AGENDA
CITY OF DAYTON, MINNESOTA
12260 S. Diamond Lake Road, Dayton, MN 55327
Tuesday, March 11, 2025
WORKSESSION THREAT ASSESSMENT - 5:00 P.M.
REGULAR MEETING OF THE CITY COUNCIL - 6:30 P.M.
The invite for Zoom for this meeting can be found on the City's website community calendar

6:30 **CALL TO ORDER**

6:30 **PLEDGE OF ALLEGIANCE**

6:35 **APPROVAL OF AGENDA**

6:35 **CONSENT AGENDA** *These routine or previously discussed items are enacted with one motion. Any questions on items should have those items removed from consent agenda and approved separately.*

- **A.** Approval of Payment of Claims for March 11, 2025
- **B.** Approval to Accept Firefighter Gavin Eicher Resignation
- **C.** Approval of Letter Of Credit Reduction for Streets and Utility Improvements for Riverwalk 3rd
- **D.** Approval of Pay Request 7 for the Wellhouse 5 Project
- **E.** Approve Resolution 14-2025; Finding no Need for an Environmental Impact Statement (EIS) for the DCM Farms Environmental Assessment Worksheet (EAW)
- **F.** Approval of Resolution 15-2025; Support of Magnus Veterans Foundation Receiving Funding for Capital Improvements
- **G.** Approval of Resolution 16-2025; Final Plat and Development Agreement for Riverwalk 4th Addition
- **H.** Approval of Dust Control Contract for 2025
- **I.** Approval of Street Sweeping Contract for 2025

6:40 **OPEN FORUM** *Is limited to Three minutes for non-agenda items; state your name and address; No Council Action will be taken and items will be referred back to staff*

6:50 **STAFF, CONSULTANT AND COUNCIL UPDATES**

COUNCIL BUSINESS
Action Items

7:10 **J.** Approve Plans and Specifications and Authorize the Advertisement for Bids for The South Diamond Lake Road Improvement Project

7:25 **K.** Goals and Strategic Plan Continued Discussion

8:10 **ADJOURNMENT**

The City of Dayton's mission is to promote a thriving community and to provide residents with a safe and pleasant place to live while preserving our rural character, creating connections to our natural resources, and providing customer service that is efficient, fiscally responsible, and responsive.

Payments to be approved at City Council Meeting March 11, 2025

		Totals
Claims Roster 03-11-2025	**$**	**350,045.08**
Prepaid 02-27-2025 EB	**$**	**79,154.88**
Total Payments:	**$**	**429,199.96**
Payroll 02-27-2025 Bi-Weekly 05	**$**	**107,197.61**

Check # sequence to be approved by City Council from meeting date of 03/11/2025:

Checks # 078558-078614

Inv Num / Inv Ref#	Vendor / Description / GL Distribution		Inv Date / Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized / Post Date
	ARCHITECT MECHANICAL INC		02/28/2025	03/11/2025	870.00	870.00	Open	N
	PW; BUILDINGS AND STRUCTURES		CHOYT					01/31/2025
	101-43100-50520	PW; BUILDINGS AND STRUCTURES			435.00			
	101-42120-50220	PD; BUILDINGS AND REPAIR/MAINT			435.00			
	ARCHITECT MECHANICAL INC		02/28/2025	03/11/2025	650.00	650.00	Open	N
	PW/PD; BUILDINGS AND STRUCTURES		CHOYT					01/31/2025
	101-43100-50520	PW; BUILDINGS AND STRUCTURES			325.00			
	101-42120-50220	PD; BUILDINGS AND REPAIR/MAINT			325.00			
	ARCHITECT MECHANICAL INC		03/05/2025	03/11/2025	4,052.50	4,052.50	Open	N
	PW/PD; BUILDINGS AND STRUCTURES		CHOYT					02/28/2025
	101-43100-50520	PW; BUILDINGS AND STRUCTURES			2,026.25			
	101-42120-50220	PD; BUILDINGS AND STRUCTURES			2,026.25			
	BAN-KOE SYSTEMS, INC		03/03/2025	03/11/2025	912.12	912.12	Open	N
	MAIN LOBBY CAMERA-13700 ZANIBAR		CHOYT					02/24/2025
	101-41820-50200	MAIN LOBBY CAMERA-13700 ZANIBAR			912.12			
	BEAUDRY		02/21/2025	03/11/2025	1,830.81	1,830.81	Open	N
	PW; ULS #2 DYED DIESEL -586.80		CHOYT					02/18/2025
	101-43100-50212	PW; ULS #2 DYED DIESEL -586.80			1,830.81			
	BEAUDRY		02/21/2025	03/11/2025	1,702.87	1,702.87	Open	N
	PW; UNLEADED 87 -654.70		CHOYT					02/18/2025
	101-43100-50212	PW; UNLEADED 87 -654.70			1,702.87			
	BEAUDRY		03/04/2025	03/11/2025	2,145.96	2,145.96	Open	N
	PW; UNLEADED 87 -844.20		CHOYT					02/27/2025

101-43100-50212	PW; UNLEADED 87 -844.20			2,145.96			
C. VISION PRODUCTION		02/28/2025	03/11/2025	3,675.00	3,675.00	Open	N
VIDEO TECH; FEB 2025		CHOYT					02/26/2025
226-41900-50430	VIDEO TECH; FEB 2025			3,675.00			
CAMPBELL KNUTSON P.A.		02/20/2025	03/11/2025	120.00	120.00	Open	N
LEGAL FEES- PROJ 6190		CHOYT					01/31/2025
411-43100-50304-6190	LEGAL FEES- PROJ 6190			120.00			
CAMPBELL KNUTSON P.A.		02/20/2025	03/11/2025	3,764.64	3,764.64	Open	N
LEGAL FEES-GENERAL; JAN 2025		CHOYT					01/31/2025
101-41640-50304	LEGAL FEES-GENERAL; JAN 2025			3,764.64			
CARSON,CLELLAND & SCHREDER		03/03/2025	03/11/2025	2,000.00	2,000.00	Open	N
CRIMINAL PROSECUTION; FEB 2025		CHOYT					02/27/2025
101-41640-50305	CRIMINAL PROSECUTION; FEB 2025			2,000.00			
CENTERPOINT ENERGY		03/03/2025	03/11/2025	2,831.42	2,831.42	Open	N
80000014132-7 GAS SVCS; JAN 2025		CHOYT					02/24/2025
101-43100-50383	PW; 5888628-4			706.62			
101-41810-50383	CH; 5895786-1			1,142.82			
101-42260-50383	FD; 5895789			786.31			
101-43100-50383	BROCKTON; 5914909-6			195.67			
CENTURYLINK		02/21/2025	03/11/2025	218.01	0.00	Paid	Y
PW; WELLHOUSE2 LANDLINE/WATER SYSTEM SC		CHOYT					02/13/2025
601-49400-50321	PW; 763 323-0023 WATER SYSTEM SCADA			109.01			
602-49400-50321	PW; 763 323-0975 WELLHOUSE 2 LANDLINE			109.00			
CENTURYLINK		03/03/2025	03/11/2025	47.41	47.41	Open	N
PW; 763 428-7345 /FEB-MAR 2025		CHOYT					02/21/2025
101-43100-50321	PW; 763 428-7345 /FEB-MAR 2025			47.41			
CINTAS		02/21/2025	03/11/2025	121.14	121.14	Open	N
PW; UNIFORMS		CHOYT					02/20/2025
101-43100-50217	PW; UNIFORMS			121.14			

CINTAS		02/28/2025	03/11/2025	121.14	121.14	Open	N
PW; UNIFORMS		CHOYT					02/27/2025
101-43100-50217	PW; UNIFORMS			121.14			
CMT JANITORIAL SERVICES		02/20/2025	03/11/2025	1,602.00	1,602.00	Open	N
CONTRACT SERVICES-OFC CLEANING MAR 2025		CHOYT					02/20/2025
101-41910-50308	CONTRACT SERVICES-OFC CLEANING			602.00			
101-41810-50308	CONTRACT SERVICES-OFC CLEANING			1,000.00			
COLLINS BROTHERS TOWING OF ST.CLOUD		03/05/2025	03/11/2025	207.00	207.00	Open	N
PD; TOW 2019 DODGE CHARGER		CHOYT					03/05/2025
101-42120-50220	PD; TOW 2019 DODGE CHARGER			207.00			
COMPASS MINERALS AMERICA INC.		03/03/2025	03/11/2025	7,561.53	7,561.53	Open	N
PW; STREET MAINT-REPAIR		CHOYT					02/06/2025
101-43100-50224	PW; STREET MAINT-REPAIR			7,561.53			
CONNEXUS ENERGY		02/24/2025	03/11/2025	5,123.54	0.00	Paid	Y
ELECTRIC SERVICES/ JAN-FEB 2025		CHOYT					02/21/2025
101-43100-50230	172514 ST LIGHTS;			39.87			
101-43100-50230	172516 ST LIGHTS;			2,338.26			
101-43100-50230	172802 ST LIGHTS;			63.74			
101-43100-50230	172803 ST LIGHTS;			249.32			
101-42130-50381	173098 SIREN;			21.40			
602-49400-50381	178838 141ST OUTBUILDING;			35.01			
601-49400-50381	299049 WELL#2;			1,842.32			
602-49400-50381	299195 ROSEWOOD LIFT;			66.50			
601-49400-50381	299380 WATER TOWER;			189.09			
602-49400-50381	303882 PINEVIEW LIFT;			62.69			
602-49400-50381	307062 HACKBERRY LIFT;			112.18			
101-42130-50381	309045 E FRENCH SIREN;			17.40			
101-43100-50230	317271 ST LIGHTS;			85.76			
COORDINATED BUSINESS SYSTEMS		02/25/2025	03/11/2025	136.44	0.00	Paid	Y
ENGINEER PRINTER-KYOCERA COPIER JAN-FEB 2		CHOYT					02/19/2025
101-41810-50308	ENGINEER PRINTER-KYOCERA COPIER			136.44			
CORE & MAIN		02/28/2025	03/11/2025	23.71	23.71	Open	N

PW; METERS 1/2 LEAD METER SEAL		CHOYT					02/26/2025
601-49400-50259	PW; METERS 1/2 LEAD METER SEAL			23.71			
CORE & MAIN		02/28/2025	03/11/2025	10,479.00	10,479.00	Open	N
PW; METERS 510 M S/POINT M2 WIRED		CHOYT					02/26/2025
601-49400-50259	PW; METERS 510 M S/POINT M2 WIRED			10,479.00			
CROW RIVER FARM EQUIPMENT		03/03/2025	03/11/2025	332.58	332.58	Open	N
PW; DRILL BIT/ SUPPLIES		CHOYT					01/08/2025
101-43100-50210	PW; DRILL BIT/ SUPPLIES			332.58			
DAVID FASHANT		02/26/2025	03/11/2025	600.00	600.00	Open	N
COUNCIL LAPTOP REIMBURSEMENT- D FASHANT		CHOYT					02/25/2025
101-41110-50320	LAPTOP REIMBURSEMENT- D FASHANT			600.00			
DENA BRUNETTE		03/05/2025	03/11/2025	109.20	109.20	Open	N
MILEAGE; JAN-FEB 2025		CHOYT					03/05/2025
101-41500-50331	MILEAGE; JAN-FEB 2025			109.20			
DENA BRUNETTE		03/05/2025	03/11/2025	32.16	32.16	Open	N
MILEAGE; NOV-DEC 2024		CHOYT					12/31/2024
101-41500-50331	MILEAGE; NOV-DEC 2024			32.16			
DRAKE CONSTRUCTION		02/28/2025	03/11/2025	2,098.38	2,098.38	Open	N
PROJ# 6207 CLOSED OUT-RELEASE ESCROW		CHOYT					02/28/2025
411-00000-20200	Refund: MR Unapplied Payments			2,098.38			
EBERT CONSTRUCTION		03/05/2025	03/11/2025	53,943.37	53,943.37	Open	N
DAYTON WELLHOUSE #5- PAY 7		CHOYT					03/05/2025
601-00000-16500	DAYTON WELLHOUSE #5- PAY 7			56,782.50			
601-00000-20600	RETAINAGE PAYABLE			(2,839.13)			
ECM PUBLISHERS, INC		02/28/2025	03/11/2025	241.50	241.50	Open	N
PHN; MARCH 6 PH A-3 DISTRICT		CHOYT					02/20/2025
101-41110-50352	PHN; MARCH 6 PH A-3 DISTRICT			241.50			
ECM PUBLISHERS, INC		02/28/2025	03/11/2025	60.37	60.37	Open	N
PHN; MARCH 6 PH ORD AMEND		CHOYT					02/20/2025

101-41110-50352	PHN; MARCH 6 PH ORD AMEND			60.37			
ECM PUBLISHERS, INC		02/28/2025	03/11/2025	86.25	86.25	Open	N
LEGAL NOTICE/ OPPIDAN DDL CONCEPT PROJ 62		CHOYT					02/20/2025
411-43100-50351-6214	NOTICE/ OPPIDAN DDL CONCEPT PROJ 6214			86.25			
ECM PUBLISHERS, INC		02/28/2025	03/11/2025	138.00	138.00	Open	N
NOTICE; SCHANY PARCEL PROJ 6204		CHOYT					02/20/2025
411-43100-50351-6204	NOTICE; SCHANY PARCEL PROJ 6204			138.00			
EHLERS & ASSOCIATES, INC		02/20/2025	03/11/2025	2,000.00	2,000.00	Open	N
GO IMPROV REFUNDING BONDS, SERIES 2015A		CHOYT					02/20/2025
342-41900-50300	GO IMPROV REFUNDING BONDS, SERIES 2015A			2,000.00			
EHLERS & ASSOCIATES, INC		02/20/2025	03/11/2025	10,050.00	10,050.00	Open	N
EHLERS; PROJ 6180		CHOYT					01/31/2025
411-43100-50300-6180	EHLERS; PROJ 6180			10,050.00			
EHLERS & ASSOCIATES, INC		02/20/2025	03/11/2025	250.00	250.00	Open	N
2025 MN PUBLIC FINANCE SEMINAR-J SEVALD		CHOYT					02/20/2025
101-41710-50208	2025 MN PUBLIC FINANCE SEMINAR-J SEVALD			250.00			
FERGUSON WATERWORKS		03/05/2025	03/11/2025	80.00	80.00	Open	N
PW; PROFESSIONAL DEVELOPMENT-ACADEMY		CHOYT					03/03/2025
601-49400-50208	PW; PROFESSIONAL DEVELOPMENT-ACADEMY			80.00			
FORCE AMERICA DISTRIBUTING LLC		02/25/2025	03/11/2025	320.00	320.00	Open	N
PW; 5MB FLAT DATA PLAN-JAN 2025		CHOYT					02/24/2025
101-43100-50210	PW; 5MB FLAT DATA PLAN-JAN 2025			320.00			
GALLS INC		03/03/2025	03/11/2025	183.78	183.78	Open	N
OTHER EQUIPMENT;GLOCK BLUE GUN		CHOYT					02/26/2025
101-42120-50580	OTHER EQUIPMENT;GLOCK BLUE GUN			183.78			
GOPHER STATE ONE-CALL		03/04/2025	03/11/2025	139.05	139.05	Open	N
103 BILLABLE TICKETS; FEB 2025		CHOYT					02/28/2025
601-49400-50220	103 BILLABLE TICKETS; FEB 2025			69.52			
602-49400-50220	103 BILLABLE TICKETS; FEB 2025			69.53			

HANSON BUILDERS		02/27/2025	03/11/2025	3,000.00	3,000.00	Open	N
13911 TEAKWOOD LANE N LANDSCAPE ESCROW		CHOYT					02/27/2025
420-00000-22100	13911 TEAKWOOD LANE N LANDSCAPE ESCROW R			3,000.00			
HASSAN SAND & GRAVEL, INC		02/21/2025	03/11/2025	4,911.00	4,911.00	Open	N
PW; RECYCLED CLASS 5 -327.4		CHOYT					02/20/2025
101-43100-50224	PW; RECYCLED CLASS 5 -327.4			4,911.00			
HENNEPIN CO CHIEFS OF POLICE		02/24/2025	03/11/2025	420.00	0.00	Paid	Y
2025 CHIEFS OF POLICE ASSOCIATION DUES 20		CHOYT					02/21/2025
101-42120-50205	2025 CHIEFS OF POLICE ASSOCIATION DUES			420.00			
HENNEPIN COUNTY		02/26/2025	03/11/2025	2,052.00	2,052.00	Open	N
PD; CTY JAIL FEES- JAN 2025 #25-00472		CHOYT					01/31/2025
101-42120-50306	PD; CTY JAIL FEES- JAN 2025			2,052.00			
HENNEPIN COUNTY SHERIFFS OFFIC		02/20/2025	03/11/2025	150.00	150.00	Open	N
PD; PER DIEM AND PROCESSING-JAN 2025		CHOYT					02/12/2025
101-42120-50306	PD; PER DIEM AND PROCESSING-JAN 2025			150.00			
JALLAH DOMINI		02/24/2025	03/11/2025	450.00	450.00	Open	N
DAC RENTAL DEPOSIT REFUND: EVENT 2/15/25		CHOYT					02/12/2025
101-00000-21716	DAC RENTAL DEPOSIT REFUND: EVENT 2/15/25			450.00			
JESSICA HARTFIEL THURSTON		03/05/2025	03/11/2025	2,166.00	2,166.00	Open	N
PROFESSIONAL SRVS-FEB 2025 EMBEDDED		CHOYT					02/28/2025
101-42120-50300	PROFESSIONAL SRVS-FEB 2025 EMBEDDED			2,166.00			
KODIAK POWER SYSTEMS INC.		03/03/2025	03/11/2025	1,993.82	1,993.82	Open	N
PW; REPAIR/MAINT-WELL #4		CHOYT					02/03/2025
601-49400-50220	PW; REPAIR/MAINT-WELL #4			1,993.82			
LENNAR		02/27/2025	03/11/2025	3,000.00	3,000.00	Open	N
13753 142ND AVE N LANDSCAPE ESCROW RELE		CHOYT					02/27/2025
420-00000-22100	13753 142ND AVE N LANDSCAPE ESCROW RELEA			3,000.00			
LENNAR		02/27/2025	03/11/2025	3,000.00	3,000.00	Open	N

13743 142ND AVE N LANDSCAPE ESCROW RELE. CHOYT							02/27/2025
420-00000-22100	13743 142ND AVE N LANDSCAPE ESCROW RELEA			3,000.00			
LEVANDER, GILLEN & MILLER, P.A.		03/04/2025	03/11/2025	540.50	540.50	Open	N
PROFESSIONAL SRVS; EDA DEC 2024		CHOYT					12/31/2024
225-41710-50300	PROFESSIONAL SRVS; EDA DEC 2024			540.50			
LEVANDER, GILLEN & MILLER, P.A.		03/04/2025	03/11/2025	2,420.50	2,420.50	Open	N
PROFESSIONAL SRVS; NOV 2024		CHOYT					12/31/2024
225-41710-50300	PROFESSIONAL SRVS; NOV 2024			2,420.50			
MACQUEEN EMERGENCY GROUP		03/03/2025	03/11/2025	416.52	416.52	Open	N
PW; REPAIR/MAINT		CHOYT					01/31/2025
101-43100-50220	PW; REPAIR/MAINT			416.52			
MAGGIE TROST		02/20/2025	03/11/2025	450.00	450.00	Open	N
MEDALLION WINNER-TROST		CHOYT					02/20/2025
101-41910-50210	MEDALLION WINNER-TROST			450.00			
MENARDS - ELK RIVER		03/03/2025	03/11/2025	272.99	272.99	Open	N
PW; SUPPLIES-SHOP & KITCHEN		CHOYT					02/27/2025
101-43100-50210	PW; SUPPLIES-SHOP & KITCHEN			272.99			
MENARDS - MAPLE GROVE		03/03/2025	03/11/2025	57.85	57.85	Open	N
PW; SUPPLIES		CHOYT					02/28/2025
101-43100-50210	PW; SUPPLIES			57.85			
MENARDS - MAPLE GROVE		03/03/2025	03/11/2025	479.40	479.40	Open	N
PARKS; OPERATING SUPPLIES		CHOYT					02/21/2025
101-41910-50210	PARKS; OPERATING SUPPLIES			479.40			
MENARDS - MAPLE GROVE		03/03/2025	03/11/2025	33.78	33.78	Open	N
PARKS; OPERATING SUPPLIES		CHOYT					02/21/2025
101-41910-50210	PARKS; OPERATING SUPPLIES			33.78			
MENARDS - MAPLE GROVE		03/03/2025	03/11/2025	248.14	248.14	Open	N
PW; SUPPLIES-SHOP		CHOYT					02/13/2025
101-43100-50210	PW; SUPPLIES-SHOP			248.14			

MENARDS - MAPLE GROVE		03/03/2025	03/11/2025	4.98	4.98	Open	N
PW; SUPPLIES-MAILBOX NUMBERS		CHOYT					02/14/2025
101-43100-50210	PW; SUPPLIES-MAILBOX NUMBERS			4.98			
METRO WEST INSPECTION		03/05/2025	03/11/2025	18,232.00	18,232.00	Open	N
227.90 BLDG INSPECTIONS- JAN 2025		CHOYT					01/31/2025
101-41660-50300	227.90 BLDG INSPECTIONS- JAN 2025			18,232.00			
METROPOLITAN COUNCIL		03/05/2025	03/11/2025	51,586.39	51,586.39	Open	N
177.22 WASTE WATER SERVICE; APRIL 2025		CHOYT					03/03/2025
602-49400-50313	177.22 WASTE WATER SERVICE; APRIL 2025			51,586.39			
MN DEPT OF REVENUE		03/04/2025	03/04/2025	95.00	0.00	Paid	Y
S/U TAX FEB 2025		DBRUNETTE					03/04/2025
101-00000-20300	S/U TAX FEB 2025			95.00			
MUTUAL OF OMAHA		02/25/2025	03/11/2025	1,324.22	0.00	Paid	Y
G000CL6X: STD/LTD PREMIUM- MAR 2025		CHOYT					02/17/2025
101-00000-21705	G000CL6X: STD/LTD PREMIUM- MAR 2025			1,324.22			
NAPA AUTO PARTS		03/03/2025	03/11/2025	4.97	4.97	Open	N
PD; REPAIR/MAINT- 2308		CHOYT					02/26/2025
101-42120-50220	PD; REPAIR/MAINT- 2308			4.97			
NAPA AUTO PARTS		03/03/2025	03/11/2025	40.43	40.43	Open	N
PD; REPAIR/MAINT- 2002 BRAKES		CHOYT					02/11/2025
101-42120-50220	PD; REPAIR/MAINT- 2002 BRAKES			40.43			
REPUBLIC SERVICES #899		03/05/2025	03/11/2025	19,196.17	19,196.17	Open	N
CITY RECYCLING- FEB 2025		CHOYT					02/28/2025
101-41650-50386	CITY RECYCLING- FEB 2025			19,196.17			
SCOTT SALONEK		03/04/2025	03/11/2025	115.88	115.88	Open	N
REIMBURSEMENT FOR COUNCIL MEAL 2/25/25		CHOYT					02/25/2025
101-41110-50210	REIMBURSEMENT FOR COUNCIL MEAL 2/25/25			115.88			
SHORTSTOP ELECTRIC		02/27/2025	03/11/2025	2,040.00	2,040.00	Open	N

RETROFIT EXISTING LIGHT TO LINE VOLTAGE		CHOYT					02/26/2025
101-43100-50520	RETROFIT EXISTING LIGHT TO LINE VOLTAGE			2,040.00			
SHORTSTOP ELECTRIC		03/03/2025	03/11/2025	3,295.00	3,295.00	Open	N
PW; GARAGE LIGHT REPLACEMENTS		CHOYT					02/28/2025
101-43100-50520	PW; GARAGE LIGHT REPLACEMENTS			3,295.00			
SOUTH LAKE MINNETONKA POLICE DEPT		03/05/2025	03/11/2025	217.80	217.80	Open	N
PD; 1/13 COST OF MORRIS ELECTRONICS INV		CHOYT					02/26/2025
401-42120-50580	Other Equipment			217.80			
SOUTH LAKE MINNETONKA POLICE DEPT		03/05/2025	03/11/2025	60.58	60.58	Open	N
PD; 1/13 COST OF GTEL INVOICES		CHOYT					02/26/2025
401-42120-50580	PD; 1/13 COST OF GTEL INVOICES			60.58			
STANTEC CONSULTING SERVICES INC.		02/25/2025	03/11/2025	101,379.14	101,379.14	Open	N
ENGINEERING SVCS; JANUARY 2025		CHOYT					01/31/2025
101-41630-50303	GEN. ENGINEERING RETAINER; JAN 2025			4,500.00			
101-41630-50303	GEN. ENGINEERING; JAN 2025			8,185.00			
101-41660-50308	BUILDING PERMIT ACTIVITIES; JAN 2025			7,288.00			
601-49400-50303	WATER SUPPLY & DISTRIBUTION; JAN 2025			500.80			
602-49400-50303	SANITARY SEWER SYSTEM; JAN 2025			1,214.40			
415-41900-50300	STORMWATER; JAN 2025			7,564.60			
414-41900-50303	TRANSPORTATION; JAN 2025			7,792.80			
408-45300-50303	TRAILS; JAN 2025			1,884.00			
601-49400-50303	GIS/MAPPING; JAN 2025			1,748.60			
602-49400-50303	GIS/MAPPING; JAN 2025			1,748.60			
411-43100-50303-1006	RIVER HILLS-M/I HOMES; JAN 2025			853.00			
411-43100-50303-6065	BRAYBURN TRAILS; JAN 2025			1,380.00			
411-43100-50303-6098	SUNDANCE GREENS; JAN 2025			3,122.53			
411-43100-50303-6075	CLOQUET ISLAND ESTATES(CYPRESS) JAN			1,131.30			
411-43100-50303-6105	IONE GARDENS; JAN 2025			950.00			
411-43100-50303-6120	SUNDANCE GREENS-LENNAR; JAN 2025			886.00			
411-43100-50303-6131	MTL COMPANIES; JAN 2025			228.00			
411-43100-50303-6140	INLAND GROUP; JAN 2025			115.00			
411-43100-50303-6143	RIVERWALK; JAN 2025			2,546.30			
411-43100-50303-6150	THE CUBES OF FRENCH LAKE (CRG); JAN			1,473.00			
411-43100-50303-6149	KWIK TRIP-MAPLE CT JAN 2025			555.00			

411-43100-50303-6147	LEE PROPERTY; JAN 2025			1,967.23			
411-43100-50303-6167	CAPITAL PARTNERS; JAN 2025			207.30			
411-43100-50303-6164	GRACO 2ND; JAN 2025			38.00			
411-43100-50303-6180	NEIGHBORHOOD ON DAYTON PKWY;JAN 2025			9,208.25			
411-43100-50303-6170	SCHANY PROPERTIES/DAYTON CREEK; JAN			778.50			
411-43100-50303-6165	DAYTON INTERCHANGE/OPUS; JAN 2025			514.13			
411-43100-50303-6178	FISHER APPLE ORCHARD; JAN 2025			67.30			
601-00000-16500	DAYTON WELL #5 PRELIM DESIGN; JAN			970.40			
410-41900-50300	HAZARD MITIGATION GRANT PROGRAM; JAN			469.40			
414-41900-50303	DAYTON RIVER RD TURN LANE IMPROV.; JAN			1,001.60			
414-41900-50303	DAYTON 2024 MILL & OVERLAY; JAN 2025			156.80			
601-49400-50303	DAYTON HUD ENVIRONMENTAL; JAN 2025			884.40			
411-43100-50303-6198	DAYTON TERR./E FRENCH; JAN 2025			676.00			
411-43100-50303-6203	DCM FARMS; JAN 2025			9,442.75			
405-41900-50303	PARKS; JAN 2025			460.00			
414-41900-50303	DAYTON 2024 CHIP & FOG SEAL; JAN 2025			152.00			
601-49400-50303-2005	WATERMAIN EXTENSION; JAN 2025			105.60			
408-45300-50303	ELSIE STEPHENS CANOE/KAYAK LAUNCH; JAN			1,210.40			
414-41900-50303	2025 S DIAMOND LK RD IMPROV. JAN 2025			9,124.00			
225-41710-50300	LENT PROPERTIES PHASE 1-JAN 2025			3,953.60			
411-43100-50303-6203	DAYTON DCM FARMS EAW-JAN 2025			2,031.75			
414-41900-50303	SPANIER ADDITION PHASE 1 ESA-JAN 2025			1,907.20			
414-41900-50303	DAYTON PKWY TRAFFIC SIGNALS-JAN 2025			163.20			
414-41900-50303	CENTRAL PARK PARKING LOT- JAN 2025			187.20			
601-49400-50303	TERRITORIAL RD IMPROV. FEASIBILITY-JAN			35.20			
STREICHERS, INC		02/20/2025	03/11/2025	30.00	30.00	Open	N
PD; UNIFORM- MOSER		CHOYT					02/18/2025
101-42120-50217	PD; UNIFORM-MOSER			30.00			
STREICHERS, INC		02/24/2025	03/11/2025	6.99	6.99	Open	N
PD; UNIFORM-FIELDSETH		CHOYT					02/21/2025
101-42120-50217	PD; UNIFORM-FIELDSETH			6.99			
T MOBILE		03/03/2025	03/11/2025	1,017.21	1,017.21	Open	N
PD; 990673330 CELL SVC JAN-FEB 2025		CHOYT					02/21/2025
101-42120-50320	PD; 990673330 CELL SVC JAN-FEB 2025			1,017.21			

TOSHIBA BUSINESS SYSTEMS		02/21/2025	03/11/2025	44.15	44.15	Open	N
CH; ESTUDIO 2515/4555 PRINTERS NOV-JAN 202		CHOYT					02/14/2025
101-41820-50308	CH; ESTUDIO 4555 ELECTIONS			22.07			
101-41820-50308	CH; ESTUDIO 2515 FRONT PRINTER			22.08			
VERIZON WIRELESS		02/20/2025	03/11/2025	150.12	0.00	Paid	Y
PW;CELL SERVICE;MCM SEWER JAN-FEB 2025		CHOYT					02/20/2025
602-49400-50321	PW;CELL SERVICE;MCM SEWER			150.12			
WESTSIDE WHOLESALE, INC		03/03/2025	03/11/2025	1,650.00	1,650.00	Open	N
PW; REPAIR/MAINT. TIRES FOR BACKHOE		CHOYT					02/26/2025
101-43100-50220	PW; REPAIR/MAINT. TIRES FOR BACKHOE			1,650.00			
XCEL ENERGY		02/21/2025	03/11/2025	119.15	0.00	Paid	Y
51-0013348079-5;14430 DAYTON RIVER 2 INV- J/		CHOYT					02/19/2025
101-45200-50381	51-0013348079-5;14430 DAYTON RIVER 2 INV			119.15			
XCEL ENERGY		02/24/2025	03/11/2025	22.46	0.00	Paid	Y
51-0012400696-3;RUSH CR; JAN-FEB 2025		CHOYT					02/20/2025
101-45200-50381	51-0012400696-3;RUSH CR; JAN-FEB			22.46			
XCEL ENERGY		02/25/2025	03/11/2025	182.82	0.00	Paid	Y
51-4585810-2 LAWNDALE/S DIA LK; JAN-FEB 202		CHOYT					02/24/2025
101-43100-50381	51-4585810-2 S DIA LK; JAN-FEB			57.84			
602-49400-50381	51-4585810-2 LAWNDALE; JAN-FEB			113.44			
602-49400-50381	51-4585810-2 PRO LGT; JAN-FEB			11.54			
XCEL ENERGY		03/04/2025	03/11/2025	72.74	72.74	Open	N
51-9348440-7 TROY ST LGT; FEB 2025		CHOYT					02/28/2025
101-43100-50230	51-9348440-7 TROY ST LGT; FEB 2025			72.74			
XCEL ENERGY		03/04/2025	03/11/2025	617.27	617.27	Open	N
51-8556975-3;17780 TERRITORIAL/S.L. FEB 2025		CHOYT					02/28/2025
101-43100-50230	51-8556975-3;17780 TERRITORIAL/S.L. FEB			617.27			
XCEL ENERGY		03/04/2025	03/11/2025	1,395.23	1,395.23	Open	N
51-6111142-2;16471 S. DIAMOND/S.L. FEB 2025		CHOYT					02/28/2025
101-43100-50230	51-6111142-2;16471 S. DIAMOND/S.L. FEB			1,395.23			

XCEL ENERGY		03/04/2025	03/11/2025	108.75	108.75	Open	N
51-0013433058-1; BROCKTON SIGNAL; FEB 202	CHOYT						02/28/2025
101-43100-50230	51-0013433058-1; BROCKTON SIGNAL; FEB			108.75			
XCEL ENERGY		03/04/2025	03/11/2025	31.87	31.87	Open	N
51-5420841-2; 12260 S DIAMOND FEB 2025	CHOYT						02/28/2025
101-43100-50230	51-5420841-2; 12260 S DIAMOND FEB 25			31.87			
XCEL ENERGY		03/05/2025	03/11/2025	80.38	80.38	Open	N
51-8932050-3 CR81; FEB 2025	CHOYT						03/03/2025
101-43100-50230	51-8932050-3 CR81; FEB 2025			80.38			
# of Invoices: 88	# Due: 78	Totals:		350,045.08	342,253.32		
# of Credit Memos: 0	# Due: 0	Totals:		0.00	0.00		
Net of Invoices and Credit Memos:				350,045.08	342,253.32		
* 1 Net Invoices have Credits Totalling:				(2,839.13)			

--- TOTALS BY FUND ---

101 - GENERAL FUND	117,185.69	112,194.83
225 - EDA	6,914.60	6,914.60
226 - CABLE	3,675.00	3,675.00
342 - 2014A & 2015A NE UTILITIES	2,000.00	2,000.00
401 - CAPITAL EQUIPMENT	278.38	278.38
405 - PARK DEDICATION	460.00	460.00
408 - PARK TRAIL DEVELOPMENT	3,094.40	3,094.40
410 - CAPITAL FACILITIES	469.40	469.40
411 - DEVELOPER ESCROWS	50,663.97	50,663.97
414 - PAVEMENT MANAGEMENT AND IMPROVEMENTS	20,484.80	20,484.80
415 - STORMWATER	7,564.60	7,564.60
420 - LANDSCAPE ESCROWS	9,000.00	9,000.00
601 - WATER FUND	72,974.84	70,834.42
602 - SEWER FUND	55,279.40	54,618.92

--- TOTALS BY DEPT/ACTIVITY ---

00000 -	67,881.37	66,462.15

41110 - Council	1,017.75	1,017.75
41500 - Finance	141.36	141.36
41630 - Engineering Services	12,685.00	12,685.00
41640 - Legal Services	5,764.64	5,764.64
41650 - Recycling Services	19,196.17	19,196.17
41660 - Inspection Service	25,520.00	25,520.00
41710 - Plannning & Economic Dev	7,164.60	7,164.60
41810 - Central Services	2,279.26	2,142.82
41820 - Information Technology	956.27	956.27
41900 - General Govt	34,653.80	34,653.80
41910 - Activity Center	1,565.18	1,565.18
42120 - Patrol and Investigate	9,343.01	8,923.01
42130 - Emergency Mgmt	38.80	0.00
42260 - Fire Suppression	786.31	786.31
43100 - Public Works	84,475.08	81,640.29
45200 - Parks	141.61	0.00
45300 - Trail Development	3,094.40	3,094.40
49400 - Utilities	73,340.47	70,539.57

ITEM: Firefighter Resignation

PREPARED BY: Fire Chief Gary Hendrickson

POLICY DECISION / ACTION TO BE CONSIDERED:
Accept Firefighter Gavin Eicher's resignation and recognize his exemplary service to our community.

BACKGROUND: Firefighter Eicher has been with the organization since September 2021. He has been an essential part of our team and has contributed to the safety and well-being of our citizens throughout his tenure. We also want to express our gratitude to his family, who have supported him through his career and understand the demands and sacrifices of serving as a firefighter.

CRITICAL ISSUES:
N/A

RECOMMENDATION:
Approve the resignation of Firefighter Gavin Eicher

ATTACHMENT(S):
Resignation Letter

From: Gary Hendrickson
To: Amy Benting
Subject: FW:
Date: Thursday, March 6, 2025 4:55:21 PM
Attachments: image002.png
image003.png
image004.png

Hello Amy,

Below is the email sent to me.

