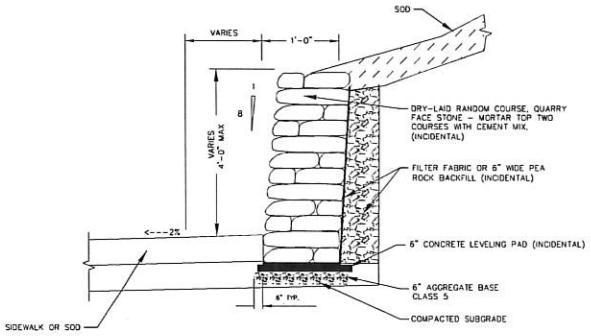
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

MISCELLANEOUS DETAILS

SHEET 25 OF 47 SHEETS



NOTES:

1. THE MINIMUM EXPOSED HEIGHT OF THE RETAINING WALL SHALL BE 12" INCHES.
2. THE NATURAL STONE RETAINING WALL SHALL BE LAID LEVEL.
3. STONE RETAINING WALL AREA IS CALCULATED AS THE TOTAL BLOCK PLACED, INCLUDING THE BURIED DEPTH - AS INDICATED IN THE PLANS. ADDITIONAL BLOCK PLACED BEYOND WHAT IS SHOWN IN THE PLANS SHALL BE APPROVED BY THE ENGINEER.

STONE RETAINING WALL

NO	DATE	BY	CHK	REVISIONS

Design By:
Plan By:
Checked By:
Approved By:

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE _____

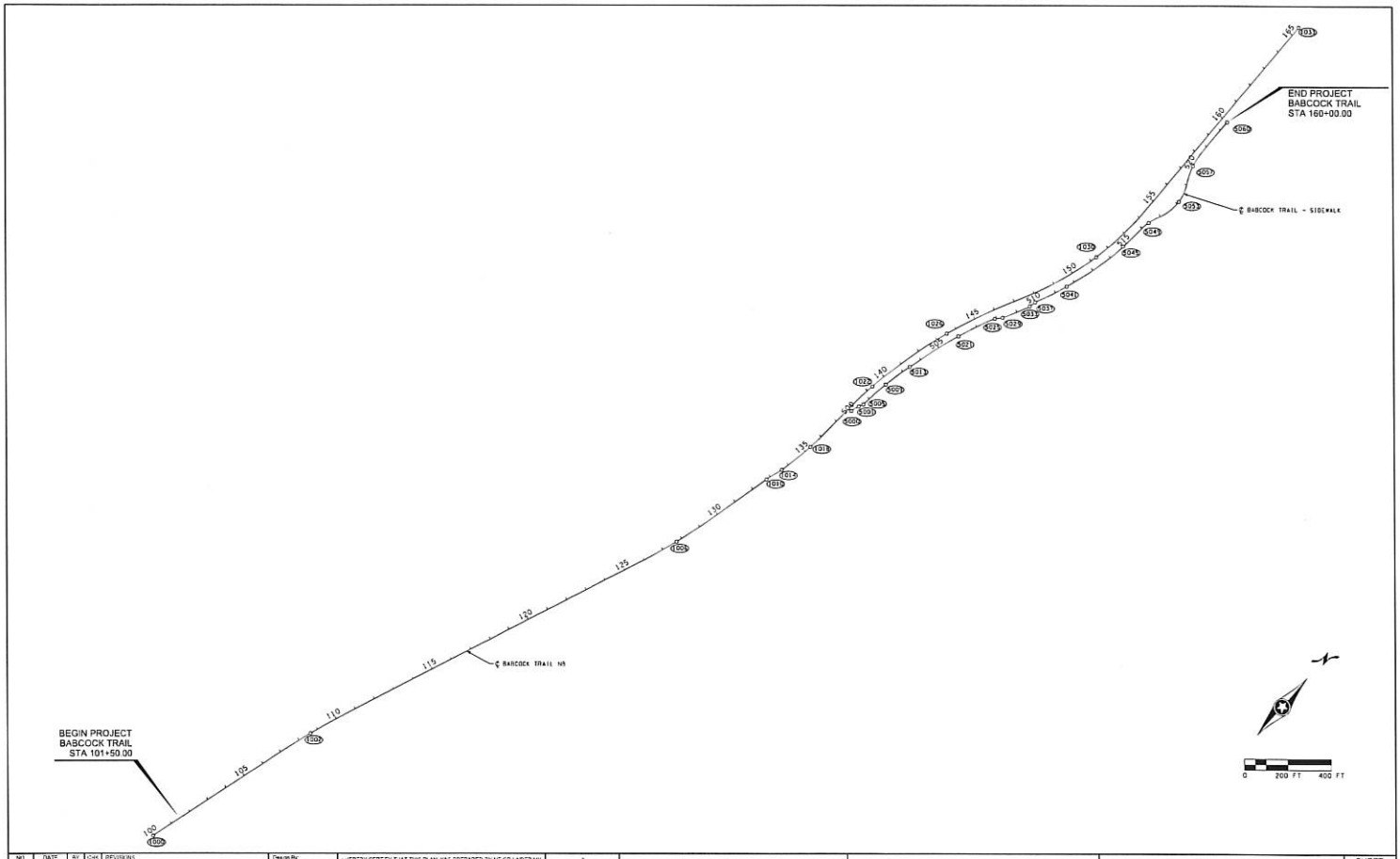
WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
STONE RETAINING WALL DETAIL
MISCELLANEOUS DETAILS

SHEET 26 OF 47 SHEETS



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOMMER, PE
DATE 8/5/2017 LICENSE NO. 44000

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
ALIGNMENT PLAN & TABULATION

SHEET 27 OF 47 SHEETS

ALIGNMENT TABULATION

CO. RD. 73 NB (BABCOCK TRAIL)

POINT NUMBER	POINT	STATION	SPIRAL CURVE DATA					COORDINATES		AZIMUTH
			ANGLE (Os)	DEGREE	ST	LT	LS	X	Y	
1000	POT	100+00.000						563,899.2421	243,915.0765	
1001	PC	106+47.842						564,063.1422	241,541.8428	14° 39' 17.10"
1002	PI	108+64.589	6° 12' 11.80" RT	1° 25' 56.62"	4,000.000'	216.747'	433.091'	564,117.9779	241,751.5385	PI
1003	CC							567,933.0136	240,529.8669	
1004	PT	110+80.912						564,195.1514	241,954.0812	20° 51' 28.90"
1005	PC	125+94.400						564,734.0341	243,368.3834	20° 51' 28.90"
1006	PI	127+73.559	8° 11' 52.84" LT	2° 17' 30.55"	2,500.000'	179.159'	357.706'	564,797.8242	243,535.8010	PI
1007	CC							562,397.8703	244,258.5173	
1008	PT	129+52.106						564,837.0896	243,710.6038	12° 33' 36.07"
1009	PC	132+60.212						564,904.6157	244,011.2190	12° 33' 36.07"
1010	PI	133+79.529	4° 22' 28.58" RT	11° 27' 32.96"	500.000'	19.097'	38.176'	564,908.8011	244,029.9518	PI
1011	CC							565,352.4586	243,901.6363	
1012	PT	132+98.388						564,914.3956	244,048.1110	17° 02' 04.64"
1013	PC	133+37.055						564,925.7232	244,085.0819	17° 02' 04.64"
1014	PI	135+62.440	5° 48' 46.14" LT	11° 27' 32.96"	500.000'	25.385'	50.726'	564,935.1597	244,309.3532	PI
1015	CC							564,447.6552	244,231.5567	
1016	PT	135+87.781						564,938.0998	244,134.2528	11° 13' 18.50"
1017	PC	136+23.320						564,945.0160	244,169.1123	11° 13' 18.50"
1018	PI	139+14.265	8° 40' 04.80" LT	4° 45' 28.73"	1,200.000'	90.945'	181.542'	564,962.7145	244,258.3182	PI
1019	CC							563,767.9586	244,402.6416	
1020	PT	136+04.862						564,966.7668	244,349.1724	2° 33' 13.71"
1021	PC	138+12.093						564,976.0025	244,556.1970	2° 33' 13.71"
1022	PI	139+32.127	9° 09' 01.67" RT	3° 49' 10.99"	1,500.000'	120.035'	239.559'	564,981.3489	244,676.1123	PI
1023	CC							566,474.5107	244,489.3606	
1024	PT	140+51.691						565,005.6991	244,793.6510	11° 42' 15.38"
1025	PC	141+29.990						565,021.5909	244,870.3608	11° 42' 15.38"
1026	PI	143+69.452	13° 35' 18.50" RT	2° 51' 53.24"	2,000.000'	239.462'	476.654'	565,070.1682	245,104.8435	PI
1027	CC							566,380.0063	244,464.6402	
1028	PT	145+06.644						565,172.7295	245,321.2304	25° 21' 33.88"
1029	PC	147+81.337						565,247.5487	245,478.0900	25° 21' 33.88"
1030	PI	151+19.804	27° 11' 23.93" LT	4° 05' 33.20"	1,400.000'	338.566'	664.377'	565,352.5549	245,785.0315	PI
1031	CC							563,982.4542	246,078.7032	
1032	PT	154+45.714						565,381.7397	246,123.4248	338° 10' 09.95"
1033	POT	165+46.548						565,346.5747	247,223.6966	

ALIGNMENT TABULATION

CO. RD. 73 (BABCOCK TRAIL) – SIDEWALK

POINT NUMBER	POINT	STATION	SPIRAL CURVE DATA					COORDINATES		AZIMUTH
			ANGLE (Os)	DEGREE	ST	LT	LS	X	Y	
5000	PC	500+00.000						564,981.3324	244,525.8258	2° 33' 13.71"
5001	PI	500+21.181	23° 55' 05.34" RT	57° 17' 44.81"	100.000'	21.181'	41.744'	564,982.2762	244,546.9853	PI
5002	CC							565,091.2331	244,521.3701	
5003	PRC	500+41.744						565,001.7174	244,565.9452	26° 28' 17.05"
5004	PRC	500+41.744						565,001.7174	244,565.9452	26° 28' 17.05"
5005	PI	500+61.216	22° 02' 12.82" LT	57° 17' 44.81"	100.000'	19.471'	38.462'	565,010.3968	244,583.3752	PI
5006	CC							564,912.2017	244,610.5203	
5007	PRC	500+80.206						565,011.9023	244,602.7883	4° 26' 04.23"
5008	PRC	500+80.206						565,011.9023	244,602.7883	4° 26' 04.23"
5009	PI	502+02.184	9° 30' 22.31" RT	3° 54' 20.31"	1,467.000'	121.978'	243.396'	565,021.3336	244,724.4013	PI
5010	CC							566,474.5107	244,489.3606	
5011	PCC	503+23.602						565,050.7203	244,842.7867	13° 56' 26.54"
5012	PCC	503+23.602						565,050.7203	244,842.7867	13° 56' 26.54"

ALIGNMENT TABULATION

CO. RD. 73 (BABCOCK TRAIL) – SIDEWALK

POINT NUMBER	POINT	STATION	SPIRAL CURVE DATA					COORDINATES		AZIMUTH
			ANGLE (Os)	DEGREE	ST	LT	LS	X	Y	
5013	PI	503+38.798	1° 11' 13.08" RT	3° 54' 20.31"	1,467.000'	15.196'	30.391'	565,054.3813	244,857.5352	PI
5014	CC							566,474.5107	244,489.3606	
5015	PT	503+53.993						565,058.2471	244,872.2049	15° 07' 39.62"
5016	POT	503+98.877						565,069.4568	244,915.6918	
5017	POT	504+22.395						565,070.5613	244,939.0319	
5018	POT	504+22.179						565,075.1594	244,938.2742	
5019	POT	504+30.180						565,077.0190	244,946.0565	
5020	PC	504+34.560						565,078.0368	244,950.3158	14° 19' 28.54"
5021	PI	506+04.503	9° 53' 45.12" RT	3° 54' 07.63"	1,963.000'	169.943'	339.040'	565,120.0832	245,114.9751	PI
5022	CC							566,980.0063	244,464.6402	
5023	PCC	507+73.600						565,189.8020	245,269.9586	24° 13' 13.67"
5024	PCC	507+73.600						565,189.8020	245,269.9586	24° 13' 13.67"
5025	PI	507+92.687	21° 36' 41.10" RT	57° 17' 44.81"	100.000'	19.086'	37.719'	565,197.6332	245,287.3648	PI
5026	CC							565,280.9994	245,228.9337	
5027	PRC	508+11.319						565,211.3228	245,300.6635	45° 49' 54.77"
5028	PRC	508+11.319						565,211.3228	245,300.6635	45° 49' 54.77"
5029	PI	508+29.377	20° 28' 20.89" LT	57° 17' 44.81"	100.000'	18.058'	35.731'	565,224.2758	245,313.2458	PI
5030	CC							565,141.6482	245,372.3834	
5031	PT	508+47.050						565,232.0101	245,329.5635	25° 21' 33.88"
5032	PC	509+48.915						565,275.6382	245,421.6127	25° 21' 33.88"
5033	PI	509+65.069	18° 21' 09.68" LT	57° 17' 44.81"	100.000'	16.154'	32.031'	565,282.5569	245,436.2102	PI
5034	CC							565,185.2743	245,484.4422	
5035	PRC	509+80.947						565,284.5275	245,452.7436	1° 00' 24.20"
5036	PRC	509+80.947						565,284.5275	245,452.7436	1° 00' 24.20"
5037	PI	509+96.333	17° 29' 40.29" RT	57° 17' 44.81"	100.000'	15.387'	30.534'	565,286.4044	245,467.5153	PI
5038	CC							565,383.7807	245,440.0451	
5039	PRC	510+11.480						565,292.7855	245,481.5164	24° 30' 04.45"
5040	PRC	510+11.480						565,292.7855	245,481.5164	24° 30' 04.45"
5041	PI	511+40.344	11° 48' 15.26" LT	3° 58' 43.94"	1,442.000'	148.863'	296.673'	565,354.5210	245,616.9745	PI
5042	CC							563,982.4542	246,078.7032	
5043	PT	513+08.153						565,387.2405	245,762.1975	12° 41' 48.23"
5044	PC	513+72.044						565,401.4580	245,822.4247	10° 14' 14.05"
5045	PI	514+79.324	8° 40' 03.30" LT	3° 58' 24.08"	1,442.000'	109.280'	218.141'	565,420.9197	245,929.9648	PI
5046	CC							563,982.4542	246,078.7032	
5047	PRC	515+88.187						565,423.9131	246,039.2036	1° 34' 10.75"
5048	PRC	515+88.187						565,423.9131	246,039.2036	1° 34' 10.75"
5049	PI	516+41.106	23° 54' 12.15" RT	22° 55' 05.92"	250.000'	52.919'	104.298'	565,425.3627	246,092.1026	PI
5050	CC							565,573.8193	246,032.3956	
5051	PRC	516+92.485						565,448.1224	246,139.8771	25° 28' 22.89"
5052	PRC	516+92.485						565,448.1224	246,139.8771	25° 28' 22.89"
5053	PI	518+08.570	54° 34' 52.19" LT	25° 27' 53.25"	225.000'	116.084'	214.340'	565,498.0486	246,244.6767	PI
5054	CC							565,244.9951	246,236.6465	
5055	PRC	519+06.825						565,441.5783	246,346.0999	330° 53' 30.70"
5056	PRC	519+06.825						565,441.5783	246,346.0999	330° 53' 30.70"
5057	PI	519+91.750	27° 16' 39.25" RT	16° 22' 12.80"	350.000'	84.925'	166.629'	565,400.2659	246,420.2969	PI
5058	CC							565,749.3744	246,516.3607	
5059	PT	520+73.454						565,397.5530	246,505.1803	358° 10' 09.95"
5060	POI	522+46.589						565,382.0192	246,678.3265	

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE 4/2/2021 LICENSE NO 46701

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
ALIGNMENT PLAN & TABULATION

SHEET 28 OF 47 SHEETS

Babcock Trail



0 50 FT 100 FT

LEGEND

- REMOVE CONCRETE CURB AND GUTTER
- CLEAR AND GRUB TREE (TREE)
- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK
- CLEAR GRUB & TREES
- REMOVE BIT DRIVEWAY PAVEMENT
- REMOVE CONC DRIVEWAY PAVEMENT
- (A) SAWCUT BIT PAVEMENT (FULL DEPTH)
- (B) SALVAGE MAILBOX AND SUPPORT
- (C) SALVAGE SIGN TYPE C
- (D) SALVAGE SIGN TYPE SPECIAL
- (E) REMOVE PIPE APRON

Babcock Trail



0 50 FT 100 FT

(1) REMOVE 60' - 15" CMP
(2) REMOVE 27' - 15" CMP
(3) REMOVE 22' - 15" CMP
(4) REMOVE 22' - 15" CMP
(5) REMOVE 16' - 15" CMP

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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

ANDREW A. PLOWMAN, PE
DATE: 8/2/2017 LICENSE NO. 46722

WSB

CITY OF INVER GROVE HEIGHTS

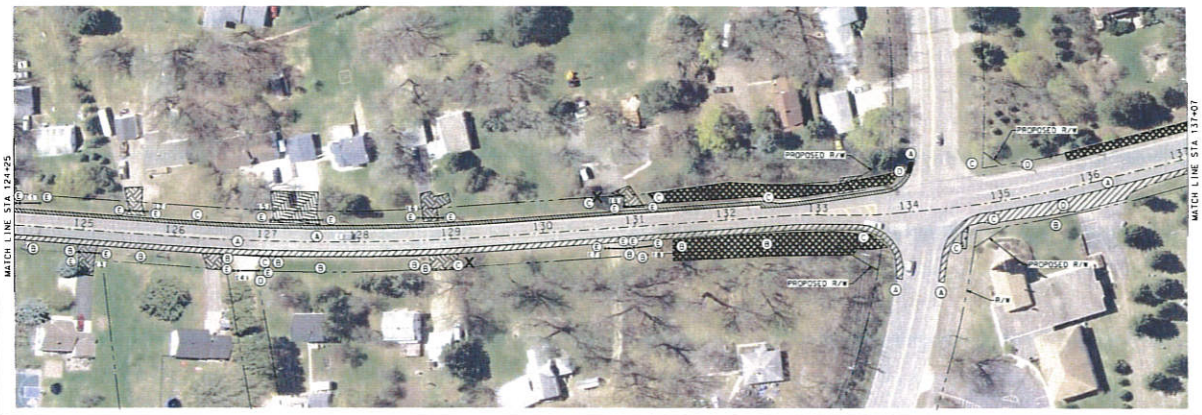
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
MISCELLANOUS REMOVAL PLAN

SHEET 29 OF 47 SHEETS

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Babcock Trail



0 50 FT 100 FT

LEGEND

- REMOVE CONCRETE CURB AND GUTTER
- CLEAR AND GRUB TREE (TREE)
- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK
- CLEAR GRUB & TREES
- REMOVE BIT DRIVEWAY PAVEMENT
- REMOVE CONC DRIVEWAY PAVEMENT
- (A) SAWCUT BIT PAVEMENT (FULL DEPTH)
- (B) SALVAGE MAILBOX AND SUPPORT
- (C) SALVAGE SIGN TYPE C
- (D) SALVAGE SIGN TYPE SPECIAL
- (E) REMOVE PIPE APRON
- (1) REMOVE 25' - 15" CMP
- (2) REMOVE 22' - 15" CMP
- (3) REMOVE 25' - 15" CMP
- (4) REMOVE 25' - 15" CMP
- (5) REMOVE 55' - 15" CMP
- (6) REMOVE 25' - 15" CMP
- (7) REMOVE 22' - 15" CMP
- (8) REMOVE 22' - 15" CMP
- (9) REMOVE 22' - 15" CMP

Babcock Trail



0 50 FT 100 FT

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW R. PUMMILL PE
DATE: 8/21/2017 LICENSE NO. 48703

WSB

CITY OF INVER GROVE HEIGHTS

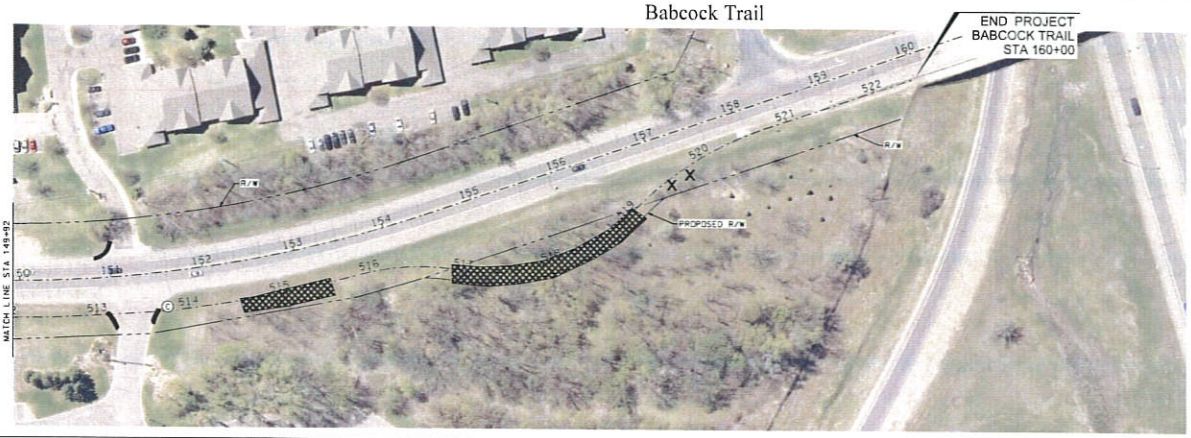
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
MISCELLANOUS REMOVAL PLAN

SHEET 30 OF 47 SHEETS

DATE: 8/21/2017 10:13:41 AM
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Babcock Trail



LEGEND

- REMOVE CONCRETE CURB AND GUTTER
- CLEAR AND GRUB TREE (TREE)
- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS WALK
- REMOVE CONCRETE WALK
- CLEAR GRUB & TREES
- REMOVE BIT DRIVEWAY PAVEMENT
- REMOVE CONC DRIVEWAY PAVEMENT

(A) SAWCUT BIT PAVEMENT (FULL DEPTH)
(B) SALVAGE MAILBOX AND SUPPORT
(C) SALVAGE SIGN TYPE C
(D) SALVAGE SIGN TYPE SPECIAL
(E) REMOVE PIPE APRON

NO	DATE	BY	CHK	REVISIONS

Design By: GJB
Plan By: AGJ
Checked By: AJP
Approved By: AJP

HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE: 4/7/2017 LICENSE NO. 48721

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

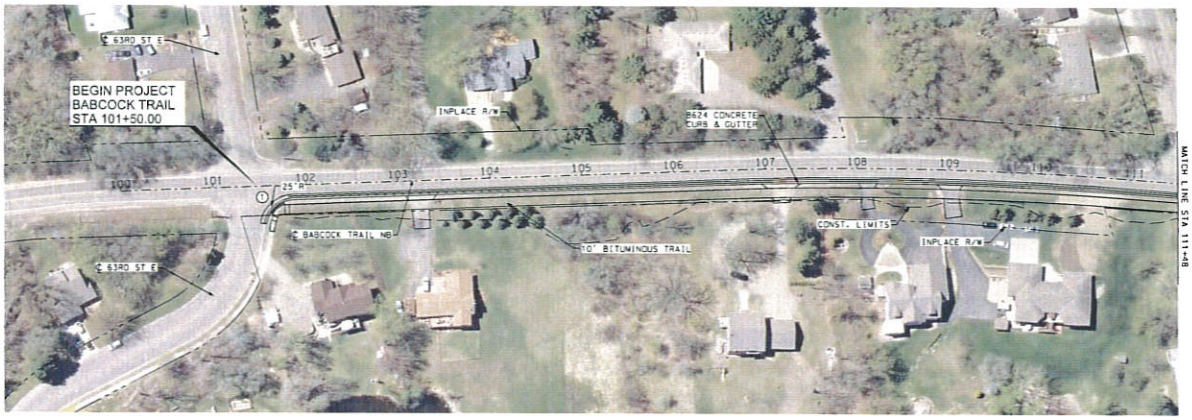
CITY OF INVER GROVE HEIGHTS, MN

MISCELLANOUS REMOVAL PLAN

SHEET 31 OF 47 SHEETS

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Babcock Trail



LEGEND

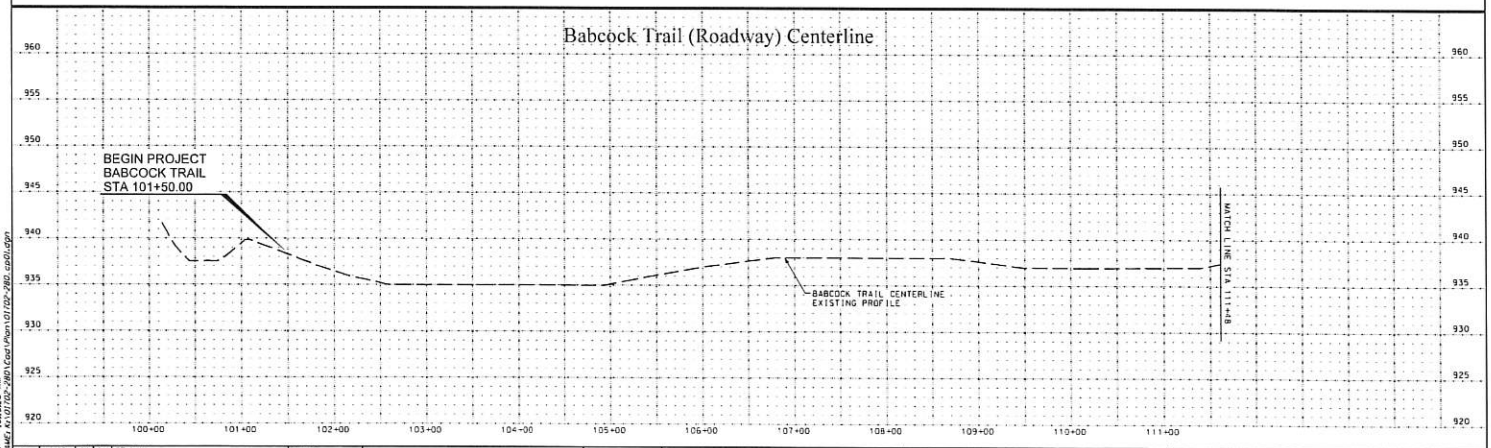
① SIDEWALK PEDESTRIAN CURB RAMP. (SEE MISC. DETAILS AND SIDEWALK DETAIL SHEETS)

INPLACE RIGHT OF WAY

PROPOSED R/W

CONSTRUCTION LIMITS

Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: GJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW J. PLOWMAN, PE

DATE: 4/7/2021 LICENSE NO. 44701

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

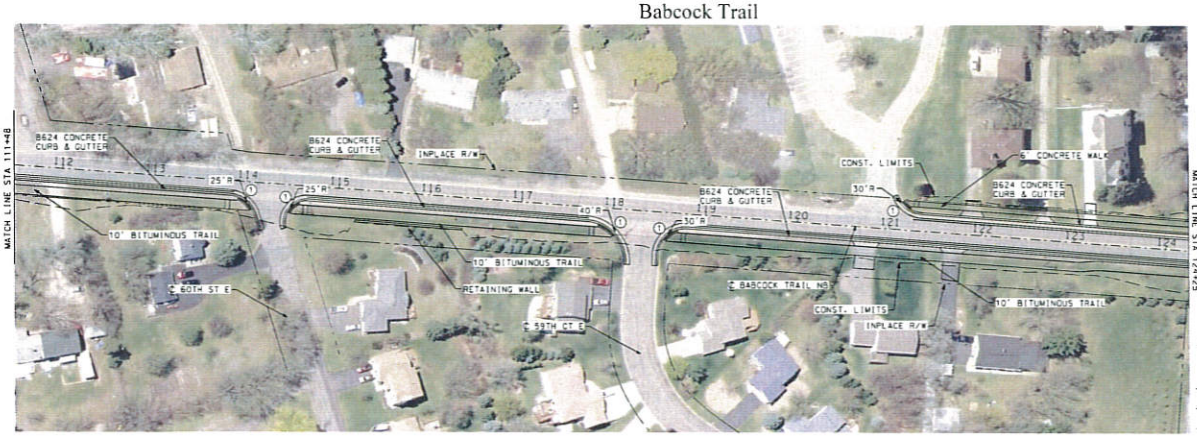
CITY OF INVER GROVE HEIGHTS, MN

CONSTRUCTION PLAN & PROFILE

SHEET 32 OF 47 SHEETS

DATE: 8/14/2017 10:15:20 AM
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Babcock Trail



LEGEND

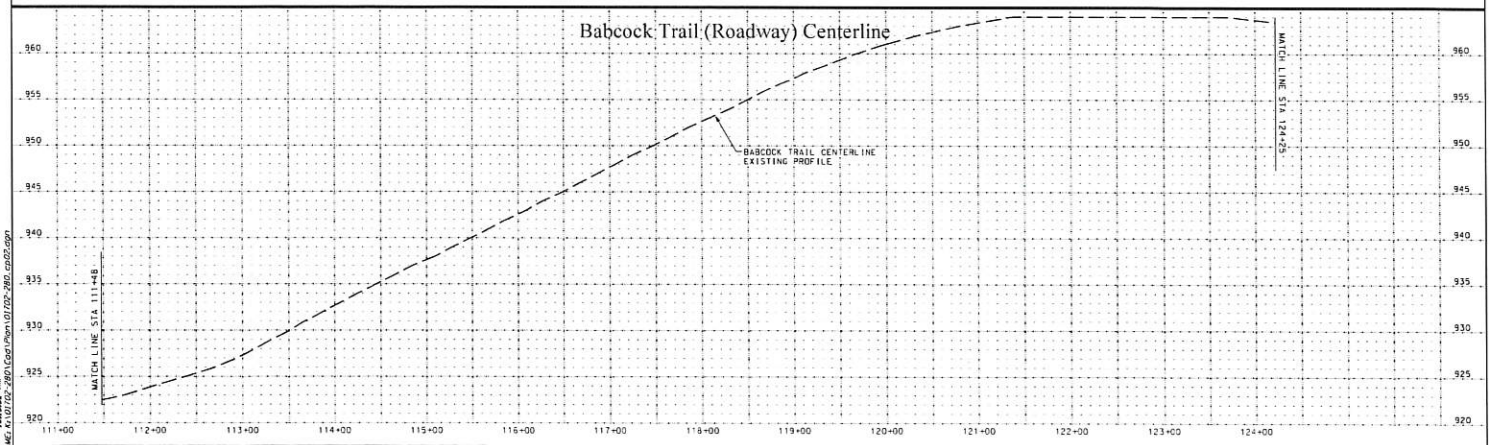
① SIDEWALK PEDESTRIAN CURB RAMP, (SEE MISC. DETAILS AND SIDEWALK DETAIL SHEETS)

INPLACE RIGHT OF WAY

PROPOSED R/W

CONSTRUCTION LIMITS

Babcock Trail (Roadway) Centerline



DATE: 8/4/2017 10:52:52 AM
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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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

ANDREW J. PLOWMAN, PE
DATE 8/3/2017 LICENSE NO. 44222

WSB

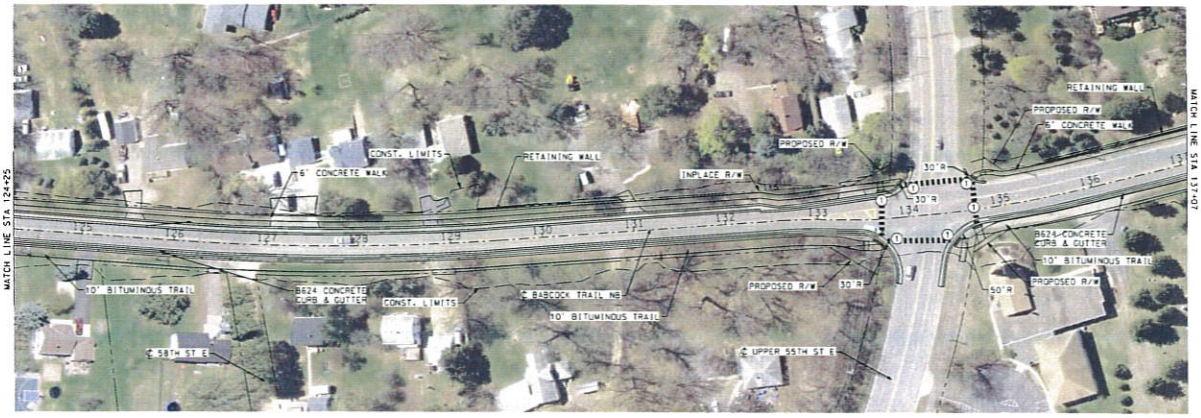
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
CONSTRUCTION PLAN & PROFILE

SHEET 33 OF 47 SHEETS

Babcock Trail



LEGEND

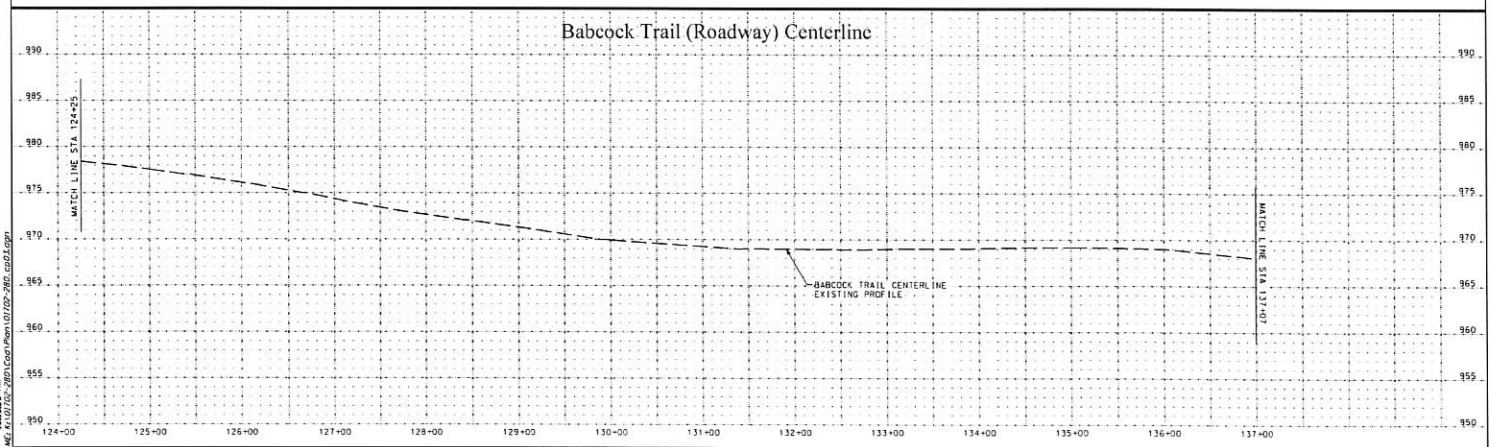
① SIDEWALK PEDESTRIAN CURB RAMP. (SEE MISC. DETAILS AND SIDEWALK DETAIL SHEETS)

INPLACE RIGHT OF WAY

PROPOSED R/W

CONSTRUCTION LIMITS

Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW R. OLMAN, PE
DATE: 8/4/2017 LICENSE NO. 48700