Cheers,
Gary

Gary Hendrickson| Fire Chief
City of Dayton | Fire Department
P: 763-323-4001 C: 612-919-3523
ghendrickson@cityofdaytonmn.com
12260 S Diamond Lake Rd Dayton, MN 55327
We Play Outside | We've Got Roots | We're Right Here

Notice of Upcoming Email Domain Change

- **The City of Dayton is in the process of changing all email addresses from @cityofdaytonmn.com to @daytonmn.gov. This is slated to be effective March 1, 2025.**

From: Gavin Eicher <geicher@cityofdaytonmn.com>
Sent: Thursday, February 20, 2025 9:07 PM
To: Gary Hendrickson <ghendrickson@cityofdaytonmn.com>
Subject:

Dear Gary
I wanted to take a moment to express my sincere gratitude for the opportunity to be a part of the Dayton Fire Department. It has been an honor to serve alongside such dedicated professionals, and I have gained invaluable experience during my time here. After much consideration, I have made the difficult decision to step down from my position due to the demands of both my work and schooling. Balancing these commitments has become increasingly challenging, and I believe this is the best course

of action for my personal and professional growth.
This was by no means an easy decision, as I have truly enjoyed being a part of this team. I am incredibly grateful for the support, training, and camaraderie I have experienced here. The lessons I've learned will stay with me throughout my career.
Please let me know how I can assist in making this transition as smooth as possible.
Thank you again for everything, and I hope to cross paths again in the future.
Best regards, Gavin Eicher
Get Outlook for iOS

PRESENTER:

Jason Quisberg

ITEM:

Riverwalk 3rd Addition Letter of Credit (LOC) Reduction

PREPARED BY:

Jason Quisberg, Engineering
Nick Findley, Engineering

POLICY DECISION / ACTION TO BE CONSIDERED:

Reduction in the LOC for street and utility improvements for the Riverwalk 3rdt Addition.

BACKGROUND:

Construction of utilities in the 3rd Addition of the Riverwalk development began in the summer of 2024. Sanitary sewer, watermain, and storm sewer work has been completed. A portion of the work in this addition of the development has been completed, including curb and gutter, and base course paving. Wear course pavement, sidewalks, punch list work, record plans, and some miscellaneous cleanup work must be completed throughout the addition of the development.

The current surety balance is $1,073,303.28. We recommend reducing the surety in an amount of $860,639.50 for a remaining balance of $212,663.78.

CRITICAL ISSUES:

There are no outstanding critical issues.

COMMISSION REVIEW / ACTION (IF APPLICABLE):

60/120-DAY RULE (IF APPLICABLE):

RELATIONSHIP TO COUNCIL GOALS:

BUDGET IMPACT:

None

RECOMMENDATION:

Staff recommends reducing the surety for Riverwalk 3rd Addition in the amount of $860,639.50 for a remaining balance of $212,663.78

ATTACHMENT(S):

Riverwalk 3rd Addition - Payment Application 2

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
Sanitary Sewer								
Mobilization - Utility	LS	1.0	0.0	1.0	$5,000.00	$0.00	$5,000.00	$5,000.00
Permits & Bonds	LS	1.0	0.0	1.0	$0.01	$0.00	$0.01	$0.01
8" PVC SDR 26	LF	806.0	0.0	806.0	$45.00	$0.00	$36,270.00	$36,270.00
Manhole 0-8'	EA	4.0	0.0	4.0	$3,250.00	$0.00	$13,000.00	$13,000.00
Manhole Extra Depth	LF	28.3	0.0	28.7	$300.00	$0.00	$8,610.00	$8,490.00
Furnish & Install Castings	EA	4.0	0.0	4.0	$850.00	$0.00	$3,400.00	$3,400.00
4" PVC Service Cleanout	EA	7.0	0.0	7.0	$300.00	$0.00	$2,100.00	$2,100.00
8" x 4" Wyes SDR 26	EA	20.0	0.0	20.0	$300.00	$0.00	$6,000.00	$6,000.00
4" PVC Risers SDR 26	LF	30.0	0.0	30.0	$35.00	$0.00	$1,050.00	$1,050.00
4" PVC Service SDR 26	EA	27.0	0.0	27.0	$900.00	$0.00	$24,300.00	$24,300.00
Tracer Wire, Anode & Snake Pit (for services - per detail SER-01B)	EACH	27.0	0.0	27.0	$285.00	$0.00	$7,695.00	$7,695.00
8" Plug	EA	1.0	0.0	1.0	$150.00	$0.00	$150.00	$150.00
Trench Rock	TN	221.7	0.0	221.7	$0.01	$0.00	$2.22	$2.22
Connect to Existing 8" Stub	EA	1.0	0.0	1.0	$3,500.00	$0.00	$3,500.00	$3,500.00
Televise	LF	806.0	806.0	806.0	$1.50	$1,209.00	$1,209.00	$1,209.00
Exterior Manhole Joint Wrap	EA	4.0	0.0	4.0	$500.00	$0.00	$2,000.00	$2,000.00
					Sanitary Sewer Total:	**$1,209.00**	$114,286.23	**$114,166.23**

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Watermain -

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
Watermain 6" DIP	LF	46.0	0.0	46.0	$59.00	$0.00	$2,714.00	$2,714.00
Watermain 8" C-900 PVC	LF	1,407.0	0.0	1,407.0	$43.00	$0.00	$60,501.00	$60,501.00
Connect to Existing 8" Plug	EA	1.0	0.0	1.0	$3,500.00	$0.00	$3,500.00	$3,500.00
Connect to Existing, Remove Ex. Hyd.	EA	1.0	0.0	1.0	$4,250.00	$0.00	$4,250.00	$4,250.00
6" Valves	EA	4.0	0.0	4.0	$2,500.00	$0.00	$10,000.00	$10,000.00
8" Valves	EA	3.0	0.0	4.0	$3,250.00	$0.00	$13,000.00	$9,750.00
Valve Box Apaptor II #6 Base - By Adaptor Inc. (On All 6"-12" GV's)	EA	7.0	0.0	8.0	$175.00	$0.00	$1,400.00	$1,225.00
8"x6" Reducer	EA	1.0	0.0	1.0	$700.00	$0.00	$700.00	$700.00
8" x 6" Tee	EA	3.0	0.0	3.0	$1,000.00	$0.00	$3,000.00	$3,000.00
8" x 8" Tee	EA	2.0	0.0	2.0	$1,150.00	$0.00	$2,300.00	$2,300.00
8" Bends	EA	9.0	0.0	9.0	$775.00	$0.00	$6,975.00	$6,975.00
8" Plug	EA	1.0	0.0	1.0	$575.00	$0.00	$575.00	$575.00
Hydrants	EA	4.0	0.0	4.0	$6,750.00	$0.00	$27,000.00	$27,000.00
0.5' Hydrant Extension	EA	1.0	0.0	0.0	$0.01	$0.00	$0.00	$0.01
1" Services	EA	27.0	0.0	27.0	$1,750.00	$0.00	$47,250.00	$47,250.00
Tracer Wire, Anode & Snake Pit (for services - per detail SER-01B)	EACH	27.0	0.0	27.0	$285.00	$0.00	$7,695.00	$7,695.00
Improved Pipe Fndtn	LF	1,453.0	0.0	1,453.0	$0.01	$0.00	$14.53	$14.53
					Watermain Total:	**$0.00**	$190,874.53	**$187,449.54**

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
Storm Sewer -								
12" RCP - Cl 5	LF	324.0	0.0	324.0	$57.00	$0.00	$18,468.00	$18,468.00
15" RCP - Cl 5	LF	340.0	0.0	340.0	$63.00	$0.00	$21,420.00	$21,420.00
18" RCP - Cl 5	LF	191.0	0.0	191.0	$68.00	$0.00	$12,988.00	$12,988.00
21" RCP - Cl 4	LF	302.0	0.0	302.0	$78.00	$0.00	$23,556.00	$23,556.00
24" RCP - Cl 4	LF	151.0	0.0	151.0	$97.00	$0.00	$14,647.00	$14,647.00
Catchbasin (27" Dia)	EA	1.0	0.0	1.0	$1,250.00	$0.00	$1,250.00	$1,250.00
Catchbasin(2'x3')	EA	5.0	0.0	5.0	$2,000.00	$0.00	$10,000.00	$10,000.00
Catchbasin/Manhole (4' Dia)	EA	10.0	0.0	10.0	$3,250.00	$0.00	$32,500.00	$32,500.00
Manhole Extra Depth (4' Dia)	LF	16.6	0.0	16.6	$300.00	$0.00	$4,980.00	$4,980.00
Furnish & Install Castings	EA	16.0	0.0	16.0	$750.00	$0.00	$12,000.00	$12,000.00
Rear Yard Draintile (4" service line)	LF	52.0	0.0	66.0	$23.00	$0.00	$1,518.00	$1,196.00
Rear Yard Draintile (6" perf with rock bedding)	LF	33.0	0.0	33.0	$27.00	$0.00	$891.00	$891.00
Rear Yard Draintile Wyes (6"x4')	EA	1.0	0.0	1.0	$200.00	$0.00	$200.00	$200.00
Rear Yard Draintile Cleanouts (4") (per detail STO-18)	EA	3.0	0.0	3.0	$400.00	$0.00	$1,200.00	$1,200.00
Rear Yard Draintile Cleanouts (6") (per detail STO-18)	EA	1.0	0.0	1.0	$575.00	$0.00	$575.00	$575.00
Storm Sewer Inlet Protection (wimco's)	EA	16.0	0.0	16.0	$100.00	$0.00	$1,600.00	$1,600.00
Improved Pipe Fndtn	LF	1,308.0	0.0	1,308.0	$0.01	$0.00	$13.08	$13.08
R&D Bulkhead & Connect to Existing	EA	1.0	0.0	1.0	$2,500.00	$0.00	$2,500.00	$2,500.00
					Storm Sewer Total:	**$0.00**	$160,306.08	**$159,984.08**

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
Street Construction								
Mobilization - All Street Work	LS	1.0	0.0	1.0	$5,000.00	$0.00	$5,000.00	$5,000.00
Permits & Bonds - All Street Work	LS	1.0	0.0	0.0	$0.01	$0.00	$0.00	$0.01
Subgrade Preparation	SY	5,685.0	0.0	5,685.0	$1.25	$0.00	$7,106.25	$7,106.25
Street Subcut	CY	100.0	230.0	230.0	$15.00	$3,450.00	$3,450.00	$1,500.00
Street Import Select Granular	CY	130.0	230.0	230.0	$22.00	$5,060.00	$5,060.00	$2,860.00
Streets - Disc & Dry Subgrade	HRS.	16.0	0.0	0.0	$0.01	$0.00	$0.00	$0.16
Install Temporary Cul-De-Sac (8" CL5/2" Bit.)	EA	1.0	1.0	1.0	$8,900.00	$8,900.00	$8,900.00	$8,900.00
Curb & Gutter (B618)	LF	826.0	826.0	826.0	$20.00	$16,520.00	$16,520.00	$16,520.00
Curb & Gutter Surmountable (28")	LF	1,822.0	1,822.0	1,822.0	$19.00	$34,618.00	$34,618.00	$34,618.00
Backfill Curb & Gutter	LF	2,648.0	2,648.0	2,648.0	$1.25	$3,310.00	$3,310.00	$3,310.00
Concrete Curb Ribbon (3')	LF	616.0	0.0	0.0	$22.50	$0.00	$0.00	$13,860.00
5' Wide - 6" Concrete Walk	LF	1,545.0	0.0	0.0	$40.60	$0.00	$0.00	$62,727.00
Geotextile Fabric (non-woven)	SY	5,685.0	0.0	5,685.0	$2.10	$0.00	$11,938.50	$11,938.50
12" Select Granular	TN	4,315.0	0.0	4,275.0	$10.50	$0.00	$44,887.50	$45,307.50
8" Class 5 Base	TN	2,975.0	0.0	2,945.0	$22.50	$0.00	$66,262.50	$66,937.50
2.0" Bit Base Coarse	TN	650.0	644.0	644.0	$100.00	$64,400.00	$64,400.00	$65,000.00
Leveling Course	TN	100.0	0.0	0.0	$120.00	$0.00	$0.00	$12,000.00
1.5" Bit Wear Course	TN	485.0	0.0	0.0	$95.00	$0.00	$0.00	$46,075.00
Tack Coat	GALS	315.0	0.0	0.0	$0.01	$0.00	$0.00	$3.15

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
Regrade Boulevards after Small Utilities	LF	2,648.0	0.0	0.0	$0.01	$0.00	$0.00	$26.48
Adjust Castings-Base Course	EA	7.0	7.0	7.0	$550.00	$3,850.00	$3,850.00	$3,850.00
Adjust Castings - Wear Course	EA	7.0	0.0	0.0	$50.00	$0.00	$0.00	$350.00
Adjust Gate Valves - Base Course	EA	3.0	3.0	3.0	$350.00	$1,050.00	$1,050.00	$1,050.00
Adjust Gate Valves - Wear Course	EA	3.0	0.0	0.0	$50.00	$0.00	$0.00	$150.00
Street Name Signs (per blade)	EA	3.0	0.0	0.0	$450.00	$0.00	$0.00	$1,350.00
Standard Barricades - (Sets of 2)	SET	1.0	0.0	0.0	$1,000.00	$0.00	$0.00	$1,000.00
Street - Draintile	LF	1,845.0	0.0	1,845.0	$14.00	$0.00	$25,830.00	$25,830.00
Cleanout (w/ tracer wire & cap per detail STO-18)	EACH	18.0	0.0	18.0	$350.00	$0.00	$6,300.00	$6,300.00
6" Irr Conduit (2 Pipes, Install bends and plug 18" above fg)	EA	1.0	0.0	1.0	$1,250.00	$0.00	$1,250.00	$1,250.00
Conduit Crossings (estimated)	EA	4.0	0.0	6.0	$750.00	$0.00	$4,500.00	$3,000.00
Lump Sum Discount	LS	1.0	0.0	0.0	($15,000.00)	$0.00	$0.00	($15,000.00)
					Street Total:	**$141,158.00**	$314,232.75	**$432,819.55**

PROJECT : RIVERWALK 3RD ADDITION
LOCATION : DAYTON, MINNESOTA

PREPARED FOR : RGW DAYTON DEVELOPMENT, LLC.
PREPARED BY : SATHRE-BERGQUIST, INC.

Additiona Work

Description	Unit	Contract Quantity	PR#2 12/13/2024	Completed To Date	Unit Price	Amount This Estimate	Total Amount Complete	Contract Amount
8" PVC SDR35	LF	0.0	0.0	14.0	$43.00	$0.00	$602.00	$0.00
4" Future SVC Stub past Fut WM	LF	0.0	0.0	15.0	$25.00	$0.00	$375.00	$0.00
Irrigation Service	EA	0.0	0.0	1.0	$4,250.00	$0.00	$4,250.00	$0.00
R&R Ex. Storm Stub Offline	LS	0.0	0.0	1.0	$3,360.00	$0.00	$3,360.00	$0.00
Irrigation Service Credit	EA	0.0	(1.0)	(1.0)	$1,250.00	($1,250.00)	($1,250.00)	$0.00
Heated Concrete for Curb	LF	0.0	2,648.0	2,648.0	$1.50	$3,972.00	$3,972.00	$0.00
					Additional Work:	**$2,722.00**	$11,309.00	**$0.00**

Payment Requested for work that has been completed
in coformance with the plans and specifications.
Contractor: Nodland Construction Company

_____ Date: _____

Recommended for Payment.
Engineer: Sathre-Bergquist, Inc.

_____ Date: _____

Approved for Payment.
Owner: RGW Dayton Development, LLC

_____ Date: _____

SUMMARY :			
Sanitary Sewer Total:	$1,209.00	$114,286.23	$114,166.23
Watermain Total:	$0.00	$190,874.53	$187,449.54
Storm Sewer Total:	$0.00	$160,306.08	$159,984.08
Street Total:	$141,158.00	$314,232.75	$432,819.55
Additional Work:	$2,722.00	$11,309.00	$0.00
Total:	**$145,089.00**	$791,008.59	**$894,419.40**

$791,008.59 - $11,309.00 = $779,699.59

Subtotal-	$791,008.59
Less 5% Retainage-	($39,550.43)
Less PR#1-	($613,623.61)
Payment Due-	**$137,834.55**

Remaining Work: $894,419.40 - $779,699.59 = $114,719.81

120% Remaining Work: $137,633.78
Punchlist: $50,000.00
Record Plans: $25,000.00
Total: $212,663.78

PRESENTER:

Jason Quisberg

ITEM:

Wellhouse #5 - Pay Request No. 7

PREPARED BY:

Jason Quisberg, Engineering

POLICY DECISION / ACTION TO BE CONSIDERED:

Approve Pay Request No. 7 for the Wellhouse #5 project

BACKGROUND:

See attached engineer's memo for background and recommendations.

RECOMMENDATION:

See attached engineer's memo for recommendations.

ATTACHMENT(S):
Engineer's memo
Pay Request No. 7

Stantec

Memo

To:	Martin Farrell, Public Works Director	From:	Ash Hammerbeck, PE Jason Quisberg, PE
Project/File:	227704873	Date:	March 3, 2025

Subject: Dayton Wellhouse No.5 - Pay Application #7

Council Action Requested

Staff is recommending Council to approve Pay Application #7 for the Dayton Wellhouse No.5 to Ebert Companies in the amount of $53,943.37.

Summary

Ebert Companies continued work on the project, including installation of translucent skylight system, painting, joint sealants, signage, mechanical, electrical controls and integration, and obtaining the necessary utilities and materials. This pay request is for the work performed through 2/28/2025.

The signed payment request form and pay application is attached for review.

Total Contract Value to Date	$ 1,083,588.63
Work Completed to Date	$ 778,266.80
5% Retainage	$ 38,913.40
Amount Paid to Date	$ 685,410.03
Total Pay App #7	$ 53,943.37

Engineer's Recommendation

We have reviewed the request and recommend approving Pay Application #7 to Ebert Companies in the amount of $53,943.37 for the work completed and materials stored to date.

AIA® Document G702™ – 1992

Application and Certificate for Payment

TO OWNER: City of Dayton
12260 S Diamond Lake Road
Dayton, MN 55327

PROJECT: City of Dayton Wellhouse #5
14503 Kingsview Lane N
Dayton, MN 55327

APPLICATION NO: 7
PERIOD TO: 2/28/2025
CONTRACT FOR:
CONTRACT DATE:
PROJECT NOS: 66099 / / /

Distribution to:
OWNER ☐
ARCHITECT ☐
CONTRACTOR ☐
FIELD ☐
OTHER ☐

FROM CONTRACTOR: Ebert Companies
23350 County Road 10
Corcoran, MN 55357

VIA ARCHITECT: Stantec Consulting Services
2335 W Highway 36
St. Paul, MN 55113

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
AIA Document G703™, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM	$	1,127,735.28
2. NET CHANGE BY CHANGE ORDERS	$	-44,146.65
3. CONTRACT SUM TO DATE *(Line 1 ± 2)*	$	1,083,588.63
4. TOTAL COMPLETED & STORED TO DATE *(Column G on G703)*	$	778,266.80
5. RETAINAGE:		
a. 5.00 % of Completed Work *(Columns D + E on G703)*	$	38,913.40
b. ____ % of Stored Material *(Column F on G703)*	$	
Total Retainage *(Lines 5a + 5b, or Total in Column I of G703)*	$	38,913.40
6. TOTAL EARNED LESS RETAINAGE *(Line 4 minus Line 5 Total)*	$	739,353.40
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT *(Line 6 from prior Certificate)*	$	685,410.03
8. CURRENT PAYMENT DUE	$	53,943.37
9. BALANCE TO FINISH, INCLUDING RETAINAGE *(Line 3 minus Line 6)*	$	344,235.23

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$ 2,984.35	$ -47,131.00
Total approved this month	$	$
TOTAL	$ 2,984.35	$ -47,131.00
NET CHANGES by Change Order	$ -44,146.65	

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: Ebert Companies
By: _____ Date: 2.24.25
State of: Minnesota
County of: Hennepin
Subscribed and sworn to before me this 24th day of Feb 2025
Notary Public: _____
My commission expires: 1-31-2027

SHELBY RASMUSSEN
NOTARY PUBLIC
MINNESOTA
My Commission Expires Jan 31, 2027

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ..... $ _____
(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT: Stantec Consulting Services
By: _____ Date: 3/3/2025

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA® Document G703™ – 1992

Continuation Sheet

AIA Document G702™–1992, Application and Certificate for Payment, or G732™–2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 7
APPLICATION DATE: 2/24/2025
PERIOD TO: 2/28/2025
ARCHITECT'S PROJECT NO: 66099

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)	WORK COMPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (Not in D or E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C – G)	RETAINAGE (If variable rate)
01	Bonds	10,000.00	10,000.00			10,000.00	100.00		500.00
02	Mobilization	20,000.00	20,000.00			20,000.00	100.00		1,000.00
03	General Conditions M	24,500.00	24,500.00			24,500.00	100.00		1,225.01
04	General Conditions L	54,500.00	54,500.00			54,500.00	100.00		2,725.01
05	Closeouts	2,000.28						2,000.28	
06	Final Cleaning	2,000.00						2,000.00	
07	Cast-In-Place Concrete	57,200.00	57,200.00			57,200.00	100.00		2,860.00
08	Precast Plank	14,200.00	14,200.00			14,200.00	100.00		710.00
09	Unit Masonry	84,600.00	84,600.00			84,600.00	100.00		4,230.00
10	Rough Carpentry M	6,800.00	6,800.00			6,800.00	100.00		340.00
11	Rough Carpentry L	17,400.00	17,400.00			17,400.00	100.00		870.00
12	Roof Trusses M	1,800.00	1,800.00			1,800.00	100.00		90.00
13	Bituminous Damproofing	3,750.00	3,750.00			3,750.00	100.00		187.50
14	Insulation	1,900.00	1,900.00			1,900.00	100.00		95.00
15	Sheet Metal Roofing	16,000.00	16,000.00			16,000.00	100.00		800.00
16	Soffits & Flashings	2,000.00	2,000.00			2,000.00	100.00		100.00
17	Joint Sealants	2,800.00		840.00		840.00	30.00	1,960.00	42.00
18	Doors, Hardware, & Frames M	15,850.00	15,850.00			15,850.00	100.00		792.50
19	Doors, Hardware, & Frames L	1,950.00	1,755.00			1,755.00	90.00	195.00	87.75
20	Translucent Skylight System	6,050.00		6,050.00		6,050.00	100.00		302.50
21	Louvers M	1,700.00	1,700.00			1,700.00	100.00		85.00
22	Louvers L	800.00	800.00			800.00	100.00		40.00
23	Gypsum Wallboard	2,800.00	2,520.00			2,520.00	90.00	280.00	126.00
24	Concrete Floor Sealer	1,400.00	1,400.00			1,400.00	100.00		70.00
25	Painting	6,800.00		680.00		680.00	10.00	6,120.00	34.00
	GRAND TOTAL								

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AIA® Document G703™ – 1992

Continuation Sheet

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In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 7
APPLICATION DATE: 2/24/2025
PERIOD TO: 2/28/2025
ARCHITECT'S PROJECT NO: 66099

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)	WORK COMPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (Not in D or E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C – G)	RETAINAGE (If variable rate)
26	Signage	1,950.00	487.50	487.50		975.00	50.00	975.00	48.76
27	Plumbing	13,500.00	10,125.00			10,125.00	75.00	3,375.00	506.25
28	Mechanical	34,250.00	6,850.00	6,850.00		13,700.00	40.00	20,550.00	685.00
29	Electrical Permit	260.00	260.00			260.00	100.00		13.00
30	Electrical General Labor	34,744.00	26,058.00			26,058.00	75.00	8,686.00	1,302.90
31	Electrical General Material	25,977.00	22,080.45			22,080.45	85.00	3,896.55	1,104.03
32	Equipment Controls & Integ.	209,375.00	83,750.00	41,875.00		125,625.00	60.00	83,750.00	6,281.25
33	Electrical Generator	170,450.00						170,450.00	
34	Lighting	2,544.00						2,544.00	
35	Earthwork	52,095.00	52,095.00			52,095.00	100.00		2,604.76
36	Flexible Paving	12,200.00						12,200.00	
37	Irrigation Systems	6,450.00						6,450.00	
38	Turfs & Grasses	5,050.00						5,050.00	
39	Deciduous Trees 2.5"	3,738.00						3,738.00	
40	Shrub #5 GAL CONT	1,566.00						1,566.00	
41	Perennial Grass #1 GAL CONT	1,234.00						1,234.00	
42	Rock Mulch	875.00						875.00	
43	Metal Landscape Edger	2,158.00						2,158.00	
44	Utilities	28,269.00	28,269.00			28,269.00	100.00		1,413.45
45	Process Piping	38,250.00	38,250.00			38,250.00	100.00		1,912.51
46	Vertical Line Shaft Pump	124,000.00	111,600.00			111,600.00	90.00	12,400.00	5,580.00
47	Change Order 1	-47,131.00						-47,131.00	
48	Change Order 2	2,984.35	2,984.35			2,984.35	100.00		149.22
	GRAND TOTAL	1,083,588.63	721,484.30	56,782.50		778,266.80	71.82	305,321.83	38,913.40

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

ITEM:
DCM Farms Environmental Assessment Worksheet (EAW)

PREPARED BY:
Erin Sejkora, Senior Environmental Planner, Stantec

POLICY DECISION / ACTION TO BE CONSIDERED:
Approve Resolution No.14-2025 Finding No Need for an Environmental Impact Statement (EIS) for the DCM Farms Environmental Assessment Worksheet (EAW)

BACKGROUND:
Sundance Woods, LLC is proposing to construct the proposed DCM Farms (Project) which includes the development on approximately 91 acres within the City of Dayton, MN. The Project proposes construction of up to 267 detached residential homes and approximately 43,680 square feet of commercial and retail uses. Commercial uses may include an office/bank, restaurant, coffee shop, retail, daycare, and a convenience store/gas station. The Project is anticipated to be constructed in three phases. The Project also proposes the City's planned realignment of 113th Avenue North (approximately 800 feet north of the current 113th Avenue North/Fernbrook Lane intersection), to connect to the future, planned roundabout at 114th Avenue North/Fernbrook Lane.

The Project requires a mandatory Environmental Assessment Worksheet (EAW) under Minnesota Rules 4410.4300, Subpart 32. The EAW was distributed for review to agencies and interested parties on the Environmental Quality Board's (EQB) distribution list on January 14, 2025. The EAW comment period concluded February 13th, 2025. Agency and public comments were reviewed and responded to in the record of decision document.

Per Minnesota Rules, the City of Dayton, as the Responsible Governmental Unit (RGU), is to issue a Decision if an Environmental Impact Statement (EIS) should be ordered (due to potential significant environmental impacts that may be anticipated as a result of the development).

It is staff's opinion that sufficient information has been submitted to address review comments received. Additionally, it is believed that the EAW, together with the prepared responses to the comments, is sufficient for the EAW to serve as a guidance document for development of this property. Therefore, it is recommended that a Decision be issued that an EIS is not needed for the proposed development.

It should be noted that an EAW is an environmental review document; and approval of the EAW does not secure any entitlements related to development of the property involved. Any proposed development would need to follow the typical development application and review process prior to approval, and plan details are subject to change.

Note: Resolution 14-2025 is included in the attached document

RECOMMENDATION:
Approve Resolution No. 14-2025 Finding No Need for an EIS for the DCM Farms EAW

ATTACHMENT(S):
Response to Comments, Findings of Fact, and Record of Decision for the DCM Farms EAW

RESOLUTION NO. 14-2025

CITY OF DAYTON
COUNTIES OF HENNEPIN AND WRIGHT
STATE OF MINNESOTA

RESOLUTION FINDING NO NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE DCM FARMS ENVIRONMENTAL ASSESSMENT WORKSHEET (EAW)

WHEREAS, Minnesota Rules 4410.4300 Subp. 19.C requires that an EAW be prepared for projects proposing construction of a permanent residential development of 100 unattached or 150 attached units in a city meeting the conditions of item D if the project is not consistent with the adopted comprehensive plan; and Minnesota Rules 4410.4300 Subp. 14.A(2) requires that an EAW be prepared for projects proposing construction of a new commercial facility of 200,000 square feet for a third-class city; and Minnesota Rules 4410.4300 Subp. 32 requires that an EAW be prepared for projects proposing residential and industrial-commercial components if the sum of the quotient obtained by dividing the number of residential units by the applicable residential threshold of Subp. 19.C, plus the quotient obtained by dividing the amount of industrial-commercial gross floor space by the applicable industrial-commercial threshold of Subp. 14, equals or exceeds one; and

WHEREAS, in December 2024, an EAW was prepared for the proposed DCM Farms Project, which proposes up to 267 detached residential homes and approximately 43,680 square feet of commercial and retail use. Commercial/retail uses may include an office/bank, restaurant, coffee shop, retail, daycare, and a convenience store/gas station.

WHEREAS, on January 14, 2025, the EAW was publicly noticed in the EQB Monitor, commencing the 30-day public comment period; and

WHEREAS, on January 14, 2025, copies of the EAW were distributed to all persons and agencies on the official Environmental Quality Board (EQB) distribution list and other interested parties; and

WHEREAS, a press release or public notice was submitted to the Press and News Newspaper announcing the completion of the EAW, its availability to interested parties, and the process for submitting comments on the EAW; and

WHEREAS, the 30-day comment period concluded on February 13, 2025, and the City of Dayton accepted and responded to all written comments received; and

WHEREAS, none of the comments received recommended preparation of an EIS, and none suggested the Project had the potential to cause significant environmental effects.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Dayton that:

1. The EAW was prepared in compliance with the procedures of the Minnesota Environmental Policy Act and Minnesota Rules, Parts 4410.1000 to 4410.1700;
2. The EAW satisfactorily addressed the environmental issues for which existing information could have been reasonably obtained;
3. Based on the criteria established in Minnesota Rules 4410.1700, the project does not have the potential for significant environmental effects;
4. The City makes a "Negative Declaration;"
5. **An EIS is not required**; and
6. The City adopts the Response to Comments, Findings of Fact, and Record of Decision for DCM Farms Environmental Assessment Worksheet (Record of Decision) and directs the Community Development Director to maintain the Record of Decision and distribute it in accordance with Minnesota Rules.

Adopted by the Council of the City of Dayton this 11th day of March 2025.

_____
Dennis Fisher, Mayor

ATTEST:

_____
Amy Benting, City Clerk

Motion by _____. *Seconded by* _____.
Resolution **Approved**

Responses to Comments, Findings of Fact and Conclusions, and Record of Decision

for

DCM Farms
Environmental Assessment Worksheet

Responsible Governmental Unit (RGU)

City of Dayton
12260 South Diamond Lake Road
Dayton, MN 55327
Jon Sevald
Phone: (763) 712-3221
jsevald@cityofdaytonmn.com

Proposer

Sundance Woods, LLC
6781 US 10
Ramsey, MN 55303
Tom Dehn
Phone: (612) 328-2215
tom.dehn@powerlodge.com

TABLE OF CONTENTS

INTRODUCTION

The DCM Farms residential/commercial development (herein referred to as "the Project") proposes a residential/commercial development on approximately 91 acres south of 117th Avenue North and west of Fernbrook Lane in the City of Dayton, Hennepin County, Minnesota. The Project would include 267 detached residential homes and approximately 43,680 square feet of commercial and retail uses. Commercial uses may include an office/bank, restaurant, coffee shop, retail, daycare, and a convenience store/gas station. The City's planned realignment of 113th Avenue North (approximately 800 feet north of the current 113th Avenue North/Fernbrook Lane intersection), to connect to the future, planned roundabout at 114th Avenue North/Fernbrook Lane, would be included in the review of the Project.

The Project would include development on the current cultivated fields and existing structures and buildings associated with the agricultural use of the Project area would be demolished or removed. The existing residential home in the northwest corner of the Project area would not be demolished or modified. Other components of the Project include the construction of filtration basins to meet stormwater requirements (water quality, volume, and rate).

The Project is anticipated to be constructed in three phases starting in summer 2025, based on market demand. Phase One would include development of approximately 75 percent of the residential units along 113th Avenue North. Phase Two would include the construction of the remaining 25 percent of residential units along 113th Avenue North and construction of approximately 50 percent the residential units along 117th Avenue North. Phase Three would include the construction of the remaining residential units and commercial development along 113th Avenue North. Full buildout of the Project is anticipated to be completed in 2030.

EAW NOTIFICATION, DISTRIBUTION, AND COMMENT PERIOD

In accordance with Minnesota Rules 4410.1500, the Environmental Assessment Worksheet (EAW) was completed and distributed to persons and agencies on the official Environmental Quality Board (EQB) distribution list. The EQB published notice of availability of the EAW in the *EQB Monitor* on January 14th, 2025, initiating a 30-day comment period that concluded on February 13th, 2025. A hard copy of the EAW was made available for review during the comment period at the Dayton City Hall located at 12260 South Diamond Lake Road. A public notice was published in the local newspaper, the *Press and News*, on January 16, 2025. Appendix A includes copies of the comment letters and emails received. Appendix B provides a proof of the public notice for the EAW publication. A copy of the published EAW is available at: https://cityofdaytonmn.com/resources/eaw/.

COMMENTS RECEIVED

The RGU must consider all timely and substantive comments received when finalizing the order for review in accordance with Minnesota Rules part 4410.1700, Subpart 4. Late comments may be responded to if the RGU chooses to do so. As required by MN Rules, the RGU has provided replies to comments that are *substantive* (involving matters with major or practical importance) and where necessary, note any correction(s) to the EAW. Where comments were deemed partially substantive, responses were provided for items that were deemed substantive. Four agency, and four citizen comment letters were received during the EAW comment period. Comments received from these agencies and the public are summarized below by commenter. Copies of all comment letters submitted are included in Appendix A.

Table 1 lists the comment letters received during the 30-day comment period for the DCM Farms EAW.

Table 1. EAW Comment Letters

Agency/Organization/Citizen	Letter Dated	Signatory
St. Paul District, United States Army Corps of Engineers (USACE)	January 15th, 2025	Alex Meincke, Lead Project Manager, South Branch Regulatory Division
Metropolitan Council	February 12th, 2025	Angela R. Torres, AICP, Senior Manager Local Planning Assistance
Hennepin County	February 11th, 2025	Dan Patterson, Planner, Transportation Planning
Minnesota Department of Natural Resources (DNR)	February 13th, 2025	Melissa Collins, Regional Environmental Assessment Ecologist
Commenter 1: Grover	January 11th, 2025	Keith and Marcia Grover
Commenter 2: Powers	February 1st, 2025	Robert and Kathleen Powers
Commenter 3: Krebs	February 6th, 2025	Alex Krebs
Commenter 4: Jackson	February 12th, 2025	Sarah Jackson

RESPONSES TO COMMENTS

The following information and clarifications are provided in response to all EAW comments received during the 30-day comment period. Responses to comments are provided in italicized text.

Letter 1: USACE

Comment 1: It is unclear if your project will have impacts to jurisdictional waters. If your project will have impacts to aquatic resources, please submit a permit application with the impacts clearly identified and we can assist you through our permit review process if authorization is required.

> ***Response:*** *So, noted. As described in Item 12.b.iv.a, the anticipated wetland impact would not require a Wetland Replacement Plan or compensatory mitigation as the proposed acreage of impact is below the replacement thresholds of WCA and Section 404. Wetland impacts and permit requirements would be confirmed during final design.*

Letter 2: Metropolitan Council

Comment 1: Item 7. Climate **-** Discussion of anticipated climate trends and proposed adaptations are adequate. Met Council staff encourages the City to consider using native plants in landscaping to improve the site's stormwater absorption and resilience to periods of drought. The project proposer should also commit to minimizing tree loss and maximizing tree replacement to minimize the impact of the increased impervious surface.

> ***Response:*** *So, noted. The mitigation measures listed in Item 14.d include consideration of native seed in revegetation plans. As stated in the footnote to Item 8, Table 4, a tree preservation and replacement plan would be developed in accordance with City code.*

Comment 2: Item 10. Land Use - The development area is guided Low Density Residential in the City's 2040 Comprehensive Plan and the proposed development includes detached residential as well as commercial and retail uses. As noted in the EAW, a comprehensive plan amendment would be required to ensure consistency with the Comprehensive Plan's future land use guiding and allowed uses.

> ***Response:*** *So, noted. Thank you for the comment.*

Comment 3: Item 12. Water Resources **-** *Wastewater* - The Metropolitan Disposal System has adequate capacity for this project location.

> ***Response:*** *So, noted. Thank you for the comment.*

Comment 4: *Surface Water* **-** Please note the numbers in "Table 12. Impacts to Wetlands within the Project Area" are incorrect when shown as acreage.

> ***Response:*** *Thank you for the comment. This correction is noted. The anticipated potential wetland impact is 1,090 square feet.*

Comment 5: *Water Supply* - Page 16 of the EAW notes that *"Maple Grove has agreed to provide the City of Dayton with water in sufficient quantity to meet an average day demand not to exceed 2.8 million gallons per day (MGD) and a maximum daily demand of 5.0 MGD. The City is in the process of completing a Water Supply Plan Update."* Page 46 of the EAW notes that *"As discussed in Item 12, water supply for the Project would be provided through an agreement with the City of Maple Grove. The Project proposes residential and commercial developments has been planned for in the City's Water Supply and Sewer Plans."*

Please clarify if the City of Dayton or the City of Maple Grove are in the process of completing a Water Supply Plan Update (or both) and which city (or both) has included plans for residential developments in their Water Supply and Sewer Plans. Ensure that the City of Maple Grove has provided comments on this EAW, including if it will require them to make updates to their local water supply plan and water appropriation permits.

> ***Response:*** *The City of Dayton is in the process of completing a Water Supply Plan Update. The City of Dayton's Future Land Use Map identified the Project area as planned low density residential. Projected population growth associated with the Project area are included in the water demand projections identified in the City of Dayton's Water Supply Plan. The City of Maple Grove was included in the distribution notice of the EAW comment period. No comments on the EAW were received from the City of Maple Grove. An existing water supply agreement is in-place between the City of Maple Grove and City of Dayton, in which the City of Maple Grove agreed to provide the City of Dayton with water in sufficient quantity to meet an average day demand not to exceed 2.8 million gallons per day (MGD) and a maximum daily demand of 5.0 MGD. The City's current water use is well below the maximum demand established in this agreement and has been accounted for in the City's water demand projections. Therefore, there is adequate capacity to meet the water demands associated with the Project.*

Comment 6: Item 18. Greenhouse Gas Emissions - Discussion of projected greenhouse gas emissions and associated mitigation measures are adequate. Met Council staff encourage the project proposer to incorporate EV ready building design in the single-family homes to facilitate a transition to electric vehicles, similarly the project proposer should consider installing electric vehicle chargers at the convenience store or in conjunction with other commercial uses.

> ***Response:*** *So, noted. Thank you for the comment.*

Comment 7: Item 20. Transportation - *Transportation* - The development should consider increased network connectivity to Fernbrook Lane north of the existing houses to increase permeability of the site and better connectivity for future development to the northwest. This connection could be continued through the parcel to the west to connect to the existing 116th Avenue as that parcel develops

> ***Response:*** *So, noted. Thank you for the comment. Local trail facilities are proposed along 113th Avenue North and along local roads connecting to the proposed park area near the existing terminus of 116th Avenue North as shown in the concept plan in Appendix B of the EAW. In addition to these trail facilities, sidewalk facilities would be constructed as part of the Project.*

Comment 8: *Transit* - While the EAW accurately states no transit routes directly serve the project area, Noble Park & Ride in Brooklyn Park is the nearest Metro Transit facility for future residents to access commuter express service to downtown Minneapolis. Future riders may also access Maple Grove Transit express service from park-and-rides within the City of Maple Grove. Transit Link general public dial-a-ride (provided by the Met Council) is an alternative mode available in Dayton.

> ***Response:*** *So, noted. Thank you for the comment.*

Letter 3: Hennepin County

Comment 1: Request for 20-year forecast from buildout for no-build and build scenarios (rather than just 2040) (PDF page 212)

> ***Response:*** *So, noted. Thank you for the comment. Year 2030 forecasts were provided as it is anticipated that the full buildout would be 2030. Year 2040 forecasts were also estimated as these align with the City's Comprehensive Plan.*

Comment 2: Question of whether Fernbrook and Rush Creek Parkway Intersections would meet signal warrants (PDF page 222).

> ***Response:*** *The City would complete a full signal warrant analysis during the future roadway design phase of the Project.*

Comment 3: Request to include summary tables for LOS for each movement rather than entire intersections for those involving a county road and want to see 95 percent or max queues for each movement (PDF page 218).

> ***Response:*** *So, noted. Thank you for the comment. Detailed results of the analysis are provided in the appendices to the traffic impact study (Appendix I of the EAW).*

Letter 4: DNR

Comment 1: Page 5, Table 6, Permits and Approvals. Table 6 should include a DNR Water Appropriation Permit for potential construction dewatering. A DNR Water Appropriation Permit is required if the water pumped exceeds 10,000 gallons in a day, or one million gallons in one year. The DNR General Permit for Temporary Appropriation, with its lower permit application fee and reduced time for review, may be used for the dewatering if the dewatering volume is less than 50 million gallons and the time of the appropriation is less than one year.

> ***Response:*** *So, noted. At this time, it is not anticipated that a temporary dewatering permit would be required. If it is determined during the final design and permitting phase that dewatering would be required during construction in exceedance of 10,000 gallons per day or one million gallons per year, it is noted that the Project would require a DNR General Permit for Temporary Appropriation permit.*

Comment 2: Page 15, Stormwater. We recommend that BWSR-approved, weed-free, native seed mixes be used to the greatest degree possible in stormwater features and development landscaping in order to provide pollinator habitat. Native plants also require less irrigation and soil inputs than traditional landscaping.

> ***Response:*** *So, noted. The mitigation measures listed in Item 14.d include consideration of native seed in revegetation plans.*

Comment 3: Page 15, Stormwater: Operations and Construction Stormwater Management. Blanding's turtles, a protected state-listed threatened species, has been documented in the vicinity of this project area. Stormwater features may be colonized by Blanding's turtles in the area, therefore we recommend

incorporating measures to avoid impacting this species into stormwater management. In years when the stormwater features will be dredged to remove excess sediment, please draw down water levels by September 15th in order to allow turtles to find overwintering habitat elsewhere. Please ensure that all avoidance measures provided in the December 31, 2024 Natural Heritage Review letter are incorporated into the project Stormwater Pollution Prevention Plan and construction plans.

> ***Response:*** *So noted. Thank you for your comment. It is noted that Blanding's turtle impact avoidance measures should be included in the Stormwater Pollution Prevention Plan and construction plans for the Project.*

Comment 4: Page 16, Stormwater: Downstream Receiving Waters. The planned increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into local lakes and streams does not break down, and instead accumulates in the environment, potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations.

We encourage the City of Dayton to consider requiring that developments significantly increasing impervious surfaces develop a chloride management plan that outlines what BMP's and strategies will be used to reduce chloride use within the project area and include this plan within Operations and Maintenance Agreements. We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.

> ***Response:*** *So, noted. Thank you for your comment.*

Comment 5: Page 21, Rare Features. Please note that the project is only 0.25 miles from the Elm Creek Park Reserve, which is a significant ecological resource with high quality habitat. It is home to many wildlife species including many that are state or federally-listed. Given the proximity of the park reserve, some of the wildlife could be found in the project area.

The project area is also located just outside of the North Metro Mississippi River Important Bird Area. Animals depend on the daily cycle of light and dark for behaviors such as hunting, migrating, sleeping, and protection from predators. Light pollution can affect their sensitivity to the night environment and alter their activities. In addition to the undesirable effects of upward facing lighting, the hue of lights can also affect wildlife. LED lighting has become increasingly popular due to its efficiency and long lifespan. However, these bright lights tend to emit blue light, which can be harmful to birds, insects, and fish. The DNR recommends that any projects using LED luminaries follow the MnDOT Approved Products for luminaries, which limits the Uplight rating to 0. A nominal color temperature below 2700K is preferable for wildlife, and so we recommend choosing products that have the lowest number for backlight and glare (all approved products should already be 0 for Uplight).

> ***Response:*** *Thank you for your comment. It is anticipated that proposed lighting would consist of standard downward-facing fixtures with minimal uplight. These recommendations would be considered during the local approval and design review process.*

Letter 5: Grover

Comment 1: "I am against the building of a gas station/convenience store there. All the current houses in this neighborhood have wells. That is the only place we get water from. This gas station will be built next to a holding pond. Holding ponds fail with alarming regularity. The two already in our neighborhood have already presented problems." … "I believe that this gas station/convenience store would be better off

closer to the industrial sector, not amongst people trying to enjoy their lives in houses that they worked very hard to have."

> ***Response:*** *So, noted. At this time, the gas station is conceptual and was included in the EAW to evaluate the highest intensity of development. The end user/s of the commercial area are unknown and would be driven by market conditions. A future potential gas station would be required to comply with MPCA requirements, including registering proposed tanks with the MPCA and adhering to design and operation regulations pursuant to Minnesota Rules Chapter 7150.*

Comment 2: Let's talk about the noise, traffic and the lights. The constant noise of motors turning off and turning on. The constant glare of lights beaming through my windows. I won't be able to have my windows and doors open for any fresh air. The noise and the traffic will be unbearable. What about that traffic?

> ***Response:*** *So, noted. As stated in Item 16 of the EAW, landscape screening and lighting would adhere to the City of Dayton's ordinance requirements. As discussed in Item 19.4, operational noise is anticipated to be minimal, and traffic is not expected to generate noise to a degree which would exceed noise standards or diminish quality of life. The effect on traffic congestion due to the Project area and mitigation measures are discussed in Item 20.b of the EAW and a full traffic impact study is included in Appendix I.*

Letter 6: Powers

Comment 1: The traffic on Fernbrook Lane has not been addressed to handle any type of commercial industry, let alone the traffic from the 267 detached residential homes that DCM Farms are proposing. The 267 detached residential home could bring in traffic from an additional 500 vehicles.

> ***Response****: The Project's impact on traffic congestion and recommended mitigation measures are discussed in Item 20.b of the EAW. Appendix I of the EAW provides the detailed traffic impact study completed for the Project. The traffic impact study evaluated traffic impacts for the full buildout of the Project including residential and commercial uses.*

Comment 2: There are also concerns for increased light pollution.

> ***Response****: As stated in Item 16 of the EAW, the Project would be required to comply with the landscape screening and lighting requirements in accordance with Chapter 1001.24 of the City of Dayton's ordinance.*

Comment 3: We noticed that the residents moving into DCM Farms only have one exit out of the site and the other exit would need to go through Brayburn residents and exit on 117th.

> ***Response****: So, noted. Primary access points to DCM Farms would include 113th Avenue North to the south and 117th Avenue North to the north.*

Letter 7: Krebs

Comment 1: Comprehensive Plan Amendment - I do not see a need to amend the 2040 Comprehensive Plan to accommodate an 80% increase in commercial space in this area. Such a change conflicts with the Dayton Mission Statement and Strategic Plan, which prioritize the preservation of the rural character and the connection to our natural resources.

> ***Response:*** *Thank you for the comment. As confirmed in the comments received from the Metropolitan Council, it is anticipated that a Comprehensive Plan amendment would be required for the commercial portion of the Project.*

Comment 2: Emissions Concerns - According to Table 15 of the EAW, the volatile organic compounds (VOCs) emitted by the proposed gas station will account for over 98% of the total emissions (17.98 tons per year), compared to just 0.314 tons per year without the gas station. I found the table difficult to interpret and wanted to bring this significant discrepancy to your attention.

> ***Response:*** *So, noted. At this time, the gas station is conceptual and was included in the EAW to evaluate the highest intensity of development. The end user/s of the commercial area are unknown and would be driven by market conditions. Please note, that each row in Table 15 is an individual pollutant. The total emission estimates per pollutant tabulated in Table 15 should not be quantitatively compared or combined as each pollutant has specific designated emissions criteria.*

Comment 2: Existing Gas Stations: There are already three gas stations and convenience stores within a 10-minute drive of this location. I believe that directing traffic north towards the Dayton City Center, where commercial retail could be developed, would better serve the community. This would promote the City of Dayton as a whole, rather than simply providing a convenience for a limited number of residents and passersby.

> ***Response:*** *So, noted. See comments above. The end user/s of the commercial area are unknown and would be driven by market conditions. Thank you for the comment.*

Letter 8: Jackson

Comment 1: The proposed rezoning of this space will negatively impact the enjoyment of my property, both short-term (during the lengthy construction process) and long-term (traffic, noise, loss of open green space).

> ***Response:*** *Thank you for your comment. As discussed in Item 19, construction noise would be limited in duration to the extent possible and avoided during night-time hours. Operational noise is anticipated to be minimal, and traffic is not expected to generate noise to a degree which would exceed noise standards or diminish quality of life. The Project's effect on traffic congestion and proposed mitigation measures are discussed in Item 20.b of the EAW and a full traffic impact study is included in Appendix I.*

FINDINGS OF FACT

Proposed Project

The Project includes the development of 91 acres within the City of Dayton, Hennepin County, Minnesota. The Project area is located south of 117th Avenue North, west of Fernbrook Lane/County State Aid Highway (CSAH) 121, and north of 113th Avenue North. The Project proposes 267 detached residential homes and a commercial development along 113th Avenue North near the intersection with Fernbrook Lane. The commercial development may consist of office/bank, restaurant, coffee shop, retail, daycare, and a convenience store/gas station.

An EAW was prepared pursuant to Minnesota Rules Part 4410.4300, Subp. 32. The EAW and the respective comments have been reviewed in accordance with Minnesota Rules 4410.1700 to determine if the Project has potential for significant environmental effects.

Site Description and Existing Conditions

Under existing conditions, the Project area primarily consists of agricultural land with a single-family residential use located in the far northwestern corner and a farmstead including an animal feedlot located centrally along the southern border. The farmstead and associated structures would be demolished/removed, while the single-family residence would remain unmodified. A small low-quality wetland would be impacted by site grading.

Decision Regarding the Potential for Significant Environmental Effects

Minnesota Rules 4410.1700, Subp. 7 lists four criteria that shall be considered in deciding whether a project has the potential for significant environmental effects. Those criteria and the City's findings are presented below.

Criteria A: Type, Extent, and Reversibility of Environmental Effects

Minnesota Rules 4410.1700 Subp. 7 (A) indicates the first factor that the RGU must consider is the "type, extent, and reversibility of environmental effects." City of Dayton's findings are set forth below.

1. **Cover Types**. Based upon the University of Minnesota's Twin Cities Metro Area (TCMA) 1-Meter Land Cover dataset, preliminary impervious calculations, and the wetland delineation, the Project area currently consists of the following [90.9 acres total]; cropland (81.0 acres), impervious surface (4.5 acres), brush/grassland (3.8 acres), wooded forest (1.6 acres) and wetland (0.03 acres). As the design progresses the post-construction cover types would be refined. A tree preservation and replacement plan would be developed as part of the future development application and in accordance with the City of Dayton's Zoning and Subdivision Code, Section 1001.25.

2. **Shorelands and Floodplains**. The Project area is within an area with minimal flood hazard as outlined by the Federal Emergency Management Agency (FEMA). The Project area is not within shoreland, floodplain or other special district overlays.

3. **Land Use**. The Project Area currently consists of agricultural land with a single-family residence in the far northwestern corner and a farmstead including an animal feedlot centrally along the southern border. The City of Dayton identifies the Project area as agriculture land use. The land uses surrounding the Project area consist primarily of residential land use, as well as agricultural, and a small amount of commercial. There is a golf course immediately west. The Project area is zoned as Agricultural District and would be rezoned by the City of Dayton. The Project is consistent with the City's 2040 Future Land Use Map apart from the small commercial area. A Comprehensive Plan Amendment would be required once the commercial development is proposed at a later phase in the

Project. The Project is consistent with the surrounding low density residential land uses. The Elm Creek Park Reserve and associated trails are located approximately one-quarter mile east of the Project area and a snowmobile trail is located along the western border of the Project area.

4. **Geology and Soils**. Grading of the site would be required during construction. Soils within the Project limits are not overly susceptible to erosion and are suitable for the proposed uses. Mitigation based on typical erosion control and sedimentation regulations would be implemented.

5. **Water Quality**. The Project would increase impervious surface area compared to existing conditions by constructing the residential and commercial developments. Compliance with stormwater requirements would minimize and mitigate potential adverse effects on receiving waters. The Project would be designed to meet the stormwater quantity and quality standards and requirements set by the Elm Creek Watershed Management Commission (ECWMC) and the City of Dayton. The ECWMC reviews grading, stormwater, erosion & sediment control, and wetland buffer permits which regulate stormwater and floodplain management, erosion and sediment control. The City of Dayton reviews wetland requirements and would ensure that the wetlands are not being impacted without adequate justification and mitigation per the Minnesota Wetland Conservation Act (WCA). In addition to the ECWMC requirements, the City's zoning and stormwater management code plays a critical role in preserving natural resources.

6. **Wetlands and Surface Waters**. The wetland within the Project area was delineated in 2024 and was approved by the City of Dayton (Local Government Unit) in September 2024. Based on the current Project concept plan, the Project would result in approximately 1,090 square-feet of wetland impacts, which falls below the replacement thresholds of the Wetland Conservation Act (WCA) and Section 404 of the Clean Water Act. The wetland impacts are expected to have minimal effect on the host watershed as the total impact area is not large, and the existing wetland is a low-quality farmed wetland (seasonally flooded basin).

7. **Wastewater**. The Project would generate typical domestic wastewater associated with the proposed residential and commercial uses. The Project would be connected to the City of Dayton's existing sanitary sewer collection system. Wastewater would flow through the Dayton/Hassan Township extension of the Metropolitan Council Environmental Services (MCES) Elm Creek Interceptor. Wastewater would then flow to the Metropolitan Wastewater Treatment Plant (Metro Plant) in the City of St. Paul where it is treated and ultimately discharged to the Mississippi River. Metro Plant has a capacity of 251 million gallons per day (GPD). Wastewater flow for the full buildout of the Project was estimated at 85,000 GPD. Sewer capacity associated with the Project is accounted for in the City's sewer service projections. Projected wastewater flows are appropriate for the planning of local infrastructure planning needs.

8. **Hazardous Materials**. Both the Minnesota Pollution Control Agency and the Minnesota Department of Agriculture "What's In My Neighborhood" databases were reviewed to identify active hazardous waste generators and sources of agricultural chemical soil/groundwater contamination within one mile of the Project area. One animal feedlot was identified in the Project area. A Phase I Environmental Site Assessment would be completed for the Project to further evaluate for potential contamination. It is not anticipated that construction would expose or exacerbate potentially contaminated sites within the vicinity of the Project area.

9. **Ecological Resources**. The Project area consists primarily of cropland and the surrounding properties consist of cropland with agriculture cover and some developed parcels with residential or commercial land uses. Habitat for urban wildlife is anticipated to be minimal given that cropland is the primary cover type.

   A review of the DNR Natural Heritage Information System (NHIS) database was conducted to determine if any rare natural features could be impacted by the Project. A formal NHIS review request (MCE No. 2024-00946) was submitted on November 13th, 2024, and an automated letter was received stating that further review by the Natural Heritage Review Team is needed for state-listed species records in the vicinity of the Project area.

The U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) tool was used to identify other potential sensitive resources near the project. The IPaC identifies the RPBB (endangered), the tricolored bat (*Perimyotis subflavus*; proposed endangered), the salamander mussel (*Simpsonaias ambigua*; proposed endangered), the western regal fritillary (*Argynnis idalia occidentalis*; proposed threatened), the monarch butterfly (*Danaus plexippus*; candidate), and the whooping crane (*Grus americana;* non-essential experimental population) as potentially being within the vicinity of the Project area.

Avoidance, minimization, and mitigation (AMM) measures are identified in Item 14.d of the EAW for potential impacts to the Blanding's turtle (*Emydoidea blandingii*), a state threatened species, in accordance with DNR recommendation. Other AMMs have also been included in Item 14.d to minimize the potential for impacts to state and federally listed species.

10. **Historic Resources**. Minnesota State Historic Preservation Office (MnSHPO) previous survey data, the Office of the State Archaeologist (OSA) Portal, the Minnesota State Historic Inventory Portal and archival resources were reviewed by Stantec to identify cultural resources within one mile of the Project area. Additionally, Stantec conducted a Phase I archaeological reconnaissance survey of the Project Area on November 7, 2024. Based on the results of the literature search and survey, Stantec recommends that no properties listed in the National or State Registers of Historic Places and no known or suspected archaeological properties in the area would be affected by the Project. No other work is recommended and the Project should proceed as planned. MnSHPO provided a response letter on January 3, 2024 concurring with a determination of no properties listed in the National or State Registers of Historic Places, or within the Historic Sties Network, would be affected by the Project. MnSHPO also determined that there are no known or suspected archaeological resources in the area that would be affected by the Project.

11. **Visual Resources**. Any change from undeveloped to developed land would have an impact on the visual look of the property, but the Project is not anticipated to have an impact on specific scenic views or vistas within the community. The potential visual effects consist of the transition of views from agriculture to a primarily residential development with stormwater ponds and a few commercial facilities in the southeast. The Project is not anticipated to produce any intense lights (glare) or include industries that would emit vapor plumes. The Project would adhere to the City's ordinance requirements and would be consistent with the surrounding residential and commercial buildings.

12. **Air**. The Project does not propose heavy or light industrial uses that would have the potential to generate significant air emissions. The Project includes some potential commercial uses. These facilities may utilize natural gas and electric-powered equipment, which would emit low levels of greenhouse gas emissions (GHG) as well as hazardous air pollutants (HAPs) and criteria pollutants, such as nitrogen oxides (NOx), carbon monoxide (CO), sulfur dioxide (SO2), and particulate matter (PM). It is not anticipated that the Project would require an air permit. The emissions produced would be in alignment with the planned future land use outlined in the City's Comprehensive Plan.

    Temporary minor emissions generated from construction equipment would occur during the construction phase. Contractors would be responsible for ensuring equipment is properly maintained and not contributing to excess emissions. The Project area is not located in an area of nonattainment or maintenance area for any of the criteria pollutants. The Project area is in attainment for all criteria pollutants. The Project would not include transportation improvement projects that would be considered regionally significant per 40 CFR Part 93.

    The Project would not produce dust or odors during operation but may generate temporary dust and odors during construction. Odors generated during construction would be mitigated by maintenance of the construction equipment to the manufacturers' specifications and by using appropriate fuel additives when necessary. Grading and construction would temporarily generate dust. BMPs and other standard construction methods would be used to reduce construction impacts such as intermittent applications of water to exposed soils as needed to reduce dust during dry weather.

13. **Greenhouse Gas Emissions (GHG)/ Carbon Footprint**. Average annual GHG emissions were calculated for construction and operation phases of the Project per Minnesota Environmental Quality Board's (EQB's) EAW Guidance (dated June 2024). Three types of emissions were evaluated; direct emissions released from the property (with subcategories to account for both construction and operation phases as well as mobile and stationary sources), emissions associated with offsite generation of purchased electricity, and emissions from offsite provision of waste management.

14. **Noise**. Project construction would result in a temporary increase in noise levels. The different phases of development would result in varying noise levels depending on the amount of construction that occurs simultaneously, the time of operation, and the distance between construction equipment and receptors. The Project would adhere to the City Code (Section 130-08) limits construction activities to specific times/days. The Project is expected to minimize disturbances caused by construction noise and conform to Minnesota noise rule and standards (Minnesota State Statue 7030.0030). Construction equipment would be properly muffled and maintained in working order. A minimal increase in noise is expected during operation of the commercial development, however, given that the proposed use is office/retail/food services/daycare, operational noise is anticipated to be minimal.

15. **Transportation**. A Traffic Study was completed for the Project that evaluated a No-Build and Build condition for two design years, 2030, the estimated year after full completion of the Project, and 2040 as the long-range planning horizon. Mitigation measures for the poor level of service at the Fernbrook Lane intersections were recommended. Specifically, constructing a roundabout at Fernbrook Lane/114th Avenue, installing traffic signal control or roundabout at Fern brook Lane/Rush Creek Parkway, and monitoring Fernbrook Lane/117th Avenue.

Criteria B: Cumulative Potential Effects

Minnesota Rules 4410.1700 Subp. 7 (B) indicates the second factor the City must consider is "whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project." The City's findings are set forth below.

The potential cumulative effects on public infrastructure would include municipal water supply systems, sanitary sewer conveyance and treatment systems, stormwater management systems, and transportation network. The City of Dayton has planned for growth and increased capacity to address these cumulative effects. The 2040 Comprehensive Plan guides the Project area of the City for low density residential development based on the 2040 Future Land Use Plan Map. The Project has been accounted for in the City's wastewater and water demand projections, and planned infrastructure improvements.

The Project would convert existing agricultural land to a primarily residential development with a small commercial development. Planned developments in surrounding areas may also convert agricultural land to other land uses. The City of Dayton guides development through the City's land use plan and zoning codes. The City's 2040 Comprehensive Plan guides the Project area and adjacent properties for future residential development. Land near the southwest quadrant of the Fernbrook Lane/ 113th Avenue North intersection is guided for commercial development in the City's 2040 Comprehensive Plan. The Project would result in minimal wetland impacts (approximately 1,090 square feet). Both the conversion of farmland and wetlands to developed land uses would likely impact greenhouse gas emissions due to the loss of carbon sequestration potential with the increased impervious surface. The cumulative potential effects of greenhouse gases are anticipated to increase as the City of Dayton grows and nearby land is converted, removing potential carbon sinks from the landscape.

The Project would convert agricultural land into a residential development, which would increase impervious surfaces compared to existing conditions. As discussed in Item 12 of the EAW, the proposed additional impervious surface area is expected to result in higher runoff rates and volumes, compared to the existing conditions, and there may also be a change in pollutants in the runoff. Other proposed developments in the area resulting in the conversion of agricultural and rural residential land to

residential, commercial and industrial developments would result in similar changes. The Project and future developments would be required to implement stormwater BMPs to mitigate stormwater runoff impacts in accordance with all City, ECWMC, and MPCA approval and permitting requirements. Therefore, adverse cumulative impacts to water quality and quantity are not anticipated.

Criteria C: Extent to Which the Environmental Effects are Subject to Mitigation

Minnesota Rules 4410.1700 Subp. 7 (C) indicates the third factor the City must consider is the "extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority." The City's findings are set forth below.

Environmental effects on water quality, wetlands, and traffic are subject to additional approvals and/or mitigation through requirements of local, state, and federal regulations, ordinances, management plans, and permitting processes. Table 1 identifies the permits and approvals that are anticipated to be required for the Project addressed in Item 9 of the EAW. These processes would provide additional opportunities to implement mitigation requirements.

Potential environmental effects associated with the proposed Project would be mitigated in accordance with applicable rules and regulations. The City of Dayton therefore finds that potential environmental effects of the Project are less than significant and "subject to mitigation by ongoing public regulatory authority."

Table 1. Permits and Approvals

Unit of Government	Type of Application	Status
State		
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) Permit	To be completed
MPCA	Sewer extension Permit	To be completed
Minnesota Department of Health	Watermain Extension Permit	To be completed
Minnesota Department of Labor and Industry (DOLI)	State Plumbing Permit	To be completed
Minnesota Department of Natural Resources (DNR)	Temporary Water Appropriation Permit	To be obtained, if required
State Historic Preservation Office Review	Archaeological/Historic Review	Complete
County		
Hennepin County	Plat Approval	To be completed
Hennepin County	Road Access Permit	To be completed
Local		
Metropolitan Council	Comprehensive Guide Plan Amendment	To be obtained, if required
Metropolitan Council Environmental Services (MCES)	Sewer Extension Permit/ Sewer Permit to Connect	To be submitted, if required
City of Dayton	EAW / EIS Need Decision	Draft prepared
City of Dayton	Wetland Conservation Act (Boundary Approval) Notice of Decision	Obtained
City of Dayton	Preliminary and Final Plat	To be completed

Unit of Government	Type of Application	Status
City of Dayton	Land Use and Development Application	To be completed
City of Dayton	Land Disturbance Permit	To be completed
City of Dayton	Filling Grading Permit	To be completed
City of Dayton	Building Permits	To be completed
Elm Creek Watershed Management Commission (ECWMC)	Stormwater, Erosion Control, and Site Plan Approval	To be completed
ECWMC	Stormwater Management Plan Review	To be completed

Criteria D: Extent to Which Environmental Effects can be Anticipated and Controlled

Minnesota Rules 4410.1700 Subp. 7 (D) indicates the final factor the RGU must consider is the "extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, including other EISs." The City of Dayton's findings are set forth below.

1. The proposed project design, plans, EAW, related studies, and mitigation measures apply knowledge, approaches, standards, and best management practices gained from previous experience and projects that have, in general, successfully mitigated potential offsite environmental effects.
2. The EAW, in conjunction with this document, contains or references the known studies that provide information or guidance regarding environmental effects that can be anticipated and controlled.
3. Other projects studied under environmental reviews in Minnesota have included studies and mitigation measures comparable to those included in this EAW.
4. There are no elements of the Project that pose the potential for significant environmental effects that cannot be addressed by the Project design, assessment, permitting and development processes, and by ensuring conformance with regional and local plans.
5. The environmental effects of this development can be anticipated and controlled by the permit application and review processes of the state and local regulatory authorities.
6. Considering the results of environmental review and permitting processes for similar projects, the City of Dayton finds that the environmental effects of the Project can be adequately anticipated and controlled.

RECORD OF DECISION

Based on the EAW, the Response to Comments and the Findings of Fact, City of Dayton concludes the following:

1. All requirements for environmental review of the Project have been met.
2. The EAW and the permit development processes related to the Project have generated information which is adequate to determine whether the Project has the potential for significant environmental effects.

3. Areas where potential environmental effects have been identified have included proper mitigative responses to be included within the final design of the Project. Mitigation would be required to be provided where impacts are expected to result from Project construction, operation, or maintenance. Mitigative measures would be required to be incorporated into project design and have been or would be coordinated with state and federal agencies during the applicable permit process.
4. Based on the criteria in Minnesota Rules part 4410.1700, the Project does not have the potential for significant environmental effects.
5. City of Dayton makes a “Negative Declaration;” and
6. An Environmental Impact Statement (EIS) is not required.

Appendix A: EAW Comment Letters

From: Meincke, Alexander C CIV USARMY CEMVP (USA)
To: Sejkora, Erin; Jon Sevald
Subject: RE: snt EAW 1/15 [Non-DoD Source] DCM Farms Project - EAW Comment Period Notification
Date: Wednesday, January 15, 2025 11:59:56 AM

Hello,

The Corps of Engineers St. Paul District Regulatory Division (the Corps) recently received a request for a Environmental Assesment Worksheet (EAW) for the DCM Farms project.

Our office is committed to efficient, helpful service. It is unclear if your project will have impacts to jurisdictional waters. If your project will have impacts to aquatic resources, please submit a permit application with the impacts clearly identified and we can assist you through our permit review process if authorization is required.

You may also request a pre-application meeting to discuss your project prior to submitting a permit application. You can find more information on our permit program and our joint application here: https://www.mvp.usace.army.mil/Missions/Regulatory/Permitting-Process-Procedures/. *Be sure to select the pre-application box on the joint application.

Please note this recommendation is only pertaining to the Corps process and does NOT indicate whether a review is required from the state or local authorities.

If we do not receive a response from you within 3 business days we will assume nothing further is needed from our office.

Respectfully,

Alex Meincke
Lead Project Manager, South Branch, Regulatory Division
St. Paul District, US Army Corps of Engineers
332 Minnesota Street, Suite E1500
St. Paul, Minnesota 55101
Office Phone: (651) 290-5485

From: Sejkora, Erin <Erin.Sejkora@stantec.com>
Sent: Tuesday, January 14, 2025 9:31 AM
To: stephan.roos@state.mn.us; raymond.kirsch@state.mn.us; health.review@state.mn.us; jill.townley@state.mn.us; Green, Chris (MPCA) <chris.green@state.mn.us>;

waterprograms.bwsr@state.mn.us; katherine.lind@state.mn.us; mn.osa@state.mn.us; isaac.weston@state.mn.us; MN_ADM_ENV Review SHPO <ENReviewSHPO@state.mn.us>; govdoc@hclib.org; Twin Cities, FW3 <TwinCities@fws.gov>; USACE_Requests_MN <USACE_Requests_MN@usace.army.mil>; R5NEPA@epa.gov; reviewscoordinator@metc.state.mn.us; chad.ellos@hennepin.us; Peter Vickerman <pvickerman@maplegrovemn.gov>; Kelly.Grissman@threeriversparks.org; mwatkins@grandportage.com; kwoerheide@grandportage.com; Mike Wilson <Mike.Wilson@millelacsband.com>; Kelly Applegate <Kelly.Applegate@millelacsband.com>; Susan.Klapel@MilleLacsBand.com; Jamie.Edwards@millelacsband.com; gabriel.miller@piic.org; leya.charles@piic.org; franky.jackson@piic.org; noah.white@piic.org; amandaw@uppersiouxcommunity-nsn.gov; samanthao@uppersiouxcommunity-nsn.gov
Cc: Jon Sevald <jsevald@cityofdaytonmn.com>; hstensgard@cityofdaytonmn.com; Quisberg, Jason <jason.quisberg@stantec.com>; Tom Dehn <tom.dehn@powerlodge.com>; Bot, Courtnay <Courtnay.Bot@stantec.com>
Subject: snt EAW 1/15 [Non-DoD Source] DCM Farms Project - EAW Comment Period Notification

Good morning,

Sundance Woods, LLC is proposing the DCM Farms Project on approximately 91 acres south of 117th Avenue North and west of Fernbrook Lane in the City of Dayton. The Project includes approximately 267 detached residential homes and approximately 43,680 square feet of commercial and retail uses, including an approximately 10,000 square foot convenience store. The City's planned realignment of 113th Avenue North (approximately 800 feet north of the current 113th Avenue North /Fernbrook Lane intersection), to connect to the future, planned roundabout at 114th Avenue North/Fernbrook Lane, is included in the review of the Project.

An Environmental Assessment Worksheet (EAW) has been prepared for the Project and will be published in the EQB Monitor on today, January 14, 2025. The EAW is available to view at the City's website at: https://cityofdayton.wpenginepowered.com/wp-content/uploads/2023/10/DCM-Farms_Draft-EAW_2025.01.06_signed.pdf

The City of Dayton is accepting public comments on the EAW during a 30-day comment period that will being on **Tuesday, January 14, 2025** and conclude on **Thursday, February 13, 2025 at 4:30 p.m.**

Written comments should be submitted to:

City of Dayton
Attn: Jon Sevald
12260 South Diamond Lake Road
Dayton, MN 55327

Electronic/email comments may be submitted to Jon Sevald at jsevald@cityofdaytonmn.com with "**DCM Farms EAW**" in the subject line. If submitting comments electronically, please include name and mailing address.

A hard copy of the EAW is available for public review at City Hall located at 11260 South Diamond Lake Road, Dayton, MN 55327.

If you have any questions, please do not hesitate to contact me or Jon Sevald at jsevald@cityofdaytonmn.com.

Thank you,

Erin Sejkora, AICP
Associate, Project Manager
Senior Environmental Planner
She/Her

Direct: 763.252.6802
Mobile: 612.258.6937
Erin.Sejkora@stantec.com

One Carlson Parkway, Suite 100
Plymouth, MN 55447

February 12, 2025

Jon Sevald, AICP, Community Development Director
City of Dayton
12260 South Diamond Lake Road
Dayton, MN 55327

RE: City of Dayton – Environmental Assessment Worksheet (EAW) – DCM Farms
Metropolitan Council Review 23044-1
Metropolitan Council District 1

Dear Jon Sevald:

The Metropolitan Council received the EAW for the DCM Farms project in Dayton on January 14, 2025. The proposed project is located south of 117th Avenue North and west of Fernbrook Lane. The proposed development consists of 91 acres with approximately 267 detached residential homes (41 villa, 59 traditional single family, and 67 alley-style single family) and 43,680 square feet of commercial and retail uses.

The staff review finds that the EAW is complete and accurate with respect to regional concerns and does not raise major issues of consistency with Council policies. An EIS is not necessary for regional purposes. We offer the following comments for your consideration.

Item 7. Climate (MacKenzie Young-Walters, 651-602-1373)
Discussion of anticipated climate trends and proposed adaptations are adequate. Met Council staff encourages the City to consider using native plants in landscaping to improve the site's stormwater absorption and resilience to periods of drought. The project proposer should also commit to minimizing tree loss and maximizing tree replacement to minimize the impact of the increased impervious surface.

Item 10. Land Use (Freya Thamman, 651-602-1750)
The development area is guided Low Density Residential in the City's 2040 Comprehensive Plan and the proposed development includes detached residential as well as commercial and retail uses. As noted in the EAW, a comprehensive plan amendment would be required to ensure consistency with the Comprehensive Plan's future land use guiding and allowed uses.

Item 12. Water Resources (Roger Janzig, 651-602-1119, Steve Christopher, 651-602-1033, Lanya Ross, 651-602-1803)
Wastewater
The Metropolitan Disposal System has adequate capacity for this project location.

Surface Water
Please note the numbers in "Table 12. Impacts to Wetlands within the Project Area" are incorrect when shown as acreage.

Water Supply
Page 16 of the EAW notes that *"Maple Grove has agreed to provide the City of Dayton with water in sufficient quantity to meet an average day demand not to exceed 2.8 million gallons per day (MGD) and a maximum daily demand of 5.0 MGD. The City is in the process of completing a Water Supply Plan Update."* Page 46 of the EAW notes that *"As discussed in Item 12, water supply for the Project would be provided through an agreement with the City of Maple Grove. The Project proposes residential and commercial developments has been planned for in the City's Water Supply and Sewer Plans."*

Please clarify if the City of Dayton or the City of Maple Grove are in the process of completing a Water Supply Plan Update (or both) and which city (or both) has included plans for residential developments in their Water Supply and Sewer Plans. Ensure that the City of Maple Grove has provided comments on this EAW, including if it will require them to make updates to their local water supply plan and water appropriation permits.

Item 18. Greenhouse Gas Emissions (MacKenzie Young-Walters, 651-602-1373)
Discussion of projected greenhouse gas emissions and associated mitigation measures are adequate. Met Council staff encourage the project proposer to incorporate EV ready building design in the single-family homes to facilitate a transition to electric vehicles, similarly the project proposer should consider installing electric vehicle chargers at the convenience store or in conjunction with other commercial uses.