WSB

CITY OF INVER GROVE HEIGHTS

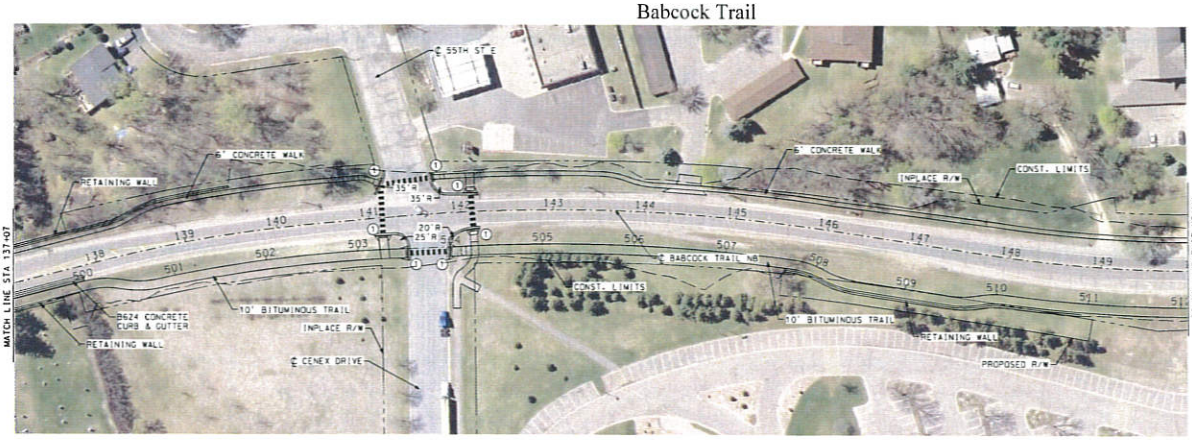
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
CONSTRUCTION PLAN & PROFILE

SHEET 34 OF 47 SHEETS

DATE: 8/4/2017 10:56:25 AM
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Babcock Trail



LEGEND

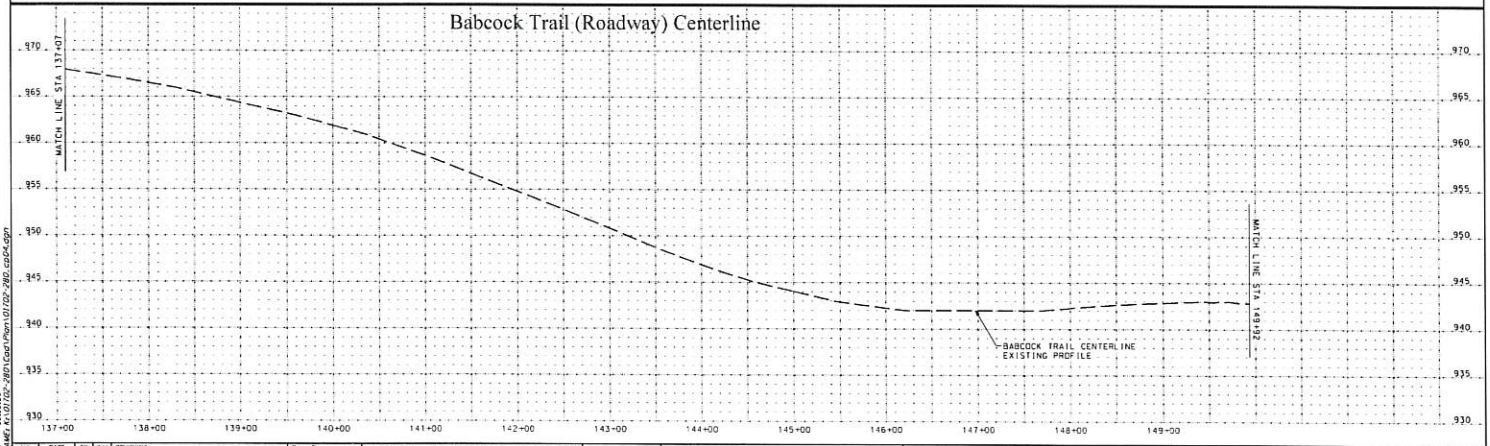
① SIDEWALK PEDESTRIAN CURB RAMP, (SEE MISC. DETAILS AND SIDEWALK DETAIL SHEETS)

INPLACE RIGHT OF WAY

PROPOSED R/W

CONSTRUCTION LIMITS

Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW P. CZYMANSKI, PE

DATE _____ LICENSE NO. _____

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

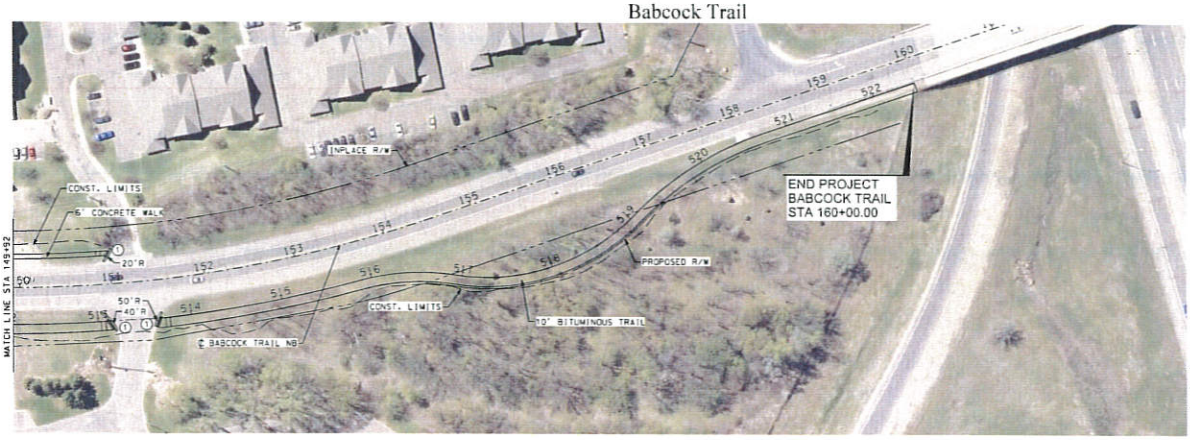
CITY OF INVER GROVE HEIGHTS, MN

CONSTRUCTION PLAN & PROFILE

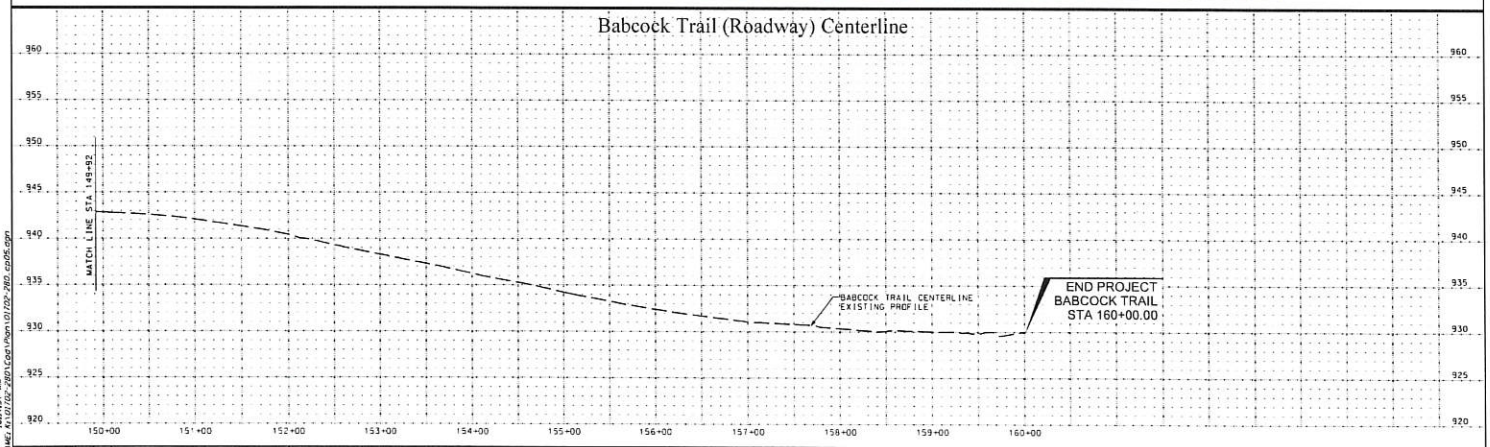
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Babcock Trail



Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREA PEICHMANN PE

DATE: 8/7/2017 LICENSE NO. 46703

WSB

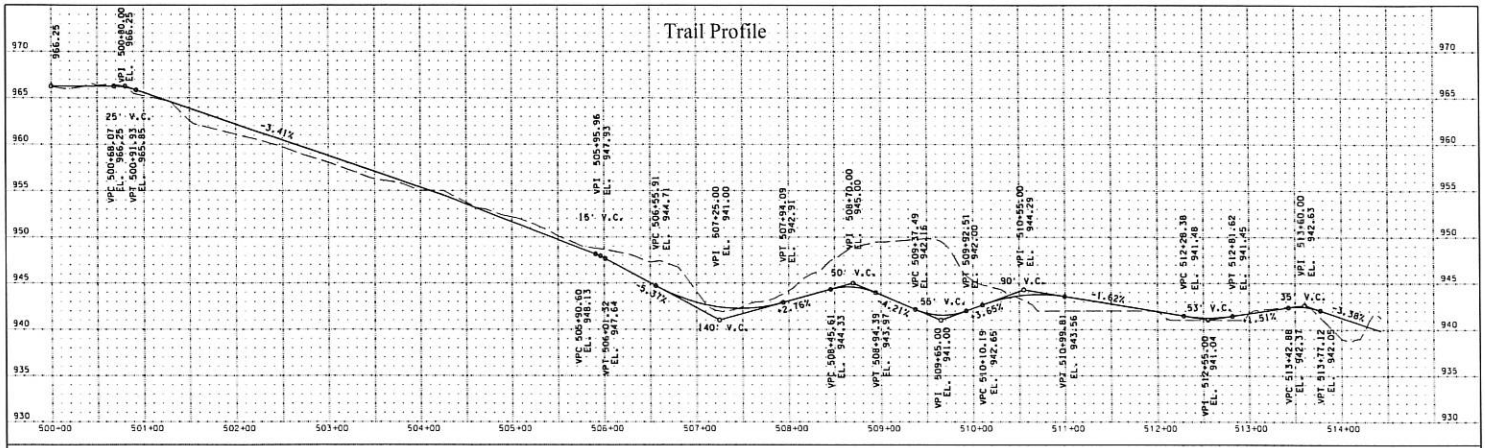
CITY OF INVER GROVE HEIGHTS

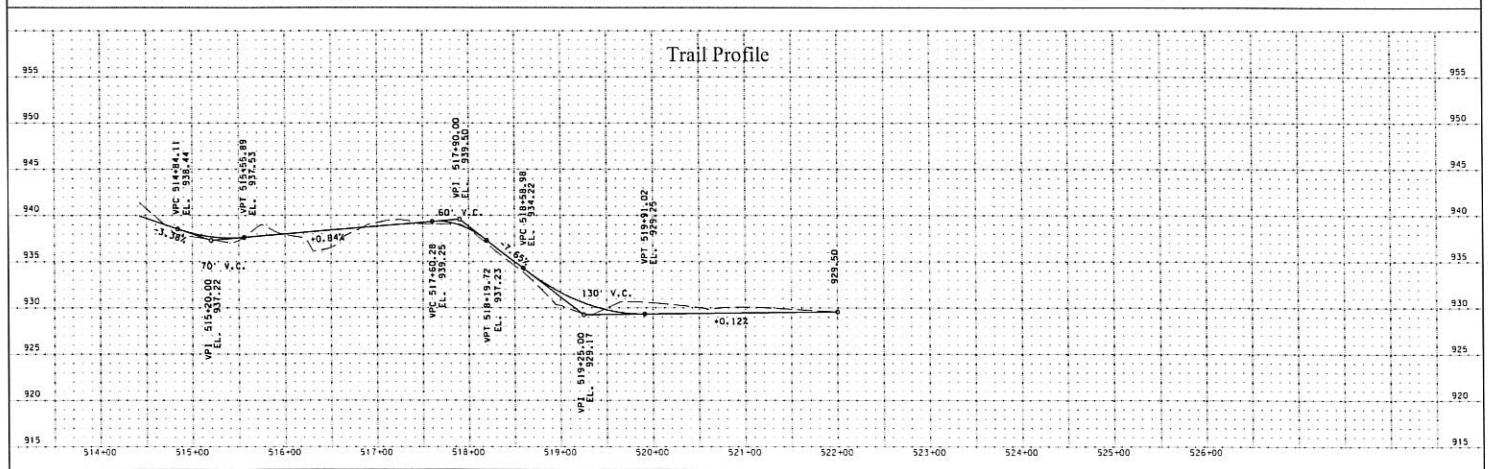
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
CONSTRUCTION PLAN & PROFILE

SHEET 36 OF 47 SHEETS

DATE: 8/14/2017
PATH & FILENAME: K:\01702-280\Cad\Plan\01702-280_cad5e.dgn
10:17:37 AM





NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW PLOWMAN, PE
DATE: 8/2/2017 LICENSE NO. 48703

WSB

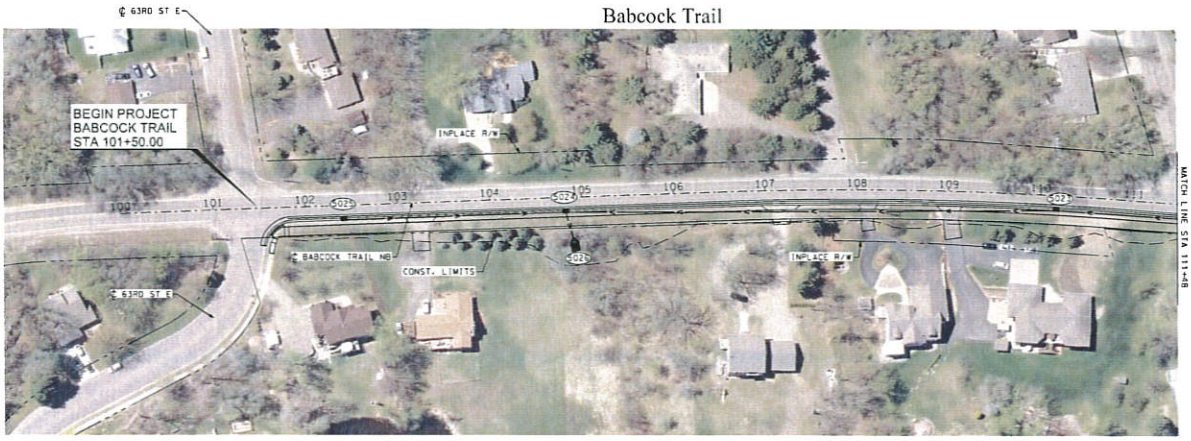
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
CONSTRUCTION PLAN & PROFILE

SHEET CP6 OF TOT SHEETS

Babcock Trail

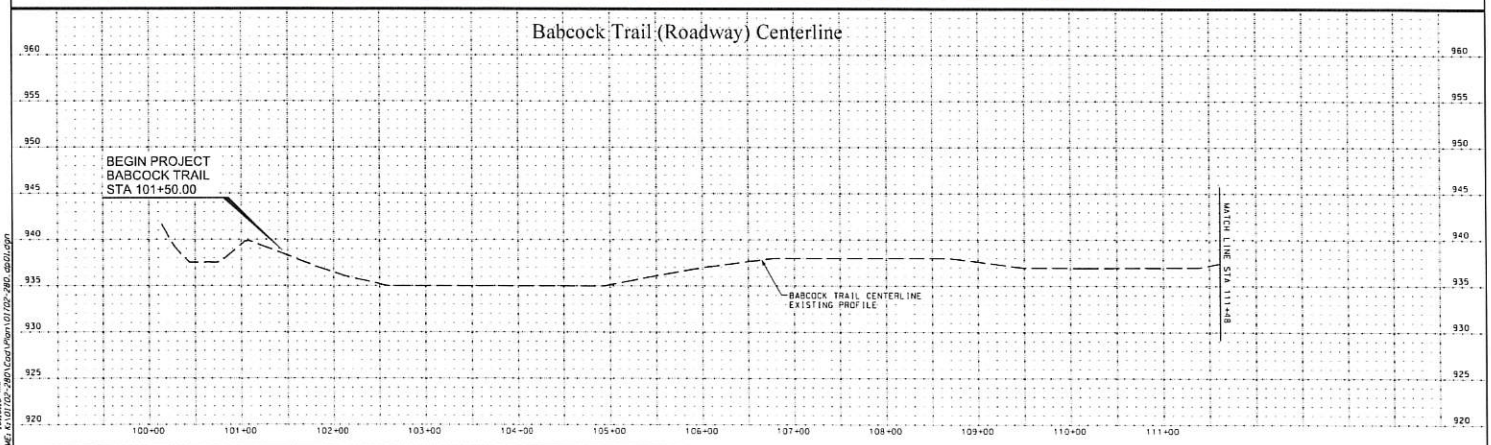


0 50 FT 100 FT

LEGEND

- MANHOLE
- CATCH BASIN
- STORM SEWER PIPE
- PIPE APRON
- (XXXX) DRAINAGE STRUCTURE ID

Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW R. PLOWMAN, PE

DATE _____ LICENSE NO. _____

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

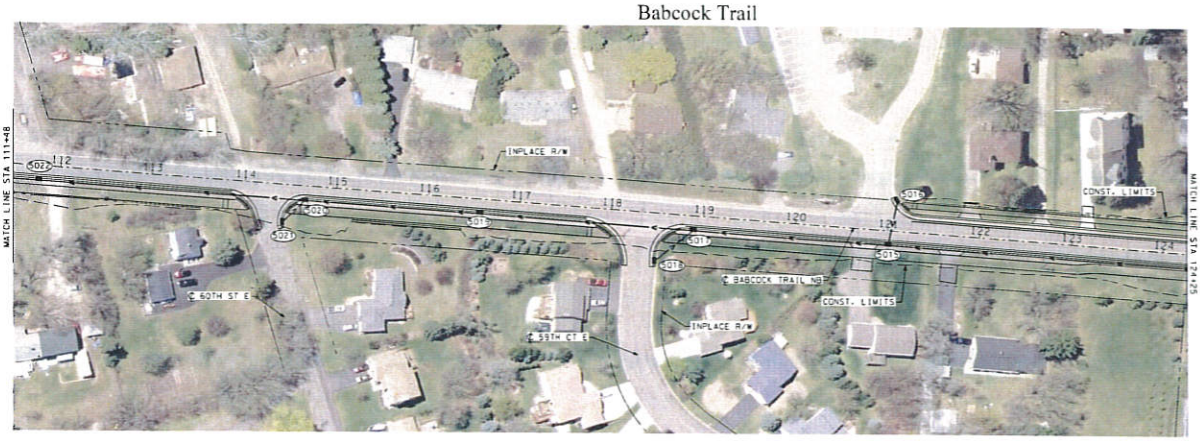
CITY OF INVER GROVE HEIGHTS, MN

DRAINAGE PLAN

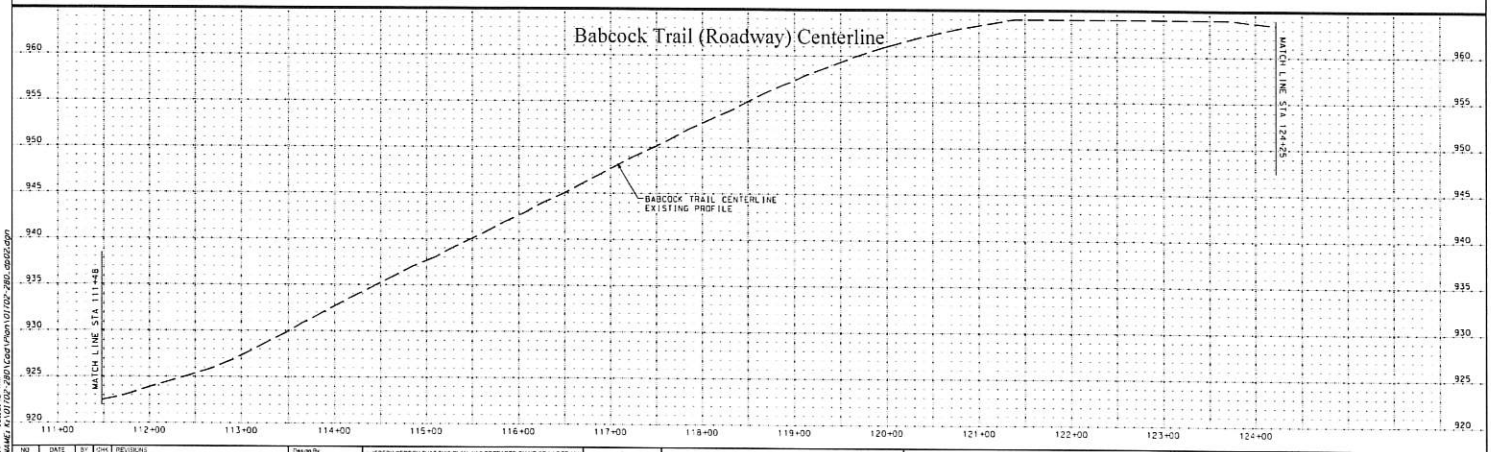
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Babcock Trail



Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

HEREBY CERTIFY THAT THIS PLAN, 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

ANDREW PLOWMAN, PE

DATE: 8/22/17 LICENSE NO. 46200

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

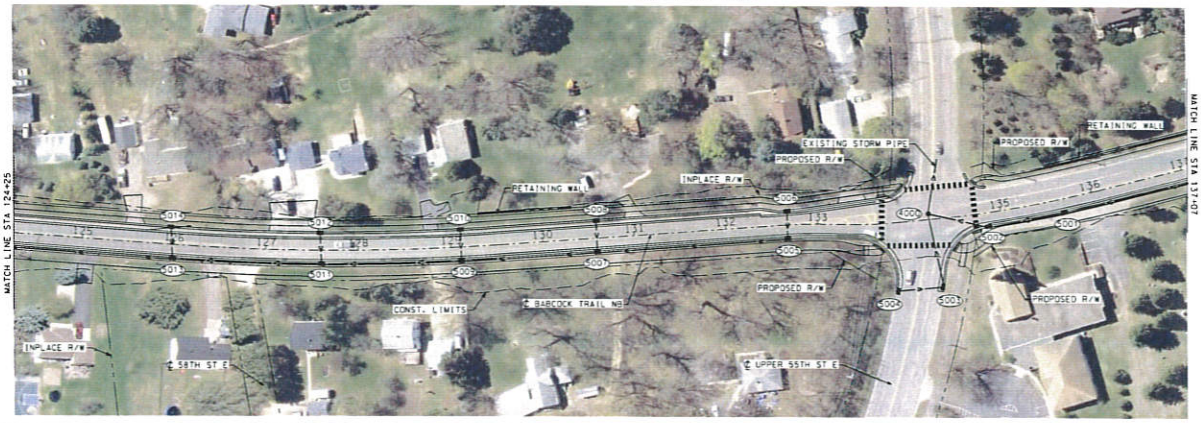
CITY OF INVER GROVE HEIGHTS, MN

DRAINAGE PLAN

SHEET 39 OF 47 SHEETS

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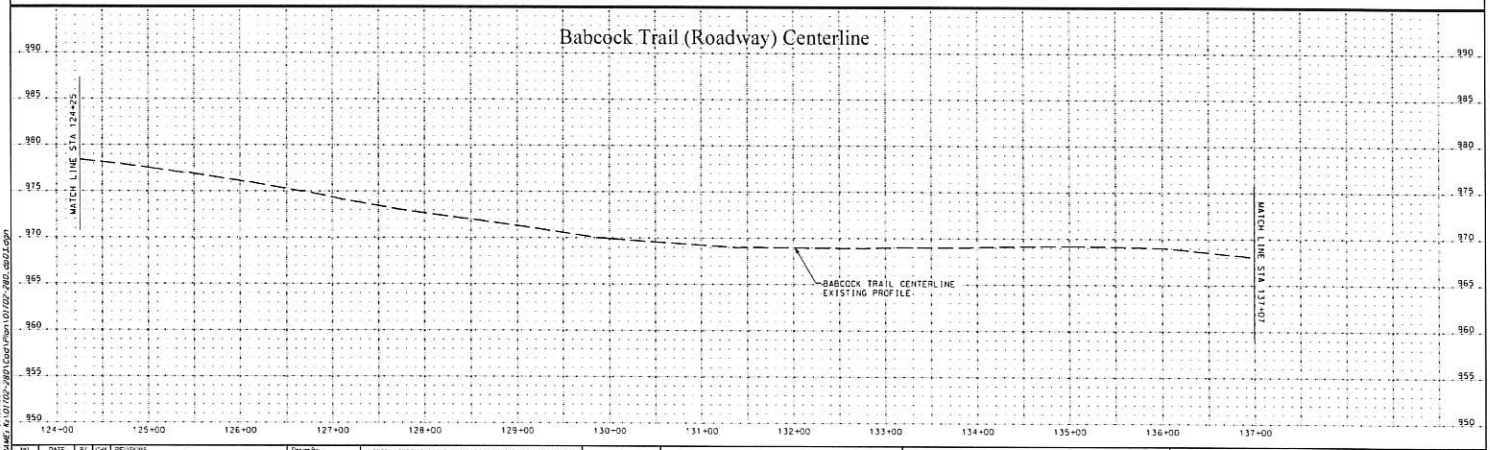
Babcock Trail



LEGEND

- MANHOLE
- CATCH BASIN
- STORM SEWER PIPE
- PIPE APRON
- (XXX) DRAINAGE STRUCTURE ID

Babcock Trail (Roadway) Centerline



DATE: 8/4/2017
10:19:22 AM
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NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: AGJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW R. PLOMMER

DATE _____ LICENSE NO. 48701

WSB

CITY OF INVER GROVE HEIGHTS

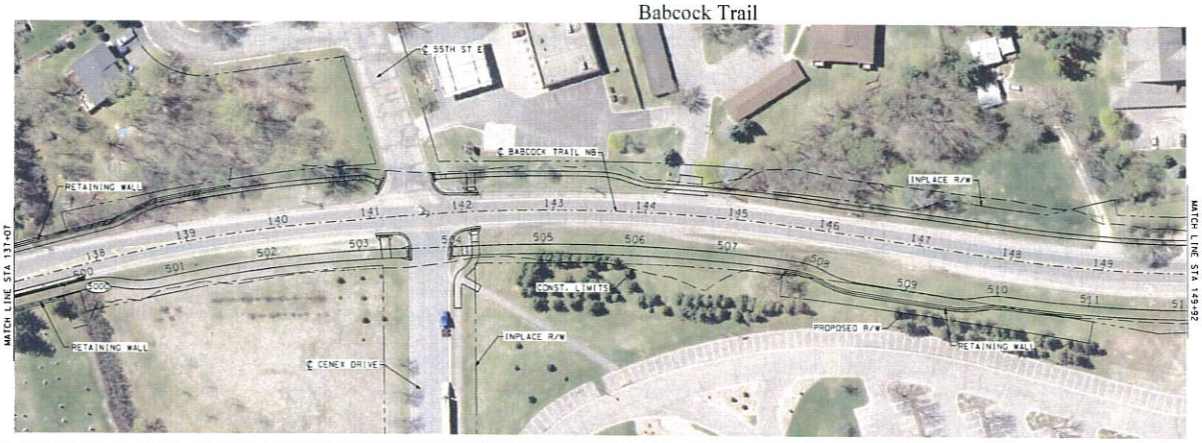
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

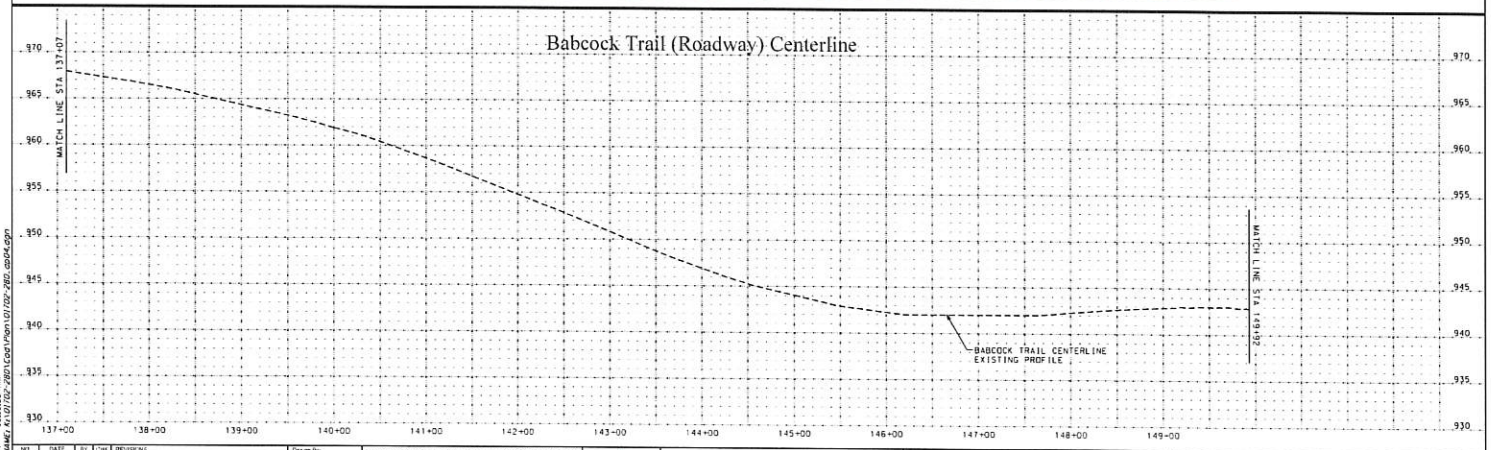
DRAINAGE PLAN

SHEET 40 OF 47 SHEETS

Babcock Trail



Babcock Trail (Roadway) Centerline



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW R DUMMER PE

DATE: 4/7/2017 LICENSE NO: 48704

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

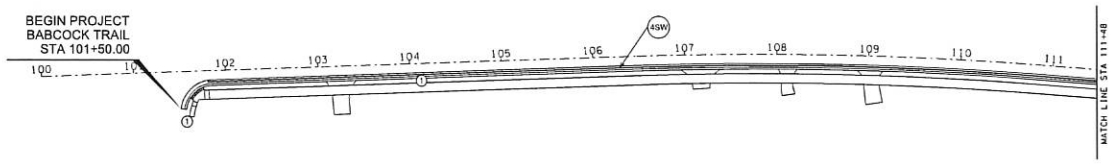
CITY OF INVER GROVE HEIGHTS, MN

DRAINAGE PLAN

SHEET 41 OF 47 SHEETS

DATE: 8/4/2017 10:19:55 AM
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Babcock Trail



0 50 FT 100 FT

STRIPING KEY

CIRCLE - EPOXY (GROUND IN)

EPOXY

1ST DIGIT WIDTH 4",8",ETC.

3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK

2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED

EXAMPLE (4SW) = 4" SOLID LINE WHITE - EPOXY (GROUND IN)

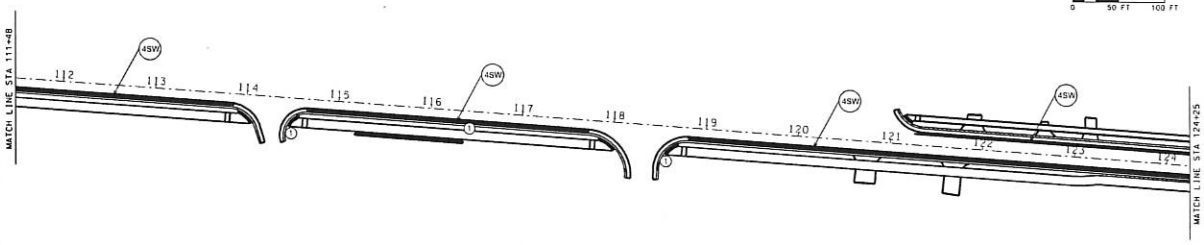
ARROWS - PREFORM THERMOPLASTIC

CROSSWALK - 12" SOLID LINE WHITE PREFORM THERMOPLASTIC

SIGNING LEGEND

① INSTALL SALVAGED SIGN

Babcock Trail



0 50 FT 100 FT

NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

I HEREBY CERTIFY THAT THIS PLAN 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.

ANDREW PLOWMAN, PE
DATE 8/7/2017 LICENSE NO. 46203

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

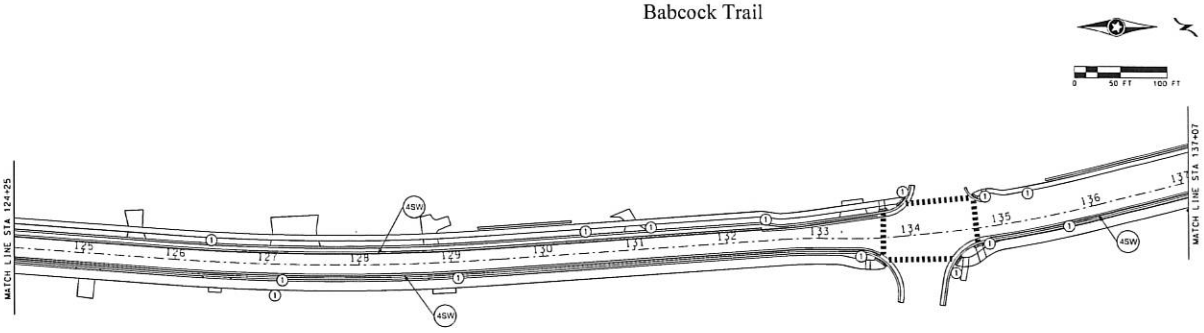
CITY OF INVER GROVE HEIGHTS, MN

SIGNING & STRIPING PLAN

SHEET 42 OF 47 SHEETS

DATE: 8/14/2017
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10:20:27 AM

Babcock Trail



STRIPING KEY

CIRCLE - EPOXY (GROUND IN)

1ST DIGIT WIDTH 4", 8" ETC

EPOXY

3RD DIGIT COLOR
W = WHITE
Y = YELLOW
B = BLACK

2ND DIGIT PATTERN
S = SOLID
B = BROKEN
D = DOUBLE
T = DOTTED

EXAMPLE: 4SW = 4" SOLID LINE WHITE - EPOXY (GROUND IN)

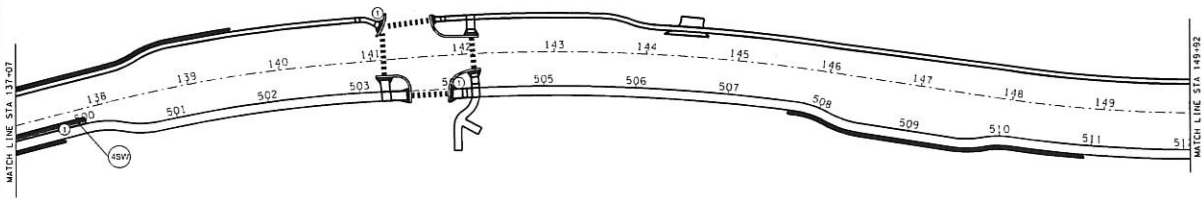
ARROWS - PREFORM THERMOPLASTIC

CROSSWALK - 12" SOLID LINE WHITE PREFORM THERMOPLASTIC

SIGNING LEGEND

① INSTALL SALVAGED SIGN

Babcock Trail



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW PLOWMAN, PE

DATE: 4/2/2017 LICENSE NO. 44703

WSB

CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN

SIGNING & STRIPING PLAN

SHEET 43 OF 47 SHEETS

DATE: 4/4/2017 10:20:28 AM
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TURF ESTABLISHMENT & EROSION CONTROL NOTES

1. ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ADJACENT STREET AND CURB LINE TO BE SWEPT FREE OF DEBRIS AT THE END OF EACH WORK DAY, OR AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
2. INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
3. THE CONTRACTOR SHALL PROVIDE PERIMETER CONTROL DAY-TO-DAY AT DISTURBED UNSTABILIZED AREAS WHERE EROSION OR SEDIMENTATION COULD BE A PROBLEM. THE ENGINEER SHALL DIRECT THE CONTRACTOR AS TO WHERE PLACEMENT OF PERIMETER CONTROL WILL BE REQUIRED.
4. ADDITIONAL EROSION AND SEDIMENT CONTROL MAY BE ADDED DURING ANY PHASE OF CONSTRUCTION AS DIRECTED BY THE ENGINEER.
6. STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
5. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 14 DAY TIME FRAME (EXCEPT WHERE CALLED OUT BY NOTE #8)
6. RAPID STABILIZATION METHOD 4 SHALL BE EMPLOYED WITHIN 200 FT OF THE NWP OF ALL DISCHARGE POINTS WITHIN 24 HOURS.
7. ALL STOCKPILES MUST HAVE PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE RAPID STABILIZATION METHOD 3 IF UNWORKED FOR 14 DAYS.