Item 20. Transportation (Joseph Widing, 651-602-1822, Victoria Dan, 612-349-7648)
Transportation
The development should consider increased network connectivity to Fernbrook Lane north of the existing houses to increase permeability of the site and better connectivity for future development to the northwest. This connection could be continued through the parcel to the west to connect to the existing 116th Avenue as that parcel develops.

Transit
While the EAW accurately states no transit routes directly serve the project area, Noble Park & Ride in Brooklyn Park is the nearest Metro Transit facility for future residents to access commuter express service to downtown Minneapolis. Future riders may also access Maple Grove Transit express service from park-and-rides within the City of Maple Grove. Transit Link general public dial-a-ride (provided by the Met Council) is an alternative mode available in Dayton.

This concludes the Council's review of the EAW. The Council will not take formal action on the EAW. If you have any questions or need further information, please contact Freya Thamman, Principal Reviewer, at 651-602-1750 or via email at freya.thamman@metc.state.mn.us.

Sincerely,

Angela R. Torres

Angela R. Torres, AICP, Senior Manager
Local Planning Assistance

CC: Tod Sherman, Development Reviews Coordinator, MnDOT - Metro Division
Judy Johnson, Metropolitan Council District 1
Freya Thamman, Sector Representative/Principal Reviewer
Reviews Coordinator

N:\CommDev\LPA\Communities\Dayton\Letters\Dayton 2025 DCM Farms EAW 23044-1.docx

From:	Dan Patterson
To:	Transportation.Plats; Jon Sevald
Cc:	Sejkora, Erin
Subject:	RE: [External] Parkway Neighborhood 2nd Addition
Date:	Thursday, February 13, 2025 4:19:02 PM
Attachments:	image002.png image003.png image004.png image005.png image006.png

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> You don't often get email from dan.patterson@hennepin.us. Learn why this is important

Hi Jon — We didn't have any additional comments on DCM Farms beyond what I sent Tuesday. — Dan

---

From: Transportation.Plats
Sent: Tuesday, February 11, 2025 3:25 PM
To: 'Jon Sevald' <jsevald@cityofdaytonmn.com>; Transportation.Plats <Transportation.Plats@hennepin.us>
Cc: Sejkora, Erin <Erin.Sejkora@stantec.com>
Subject: RE: [External] Parkway Neighborhood 2nd Addition

Hi Jon —

We still have DCM Farms open internally for comments until tomorrow. So far there isn't a whole lot:

- Request for 20-year forecast from buildout for no-build and build scenarios (rather than just 2040) (PDF page 212)
- Question of whether Fernbrook and Rush Creek Parkway intersection would meet signal warrants (PDF page 222)
- Request to include summary tables for LOS for each movement rather than entire intersections for those involving a county road and want to see 95 percent or max queues for each movement (PDF page 218)

I'll follow up with any additional comments and a letter.

Thanks — Dan

From: Jon Sevald <jsevald@cityofdaytonmn.com>
Sent: Tuesday, February 11, 2025 11:10 AM
To: Transportation.Plats <Transportation.Plats@hennepin.us>
Cc: Sejkora, Erin <Erin.Sejkora@stantec.com>
Subject: RE: [External] Parkway Neighborhood 2nd Addition

Dan,

The attached is for a different project in Dayton. Do you have a letter for DCM Farms EAW?

DEPARTMENT OF NATURAL RESOURCES

Division of Ecological and Water Resources
Region 3 Headquarters
1200 Warner Road
Saint Paul, MN 55106

Transmitted by Email

February 13, 2025

Jon Sevald, AICP
Community Development Director
City of Dayton
12260 S. Diamond Lake Rd.
Dayton, MN 55327

Dear Jon Sevald,

Thank you for the opportunity to review the DCM Farms Environmental Assessment Worksheet (EAW) for the project located in Hennepin County. The DNR has reviewed the document and respectfully submits the following comments for your consideration:

1. Page 5, Table 6, Permits and Approvals. Table 6 should include a DNR Water Appropriation Permit for potential construction dewatering. A DNR Water Appropriation Permit is required if the water pumped exceeds 10,000 gallons in a day, or one million gallons in one year. The DNR General Permit for Temporary Appropriation, with its lower permit application fee and reduced time for review, may be used for the dewatering if the dewatering volume is less than 50 million gallons and the time of the appropriation is less than one year.
2. Page 15, Stormwater. We recommend that BWSR-approved, weed-free, native seed mixes be used to the greatest degree possible in stormwater features and development landscaping in order to provide pollinator habitat. Native plants also require less irrigation and soil inputs than traditional landscaping.
3. Page 15, Stormwater: Operations and Construction Stormwater Management. Blanding's turtles, a protected state-listed threatened species, has been documented in the vicinity of this project area. Stormwater features may be colonized by Blanding's turtles in the area, therefore we recommend incorporating measures to avoid impacting this species into stormwater management. In years when the stormwater features will be dredged to remove excess sediment, please draw down water levels by September 15th in order to allow turtles to find overwintering habitat elsewhere. Please ensure that all avoidance measures provided in the December 31, 2024 Natural Heritage Review letter are incorporated into the project Stormwater Pollution Prevention Plan and construction plans.
4. Page 16, Stormwater: Downstream Receiving Waters. The planned increase in impervious surfaces will also increase the amount of road salt used in the project area. Chloride released into local lakes and streams does not break down, and instead accumulates in the environment,

potentially reaching levels that are toxic to aquatic wildlife and plants. Consider promoting local business and city participation in the Smart Salting Training offered through the Minnesota Pollution Control Agency. There are a variety of classes available for road applicators, sidewalk applicators, and property managers. More information and resources can be found at this website. Many winter maintenance staff who have attended the Smart Salting training — both from cities and counties and from private companies — have used their knowledge to reduce salt use and save money for their organizations.

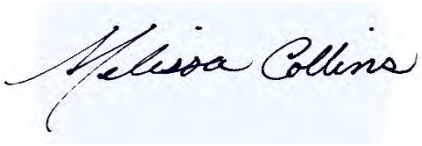
We encourage the City of Dayton to consider requiring that developments significantly increasing impervious surfaces develop a chloride management plan that outlines what BMP's and strategies will be used to reduce chloride use within the project area and include this plan within Operations and Maintenance Agreements. We also encourage cities and counties to consider how they may participate in the Statewide Chloride Management Plan and provide public outreach to reduce the overuse of chloride. Here are some educational resources for residents as well as a sample ordinance regarding chloride use.

5. Page 21, Rare Features. Please note that the project is only 0.25 miles from the Elm Creek Park Reserve, which is a significant ecological resource with high quality habitat. It is home to many wildlife species including many that are state or federally-listed. Given the proximity of the park reserve, some of the wildlife could be found in the project area.

   The project area is also located just outside of the North Metro Mississippi River Important Bird Area. Animals depend on the daily cycle of light and dark for behaviors such as hunting, migrating, sleeping, and protection from predators. Light pollution can affect their sensitivity to the night environment and alter their activities. In addition to the undesirable effects of upward facing lighting, the hue of lights can also affect wildlife. LED lighting has become increasingly popular due to its efficiency and long lifespan. However, these bright lights tend to emit blue light, which can be harmful to birds, insects, and fish. The DNR recommends that any projects using LED luminaries follow the MnDOT Approved Products for luminaries, which limits the Uplight rating to 0. A nominal color temperature below 2700K is preferable for wildlife, and so we recommend choosing products that have the lowest number for backlight and glare (all approved products should already be 0 for Uplight).

Thank you again for the opportunity to review this document. Please let me know if you have any questions.

Sincerely,



Melissa Collins

Regional Environmental Assessment Ecologist | Ecological and Water Resources
Minnesota Department of Natural Resources
Phone: 651-259-5755
Email: melissa.collins@state.mn.us

CC: Tom Dehn, Sundance Woods, LLC

Equal Opportunity Employer

11320 Fernbrook Ln. N.

Osseo, MN 55369

Jan.11, 2025

City of Dayton

Attn.: Jon Sevald

City of Dayton

12260 S. Diamond Lake Rd.

Dayton, MN 55327

Dear Jon

I live across the street from the DCM site. I am against the building of a gas station/convenience store there. All the current houses in this neighborhood have wells. That is the only place we get water from. This gas station will be built next to a holding pond. Holding ponds fail with alarming regularity. The two already in our neighborhood (next to Allen Dehns house and the Church on the corner of Fernbrook and Elm Creek Road) have already presented problems. Currently there are 5 houses in the neighborhood with water problems either on their property or in their houses.

When does the city plan to bring city water and sewer to the homes along and near 113th and Fernbrook Lane? If no plans are made, then you are forcing the residents of these homes to rely only on groundwater. Water is necessary to life. This groundwater provides these parents and children with water to drink, water to cook with, wash dishes with, water to shower with, wash their hair with and bathe in. This ground water is also used to water gardens, water pets and livestock, and to swim in. These wells provide life to the residents. So if the City allows a company to set up shop with the potential to pollute this life line to the citizens, who is responsible? The residents poisoned surely are not. They did not want it. The business is responsible, and the developer is responsible, and will be held responsible. The city is especially responsible, as they are not giving the residents any alternative to protect themselves. Also, there is no plan for commercial development in this area on the 2040 comp. plan. So either you stick with that comp plan or you just throw the whole thing out the window. In that case, the residents are free to do as they please with their property because there is no plan.

Does the city have the responsibility to protect its residents? The proof is a resounding yes. The city has speed limits. The city plows roads. The city has a police department. The city has a fire department. The city has all kinds of rules and regulations. Just recently a man got ticketed for having 3 boats in his back yard. (Does the city think that a person having 3 boats in their back yard is worse than a gas station poisoning the wells of a dozen people at the minimum?) This all says that the city accepts responsibility to protect the health and security of the residents. With six or seven other gas stations within 2-5 miles, is the city doing its job protecting the safety and security of these residents if it allows a gas station in the middle of a neighborhood where all the residents have no choice but to rely on groundwater that will in all likelihood get poisoned? And you can't say it won't. There are currently at least 5 properties in this neighborhood recently battling water problems on their land and/or in their houses. Leaking holding ponds have already occurred at two relatively new locations in this neighborhood.

Would you want a gas station next to a holding pond across the street from your well?? Every time it rains, the pollution flows into the holding pond. Every time it snows the plows push the garbage and pollution into the ponds.

There are currently 4 gas stations within 2-5 miles of Fernbrook Ln. and 113th, (one by the elementary school, one at the trailer park, one at 113th in the industrial area off Co. Rd. 81, and one by Target), another under construction at I94 (another Kwik Trip) and yet another developer wants to put one on the freeway by his apartment complex and Dayton Parkway (which makes 2 at I94 and Dayton Parkway). Counting the one proposed by Tom Dehn, that will be 7 total. All within a 2-5 mile radius of 113th and Fernbrook Lane. 7 gas stations within 2-5 miles of 113th and Fernbrook LN. Let that sink in. SEVEN GAS STATIONS IN SOUTH DAYTON. Does the City really have a need for 7 gas stations/convenience stores and all south of S. Diamond Lake Rd. ***with 6 being south of*** 117^{th} ? Do we really need one in the middle of a group of homes that use groundwater as their only source of water?

Let's talk about the noise, traffic and the lights. The constant noise of motors turning off and turning on. The constant glare of lights beaming through my windows. I won't be able to have my windows and doors open for any fresh air. The noise and the traffic will be unbearable. What about that traffic? We were at the Kwik trip last Monday afternoon and the pumps were all in use. The parking in front on the store was almost unavailable. I have pictures of that:

On a Monday afternoon at approximately 1 pm. There was also a man standing outside to store holding a HOMELESS sign, and every time a person approached the store he would shout out “HOMELESS!”. Is this what you want in the middle of a housing development or put in amongst houses that rely on groundwater for their lives? I urge every one on the council to go take a look at that and then imagine it on ***a two lane road*** among homes that have to put up with the noise, the lights and the pollution.

I believe that this gas station/convenience store would be better off closer to the industrial sector, not amongst people trying to enjoy their lives in houses that they worked very hard to have. How would you like all this next to your house? Just imagine that.

Keith and Marcia Grover


PREPAY
OR
CREDIT
ONLY
ODAY
99¢

Dayton Planning Commission

Subject: DCM Farms

I would like to go on record that the Powers Residents at 11461 Fernbrook Lane N are opposed to having Commercial / Retail as part of the DCM Farms Plan.

1. The traffic on Fernbrook Lane has not been addressed to handle any type of commercial industry, let alone the traffic from the 267 detached residential homes that DCM Farms are proposing.
2. The 267 detached residential home could bring in traffic from an additional 500 vehicles,
3. Commercial traffic, pollution and litter from gas stations, Convenient store or any other retail dwelling could bring in additional traffic from cars, bicycles or walkers. This type of traffic would be a hardship on the the residences on Fernbrook, especially those that live at or near:
    a. 11471 Fernbrook Lane
    b. 11461 Fernbrook Lane
    c. 11451 Fernbrook Lane
    d. 11441 Fernbrook Lane
    e. 11431 Fernbrook Lane
    f. 11421 Fernbrook Lane
    g. Also residents on the east side of Fernbrook across from the proposed commercial site
4. A resident at 11471 is having drainage issues that appear to be caused by previous residential buildings. Their sump pump runs 24/7 and fills up the ditch at 11461 preventing the 11461 resident from mowing.
5. Drainage behind 11451 Fernbrook Lane has issues when it rains and the snow melts, the field doesn't dry out for days.
6. There are also concerns for increased light pollution. This could also cause stress on nearby families trying to put children to bed or others just trying to get a good night sleep.
7. Put yourself in Mike and Sue Hernandez place, owning the property on 11421 Fernbrook Land, Having a commercial/retail site on the proposed Land next to their home would certainly be stressful and anoying not to mention the roundabout that is being proposed,
8. Have you all been out to see the DCM Farms site? Take a drive and walk the site and imagine your home next or near the site,
9. Also we noticed that the residents moving into DCM Farms only have one exit out of the site and the other exit would need to go through Brayburn residents and exit on 117th.
10. What are all the green lines on the map?

Thank you for your attention and we look forward to your comments.

Robert and Kathleen Powers
11461 Fernbrook Lane
763-420-4438
rknmp4750@gmail.com

From:	Alex Krebs
To:	Jon Sevald
Cc:	rknmp4750@gmail.com
Subject:	Krebs - Comments in DCM Farms development and EAW
Date:	Thursday, February 6, 2025 4:54:53 PM

Dear Jon,

I hope this message finds you well. My name is Alex Krebs, and I have been a resident at 11451 Fernbrook Ln North in Dayton for the past four years, along with my wife and young child.

After reviewing the Environmental Assessment Worksheet (EAW) for DCM Farms, I would like to provide the following comments for your consideration:

1. **Comprehensive Plan Amendment:** I do not see a need to amend the 2040 Comprehensive Plan to accommodate an 80% increase in commercial space in this area. Such a change conflicts with the Dayton Mission Statement and Strategic Plan, which prioritize the preservation of the rural character and the connection to our natural resources.

2. **Emissions Concerns:** According to Table 15 of the EAW, the volatile organic compounds (VOCs) emitted by the proposed gas station will account for over 98% of the total emissions (17.98 tons per year), compared to just 0.314 tons per year without the gas station. I found the table difficult to interpret and wanted to bring this significant discrepancy to your attention.

3. **Existing Gas Stations:** There are already three gas stations and convenience stores within a 10-minute drive of this location. I believe that directing traffic north towards the Dayton City Center, where commercial retail could be developed, would better serve the community. This would promote the City of Dayton as a whole, rather than simply providing a convenience for a limited number of residents and passersby.

Thank you,

Alex Krebs

From: Sarah Jackson
To: Jon Sevald
Subject: Sundance Woods
Date: Wednesday, February 12, 2025 10:22:57 AM

Hi Jon,

I live in Sundance Greens, within 300 ft of the proposed rezoning at DCM Farms / Sundance Woods - on the north side of 112th Ave N. I'm writing to express my opposition to this rezoning and the building the residential and commercial space on this land.

The beautiful open space near my home is a large reason why I chose to buy in Dayton. I was considering other homes in Maple Grove, but ultimately wanted to be nearer to open green space instead of completely surrounded by commercial buildings, residential streets, traffic, and noise. The proposed rezoning of this space will negatively impact the enjoyment of my property, both short-term (during the lengthy construction process) and long-term (traffic, noise, loss of open green space). I also fear a decrease in property values as a result of this proposed rezoning.

Thank you,
Sarah Jackson
112th Ave N homeowner

Appendix B: EAW Proof of Public Notice

EAST CENTRAL MINNESOTA

-Public Notice Ad Proof-

This is the proof of your ad scheduled to run on the dates indicated below. Please proof read carefully. If changes are needed, please contact us prior to deadline at
Cambridge (763) 691-6000 or email at publicnotice@apgecm.com

Date: 01/09/25

Account #: 422571
Customer: CITY OF DAYTON ~

Address: 12260 S DIAMOND LAKE ROAD
DAYTON

Telephone: (763) 427-4589
Fax: (763) 427-3708

Ad ID: 1445157
Copy LIne: DCM EAW Availability

PO Number:
Start: 01/16/25
Stop: 01/16/2025
Total Cost: $163.87
# of Lines: 83
Total Depth: 9.278
# of Inserts: 1
Ad Class: 155
Phone # (763) 691-6000
Email: publicnotice@apgecm.com
Rep No: S0700

Contract-Gross

Publications:
Osseo MG Champlin Dayton Press

Ad Proof

Not Actual Size

CITY OF DAYTON, MN
NOTICE OF EAW AVAILABILITY:
DCM FARMS, CITY OF DAYTON, HENNEPIN COUNTY, MINNESOTA

NOTICE IS HEREBY GIVEN:

Sundance Woods, LLC is proposing the DCM Farms project (Project) on approximately 91 acres south of 117th Avenue North and west of Fernbrook Lane in the City of Dayton (City). The Project includes approximately 267 detached residential homes and approximately 43,680 square feet of commercial and retail uses, including an approximately 10,000 square foot convenience store. The City's planned realignment of 113th Avenue North (approximately 800 feet north of the current 113th Avenue North /Fernbrook Lane intersection), to connect to the future, planned roundabout at 114th Avenue North/Fernbrook Lane, is included in the review of the Project. It is anticipated that construction would begin in Spring 2025. Completion of the Project would be governed by market demand.

The Project requires a mandatory Environmental Assessment Worksheet (EAW) under Minnesota Rules 4410.4300, Subpart 32. The EAW will be available for public comment starting Tuesday, January 14, 2025. The City will accept written comments (via mail or email) on the EAW during the public review and comment period, which concludes Thursday, February 13, 2025 at 4:30 p.m.

Written comments should be submitted to:

City of Dayton
Attn: Jon Sevald
12260 South Diamond Lake Road
Dayton, MN 55327

Electronic/email comments may be submitted to Jon Sevald at jsevald@cityofdaytonmn.com with DCM Farms EAW in the subject line. If submitting comments electronically, please include name and mailing address.

A hard copy of the EAW is available for public review at City Hall:

- 11260 South Diamond Lake Road, Dayton, MN 55327

The EAW can be viewed online at the City's website:

https://cityofdaytonmn.com/resources/eaw/

Dated this 8th Day of January 2025
City of Dayton, MN
Jon Sevald

Published in
The Press
January 16, 2025
1445157

DCM Farms Environmental Assessment Worksheet

RGU: City of Dayton
Proposer: Sundance Woods, LLC

Stantec

Prepared for:
City of Dayton

Prepared by:
Stantec Consulting Services Inc.

January 2025

Project/File:
193807316

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Tables

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December 2022 version

Environmental Assessment Worksheet

This most recent Environmental Assessment Worksheet (EAW) form and guidance documents are available at the Environmental Quality Board's website at**:** https://www.eqb.state.mn.us/ .The EAW form provides information about a Project that may have the potential for significant environmental effects. Guidance documents provide additional detail and links to resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item or can be addressed collectively under EAW Item 21.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. Project Title

DCM Farms

2. Proposer

Proposer:	Sundance Woods, LLC
Contact person:	Tom Dehn
Title:	President
Address:	6781 US 10
City, State, ZIP:	Ramsey, MN 55303
Phone:	(612) 328-2215
Email:	tom.dehn@powerlodge.com

3. Responsible Governmental Unit (RGU)

RGU Agency:	City of Dayton
Contact person:	Jon Sevald, AICP
Title:	Community Development Director
Address:	12260 S. Diamond Lake Road
City, State, ZIP:	Dayton, MN 55327
Phone:	(763) 712-3221
Email:	jsevald@cityofdaytonmn.com

4. Reason for EAW Preparation

Required:	Discretionary:
□ EIS Scoping	□ Citizen petition
X Mandatory EAW	□ RGU discretion
	□ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

The Project would exceed the mixed residential and commercial thresholds per to Minn. Rule 4410.4300, Subpart 32, which states:

> *"If a project includes both residential and industrial-commercial components, the project must have an EAW prepared if the sum of the quotient obtained by dividing the number of residential units by the applicable residential threshold of subpart 19, plus the quotient obtained by dividing the amount of*

industrial-commercial gross floor space by the applicable industrial-commercial threshold of subpart 14, equals or exceeds one."

Pursuant to Minn. Rule 4410.4300, Subpart 14.A(2) the mandatory threshold for construction of a new commercial facility is 200,000 square feet for a third class city. Minn. Rule 4410.4300, Subpart 19.C, an EAW is required for construction of a permanent residential development of 100 unattached or 150 attached units in a city meeting the conditions of item D if the project is not consistent with the adopted comprehensive plan.

The sum of the quotient for the applicable residential and commercial thresholds exceeds one. Therefore, a mandatory EAW is required for the Project.

5. Project Location

County: Hennepin

City/Township: City of Dayton

PLS Location (¼, ¼, Section, Township, Range): SWNE, SENE, NENE, Section 33, Township 120 North, Range 22 West

Watershed (81 major watershed scale): Mississippi River – Twin Cities

GPS Coordinates: 45.162292, -93.466429

Tax Parcel Number: 3312022110001, 3312022130001

At a minimum attach each of the following to the EAW:

- County map showing the general location of the Project;

  See Figure 1 and Figure 2, Appendix A

- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating Project boundaries (photocopy acceptable); and

  See Figure 1, Appendix A

- Site plans showing all significant Project and natural features. Pre-construction site plan and post-construction site plan.

  See Appendix B

- List of data sources, models, and other resources (from the Item-by-Item Guidance: *Climate Adaptation and Resilience* or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the Project during the life of the Project (as detailed below in item 7. Climate Adaptation and Resilience).

  Data sources reviewed to respond to Item 7 (Climate Adaptation and Resilience) included:

  - *Department of Natural Resources (DNR). Climate Trends. 2024. https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html*
  - *DNR. Minnesota Climate Explorer. https://arcgis.dnr.state.mn.us/climateexplorer/main/historical*

6. Project Description

a. Provide the brief Project summary to be published in the EQB Monitor, (approximately 50 words).

Sundance Woods, LLC is proposing the DCM Farms project (Project) on approximately 91 acres south of 117th Avenue North and west of Fernbrook Lane in the City of Dayton (City). The Project would include approximately 267 detached residential homes and approximately 43,680 square feet of commercial and

retail uses (including an approximately 10,000 square foot convenience store). The City's planned realignment of 113th Avenue North (approximately 800 feet north of the current 113th Avenue North /Fernbrook Lane intersection), to connect to the future, planned roundabout at 114th Avenue North/Fernbrook Lane, would be included in the review of the Project. It is anticipated that construction would begin in Spring 2025. Completion of the Project would be governed by market demand.

b. Give a complete description of the proposed Project and related new construction, including infrastructure needs. If the Project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities

Proposed Project

Sundance Woods, LLC (the Proposer) proposes the phased development of residential and commercial uses within the Project area. The Project area consists of approximately 91 acres bound by 117th Avenue North to the north, Country State Aid Highway (CSAH) 121/ Fernbrook Lane to the east, 113th Avenue North to the south, and other residential development and a golf course to the west.

The Project proposes to construct a total of 267 detached residential homes consisting of 141 villa homes, 59 traditional single family homes, and 67 alley-style single family homes. The Project would also include commercial development along 113th Avenue North near the intersection with Fernbrook Lane. It is anticipated that commercial uses may consist of office/bank, restaurant, coffee shop, retail, daycare, and a convenience store/gas station. However, specific commercial end users are not known at this time and would be dependent on market conditions.

As part of the Project, 113th Avenue North would be reconstructed from Niagara Lane North to Fernbrook Lane. A section of 113th Avenue North would be realigned approximately 800 feet north of the current intersection at Fernbrook Lane, to connect with the planned roundabout at the intersection of 114th Avenue and Fernbrook Lane. The proposed realignment would reduce the number of number conflict points along Fernbrook Lane between Rush Creek Parkway and 117th Avenue North. The proposed realigned section of 113th Avenue North would be constructed as a two-lane urban roadway with a 10-foot trail facility along the south side of the roadway.

The Project is anticipated to be constructed in three phases. The phasing plan is preliminary and would be driven by market conditions. Based on the current phasing plan, Phase One would include the development of approximately 75 percent of the residential units along 113th Avenue North. Phase Two would include the construction of the remaining 25 percent of residential units along 113th Avenue North and construction of approximately 50 percent the residential units along 117th Avenue North. Phase Three would include the construction of the remaining residential units and commercial development along 113th Avenue North.

The phasing of the improvements to 113th Avenue North and the roundabout would be determined during final design. At this time, it is anticipated that the western portion of 113th Avenue North from Niagara Lane North to Kingsview Lane North would be reconstructed first, followed by the realignment of the eastern portion of 113th Avenue from Kingsview Lane North to Fernbrook Lane, and construction of the proposed roundabout at the Fernbrook Lane/ 114th Avenue North intersection. Traffic would be temporarily detoured to the connecting local roads north and south of 113th Avenue North during construction. A traffic detour plan would be developed during final design.

Construction Activities

1) Construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes

Standard construction methods would be utilized during construction of the Project. The Project area would be graded in phases. Waste generated during construction and demolition would be properly

handled and disposed of in accordance with state requirements, which is described in further detail in Item 13 (Contamination/ Hazardous Materials/ Wastes) of the EAW.

2) *Modifications to existing equipment or industrial processes*

No modifications to existing equipment or industrial processes are anticipated.

3) *Significant demolition, removal or remodeling of existing structures*

Existing structures and buildings associated with the agricultural use of the Project area would be demolished or removed. These structures and buildings include the grain bins, pole building, house, and shed located in the southern portion of the Project area at 14800 13th Avenue North. No existing structures or buildings are proposed to be remodeled as part of the Project.

The existing residential home in the northwest corner of the Project area would not by demolished or modified as part of the Project.

4) *Timing and duration of construction activities*

It is anticipated that the Phase One of the Project would be initiated in summer 2025, and Phase Two and Three would be initiated in 2026 and 2027, respectively. Full buildout of the Project is anticipated to be completed in 2030.

c. **Project magnitude**

Table 1 summarizes the Project magnitude.

Table 1. Project Magnitude

Description	**Number**
Total Project Acreage	91
Linear Project length	1,445 ft. (113th Avenue North Realignment)
Number and type of residential units	267 Total single family units 141 Villa units 59 Single family units 67 Alley-style single family units
Residential building area (in square feet)	Approximately 756,000 sq. ft. total - 352,500 sq. ft. Villa units (approx. 2,500 sq.ft./ villa) - 236,000 sq. ft. Single family units (approx. 4,000 sq.ft./ single family home) - 167,500 sq. ft. Alley-style single family units (approx. 2,500 sq. ft./ alley-style unit)
Commercial building area (in square feet)	Approximately 43,680 total - 10,000 sq. ft. convenience store - 5,500 sq. ft. restaurant - 8,400 sq. ft. office/ bank - 5,500 sq. ft. daycare - 2,400 sq. ft. coffee shop - 11,800 sq. ft. retail
Industrial building area (in square feet)	Not applicable (N/A)
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	2 stories

d. Explain the Project purpose; if the Project will be carried out by a governmental unit, explain the need for the Project and identify its beneficiaries.

The Project purpose is to increase the number of housing units and commercial development in the City of Dayton. The Project is proposed by a private entity and not by a governmental unit.

e. Are future stages of this development including development on any other property planned or likely to happen? ☐ **Yes** **X No**

If yes, briefly describe future stages, relationship to present Project, timeline and plans for environmental review.

f. Is this Project a subsequent stage of an earlier Project? ☐ **Yes** **X No**

If yes, briefly describe the past development, timeline and any past environmental review.

7. Climate Adaptation and Resilience

a. Describe the climate trends in the general location of the Project (see guidance: Climate Adaptation and Resilience) and how climate change is anticipated to affect that location during the life of the Project.

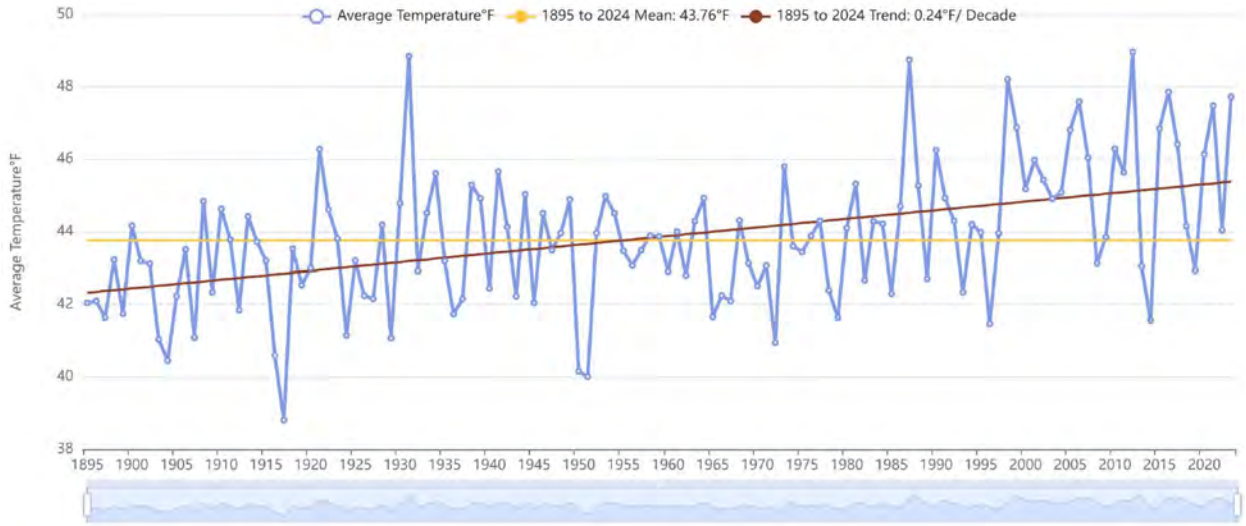
In general, Minnesota is anticipated to experience an increase in temperature, precipitation, and more frequent extreme precipitation events resulting from climate change. In Minnesota, annual average temperatures have risen two degrees over the past century and up to three degrees in the northern part of the state. The highest average temperature increases have occurred during the winter. Since 1895, temperatures during the winter have increased at a rate two to three times higher than during the summer. In particular, winter warming rates have risen more sharply in recent decades.[1] Current climate warming trends, most notably during the winter, are anticipated to continue.[2]

Heavy rain events have become more frequent in Minnesota and more intense. From 1973 to 2020, Minnesota experienced 17 mega-rain events[3] with a notable increase since 2000. Of these 17 events, three occurred in the 1970s, two in the 1980s, one in the 1990s, six mega-rain events occurred in the 2000s, four in the 2010s, and one in 2020. Thus, in the past 21 years (2000 to 2020), almost two times as many mega rain events occurred compared to the prior 27 years (1973 to 1999).[4]

Climate trends in Hennepin County parallel the overall statewide trends, indicating Minnesota's climate is becoming warmer and wetter. Exhibit 1 and Exhibit 2 illustrate historical average annual temperature and precipitation trends from 1895 to 2024, respectively. During this time period, the County experienced an average annual temperature increase of 0.24 degrees Fahrenheit (°F) per decade and an annual precipitation increase of 0.23 inches per decade.

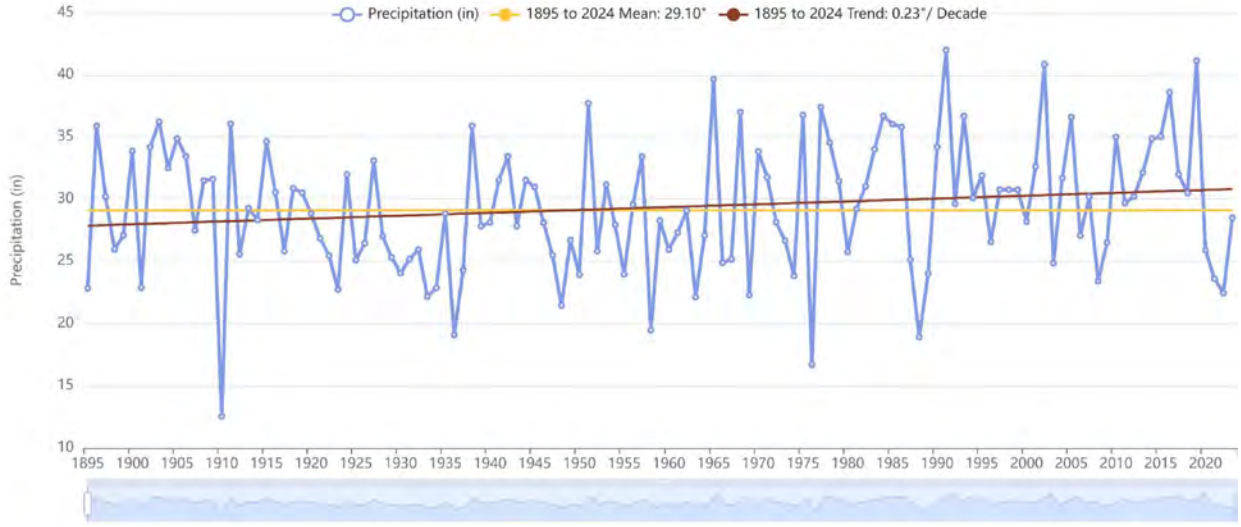
[1] DNR, undated(a). *Climate Trends*. Available at: https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html. Accessed November 2024.
[2] MnDOT, 2021. *Minnesota Go Climate Change Report*. Available at: https://www.minnesotago.org/trends/climate-change. Accessed October 2024.
[3] Mega-rain events are defined as events in which six inches of rain covers more than 1,000 square miles and the core of the event tops eight inches.
[4] DNR, 2024(a). *Historic Mega-Rain Events in Minnesota.* Available at: https://www.dnr.state.mn.us/climate/summaries_and_publications/mega_rain_events.html. Accessed October 2024.

Exhibit 1. Historical Annual Average Temperature in Hennepin County (1895 – 2024)



Source: DNR. https://arcgis.dnr.state.mn.us/ewr/climateexplorer/main/historical

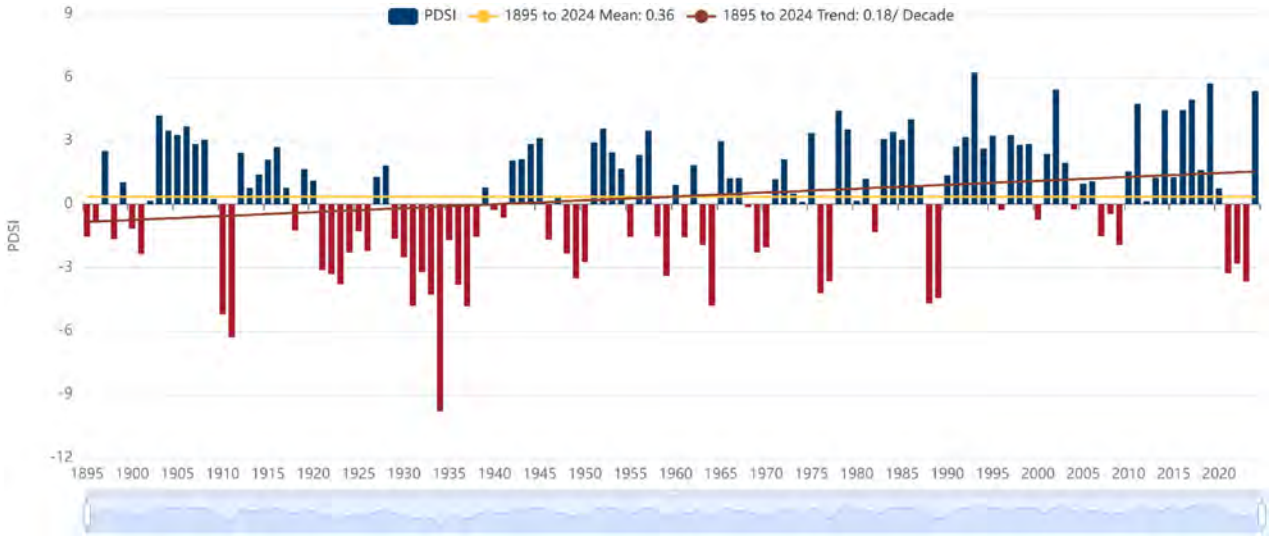
Exhibit 2. Historical Annual Average Precipitation in Hennepin County (1895 – 2024)



Source: DNR. https://arcgis.MnDNR.state.mn.us/ewr/climateexplorer/main/historical

The Palmer Drought Severity Index (PDSI) utilizes temperature and precipitation data to estimate relative soil moisture conditions and serve as an indicator of long-term drought conditions. The index ranges from -5 to +5 indicating dry and wet conditions, respectively. PDSI values are reported on a monthly basis. Exhibit 3 shows historic PDSI values for the month of August from 1895 to 2024 for Hennepin County, which indicates an increase of 0.18 per decade. Generally, the PDSI historical data indicates that the region is experiencing a wetter climate.

Exhibit 3. Historical PDSI Values for Hennepin County (1895 – 2024)

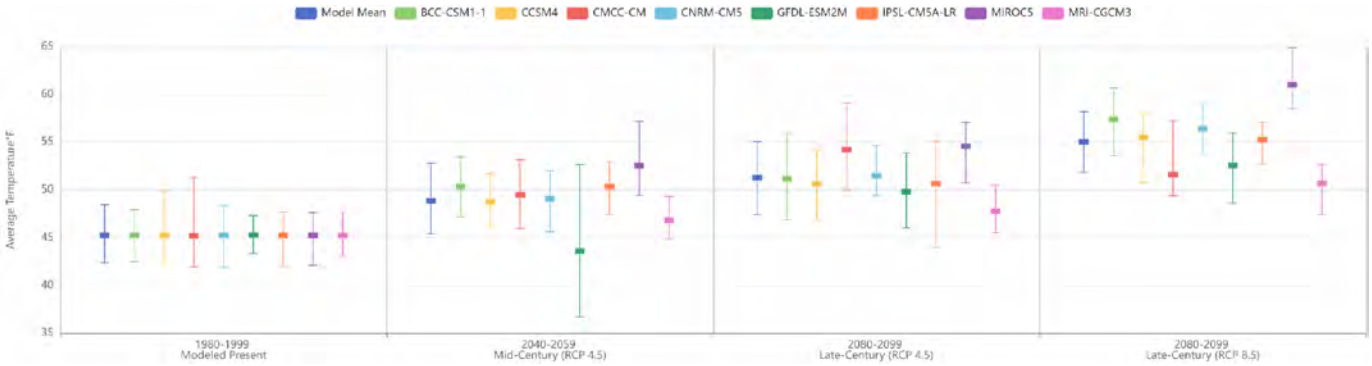


Source: DNR. https://arcgis.MnDNR.state.mn.us/ewr/climateexplorer/main/historical

Projected climate trends indicate that temperatures within the County would continue to increase. Exhibit 4 illustrates projected temperatures for the County. Several climate models are shown in the projected temperature analysis. The model mean, shown in blue, illustrates the average of all models included in the analysis. Exhibit 4 shows the modeled present condition, mid-century (2040-2059) at Representative Concentration Pathway (RCP) 4.5, late-century (2080-2099) at RCP 4.5, and late-century (2080-2099) at RCP 8.5. RCP is a greenhouse gas concentration scenario used by the Intergovernmental Panel on Climate Change in the fifth assessment report. RCP 4.5 is an intermediate scenario in which emissions decline after peaking around 2040 and RCP 8.5 represents a worst-case scenario in which emissions continue rising through the 21st century.

Under the RCP 4.5 scenario, the annual temperature is anticipated to increase within the County from a modeled present mean of 45.3°F (1980-1999) to a mid-century (2040-2059) model mean of 48.9°F and a late-century (2080-2099) model mean of 51.3°F. Under the RCP 8.5 worst-case scenario, the County would experience a late-century (2080-2099) model mean temperature of 55.0°F. In comparison to the modeled present mean (1980-1999), the late-century (2080-2099) modeled mean annual temperature would increase by approximately 12.4 percent under the RCP 4.5 scenario and increase by approximately 19.3 percent under the RCP 8.5 scenario.

Exhibit 4. Projected Temperatures in Hennepin County

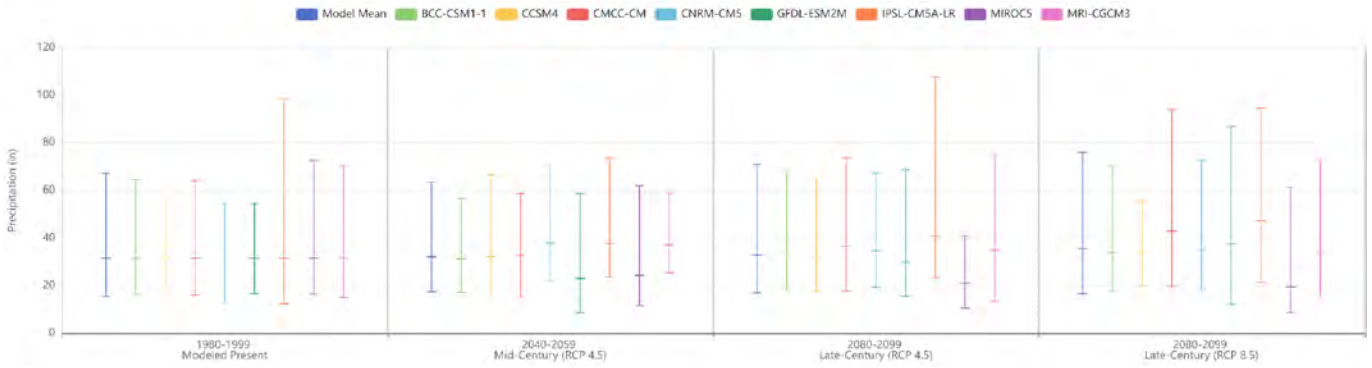


Source: DNR. https://arcgis.MnDNR.state.mn.us/ewr/climateexplorer/main/historical

Exhibit 5 presents Projected average annual precipitation for Hennepin County. Under the RCP 4.5 scenario, the annual precipitation is anticipated to increase within the County from a modeled present mean of 31.6 inches (1980-1999) to a mid-century (2040-2059) model mean of 32.1 inches and a late-

century (2080-2099) model mean of 32.9 inches. Under the RCP 8.5 worst-case scenario, the County would experience a late-century (2080-2099) model mean precipitation of 35.7 inches. In comparison to the modeled present mean (1980-1999), the late-century (2080-2099) modeled mean annual precipitation would increase by approximately 4.0 percent under the RCP 4.5 scenario and increase by approximately 12.2 percent under the RCP 8.5 scenario.

Exhibit 5. Projected Precipitation in Hennepin County



Source: DNR. https://arcgis.MnDNR.state.mn.us/ewr/climateexplorer/main/historical

b. For each Resource Category in the table below: Describe how the Project's proposed activities and how the Project's design will interact with those climate trends. Describe proposed adaptations to address the Project effects identified.

Table 2 summarizes climate considerations related to the Project and adaptation considerations.

Table 2. Climate Considerations and Adaptations

Resource Category	Climate Considerations	Project Information	Adaptations
Project Design	Projected climate trends include increasing temperatures, precipitation, and frequency of heavy rainfall events. Minnesota is trending towards warmer temperatures. Urban heat islands occur when impervious surfaces, such as roofs and paved surfaces, absorb heat during the day and release it at night, amplifying the warming trend.	Construction of buildings, roadways, pedestrian improvements, and parking areas associated with the Project would increase impervious surface area. Increased impervious surfaces would increase volume of stormwater runoff and potential flooding risk during heavy rain events. Impervious surfaces may create local heat island effects by absorbing heat during daytimes hours and radiating it at night leading to an increase in surface temperatures.	The Project would follow proposed and recommended actions outlined by the City of Dayton which may include planning documents such as the Dayton Forward: 2040 Comprehensive Plan (2023). Additional measures to minimize heat island effects may include strategically planting trees to increase shading near buildings to reduce energy use associated with air conditioning and incorporating green building design features such as green roofs or cool roofs to reduce energy costs, Greenhouse Gas (GHG) emissions,

Resource Category	Climate Considerations	Project Information	Adaptations
			and improvements to manage stormwater runoff rates.
Land Use	Heavier rainfall expected to bring a higher risk of localized flooding. Increased temperatures may create public health crises primarily for the vulnerable communities such as children and the elderly.	The majority of the Project area primarily consists of agricultural land under existing conditions. Conversion from agricultural and undeveloped land to residential and commercial development would increase impervious surfaces and may contribute to local heat island effects.	The Project may propose a critical facility (daycare center) within the Project area that would have heightened sensitivity to the climate considerations identified. The proposed daycare facility would not be located within an area prone to flooding. Opportunities to mitigate potential increased risk of flooding associated with a projected increase in heavy rainfall events may include constructing green infrastructure features such as rain gardens, catch basins, and infiltration systems. Local heat island effects from adding impervious surface to the Project area may be mitigated by avoiding removal of existing tree canopy and the planting of new trees and selective landscaping to increase shade in developed areas.
Water Resources	Addressed in Item 12.		
Contamination/ Hazardous Materials/Wastes	The Project area is projected to experience an increase in precipitation and heavy rainfall events.	The Project is not anticipated to involve the installation of chemical/ hazardous materials storage during operation.	A Spill Prevention, Control, and Countermeasures (SPCC) plan would be utilized during construction to minimize the potential for spill events. Waste generated during construction and demolition would be properly managed and disposed of in accordance with Minnesota Pollution Control Agency (MPCA) requirements.

Resource Category	Climate Considerations	Project Information	Adaptations
Fish, wildlife, plant communities, and sensitive ecological resources (rare features)	Addressed in Item 14.		

8. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development.

Table 3 and Figure 4, Appendix A summarize cover types within the Project area.

Table 3. Cover Types

Cover Types	Before(acres)[1]	After (acres)
Wetlands and shallow lakes (<2 meters deep)	0.03	0.0
Deep lakes (>2 meters deep)	0.0	0.0
Wooded/forest	1.6	1.1
Brush/grassland	3.8	1
Cropland	81.0	0.0
Lawn/landscaping	0.0	45.5
Green infrastructure total (from table below)	0.0	0.0
Impervious surface	4.5	35.8
Stormwater Basins	0.0	7.5
Total	**90.9**	**90.9**

[1] *Before" Acreages are approximate and based on TCMA 1-Meter Land Cover geospatial data (see Figure 4, Appendix A), preliminary impervious calculations, and wetland delineation data.*

Table 4. Green Infrastructure

Green Infrastructure	Before (acreage)	After (acreage)
Constructed infiltration systems (infiltration basins/infiltration trenches/ rainwater gardens/bioretention areas without underdrains/swales with impermeable check dams)	0	0
Constructed tree trenches and tree boxes	0	0
Constructed wetlands	0	0

Green Infrastructure	Before (acreage)	After (acreage)
Constructed green roofs	0	0
Constructed permeable pavements	0	0
Other (describe) Landfill-based geothermal system	0	0
Total	**0**	0

Table 5. Tree Canopy

Trees	Percent	Number
Percent tree canopy removed, or number of mature trees[1] removed during development	Approx. 31%	Approx. 10 trees
Number of new trees planted[2]	N/A	Approx. 978 trees

[1]Number of trees to be removed and approximate acreage is conservatively estimated based on aerial imagery.
[2]Number of trees to be planted is based on preliminary estimates. A tree preservation and replacement plan would be developed as part of the future development application and in accordance with the City of Dayton's Zoning and Subdivision Code, Section 1001.25.

9. Permits and Approvals Required

List all known local, state and federal permits, approvals, certifications and financial assistance for the Project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.

Table 6. Permits and Approvals

Unit of Government	Type of Application	Status
State		
Minnesota Pollution Control Agency (MPCA)	National Pollutant Discharge Elimination System (NPDES) Permit	To be completed
MPCA	Sewer extension Permit	To be completed
Minnesota Department of Health	Watermain Extension Permit	To be completed
Minnesota Department of Labor and Industry (DOLI)	State Plumbing Permit	To be completed
State Historic Preservation Office Review	Archaeological/Historic Review	Review Request and Archaeological Reconnaissance Survey Report Submitted.
County		
Hennepin County	Plat Approval	To be completed
Hennepin County	Road Access Permit	To be completed

Unit of Government	Type of Application	Status
Local		
Metropolitan Council	Comprehensive Guide Plan Amendment	To be obtained, if required
Metropolitan Council Environmental Services (MCES)	Sewer Extension Permit/ Sewer Permit to Connect	To be submitted, if required
City of Dayton	EAW / EIS Need Decision	Draft prepared
City of Dayton	Wetland Conservation Act (Boundary Approval) Notice of Decision	Obtained
City of Dayton	Preliminary and Final Plat	To be completed
City of Dayton	Land Use and Development Application	To be completed
City of Dayton	Land Disturbance Permit	To be completed
City of Dayton	Filling Grading Permit	To be completed
City of Dayton	Building Permits	To be completed
Elm Creek Watershed Management Commission (ECWMC)	Stormwater, Erosion Control, and Site Plan Approval	To be completed
ECWMC	Stormwater Management Plan Review	To be completed

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos.10-20, or the RGU can address all cumulative potential effects in response to EAW Item No.22. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 21.

10. Land use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks and open space, cemeteries, trails, prime or unique farmlands.

Existing Land Uses

The Project area includes approximately 90 acres of developed land primarily consisting of agricultural land (approximately 81 acres). A single-family residential use is located in the far northwestern corner of the Project area, and a farmstead including an animal feedlot is located centrally along the southern border of the Project area.

The City of Dayton's 2040 Comprehensive Plan (adopted in 2022) Existing Land Use Map identifies the Project area as agriculture/farm. [5] Figure 5, Appendix A identifies the existing land uses based on the Metropolitan Council's 2020 Generalized Land Use Inventory.

Surrounding Land Uses

The 2040 Comprehensive Plan Existing Land Use Map primarily identifies agriculture uses to the north and south of the Project area and rural residential uses to the east and north of the Project Area. An existing commercial use, Dehn's Country Manor, is identified in the southwestern corner of the Fernbrook Lane/ 113th Avenue intersection. Currently, the area to the northwest of the Project area is being developed as low density residential (Brayburn East) and the area to the south was recently developed as low and medium density residential (Sundance Greens). Single-family

[5] City of Dayton, 2022(a). *2040 Comprehensive Plan*. Available at: https://cityofdaytonmn.com/resources/2040-comprehensive-plan/. Accessed November 2024.

detached residential uses, agricultural uses, park land, and some undeveloped lands are located to the east. A small commercial use, Dehn's Country Manor, is located in the southwestern corner of the Fernbrook Lane/ 113th Avenue intersection. The Sundance Greens golf course is located immediately west of the Project area. Figure 4, Appendix A identifies the land uses surrounding the Project area.

Parks and Trails

No cemeteries are present within or in the vicinity of the Project area. The Elm Creek Park Reserve, owned by Three Rivers Park District, and associated trails are located approximately one-quarter mile east of the Project area and the Sundance Woods Neighborhood Park is located approximately one-quarter mile south-southwest of the Project area. A snowmobile trail is present along the western border of the Project area and along 113th Avenue North which is the roadway adjacent to the southern border of the Project area. Figure 7, Appendix A identifies parks and trails within the vicinity of the Project area.

The City's Comprehensive Trail Plan in the adopted 2040 Comprehensive Plan proposes roadside trails alongside Fernbrook Lane and 117th Avenue North, as well as planned neighborhood trails and a neighborhood park to the west. The planned neighborhood park would encroach into the northwest corner of the Project area, encompassing approximately three acres.

Farmland

Based on the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey data, approximately 43 acres of the Project area is classified as prime farmland or farmland of statewide importance. The majority of the Project area is cropland, and the remaining portions include a farmstead, a single-family home, and small wooded and grassland areas. Figure 9, Appendix A identifies designated farmland classifications within the Project area.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

Per the City of Dayton's 2040 Comprehensive Plan Future Land Use Map, the Project area is identified as planned low density residential. Surrounding planned uses include low density residential to the north, west and south; medium density residential to the east; neighborhood commercial to the south-southeast; high density residential to the south-southwest; and some small park/open space areas to the west and south-southwest. Figure 6, Appendix A depicts the planned land use designations in the vicinity of the Project area per the City's Future Land Use Map.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The City of Dayton's Zoning Map (dated October 25, 2024) identifies the Project area as within the Agricultural District.[6] The proposed Project is not compatible with this zoning designation; thus, the Project area would be re-zoned by the City of Dayton in the City's Zoning Map. The Project area is not within shoreland, floodplain, wild and scenic reivers, critical areas, agricultural preserves, or other special district overlays. Figure 5, Appendix A identifies zoning districts in the vicinity of the Project area per the City's Zoning Map.

iv. If any critical facilities (i.e. facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed in floodplain areas and other areas identified as at risk for localized flooding, describe the risk potential considering changing precipitation and event intensity.

The majority of the Project proposes low density residential uses and commercial uses concentrated

[6] City of Dayton, 2024(a). *Zoning Map*. Available at: https://cityofdayton.wpenginepowered.com/wp-content/uploads/2019/06/City-of-Dayton-Zoning_10_25_24.pdf. Accessed November 2024.

near the Fernbrook Lane/ 113th Avenue North intersection. The Project is conceptual and specific end users have not been identified at this time, which be driven by market conditions. The proposed commercial portion of the Project may include a daycare facility. The Project area is outside of the regulated 100-year floodplain/floodway and 500-year floodplain. The location of the potential daycare is an area of minimal flood hazard.

b. Discuss the Project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The majority of the Project is consistent with the City's 2040 Future Land Use Map with the exception of the small commercial area proposed in the southeast corner of the Project area. Currently, no specific end users have been identified for the proposed commercial area and it is anticipated that the commercial portion of the Project would not occur to a later phase in the development. At the time that a commercial project is proposed, a Comprehensive Plan Amendment would be required from the Metropolitan Council.

As discussed in in Item 10a.iii., the Project is not consistent with the current zoning designation and would require re-zoning. The surrounding land uses are primarily residential and are zoned primarily as single family and attached residential, thus, the Project is compatible with nearby land uses.

c. Identify measures incorporated into the proposed Project to mitigate any potential incompatibility as discussed in Item 10b above and any risk potential.

Incompatibilities with the current zoning and future land use designations would be addressed prior to Project approval and construction. No other incompatibilities are anticipated.

11. Geology, Soils and Topography/Land Forms

a. Geology - Describe the geology underlying the Project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the Project and any effects the Project could have on these features. Identify any Project designs or mitigation measures to address effects to geologic features.

The surficial geology in the Project area has been mapped by the Minnesota Geological Survey's (MGS) Geologic Atlas of Hennepin County as being sediments consisting of glacial till. Specifically, the Project area contains loam till and clay loam till (Figure 8, Appendix A). The surface expression of the till is generally rolling and hummocky. Ice Margins are present in the area, representing the recessional positions of the Grantsburg sublobe. Ice margins may also include localized pockets of sand and gravel.[7]

The bedrock geology across the Project area has been mapped in the MGS Geologic Atlas of Hennepin County as being the Jordan Sandstone, the St. Lawrence Formation, and the Lone Rock Formations of the Tunnel City Group, all of which are from the late Cambrian Period. The upper most unit is the Jordan Sandstone which is characterized by medium- to coarse-grained, friable quartzose sandstone. The Jordan Sandstone gradually transitions to the St. Lawrence Formation, which is primarily dolomitic, feldspathic siltstone with interbedded, very fine-grained sandstone, and shale. There is a distinct contact between the St. Lawrence Formation and the underlying Tunnel City Group. The Mazomanie Formation is characterized as very fine-grained glauconitic, feldspathic sandstone which is interbedded at its lower contact with the Lone Rock Formation, characterized by very fine-grained glauconite, feldspathic sandstone and siltstone, with thin shale partings.[8]

The bedrock topography within the Project area is mapped to be approximately 676 to 800 feet above mean sea level (amsl), increasing from west to east, and the depth to bedrock is estimated between 126

[7] Steenberg, Julia R.; Bauer, Emily J.; Chandler, V.W.; Retzler, Andrew J.; Berthold, Angela J.; Lively, Richard S. 2018(a). Minnesota Geological Survey. *County Atlas Series. Atlas C-45, Hennepin County. Plate 3 – Surficial Geology*. Available at: https://hdl.handle.net/11299/200919. Accessed November 2024.
[8] Steenberg, Julia R.; Bauer, Emily J.; Chandler, V.W.;Retzler, Andrew J.; Berthold, Angela J.; Lively, Richard S. 2018(b). Minnesota Geological Survey. *County Atlas Series. Atlas C-45, Hennepin County. Plate 2 – Bedrock Geology*. Available at: https://hdl.handle.net/11299/200919. Accessed November 2024.

and 275 feet, decreasing from west to east.[9] According to the Minnesota Department of Health (MDH) Minnesota Well Index (MWI)[10], two wells were identified within the Project area, and 21 wells were identified within one-quarter mile. The two wells within the Project area were both constructed to depths less than 100 feet and did not intersect bedrock. Three wells, 2 located just east and 1 located west of the Project area (Unique Well 162064, Unique Well 166986 and Unique Well 209255) have well logs and stratigraphic reports recording the presence of bedrock; Jordan Sandstone, St, Lawrence Formation and Tunnel City Group; at 125 feet, 185 feet, and 245 feet respectively. The well log reports and stratigraphic records are available in Appendix B.

According to the DNR, Karst Feature Inventory, there are no known karst or sinkhole features within the Project area or within the vicinity of the Project area.[11] Further, the US Geological Survey (USGS) does not identify the Project area as being within a known or potential karst area.[12] The nearest known feature is a sinkhole approximately 8 miles to the northeast of the Project area in Andover, MN (field verified in 2017). The Jordan Sandstone and the Tunnel City Group are not known for karst features and are located at depths greater than 100 feet below grade. The St. Lawrence Formation does contain minor dolostone layers with abundant macropores but is not subject to karst development because the secondary porosity is unlikely from dissolution.[13] Due to the absence of soluble carbonate bedrock within 50 feet of the surface, the formation of, and the surface expression of karst within the Project Area is unlikely.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from Project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after Project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/ sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

The approximately 90.9-acre Project area features mixed topography. Most of the site is relatively flat with gently, undulating contours. The lowest elevations are in the northeast and southeast with the highest elevation in between. Total elevation change within the site is approximately 40 ft. The existing site is primarily used for agriculture with the exception of two small farmsteads in the northeast and south.

According to the U. S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey data[14], there are seven soil map units within the Project area. A soil map unit is typically comprised of more than one soil series. The various series in a map unit represent associated soils that formed on different landscape positions within the map unit. The map unit is named after the most dominant soil series by areal extent.

Table 7 below lists the soil map units within the Project area and select map unit attributes relevant to item 11b, such as Hydrologic Soil Group, Wind Erodibility Group, and Water Erodibility Factor. Attributes in Table 7 are for the dominant soil condition within the map unit. See Figure 9, Appendix A for soil survey mapping.

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[9] Steenberg, Julia R.; Bauer, Emily J.; Chandler, V.W.;Retzler, Andrew J.; Berthold, Angela J.; Lively, Richard S. 2018(c). Minnesota Geological Survey. *County Atlas Series. Atlas C-45, Hennepin County. Plate 6 – Depth to Bedrock and Bedrock Topography*. Available at: https://hdl.handle.net/11299/200919. Accessed November 2024.

[10] MDH, 2024. *MWI*. Available at: https://www.health.state.mn.us/communities/environment/water/mwi/index.html. Accessed November 2024.

[11] MnDNR, undated(b). Karst Feature Inventory. Available at: https://arcgis.dnr.state.mn.us/portal/apps/webappviewer/index.html?id=9df792d8f86546f2aafc98b3e31adb62. Accessed November 2024

[12] Weary, D.J. and Doctor, D.H.. 2014. *Karst in the United States: A digital map compilation and database: U.S. Geological Survey Open-File Report 2014-1156, 23 p*. Available at: https://dx.doi.org/10.3133/ofr20141156. Accessed November 2024.

[13] Runkel, Anthony C.; Tipping, Robert R.; Green, J.A.; Jones, Perry M.; Meyer, Jessica R.; Parker, Beth L.; Steenberg, Julia R.; Retzler, Andrew J. 2014. *Minnesota Geological Survey Open File Report 14-04, Hydrogeologic Properties of the St. Lawrence Aquitard, Southeastern Minnesota*. Available at: https://conservancy.umn.edu/handle/11299/165299. Accessed November 2024.

[14] Soil Survey Staff, NRCS, USDA, 2024. *Soil Survey Geographic Database (SSURGO)*. Accessed via ESRI ArcGIS Online tool November 2024.

The soil map units within the Project area generally feature low wind or water erosion potential, and relatively slow permeability, Soils with slow permeability have a heightened risk for runoff concerns. Map units L23A, L36A, and L45A feature predominantly hydric soils with water tables at or near the surface during parts of the growing season, which would create limitations for infiltrative stormwater practices.

The Project would significantly alter the existing soil and topographic conditions through grading and construction activities. It is anticipated that approximately 90 acres of the Project area soils would be disturbed by grading or filling activities related to site leveling for structure and road construction. Soil balance and grading volumes are not yet known and would be determined when the design and grading plan are further developed.

The Project would adhere to erosion and sediment control practices during demolition, construction, and operations per the conditions of the Project's Stormwater Pollution Prevention Plan (SWPPP), National Pollution Discharge Elimination System (NPDES) Construction Stormwater Permit, and any local permitting conditions. See EAW item 12.b.ii for details on stormwater management and erosion and sediment control.

Table 7. Soil within the Project area

Map Unit Symbol	Map Unit Name	Hydrologic Group	Wind Erodibility Group	Water Erodibility Factor (K*f*)	Acres	% of Project area
L45A	Dundas-Cordova complex, 0 to 3% slopes	C/D	5	0.36	30.7	33.8%
L37B	Angus loam, 2 to 6 % slopes	C	6	0.32	22.5	24.8%
L44A	Nessel loam, 1 to 3 % slopes	C	5	0.32	15.3	16.8%
L36A	Hamel, overwash-Hamel complex, 0 to 3 % slopes	C/D	6	0.30	12.2	13.4%
L22C2	Lester loam, 6 to 10 % slopes, moderately eroded	C	6	0.32	5.6	6.2%
L22D2	Lester loam, 10 to 16 % slopes, moderately eroded	C	6	0.32	2.5	2.7%
L23A	Cordova loam, 0 to 2 % slopes	C/D	6	0.30	2.1	2.3%
				Total	**90.9**	**100.0**

The hydrologic soil groups are:

- **Group A**: Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.
- **Group B**: Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained, or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.
- **Group C**: Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.
- **Group D**: Soils having a very slow infiltration rate (high runoff potential). These consist chiefly of soils with high clay content, soils that have a high-water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

- **Dual Groups**: Dual Group designations (A/D, B/D, or C/D) are used to indicate wet soils that belong to Group D due to a high water table but would meet the drainage or textural criteria for Group A, B, or C if drained. Dual Group soils should be treated as Group D soils in the absence of effective artificial drainage.

The soil erodibility factors are:

- **Wind Erodibility Group**: Soils are assigned a Wind Erodibility Group (WEG) rating based on their inherent vulnerability to soil particle detachment from wind forces. Values range from 1 (most erodible) to 8 (least erodible).
- **Water Erodibility Factor (K*f*):** The Soil Erodibility Factor (K*f*) is a unitless quantitative description of the inherent vulnerability of a soil to water erosion. It provides a measurement of soil particles' susceptibility to detachment from rain drops or surface runoff. Values range from 0.02 (least erodible) to 0.69 (most erodible).

12. Water Resources

a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, shoreland classification and floodway/floodplain, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include the presence of aquatic invasive species and the water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the Project. Include DNR Public Waters Inventory number(s), if any.

Surface Waters

A review of Minnesota geospatial data determined that no lakes[15], wildlife lakes[16], migratory waterfowl feeding/resting lakes[17], outstanding resources value waters[18], DNR State Designated Trout Streams[19] or infested waters[20] are located within the Project area. Table 8 below lists the surface waters identified in the DNR Hydrography Dataset database located within one mile of the Project area. See Figure 11, Appendix A for select surface water features.

DNR Public Waters

No DNR Public Waters are located within the Project area. Seventeen DNR Public Waters and Watercourses are located within one mile of the Project area. Table 8 identifies DNR Public Waters and Public Water Watercourses within one mile of the Project area.

Table 8. Surface Waters and DNR Public Waters within One Mile of the Project area

Water Resource	Type	PW ID/ Kittle No.
Rush Creek	Perennial Stream, Public Ditch/ Altered Natural Watercourse	M-062-004
Unnamed	Public Water Wetland	27023800
Unnamed	Lake/Pond	27024600

[15] MNDNR, 2024(b). *DNR Hydrography Dataset*. Available at: DNR Hydrography Dataset . Accessed November 2024.
[16] MNDNR, 2016(a). *Designated Wildlife Lakes*. Available at: https://gisdata.mn.gov/dataset/env-designated-wildlife-lakes. Accessed November 2024.
[17] MNDNR. 2016(b). *Migratory Waterfowl Feeding and Resting Areas*. Available at: Migratory Waterfowl Feeding and Resting Areas - Resources - Minnesota Geospatial Commons. Accessed November 2024.
[18] MNDNR, 2024(c). *Lakes of Biological Significance*. Available at: https://gisdata.mn.gov/dataset/env-lakes-of-biological-signific. Accessed November 2024.
[19] MNDNR, 2020. *State Designated Trout Streams*, Minnesota. Available at: https://gisdata.mn.gov/dataset/env-trout-stream-designations. Accessed November 2024.
[20] MNDNR, 2024(d). *Listed Infested Waters*. Available at: https://gisdata.mn.gov/dataset/env-listed-infested-waters. Accessed November 2024.

Water Resource	Type	PW ID/ Kittle No.
Unnamed	Public Water Wetland	27024300
Unnamed	Intermittent Water	27027900
Unnamed	Intermittent Water	27024400
Unnamed	Public Water Wetland	27023600
Unnamed	Lake/Pond	27024500
Dubay Lake	Lake/Pond	27012900
Powers Lake	Lake/Pond	27013000
Unnamed	Lake/Pond	27023700
Unnamed	Intermittent Water	27023200
Unnamed	Intermittent Water	27023400
Unnamed	Intermittent Water	27028100
Hayden Lake	Lake/Pond	27012800
Unnamed	Public Water Wetland	27023500
Unnamed	Intermittent Water	27023300

Wetland Resources

Based on a wetland delineation conducted by Kjolhaug Environmental Services on July 10, 2024, one wetland is present within the Project area. The wetland delineation report was submitted to City of Dayton for review and was approved in September 2024. The 1,090-square foot wetland is located in the eastern portion of the Project area and was classified as a seasonally flooded basin palustrine emergent wetland (PEMAf). .Appendix E includes the wetland delineation report and WCA Notice of Decision.

MPCA 303d Impaired Waters List

No impaired waters are located within the Project area. One impaired water is present within one mile of the Project area.[21] Table 9 identifies impaired waters within one mile of the Project area. See also Figure 11, Appendix A.

Table 9. Impaired Waters within One Mile of the Project area

Waterbody Name	AUID[1]	Affected Designated Use	Pollutant or Stressor	TMDL[2] ID
Rush Creek	07010206-528	Aquatic Life, Aquatic Recreation	Dissolved oxygen, Escherichia coli (E. Coli), Fish bioassessments, Benthic macroinvertebrates bioassessments	PRJ06872-001

[1] *Assessment Unit Identification (AUID)*
[2] *Total Maximum Daily Load (TMDL)*

Floodway/Floodplain

A FIRMette was generated through the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) mapping tool[22], which indicates that the Project area is located within Zone X, an area with minimal flood hazard. Appendix C includes the FEMA FIRMette for the Project area.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if Project is

[21] MPCA, 2024(a). *Impaired Waterbodies 2024*. Available at: Impaired Waterbodies, Minnesota, 2024. Accessed November 2024.
[22] FEMA, 2024. *National Flood Hazard Layer FIRMette*. Available at: FEMA Flood Map Service Center. Accessed November 2024.

within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

There are no known springs, seeps or karst features present in the Project area. The nearest known spring and seep are located approximately three-quarters of a mile southeast of the Project area, within the Elm Creek Park Reserve (Figure 11, Appendix A).

A review of the MDH MWI[23] identified two verified wells within the Project area and 21 verified wells within a quarter-mile radius of the Project area. These wells are presented in Table 10 and Figure 10, Appendix A. Based on a review of the wells located near the Project area, the depth to static water level ranges from approximately 15 feet to 65 feet. Well log reports are included in Appendix D.

Table 10. Verified Wells Within and Adjacent to the Project area

Well ID	Use Type	Distance from Project	Status	Depth (ft.)	Static Water Level (ft.)
4488759	Domestic	Within Project area	Active	79	58
425099	Domestic	Within Project area	Active	94	50
162064	Domestic	Approx. 100 ft E	Active	215	50
623582	Domestic	Approx. 100 ft E	Active	120	65
559030	Domestic	Approx. 100 ft E	Active	78	15
166986	Domestic	Approx. 100 ft E	Active	310	65
202781	Domestic	Approx. 200 ft E	Active	119	22
555241	Domestic	Approx. 200 ft E	Active	82	40
197428	Domestic	Approx. 400 ft E	Active	92	40
579137	Domestic	Approx. 400 ft E	Active	92	35
202779	Domestic	Approx. 500 ft N	Active	119	22
202780	Domestic	Approx. 700 ft N	Active	154	46
767816	Domestic	Approx. 700 ft N	Active	80	30
168710	Domestic	Approx. 800 ft E	Active	139	41
417496	Domestic	Approx. 800 ft E	Active	243	40
517882	Domestic	Approx. 800 ft E	Active	93	30
133254	Domestic	Approx. 1,000 ft E	Active	137	24
417042	Domestic	Approx. 1,200 ft E	Active	71	50
168667	Domestic	Approx. 1,200 ft NE	Active	285	50
655001	Domestic	Approx. 1,200 ft N	Active	96	30

[23] Ibid MDH, 2024 (10)

Well ID	Use Type	Distance from Project	Status	Depth (ft.)	Static Water Level (ft.)
457043	Domestic	Approx. 1,300 ft E	Active	116	27
854464	Thermometer	Approx., 1,300 ft N	Active	380	33
209255	Irrigation	Approx., 1,300 ft W	Active	626	26

According to the MDH Source Water Protection Map[24], the Project area is not within a MDH Wellhead Protection Area or a Drinking Water Supply Management Area.

b. Describe effects from Project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water andwaste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Metropolitan Council of Environmental Services (MCES) operates and maintains the wastewater collection and treatment system in the seven-county Twin Cities metro region, serving 111 cities and townships. MCES has 9 treatment plants which convey and treat approximately 250 million gallons per day (MGD) of wastewater. The Metropolitan Wastewater Treatment Plant (Metro Plant) The Seneca Wastewater Treatment Plant (WWTP) is the largest wastewater treatment plant (WWTP) in Minnesota and has a capacity of 251 million gallons per day (GPD).

The Project would generate typical domestic wastewater associated with the proposed residential and commercial uses. The proposed development would be connected to the City of Dayton's existing sanitary sewer collection system. Wastewater generated by the Project would flow through Dayton/ Hassan Township extension of the Metropolitan Council Environmental Services (MCES) Elm Creek Interceptor. A meter is located off Holly Lane approximately 50 feet south of the Dayton/Maple Grove border. Wastewater from the Elm Creek Interceptor flows to the Metropolitan Wastewater Treatment Plant (Metro Plant) in the City of St. Paul where it is treated and ultimately discharged to the Mississippi River.

Table 11 provides the wastewater flow estimates for the full buildout of the Project based on the estimated building square footage for the proposed uses. It is anticipated that the Project would generate an estimated 85,000 GPD. This flow estimate equates to an average day load of 191 lbs. per day of biochemical oxygen demand (BOD) and 217 lbs. per day of total suspended solids (TSS).

Table 11. Wastewater Flow Estimates

Average Daily Flow (GPD)	Average BOD Load (lbs./day)	Average TSS Load (lbs./day)	Peak Flow (GPD)
85,000	191	217	327,000

The City of Dayton's 2040 Comprehensive Sanitary Sewer Plan describes current and anticipated future upgrades. Sewered population projects consider household and employment forecasts

[24] MDH, 2023. *Source Water Protection Web Map Viewer*. Available at: https://www.health.state.mn.us/communities/environment/water/swp/mapviewer.html. Accessed November 2024.

based on the City's Future Land Use Map, which has identified the Project area for planned residential development. Therefore, sewer capacity associated with the Project is accounted for in the City's sewer service projections. The City is currently in the process of updating the Sanitary Sewer Plan.

2) *If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system. If septic systems are part of the Project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the Project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion.*

   Not applicable.