EROSION CONTROL LEGEND

- SILT FENCE,TYPE MS
- STORM DRAIN INLET PROTECTION
- CULVERT END CONTROL
- FLOW ARROW

PERMANENT:
SEED MIX 25-151
(120 LBS/ACRE)
FERTILIZER TYPE 3
(SLOW RELEASE; 22-5-10)
(200 LBS/ACRE)

TEMPORARY:
SEED MIX 21-111
(100 LBS/ACRE)
FERTILIZER TYPE 1 (10-10-20)
(200 LBS/ACRE)
MULCH MATERIAL TYPE 1
(2 TONS/ACRE)
DISC ANCHORING

PERMANENT:
SOD TYPE LAWN

TEMPORARY:
SEED MIX 21-111
(100 LBS/ACRE)
FERTILIZER TYPE 1 (10-10-20)
(200 LBS/ACRE)
EROSION CONTROL BLANKETS
TYPE NATURAL NET

NO	DATE	BY	CHK	REVISIONS

Design By:
Plan By:
Checked By:
Approved By:

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE _____

WSB

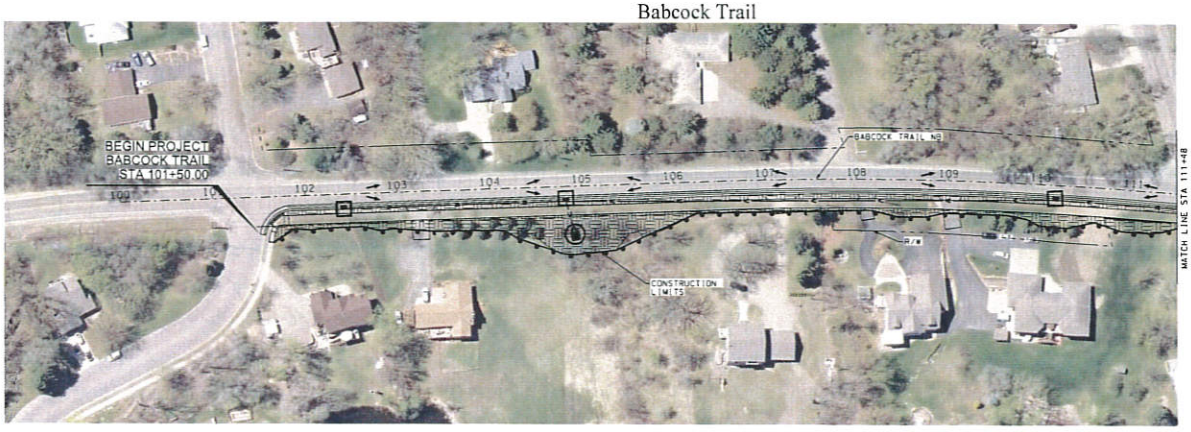
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

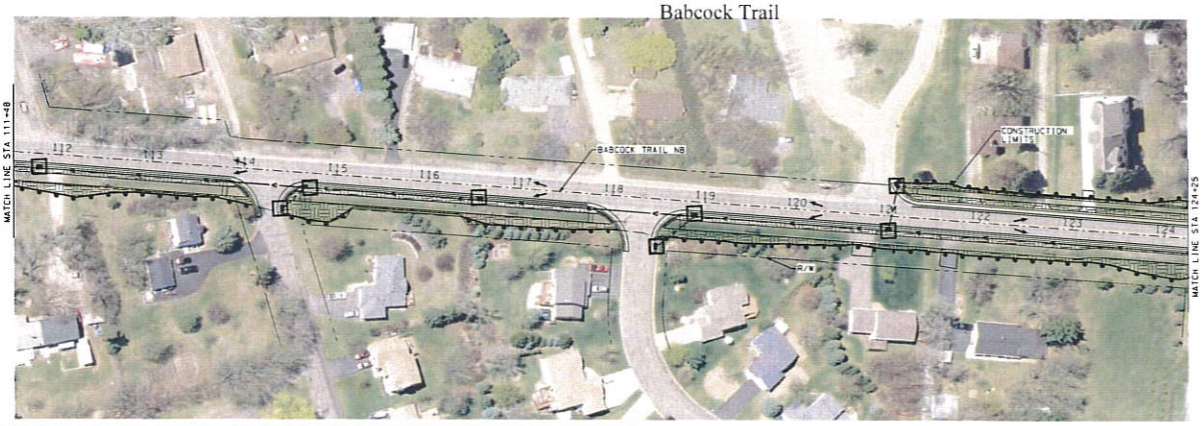
CITY OF INVER GROVE HEIGHTS, MN
TURF ESTABLISHMENT & EROSION CONTROL NOTES

SHEET 44 OF 47 SHEETS

Babcock Trail



Babcock Trail



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW PLOWMAN, PE

DATE: 4/27/2017 LICENSE NO. 44701

WSB

CITY OF INVER GROVE HEIGHTS

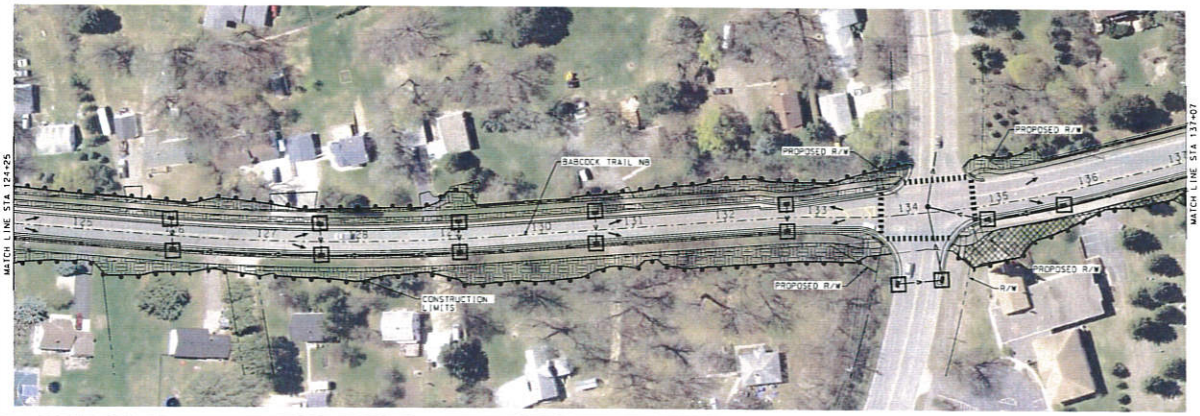
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
TURF ESTABLISHMENT & EROSION CONTROL PLAN

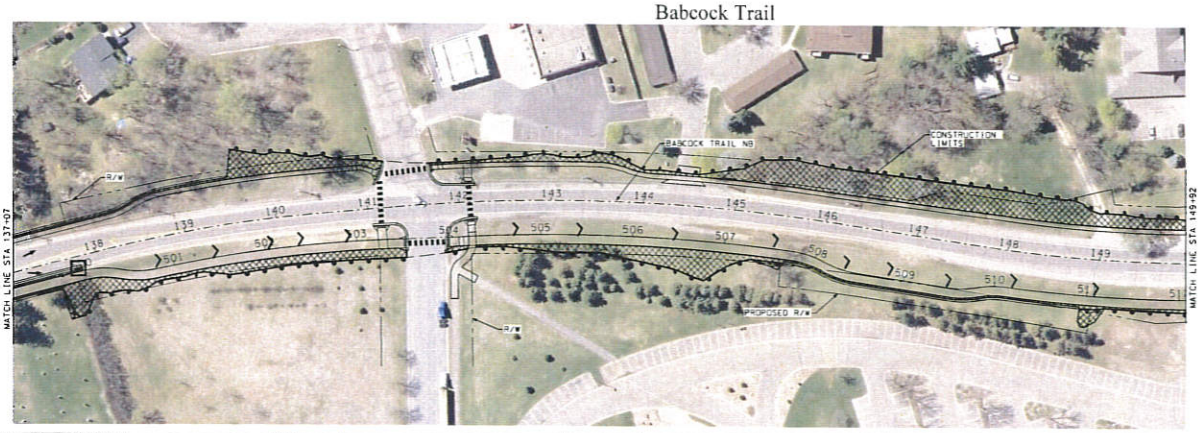
SHEET 45 OF 47 SHEETS

DATE: 8/4/2017 10:20:30 AM
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Babcock Trail



Babcock Trail



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREW PLOWMAN, PE

DATE: ##/##/2017 LICENSE NO. ######

WSB

CITY OF INVER GROVE HEIGHTS

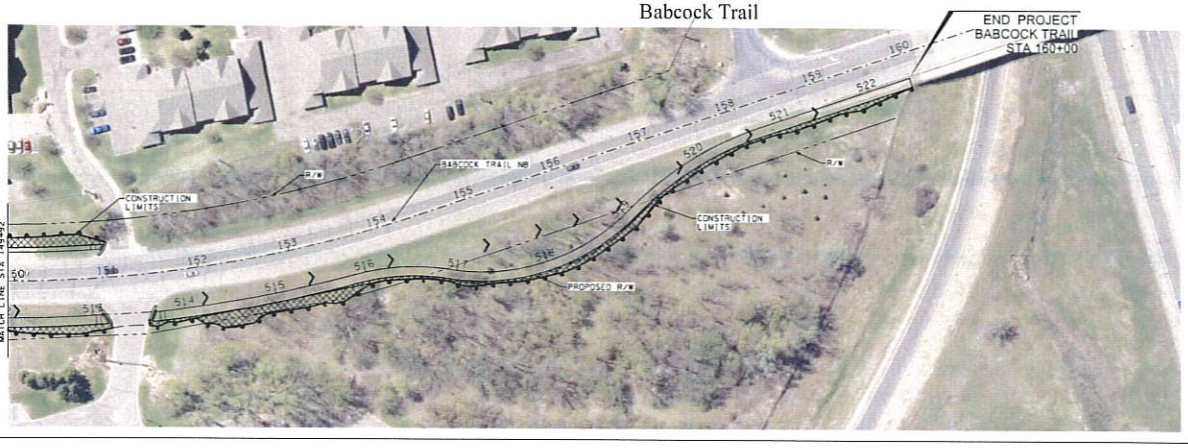
BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
TURF ESTABLISHMENT & EROSION CONTROL PLAN

SHEET 46 OF 47 SHEETS

DATE: 8/4/2017
DATE & FILENAME: 8/4/2017 10:21:37 AM K:\IG\192-2180\Cad\Plan\G192-2180_Te03.dgn

Babcock Trail



NO	DATE	BY	CHK	REVISIONS

Design By: CJB
Plan By: ACJ
Checked By: AJP
Approved By: AJP

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ANDREA PLOWMAN, PE

DATE: 8/7/2017 LICENSE NO: 48703

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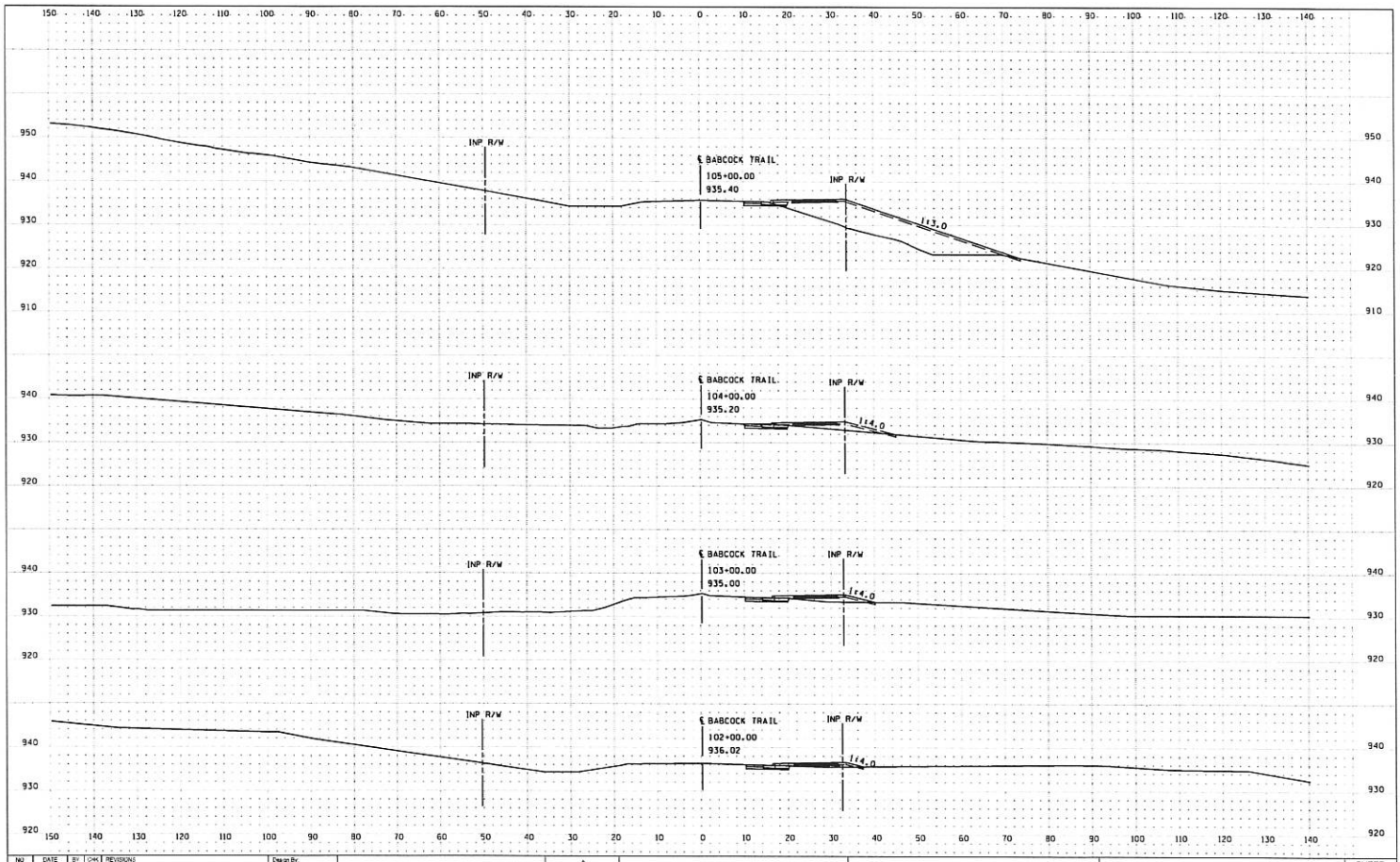
CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
TURF ESTABLISHMENT & EROSION CONTROL PLAN

SHEET 47 OF 47 SHEETS

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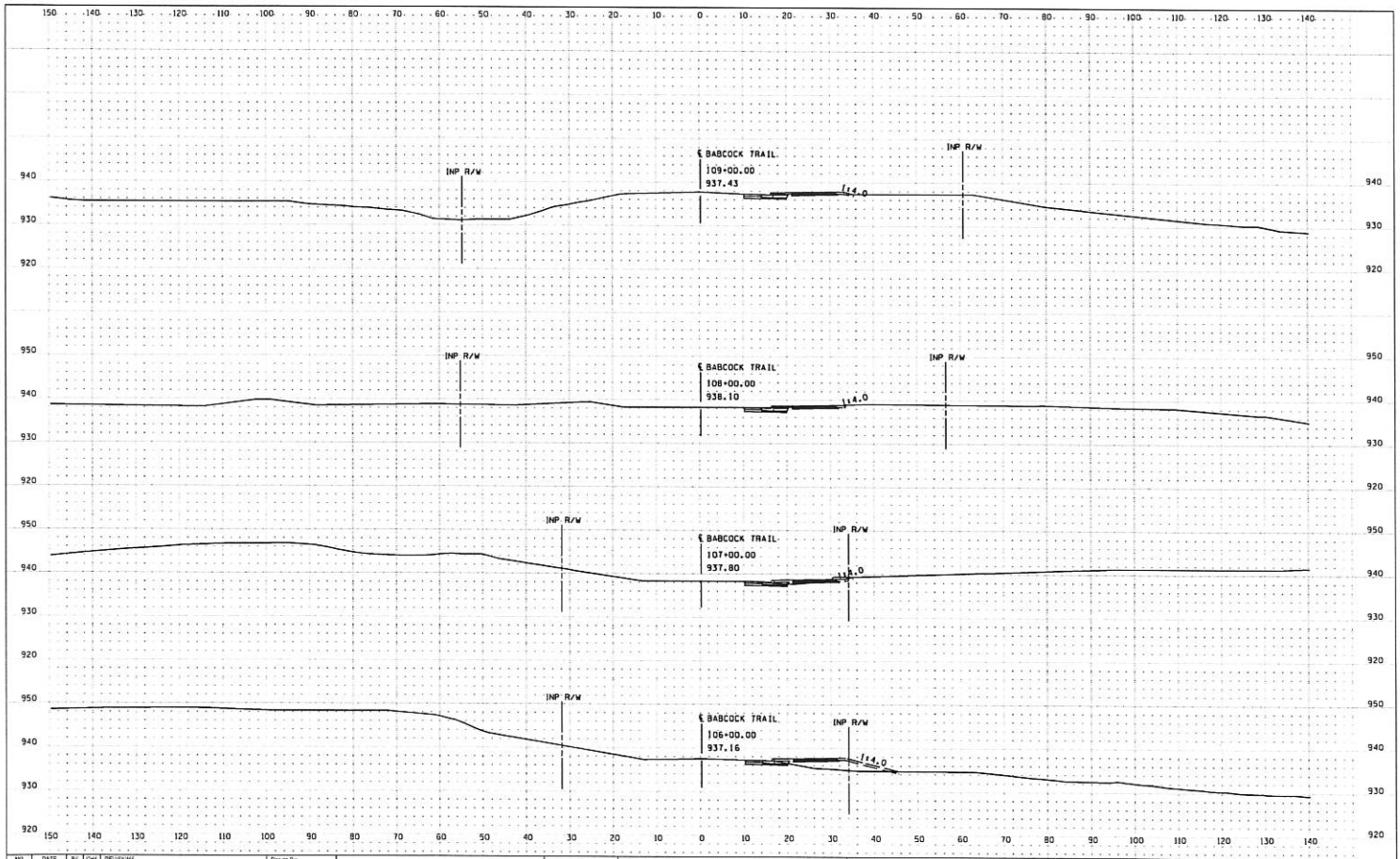
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BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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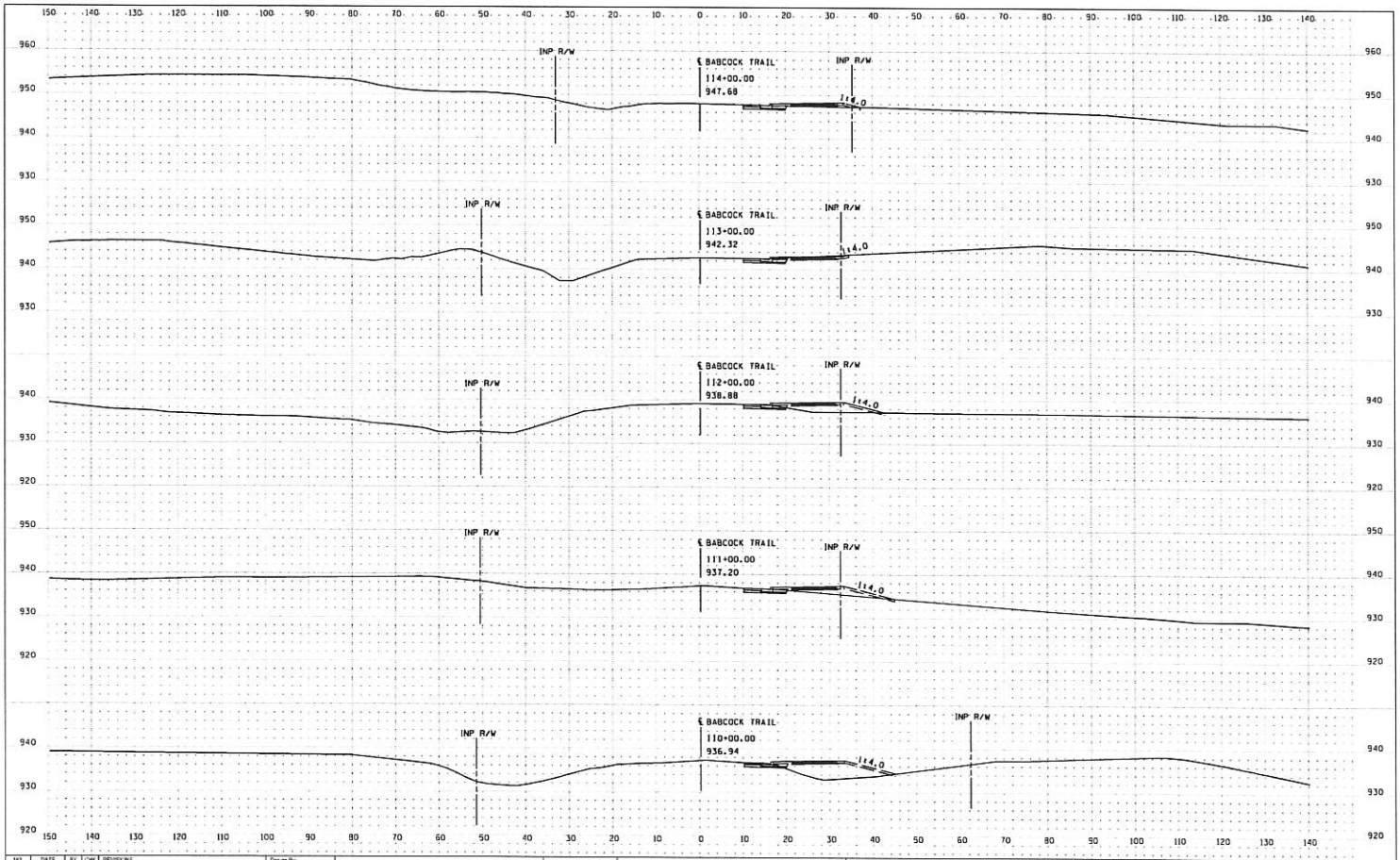
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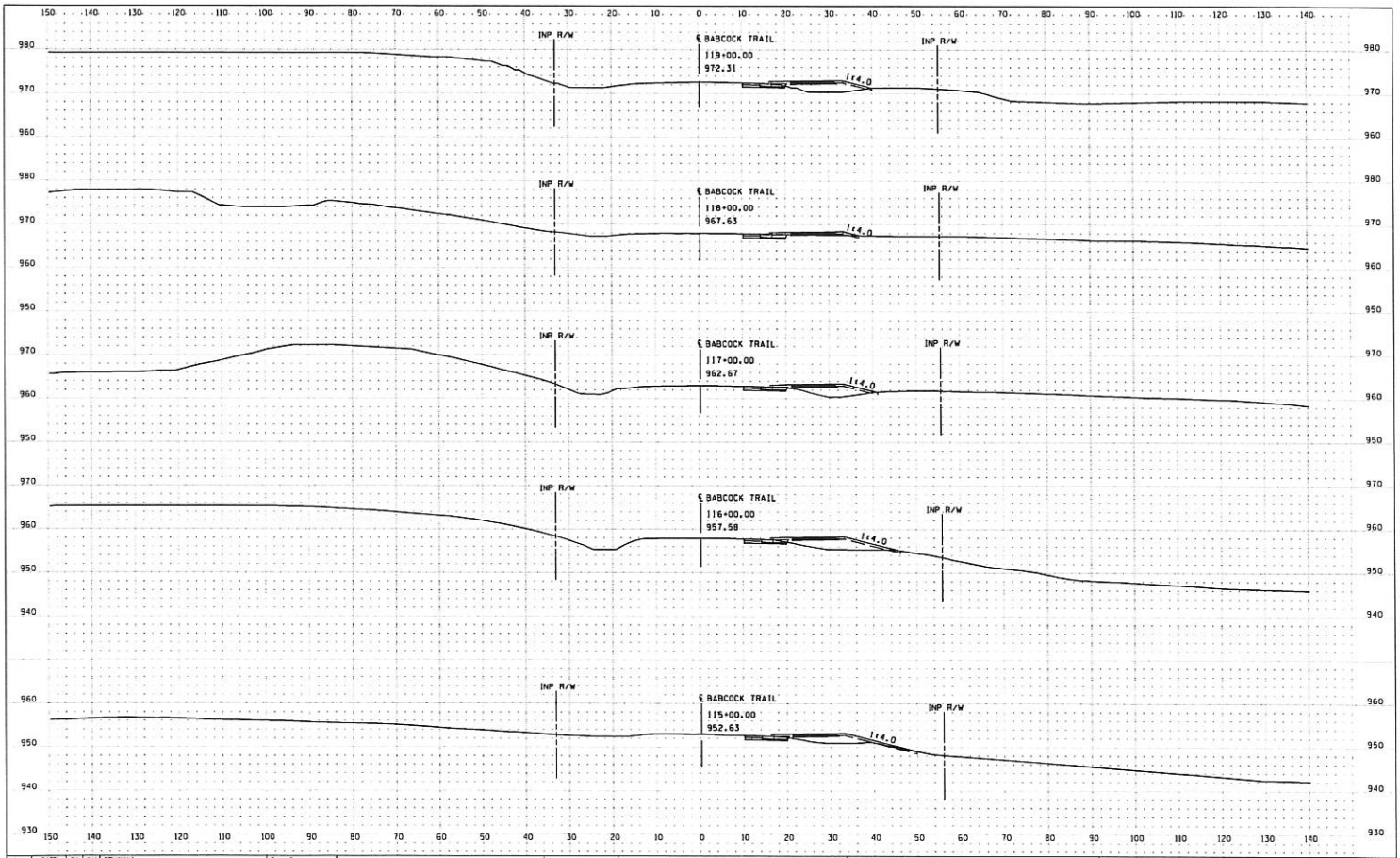
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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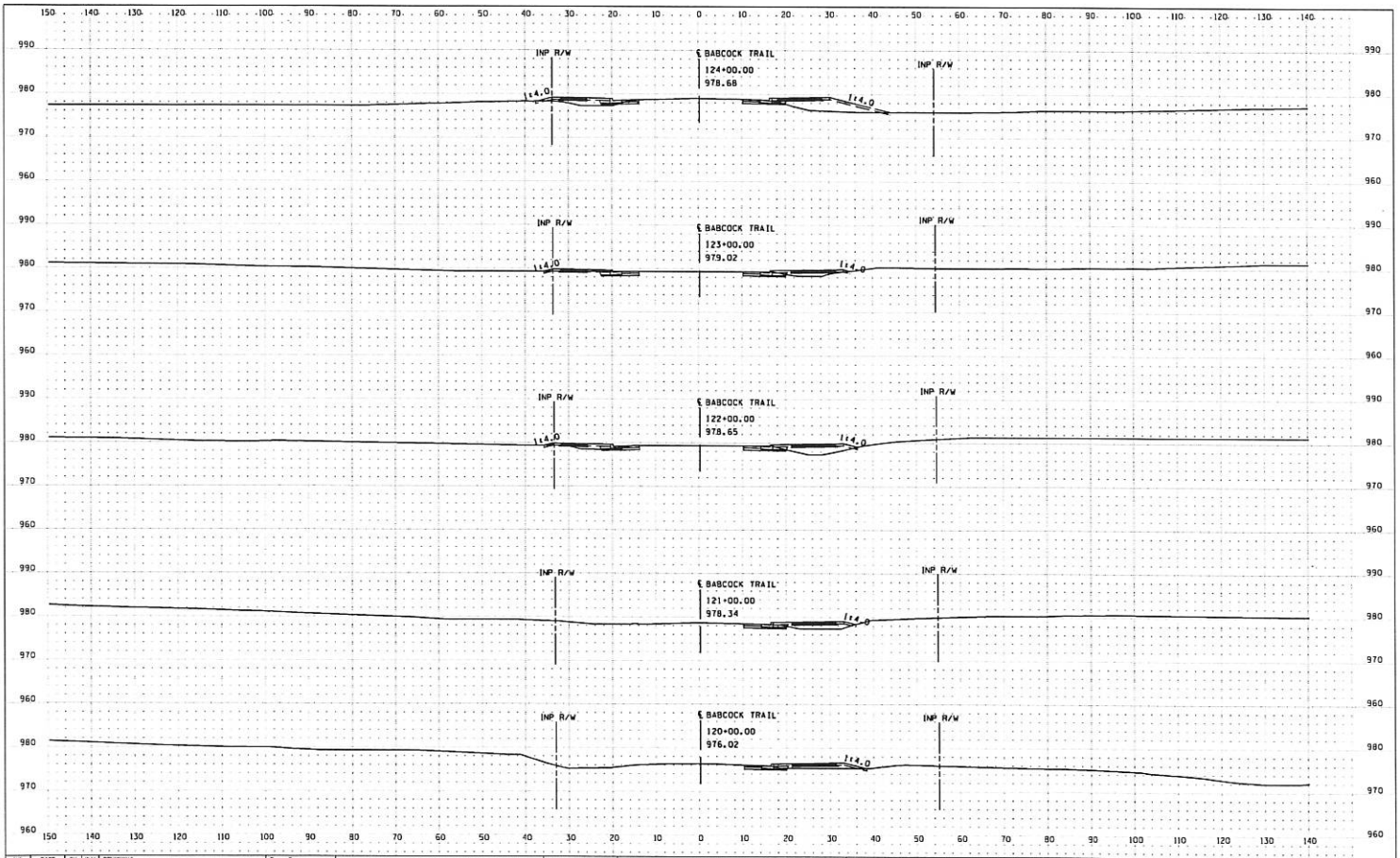
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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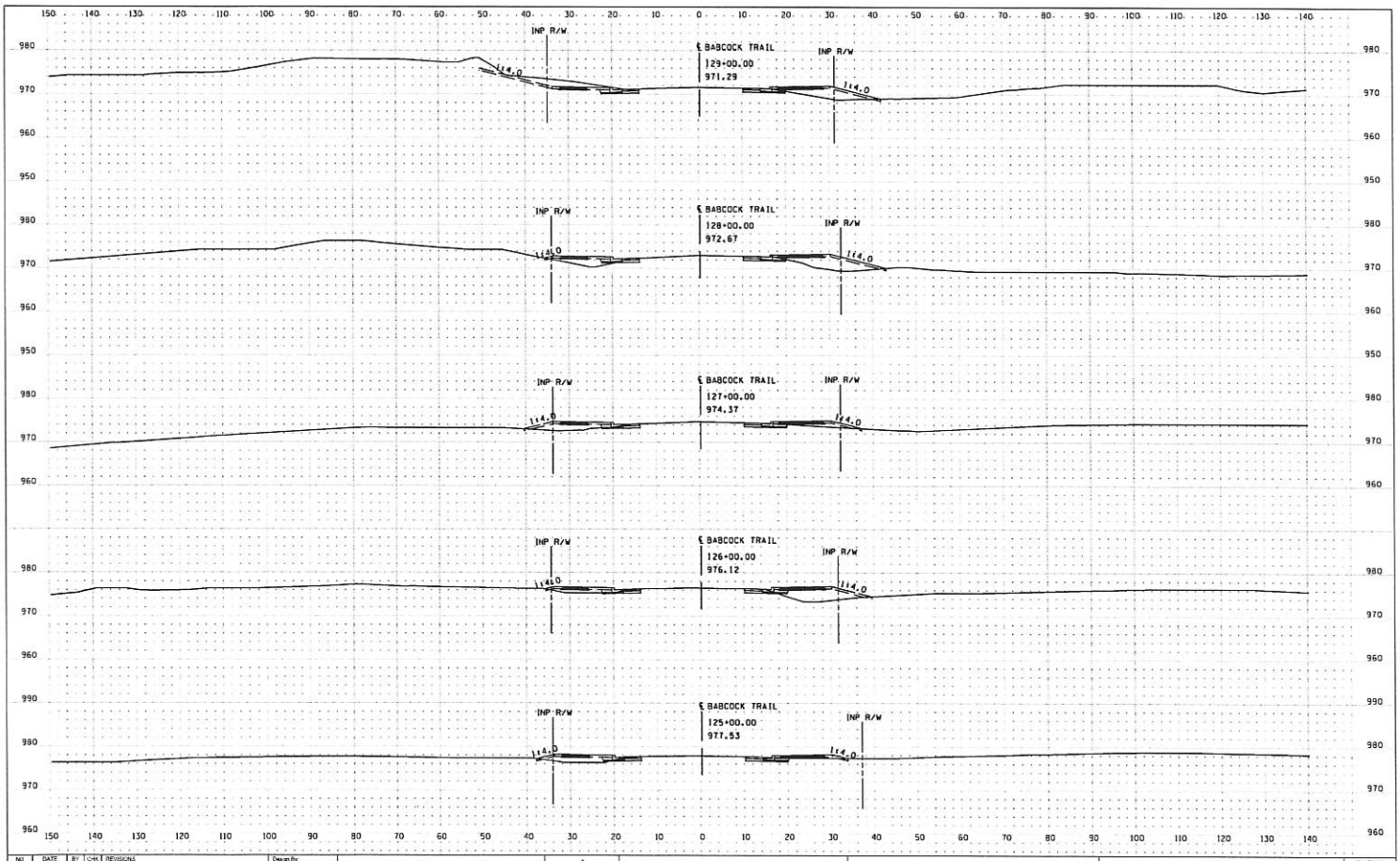
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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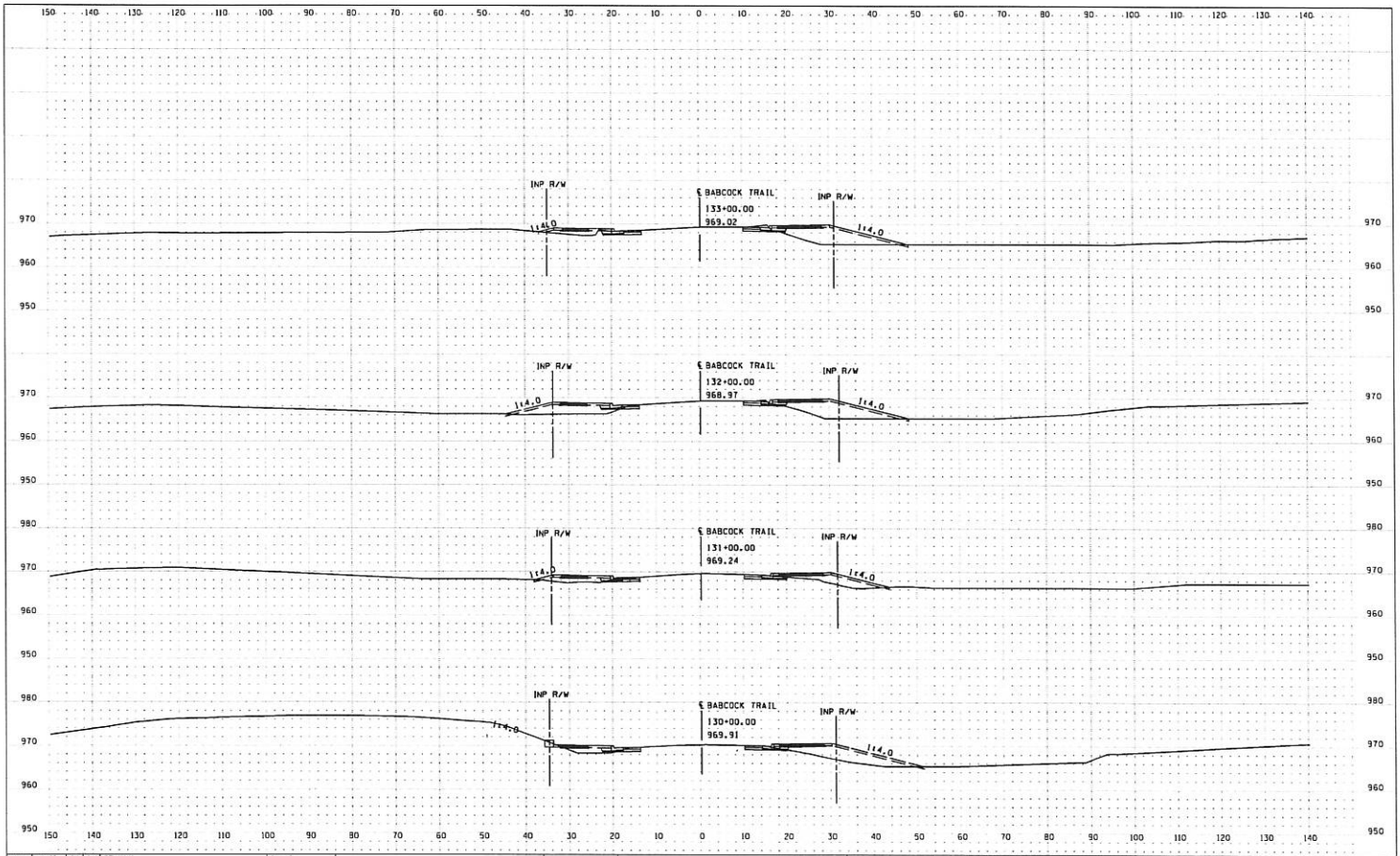
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
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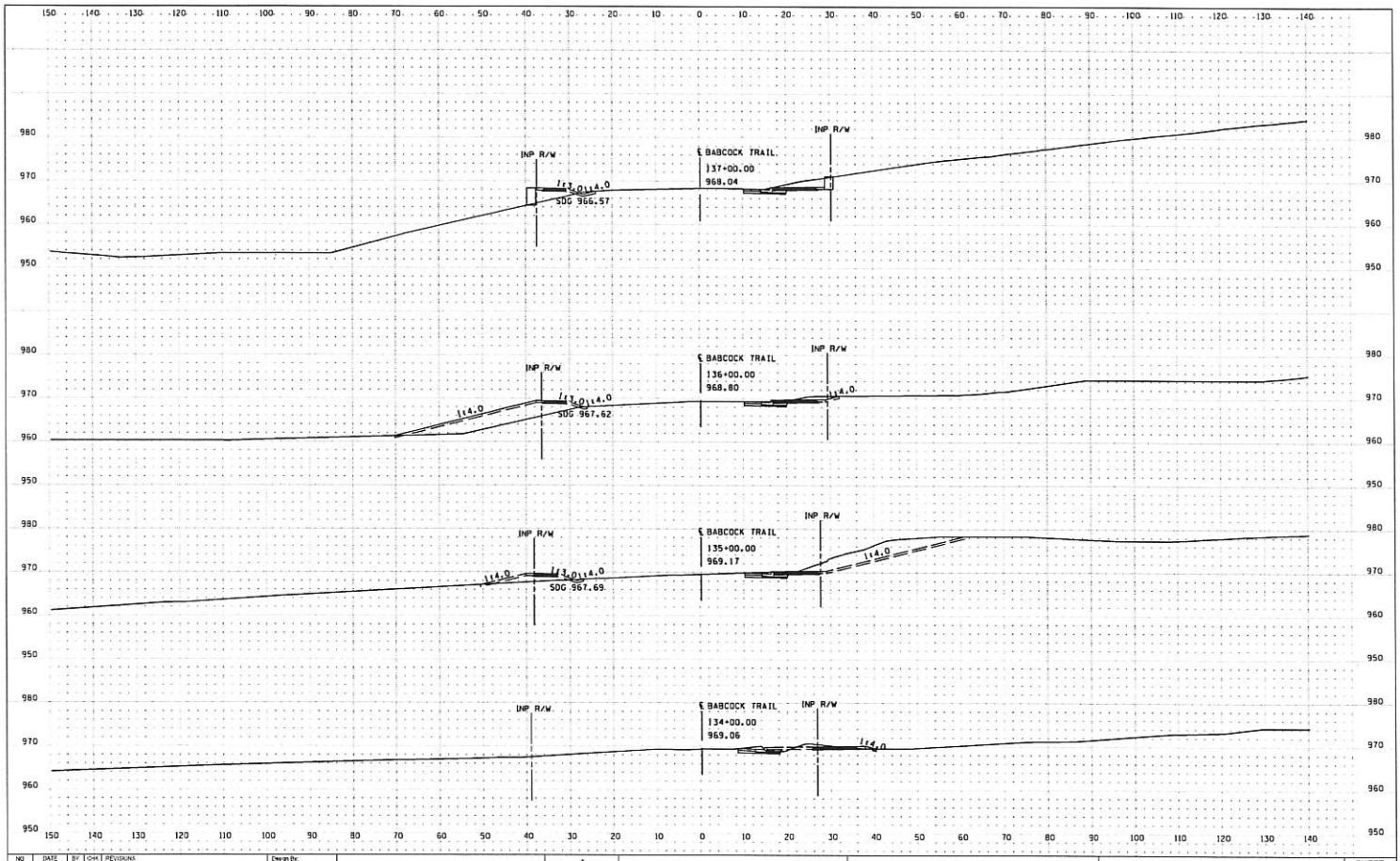
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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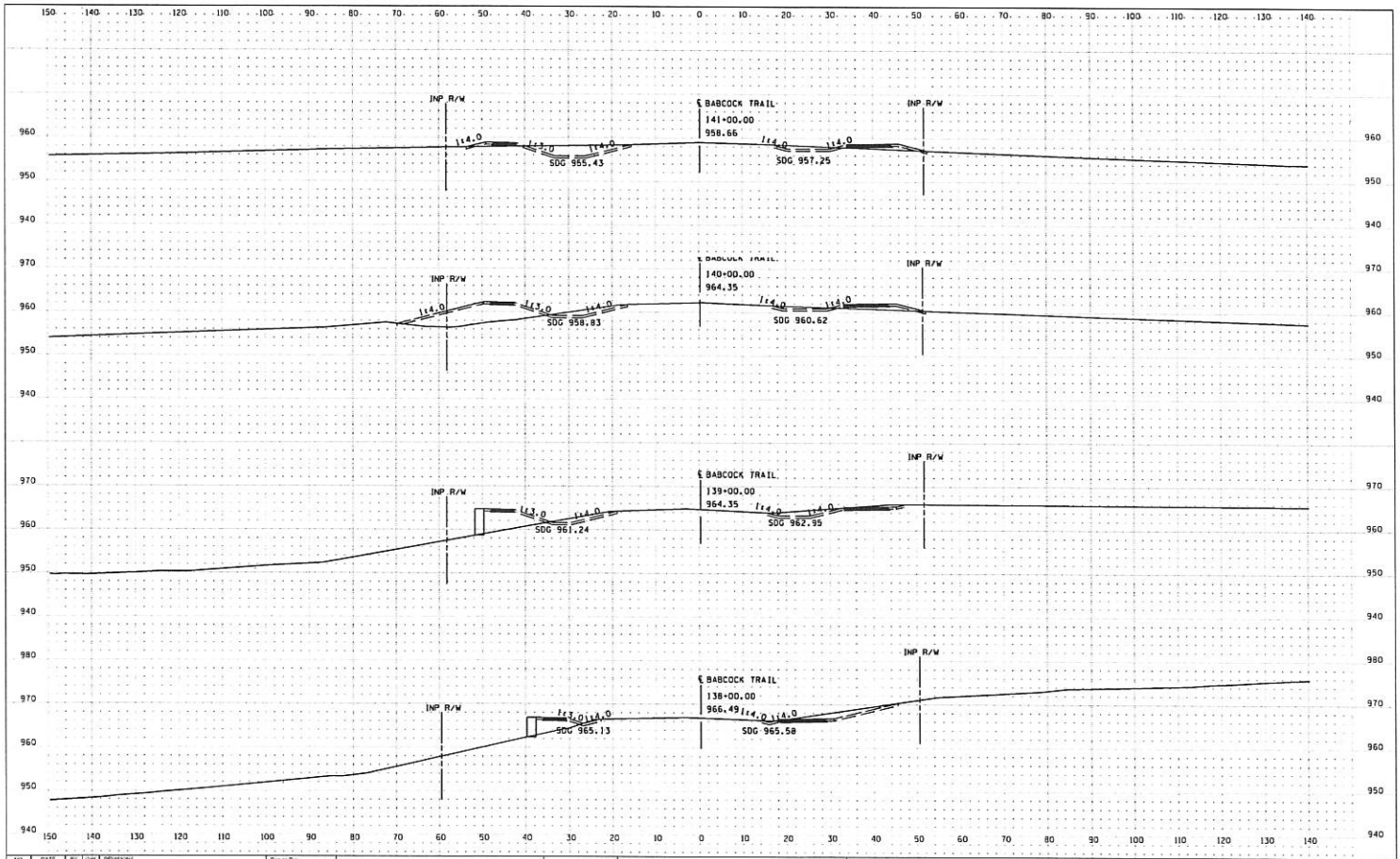
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BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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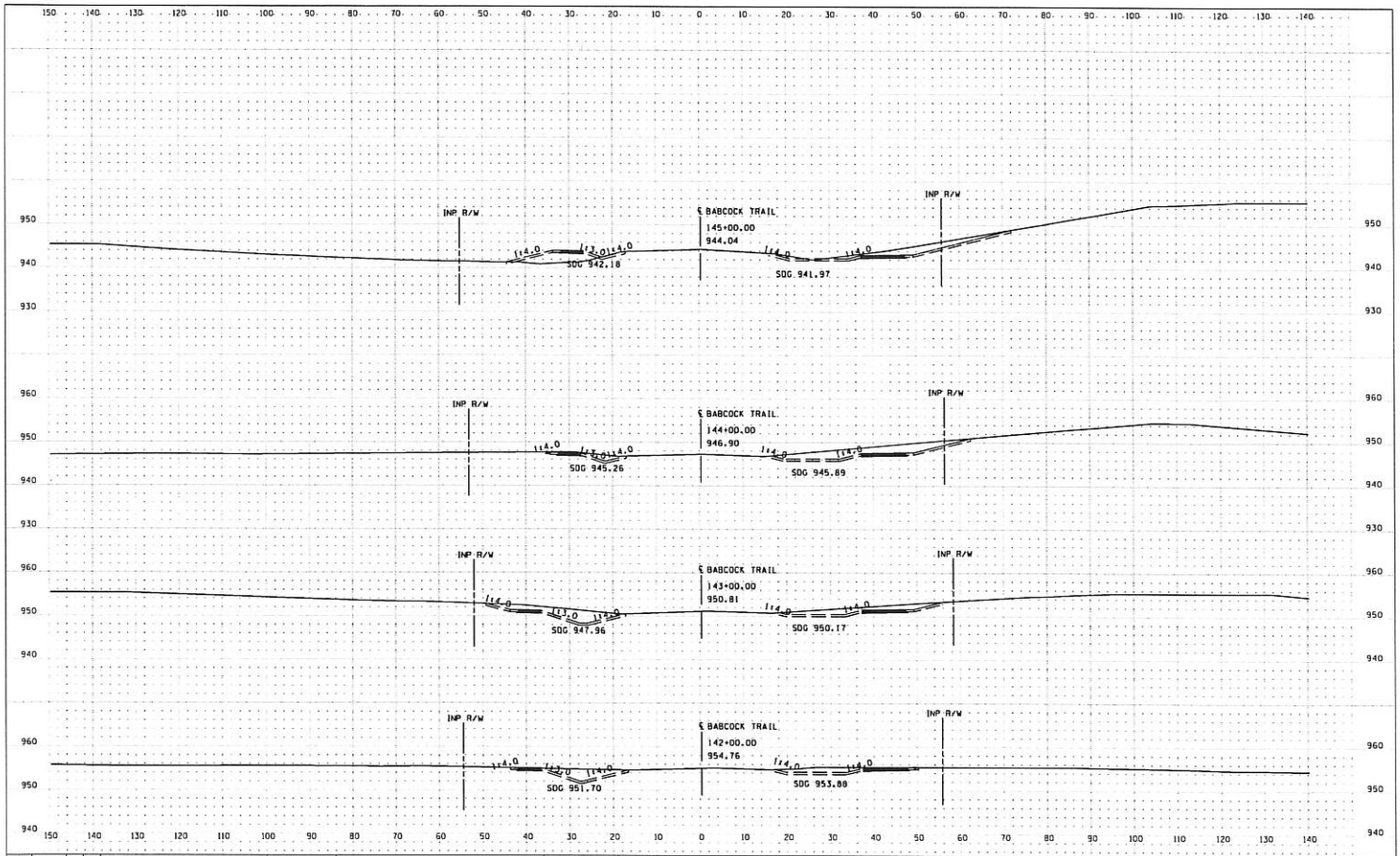
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BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

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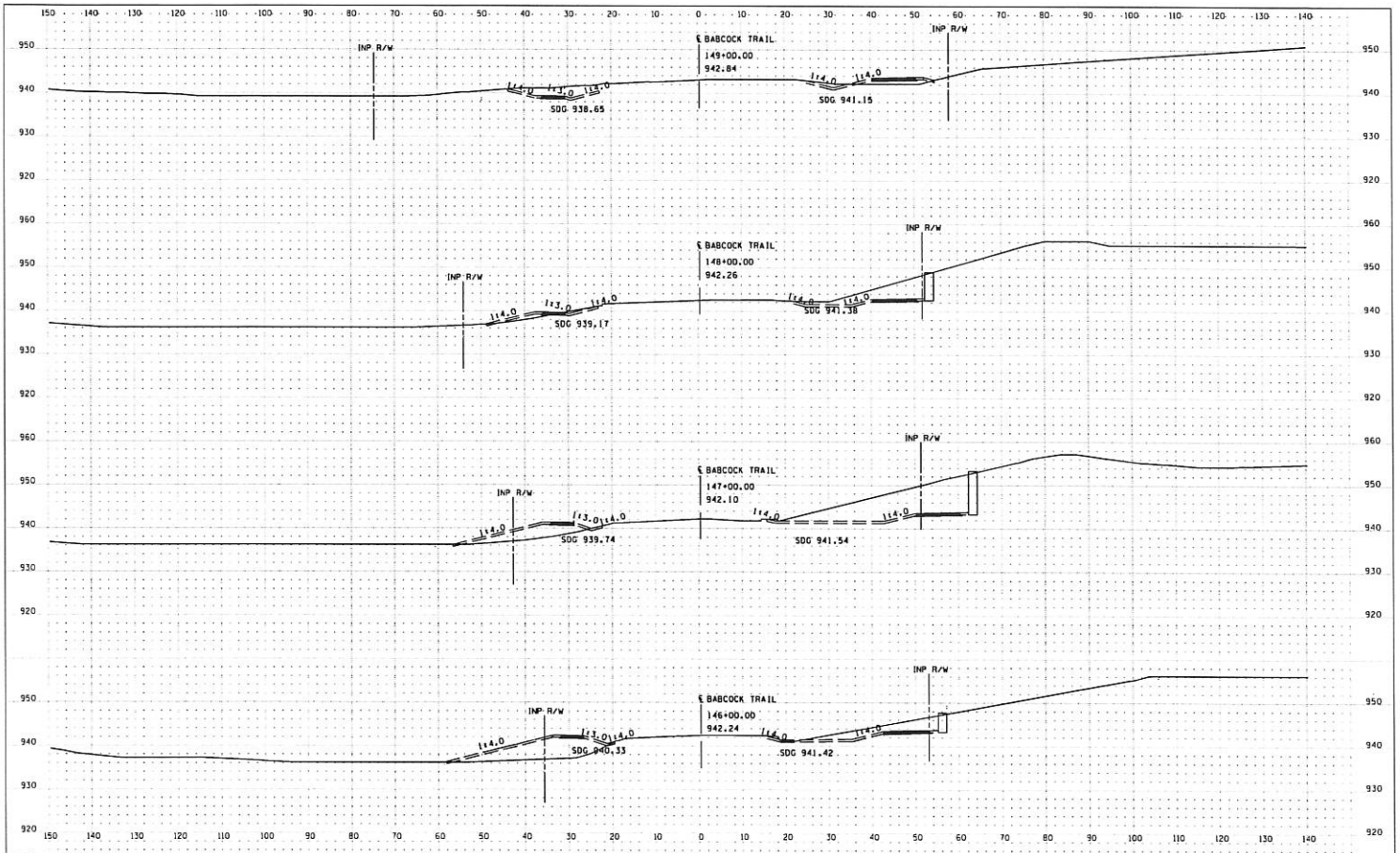
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BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
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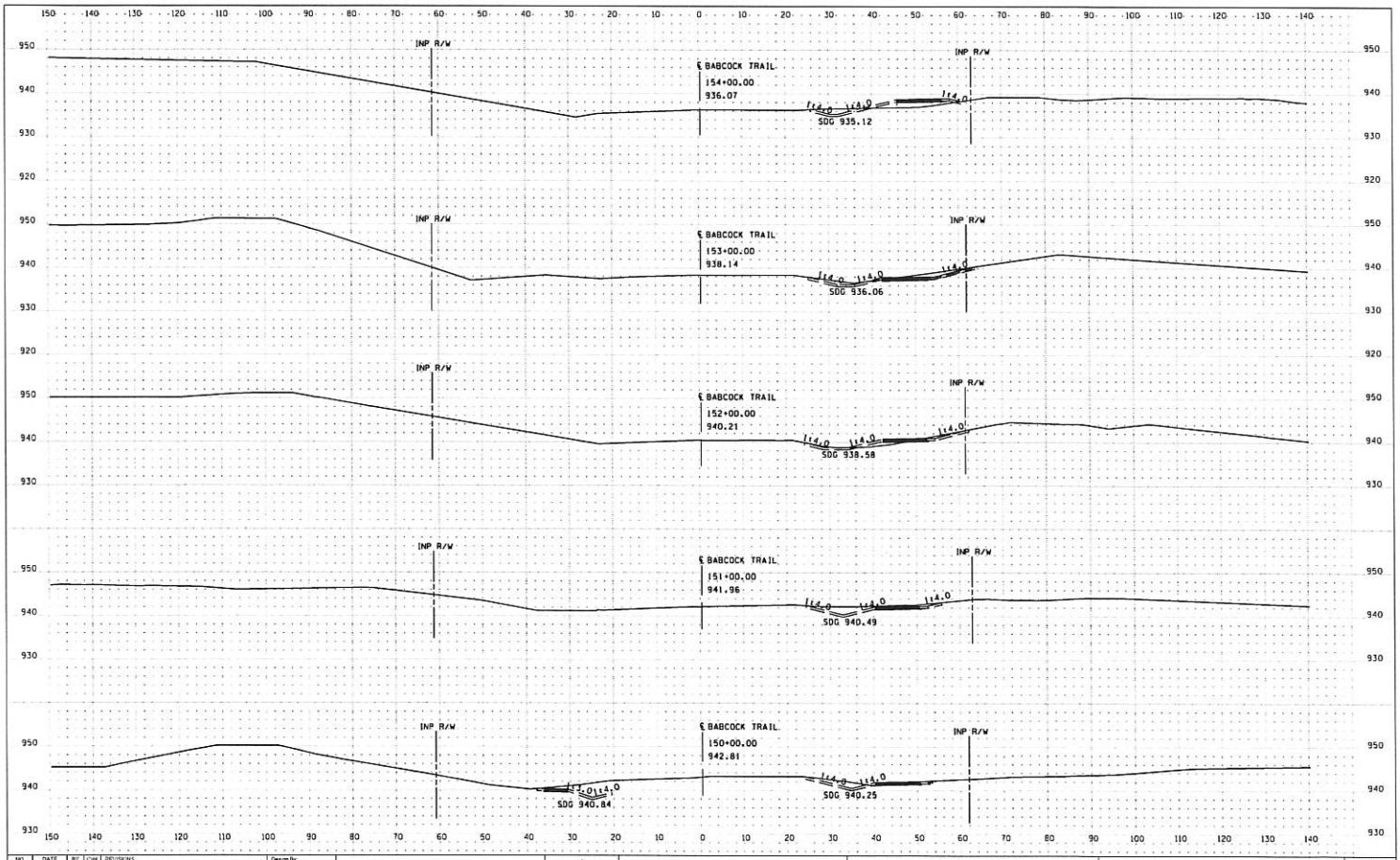
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
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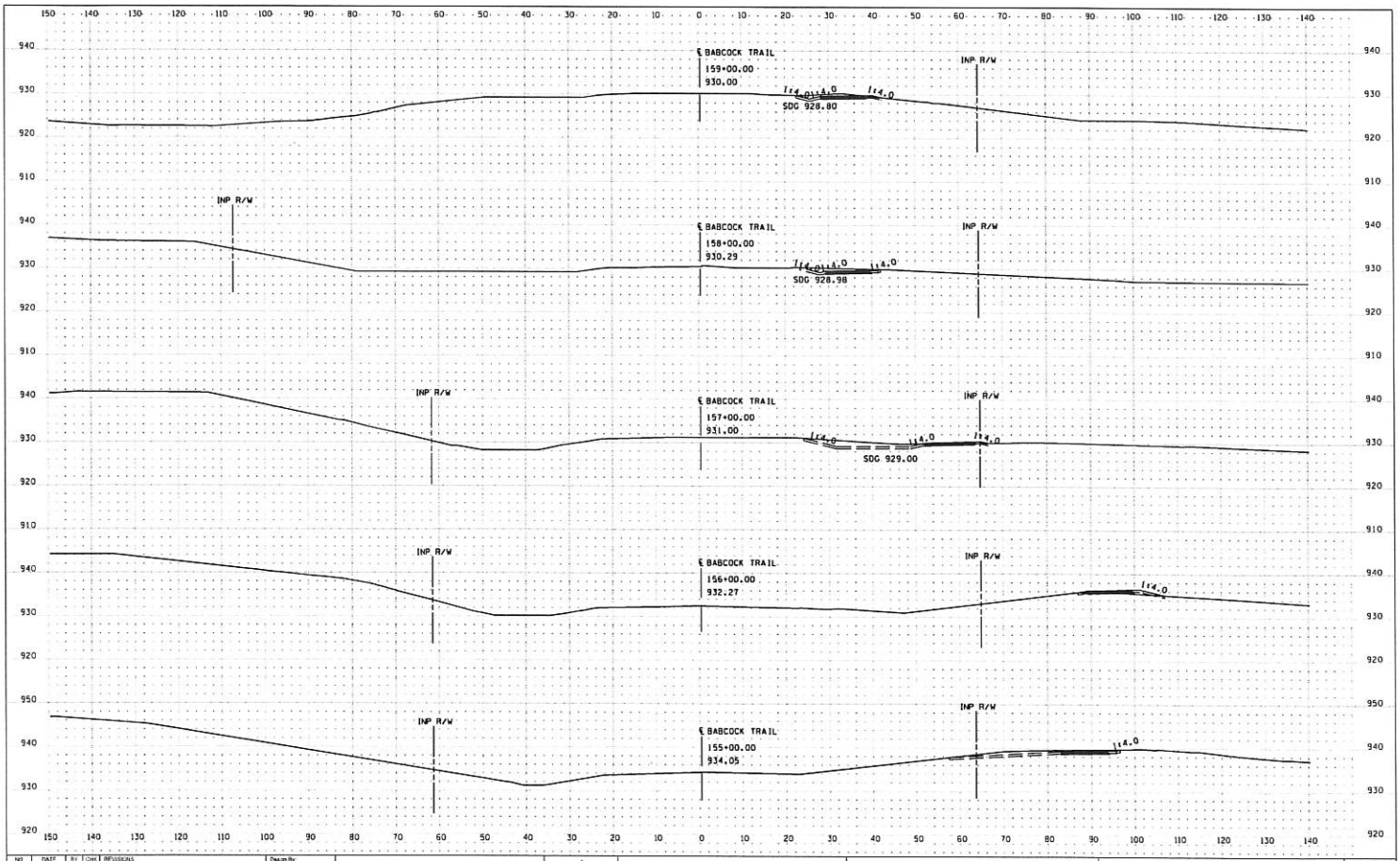
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CITY OF INVER GROVE HEIGHTS

BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
STA. 150+00.00 TO STA. 154+00.00
CROSS SECTIONS

SHEET X12 OF X13 SHEETS



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BABCOCK TRAIL IMPROVEMENTS
CITY OF INVER GROVE HEIGHTS

CITY OF INVER GROVE HEIGHTS, MN
STA. 155+00.00 TO STA. 159+00.00
CROSS SECTIONS

SHEET X13 OF X13 SHEETS

Appendix 2 – Opinion of Probable Costs

OPINION OF PROBABLE COST - BABCOCK TRAIL

Project: BABCOCK TRAIL
Location: INVER GROVE HEIGHTS, MN
Project No: 01702-280
Date: 10/9/2017

STATEMENT OF ESTIMATED QUANTITIES

Item No.	Description	Unit	Unit Price	PROJECT TOTAL		BABCOCK TRAIL SOUTH OF UPPER 55TH STREET		BABCOCK TRAIL NORTH OF UPPER 55TH STREET WEST SIDE		BABCOCK TRAIL NORTH OF UPPER 55TH STREET EAST SIDE	
				Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost
2021.501	MOBILIZATION	LUMP SUM	$20,000.00	1	$20,000.00	0.64	$12,800.00	0.14	$2,800.00	0.22	$4,400.00
2101.501	CLEARING	ACRE	$10,000.00	0.7	$7,300.00	0.3	$3,300.00	0.3	$2,600.00	0.1	$1,400.00
2101.502	CLEARING	TREE	$195.00	29	$5,655.00	9	$1,755.00	6	$1,170.00	14	$2,730.00
2101.506	GRUBBING	ACRE	$10,000.00	0.5	$4,700.00	0.3	$3,300.00			0.1	$1,400.00
2101.507	GRUBBING	TREE	$106.00	23	$2,438.00	9	$954.00			14	$1,484.00
2104.501	REMOVE PIPE CULVERTS	LIN FT	$12.00	429	$5,148.00	429	$5,148.00				
2104.501	REMOVE CURB AND GUTTER	LIN FT	$4.00	481	$1,924.00	128	$512.00	54	$216.00	299	$1,196.00
2104.503	REMOVE BITUMINOUS WALK	SQ FT	$0.70	787	$550.90	141	$98.70			646	$452.20
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ FT	$2.65	7385	$19,570.25	7385	$19,570.25				
2104.505	REMOVE CONCRETE WALK	SQ FT	$2.22	141	$313.02	141	$313.02				
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ FT	$5.00	2223	$11,115.00	2223	$11,115.00				
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	$4.00	3850	$15,400.00	3793	$15,172.00			57	$228.00
2104.509	REMOVE PIPE APRON	EACH	$250.00	28	$7,000.00	28	$7,000.00				
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	$3.00	10217	$30,651.00	10056	$30,168.00			161	$483.00
2104.523	SALVAGE SIGN TYPE C	EACH	$50.00	15	$750.00	13	$650.00	1	$50.00	1	$50.00
2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	$141.25	8	$1,130.00	6	$847.50	1	$141.25	1	$141.25
2104.523	SALVAGE MAIL BOX SUPPORT	EACH	$200.00	33	$6,600.00	33	$6,600.00				
2105.604	GEOTEXTILE FABRIC TYPE IV	SQ YD	$3.50	24	$84.00	24	$84.00				
2106.501	EXCAVATION - COMMON	CU YD	$8.00	8602	$68,816.00	2765	$22,120.00	1459	$11,672.00	4378	$35,024.00
2106.523	COMMON EMBANKMENT (CV)	CU YD	$5.00	10747	$53,735.00	6459	$32,295.00	1072	$5,360.00	3216	$16,080.00
2123.501	COMMON LABORERS	HOUR	$80.00	20	$1,600.00	10	$800.00	3	$240.00	7	$560.00
2123.509	DOZER	HOUR	$160.00	20	$3,200.00	10	$1,600.00	3	$480.00	7	$1,120.00
2123.510	10 CU YD TRUCK	HOUR	$180.00	20	$3,600.00	10	$1,800.00	3	$540.00	7	$1,260.00
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOUR	$140.00	20	$2,800.00	10	$1,400.00	3	$420.00	7	$980.00
2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	$25.00	1268	$31,700.00	1233	$30,825.00			35	$875.00
2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TON	$62.00	443	$27,466.00	425	$26,350.00			18	$1,116.00
2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B)	TON	$68.00	427	$29,036.00	420	$28,560.00			7	$476.00
2501.515	24" RC PIPE APRON	EACH	$620.00	1	$620.00	1	$620.00				
2503.511	15" RC PIPE SEWER CLASS V	LIN FT	$36.00	2849	$102,564.00	2405	$86,580.00			444	$15,984.00
2503.511	18" RC PIPE SEWER CLASS III	LIN FT	$42.00	453	$19,026.00	453	$19,026.00				
2503.511	24" RC PIPE SEWER CLASS III	LIN FT	$66.00	556	$36,696.00	556	$36,696.00				
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	$350.00	115	$40,250.00	95	$33,250.00			20	$7,000.00
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	$500.00	14	$7,000.00	14	$7,000.00				
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	$600.00	12	$7,200.00	12	$7,200.00				
2511.501	RANDOM RIPRAP CLASS III	CU YD	$60.00	12	$720.00	12	$720.00				
2521.501	4" CONCRETE WALK	SQ FT	$4.00	15672	$62,688.00	9067	$36,268.00	6605	$26,420.00		
2521.501	6" CONCRETE WALK	SQ FT	$10.00	4311	$43,110.00	2506	$25,060.00	634	$6,340.00	1171	$11,710.00
2521.511	3" BITUMINOUS WALK	SQ FT	$3.00	54269	$162,807.00	32106	$96,318.00			22163	$66,489.00
2531.501	CONCRETE CURB AND GUTTER DESIGN B624	LIN FT	$16.00	5574	$89,184.00	4510	$72,160.00	144	$2,304.00	920	$14,720.00
2531.618	TRUNCATED DOMES	SQ FT	$42.00	444	$18,648.00	276	$11,592.00	60	$2,520.00	108	$4,536.00
2540.602	INSTALL MAIL BOX SUPPORT	EACH	$200.00	33	$6,600.00	33	$6,600.00				
2540.618	STONE RETAINING WALL	SQ FT	$32.00	4689	$150,048.00	1023	$32,736.00	1872	$59,904.00	1794	$57,408.00
2563.601	TRAFFIC CONTROL	LUMP SUM	$10,000.00	1	$10,000.00	0.64	$6,400.00	0.14	$1,400.00	0.22	$2,200.00
2564.537	INSTALL SIGN TYPE C	EACH	$150.00	15	$2,250.00	13	$1,950.00	1	$150.00	1	$150.00
2564.537	INSTALL SIGN TYPE SPECIAL	EACH	$275.00	8	$2,200.00	6	$1,650.00	1	$275.00	1	$275.00
2573.502	SILT FENCE, TYPE MS	LIN FT	$4.00	14226	$56,904.00	5782	$23,128.00	6252	$25,008.00	2192	$8,768.00
2573.530	STORM DRAIN INLET PROTECTION	EACH	$250.00	26	$6,500.00	25	$6,250.00			1	$250.00
2573.533	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	$4.00	962	$3,848.00	481	$1,924.00			481	$1,924.00
2573.560	CULVERT END CONTROLS	EACH	$200.00	1	$200.00	1	$200.00				
2574.508	FERTILIZER TYPE 3	POUND	$0.80	337	$269.60	35	$28.00	140	$112.00	162	$129.60
2574.525	BOULEVARD TOPSOIL BORROW	CU YD	$30.00	3124	$93,720.00	1300	$39,000.00	847	$25,410.00	977	$29,310.00
2575.502	SEED MIXTURE 25-151	POUND	$24.00	114	$2,736.00	12	$288.00	55	$1,320.00	47	$1,128.00
2575.505	SODDING TYPE LAWN	SQ YD	$7.54	7826	$59,008.04	7826	$59,008.04				
2575.572	RAPID STABILIZATION METHOD 4	SQ YD	$2.50	2000	$5,000.00	1000	$2,500.00	465	$1,162.50	535	$1,337.50
2582.503	CROSSWALK PREFORM THERMOPLASTIC GROUND IN	SQ FT	$20.00	1242	$24,840.00	126	$2,520.00	558	$11,160.00	558	$11,160.00
	CONSTRUCTION TOTAL				$1,376,918.81		$881,809.51		$189,174.75		$305,934.55

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CITY OF
INVER GROVE HEIGHTS

8150 Barbara Avenue, Inver Grove Heights, MN 55077
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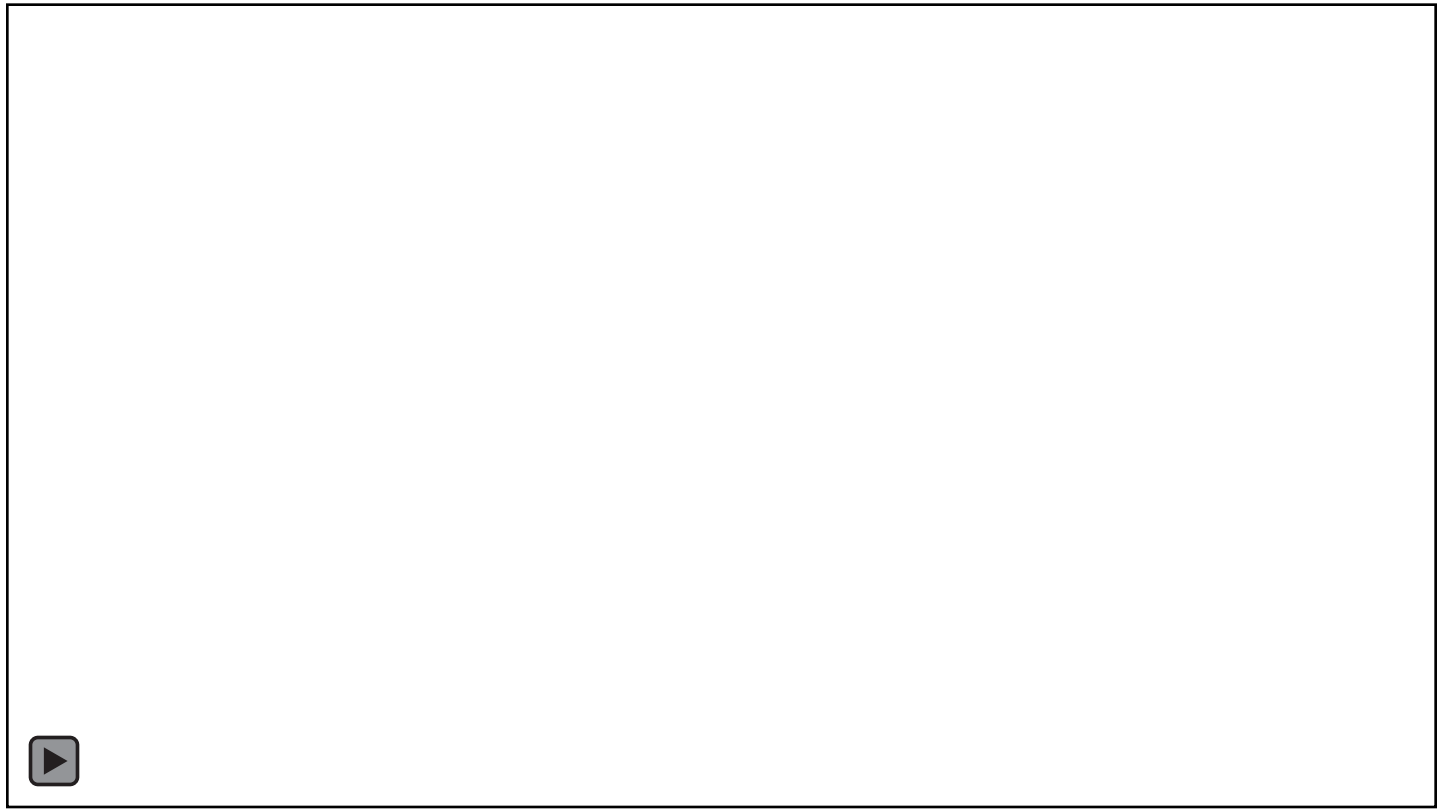
Cul-de-sac - No Parking

Issues regarding no parking signs in Cul-de-sacs have been come up recently with the rebuilding of existing streets resulting in a request for staff to prepare this presentation.