3) *If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the Project may influence the effects.*

   Not applicable.

ii. Stormwater - Describe changes in surface hydrology resulting from change of land cover. Describe the routes and receiving water bodies for runoff from the Project site (major downstream water bodies as well as the immediate receiving waters). Discuss environmental effects from stormwater discharges on receiving waters post construction including how the Project will affect runoff volume, discharge rate and change in pollutants. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity and amount with this discussion. For Projects requiring NPDES/SDS Construction Stormwater permit coverage, state the total number of acres that will be disturbed by the Project and describe the stormwater pollution prevention plan (SWPPP), including specific best management practices to address soil erosion and sedimentation during and after Project construction. Discuss permanent stormwater management plans, including methods of achieving volume reduction to restore or maintain the natural hydrology of the site using green infrastructure practices or other stormwater management practices. Identify any receiving waters that have construction-related water impairments or are classified as special as defined in the Construction Stormwater permit. Describe additional requirements for special and/or impaired waters.

Existing Conditions

Project area currently consists of agricultural land, rural residential properties, farm buildings, and one wetland. No stormwater management features are present under existing conditions. There are approximately 4.55 acres of existing impervious cover associated with dwellings, driveways, and farm buildings. Surface water runoff primarily drains towards the southeast. Pollutants typically associated with untreated runoff from agricultural areas include pesticides, sediment, nutrients (nitrogen, phosphorus, and potassium) from fertilizers, and metals.

Operations and Construction Stormwater Management

The entire Project area's surface hydrology would be altered by grading and construction activities, and the proposed Project would create approximately 35.78 acres of impervious surfaces. The increased impervious area would result in higher runoff rates and volumes and a change in pollutants compared to existing conditions. A National Pollution Discharge Elimination System (NPDES) Construction Stormwater Permit would be required, including a Stormwater Pollution Prevention Plan (SWPPP). Permanent stormwater BMPs would be constructed to mitigate stormwater runoff rate, volumes, and pollutant loading per City of Dayton and Elm Creek Watershed Management Commission (ECWMC) requirements. At a minimum, the stormwater management system must

ensure that runoff rates do not exceed existing conditions up to the 100-year storm event. The runoff volume equal to 1.1 inches from all impervious surfaces must be infiltrated on site if soil and groundwater conditions are suitable. The stormwater design must also ensure that there is no net increase in total phosphorous or suspended solids discharge compared to existing conditions.

The Concept Site Plan in Appendix B identifies the preliminary planned locations for the six proposed stormwater features. Final BMP selection and design have not been developed. The stormwater management design must be reviewed and approved by both the City of Dayton and ECWMC.

During construction, the Project would adhere to the approved SWPPP and the City would conduct regular compliance inspections. Erosion and sediment control during construction would occur through standard BMPs such as silt fence, biorolls, inlet protection, and temporary sediment basins. Perimeter controls would be utilized to minimize the amount of sediment leaving the site. Stockpiles would be stabilized when not in use and stockpile perimeter would be controlled. Disturbed areas would be quickly mulched and seeded upon completion of grading activities. All permanent slopes 4:1 or steeper would have erosion control blankets installed.

Since the Project would disturb 50 or more acres, the SWPPP must be submitted to the MPCA 30 days prior to obtaining the NPDES Construction Stormwater permit.

Downstream Receiving Waters

Section 23 of the NPDES Construction Stormwater Permit provides guidance on additional controls and conditions required for construction sites within one mile of an impaired water. Rush Creek, within one mile downstream from the Project, is listed by MPCA as impaired for aquatic recreation and aquatic life due to low dissolved oxygen and excessive escherichia coli concentrations. Project stormwater discharge is not anticipated to contribute to Rush Creek's impairment categories. Turbidity, chloride, and excess nutrients are the primary impairments or TMDL categories directly related to stormwater runoff. The Project's stormwater management practices would incorporate BMPs to capture suspended solids and to reduce nutrient and chloride concentrations as required by the NPDES and City of Waseca permits.

iii. Water appropriation - Describe if the Project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a MnDNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the Project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.

Two domestic water supply wells are present within the Project area. Table 10 identifies wells within the Project area and Figure 10, Appendix A shows the locations of these wells. Existing wells that are not planned to be used following the development of the Project area, would be required to be sealed by a licensed well contractor in accordance with the Minnesota Well Code.

The City of Dayton obtains its water supply from four wells and existing interconnections with the City of Maple Grove, City of Champlin, and City of Rogers. The areas located west and south of Elm Creek Park Reserve is served by an existing connection to the Maple Grove water system. Maple Grove has agreed to provide the City of Dayton with water in sufficient quantity to meet an average day demand not to exceed 2.8 million gallons per day (MGD) and a maximum daily demand of 5.0 MGD. The City is in the process of completing a Water Supply Plan Update.

It is estimated that the Project would create an average water demand of 0.10 MGD and maximum water demand of 0.31 MGD based on building square footage estimates and MCES Sewer Availability Charge (SAC) procedures for residential and commercial uses. Anticipated landscape irrigation water demanded was considered in these estimates. The Project is identified in the City's Future Land Use Plan and has been considered in the projected water supply estimates per the City's Water Supply Plan.

Construction-related water appropriations within the Project area include the potential for construction dewatering. If dewatering is necessary for construction activities, a DNR Water Appropriation Permit would be required for any dewatering of volumes that meet or exceed 10,000 gallons per day or one million gallons per year.

Climate change trends may affect surface water and groundwater interactions that may lead to long-term uncertainty regarding surface and groundwater levels, aquifer recharge, and groundwater flow. This may result in impacts to groundwater supply availability, quality, and quantity. Surface and groundwater quantity is driven by the balance of atmospheric input from precipitation (recharge) and losses due to evapotranspiration. Opportunities to utilize water efficient fixtures and equipment, along with water reuse and recycling measures could be considered to minimize water supply needs.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the Project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.

Wetland 1 would be filled for grading and lot development (Figure 12, Appendix A). Minimization of impacts to the wetland would be evaluated as the Project design advances. Table 12 summarizes the wetlands potential impact within the Project area.

Table 12. Impacts to Wetlands within the Project area

Wetland ID*	Circular 39	Cowardin	Acres within Project area	Potential Impact (acres impacted)
Wetland 1	Type 1	PEMAf	1,090	1,090

Impacts to wetlands are regulated by the Minnesota Wetland Conservation Act (WCA) and the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. The City of Dayton is the WCA local governmental unit (LGU). The City of Dayton must approve proposed wetland impacts and the replacement plan before any impacts occur.

The proposed 1,090 square feet of wetland impact would not require a Wetland Replacement plan or compensatory mitigation, as the Project's impact total falls below the replacement thresholds of WCA and Section 404.

The wetland impacts are expected to have minimal effect on the host watershed, as the total impact area is not large, and the existing wetland is a low-quality farmed wetland (seasonally flooded basin).

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such

as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the Project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/ sedimentation while physically altering thewater features. Discuss how the Project will change the number or type of watercraft on any water body, including current and Projected watercraft usage.

No Surface Waters would be impacted by the Project. The stormwater management described in Item 12.b.iii would minimize the impacts of Project runoff to downstream surface waters.

13. Contamination/Hazardous Materials/Wastes

a. Pre-Project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the Project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-Project site conditions that would be caused or exacerbated by Project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A review of MPCA's *What's in My Neighborhood* (WIMN) database[25] was conducted to identify documented potentially contaminated sites within or in the vicinity of the Project area. One site was identified within the Project area and eight sites were identified within one-quarter mile of the Project area. Table 13 summarizes these findings and Figure 13; Appendix A illustrates the location of WIMN site listings within, or in close proximity to the Project area.

Table 13. MPCA Potentially Contaminated Sites within One-Quarter Mile of the Project area

Site ID	Site Name	MPCA Program	Status	Location
55835	Fernbrook Farms Inc. 14800 113th Avenue N. Maple Grove, MN	Feedlots (053-65219)	Inactive (Registered in 2001, Ended 2017)	Within southern portion of Project area
192973	Culver Residence 11431 Fernbrook Lane N. Maple Grove, MN	Petroleum Remediation Program Leak Site – (LS0019497)	Regulatory Closure, January 22, 2015	Adjoining east of Project area
108128	Sundance Golf & Bowl Inc. 15240 113th Avenue N. Maple Grove, MN	• Hazardous Waste – Very small quantity generator (MNS000155606)	• Active (Registered 2010) • Active (Registered in 2002)	Adjoining southwest of Project area

[25] MPCA, 2024(b). *What's in My Neighborhood*. Available at: What's in My Neighborhood | Minnesota Pollution Control Agency (state.mn.us). Accessed November 2024

Site ID	Site Name	MPCA Program	Status	Location
		• Aboveground Storage Tanks (TS0122930)		
234662	Sundance Greens 4th Addition, Dayton, MN	Construction Stormwater (C00056776)	Active (Coverage from 2020 to 2024)	Adjoining south of Project area
260755	Sundance Greens Eleventh Addition, Dayton, MN	Construction Stormwater (C00070395)	Active (Coverage from 2024 to 2028)	Adjoining southwest of Project area
256238	Sundance Greens 9th Addition, Dayton, MN	Construction Stormwater (C00067261)	Active (Coverage from 2023 to 2024)	Adjoining southwest of Project area
236295	Sundance Greens 5th Addition, Dayton, MN	• Construction Stormwater (C00057788) • Construction Stormwater (SUB0062201) • Construction Stormwater (SUB0062468)	• Active (Coverage 2020 to 2024) • Active (Coverage 2021 to 2024) • Active (2021 to 2024)	Adjoining south of Project area
256708	Brayburn Trails II Dayton, MN	Construction Stormwater (C00067627)	Active (Coverage from 2023 to 2028)	Adjoining north of Project area
111890	Haynes S Michael 13900 114th Avenue N. Dayton, MN	Underground Storage Tanks (TS0016011)	Active (Registered in 1991)	Approx. 1,200 ft east of Project area

A review of the Minnesota Department of Agriculture (MDA) WIMN database was conducted to identify documented potentially contaminated sites within or in the vicinity of the Project area. [26] No MDA spill or release sites were identified within the Project area or within a quarter-mile radius.

A Phase I Environmental Site Assessment will be completed for the Project to further evaluate the Project area for potential contamination and determine if further site investigations are needed.

It is not anticipated that Project construction would expose or exacerbate potentially contaminated sites within the vicinity of the Project area. In the event hat potentially contaminated soils or other potentially hazardous materials are encountered during construction, plans would be developed to properly handle and treat contaminated soil and/or groundwater. Any contaminated soils or other potentially hazardous materials encountered during construction would be handled and disposed of in accordance with MPA and other applicable requirements.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the Project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including

[26] MDA, 2024. *What's in my Neighborhood? – Agricultural*. Available at: What's In My Neighborhood (arcgis.com) Accessed October 2024.

source reduction and recycling.

Construction waste

Construction wastes would be typical to the construction of new structures, infrastructure, and roadways. Construction wastes would be primarily non-hazardous and would be managed as municipal solid waste (MSW) or construction/demolition debris. Potentially hazardous wastes in the form of used oils/lubricants, waste paints, or other materials may be generated during construction. The contractor would be required to manage and dispose of all construction-generated wastes in accordance with MPCA requirements and all other applicable regulatory requirements. Construction wastes would either be recycled or stored in approved containers and disposed of in the proper facilities. Any excess soil material that is not suitable for use onsite would become the property of the contractor and would be disposed of properly. All solid waste would be managed according to MPCA and other regulatory requirements.

Fernbrook Farms (Site ID 55835), a feedlot, is within the Project area. Buildings associated with the Fernbrook Farms site would be demolished during Project construction. Hazardous waste may be generated during construction from the demolition and removal of existing farm buildings and structures. If encountered, regulated materials such as asbestos, lights, or the regulated wastes would be abated and properly disposed of at a permitted facility. A pre-demolition hazardous materials survey will be completed prior to the start of demolition activities. If regulated materials such as asbestos-containing materials, lead-based paint, or other regulated materials/waste are present, an abatement plan would be prepared to address removal and proposed disposal of regulated materials identified in the hazardous materials survey. If required, a comprehensive abatement closeout report would be prepared following abatement and demolition activities, which would document the removal, management, and disposal of regulated materials.

Operational waste

The Project would generate solid waste during operation of the development, which will include residential, commercial, and retail activities. Solid waste generated by residents and commercial facilities would primarily be managed as mixed municipal waste. The California Department of Resource Recycling and Recovery (CalRecycle) provides a list of estimated solid waste generation rates for residential, commercial and other establishments for general planning purposes.[27]

It is estimated that the waste generated by the residential and commercial development would be composed of 100 percent municipal solid waste. Based on estimated solid waste generation rates of 12.23 pounds per unit per day for residential developments, one pound per seat per day for restaurants/coffee shops, and less than one pound per square foot per day for other commercial developments, it is estimated that the Project would yield a total waste generation rate of 886 tons per year. The collection of MSW would be managed by a licensed waste hauler. The Project would adhere to all MPCA requirements and other regulation pertaining to the use, handling, and disposal of solid waste. Recycling areas would be provided in compliance with the Minnesota State Building Code.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the Project including method of storage. Indicate the number, location and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size and age of existing tanks on the property that the Project will use. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

The majority of the Project consists of single family residential development, which would not include the use of aboveground or below ground storage tanks. Commercial development is proposed in the

[27] CalRecycle, 2019. *Estimated Solid Waste Generation Rates*. Available at: https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates Accessed November 2024.

southeastern portion of the Project area. The commercial development may include a convenience store/gas station. A specific end user has not been identified at this time. The proposed convenience store/gas station facility would require the installation of fuel storage tanks. The number and size of the tanks would be identified at the time that a specific end user is determined. The tank owner will be required to register with the MPCA and adhere to the design and operating regulations pursuant to Minnesota Rules Chapter 7150. The owner will be required to register the fuel storage tanks with the MPCA and comply with periodic inspection requirements and spill control and countermeasures.

Construction equipment may require the limited use of potentially hazardous materials, such as gasoline or diesel fuels, engine motor oils, hydraulic fluids, and other lubricants. Vehicles responsible for the transportation of hazardous materials would be equipped with spill kits for rapid response to any spills and refueling procedures would be implemented to eliminate leakage. Additionally, all fuels, oils, and lubricants would be stored in containment apparatuses while not in use. Construction staff would be trained to spot and appropriately respond to potential spills. In the event that a leak or spill incident occurs, the contractor would be required to respond in accordance with MPCA containment and remedial action procedures. A SPCC plan would be prepared by a Minnesota Professional Engineer pursuant to federal regulations.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the Project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling

It is not anticipated that the Project would generate or require storage of hazardous wastes during its construction or operation. Item 13.c. describes the potential storage and use of hazardous materials during construction and operation of the Project.

The MPCA allows, without sampling, disposal of demolition debris that may contain Lead Based Paint (LBP) coatings. Therefore, if a building is scheduled for demolition, suspect LBP coatings do not require sampling. In addition, the MPCA allows, without sampling, disposal of demolition debris that may contain polychlorinated biphenyl (PCB)-containing caulks, sealants and coatings. Therefore, if a building was constructed after 1979 or is scheduled for demolition, suspect PCB-containing caulks do not require sampling. A final report documenting the findings of the survey shall be completed. Based on the findings of the building survey, if a Project specification is generated, it must be written by an MDH accredited Asbestos Project Designer.

14. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

The Project is located within the Eastern Broadleaf Forest Province (222), the Minnesota and Northeast Iowa Morainal Section (222M), and the Big Woods Subsection (222Mb) as defined by the Minnesota Department of Natural Resources (DNR) in the *Field Guide to Native Plant Communities of Minnesota – The Eastern Broadleaf Forest Province.*[28] Current land use within this subsection primarily consists of cropland and pasture with some remaining upland woodland, forest, non-native grassland and wetland. Historically, the subsection consisted largely of oak woodland and maple-basswood forest.[29,30]

The land cover within the Project area was reviewed and is described in Item 8 and Table 3. Figure 4, Appendix A illustrates the land cover types within the Project area based on geospatial data.

[28] Aaseng, N., 2005. Field Guide to the Native Plant Communities of Minnesota – The Eastern Broadleaf Forest Province. St. Paul: DNR.
[29] DNR, 1999. Minnesota Geospatial Commons – Ecological Sections of Minnesota. Available at: https://gisdata.mn.gov/dataset/geos-ecological-class-system. Accessed November 2024.
[30] DNR, 2000. Ecological Classification System. Available at: https://www.dnr.state.mn.us/ecs/index.html. Accessed November 2024.

Habitat for urban wildlife is anticipated to be minimal with the Project area given that cropland is the primary cover type. However, this cropland, as well as limited forested areas and wetlands, may provide nesting, foraging, and/or travel habitat for a variety of urban wildlife species, including passerine birds, raptors, squirrels, rabbits, deer, coyotes, foxes, and other small mammals. Suitable roosting habitat for bats may be present within the limited forested areas. The wetland within the Project area may also provide habitat for aquatic and/or semi-aquatic species, such as turtles, frogs, salamanders, and toads.

b. Describe rare features state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-) and/or correspondence number (MCE) from which the data were obtained and attach the Natural Heritage Review letter from the MnDNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

Under Stantec's Limited License to Use Copyrighted Material (LA 2022-023) related to Rare Features Data, the DNR Natural Heritage Information System (NHIS) was searched in October 2024 to identify species within a one-mile buffer of the Project area. The NHIS search did not identify any records of rare species with the Project area, but seven species were identified to have records within one mile of the Project area. These species are detailed below. A formal NHIS review request (MCE No. 2024-00946) was submitted to the DNR through the Minnesota Conservation Explorer (MCE) system on November 13, 2024. According to the automated letter received the same day, further review by the Natural Heritage Review Team is needed for state-listed species records in the vicinity of the Project area. Appendix F provides a copy of the initial DNR MCE response letter.

Native Plant Communities and Sites of Biodiversity Significance

Based on a review of the DNR MCE portal[31], no native plant communities, calcareous fens, Minnesota Biological Survey (MBS) sites, or lakes of biological significance are located within the Project area. Notably, the Elm Creek Park Reserve is located approximately one-quarter mile east of the Project area and contains native plant communities, including mesic hardwood forests and wet forests, as well as MBS sites with a high ranking.

State – Listed Species

Big brown bat

The big brown bat (*Eptesicus fuscus*) is a state special concern species. In the winter, this species utilizes hibernacula, such as caves and mines, as well as buildings, cellars, and tunnels. Ideal conditions for these overwintering sites include high humidity, minimal airflow, and constant temperature. Notably, this species, in comparison to other bat species in Minnesota, will hibernate in colder temperatures.[32,33] Summer roosting and foraging habitat consists of forested areas near water; hollow trees, and trees with crevices, loose bark, and/or cavities are preferred for roosting. Big brown bats will also roost in buildings and bridges.[34]

According to the DNR Karst Feature Inventory, the Project area is not within a karst area.[35] Therefore, the likelihood of a cave being within the Project area is low. However, trees and buildings are located within the Project area. The potential removal of these features may impact big brown bats and their habitat.

[31] DNR. undated-a. Minnesota Conservation Explorer. Available at: https://mce.dnr.state.mn.us/. Accessed November 2024.
[32] Fitch, J. H., and K. A. Shump, Jr. 1979. *Myotis keenii*. Mammalian Species 121:1-3.
[33] Nordquist, G. E., K. A. Lynch, and C. A. Spak. 2006. Timing and pattern of bat activity at Soudan underground mine. Final report submitted to the State Wildlife Grants Program, Minnesota Department of Natural Resources. 86 pp.
[34] Kunz, T. H. 1982. Roosting ecology of bats. Pages 1-55 in T.H. Kunz, editor. Ecology of bats. Plenum Press, New York, New York. 450 pp.
[35] DNR. undated-b. Karst Feature Inventory. Available at: https://arcgis.dnr.state.mn.us/portal/apps/webappviewer/index.html?id=9df792d8f86546f2aafc98b3e31adb62. Accessed November 2024.

Little brown bat

The little brown bat (*Myotis lucifugus*) is a state special concern species. In the winter, this species utilizes hibernacula, such as caves, mines, and other underground structures likes cellars and tunnels. Ideal conditions for these overwintering sites include high humidity, minimal airflow, and constant temperature.[36] Summer roosting and foraging habitat consists of forested areas near water. Old growth forest is generally preferred due to the higher presence of snags and decomposing trees with loose bark, crevices, and cavities that provide roosting sites. The little brown bat may also utilize bridges and buildings as roost sites.[37,38]

According to the DNR Karst Feature Inventory, the Project area is not within a karst area.[39] Therefore, the likelihood of a cave being within the Project area is low. However, trees and buildings are located within the Project area. The potential removal of these features may impact little brown bats and their habitat.

Blanding's turtle

Blanding's turtles (*Emydoidea blandingii*) are a state threatened species that require wetland complexes with adjacent sandy uplands to sustain viable populations. Calm, shallow waters, including wetlands associated with rivers and streams with rich aquatic vegetation are preferred. This turtle occurs on a variety of wetland and riverine types throughout Minnesota. The species generally prefers marshes, bottomland wetlands, deeper marshes, and backwater pools in summer and winter, and ephemeral wetlands in spring and early summer. Female Blanding's turtles prefer to nest in open sandy uplands. Although they prefer undeveloped land, they have been known to nest in agricultural fields, residential property (low density suburb housing), gardens, under power lines, and in road shoulders (especially dirt roads). Females may travel up to 1.6 kilometers (1 mile) overland from their resident marsh to their nest site at which time they are vulnerable to predators and road mortality. Hatchlings leave the nest from mid-August through early October. Because eggs are laid far from water, hatchlings are vulnerable to predators, automobiles, and desiccation while traveling from the nest to a wetland.[40]

The Project area primarily consists of agricultural land and does not contain wetland complexes to support the Blanding's turtle. However, there are wetland complexes associated with Rush Creek and the Elm Creek Park Reserve that are less than one mile from the Project area. Therefore, the Project area may provide suitable nesting habitat for this species, and impacts may occur as a result of the Project.

Trumpeter swan

The trumpeter swan (*Cygnus buccinator*) is a state special concern bird species that breeds throughout Minnesota. This species will use muskrat (*Ondatra zibethicus*) and North American beaver (*Castor canadensis*) lodges as nesting platforms in small ponds, marshes, lakes, bays, or other larger waterbodies with emergent vegetation. Additionally, 100 meters of open water are needed for take-off.[41]

Ponds, marshes, lakes, bays, or other larger waterbodies are not present within the Project area. As such, impacts on the trumpeter swan or its habitat are not anticipated as a result of the Project.

Acadian flycatcher

The Acadian flycatcher (*Empidonax virescens*) is a state special concern passerine bird species that

[36] Fitch and Shump (32)
[37] Kunz (34)
[38] Owen, S. F., M. A. Menzel, W. M. Ford, J. W. Edwards, B. R. Chapman, K. V. Miller, and P. B. Wood. 2002. Roost tree selection by maternal colonies of northern long-eared myotis in an intensively managed forest. Northeastern Forest Experiment Station, USDA Forest Service. General Technical Report NE-292, Newtown Square, Pennsylvania. 6 pp.
[39] DNR (35)
[40] DNR Division of Ecological Resources. 2008. Endangered, Threatened, and Species Concern Species of Minnesota – Blanding's Turtle (*Emydoidea blandingii*). Available at: https://files.dnr.state.mn.us/natural_resources/animals/reptiles_amphibians/turtles/blandings_turtle/factsheet.pdf. Accessed January 2024.
[41] Stucker, S.P. 2018. DNR Rare Species Guide: *Cygnus buccinator*. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABNJB02030. Accessed November 2024.

breeds in southeast Minnesota. This species inhabits large, mature, closed-canopy deciduous forests near streams or wetlands as well as floodplain forests.[42]

The Project area does not contain large, mature, closed-canopy deciduous forests that can support the Acadian flycatcher. As such, impacts on this species or its habitat as a result of the Project are not anticipated.

Rusty patched bumble bee

A record of a rusty patched bumble bee (*Bombus affinis*; RPBB) was identified from 2018 within one mile of the Project area. The RPBB is a watchlist species in the state of Minnesota and is not currently regulated at the state level. Further discussion of this species is available under the Federally-Listed Species section below.

Big tick trefoil

The big tick trefoil (*Desmodium cuspidatum*) is state threatened forb species found in canopy gaps of mesic hardwood forest systems. The species is frequently found in association with oaks (*Quercus* spp.), sugar maple (*Acer saccharum*), and American basswood (*Tilia americana*).[43]

Suitable habitat for the big tick trefoil, mesic hardwood forest, is not present within the Project area. As such, impacts on this species or its habitat as a result of the Project are not anticipated.

Federally – Listed Species

A review of the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool[44] was conducted in November 2024 to identify federally listed species, those species proposed for federal listing, and candidates for federal listing with the potential to occur within the Project area. Six species were identified from this review: the RPBB (endangered), the tricolored bat (*Perimyotis subflavus*; proposed endangered), the salamander mussel (*Simpsonaias ambigua*; proposed endangered), the western regal fritillary (*Argynnis idalia occidentalis*; proposed threatened), the monarch butterfly (*Danaus plexippus*; candidate), and the whooping crane (*Grus americana;* non-essential experimental population). Appendix F provides a copy of the IPaC results.

Rusty patched bumble bee

This species is known as a habitat generalist but needs vary with the various aspects of their life history.

Habitat needs of the RPBB can be broken down to include overwintering habitat, nesting habitat, spring foraging habitat, and summer and fall foraging habitat. Overwintering habitat consists of woodland edges, as well as upland forest and woodland interiors. Woodland types generally consist of even-aged maple-basswood or oak-hickory, and the overwintering queens can be found in shady areas with loose soils, little vegetation, and leaf litter. Nesting habitat (colonies) includes grasslands and shrublands, upland forest, and woodland edges extending approximately 30 meters into the woodland. Loose soil and leaf litter in these areas can provide nest building sites.[45]

Spring foraging habitat and summer and fall foraging habitats are similar and can be found in areas with nectar and pollen sources, including plants such as goldenrods (*Solidago spp*.), coneflowers (*Echinacea spp*.), and gentians (*Gentiana spp*.). These areas can include woodland edges, upland forest, upland grassland and shrubland, palustrine wetlands, flower gardens, and agricultural land.[46] Spring ephemeral

[42] DNR. 2024(a). Rare Species Guide: *Empidonax virescens*. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ABPAE33020. Accessed November 2024.
[43] Smith, W. 2008. DNR Rare Species Guide: *Desmodium cuspidatum*. Revised 2018. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDFAB1D0D2. Accessed November 2024.
[44] USFWS. 2024(a). Information for Planning and Consultation. Available at: https://ipac.ecosphere.fws.gov/. Accessed November 2024.
[45] USFWS. 2021. Rusty Patched Bumble Bee (*Bombus affinis*) Endangered Species Act Section 7(a)(2) Voluntary Implementation Guidance. Version 3.1. USFWS, Bloomington, MN. 31 p.
[46] USFWS. 2017. Plants Favored By Rusty Patched Bumble Bee. Available at: https://www.fws.gov/media/plants-favored-rusty-patched-bumble-

species and upland forest and woodland interiors that contain nectar and pollen sources are also used for spring foraging.[47]

The Project area is located within a High Potential Zone (HPZ) for the RPBB.[48] Additionally, according to the NHIS review conducted in October 2024, a record of a RPBB was identified within one mile of the Project area in 2018. However, according to the wetland report prepared by Kjolhaug Environmental Services, Inc. (KES) in July 2024, the vegetation observed in the Project area included yellow nutsedge (*Cyperus esculetus*), corn (*Zea mays*), and soybean (*Gycine max*). The Project area includes few wooded areas and is primarily comprised of cropland. Therefore, limited nectar sources within the Project area to support the RPBB. Additionally, the lack of suitable wooded, upland areas and prevalence of regularly plowed cropland within the Project area would not provide suitable overwintering habitat for the RPBB. As such, impacts on the RPBB and its habitat are unlikely to occur as a result of the Project.

Tricolored bat

During the non-hibernating seasons, tricolored bats (TCB) will roost in live and dead leaf clusters of live or dead deciduous hardwood trees. TCBs have also been observed roosting among pine needles and lichen (*Usnea trichodea*), as well as in artificial structures such as barns, bridges, roofs, and other concrete structures. During the winter, TCBs hibernate in caves and mines. If mines or caves are not present, particularly within the southern region, they have been observed hibernating in road-associated culverts, tree cavities, and abandoned water wells.[49]

The USFWS interactive map for modeled TCB habitat indicates that there is potential habitat for the TCB within and in the vicinity of the Project area.[50] Additionally, trees and buildings are located within the Project area. The potential removal of these features may impact TCBs and their habitat. The TCB is proposed to be listed as federally endangered; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

Salamander mussel

The salamander mussel is restricted to the lower St. Croix River in Minnesota but was once also found in the Mississippi River. This species is only found under flat rocks or under ledges of rock walls, which is habitat that is also occupied by its glochidial host, the mudpuppy salamander (*Necturus masculosus*).[51]

The Project area is not in the near vicinity of the Mississippi River or the St. Croix River. As such, impacts on the salamander mussel or its habitat are not anticipated as a result of the Project. The salamander mussel is proposed to be listed as federally endangered; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

Western regal fritillary

The western regal fritillary is associated throughout its range in upland and wetland native prairies. Regal fritillary larvae appear to be restricted to upland prairie where they feed exclusively on the nectar of violets (*Viola* spp.), such as prairie bird's-foot violet (*Viola palmata* var*. pedatifida*) and bird's-foot violet (*V. pedata*), the latter of which is utilized in the southeast section of the state.[52]

bee. Accessed November 2024.
[47] USFWS (46).
[48] USFWS. 2024(b). Rusty Patched Bumble Bee Map. Available at: https://www.arcgis.com/home/webmap/viewer.html?webmap=2716d871f88042a2a56b8001a1f1acae&extent=-100.6667%2c29.7389%2c-48.8551%2c50.9676. Accessed November 2024.
[49] USFWS. 2022(a). Tricolored Bat (*Perimyotis subflavus*). U.S. Fish & Wildlife Service. Available: https://fws.gov/species/tricolored-bat-perimyotis-subflavus. Accessed October 2024.
[50] USFWS. undated. Tricolored Bat (*Perimyotis subflavus*) Interactive Map. Available at: https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus/map. Accessed November 2024.
[51] DNR. 2024(b). Rare Species Guide: *Simpsonaias ambigua*. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=IMBIV41010. Accessed October 2024.
[52] DNR. 2018. Rare Species Guide: *Argynnis idalia.* Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=IILEPJ6040. Accessed August 2024.

According to a review of the DNR MCE portal[53], there are no native prairies within the Project area. As such, impacts on the western regal fritillary or its habitat are not anticipated as a result of the Project. The western regal fritillary is proposed to be listed as federally threatened; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

Monarch butterfly

The monarch butterfly is a migratory butterfly that exists in two main populations within the United States divided by the Rocky Mountains: the eastern population that overwinters in the mountains of Mexico, and the western population that overwinters along the southern pacific coast of California.[54] Monarch butterflies are a widespread species found in fields, prairies, savannahs, and most places where their host plant milkweed (*Asclepias* spp.) occurs throughout the United States and southern Canada. This species generally occurs in areas with high densities of native nectar sources. During late summer and migration, adults use nectar species such as black-eyed Susan (*Rudbeckia hirta*), narrow-leaved coneflower (*Echinacea angustifolia*), and rough blazing star (*Liatris aspera*).[55] However, the presence of milkweed is required as it is the only plant on which monarch caterpillars can feed.[56]

Given the wide range of habitats the monarch butterfly can occupy, it may occur within the Project area, especially if milkweed is present. The monarch butterfly is a candidate for federal listing; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

Whooping crane

The whooping crane is a migratory bird species that once nested in northern prairies, but now breeds in remote northern forests in Canada as well as in an experimental population in Wisconsin, preferably within coniferous habitat containing swamps and nearby lakes or ponds. Winter habitat consists of coastal marshes (e.g., Texas, Louisiana, and Florida).[57]

The Project area does not contain prairie or coniferous forest habitat preferred by the whooping crane. Additionally, the Project area is located within the Mississippi Flyway while the wild population of whooping crane utilizes the Central Flyway located further west. Any unlikely occurrence of a whooping crane within the Project area would, therefore, likely be from the experimental population in Wisconsin that is not federally regulated. As such, impacts to this species as a result of the Project are not anticipated.

Migratory birds

Fifteen migratory bird species listed as USFWS Birds of Conservation Concern (BCC) and one eagle species have the potential to occur within the Project area according to the USFWS IPaC review (Appendix F). These species and their habitat requirements are detailed in Table 14 using data from the Cornell Lab of Ornithology.[58]

[53] DNR (31)
[54] USDA Forest Service. undated-a. Migration and Overwintering. Available at: https://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/migration/. Accessed November 2021.
[55] DNR. 2022. Butterfly Gardens. Available at: https://www.dnr.state.mn.us/gardens/butterfly/index.html. Accessed October 2024.
[56] National Wildlife Federation. undated. Monarch Butterfly. Available at: https://www.nwf.org/Educational-Resources/Wildlife-Guide/Invertebrates/Monarch-Butterfly. Accessed October 2024.
[57] Audubon. undated. Guide to North American Birds: Whooping Crane. Available at: https://www.audubon.org/field-guide/bird/whooping-crane. Accessed September 2022.
[58] Cornell Lab of Ornithology. 2024. All About Birds. Ithaca, New York. Available at: https://www.allaboutbirds.org/news/#. Accessed November 2024.

Table 14. Migratory Birds Listed as BCC with the Potential to Occur within the Project area

Common Name	Scientific Name	Nesting, Foraging, and/or Migration Habitat
Bald eagle*	*Haliaeetus leucocephalus*	Forested areas (conifers and deciduous trees) near large bodies of open water. Open uplands near open water in winter.
Black tern	*Chlidonias niger surinamenisis*	Large (>50 acres), dense marshes for breeding. Lagoons, river edges, lakes, marshes, and beaches during migration.
Black-billed cuckoo	*Coccyzus erythropthalmus*	Breeds in large, dense woodlands and thickets. Preferred species include aspen, poplar, birch, sugar maple, hickory, hawthorn, and willow.
Bobolink	*Dolichonyx oryzivorus*	Breeds in open areas (grasslands, tallgrass and mixed prairie, hayfields, meadows); coastal areas pre-migration.
Canada warbler	*Cardellina canadensis*	Breeds in mixed conifer and deciduous forest with mossy/shrubby understory near water. Shrubby areas in parks, woodlots, and along forest edges during migration.
Cerulean warbler	*Setophaga cerulea*	Breeds in mature deciduous forests with tall trees.
Chimney swift	*Chaetura pelagica*	Breeds in rural and urban settings in chimneys, tree cavities, and caves. Forages over open habitats, forests, ponds, and residential areas.
Eastern whip-poor-will	*Antrostomus vociferus*	Breeds in dry deciduous or evergreen-deciduous forests near open areas. Large tracts of contiguous forest with dense canopy are avoided.
Golden-winged warbler	*Vermivora chrysoptera*	Breeds in open woodlands, wet thickets, shrub, tamarack bogs, aspen or willow stands, and wetlands.
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	Grasslands, prairies, hayfields, and open pastures with little scrub and some bare ground.
Henslow's sparrow	*Centronyx henslowii*	Breeds in wet meadows, weedy pastures, lowland prairie, and cultivated hayfields.
Lesser yellowlegs	*Tringa flavipes*	Breeds in open woodlands with marshes, bogs, and/or ponds; during migration found in fresh and brackish wetlands.
Red-headed woodpecker	*Melanerpes erythrocephalus*	Breeds in mature deciduous woodlands that contain dead or dying trees that can act as nest cavities. Oak, oak-hickory, maple, ash, and beech are often used in the northern portion of their range.
Ruddy turnstone	*Arenaria interpres morinella*	Coastal rocky and sandy beaches, mudflats, and shorelines of freshwater lakes.
Rusty blackbird	*Euphagus carolinus*	Breeds in wet forests, fens, bogs, muskeg, and beaver ponds.
Wood thrush	*Hylocichla mustelina*	Breeds in mature deciduous and mixed forests with trees over 50 feet tall, a moderate understory, open forest floor with moist soil and decaying leaf litter, and nearby water.
*This species is not listed as BBC but warrants special attention under the Bald and Golden Eagle Protection Act (BGEPA).		

Source: Cornell Lab of Ornithology 2024

One migratory bird species identified during the IPaC review, the bald eagle, has the potential to occur in the Project area. This species is not listed as BCC but warrants attention under the Bald and Golden Eagle Protection Act (BGEPA). Nearby forested areas and waterbodies, especially those associated with the Elm Creek Park Reserve, may provide suitable nesting and foraging sites for the bald eagle. While trees are limited in the Project area, the open land within the Project area could provide suitable wintering/foraging habitat given its proximity to higher quality forests and lakes.

The buildings located within the Project area may provide roosting sites for the chimney swift. The heavily agricultural Project area is unlikely to provide nesting, foraging, and/or migration stopover habitat for the other BCC species presented in Table 14. However, the forests and wetlands in the neighboring Elm Creek Park Reserve may provide suitable habitat for these avian species, resulting in potential flyovers over the Project area.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the Project including how current Minnesota climate trends and anticipated climate change in the general location of the Project may influence the effects. Include a discussion on introduction and spread of invasive species from the Project construction and operation. Separately discuss effects to known threatened and endangered species.