The no parking signage comes from the need to turn large vehicles such as fire trucks around in a safe manner.

Video

Video of the Inver Grove Heights ladder truck attempting to turn around in a 96’ cul-de-sac with cones simulating parked cars on the perimeter.



Emergency Vehicle Access Requirements

- Fire apparatus roads must be provided from the fire station to every facility, building or portion of a building within the City. (MSFC 503.1.1)

- Fire apparatus access roads in excess of 150 feet in length must be provided an approved turn around. (MSFC 503.2.5)

Public vs Private Roads

- A fire apparatus access road is defined as a road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as *fire lane*, public street, private street, parking lot lane and access roadway. (MSFC 202)

- Public and private streets are the means to provide fire apparatus access roads and to deliver public safety services (Police, Fire, and Streets(snow plowing)) and obstructing those streets, including cu-de-sacs, with on street parking diminishes both the speed and safety of that delivery.

Cul-de-sac Design

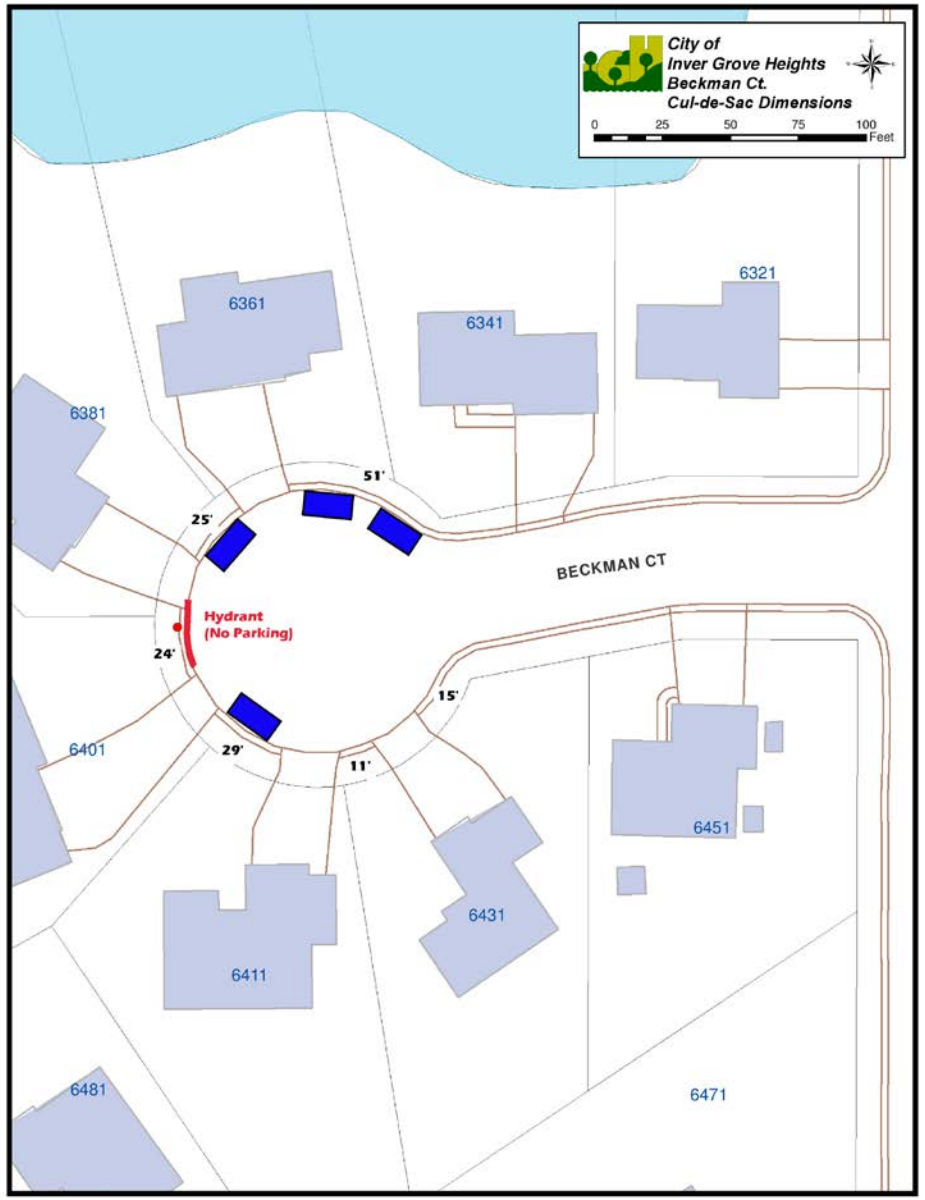
- Currently the standard cul-de-sac is 96 feet, however many in the NW area are being built at 110 feet but with rain gardens in the middle. There are some oddities at 70 feet, but they are exceptions rather than the standard.
- In order to allow parking on the side of a cul-de-sac, the would need to be at least 110 feet (without a rain garden) in order to allow large fire trucks the ability to turn around without having to back up.

Current ordinances and laws

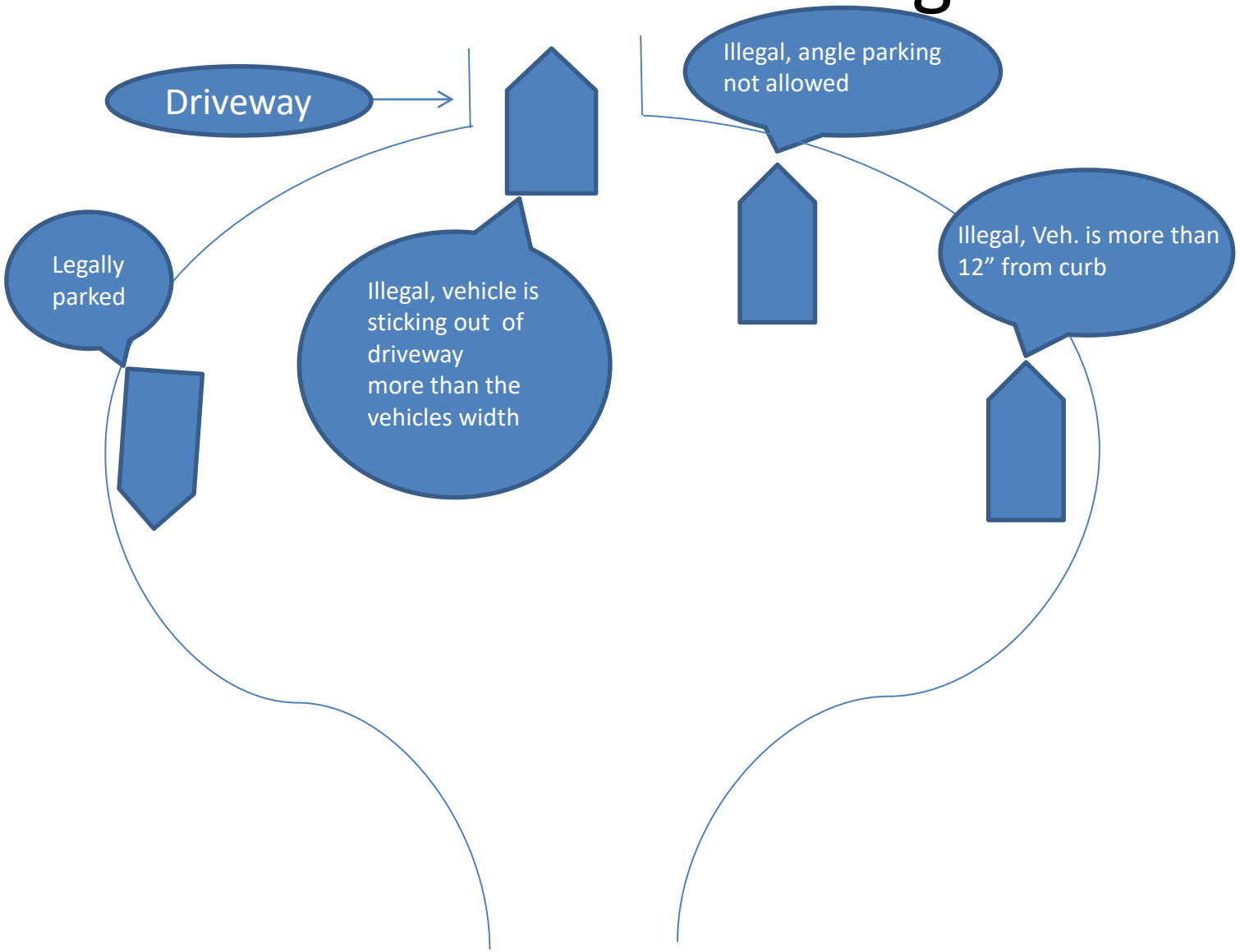
- Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances must be maintained at all times. (MSFC 503.4)
- Fire apparatus access roads shall have an unobstructed width of not less than 20 feet, exclusive of shoulders. (MSFC 503.2.1)
- Winter parking (no parking Nov. 1-Apr.1).(IGH 6-3-6)
- Must park within 12 inches of the right-hand curb.(MS 169.34)
- May not park for more than 20 consecutive hours.(IGH 6-3-14)
- Cannot block driveways.(MS 169.34)
- Must be 10 feet from a fire hydrant.(MS 169.34)
- Must be 30 feet from stop sign.(MS 169.34)
- No angle parking.(IGH 6-3-4)
- Fire Lane Ordinance (IGH 6-2) - signage and marking specifications fire lanes.

Sample Cul-de-sac

A random cul-de-sac is shown to the right. The dimensions in black show the number of curb feet that are available for parking not taking fire apparatus turning radius into account. An average midsize vehicle is 16 feet long and based on current parking regulations, there would be room for 4 vehicles to park in the cul-de-sac (shown in blue).



Cul-de-Sac Parking



No Parking Signs or No Parking Fire Lane Signs?

- It has been past practice that public roads are posted with standard no parking signs in accordance with the MN Manual on Uniform Traffic Code Devices and private roads are posted with no parking fire lane signs in accordance with IGH City Code 6-2.

- Public: 

Private: 

Authorization to designate parking zones

6-3-2: PARKING ZONES:
The council is authorized to designate parking zones and restrict the length of time parking shall be permitted at any place within the city. In establishing or changing parking zones or parking restrictions, the council shall pass a resolution at a meeting adequately describing and defining said parking zones or parking restrictions. (1974 Code § 1310.03)

Options

- Retain those previously posted and sign only new construction.
- Sign new construction and reconstruction as part of a city project.
- Sign every cul-de-sac in the city.
- Sign nothing.

AGENDA ITEM _____

CITY OF INVER GROVE HEIGHTS **REQUEST FOR COUNCIL ACTION**

Review of Dickman Trail Culvert Report (96" CMP)

Meeting Date:	November 6, 2017
Item Type:	Worksession
Contact:	Thomas J. Kaldunski, 651-450-2572
Prepared by:	Thomas J. Kaldunski, City Engineer
Reviewed by:	Scott D. Thureen, Public Works Director

Fiscal/FTE Impact:

	None
	Amount included in current budget
	Budget amendment requested
	FTE included in current complement
	New FTE requested – N/A
X	Other: Storm Water Utility, Special Assessments, UPRR Cost Share

PURPOSE/ACTION REQUESTED

Review Dickman Trail Culvert Inspection Report and consider funding sources and cost share opportunities to finance culvert repair.

BACKGROUND

The Dickman Trail Culvert (Culvert) is a 96-inch diameter corrugated metal pipe culvert located between 71st Street and 77th Street that carries stormwater runoff under Dickman Trail and the Union Pacific Railroad (Railroad). During 2015 the City discovered and repaired sloughing that had occurred above the Culvert at the driveway to the Gisch site located east of the railroad. During 2016 the City discovered and repaired settlement and sloughing that had occurred above the Culvert on the west shoulder of Dickman Trail. To determine if deterioration of the Culvert may have contributed to the observed sloughing and settlement, the City retained Barr Engineering Co. (Barr) to perform a detailed condition assessment of the Culvert and to prepare a report summarizing the inspection and providing recommendations and cost estimates for repairing or replacing the Culvert, if necessary. The Union Pacific Railroad (UPPR) crosses over this culvert.

Barr performed a detailed inspection on November 3, 2016 and documented the site conditions using the Pipeline Assessment Certification Program (PACP) developed by the National Association of Sewer Service Companies (NASSCO). Overall, Barr found the Culvert to be in fair to poor condition, with significant erosion and sloughing occurring on the adjacent slopes at the upstream and downstream ends of the culvert. A copy of Barr's report is included in the packet.

Barr recommended that the City perform a detailed structural and geotechnical evaluation to determine whether the Culvert retained sufficient integrity to be repaired or whether it would require replacement. If the evaluation determined that the Culvert could be repaired, and if the City and UPRR chose to do so, Barr recommended a series of repairs to fill existing voids around the culvert and to patch or line the culvert itself to seal damaged portions of the Culvert.

Whether repair or replacement are chosen, Barr recommended that maintenance be performed on the slopes at the upstream and downstream end of the Culvert to repair erosion; remove accumulated debris and sediment; and to clear vegetation that was growing around and above the Culvert. Barr also recommended that a headwall structure be constructed at the Culvert inlet and that two stormwater pipes discharging to the ravine at the upstream end of the Culvert be modified to alleviate the potential for future erosion.

Barr's planning level opinion of probable cost (OPC) for performing repairs and constructing a headwall structure ranged from $196,000 to $277,000 if a metal headwall was used and from $305,000 to $366,000 if a concrete headwall was used. The concrete headwall would provide the capability of temporarily ponding water at the upstream end of the Culvert, which could reduce the potential for future damage to the Culvert by reducing the discharge rate through the Culvert. An estimated cost for a ponding easement is therefore included in the concrete headwall option OPC.

Because the Culvert receives stormwater from the 1,000-acre South Grove Basin watershed and conveys it under Dickman Trail and the Railroad embankment, the Culvert is a key component of the city's stormwater system. Failure of the Culvert could lead to failures of the Dickman Trail roadway or the railroad embankments.

The Council will consider receiving and approving the Dickman Trail Culvert report on November 13, 2017. Funding sources will be considered for further investigations and for potential replacement or repair. Coordination with the Railroad to determine their willingness to share in the repair or replacement costs will also be considered.

TJK/kf
Attachments: 2017 Barr Engineering Co. Dickman Trail Culvert Inspection Report

Dickman Trail Culvert Inspection Report

Prepared for
City of Inver Grove Heights

May, 2017

Inspection Date: November 2016

Dickman Trail Culvert Inspection Report

Prepared for
City of Inver Grove Heights

May, 2017

Inspection Date: November 2016

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Phone: 952.832.2600

Dickman Trail Culvert Inspection Report

May, 2017

Inspection Date: November 2016

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Certifications

I hereby certify that this 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.



5-30-17

Joseph Welna
PE #: 49911

Date

1.0 Executive Summary

The City of Inver Grove Heights (City) retained Barr Engineering Co. (Barr) to conduct a condition inspection of the Dickman Trail culvert (culvert). The culvert conveys surface runoff under Dickman Trail and the adjacent railroad tracks operated by Union Pacific Railroad (Railroad) as shown in Figure 1-1.



Figure 1-1 Dickman Trail Culvert

The culvert is an approximately 96-inch diameter corrugated metal pipe, 335 feet long and generally runs perpendicular to Dickman Trail and the adjacent railroad. It carries flow from the majority of the South Grove Basin, a watershed of approximately 1,000 acres, which discharges to the Mississippi River at the 70th Street Outfall approximately 500 feet to the east as shown in Figure 1-2.

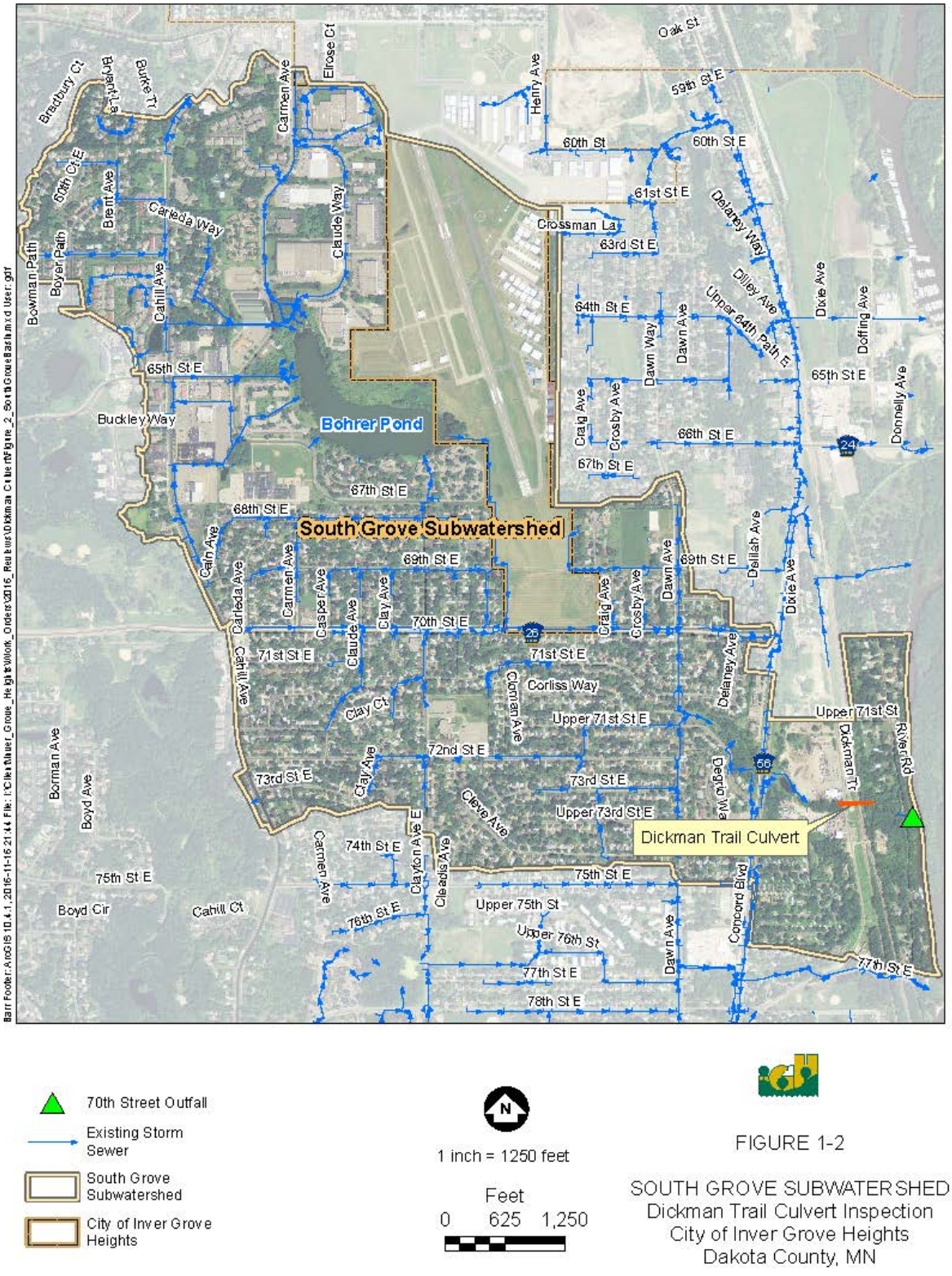


Figure 1-2 South Grove Basin

Barr documented the condition of the culvert using the Pipeline Assessment and Certification Program (PACP) developed by the National Association of Sewer Service Companies (NASSCO). The NASSCO coding allows for standardized quantification of defects and overall condition of the culvert.

Overall, Barr found the culvert in fair to poor condition, with the adjacent slopes experiencing significant erosion and sloughing. This report provides a summary of conditions observed and provides the following recommendations for consideration by the City:

1. Culvert Repair Recommendations

    a. Structural/Geotechnical Evaluation: **Barr recommends performing a structural/geotechnical evaluation of the existing culvert to determine if it can be repaired or requires replacement.**

    b. Invert Repair: **If the structural/geotechnical evaluation concludes that the culvert can be repaired, Barr recommends cleaning sediment and debris from the culvert and repairing the invert. If the structural/geotechnical evaluation concludes that the culvert cannot be repaired, culvert replacement may be required.**

    c. Culvert Voids: **Barr recommends filling the voids outside of the culvert with cementitious or chemical grout.**

    d. Transition Section Patch: **Barr recommends installing a patch or lining over the joint between the two culvert segments.**

2. Site Recommendations

    a. General Site Grading and Maintenance: **Barr recommends performing general maintenance of the inlet slope, including removal of vegetation and repair of erosion and sloughing damage.**

    b. Culvert Modification: **Barr recommends rerouting or modifying the two existing culverts that discharge mid-slope to prevent further erosion.**

    c. Inlet Area Cleanout: **Barr recommends removing accumulated sediment and debris from the pool upstream of the culvert to match the existing invert.**

    d. New Inlet Structure**: Barr recommends installing either a precast concrete or metal inlet structure at the pipe inlet.**

2.0 Background

City staff observed sloughing at the gravel driveway located east of the railroad (Figure 2-1) in 2015 and repaired the gravel surface at that time. During fall of 2016, City staff observed settlement and sloughing of the west shoulder of Dickman Trail at the location shown in Figure 2-1. Because the culvert receives stormwater from the 1,000-acre South Grove Basin watershed and conveys it under Dickman Trail and the Railroad embankment, it is a key component of the city's stormwater system. Failure of the culvert could lead to failures of the Dickman Trail and Railroad embankments.

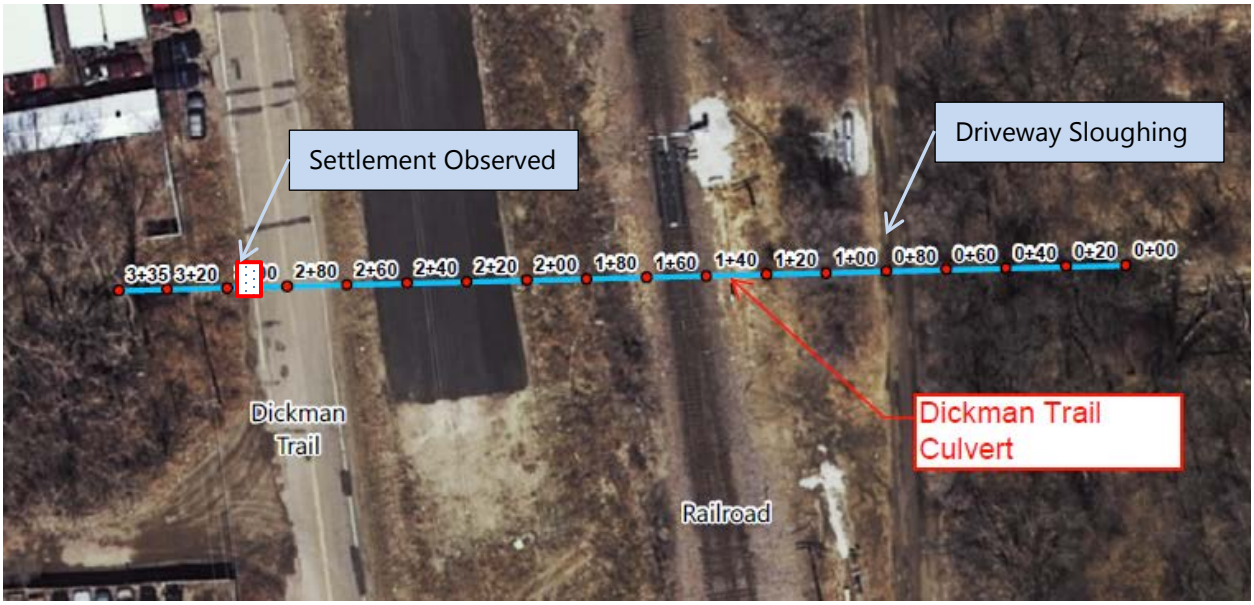


Figure 2-1 Dickman Trail Shoulder Settlement and Driveway Sloughing

The City temporarily repaired the road damage with bituminous patching as shown in Figure 2-2.

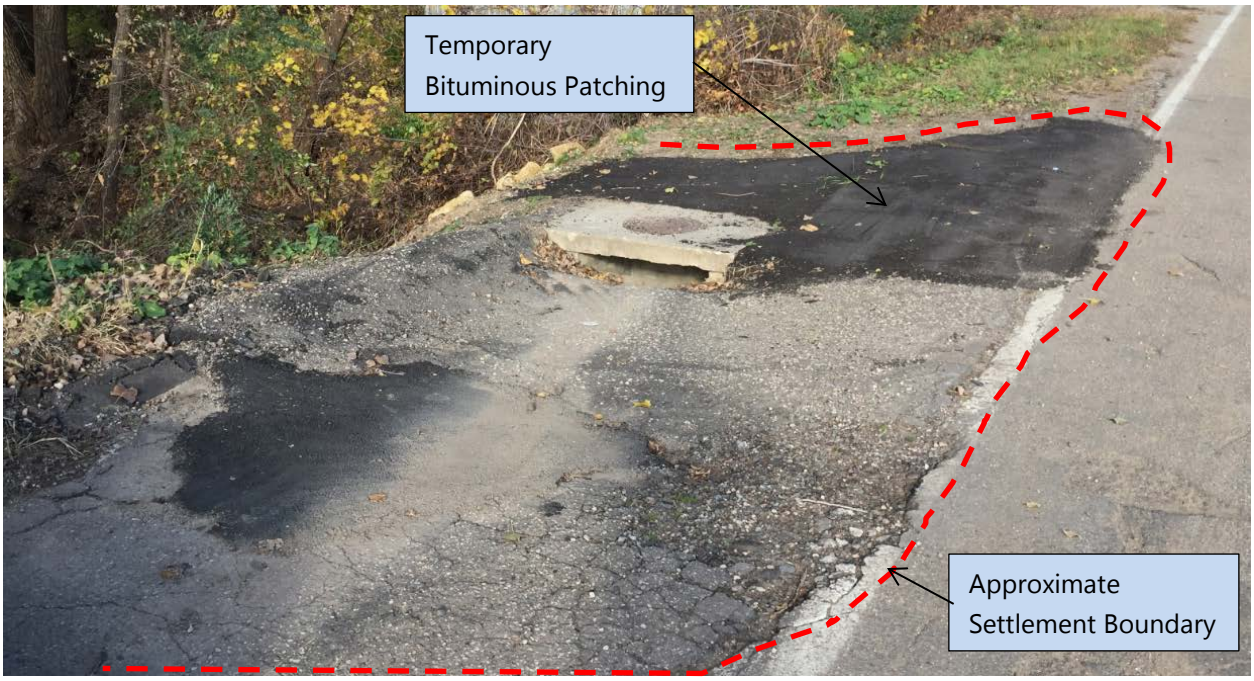


Figure 2-2 Temporary Bituminous Patching

The settlement and sloughing was directly above the culvert, so the City performed a cursory inspection of the culvert. This inspection found that the invert of the culvert was severely corroded with several sections where the invert wall was damaged or missing. The City retained Barr to perform a detailed condition assessment of the culvert, summarize the inspection findings in a report, and provide recommendations and a cost estimate for repairing the culvert. The City notified Railroad representatives that this inspection was being completed.

3.0 Inspection Summary

Barr and City staff performed field reconnaissance on November 2, 2016 to evaluate the safety of the access points. Barr inspected the culvert on November 3, 2016 with a two-person team inside the culvert performing the inspection and one person outside the culvert performing surface attendant duties. A tape measure was utilized to establish stationing, which was marked on the culvert wall using survey spray paint. Deficiencies, measurements, and observations were recorded in field books referenced to the stationing. Barr collected the following information as part of the inspection:

- general inspection observations
- defects observed
- photos of key observations and defects
- video of the entire culvert reach
- cross-section measurements (height and width) at roughly 20-foot increments
- void measurements (at the six o'clock position) at roughly 20-foot increments (where feasible)
- general observations of the adjacent site and slopes

3.1 NASSCO Rating System

Barr documented the site conditions using the Pipeline Assessment Certification Program (PACP) developed by the National Association of Sewer Service Companies (NASSCO). The following sections present a description of features identified during the inspection. All features fall under one of four categories: structural, operations and maintenance (O&M), construction features (Const.), or miscellaneous (Misc.).

All clock positions reported are associated with the direction of the inspection with 12:00 at the crown and 6:00 at the invert position. The inspection was conducted walking upstream against the flow (increasing stationing or from east to west).

3.1.1 Structural Defects

The structural category of defects includes various types of defects where the pipe has been damaged or is otherwise defective structurally. Only the defects encountered during the inspection are summarized below.

3.1.1.1 Hole – Void Visible

Hole – Void Visible (HVV) refers to a section or portion of pipe where material is missing and pieces have become completely dislodged and a void is visible beyond the hole.

3.1.1.2 Surface Damage - Corrosion

Surface damage – corrosion (SCP) refers to a condition where the wall of a metal pipe shows deterioration and or degradation as a result of chemical attack.

3.1.1.3 Joint - Offset

Joint - offset (JO) is used to describe where two pipes of different dimensions are connected.

3.1.1.4 Buckling – Wall

Buckling – wall (BW) refers to out-of-plane deformation in the pipe wall.

3.1.2 Operations and Maintenance Defects

The operations and maintenance category of defects includes various types of foreign objects and material that are found in pipes during inspections that may interfere with conveyance performance. Only the defects encountered during the inspection are summarized below.

3.1.2.1 Settled Deposits - Gravel

Settled deposits – gravel (DSGV) is used to describe when gravel and other sediments have settled in the invert of the pipe. Deposits can cause flow turbulence and partial blockages that can result in a decrease of hydraulic capacity.

3.1.3 Construction Features

The construction feature codes describe conditions associated with the methods used to construct pipes. Only the features encountered during the inspection are included below.

3.1.3.1 Line Up

Line up (LU) refers to when the pipe alignment deviates upward. The direction is referenced walking upstream.

3.1.3.2 Access Point – End of Pipe

Access point – end of pipe (AEP) refers to when a pipe ends without a manhole, cleanout or other structure.

3.1.4 Miscellaneous Features

The miscellaneous codes include features and defects and observations that are not included in the other categories. Only observations encountered during the inspection are included below.

3.1.4.1 Dimension/Diameter/Shape Change

Dimension/Diameter/Shape change (MSC) refers to a change in the pipe cross-section.

3.1.4.2 General Observation

General observation (MGO) is used in conjunction with the "comments" section to record additional information that is not covered under PACP coding.

3.1.4.3 Water Level

Water level (MWL) is used to describe the depth of water in the sewer at the time of inspection.

3.1.4.4 Water Level – Sag

Water level – sag (MWLS) is used to describe a sag or dip in the pipe. A sag is defined as a condition where the grade of the pipe is poor and results in water being trapped by a reverse grade downstream.

4.0 Inspection Findings

Overall, Barr found the culvert to be in fair to poor condition. The inspection findings are presented in the following order:

- general site observations
- culvert defects
- measured voids
- cross section measurements

4.1 General Site Observations

Before entering the culvert, Barr made general observations regarding the existing site conditions.

Existing Erosion and Culverts: Barr observed significant erosion of the slopes at both the culvert inlet and outlet. Existing storm sewer outfalls lack erosion protection and are contributing to erosion where they discharge mid-slope as shown in Figure 4-1.



Figure 4-1 Existing Erosion and Storm Drain Outfalls at the Culvert Inlet

Existing Vegetation: Both the upstream and downstream slopes are generally overgrown with trees and vegetation. The culvert inlet has a 10-inch-dia. tree growing directly on top of it as shown in Figure 4-2.



Figure 4-2 Existing Vegetation at the Culvert Inlet

Accumulation of Sediment and Debris: Barr observed significant accumulations of debris and sediment to roughly 2–3 feet above the existing invert of the culvert inlet at the upstream pool as shown in Figure 4-3.



Figure 4-3 Sediment and Debris Accumulation at the Culvert Inlet

Base Flow Traveling Outside of Culvert: The culvert inlet and outlet were examined prior to entering. The existing base flow was conveyed on the outside of the culvert as shown in Figure 4-4.



Figure 4-4 Base Flow Traveling Outside of Culvert at the Culvert Outlet

4.2 Culvert Defects

Barr observed several significant defects within the culvert. Figure 4-5 summarizes the defects and corresponding station. The most significant defects are discussed herein:

Dickman Trail Culvert - Inspection Notes[1]

START STATION	END STATION	Code	Type	Clock From	Clock To	Length (ft.)	Notes
0+00		Start Against Flow	N.A.				11/3/16 9:00 A.M. Culvert inspection (92"tall x 95"wide) started at outlet of pipe and was conducted walking upstream, against the flow. Inspectors: Joe Welna & Patrick Brockamp. Weather: clear, mid 60's.
0+00		AEP	Const.				Access - end of pipe (outlet at east end)
0+00		MWL	Misc.				Water level in culvert - dry
0+00	3+35	SCP	Structural	6		335	Surface Damage - Corrosion
0+00	1+40	HVV	Structural	6		140	Hole - Void Visible (invert material is partially missing)
0+00		MWL	Misc.	6			Water level in culvert - dry (visible water running below culvert)
0+70		MWL	Misc.	6			Water level - 1-2 inches running in culvert
1+65	1+85	DSGV	O&M	6		20	Settled deposits in invert (gravel, sand, cobbles)
1+82		MSC	Const.				Shape/dimension change (culvert is roughly 6" taller - 98"tall x 92" wide)
1+82		JO	Structural	10	2		Offset joint (roughly 6", expandable foam installed in offset joint)
1+95		MWL	Misc.				Water level in culvert - 12"
1+70	2+70	MWLS	Misc.			100	Sag in culvert alignment (stagnant water)
2+23	3+35	HVV	Structural			112	Hole - Void Visible (invert material is partially missing)
2+70		LU	Const.				Culvert alignment slope increases to inlet
2+80	2+90	KW	Structural			10	Invert joint buckled (up to 9" of displacement)
3+35		MGO	Misc.				Culvert inlet is plugged with debris and sediment (roughly 3' above invert)
3+35		AEP	Const.				Access - end of culvert (west)
3+35		End of Survey	N.A.				End of survey

[1] Additional information was collected during the inspection including: photos, void measurements, culvert cross section measurements, and video.

Figure 4-5 Culvert Defects Summary

Surface Damage - Corrosion: Barr observed significant corrosion for the entire reach of the culvert. Due to the corrosion, portions of the culvert wall are missing between station intervals 0+00 to 1+40 and 2+23 to 3+35. A typical photo of corrosion encountered is shown in Figure 4-6.



Figure 4-6 Typical Corrosion

Settled Gravel Deposits: Accumulated settled deposits and debris were encountered between sta. 1+65 and 1+85 as shown in Figure 4-7.



Figure 4-7 Settled Gravel and Deposits

Offset Joint: An offset joint was encountered at sta. 1+82 where it appears that two culverts of different dimensions were connected. Currently there is expandable foam installed in the overlap as shown in Figure 4-8.



Figure 4-8 Offset Joint

Pipe Buckling: Barr observed buckling at the invert of the pipe between sta. 2+80 and 2+90 as shown in Figure 4-9. Barr measured up to 9 inches of displacement at this location.



Figure 4-9 Pipe Buckling

4.3 Void Measurements

Barr measured voids below the culvert at roughly 20-foot increments by probing through the areas where the culvert invert was missing. The void depths ranged from 1 inch to 15 inches with an average void depth of roughly 6 inches as shown in Figure 4-10.

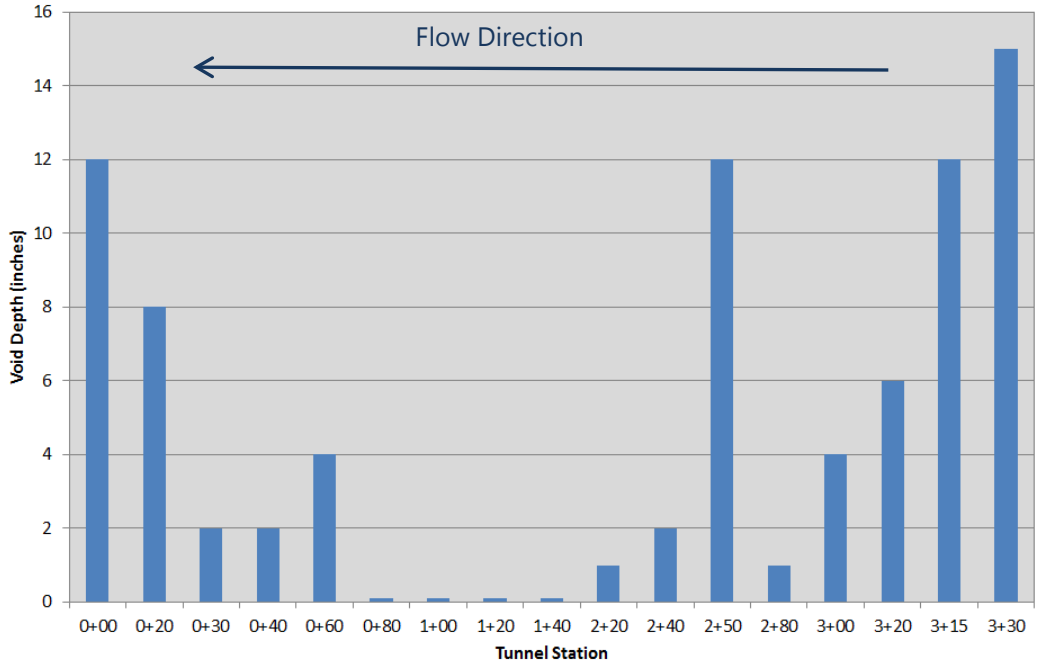


Figure 4-10 Void Measurements at Culvert Inlet

4.4 Culvert Measurements

Barr measured culvert dimensions (height and width) at roughly 20-foot increments. Overall, the culvert dimensions varied with a noticeable dimension change at sta. 1+82 as shown in Figure 4-11.

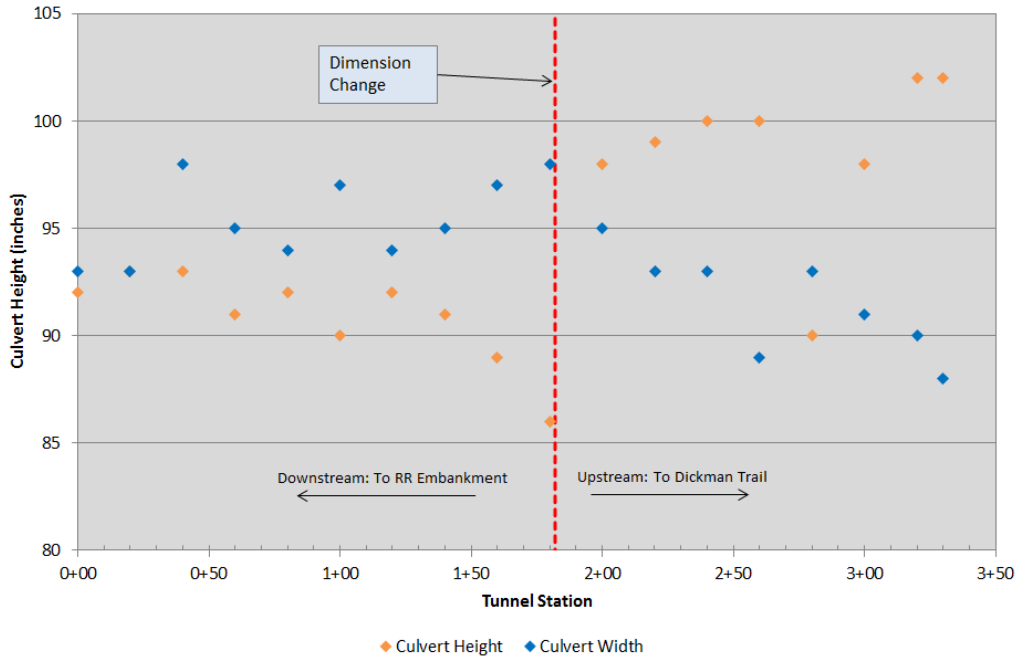


Figure 4-11 Culvert Dimensions

5.0 Recommendations

This section provides recommendations for ongoing maintenance and/or repair of the site and culvert based on the inspection findings summarized in Section 4.0. The recommendations are grouped in two categories: culvert repair recommendations and site recommendations.

5.1 Structural/Geotechnical Evaluation

Due to material missing in the culvert invert and observed buckling, Barr recommends performing a structural/geotechnical evaluation of the existing culvert to determine if repair or replacement is required.

5.2 Culvert Repair Recommendations

Recommended repairs associated with the culvert include:

- invert repair
- fill culvert voids
- patch transition section

A summary of each recommendation is discussed herein:

5.2.1 Invert Repair

If the structural evaluation concludes that the culvert can be repaired, Barr recommends cleaning sediment and debris from the culvert and repairing the invert. A suitable repair may include stabilizing the subgrade and installing a reinforced concrete patch as shown in Figure 5-1.

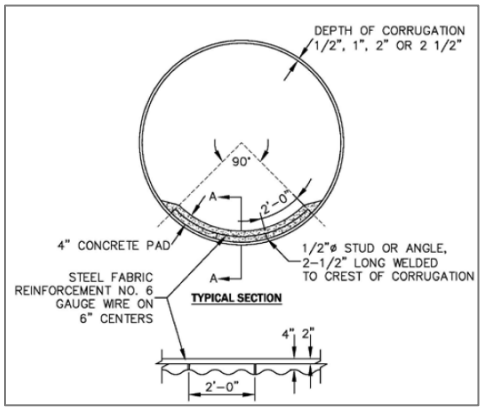


Figure 5-1 Reinforced Concrete Invert Patch

If the structural evaluation concludes that the culvert cannot be repaired, culvert replacement may be required.

5.2.2 Fill Culvert Voids

Barr recommends stabilizing the subgrade by filling the voids outside of the culvert. Void filling includes installing ports through the culvert wall and pumping grout until the voids are filled. Cementitious or chemical grouts may be suitable to fill the voids.

5.2.3 Patch Transition Section

Barr recommends patching the transition section (where the culvert dimensions change) to prevent water and soil infiltration into the pipe. Potential patches would consist of a welded plate or a liner section over the joint.

5.3 Site Repair Recommendations

Recommended repairs associated with the site include:

- slope grading and erosion protection
- culvert modification
- inlet area cleanout
- cast-in-place concrete inlet structure

A summary of each recommendation is discussed herein:

5.3.1 Slope Grading and Erosion Protection

Barr recommends re-grading the slopes at the pipe inlet and outlet to repair erosion damage and remove excessive vegetation.

5.3.2 Culvert Modification

Barr recommends modifying the two existing culverts so they do not discharge onto the unprotected slope. The culverts may be extended or their alignment modified to discharge within the pool or in an erosion-protected channel.

5.3.3 Inlet Pool Cleanout

Barr recommends cleaning out accumulated sediment and debris from the inlet area to match the existing invert of the culvert.

5.3.4 Inlet Structure

Barr recommends using one of two potential options for improving the inlet structure. The City has proposed a feasibility study for this modification as part of City Project 2016-01.

Option 1: A precast concrete inlet structure at the pipe inlet. The structure would be designed to retain earth up the slope and direct drainage into the culvert. An example of a typical concrete inlet structure is shown in Figure 5-2.



Figure 5-2 Concrete Inlet Structure

Option 2: A metal inlet structure with wing walls mitered to fit the re-graded slope. For this option the pipe would be extended using metal pipe, and a metal inlet structure with wing walls mitered to fit the re-graded slope would be installed. An example of a metal inlet structure is shown in Figure 5-3.



Figure 5-3 Metal Inlet Structure

5.4 Funding Opportunities

The City has identified several sources to fund culvert repairs, including, but not limited to:

- City storm water utility
- Union Pacific Railroad agreements
- Stormwater assessments or stormwater taxing district
- Minnesota Pollution Control Agency point source implementation grant (PSIG) opportunities through City Project 2016-01
- Other grant opportunities for water quality improvements through organizations such as the Dakota Soil and Water Conservation District and the Lower Mississippi River Watershed Management Organization.

5.5 Opinion of Probable Cost

Barr developed planning level opinions of probable cost (OPC), which are included as Appendix B and summarized in Table 5-1. The OPC is based on a high-level concept design and is intended to provide the City with an order-of-magnitude budget for repair, design and construction costs. In order to refine these costs, Barr recommends performing a detailed site survey to better-inform assumed measurements and quantities.

The OPC includes engineering services costs as a percentage of the project cost. Preliminary engineering includes preparing a feasibility study to finalize the concept design and develop a cost estimate suitable for a project budget. Final engineering includes completing the final design, preparing plans and specifications, and providing bidding services.

Table 5-1 Planning Level Opinion of Cost Summary

Item	Option 1 Concrete Inlet Structure	Option 2 Metal Inlet Structure
Mobilization	$16,000 to $23,000	$14,000 to $19,000
Structural Investigations and Detailed Site Survey	$5,000 to $7,000	$5,000 to $7,000
Structural Culvert Repair[1]	$96,000 to $136,000	$96,000 to $136,000
Slope Repair	$37,000 to $52,000	$37,000 to $52,000
Inlet Improvements	$30,000 to $43,000	$6,000 to $9,000
Ponding Easement Acquisition (0.5 acres)	$30,000 to $40,000	N/A
Engineering Services	$45,000 to $64,000	$38,000 to $54,000
TOTAL	$259,000 to $365,000	$196,000 to $277,000

1 The structural investigation will verify whether a structural repair will adequately restore the integrity of the culvert or if the culvert requires replacement.

6.0 References

1. National Association of Sewer Service Companies (NASSCO). "Pipeline Assessment Certification Program – reference Manual 6.0.1." November 2010.

2. Contech Construction Products, Inc., 2008. Rehabilitation and Relining of Culverts; Jim Noll, PE., and Matt Westrich, P.E., September 2008.

Appendix A

Detailed Opinions of Probable Cost

Dickman Trail Culvert and Site Repairs Cost Estimate OPTION 1 - Concrete Inlet Structure				
ITEM DESCRIPTION	**UNITS**	**QUANTITY**	**U/P**	**TOTAL**
MOBILIZATION	LS	1	$ 19,000.00	$ 19,000
96" Dia. Culvert Repairs				
Extend Culvert Upstream	LF	20	$ 350	$ 7,000
Invert Void Fill	CY	37	$ 750	$ 27,750
Transition Section Patch	LS	1	$ 1,500	$ 1,500
Invert Patch	LF	335	$ 230	$ 77,050
Concrete Inlet Structure with Low-flow Pipe				
120" Precast RC Structure	LF	9	$2,200.00	$19,800.00
120" Trash Rack	EA	1	$5,000.00	$5,000.00
30" Flared End Section w/Bullnose Trash Guard	EA	1	$3,000.00	$3,000.00
30" to 24" RCP Reducer	EA	1	$1,800.00	$1,800.00
24" RCP, Class 3	LF	16	$70.00	$1,120.00
Connect to Existing 96" CMP	EA	1	$5,000.00	$5,000.00
Osland Pipe Company Culvert Modifications				
Extend Pipe and Route Through Headwall	LS	1	$ 3,500	$ 3,500
Dickman Trail Road Culvert Modifications				
Salvage Pipe and Route Through Headwall	LS	1	$ 2,000	$ 2,000
Upstream Slope Repair at Inlet				
Tree Removal	EA	6	$ 400	$ 2,400
Clear & Grub	SY	230	$ 2	$ 460
Import and Place Fill	CY	125	$ 25	$ 3,125
Seeding and Erosion Control Blanket	SY	230	$ 4	$ 920
Inlet Channel Modifications				
Muck Upstream Sediment & Remove	CY	105	$ 25	$ 2,625
Shape Channel Approach	SY	125	$ 10	$ 1,250
Place Riprap Channel Bottom	CY	85	$ 125	$ 10,625
Place Riprap 2' Up Side Slope From Bottom	CY	60	$ 125	$ 7,500
Repair Dickman Trail Road Shoulder				
Excavate Asphalt, 12" Subgrade, Inlet	CY	18	$ 25	$ 450
Install New Pre-cast Inlet Drop Structure	LS	1	$ 5,000	$ 5,000
Re-work Subgrade and Place 12" Engineered Fill	CY	18	$ 40	$ 720
CIP Curb and Gutter Integrated with Inlet	LF	40	$ 30	$ 1,200
Asphalt Surfacing	SF	440	$ 4	$ 1,760
Preliminary Engineering		**5%**		**$ 11,000**
Final Engineering		**20%**		**$ 42,000**
Structural Investigation and Survey	LS	1	$ 6,000	$ 6,000
Ponding Easement Acquisition	LS	1	$ 34,000	$ 34,000
TOTAL ESTIMATE COST				305,000
			-15%	259,000
			20%	366,000

Discrepancy with high end estimate in Table 5-1 of report is due to rounding.

Dickman Trail Culvert and Site Repairs Cost Estimate OPTION 2 - Metal Wingwall Inlet				
ITEM DESCRIPTION	**UNITS**	**QUANTITY**	**U/P**	**TOTAL**
MOBILIZATION	LS	1	$ 16,000.00	$ 16,000
96" Dia. Culvert Repairs				
Extend Culvert Upstream	LF	20	$ 350	$ 7,000
Invert Void Fill	CY	37	$ 750	$ 27,750
Transition Section Patch	LS	1	$ 1,500	$ 1,500
Invert Patch	LF	335	$ 230	$ 77,050
96" Dia. Culvert Headwall & Inlet				
Metal Headwall Structure with Wing Walls	LS	1	$ 7,500	$ 7,500
Osland Pipe Company Culvert Modifications				
Extend Pipe and Route Through Headwall	LS	1	$ 3,500	$ 3,500
Dickman Trail Road Culvert Modifications				
Salvage Pipe and Route Through Headwall	LS	1	$ 2,000	$ 2,000
Upstream Slope Repair at Inlet				
Tree Removal	EA	6	$ 400	$ 2,400
Clear & Grub	SY	230	$ 2	$ 460
Import and Place Fill	CY	125	$ 25	$ 3,125
Seeding and Erosion Control Blanket	SY	230	$ 4	$ 920
Inlet Channel Modifications				
Muck Upstream Sediment & Remove	CY	105	$ 25	$ 2,625
Shape Channel Approach	SY	125	$ 10	$ 1,250
Place Riprap Channel Bottom	CY	85	$ 125	$ 10,625
Place Riprap 2' Up Side Slope From Bottom	CY	60	$ 125	$ 7,500
Repair Dickman Trail Road Shoulder				
Excavate Asphalt, 12" Subgrade, Inlet	CY	18	$ 25	$ 450
Install New Pre-cast Inlet Drop Structure	LS	1	$ 5,000	$ 5,000
Re-work Subgrade and Place 12" Engineered Fill	CY	18	$ 40	$ 720
CIP Curb and Gutter Integrated with Inlet	LF	40	$ 30	$ 1,200
Asphalt Surfacing	SF	440	$ 4	$ 1,760
Preliminary Engineering	**5%**			**$ 9,000**
Final Engineering	**20%**			**$ 36,000**
Structural Investigation and Survey	LS	1	$ 6,000	$ 6,000
TOTAL ESTIMATE COST				231,000
			-15%	196,000
			20%	277,000

Appendix B

Inspection Photos and Videos

AGENDA ITEM _____

CITY OF INVER GROVE HEIGHTS **REQUEST FOR COUNCIL ACTION**

Review of Comprehensive Sanitary Sewer Plan (CSSP) based on City Project No. 2015-20 - NWA Trunk Utility Improvements - Robert District, Alternate 1 and Alternate 2 Preliminary Engineering Reports and the B-Line Sewer Model

Meeting Date:	November 6, 2017		Fiscal/FTE Impact:
Item Type:	Worksession	[ ]	None
Contact:	Thomas J. Kaldunski, 651-450-2572	[ ]	Amount included in current budget
Prepared by:	Thomas J. Kaldunski, City Engineer	[ ]	Budget amendment requested
Reviewed by:	Scott D. Thureen, Public Works Director	[ ]	FTE included in current complement
		[ ]	New FTE requested – N/A
		[X]	Other: NWA Sewer Fund (512)

PURPOSE/ACTION REQUESTED

Review B-Line Sanitary Sewer Modeling Study as it relates to Alternative 2 of the North Robert District Sanitary Sewer Study and the CSSP.

BACKGROUND

The City has been preparing for the development of a sanitary sewer trunk in the North Robert District. On June 26, 2017, the City Council reviewed engineering reports, prepared by the City's consultant Bolton and Menk, that identified two alternatives to serve the North Robert District. Alternative 2 was recommended as the preferred alternative contingent upon a review and modeling of the B-Line trunk service district to verify it has available capacity.

While Alternative 1 follows the alignment that is currently established in the City's CSSP, Alternative 2 provides service to the same area at a cost that is approximately $2.9M to $3.1M less. A significant difference between the two alternatives is that Alternative 2 conveys the north portion of the North Robert District to the B-Line trunk service district via lift station and forcemain. The operation and maintenance of this trunk lift station are estimated at $330,000 over the 60-year useful life of the lift station. The sewer alignments for each alternative are included in the packet as Figure 2 and Figure 3.

Preliminary flow monitoring was performed as part of the Alternative 1 and Alternative 2 engineering reports. Monitoring took place during fall 2016 and winter 2017 months resulting in "dry weather" data. Flow monitoring results indicated the likelihood of excess capacity in the B-Line trunk service district. However, the engineer reports recommended that Spring-time "wet-weather" monitoring should be performed with the results being incorporated into a full sewershed hydrodynamic model. The calibrated sewer model would identify any locations of concern within the B-Line.

On May 23, 2017, an open house was held to discuss the preliminary engineering reports with affected property owners in the area. Public comment was taken and minor changes were made to the reports.

On June 26, 2017 after a contingent selection of Alternative 2, the City Council authorized the consultant to perform the additional flow monitoring and hydrodynamic sewer model within the B-Line trunk service district to verify the available capacity that was suggested in the Alternative 2 engineering report.

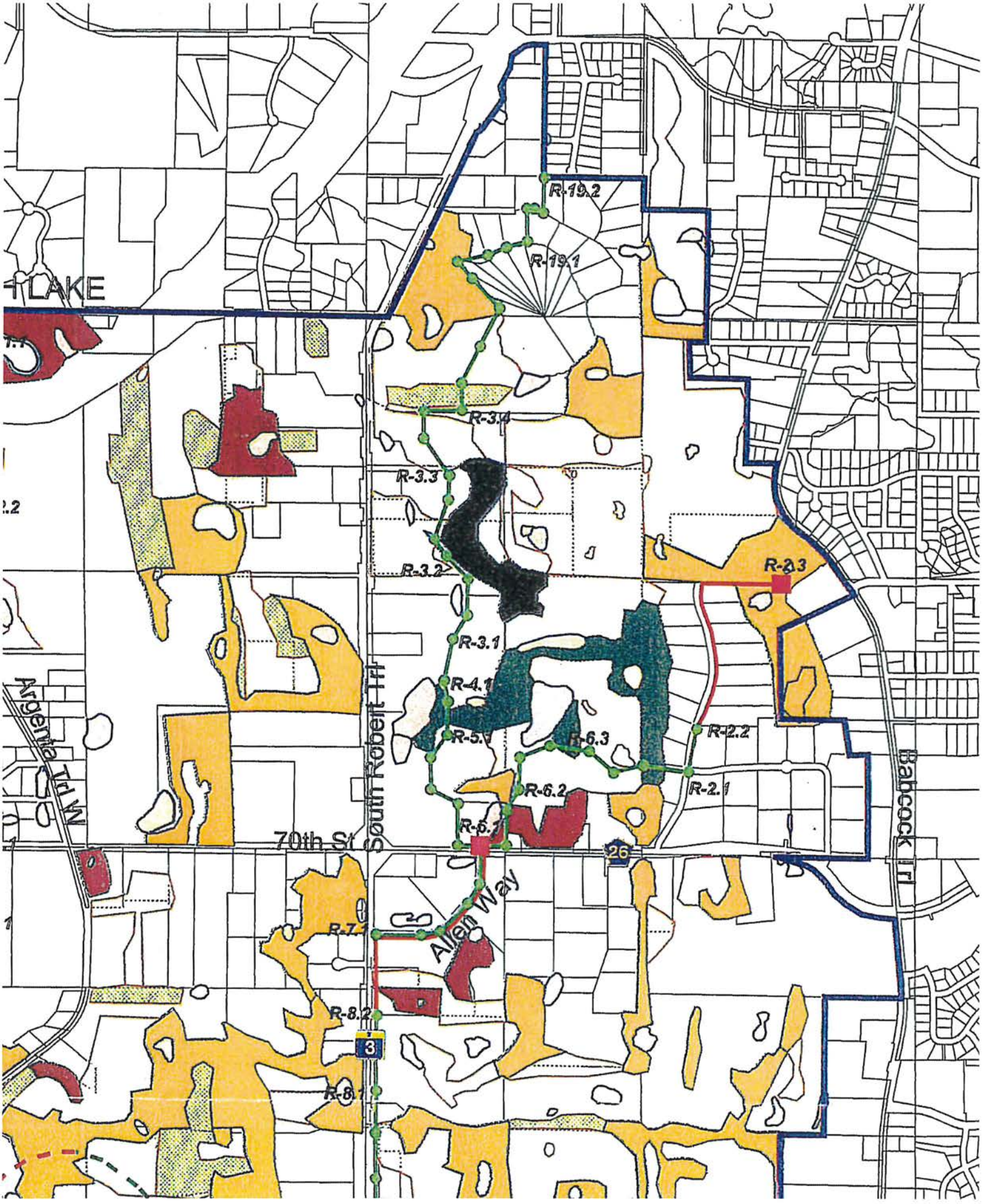
The City's consultant, Bolton and Menk, has prepared the preliminary engineering report for the B-Line trunk service district capacity. This report accompanies the previous Alternative 1 and Alternative 2 engineering reports. The report verifies the existence of excess capacity and ability of the B-Line trunk sewer to accept sewer flows from the area outlined in the Alternative 2 report. A copy of this report is included in the packet.

The engineering report identifies an area of concern with respect to available pipe capacity. However, the concern can be remedied by extending the proposed forcemain identified Alternative 2 to the existing 12" sanitary main at the intersection of 60th Street and Babcock Trail.

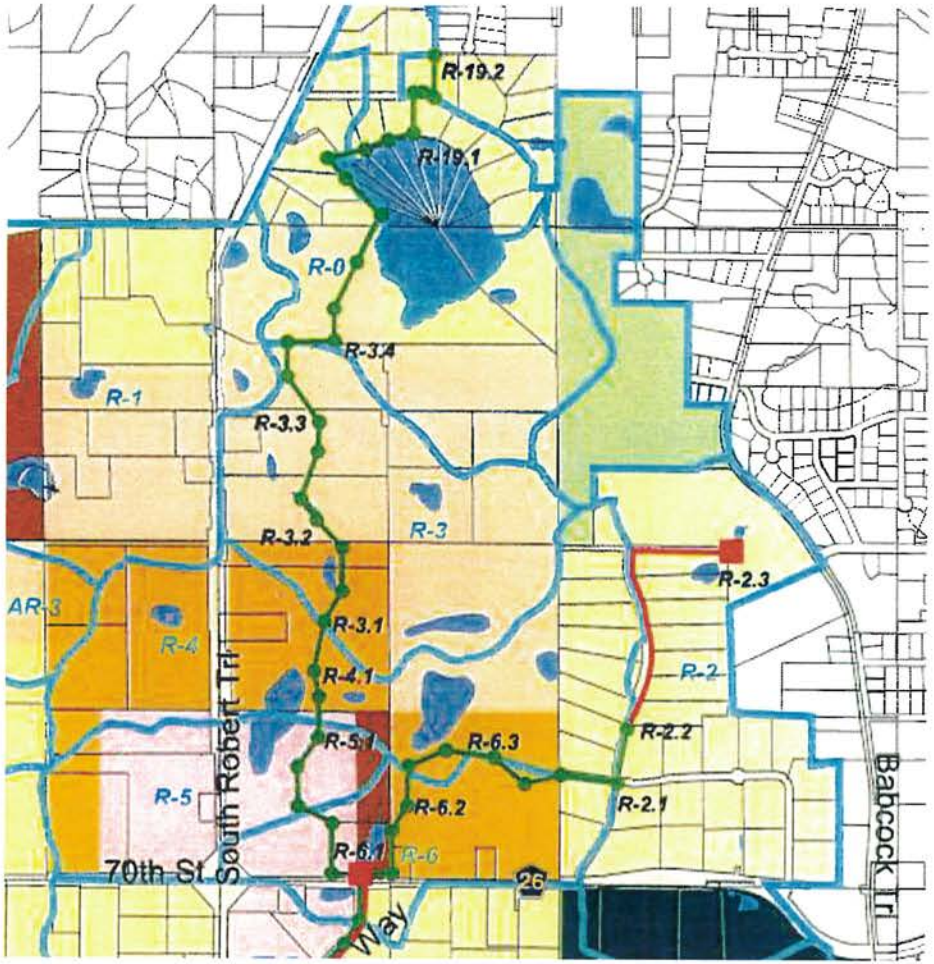
The City Council previously provided direction that Alternative 2 should be the preferred alternative contingent upon further study of the B-Line service area. At this time, after receiving the report verifying available capacity in the B-Line, the City Council should provide additional direction on whether the Alternative 2 trunk sewer alternative is to be incorporated into the 2040 Comprehensive Plan.

The Council will consider receiving and approving all three NWA Trunk Utility Reports (Alternative 1, Alternative 2, and B-Line Capacity) together on November 13, 2017. Alternate 2 has the lowest construction cost. The City will work toward implementing the selected alternative into the 2040 Comprehensive Plan. Public input will be sought through the 2040 CIP process. All land developed in the North Robert District will be charged the appropriate fees and charges established and modified from time to time by the City Council.

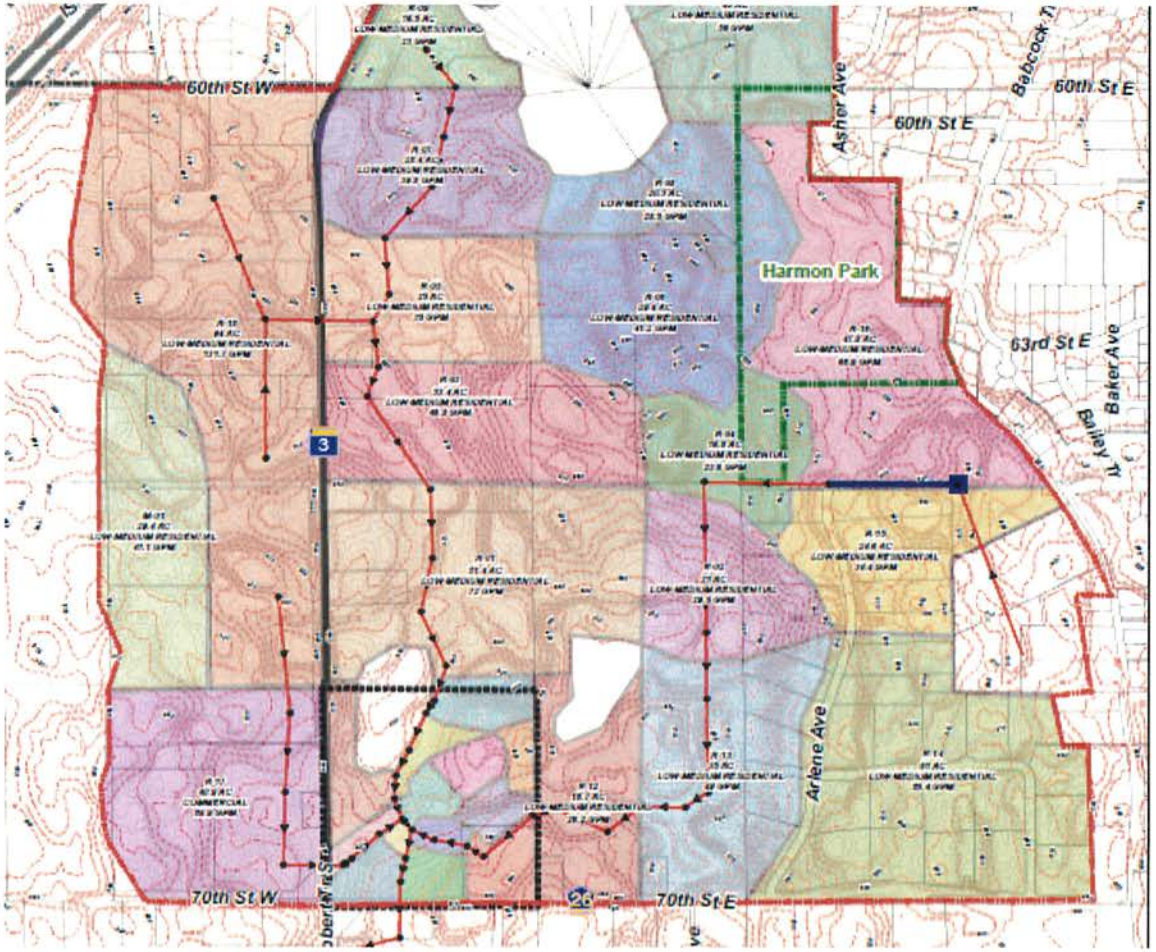
TJK/kf
Attachments: Original 2005 CSSP by Bonestroo
2014 – Bolton Menk Comprehensive Plan Amendment, Sanitary Sewer Alignment
Figure 2 – North Robert District CSSP – Alternate 1
Figure 3 – North Robert District CSSP – Alternate 2 B-Line Diversion
B-Line Capacity Engineering Report


R-19.2
R-19.1
R-3.4
R-3.3
R-3.2
R-3.1
R-4.1
R-5.1
R-6.3
R-6.2
R-5.2
R-2.3
R-2.2
R-2.1
R-7.1
R-8.2
R-8.1
South Robert Trl
Babcock Trl
Argenta Trl W
70th St S
Allen Way
26
3

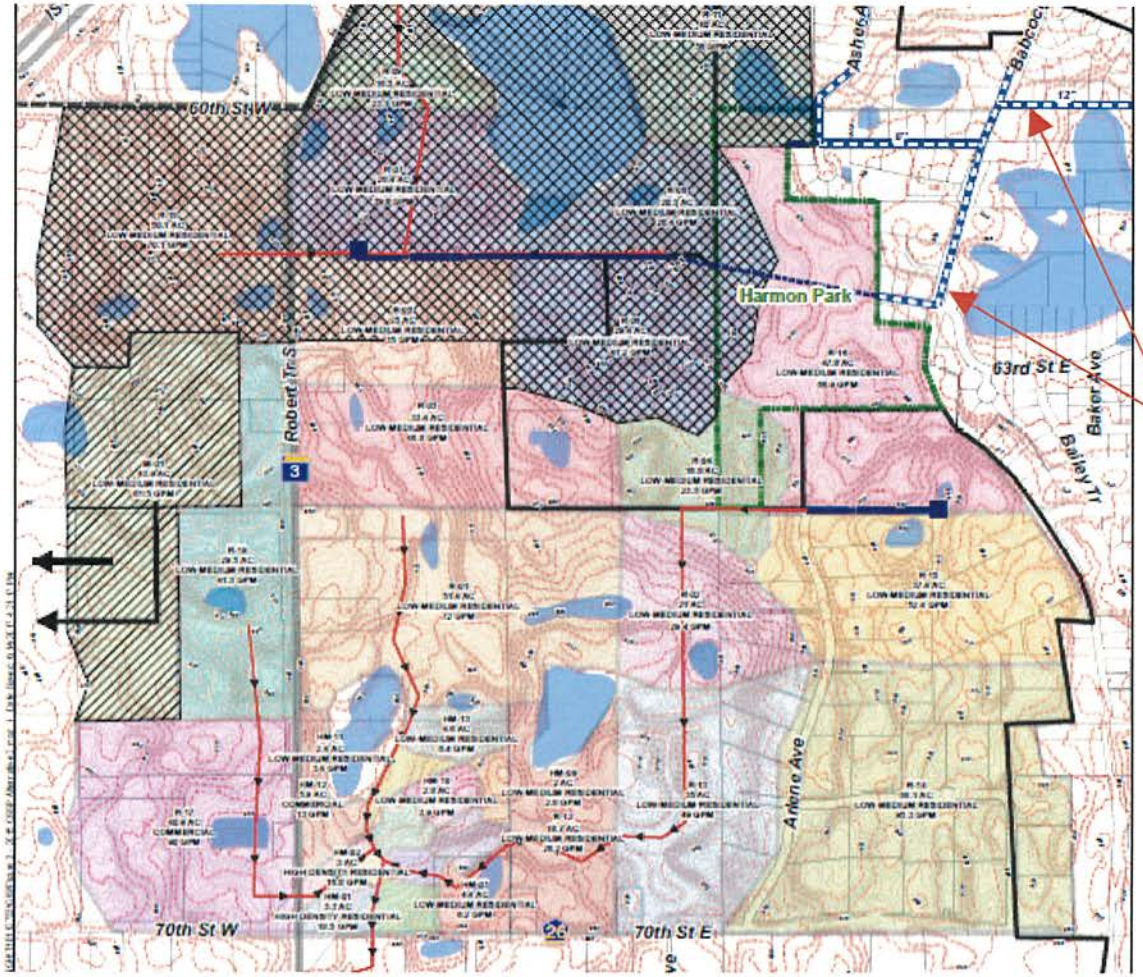
Comprehensive Sanitary Sewer Plan (CSSP) (2014)



Alternative 1
North Robert District



Alternative 2
North Robert District



BOLTON & MENK

Real People. Real Solutions.