Impacts Analysis for Native Plant Communities and Sites of Biodiversity Significance

No native plant communities, calcareous fens, MBS sites, or lakes of biological significance are located within the Project area. Native plant communities and MBS sites are located within the Elm Creek Park Reserve which is approximately one-quarter mile east of the Project area, but no impacts would occur in these areas.

Impacts Analysis for State-Listed Species

Big brown bat

Suitable roosting habitat for the big brown bat (trees and buildings) are located within the Project area. The removal of trees and/or the relocation/demolition of buildings may impact this species. Additional stressors to this species include lighting and noise that may disturb individuals roosting nearby.

Increases in extreme weather patterns caused by climate change have the potential to harm big brown bats. For instance, more widespread wildfires and severe thunderstorms can destroy roosting habitat for the species.[59]

Little brown bat

Suitable roosting habitat for the little brown bat (trees and buildings) are located within the Project area. The removal of trees and/or the relocation/demolition of buildings may impact this species. Additional stressors to this species include lighting and noise that may disturb individuals roosting nearby.

Like the big brown bat, the little brown bat's roosting habitat is at risk as a result of destruction by more common wildfires and severe thunderstorms caused by climate change. Besides leading to habitat loss and direct mortality, reproductive success is hindered as a result of decreasing the availability of maternity roost trees for the species.[60]

Blanding's turtle

While wetland complexes are not present within the Project area (only one seasonally flooded wetland was identified in the Project area in July 2024), they are present within one mile of the Project area

[59] Schmitt, Kristen. 2023. Bats feel the effects of climate change. Available at: https://www.batcon.org/bats-feel-the-effects-of-climate-change/. Accessed November 2024.
[60] Schmitt (59)

associated with the Elm Creek Park Reserve and Rush Creek. Female Blanding's turtles are known to travel up to one mile from their home wetland to lay their eggs, so the Project area may provide a potential nesting site for this species. As such, any ground disturbance or equipment/vehicle traffic within the Project area may impact this species.

Climate change is anticipated to impact Blanding's turtles in a variety of ways. Increased temperatures are likely to lead to increased physiological stress and reduced reproductive success, while more extreme precipitation events are likely to impact the availability of wetland habitats for overwintering and foraging.[61]

Trumpeter swan

Suitable habitat for the trumpeter swan (ponds, marshes, lakes, bay, or other large waterbodies) are not present within the Project area. As such, impacts this species as a result of the Project are not anticipated.

The wetlands that trumpeter swans rely on for breeding are at risk as a result of rising temperatures stemming from climate change. Additionally, the National Audubon Society has classified the trumpeter swan as "climate endangered", stating that approximately 67 percent of its current winter range could be lost by 2080.[62,63]

Acadian flycatcher

Suitable habitat for the Acadian flycatcher (large, mature, closed-canopy deciduous forest) is not present within the Project area. As such, impacts on this species as a result of the Project are not anticipated.

Deforestation is a primary threat to the Acadian flycatcher, but warming temperatures may also be a concern. Early studies have found that this species is moderately vulnerable to climate change.[64]

Rusty patched bumble bee

An impacts analysis for the RPBB can be found under the Impacts for Federally-Listed Species section below.

Big tick trefoil

Suitable habitat for the big tick trefoil, mesic hardwood forest, is not present within the Project area. As such, impacts on this species as a result of the Project are not anticipated.

One of the threats to the big tick trefoil is invasive species, such as common buckthorn (*Rhamnus cathartica*), Eurasian honeysuckle (*Lonicera* spp.), and garlic mustard (*Alliaria petiolaris*) that can reproduce quickly and choke out native plants.[65] With an increase in more intense storms and droughts in Minnesota, invasive species are likely to become more dominant and outcompete plants like the big tick trefoil.[66]

[61] Lyons, Marta P., Nikiel, Catherine A., LeDee, Olivia E., and Boyles, Ryan P. 2023. Potential effects of climate change on *Emydoidea blandingii* (Blanding's turtle). USGS Publications Warehouse. 2021-1104. doi: 10.3133/ofr20211104D.
[62] Langham, Gary M., Justin G. Schuetz, Trisha Distler, Candan U. Soykan, and Chad Wilsey. 2015. "Conservation Status of North American Birds in the Face of Future Climate Change." *PLoS One* 10: e0135350. doi: 10.1371/journal.pone.0135350
[63] National Audubon Society. 2016. *The Climate Report: Trumpeter Swan*. http://climate.audubon.org/birds/truswa/trumpeter-swan
[64] North American Bird Conservation Initiative, U.S. Committee. 2010. *The State of the Birds 2010 Report on Climate Change, United States of America*. Washington, DC: U.S. Department of the Interior. http://www.stateofthebirds.org/2010/pdf_files/State of the Birds_FINAL.pdf
[65] Smith (43)
[66] Ratcliffe, Hugh. (2020). Climate Change and Tallgrass Prairies: Exploring the Interaction of Extreme Weather and Invasion in Managed Prairie Systems. Retrieved from the University Digital Conservancy, https://hdl.handle.net/11299/261977.

Impacts Analysis for Federally-Listed Species

Rusty patched bumble bee

The Project area is within an HPZ for the RPBB, and a review of DNR NHIS data identified a record of a RPBB within one mile of the Project area in 2018. However, the Project area primarily consists of agricultural land consisting of corn, soybeans, and yellow nutsedge according to the July 2024 wetland delineation performed by KES. Nectar sources preferred by this species were not identified during this site visit. As such, impacts on the RPBB as a result of the Project are unlikely.

The RPBB is exposed to many stressors, including climate change, which act synergistically. For instance, if the higher temperatures and increased precipitation occurring in Minnesota leads to stress on flowering plants, the RPBB may experience dietary stress. When combined with exposure to insecticides and fungicides, the species has little resilience against pathogens.[67]

Tricolored bat

There is potential for tree removal and building removal within the Project area. Such actions may impact TCB roosting habitat. Additional stressors to this species include lighting and noise that may disturb individuals roosting nearby. Impacts would need to be reassessed if and when a listing status is finalized by the USFWS.

The TCB is susceptible to climate change. For instance, changes in temperature and precipitation could have impacts on habitat availability, prey availability, and reproductive success with more frequent droughts leading to decreased survival and reproduction and more extreme rain events leading to decreased foraging opportunities.[68]

Salamander mussel

Impacts on the salamander mussel are not anticipated due to the lack of suitable habitat (Mississippi River or St. Croix River) within or in the near vicinity of the Project area. Impacts would need to be reassessed if and when a listing status is finalized for this species.

Warming temperatures in Minnesota are warming the freshwater habitats that mussels need to survive. The temperature limits that mussels can withstand is largely unknown, but higher temperatures can make it more difficult for mussels to borrow, resulting in exposure to the air, being swept away to unsuitable habitats, and an inability to escape predators. Feeding, growth, breathing, and reproduction have also been found to be impacted by higher water temperatures.[69]

Western regal fritillary

Impacts on the western regal fritillary are not anticipated due to the lack of suitable habitat (native prairie) within the Project area. The western regal fritillary is proposed to be listed as federally threatened; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

The western regal fritillary relies on violets for their life cycle and their abundance is closely linked to violet density.[70,71] With an increase in more intense storms and droughts in Minnesota, invasive species are

[67] USFWS. 2023. Rusty Patched Bumble Bee. Available at: https://www.fws.gov/species/rusty-patched-bumble-bee-bombusaffinis. Accessed: June 2024.
[68] USFWS. 2022(b). Proposed Rule 87 FR 56381: Endangered and Threatened Wildlife and Plants; Endangered Species Status for Tricolored Bat. Available at: https://www.federalregister.gov/documents/2022/09/14/2022-18852/endangered-and-threatened-wildlife-andplants-endangered-species-status-for-tricolored-bat. Accessed June 2024.
[69] Blevins, Emilie. 2018. Are Freshwater Mussels in Hot Water? The Xerces Society. Available at: https://xerces.org/blog/are-freshwater-mussels-in-hot-water#:~:text=Higher%20water%20temperatures%20can%20stress%20freshwater%20mussels%20by,flows%20that%20can%20wash%20them%20into%20unsuitable%20habitat.. Accessed June 2024.
[70] Debinskl, D. M., & Kelly, L. 1998. Decline of Iowa populations of the regal fritillary (*Speyeria idalia*) Drury. *Journal of the Iowa Academy of Science: JIAS*, *105*(1), 16-22.
[71] Beilfuss, K. G., & Harrington, J. A. (2001). Distribution patterns of the Regal Fritillary butterfly (*Speyeria idalia* Drury) within a Wisconsin dry

likely to become more dominant and push violet numbers down, thus furthering the decline of western regal fritillary habitat.[72]

Monarch butterfly

Given the wide range of habitats the monarch butterfly can occupy, it may occur within the Project area, especially if milkweed is present. The monarch butterfly is a candidate for federal listing; therefore, impacts should be reassessed if and when a listing status is finalized by the USFWS.

As discussed in Item 7, climate change is anticipated to result in increasing temperatures in Minnesota, which may increase the number of days and the area in which monarch butterfly populations would be exposed to unsuitably high temperatures. This can result in this species using up fat stores too quickly and may result in a misjudgment of when to enter and exit states of diapause (dormancy).[73]

Whooping crane

Impacts on the whooping crane are not anticipated due to the lack of suitable habitat (coniferous forest or prairie) within the Project area. The Project area is also not within the range of the wild population of whooping crane; any unlikely occurrences of this species within the Project area would likely be from the unregulated experimental population based in Wisconsin.

Based on models that consider various climate factors, it has been predicted that climate change may impact the juvenile recruitment and population growth of the whooping crane. For instance, increased precipitation during fall migration and the breeding season indicated lower recruitment and increased atmospheric carbon dioxide indicated lower population growth rates and recruitment.[74]

Impacts Analysis for Migratory Birds

Construction activities and development within the Project area may result in impacts on migratory birds. Impacts may occur as a result of ground disturbance, vegetation removal, tree clearing, and/or other disturbances in the vicinity of a nest. Most migratory bird nesting activity in Minnesota occurs from approximately May 15 to August 1. Based on the IPaC species review (Appendix F), the fifteen migratory bird species listed as USFWS BCC and one eagle species with the potential to occur in the Project area are most likely to be breeding in Minnesota from March 15 to October 10. This comes with the exception of the bald eagle that is most likely to be present from December 1 to August 31, as well as the lesser yellowlegs, ruddy turnstone, and rusty blackbird that breed elsewhere. If construction activities occur within vegetated areas of the Project area, it may result in impacts for these and other migratory birds, eggs, young, and/or active nests if conducted during the bird nesting timeframe in Minnesota.

Impacts Analysis for Urban Wildlife

Urban wildlife may be impacted by the development of the Project area, such as through the removal of trees and wetlands. Additionally, lighting and noise associated with construction and/or operation of the Project have the potential to negatively impact wildlife. These species are generally adaptable to change and would likely relocate to other undeveloped areas.

Invasive Species

Noxious weeds and invasive species in Minnesota are managed through the Minnesota Department of Agriculture (MDA) under Minnesota Statutes Section 18.78, the DNR, and local ordinances. Best management practices (BMPs) during construction activities and operation within the Project area should

prairie remnant. In Proc N Am Prairie Conference (Vol. 17, pp. 191-196).
[72] Ratcliffe (66)
[73] Kobilinksy, Dana. 2019. Watch: Temperature Drives Internal Clock for Monarchs. The Wildlife Society. Available at: https://wildlife.org/watch-temperature-drives-internal-clock-for-monarchs/. Accessed June 2024.
[74] Butler, M. J., Metzger, K. L., & Harris, G. M. 2017. Are whooping cranes destined for extinction? Climate change imperils recruitment and population growth. *Ecology and Evolution*, *7*(8), 2821-2834.

be implemented to minimize the introduction or spread of noxious weeds and invasive species. These practices include cleaning vehicles and equipment of mud and dirt, removing seeds that attach to clothing or equipment, minimizing soil disturbance, not moving potentially contaminated materials between sites, and staying on designated roads/trails.[75, 76]

d. Identify measures that will be taken to avoid, minimize, or mitigate the adverse effects to fish, wildlife, plant communities, ecosystems, and sensitive ecological resources.

The followings measures are required to minimize the potential for impacts to the Blanding's turtle:

- Avoid wetland and aquatic impacts during the hibernation season, between September 15 and April 15, if the area is suitable for hibernation.
- The Blanding's turtle flyer must be given to all contractors working in the Project area (Appendix F).
- Turtles which are in imminent danger should be moved from the Project area, by hand, out of harm's way. Turtles which are not in imminent danger should be left undisturbed.
- Install and maintain a temporary turtle proof barrier, such as silt fence, to keep turtles out of soil stockpiles, gravel pads, and other areas of exposed soil, sand, or sediment during the nesting season (May 15 to July 15). The turtle proof barrier must be buried a minimum of ten inches and removed once construction is complete.
- Trenches should be checked every morning before construction activities begin and immediately prior to pits/trenches being backfilled.
- Limit erosion and sediment control to wildlife-friendly erosion control devices.
- Avoid hydro-mulch products that contain materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
- Sightings of any rare species during construction of activities should be reported to the DNR Nongame Wildlife specialist and the Proposer would follow the guidance that is received to avoid impacts.
- Culverts between wetland areas and nesting areas should be 36 inches or greater in diameter, and elliptical or flat-bottomed.
- Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).
- Roads should be ditched, not curbed or below grade. If curbs must be used, install wildlife friendly curbs to allow turtles to leave the road. Gutters and stormwater inlets should be designed to prevent turtles from entering the stormwater sewer. Reference "Curb Design and Small Animals (Chapter 1, Page 24) in Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001 (https://files.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004_0001_chapter1.pdf).
- Utility access and maintenance roads should be kept to a minimum to reduce road-kill potential.

Other avoidance, minimization, and mitigation measures that should be implemented to the extent feasible include:

- It is recommended that inspections for bats be conducted prior to the demolition/relocation of buildings within the Project area.
- Tree removal should avoid the bat pup rearing season from June 1 through August 15. If feasible,

[75] USDA National Invasives Species Information Center. undated-b. Best Management Practices. Available at: https://www.invasivespeciesinfo.gov/subject/best-management-practices. Accessed September 2024.
[76] DNR. 2024(c). Terrestrial Invasive Species. Available at: https://www.dnr.state.mn.us/invasives/terrestrial/index.html. Accessed September 2024.

conduct tree removal during the bat inactive season from November 15 to March 31.

- Native seed should be considered in revegetation plans within the Project area for areas not proposed to be mowed turf grass or impervious surface in order to provide suitable habitat for pollinator species, such as the RPBB and monarch butterfly, and to prevent the spread of invasive species and noxious weeds. Utilizing native seed mixes in revegetation plans may create a net positive in pollinator habitat compared to existing conditions.
- Herbicide, fungicide, and insecticide use within the Project area should be minimized to the extent practicable. If the application of these products is necessary during construction or operation within the Project area, then application should be limited to targeted outbreaks and would be targeted toward the nuisance species.
- Invasive species prevention measures should be implemented during construction to prevent the movement of invasive species on trucks, heavy equipment, off-highway vehicles, and equipment and tools to reduce the likelihood of introducing invasive species from off site. Measures may include requiring contractors and others working on site to arrive and leave with clean equipment free of visible plants, seeds, mud, and dirt clods. Other measures may include using weed-free seed and mulch products and avoiding the re-use of the top six inches of stockpiled materials (mulch, soil, gravel) that may contain more weed seeds.

15. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during Project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

To understand the archaeological context and previously conducted archaeological work within the Project area, Stantec reviewed the Minnesota State Historic Preservation Office (MnSHPO) previous survey report data as well as the Office of the State Archaeologist (OSA) Portal and the Minnesota State Historic Inventory Portal in November 2024. The literature search focused on previously identified cultural resources (archaeological sites and architectural properties) within or adjacent to the Project area. In addition, Stantec reviewed archival resources including General Land Office (GLO) maps, county atlases, the University of Minnesota Borchert Map Library, Trygg maps, and historical aerial imagery to identify potential cultural features in the Project area. The results of the literature review are provided in the associated survey report titled *An Archaeological Reconnaissance Survey of the DCM Farms Project* (Witt 2025) and summarized in relation to anticipated Project effects below.

The MnModel, available on the OSA online portal, shows that the Project is located largely within a well surveyed area with low site potential; however, smaller sections are mapped within a poorly surveyed area with unknown site potential and a well surveyed area with high site potential.

No previously conducted archaeological surveys overlap with the Project area. No previously recorded archaeological sites are located within or adjacent to the Project area. No previously identified burial sites/cemeteries are recorded within or adjacent to the Project area. No previously identified above-ground historic resources are recorded within or adjacent to the Project area.

As portions of the Project area yielded a high potential for archaeological sites, Stantec conducted an archaeological reconnaissance survey of the entire Project area on November 7, 2024. While an occupied residence and a farmstead with extant structures were identified in the Project area, the structures were not recorded as archaeological sites as no cultural materials were found in association.

No previously identified above ground historic resources within 1-mile of the Project area are listed on or eligible for the National Register of Historic Places (NRHP) based on the desktop review. During the Phase I Archaeological Survey, previously uninventoried structures, including an occupied residence and a farmstead with extant buildings, were identified within the Project area. No Project work is proposed to the occupied

residence, which lacks sufficient age for NRHP consideration. The farmstead and extant buildings are proposed to be demolished for the Project. Stantec recommends that the farmstead and extant buildings lacks sufficient integrity and significance to be listed in the NRHP.

Stantec recommends that no properties listed in the National or State Registers of Historic Places and no known or suspected archaeological properties in the area that will be affected by the Project. The survey report and Project review request was submitted to the MnSHPO for review on December 10, 2024. No further work is recommended should the Project proceed as planned. MnSHPO provided a response letter on January 3, 2024 concurring with a determination of no properties listed in the National or State Registers of Historic Places, or within the Historic Sties Network, will be affected by the Project. MnSHPO also determined that there are no known or suspected archaeological resources in the area that will be affected by the Project. Appendix G provides the MnSHPO concurrence letter.

Item 15 Mitigation Strategies

Archaeology

- Should archaeological materials be encountered during the construction of the Project, a professional archaeologist will be consulted. Similarly, if human remains are encountered during development, all work will stop and local law enforcement will be notified.
- Should the Project require federal financial assistance, or requires a federal permit or license, a Section 106 review would be required along with consultation with the MnSHPO.

Architectural

- Based on the preliminary desktop review, a historic architectural property survey was not recommended at this time. Should the Project require federal financial assistance, or requires a federal permit or license, a Section 106 review would be required along with consultation with the MnSHPO.

16. Visual

Describe any scenic views or vistas on or near the Project site. Describe any Project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the Project. Identify any measures to avoid, minimize, or mitigate visual effects.

The current land use in the Project area and adjacent properties consist primarily of agricultural and single family and attached residential homes, as well as a golf course, a retail area, and some undeveloped land. The Project area currently consists of an agricultural field with a farmstead along the southern border and a single-family home in the far northwest corner. The existing single family home in the northwest corner would remain post-construction of the Project. No designated scenic views or vistas are present in the vicinity of the Project area. The landscape immediately surrounding the Project area is currently being developed as low density and medium density residential uses. The primary visual impact would be the transition of views from agriculture to a primarily residential development with stormwater ponds and a few commercial, and retail facilities in the southeast. The Project would not include industries that would emit vapor plumes.

The Project would be required to adhere to the City of Dayton's ordinance requirements including building height and form, landscape screening, and lighting. The proposed Project would be consistent with the surrounding residential and commercial buildings and with the planned land uses in the area.

17. Air

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the Project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects

from stationary source emissions.

The Project does not propose heavy or light industrial uses that would have the potential to generate significant air emissions. The Project includes some potential commercial uses. These facilities may utilize natural gas and electric-powered equipment, which would emit low levels of greenhouse gas emissions (GHG) as well as hazardous air pollutants (HAPs) and criteria pollutants, such as nitrogen oxides (NOx), carbon monoxide (CO), sulfur dioxide (SO2), and particulate matter (PM). An inventory of potential electric and natural gas equipment to be installed as part of future development within the Project area is not known at this time. Generally, air emissions associated with commercial uses are relatively insignificant. It is not anticipated that the Project would require an air permit. However, future tenants would be responsible for confirming air permit applicability or exemption determinations based on the equipment to be installed with the facility prior to initiating construction.

The Project includes a gas station/convenience store with fuel pumps and would require the installation of underground fuel storage tanks. Gasoline and diesel fuel storage tanks generate low quantities of working and evaporative losses of volatile organic compounds (VOCs) and HAPS, typical of all retail fuel stations. Emissions primarily occur during vehicle fueling. Gasoline dispensing facilities are required to install vapor recovery systems to minimize emissions during tanker unloading.

A detailed quantitative analysis of stationary source emissions is not possible at this time. However, general estimates of potential emissions arising from the gas station operations and natural gas heating for the planned square footage of the development can be estimated. Table 15 presents estimated maximum potential emissions from the Project.

Table 15: Maximum Potential Emissions from Gas Station Fueling and Heating the Proposed Development

Pollutant	Emissions (tpy)		
	Gas Station	Heating	Total
PM	0.00	0.01	0.01
PM_{10}	0.00	0.01	0.01
$PM_{2.5}$	0.00	0.01	0.01
SO_2	0.00	9.28E-04	9.28E-04
NO_x	0.00	0.15	0.15
VOC	17.67	0.01	17.67
CO	0.00	0.13	0.13
Lead	0.00	7.73E-07	7.73E-07
Mercury	0.00	4.02E-07	4.02E-07
HAPS	Unknown	2.92E-03	2.92E-03

b. Vehicle emissions - Describe the effect of the Project's traffic generation on air emissions. Discuss the Project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Motorized vehicles affect air quality by emitting air borne pollutants. The changes in traffic volumes, travel patterns, and roadway access could affect air quality by changing the number of vehicles and the congestion levels in the Project area. Criteria pollutants identified by the U.S. Environmental Protection Agency (EPA) are ozone (O3), particulate matter (PM), carbon monoxide (CO), nitrogen dioxide (NO2), lead (Pb), and sulfur dioxide (SO2). The Project area is not located in an area of nonattainment or maintenance area for any of the criteria pollutants. The Project area is in attainment for all criteria pollutants. The Project would not include transportation improvement projects that would be considered regionally significant per 40 CFR Part 93. Therefore, no further air quality analysis is warranted.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and

odors generated during Project construction and operation. (Fugitive dust may be discussed under item 17a). Discuss the effect of dust and odors in the vicinity of the Project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The Project is not anticipated to produce dust or odors during operation but may generate temporary dust and odors during construction. Sensitive receptors would include residential developments to the west and south of the Project area, as well as a few single family residences to the north and east of the Project area.

Potential odors would likely be associated with exhaust from diesel engines and fuel storage. Dust generated during construction would be minimized through standard dust control measures such as applying water to exposed soils and limiting the duration of exposed soils to the extent possible. Construction contractors would be required to comply with the City's Ordinance requirements including but not limited to Title XV, Chapter 151 Land Disturbance and Erosion and Sediment Control[77] requirements. Dust levels, after construction is complete, would be minimal as all surfaces will be paved or revegetated. With these mitigation measures in place, the quality of life for nearby residences is not anticipated to be affected.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

a. GHG Quantification: For all proposed Projects, provide quantification and discussion of Project GHG emissions. Include additional rows in the tables as necessary to provide Project-specific emission sources. Describe the methods used to quantify emissions. If calculation methods are not readily available to quantify GHG emissions for a source, describe the process used to come to that conclusion and any GHG emission sources not included in the total calculation.

The Greenhouse Gas (GHG) emissions for the Project were calculated using the Simplified Greenhouse Gas Emissions Calculator (SGEC) tool and are based on the methodologies for developing a carbon footprint described in Minnesota Environmental Quality Board's (EQB's) EAW Guidance (June 2024).

Table 15 shows the emission categories for the proposed Project's carbon footprint calculations, as provided in the EQB Guidance.

Table 16. Emission Categories for Carbon Footprint

Category	Scope	Project Phase	Type of Emissions
Direct Emissions	Scope 1	Construction	Combustion (Mobile Sources)
	Scope 1	Operations	Combustion (Mobile Sources)
	Scope 1	Operations	Combustion (Stationary Sources)
Indirect Emissions	Scope 2	Operations	Off-site Electricity
	Scope 3	Operations	Off-site Waste Management

A description of the carbon footprint associated with the proposed Project is provided below.

Construction Emissions

GHG emissions from construction of the Project are associated with fuel combustion in the mobile construction equipment and on-road vehicles. For on-road vehicles (commuting construction workers, dump trucks and semi-trucks), emissions are calculated by estimating the number of vehicles, miles

[77] American Legal Publishing eCode ALP, 2024. *CHAPTER 151: LAND DISTURBANCE AND EROSION AND SEDIMENT CONTROL.* Available at: https://codelibrary.amlegal.com/codes/daytonmn/latest/dayton_mn_code/0-0-0-3829. Accessed December 2024.

traveled (estimated to be 20 miles per day for workers, 60 miles per day for heavy duty trucks), gallons of fuel used (using default mileage rates), and emission factors from the EPA's Emission Factors Hub[78].

For off-road vehicles, the quantity and horsepower of cranes, backhoes, loaders, bulldozers, excavators, and skid steers was estimated based on other similar development projects. The default fuel consumption rate of 0.05 gallons per horsepower-hour[79] is used to determine the fuel usage for all equipment. Similar to the on-road vehicles, emission factors from the Emission Factors Hub are used to calculate GHG emissions.

Per EQB's Revised EAW Guidance, total construction emissions are divided by the lifetime of the Project, estimated to be 50 years.

Operational Emissions – Mobile Sources

Average daily trips associated with each scenario are provided in Table 16.

Table 17. Average Trips per Day

Project Vehicle Types[1]	Trips /Day
Residential	2,518
Retail/Office/Daycare/Food Services	6,698
Delivery Vehicles	1,674

[1] Estimated based on traffic study in Item 21. Assumed 20% of non-residential vehicles are delivery vehicles.

For the Project, it is conservatively estimated that daily trips take place for 365 days a year for residential and 260 days per year (5 days per week, 52 weeks per year) for all other building types. The daily commute for workers is estimated to be 30 miles round trip. The same distance is assumed for heavy duty shipping trucks, 30 miles per trip.

Gas mileage for light duty vehicles (residents and workers) is estimated based on the U.S. Department of Transportation's Bureau of Transportation Average Fuel Efficiency for Light Duty Vehicles. Delivery trucks are assumed to be heavy-duty diesel trucks. Gas mileage for the diesel trucks is based on U.S. Department of Transportation, Federal Highway Administration data from 2022. GHG emissions associated with these trips are calculated using the Emission Factors Hub.

Operational Emissions – Stationary Combustion

The projected natural gas usage for the buildings associated with the Project is estimated using the U.S. Energy Information Administration's Commercial Buildings Energy Consumption Survey (CBECS, 2018). The CBECS provides natural gas intensities in standard cubic feet per square foot per year for several different building activity categories. Natural gas combustion GHG emissions are calculated using emission factors from the Emission Factors Hub.

Operational Emissions – Offsite Electricity Production

Similar to natural gas usage, electricity needs for the proposed buildings are estimated using the CBECS, which provides electricity usage intensity in kilowatt-hours per square foot of building space per year. GHG emissions occur offsite (Scope 2) when the electricity is generated. The SGEC tool calculates GHG emissions from electricity generation on a regional basis (defined by EPA using data from the EIA and the North American Electric Reliability Corporation (NERC)), using average emission factors based on the mix of fuels used to generate the electricity in each region. For the Project, the Midwest Reliability Organization West (MROW) region is used. The electricity generation in MROW is comprised of approximately 50 percent fossil fuels (coal and natural gas), 9 percent nuclear and approximately 40

[78] EPA, Emission Factors Hub. Accessed November 2024. https://www.epa.gov/climateleadership/ghg-emission-factors-hub
[79] CEQA. Based on South Coast Air Quality Management District CEQA Air Quality Handbook, Table A9-3E.

percent renewables (hydro, wind, and solar).

Operational Emissions - Waste Management

GHG emissions from waste management for the Project are associated with the waste generation estimates and how that waste is handled. For the Project, waste generation rates were used based on the CalRecycle's Estimated Solid Waste Generation Rates[80]. Table 18 below details the rates and total waste yields for each type of development. The Project yields a total of 886 tons of waste per year.

Table 18. Project Waste Estimations

Project Development Types	Waste Generation Factor	Annual Waste
Residential	12.23 pounds/unit/day	596 tons/year
Retail	0.046 pounds/square foot of building/day	100 tons/year
Convenience Store	0.046 pounds/square foot of building/day	84 tons/year
Corporate Offices/Bank	0.006 pounds/square foot of building/day	9 tons/year
Daycare	0.007 pounds/square foot of building/day	7 tons/year
Restaurant	1 pound/seat/day	63 tons/year
Coffee Shop	1 pound/seat/day	27 tons/year

GHG emissions for each waste management type are estimated based on emission factors from the EPA's Waste Reduction Model (WARM).

Summary

A summary of GHG emissions is provided in Table 18. Emissions are presented in tons per year of carbon dioxide equivalent, which takes into account each GHG's global warming potential (GWP). Detailed emission calculations are provided in Appendix H.

Table 19. GHG Emissions Summary (CO2e in short tons per year)

Scope	Source	Project Emissions
Direct Emissions		
Scope 1	Construction – Mobile Sources[1]	474
Scope 1	Operations – Mobile Sources	51,246
Scope 1	Operations – Stationary Combustion	1,612
Indirect Emissions		
Scope 2	Operations – Purchased Electricity	4,684
Scope 3	Off-Site Waste Management	461
Atmospheric Removals of GHGs		
Scope 1 - Sinks	Land Use (CO2 Removals to Terrestrial Storage)	96
Total		**58,477**

[1]*Note that construction emissions are annualized over the life of the project, estimated to be 50 years.*

[80] CalRecycle (27)

b. GHG Assessment

i. Describe any mitigation considered to reduce the Project's GHG emissions.

The following possible activities may be considered to help mitigate the Project's GHG emissions:

- Maintaining as many existing trees as possible.
- Energy-efficient lighting in buildings and parking lots.
- Use of energy-efficient building materials.
- Installation of energy-efficient appliances, windows and heating, ventilation, and air conditioning (HVAC) units.
- Use of programmable thermostats.
- Use of renewable energy sources and electric/hybrid vehicles.
- The City would work with Proposer during the Project planning and permitting processes to encourage opportunities to incorporate renewable energy when feasible.

ii. Describe and quantify reductions from selected mitigation, if proposed to reduce the Project's GHG emissions. Explain why the selected mitigation was preferred.

Use of energy-efficient building materials and lighting was selected as opportunities to reduce GHG emissions. These options allow for flexibility in planning.

iii. Quantify the proposed Projects predicted net lifetime GHG emissions (total tons/#of years) and how those predicted emissions may affect achievement of the Minnesota Next Generation Energy Act goals and/or other more stringent state or local GHG reduction goals.

The lifetime for the Project is estimated at 50 years. Thus, the conservative estimate of lifetime emissions associated with the Project is approximately 2,923,830 tons. The Project's GHG emissions would have minimal effect on the State of Minnesota's or the local area's GHG reduction goals.

The City would work with the Proposer during the project planning and permitting processes to encourage opportunities to incorporate renewable energy when feasible.

19. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during Project construction and operation. Discuss the effect of noise in the vicinity of the Project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

1) Existing noise levels/sources in the area

Existing noise sources include vehicle traffic along County Road 202, Fernbrook Lane, 113th Avenue North, and other connecting local roadways. Other existing noise sources would include noise generated by agricultural operations and equipment to the north and east of the Project area.

2) Nearby sensitive receptors

The majority of the Project area consists of agricultural land. Nearby sensitive receptors would include residential developments to the north, west, and south of the Project area.

3) Conformance to State noise standards

The State of Minnesota's noise rules (Minn. Rules Ch. 7030)[81] establish noise limits by noise area

[81] More information on Minnesota Noise rules, Minn. Rules Ch. 7030, may be found at: https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf

classifications (NACs) based on land use at the location of the person that hears noise. Table 19 identified state noise standards for each NAC.

The L10 calculation is the noise level that is exceeded for 10 percent, or 6 minutes, of the hour, and the L50 calculation is the noise level exceeded for 50 percent, or 30 minutes, of the hour. There is no limit on maximum noise.

The statutory limits for a residential location are L10 = 65 dBA and L50 = 60 dBA during the daytime (7:00 a.m. – 10:00 p.m.) and L10 = 55 dBA and L50 = 50 dBA during the nighttime (10:00 p.m. – 7:00 a.m.). This means that during the one-hour period of monitoring, daytime noise levels cannot exceed 65 dBA for more than 10 percent of the time or 60 dBA more than 50 percent of the time.

Table 20. Noise Area Classifications

NAC	Common land use associated with the Noise Area Classification	Daytime (dBA)		Nighttime (dBA)	
		L_{10}	L_{50}	L_{10}	L_{50}
1	Residential housing, religious activities, camping and picnicking areas, health services, hotels, educational services	65	60	55	50
2	Retail, business and government services, recreational activities, transit passenger terminals	70	65	70	65
3	Manufacturing, fairgrounds and amusement parks, agricultural and forestry activities	80	75	80	75

NACs are based on the land use at the location of the person who hears the noise, which does not always correspond with the zoning of an area. Therefore, noise from an industrial facility near a residential area is held to the NAC 1 standards if it can be heard on a residential property.

Given that the Project proposes residential and commercial uses, it is not anticipated that the Project would generate operational noise that would exceed state noise standards.

4) Quality of life

Varying degrees of noise can be expected during the construction period. Anticipated noise sources are primarily construction equipment and normal construction activities. Table 21 below highlights the estimated noise levels for typical construction equipment.

Table 21. Estimated Noise for Typical Construction Equipment

Equipment	Impact Device (Yes/No)	Spec 721.560[1] Lmax dBA[2]	Actual Lmax dBA[2]	No. of Actual Data Samples
Backhoe	No	80	78	372
Front loader	No	80	79	96
Dozer	No	85	82	55
Dump truck	No	84	76	31
Excavator	No	85	81	170
Grader	No	85	N/A	0
Scraper	No	85	84	12
Impact Pile driver	Yes	95	101	11

[1]Construction Noise Control Specification 721.560, Central Artery/Tunnel Project, Massachusetts Turnpike Authority, Boston, MA, 2002.
[2]Noise levels listed represent the A-weighted maximum sound level (Lmax), measured at a distance of 50 feet from the construction equipment.

High impact noise, such as pile driving, may be required during construction. Pile driving equipment results in the highest peak noise level. High impact noise construction activities would be limited in duration to the greatest extent possible and avoided during night-time hours. Mitigative measures would include standard mufflers on engine driven equipment and possible ear protection as necessary for workers engaged in demolition or other short-term noise intensive activities.

A minimal increase in noise is expected during operation of the commercial development, however, given that the proposed use is office/retail/food services/daycare, operational noise is anticipated to be minimal. Traffic generated by the Project is not expected to generate noise to a degree with would exceed noise standards or diminish quality of life for individuals living or working in the surrounding area.

20. Transportation

a. Describe traffic-related aspects of Project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

1) Existing and proposed parking spaces

Currently, there are no formal parking areas within the Project area. Future commercial uses would be required to comply with parking requirements pursuant to Section 1001.19 of the City of Dayton's Zoning and Subdivision Ordinance.

2) Estimated total average daily traffic generated

Total average daily traffic generated by the Project is estimated to be 10,890 trips per day.

3) Estimated maximum peak hour traffic generated and time of occurrence

The estimated maximum peak hour traffic generated by the Project is estimated to be 1,123 trips during the a.m. peak hour (7:30 a.m. to 8:30 a.m.).

4) Source of trip generation rates

Trip Generation, Eleventh Edition, published by the Institute of Transportation Engineers was used to develop trip generation estimates.

5) Availability of transit and/or other alternative transportation modes

No transit routes are present in the vicinity of the Project area. A multi-use trail exists on the south side of Rush Creek Parkway.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the Project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance.

A complete Traffic Impact Study with existing and future volumes is included in the Appendix. This appendix includes relevant figures including existing traffic volumes, future peak traffic volumes, proposed development layout, and access locations.

The study examined weekday a.m. and p.m. peak hour traffic impacts of the proposed project at the

following intersections:

- Fernbrook Lane/117th Avenue
- Fernbrook Lane/114th Avenue
- Fernbrook Lane/Rush Creek Parkway
- 117th Avenue/E. French Lake Road
- Territorial Road/Rush Creek Parkway

Capacity analysis results are presented in terms of level of service (LOS), which is defined in terms of traffic delay at the intersection. LOS ranges from A to F. LOS A represents the best intersection operation, with little delay for each vehicle using the intersection. LOS F represents the worst intersection operation with excessive delay. In accordance with MnDOT traffic study guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations. Table 22 and Table 23 summarize the results of the intersection operations analysis for the year 2030 and 2040 conditions, respectively.