Preliminary Engineering Report

NW Area Trunk Utilities

North Robert District

B-Line Capacity Analysis and Modeling

City of Inver Grove Heights, MN

City Project No. 2015-20
BMI Project No. T18.112733

Submitted by:
Bolton & Menk, Inc.
12224 Nicollet Ave
Burnsville, MNB 55337
P: 952-890-0509
F: 952-890-8065

Certification

Feasibility Report

for

B-LINE CAPACITY ANALYSIS AND MODELING

CITY OF INVER GROVE HEIGHTS
INVER GROVE HEIGHTS MN
BMI PROJECT NUMBER: T18.112733

OCTOBER 2017

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

By: _____

Brian Hilgardner, P.E.
License No. 42875

Date: October 31, 2017

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I. Executive Summary

The goal of this analysis is to determine whether the B-Line trunk sanitary sewer in Inver Grove Heights currently has capacity to convey the estimated sanitary sewer flows from the proposed North Robert District. As part of this analysis several key factors were considered.

- Current Sanitary Flowrates in the B-Line
- Effects of inflow and infiltration of storm water on the B-Line
- Potential peak flowrates from the North Robert District
- Effects on downstream pipes from additional flow

The following summary gives a brief explanation of the steps taken to analyze the system and the results of the analysis. Further details of the analysis can be found in report.

A. Modeling Approach

Autodesk's Storm and Sanitary Sewer Analysis was utilized to run a fully hydrodynamic model of the sanitary sewer. The model was calibrated to the gage data collected in the field. The model incorporates daily flow patterns to give a realistic time varied flowrate.

B. Gage Data

Gage data was collected at 6 different points along the B-Line. The gage data was used to establish diurnal curves, or a daily flow pattern, to help identify peak flows in the system.

Gage data was further utilized to analyze the effects of storm water inflow and infiltration into the sanitary sewer. Storm water can enter the sanitary sewer through direct inflows such as sump pumps or roof drains producing large peaks of flow in the system. Infiltration occurs when water seeps into the pipes through cracks and joints and produces a sustained increase in flow.

C. Existing Conditions

The existing conditions model was developed using GIS data provided by the City of Inver Grove Heights in conjunction with parcel data provided by Dakota County. The model indicates that the current B-Line has significant capacity within the pipes and is not in danger of pressurizing.

Inflow and Infiltration of storm water (I & I) was noted in the smaller residential region on the far west side of the study area. However, downstream the gages show little or no effect of rainwater on their base flowrates. This indicates that I & I is not a key concern in the capacity of the sewer.

D. Proposed Conditions

The proposed additional flowrate from the North Robert District significantly increases flow in the upstream sanitary sewers, however it does not exceed the capacity of the sewer. Land use in the proposed North Robert District was assumed to be completely residential.

E. Results.

The analysis has concluded that the additional flow from the North Robert District will not adversely affect the downstream sewers. The existing pipes were constructed with enough excess capacity to convey the proposed waste water without further up-sizing of pipe.

II. Modeling Approach

A. Project Background and Existing Models

The City of Inver Grove Heights is considering a new development in the North Robert District. As part of this development, approximately 240 ac of new residential development will be added onto the B Line Trunk Sanitary Sewer. A feasibility study was completed by Bolton & Menk, Inc. in March of 2017 which discusses the possible addition of the new development to the existing trunk sewer. As part of this model, a preliminary steady state model of the new development was completed which established the predicted peak waste water flows in the sanitary sewer.

Initial calculations and gage data noted that the existing sanitary sewer had capacity to convey the proposed conditions. However, due to the sensitive nature of sanitary sewers, several flow meters were placed along the trunk sewer at key points to check the pipe capacity throughout the system. A summary of the new gage data can be found in section III of this report.

The goal of this analysis is to build a hydrodynamic sanitary sewer model that is calibrated to match the collected gage data to provide an accurate representation of the City's B-Line trunk sewer. The completed model was merged with the initial model completed for the North Robert District to complete the comprehensive model.

B. Hydraulics

For this analysis, a fully hydrodynamic model was developed to give the most accurate representation of the sanitary sewer. Autodesk's Storm and Sanitary Sewer Analysis (SSA) was used to develop the model. Base flowrates for the model were determined though the land use data provided by the City for all commercial, municipal, and industrial areas. Residential flows were calculated by the use of gage data. All flows were routed through the sanitary sewer for a 48 hr duration.

Diurnal curves, or daily flow variations, were developed from the collected gage data to establish the shape of the hydrographs and estimate peak flows in the sewer. Further details of the diurnal curves and their correlation to peak flows can be found in section III of this report.

C. Land Use

City Parcel data was used to map the land use throughout the modeled area. Areas listed as exempt in the parcel data was reviewed on an individual basis. Since the gage data did not isolate any individual commercial, industrial, or municipal sites, a standard base flow was assigned to these parcels.

Gage 1 isolated flows from a residential area with 71 single family homes. 2015 census data indicated that the average household in Inver Grove Heights has 2.5. Gage data from this location indicated that residents produce approximately 52 gallons of sewer flow per person per day in their homes. It was assumed that this flowrate was representative of all residential units in Inver Grove Heights.

Table 1 below illustrates the base flowrates used in the model.

Table 1 Flowrate by Land Use

Flow Rates By Land Use		
Land Use	Average Flowrate	Units
RESIDENTIAL	130	gal/unit/day
RESIDENTIAL-TOWNHOUSE	66	gal/unit/day
RESIDENTIAL-CONDOMINIUM	66	gal/unit/day
APARTMENT	2958	gal/acre*day
APARTMENT-MOBILE HOME PARK	8400	gal/day based on 60 homes
APARTMENT-NURSING HOME	2958	gal/acre*day
INDUSTRIAL	1500	N/A
INDUSTRIAL-PREFERRED	1500	gal/acre*day
COMMERCIAL	1500	gal/acre*day
COMMERCIAL-OPEN SPACE	0	N/A
COMMERCIAL-PREFERRED	1500	gal/acre*day
COMMERCIAL_PREFERRED_OPEN_SPACE	1500	gal/acre*day
EXEMPT	Case by Case	N/A
UTILITIES-PREFERRED	0	N/A
AG-GREEN ACRES	0	N/A

III. Gage Data

A. Gage Data Summary

Gage data was collected from 6 different locations along the B-line trunk line. Locations of the gages are listed below and a map showing the gage location can be found in the attached appendix.

Gage 1 – 60th St. East, East of the intersection with Bacon Ave.

Gage 2 – Backyard of 6217 Bolland Trail.

Gage 3 – East of the cul-de-sac on 64th St. E

Gage 4 – Near the east end of 65th St. East behind apartment buildings

Gage 5 – Intersection of Lower 67th St. East and Cloman Way

Gage 6 - Intersection of 66th St. E and Concord Blvd E.

Data was collected on 15 minute intervals for several months. The gages collected both flowrate and velocity data throughout the sampling period. Gages 2 & 4 were placed as part of the previous study and collected data from November 29th 2016 through January 3rd 2017. This data collected only dry weather conditions as the ground was frozen during the duration of the sampling. Gages 1, 3, 5, and 6 were in place from May 8th 2017 through July 13th 2017. These gages were in place during several wet periods.

B. Data Reduction

Data from all 6 sites was carefully reduced to create a typical diurnal curve for the City of Inver Grove Heights. The diurnal curve is expressed as a function of the average hourly flow at any given time during a 24hr time period. Water usage in residential areas peaks in the morning and evening when most residents are home. In order to develop a representative curve with the typical daily peak flows, outlying data had to be removed. Data removed from all gages includes, flowrates affected by inflow and infiltration (I&I) of storm water, holiday flows, weekend flows, and unexplained short duration peaks. In all cases, when data was

removed, flows from the entire day were removed. Figure 1 below shows the effect that removing this data has on the daily flowrates.

Removal of this data is important as it gives a more accurate representation of what the typical dry weather flowrates in the pipe will be. Before any analysis of I & I can be completed, there must first be a solid dry weather base model. Weekend and holidays are removed because the flows on those days tend to be more evenly distributed during the day. Weekends tend to have a higher volume of waste water produced, however the peak production of waste water is typically lower than the typical week day flow.

In Gage 1, several weeks of I&I affected base flows and 2 high peaks flows skewed the data to show the highest peak occurring at approximately 4am. By removing this data, the curve shows a higher peak flow at approximately 8am.

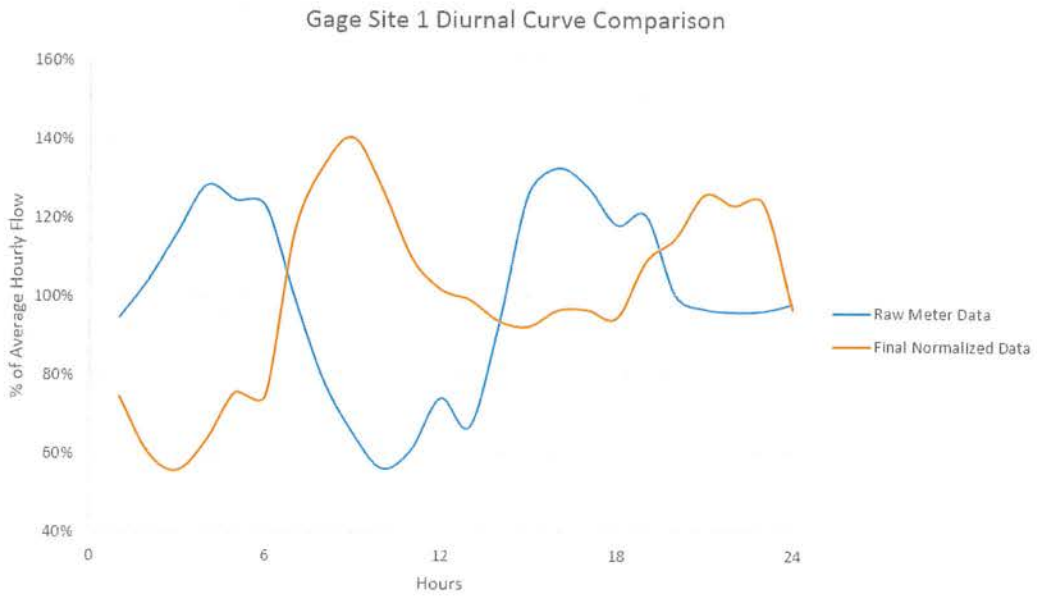


Figure 1 Gage Site 1 Diurnal Curve Comparison

Weekend flowrates were removed since this produces a higher average daily peak flow in residential areas. Weekday flowrates tend to peak higher in the morning than weekend flowrates. This same trend appears on holidays where large populations have vacation. Figure 2 shows the effect that removing weekend flowrates has on the diurnal curves.

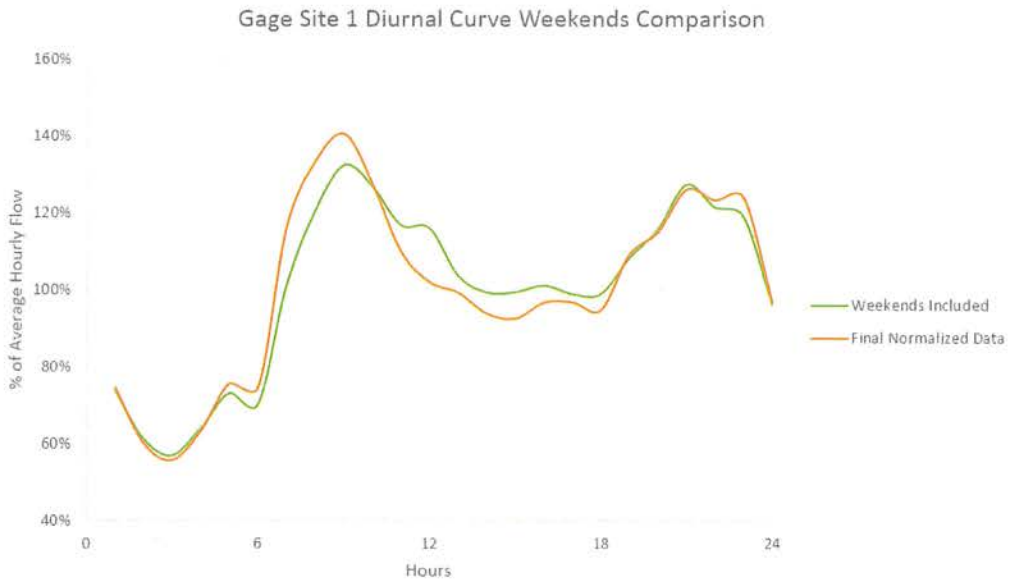


Figure 2 Gage Site 1 Diurnal Curve Weekends Comparison

I&I is a concern in waste water and will be considered in the analysis of the overall sewer capacity. However, in order to analyze the effects of I&I there must first be a strong base conditions to which the I&I affected flows can be compared. For this reason, all gage data that was affected by I&I was removed from the analysis at this stage. More information about the effects of I&I on the sanitary sewer can be found in section V.D of this report.

Normalized diurnal curves were developed for all 6 gages which can be found in the attached appendix. The diurnal curves were incorporated into the model as seen below in Exhibit 1.

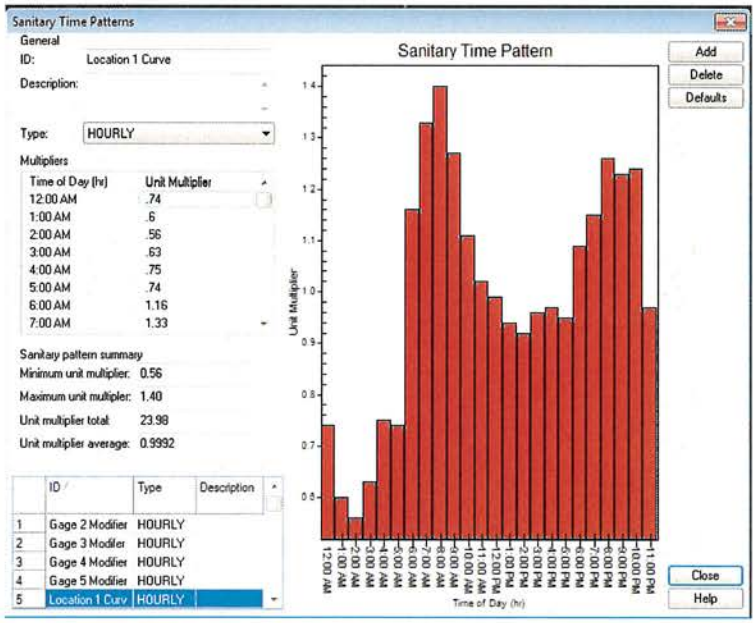


Exhibit 1 Gage 1 Sanitary Time Pattern

IV. Existing Conditions Model

A. Existing Conditions

The downstream extent of the modeled sewershed is at gage 4 near the intersection of 65th St. East and 67th St. East. Sewer and structure data was extracted from the City's GIS data. In areas where pipes and manholes did not have invert data, inverts were estimated through linear interpolation. To simplify the model, the total sewershed area was broken down to 71 sub-sewersheds that were each modeled separately. Each sewershed flows into its downstream most manhole structure. Some structures did not include as-built rim elevations. In this event the rim elevation was extracted from LIDAR. This created a network that captured flow in main stems of the sanitary sewer and accounts for travel time through the sewershed. A map of the separate sewersheds and model extents can be found in the attached appendix.

A secondary model was developed continuing the model down through the Gage 5 site as a means to check if tail water had any notable effect on the outlet conditions of the sewer. Gage 5, despite its proximity to Gage 4, was estimated to convey nearly twice the sewershed area and would give an accurate representation of the downstream water surface. The same assumptions were made for any pipes or manholes missing rims and inverts as was done in the original model extents.

As previously stated, flow data for this model was developed using typical flowrates per acre of land use for all parcels other than residential parcels.

Most of the pipes contributing to the B-Line are either reinforced concrete pipe or older vitrified clay pipes.

B. Calibration

The model contains 4 of the 6 gage sites within the modeled extents. A standard daily flowrate was established at each of the gage sites along with the corresponding diurnal curves. Using this data, a typical daily estimated flowrate was developed to which the model was calibrated. Calibration was necessary as no data was collected in the commercial and industrial zones to quantify their specific contributions to the sanitary flow. Calibration was accomplished by creating a secondary Sanitary Time Pattern for each gage station sewershed, in the same manner as the time pattern seen in Figure 2. Each inflow in the sewershed was adjusted using the same secondary time pattern to create a flowrate and time pattern similar to the one developed with the gage data. An example of the calibrated model flows compared to the estimated flows can be seen in Figure 3 below.

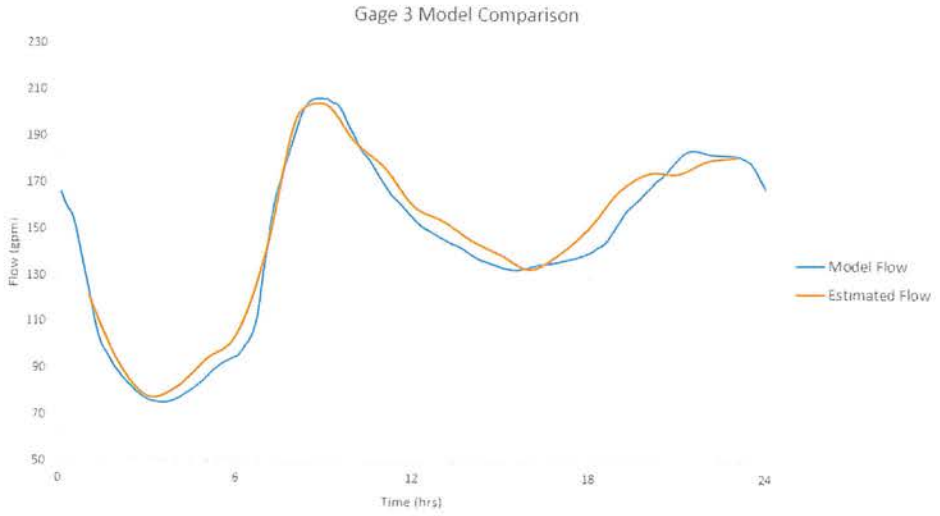


Figure 3 Gage 1 Model Flow vs. Estimated Flow

C. Existing Conditions Results

Upon review, the existing sanitary sewer currently carrying flowrates well below the designed capacities. In all 4 of the gage sites within the model the flowrates were found to be flowing at less than 20% of their designed capacity.

The capacities of the sewer pipes were calculated using their current slopes and a Manning's N value of 0.015. Typically new concrete pipe has an assumed Manning's N value of 0.013. However, due to the age and unknown condition of the pipe, it was assumed that the Manning n value has increased over time.

Table 2 Existing Conditions Results

Existing Model Results				
Location	Peak Flow (gpm)	Pipe Size (in)	Full Capacity (gpm)	Remaining Capacity (gpm)
Gage 1	7.45	12	1008.94	1001.49
Gage 2	33.31	12	518.55	485.24
Gage 3	206.6	18	1473.25	1266.65
Gage 4	425.16	18	3700.08	3274.92

Table 2 above shows the pipe flows and capacity calculated at each of the gage site.

V. Proposed Conditions

A. Additional Flow From Robert District

The previous model estimated the peak flowrates from the North Robert District using a peaking factor method which provides conservative estimates of flowrate based on the acreage of land use. Given the more detailed model in this phase of the analysis, the flowrate estimates for the North Robert District were re-calculated.

All of the proposed sewersheds contributing to the B-Line are currently zoned to be low to medium density residential. Since no final plats have been approved in this area, it was assumed that the average lot size would be 0.2 acres. Furthermore, it was assumed that the typical waste water production rate would be 100 gallons per capita per day and that the average household would have 2.5 persons. The smaller lot size and higher flowrates were used in order to increase conservancy in the model.

Due to topographic constraints, the proposed pipe system serving the Robert District is lower than the tie in location along 60th Street East. Therefore, it was assumed that a lift station would be placed within the new sanitary line and the waste water would be pumped directly into the B-Line trunk. Sizing and designing the lift station was not included for the scope of this project. In this scenario it was assumed that the pumps inflow would equal the outflow into the B-Line. This creates another level of conservatism since it not likely that the lift station will be flowing constantly and the flow from the lift station is lower than the flow into the lift station at its peak.

A map of the proposed new sewersheds and the preliminary sewer alignments can be found in Exhibit 2 below.

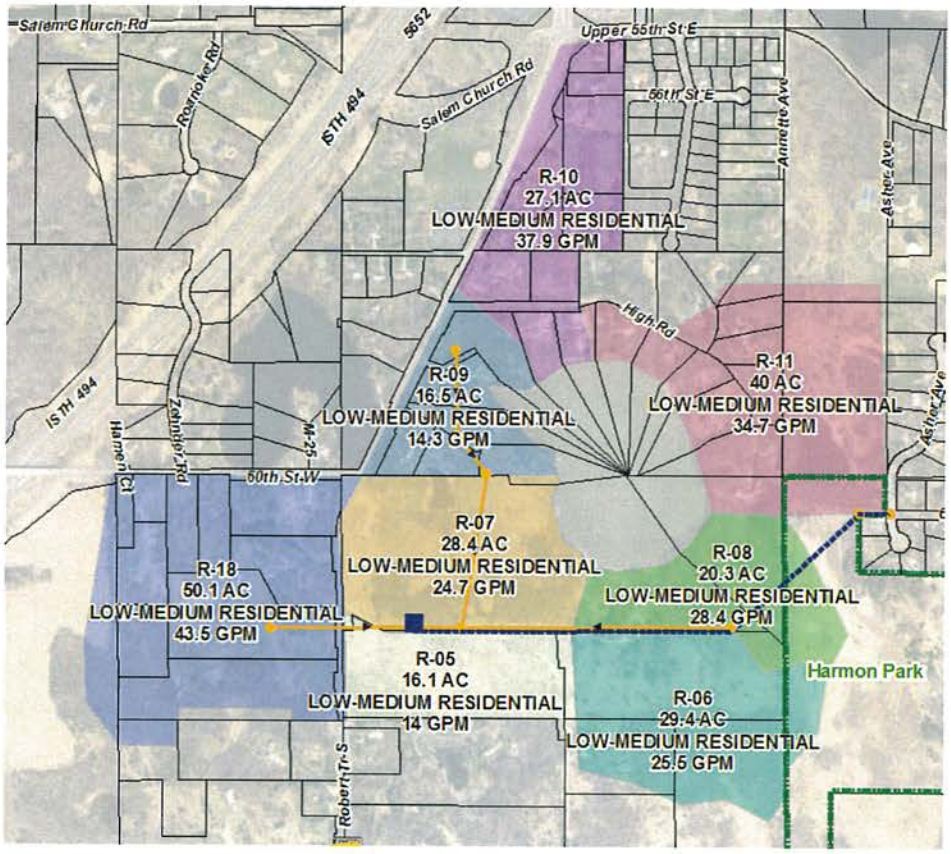


Exhibit 2 Proposed Sewersheds

Prepared by: Bolton & Menk, Inc.

B. Proposed Conditions Results

Initial review of the proposed model shows that the current sanitary sewer is capable of passing the typical daily flowrate without surcharging. Table 3 below shows the peak flowrates at each of the 4 gaging sites in the modeled extents along with the peak flows coming from the new addition.

Table 3 Proposed Model Results

Proposed Model Results				
Location	Peak Flow (gpm)	Pipe Size (in)	Full Capacity (gpm)	Remaining Capacity (gpm)
Addition	276.67	8	435.91	159.24
Gage 1	283.75	12	1008.94	725.19
Gage 2	320.99	12	518.55	197.56
Gage 3	493.00	18	1473.25	980.25
Gage 4	719.29	18	3700.08	2980.79

Each gaging site indicates that the sewer has capacity to carry the additional flow from the North Robert District Addition. However, upon review of the model, there is one area of potential concern in the Gage 1 sewershed. Between manholes BL-8 and BL-9 is a 344' length of 8" diameter vitrified clay pipe. This pipe is currently within 10 gpm of pressurizing if the conservative flow estimates for the North Robert District Addition flows are used in the model. This would function adequately under normal flows, but would be susceptible to pressurizing. Exhibit 3 below shows the pipes location and Table 4 summarizes the flow in the pipe.



Exhibit 3 Area of Concern

Table 4 Area of Concern

Area of Concern - Calibrated Flowrate				
Location	Peak Flow (gpm)	Pipe Size (in)	Full Capacity (gpm)	Remaining Capacity (gpm)
AOC	130.6	8	301.58	170.98

This location is not an immediate concern, but it should be monitored in the future if any additional flows are added to the network. To minimize risk, the City could consider installing the North Robert District forcemain to structure BL-19 in Exhibit 3. This would bypass the 8" main and connect directly to a 12" main.

C. Gage Data Vs. Design

The 100 gallons per person per day flowrate used in estimating the flowrates for the new addition to the B-Line stems from the 10 State standards for waste water facility design. However this number does not account for the volume of water that is used outside of the home nor does it account for the reduction of water usage that many municipalities have seen in the last decade.

As previously stated in the report, the measured gage data from gage site 1 isolated an area with 71 single family homes. These parcels can be seen in Exhibit 4 below. Using the typical weekday flowrates from this gage a new daily flowrate of 52 gallons per person was calculated.



Exhibit 4 Gage 1 Sewershed

gage shows the typical weekday flowrate to be 5.2 gpm, less than half of the estimated flowrate. Table 5 shows the difference in flowrates based on the gage data versus the typical estimated flowrates.

Table 5 Estimated Flow vs. Calibrated Flow

North Robert Diverted Sewersheds Estimated Flows Vs. Calibrated Peak Flows			
Sewershed	Area (ac)	Estimated Peak (gpm)	Calibrated Peak (gpm)
R-05	25	14.00	6.15
R-06	29.4	25.52	11.23
R-07	28.4	24.65	10.84
R-08	20.3	14.00	7.75
R-09	16.5	14.32	6.30
R-10	27.1	23.52	10.35
R-11	40	34.72	15.27
R-18	50.1	43.49	19.13

This decrease in flow from the diverted North Robert District bring the flowrate in the area of concern under 60th St. E well below the pipes full flow capacity, as seen in Table 6 below. This flowrate still has some conservancy built in since the typical lot sized was still assumed to be 0.2 ac.

Table 6 Area of Concern - Calibrated Flowrate

Area of Concern - Calibrated Flowrate					
Location	Full Capacity (gpm)	Estimated (gpm)	Additional Capacity (gpm)	Calibrated (gpm)	Additional Capacity (gpm)
AOC	301.58	291.88	9.7	130.6	170.98

D. Inflow and Infiltration of Storm Water

Rainfall derived I&I is a major concern in any sanitary sewer design. Illicit discharges to the sanitary sewer from storm water can quickly overload the system causing the system to surcharge or causing an exceedance at the downstream connection to the Metro Council interceptor. As part of the pipe capacity study, I&I was examined by comparing historical rainfall data to the flow meter data. Since gages 2 and 5 collected data during winter when the ground is frozen, the data was excluded from the I&I analysis. Gages 1 and 3 were analyzed for increases in flow due to rainfall since those represented the most likely areas to see issues with increased flowrates due to I&I.

This section should not be considered as a comprehensive I&I analysis for the B-Line trunk. The goal of this section is to establish if further I&I analyses should be completed before connecting the North Robert District to the existing B-Line sanitary sewer.

1. Gage 1

On June 10th 2017 Inver Grove Heights saw 1.06" of rainfall causing the flowrates at the Gage 1 site to spike to 28.2 gpm at 7:45 pm. A plot of the rainfall and corresponding flowrates can be seen in Figure 4.

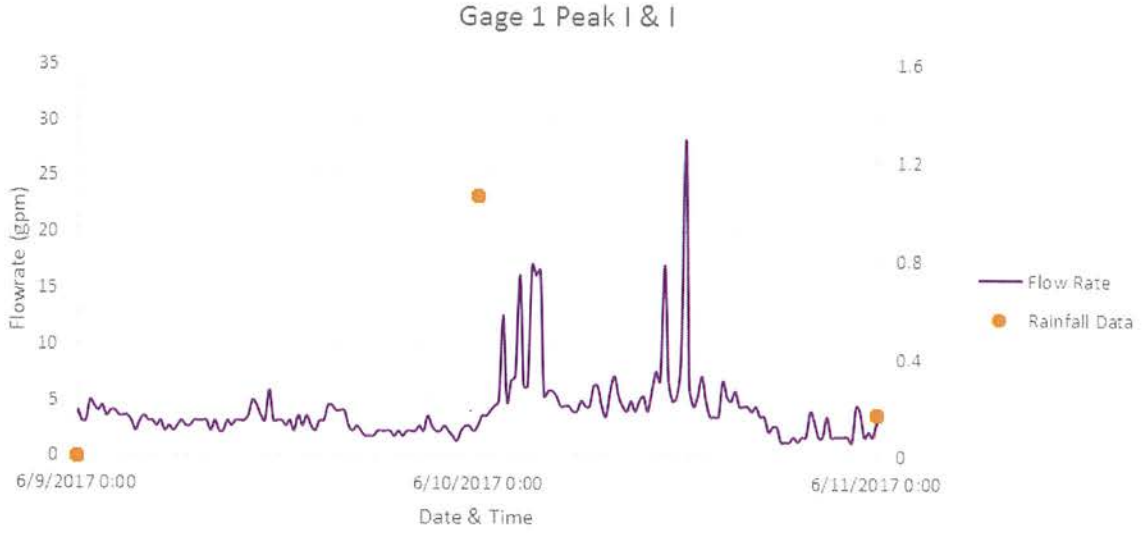


Figure 4 Gage 1 I&I Event

While this rainfall did create a spike in flowrate in the system it did not create a sustained increase in flow indicating that the peak is largely caused by direct inflow into the sanitary sewer and not as heaving affected by infiltration. This spike was also noted as only occurring during single 15 minute interval and was not sustained for any length of time. Given that the pipe at Gage 1 has capacity for over 700gpm above the typical daily peak, I & & should not cause the sanitary sewer to pressurize.

2. Gage 3

Although I&I did create a noticeable peak in flowrate at Gage 1, that peak did not translate to downstream flows as seen in Figure 5. The flowrates around the June 10th rainfall events only caused a slight increase in flowrate above the average daily peak flowrate.



Figure 5 Gage 3 Peak I&I

VI. Conclusions

A. Inflow and Infiltration

Based on the findings of the analysis, there is no reason to suspect that rainfall derived I&I will have a significant impact on the pipe capacity in the B-Line trunk sewer. Gage data collected along the B-Line does not indicate that rainfall derived I&I will significantly increase the flowrates to the trunk sewer.

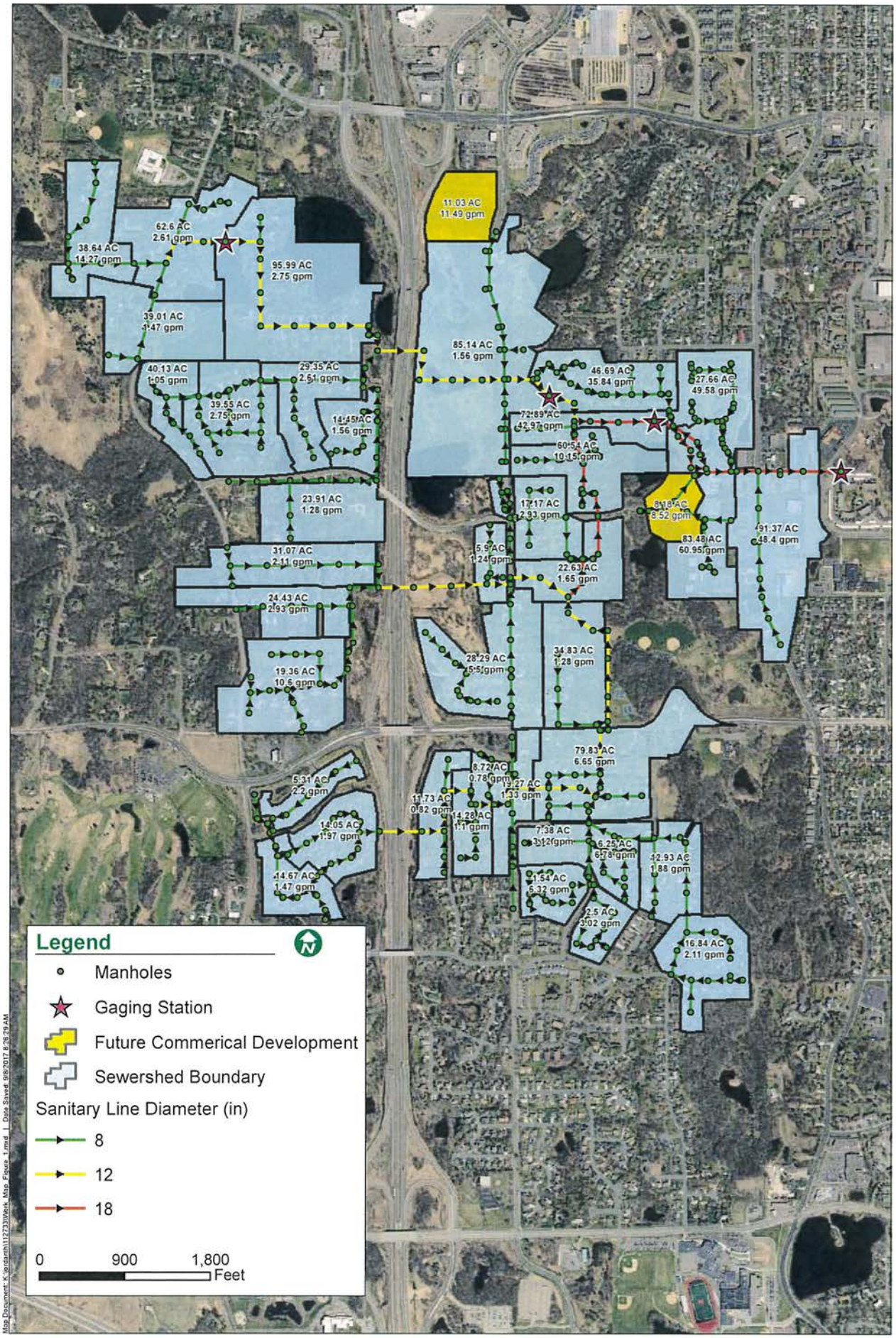
B. Pipe Capacity

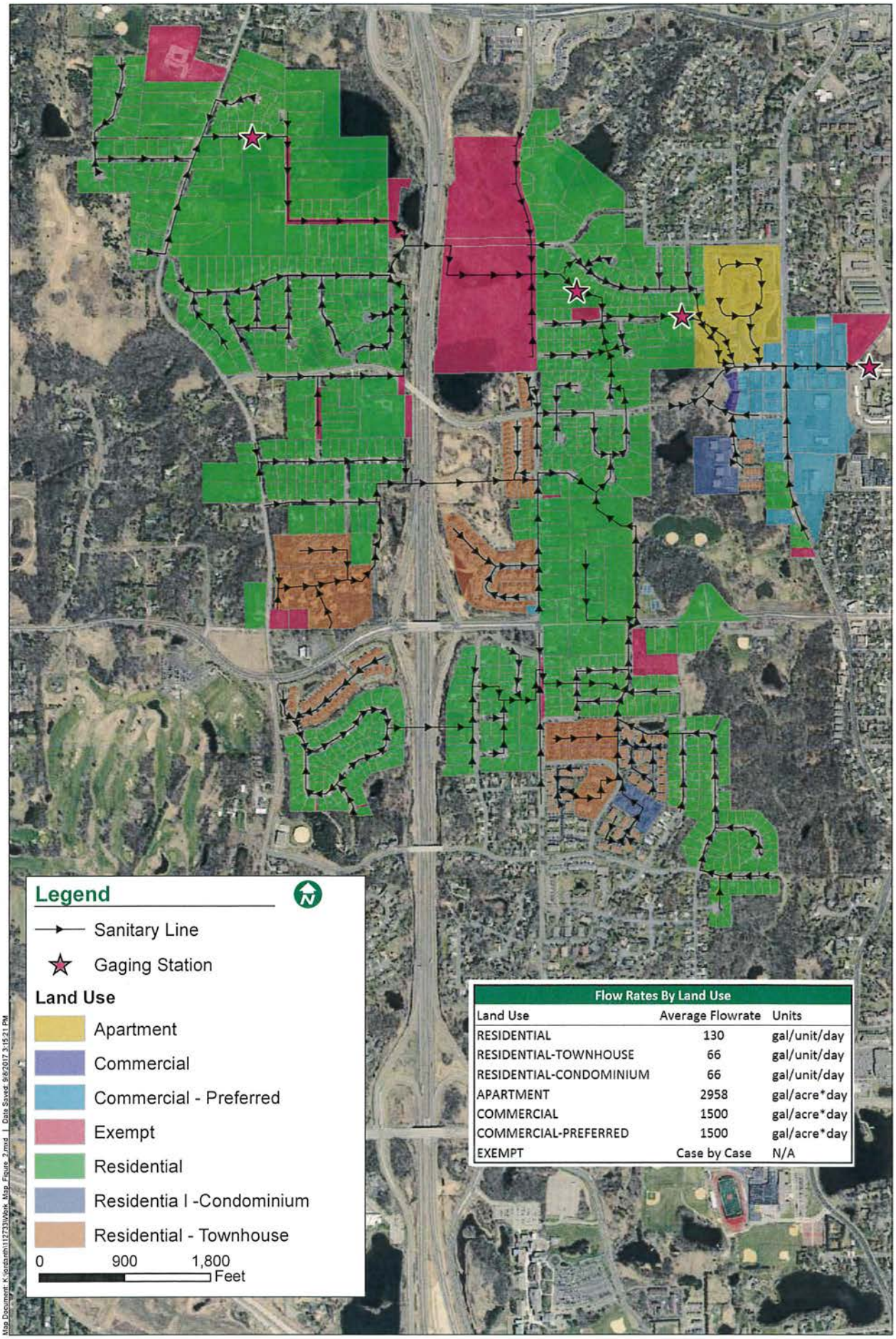
Based on the results of the various flow regimes, it was concluded that the existing B-Line trunk sanitary sewer has the capacity to pass the daily average flows from the North Roberts District without overtaxing the existing downstream sewers.

The area of concern under 60th St. East has enough capacity to function without pressurizing under the conservative flowrates and flow regimes used in the model. Since gage data is available and indicates that the typical flowrate is closer to 52 gallons per capita per day, the pipe should have over 150 gpm of additional conveyance. Furthermore, since the proposed additional flow to this location will consist of entirely new pipe, the effects of I&I should be minimal.

In the event that the area contributing to the North Robert District sanitary flows increases or if the land use changes from low-med density residential, the model should be updated to address these changes.

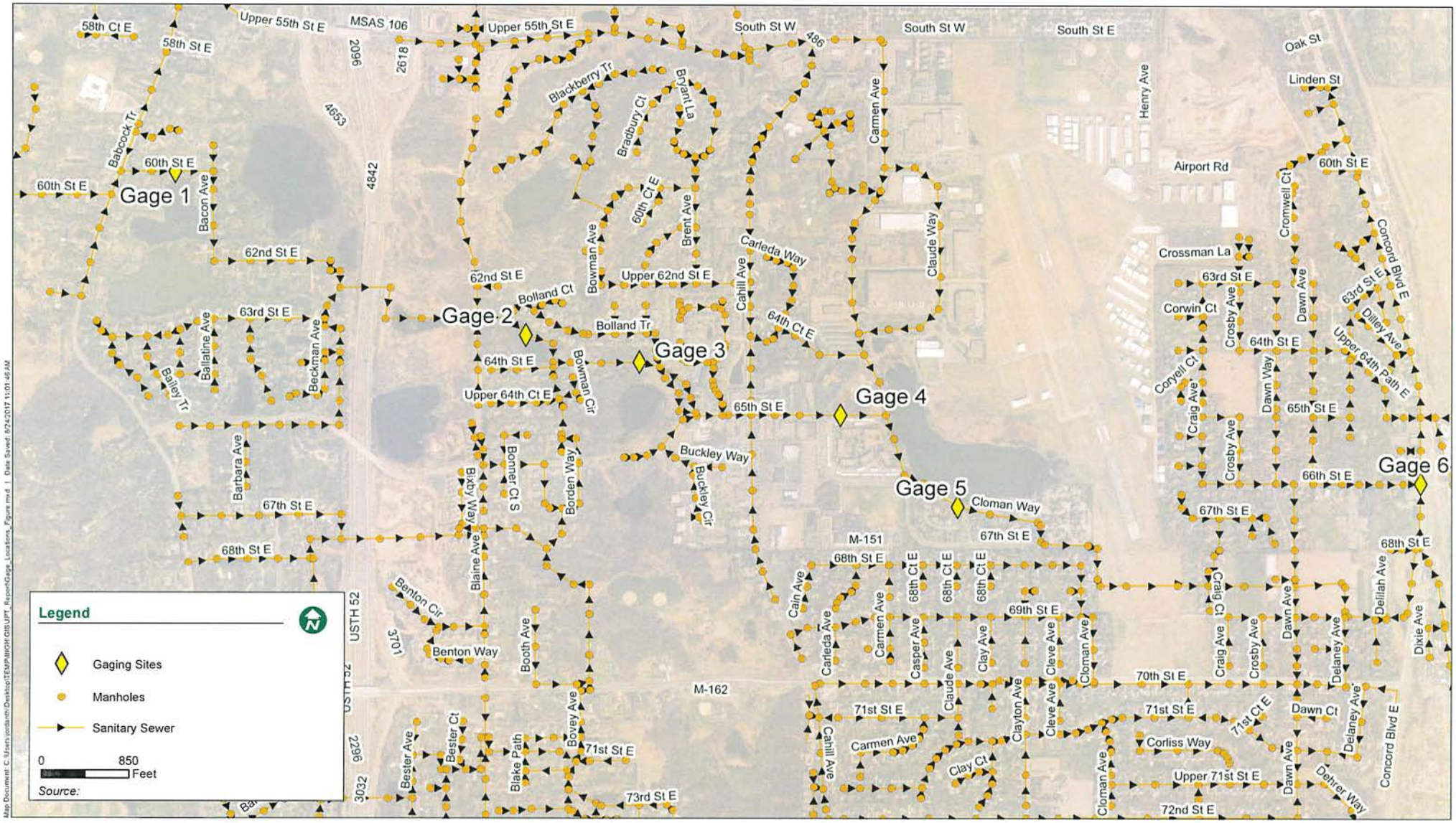
Appendix A: Figures


11.03 AC
11.49 gpm
62.6 AC
2.61 gpm
38.64 AC
14.27 gpm
95.99 AC
2.75 gpm
39.01 AC
1.47 gpm
85.14 AC
1.56 gpm
40.13 AC
1.05 gpm
29.35 AC
2.51 gpm
39.55 AC
2.75 gpm
14.45 AC
1.56 gpm
46.69 AC
35.84 gpm
27.66 AC
49.58 gpm
72.89 AC
42.97 gpm
60.54 AC
10.15 gpm
23.91 AC
1.28 gpm
17.17 AC
2.33 gpm
8.18 AC
8.52 gpm
91.37 AC
48.4 gpm
83.48 AC
60.95 gpm
31.07 AC
2.11 gpm
5.9 AC
1.24 gpm
22.63 AC
1.65 gpm
24.43 AC
2.93 gpm
28.29 AC
5.5 gpm
34.83 AC
1.28 gpm
19.36 AC
10.6 gpm
79.83 AC
6.65 gpm
8.72 AC
0.78 gpm
19.27 AC
1.33 gpm
5.31 AC
2.2 gpm
11.73 AC
0.82 gpm
14.28 AC
1.1 gpm
14.05 AC
1.97 gpm
7.38 AC
3.12 gpm
6.25 AC
6.78 gpm
12.93 AC
1.88 gpm
14.67 AC
1.47 gpm
1.54 AC
6.32 gpm
2.5 AC
3.02 gpm
16.84 AC
2.11 gpm
Legend
Manholes
Gaging Station
Future Commerical Development
Sewershed Boundary
Sanitary Line Diameter (in)
8
12
18
0
900
1,800
Feet



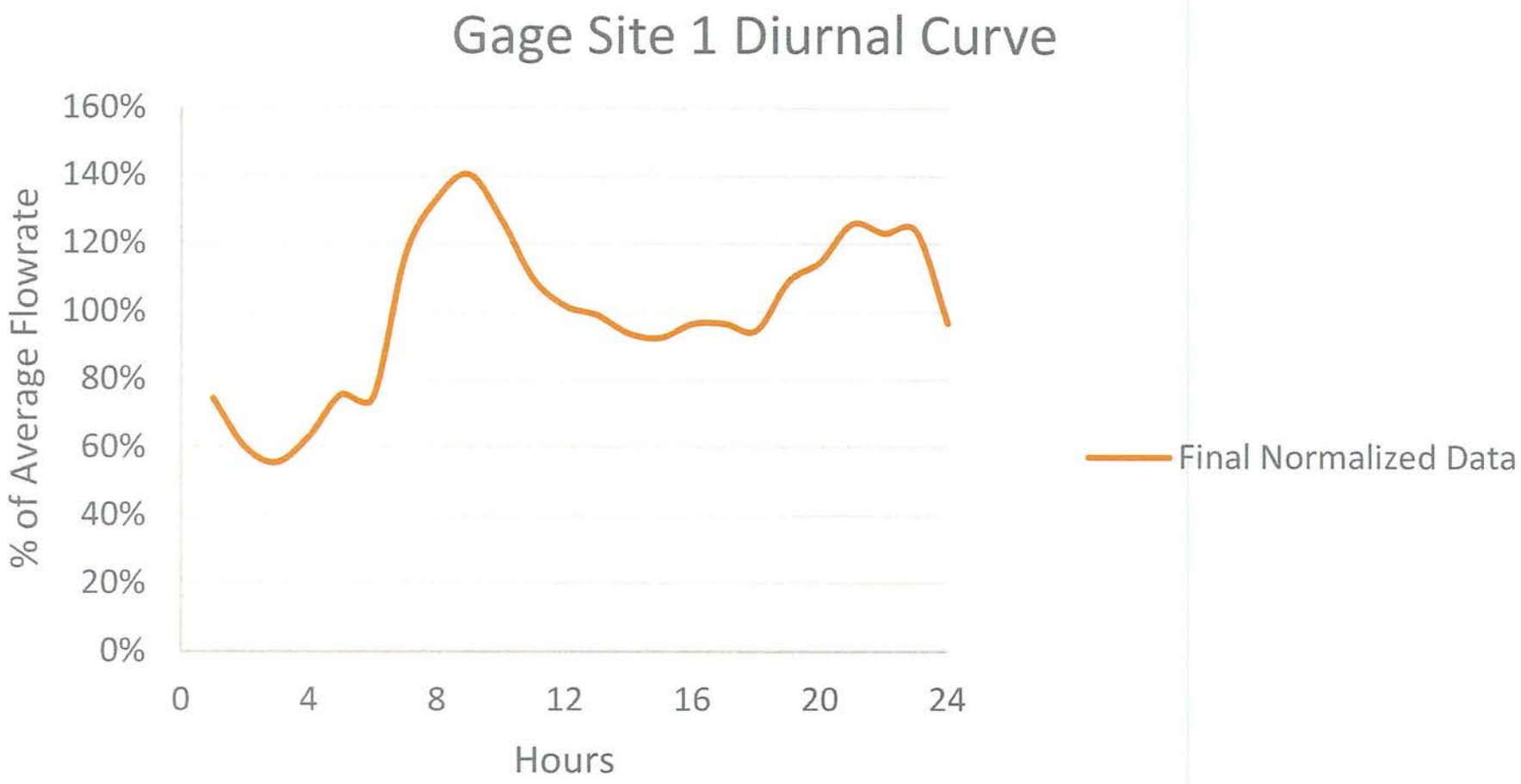
Flow Rates By Land Use		
Land Use	Average Flowrate	Units
RESIDENTIAL	130	gal/unit/day
RESIDENTIAL-TOWNHOUSE	66	gal/unit/day
RESIDENTIAL-CONDOMINIUM	66	gal/unit/day
APARTMENT	2958	gal/acre*day
COMMERCIAL	1500	gal/acre*day
COMMERCIAL-PREFERRED	1500	gal/acre*day
EXEMPT	Case by Case	N/A

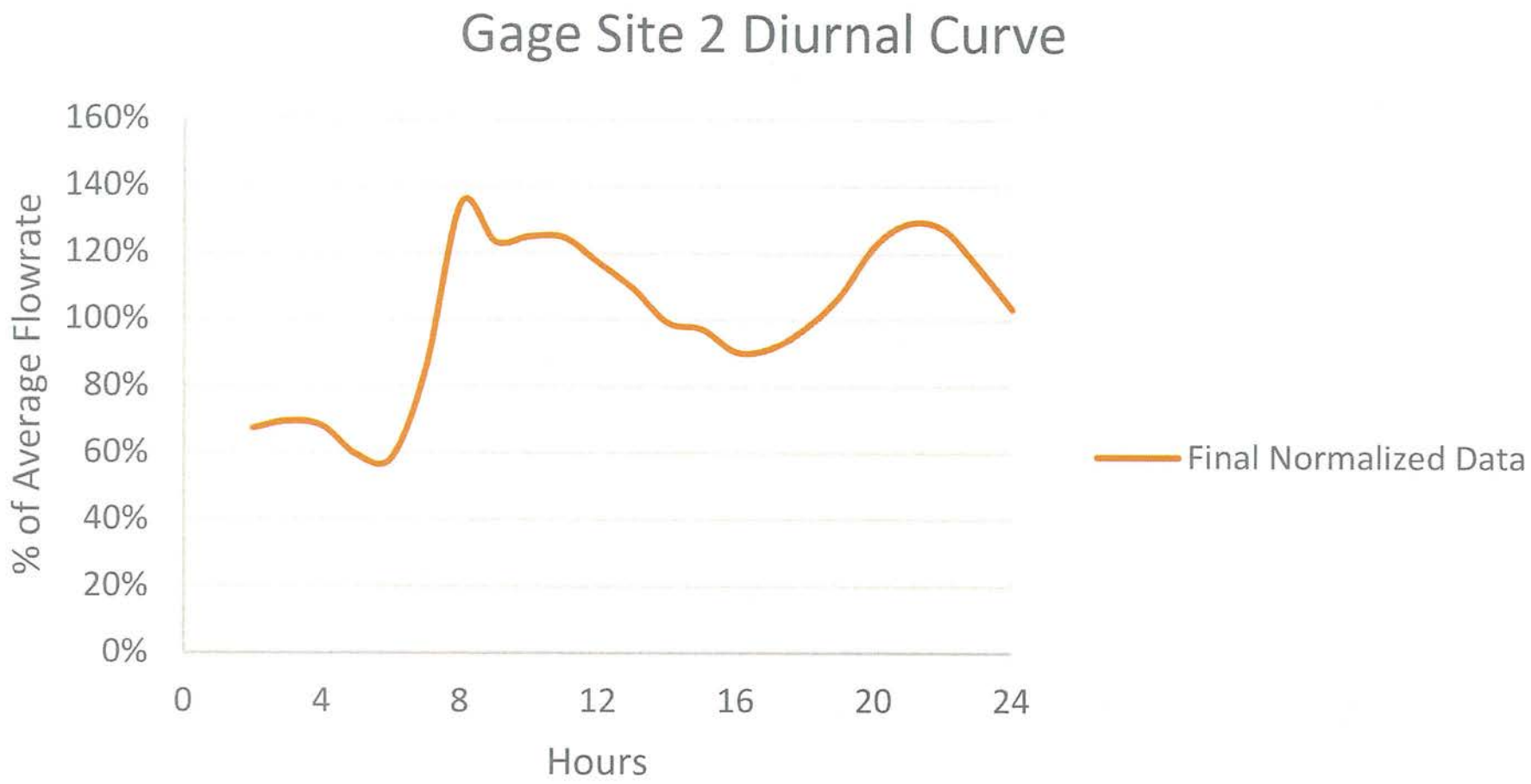
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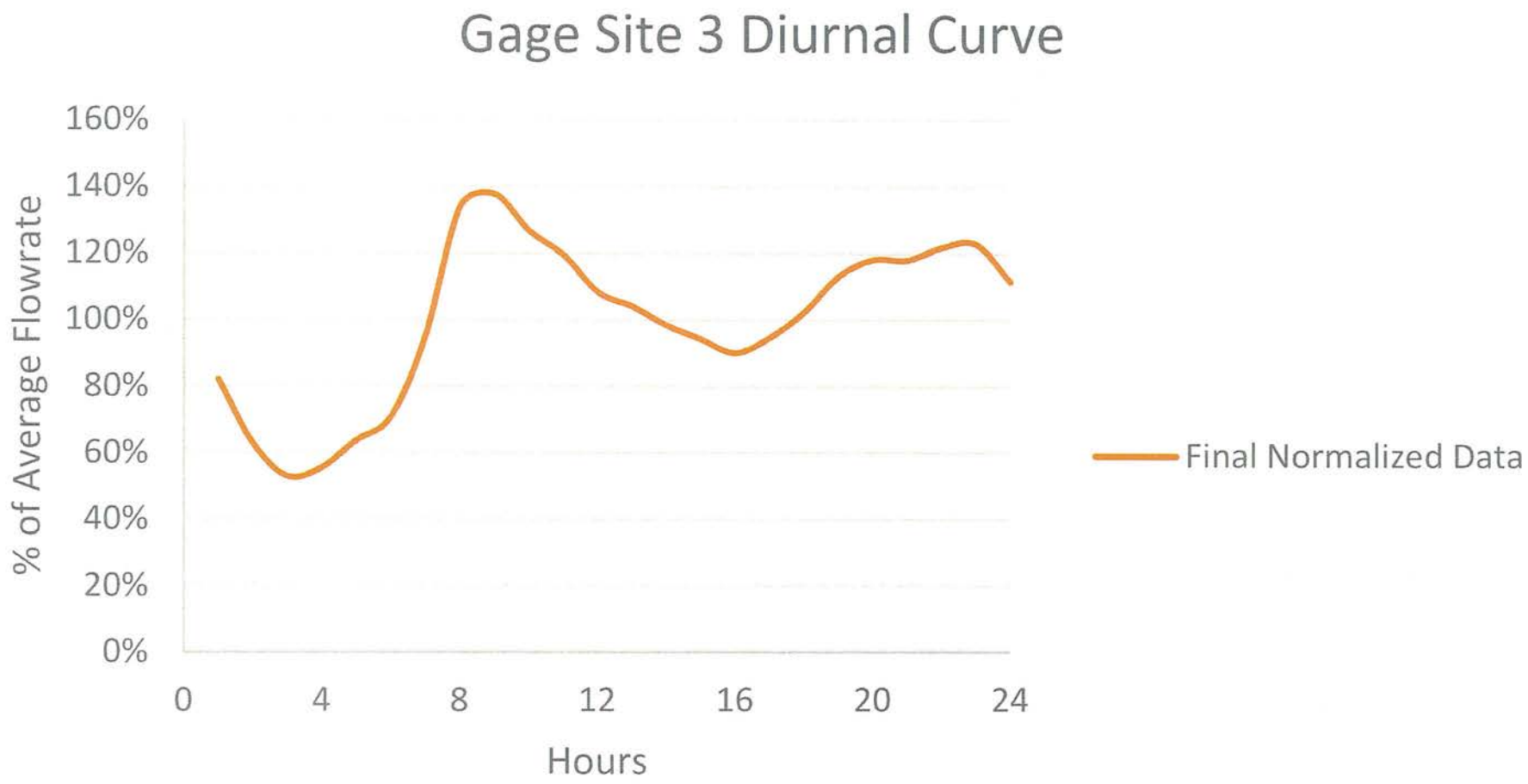


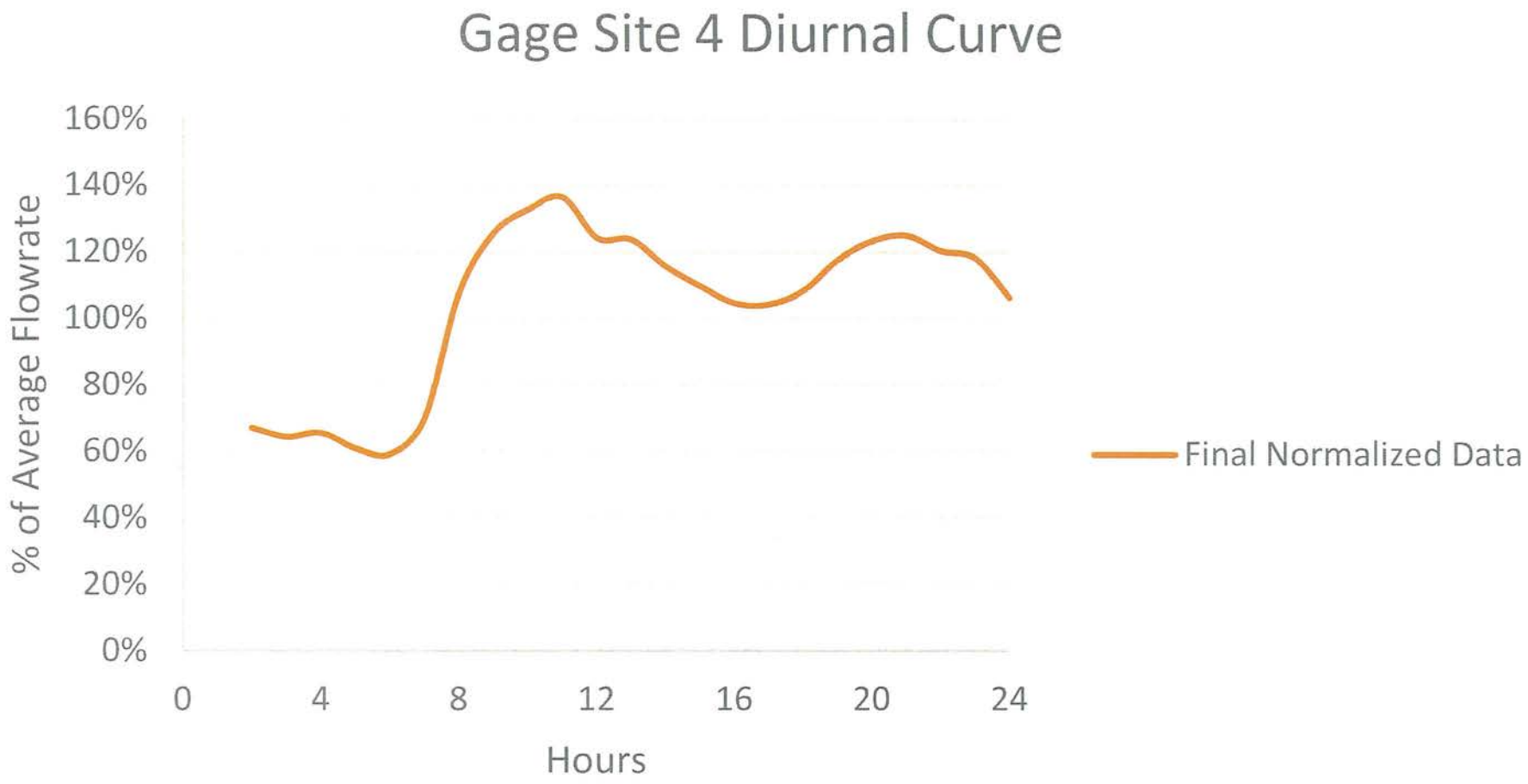
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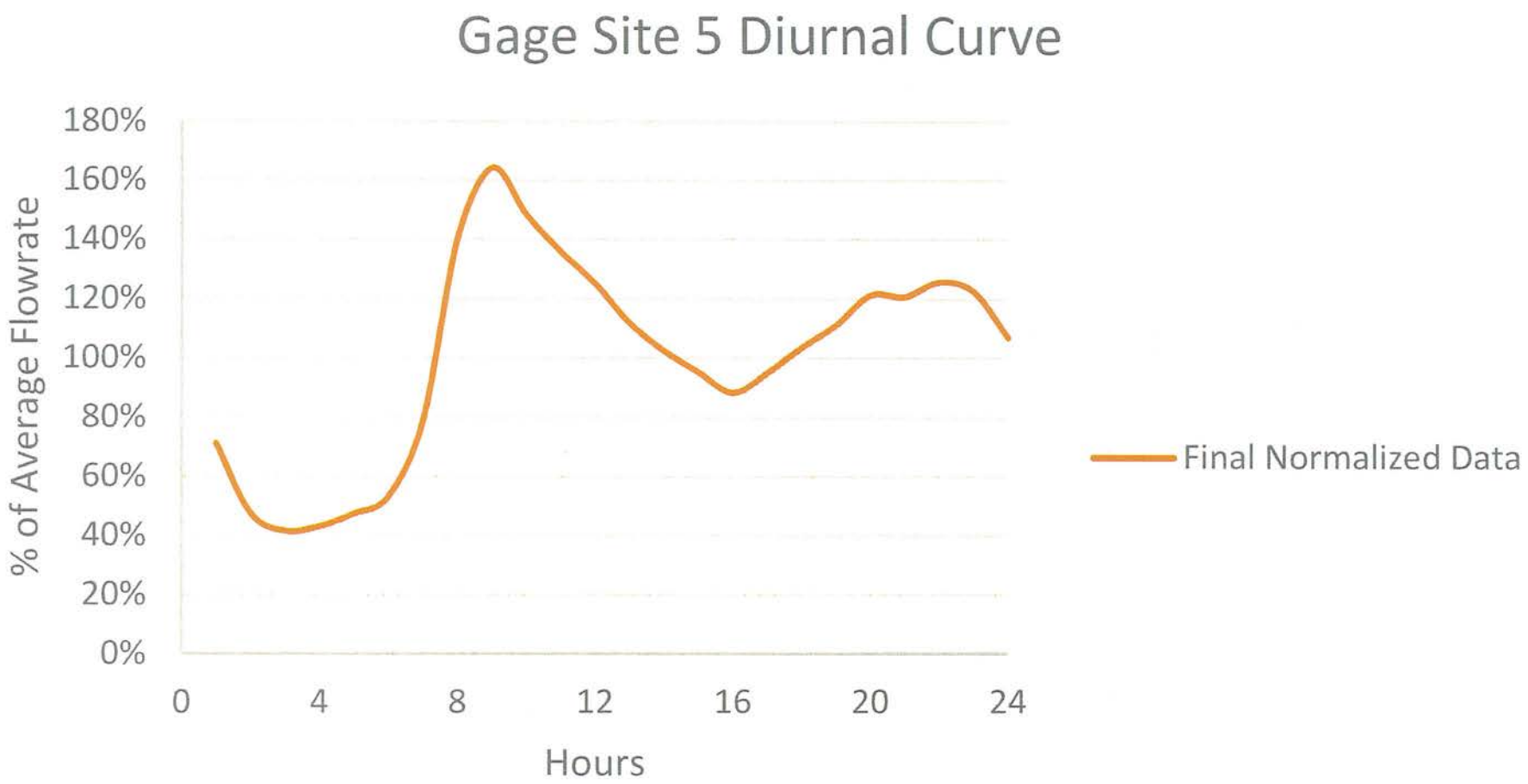
Appendix B: Diurnal Curves

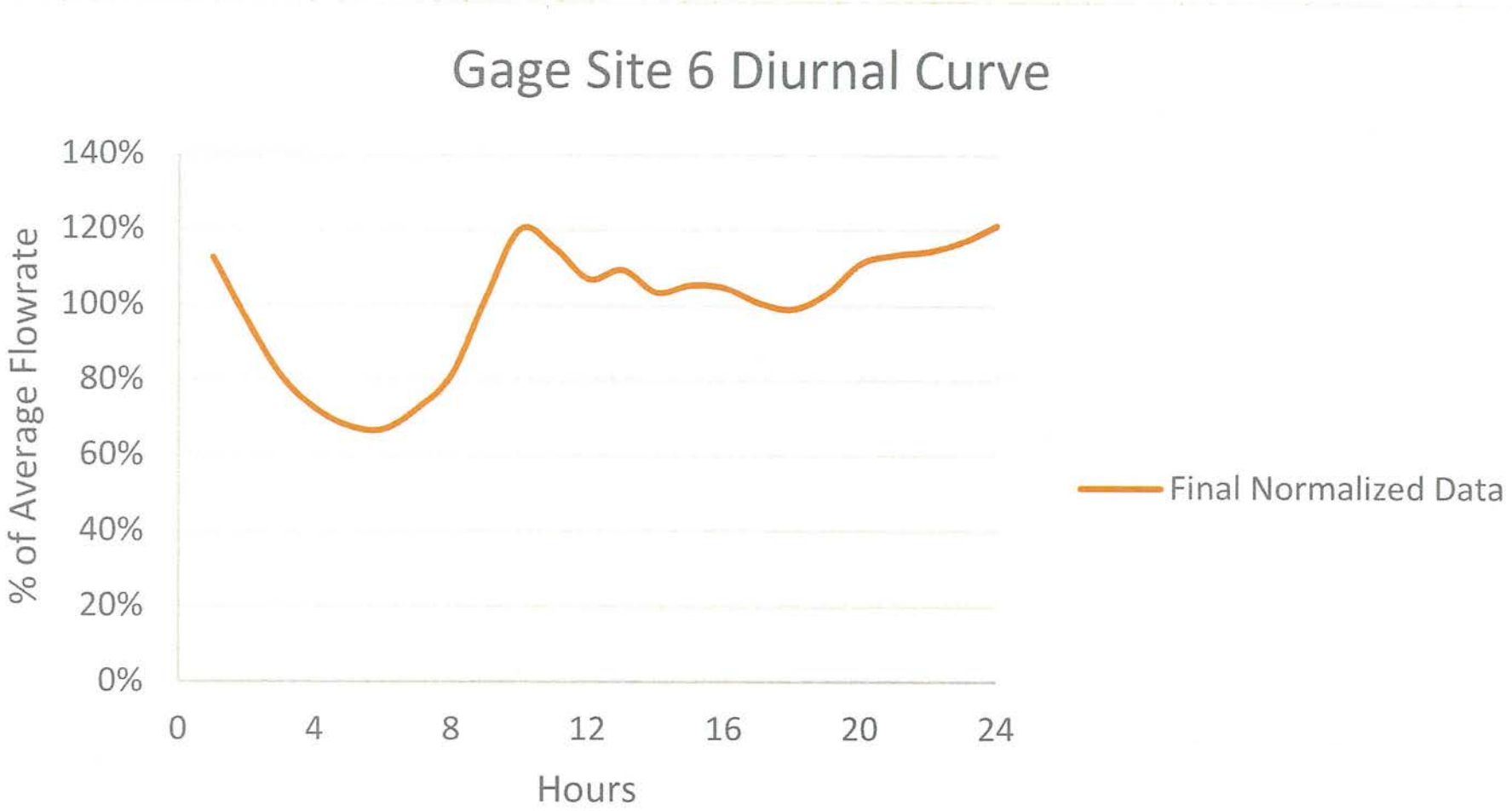

Gage Site 1 Diurnal Curve
160%
140%
120%
100%
80%
60%
40%
20%
0%
% of Average Flowrate
0
4
8
12
16
20
24
Hours
Final Normalized Data


Gage Site 2 Diurnal Curve
% of Average Flowrate
160%
140%
120%
100%
80%
60%
40%
20%
0%
0
4
8
12
16
20
24
Hours
Final Normalized Data


Gage Site 3 Diurnal Curve
160%
140%
120%
100%
80%
60%
40%
20%
0%
% of Average Flowrate
0
4
8
12
16
20
24
Hours
Final Normalized Data


Gage Site 4 Diurnal Curve
160%
140%
120%
100%
80%
60%
40%
20%
0%
% of Average Flowrate
0
4
8
12
16
20
24
Hours
Final Normalized Data


Gage Site 5 Diurnal Curve
% of Average Flowrate
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
0
4
8
12
16
20
24
Hours
Final Normalized Data


Gage Site 6 Diurnal Curve
140%
120%
100%
80%
60%
40%
20%
0%
% of Average Flowrate
0
4
8
12
16
20
24
Hours
Final Normalized Data

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Water and Wastewater Engineering
Traffic and Transportation Engineering
Aviation Planning and Engineering
Water Resources Engineering
Coatings Inspection Services
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