Table 22.Year 2030 No Build and Build Intersection Operations Analysis

Intersection	Traffic Control	2030 No Build LOS		2030 Build LOS	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Fernbrook Ln/117th Ave	EB/WB stop	A/C	A/F	A/C	A/F
Fernbrook Ln/114th Ave	Roundabout	A/A	A/B	A/B	A/B
Fernbrook Ln/Rush Creek Pkwy	EB/WB stop	B/F	E/F	F/F	F/F
117th Ave/E. French Lake Rd	All-way stop	A/A	A/A	A/A	A/A
Territorial Rd/Rush Creek Pkwy	WB stop	A/A	A/A	A/A	A/B

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

2030 No-Build

All intersections operate at LOS B or better during the a.m. peak hour. At Fernbrook Lane/Rush Creek Parkway, the westbound movements operate at LOS F. All other movements operate at LOS D or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS E. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS B or better.

2030 Build

All intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A during the a.m. peak hour. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS C or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through movements operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS C or better.

Table 23. Year 2040 No Build and Build Intersection Operations Analysis

Intersection	Traffic Control	2040 No Build LOS		2040 Build LOS	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Fernbrook Ln/ 117th Ave	EB/WB stop	A/C	A/**F**	A/D	A/**F**
Fernbrook Ln/ 114th Ave	Roundabout	A/A	A/B	A/B	A/B
Fernbrook Ln/Rush Creek Pkwy	EB/WB stop	C/**F**	**F/F**	**F/F**	**F/F**
117th Ave/E. French Lake Rd	All-way stop	A/A	A/A	A/A	A/A
Territorial Rd/Rush Creek Pkwy	WB stop	A/A	A/A	A/A	A/B

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

2040 No-Build

All intersections operate at LOS C or better during the a.m. peak hour. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through movements operate at LOS E and the westbound movements operate at LOS F. All other movements operate at LOS C or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through movements operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS B or better.

2040 Build

All intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A during the a.m. peak hour. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS D or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS C or better.

c. Identify measures that will be taken to minimize or mitigate Project related transportation effects.

Based on the traffic forecasts and operations analysis for each intersection, the following mitigation measures are recommended:

- Fernbrook Lane/117th Avenue - Monitor intersection operations as additional development occurs to determine if intersection control changes are needed.
- Fernbrook Lane/114th Avenue - Construct intersection with roundabout control.
- Fernbrook Lane/Rush Creek Parkway – Install traffic signal control or roundabout control.
- 117th Avenue/E. French Lake Road – No improvements needed.
- Territorial Road/Rush Creek Parkway – No improvements needed.

21. Cumulative Potential Effects

(Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. Describe the geographic scales and timeframes of the Project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Construction of the Project is anticipated to begin in the summer of 2025 and be completed by the summer of 2027. The construction timeline is subject to change and would ultimately be driven by market demand.

b. Describe any reasonably foreseeable future Projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed Project within the geographic scales and timeframes identified above.

The following resources were used to complete review of any reasonably foreseeable future projects near the Project area, and the interaction of potential environmental effects:

- Minnesota EQB Environmental Review Projects Database[82] (accessed November 19, 2024)
- City of Dayton Development Map[83] (accessed November 19, 2024)
- City of Dayton Current EAWs[84] (accessed November 19, 2024)
- City of Dayton City Park Improvements[85] (accessed November 19, 2024)
- City of Maple Grove Development Projects Map[86] (accessed November 19, 2024)
- Hennepin County Transportation Studies and Future Projects[87] (accessed November 19, 2024)

EQB Projects Database

A review of the EQB's project database identified one project currently completing the State environmental review processes in the City of Dayton.

The Parkway Neighborhood

- *Development Location:* The project is located southwest of I-94 and Dayton Parkway in the City of Dayton, approximately two miles southwest from the DCM Farms Project area.
- *Project Description:* The Parkway Neighborhood is a residential development proposed on approximately 67.29 acres. The project will include 650 medium/high-density residential units and a commercial parcel with a convenience store, gas station/car wash, and service retail building(s). The project would include a connection to the Rush Creek Regional Trail, a recreational area, internal roads, parks, and stormwater features.
- *Schedule:* Project construction is anticipated to be completed in several phases beginning in the fall of 2024 and lasting approximately 5 years.

City of Dayton Developments

Brayburn Trails

- *Development Location:* The project is located south of 117th Avenue N and east of E French Lake Rd in the City of Dayton. The southeast corner of the Brayburn Trails neighborhood touches the

[82] EQB, undated. *Environmental Review Projects Interactive Map*. Available at: https://pca-gis02.pca.state.mn.us/EQB/. Accessed November 2024.
[83] City of Dayton, 2022(b). *Development Map*. Available at: https://cityofdayton.wpenginepowered.com/wp-content/uploads/2019/07/Developments-Map-2022.pdf. Accessed November 2024.
[84] City of Dayton, undated. *EAW Page*. Available at: https://cityofdaytonmn.com/resources/eaw/ Accessed November 2024.
[85] City of Dayton, 2024(b). *Park Improvement Projects*. Available at: https://cityofdaytonmn.com/city-projects/park-improvement-projects/. Accessed November 2024.
[86] City of Maple Grove, 2024. *Development Projects Interactive Map*. Available at: https://storymaps.arcgis.com/stories/beb22deee5ee41e0b6b249b79b465e6d Accessed November 2024.
[87] Hennepin County, undated. *Studies and Future Projects*. Available at: https://www.hennepin.us/residents/transportation/studies-future-projects. Accessed November 2024.

northwest corner of the DCM Farms Project area.

- *Project Description:* The project is a residential development consisting of 256 single-family homes.
- *Schedule:* Under construction

Sundance Greens

- *Development Location:* The project is located south of 113th Ave N and west of Fernbrook Lane N in the City of Dayton. It borders the southern boundary of the DCM Farms Project area.
- *Project Description:* The project is a residential development.
- *Schedule:* Under construction

Brayburn East

- *Development Location:* The project is located south of 117th Ave N and east of the Brayburn Trails neighborhood in the City of Dayton. It borders the northern boundary of the DCM Farms Project area.
- *Project Description:* The project is a residential development.
- *Schedule:* Under construction

Area 21 Park

- *Development Location:* The project is located south of 117th Ave N and is an assemblage of lots from 4 developments including Brayburn Trails, Brayburn East, Sundance Greens, and the DCM Farms proposed Project.
- *Project Description:* The proposed project is the development of a neighborhood park including features such as a play area, sport courts, a ball field, trails, and native prairie open space.
- *Schedule:* Construction is anticipated to begin in April 2025 with completion anticipated by October 2025.

Dayton Mixed-Use

- *Development Location:* The project is located north of County Road 81 near the future intersection of French Lake Road W and Dayton Parkway, in the City of Dayton, approximately one and a quarter mile west from the DCM Farms Project area.
- *Project Description:* The project includes development of five commercial buildings totaling 130,00 square feet and one 200,000 square foot industrial building on approximately 28.81 acres. The project would include access road improvements, parking areas, and stormwater improvements.
- *Schedule:* Construction is anticipated to begin in 2024 and last several years.

City of Maple Grove Developments

Rush Hollow

- *Development Location:* The project is located north of County Road 81 and west of Fernbrook Lane N, in the City of Maple Grove, approximately three quarters of a mile south of the DCM Farms proposed Project.
- *Project Description:* The project includes development of 234 detached homes, 230 townhomes, and 110 senior living apartments on 148 acres of land. The development will also include new roads, trails, stormwater management, and connection to city utilities.
- *Schedule:* The project is currently under construction.

c. Discuss the nature of the cumulative potential effects and summarize any other available

information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Agricultural Land

The Project would convert existing agricultural land to a primarily residential development with a small commercial development. Planned developments in surrounding areas may also convert agricultural land to other land uses. The City of Dayton guides development through the City's land use plan and zoning codes. The Project is mostly consistent with the City's 2040 Comprehensive Plan, which identifies the Project area and adjacent properties for future residential development. An amendment to the 2040 Comprehensive Plan would be made to include the commercial area proposed in the southeastern corner of the Project area. The Project area would also be rezoned from agricultural district to single family and attached residential. The City of Dayton through their land use policies and zoning requirements, regulates future development and can protect agricultural land from future development as appropriate. Therefore, adverse cumulative impacts to agricultural land are not anticipated.

Wetlands

As described in Item 12, it is anticipated that the Project would impact an approximately 1,090 square foot wetland. The proposed wetland impact would not require a Wetland Replacement plan or compensatory mitigation, as the Project's impact total falls below the replacement thresholds of WCA and Section 404. Potential wetland impacts would be confirmed during final design and permitting of the Project. Planned development in the vicinity of the Project may also impact wetlands in the surrounding area. Wetlands are protected by state and federal laws, Section 404 of the Clean Water Act and WCA, which require avoidance of wetland impacts when possible, and when avoidance is not possible, impacts must be minimized and mitigated. Adverse cumulative impacts to wetlands are not anticipated given the federal and state regulations that mandate avoidance, minimization, and mitigation requirements for wetland impacts.

Stormwater

The Project would convert agricultural land into a residential development, which would increase impervious surfaces compared to existing conditions. As discussed in Item 12, the proposed additional impervious surface area is expected to result in higher runoff rates and volumes, compared to the existing conditions, and there may also be a change in pollutants in the runoff. Other proposed developments in the area resulting in the conversion of agricultural and rural residential land to residential, commercial and industrial developments would result in similar changes. These future developments would be required to implement stormwater BMPs to mitigate stormwater runoff impacts in accordance with all City, ECWMC, and MPCA approval and permitting requirements. Therefore, adverse cumulative impacts to water quality and quantity are not anticipated.

Public Infrastructure

As discussed in Item 12, water supply for the Project would be provided through an agreement with the City of Maple Grove. The Project proposes residential and commercial developments has been planned for in the City's Water Supply and Sewer Plans.

As discussed in Item 12, sewer and watermain improvement would be required to provide services to the Project. The City of Dayton regulates future development through its land use policies and zoning requirements. Therefore, adverse cumulative impacts related to public infrastructure are not anticipated.

Transportation/Traffic

A Traffic Impact Study for the Project was completed that incorporate future traffic growth and recommended mitigation measure to address traffic Impacts (Appendix I). Future developments in the surrounding area that are anticipated to increase traffic congestion, would be required to complete a traffic impact study and identify mitigation measures to address these impacts. Therefore, adverse cumulative impacts related to traffic congestion are not anticipated.

22. Other Potential Environmental Effects

If the Project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No other potential environmental effects are anticipated that are not addressed by Items 1 through 21.

RGU CERTIFICATION

*(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

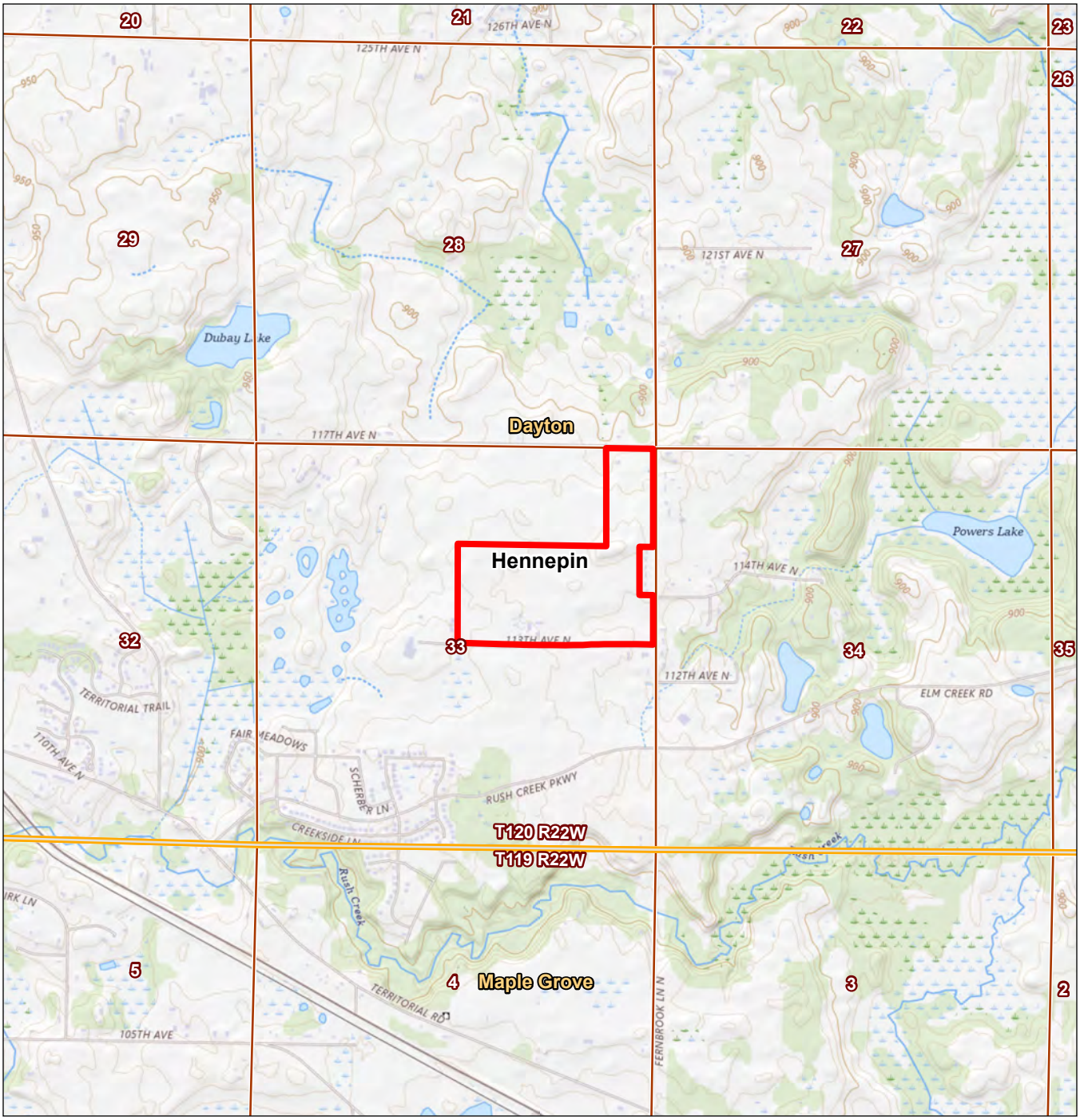
- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete Project; there are no other Projects, stages or components other than those described in this document, which are related to the Project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

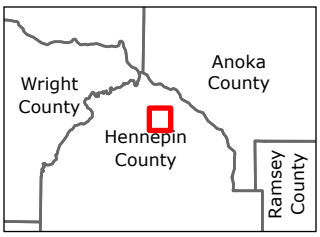
Signature  Date January 2, 2025

Title Community Development Director

Appendix A

Figures





Legend

- Project Area
- County Subdivision
- Township/Range & Section
- Sections

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

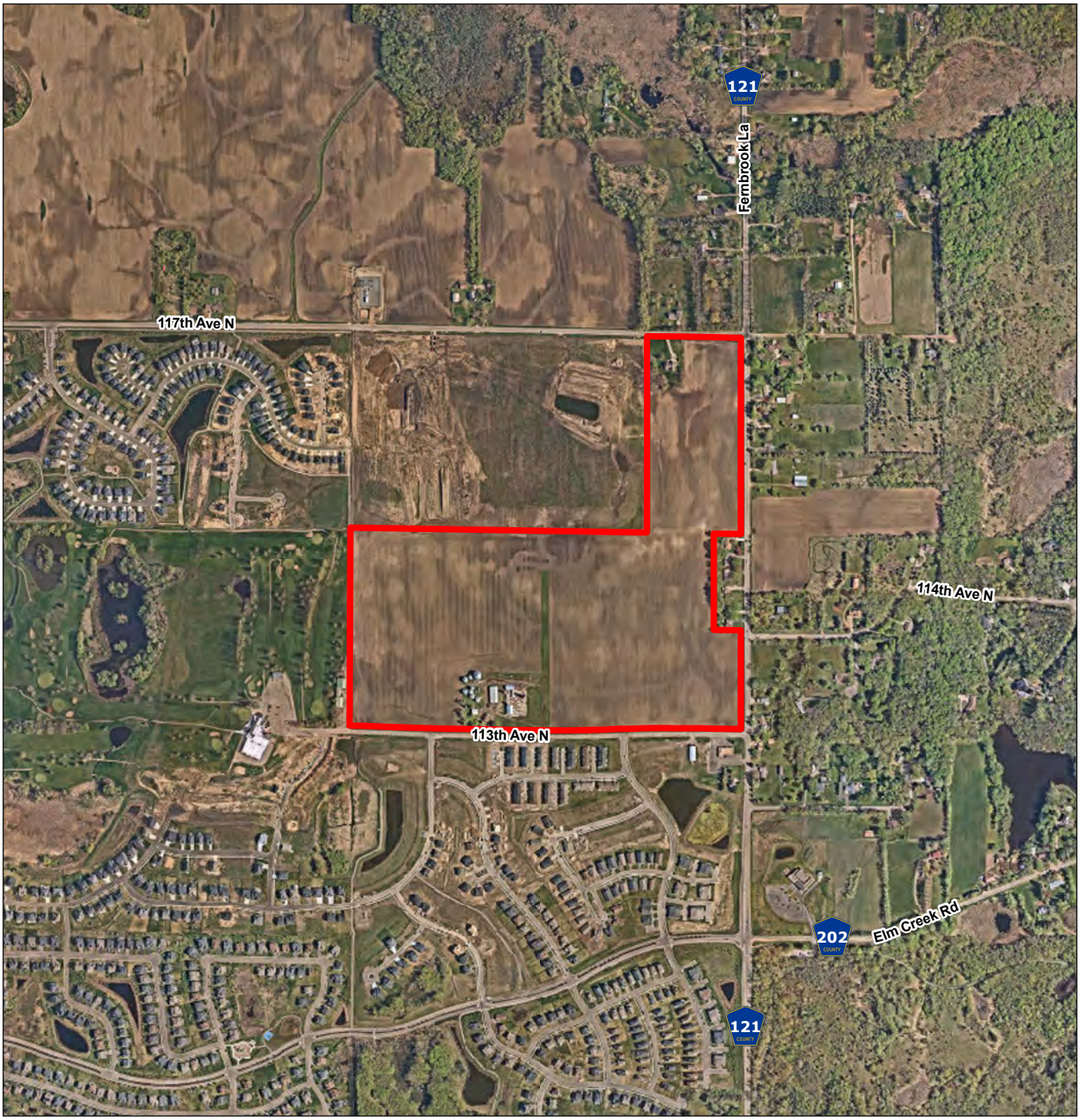
227704103

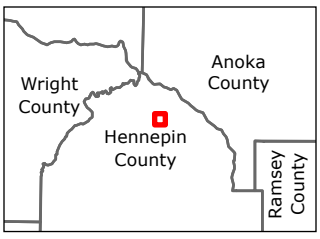
Figure No.
1

Title
USGS Project Location

Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: USGS, Stantec
3. Background: USGS 7.5 Minute Quadrangle

U:\227\227704103\03_data\gis_cad\gis\ArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley





Legend

Project Area

0 500 1,000 Feet

(At original document size of 8.5x11)
1:12,000

N

Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: Hennepin County, Stantec
3. Background: Hennepin County Aerial, 2024

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

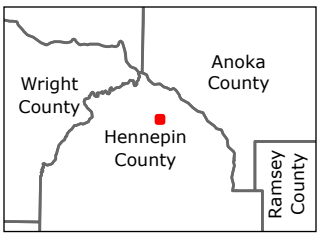
Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
2

Title
Aerial Project Location



Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: UMN, Stantec
3. Background: TCMA 1-Meter Land Cover

Legend
- Project Area

TCMA Land Cover 2016
- Grass/Shrub
- Buildings
- Roads/Paved Surfaces
- Lakes/Ponds
- Deciduous Tree Canopy
- Coniferous Tree Canopy
- Agriculture
- Emergent Wetlands
- Forest/Shrub Wetland

0 250 500 Feet
(At original document size of 8.5x11)
1:6,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
3

Title
Existing Land Cover

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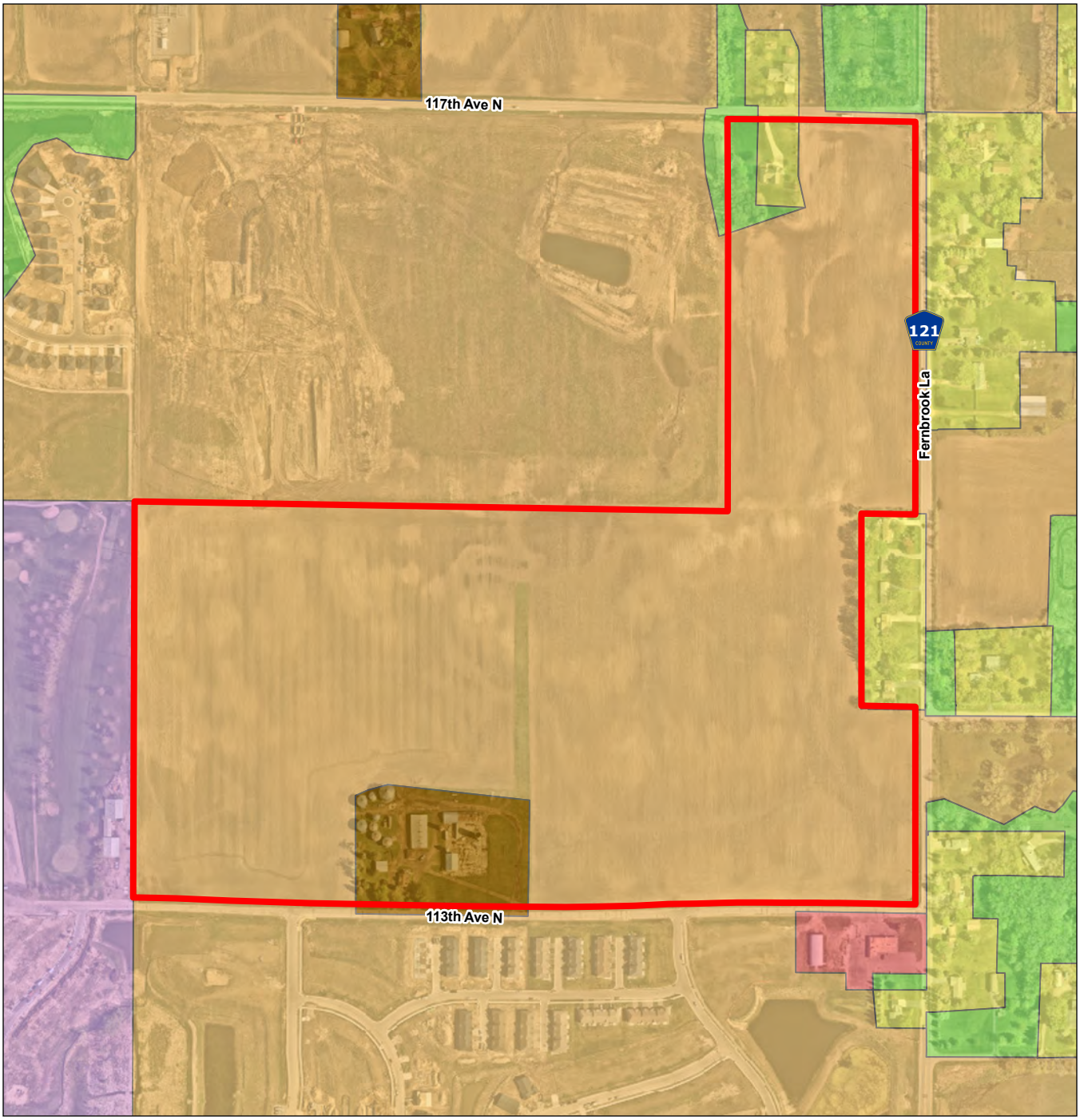
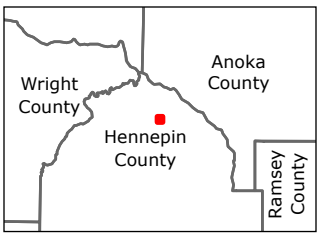




Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: Met. Council, Stantec
3. Background: Hennepin County Aerial, 2024

Legend
- Project Area

Generalized Land Use 2020
- Agricultural
- Farmstead
- Golf Course
- Retail and Other Commercial
- Single Family Detached
- Undeveloped

0 250 500 Feet
(At original document size of 8.5x11)
1:6,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

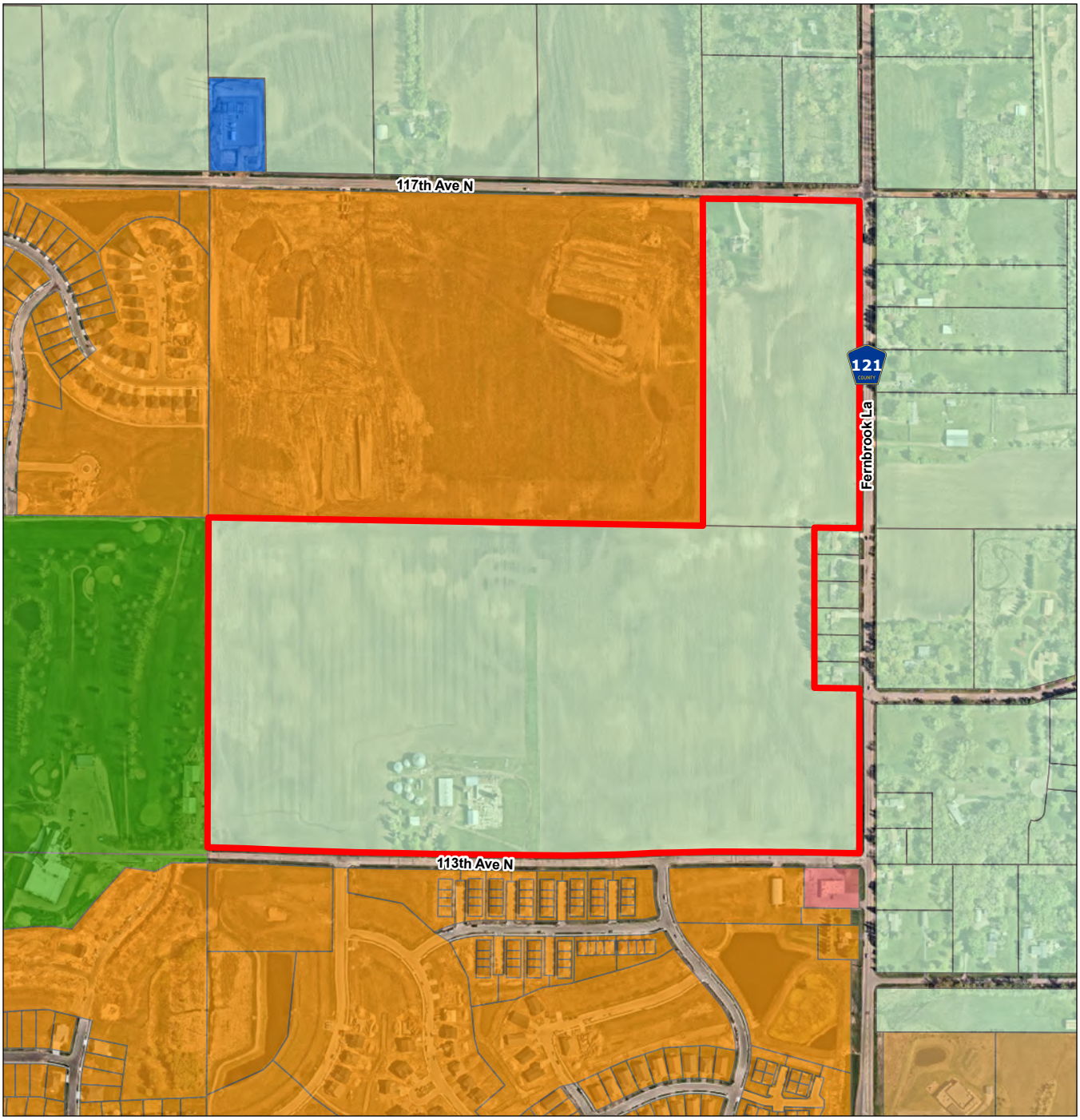
227704103

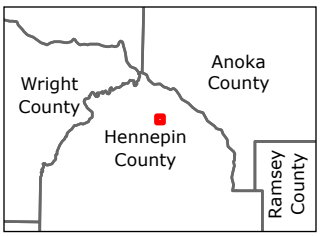
Figure No.
4

Title
Existing Land Use

Page 1 of 1

U:\227\227704103\03_data\gis_cad\gis\ArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley





Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: City of Dayton, Stantec
3. Background: Hennepin County Aerial, 2024

Legend

- Project Area

City of Dayton Zoning Districts

- A-1 Agricultural District
- B-2 Neighborhood Business District
- ES Essential Service District
- P-R Public Recreation District
- R-1 Single Family District
- R-3 Single Family and Attached Residential

0 250 500 Feet
(At original document size of 8.5x11)
1:7,200

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

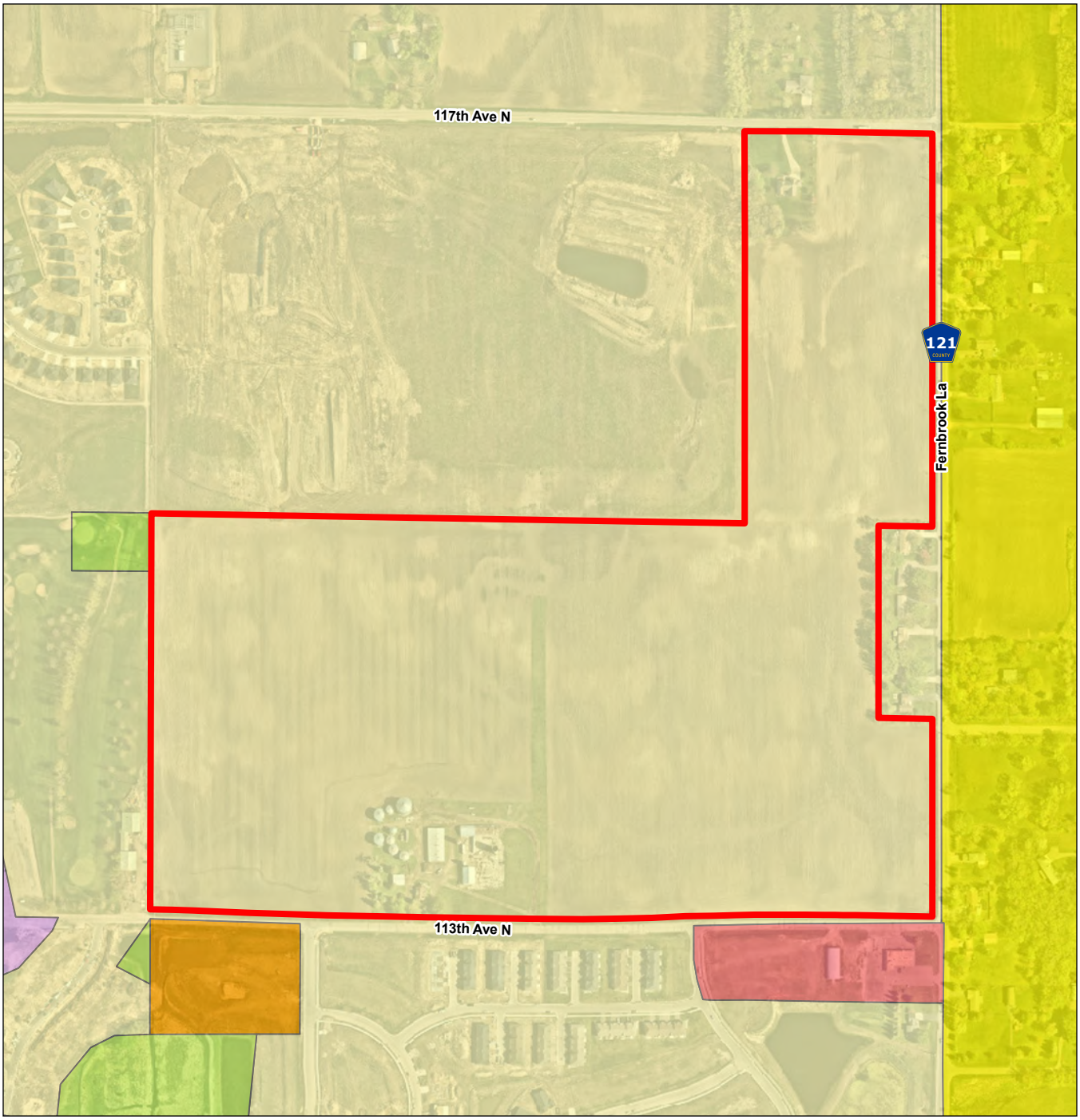
227704103

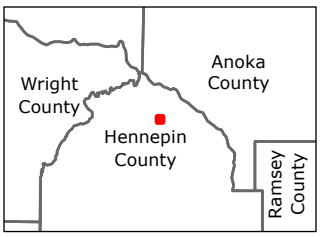
Figure No.
5

Title
Zoning

Page 1 of 1

U:\227\227704103\03_data\gis_cad\gis\ArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley





Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: Met. Council, Stantec
3. Background: Hennepin County Aerial, 2024

Legend

- Project Area

Planned Land Use

- High Density Residential
- Medium Density Residential
- Low Density Residential
- Golf Course
- Neighborhood Commercial
- Park and Open Space

0 250 500 Feet

(At original document size of 8.5x11)
1:6,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
6

Title
Planned Land Use

Page 1 of 1

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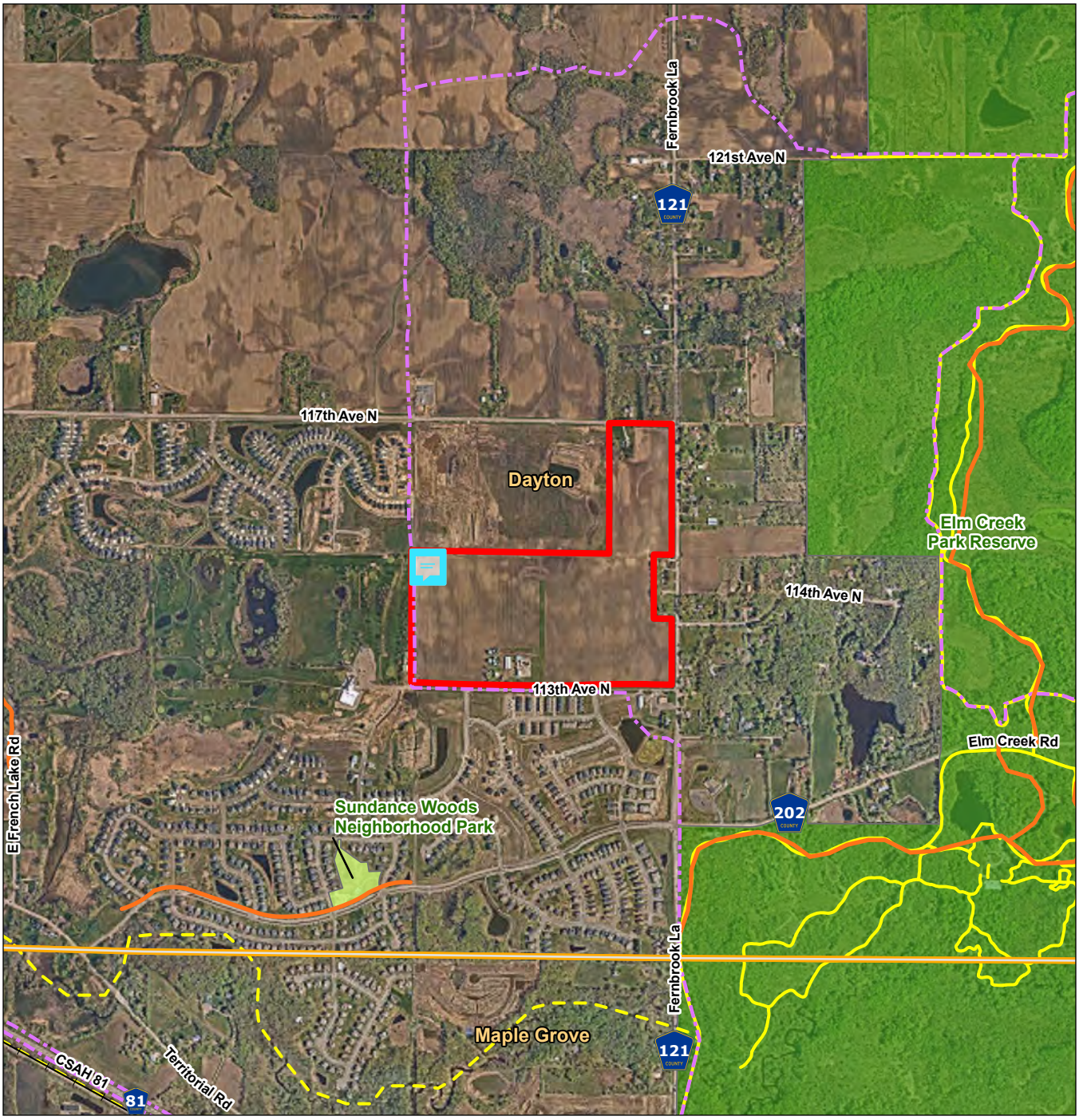

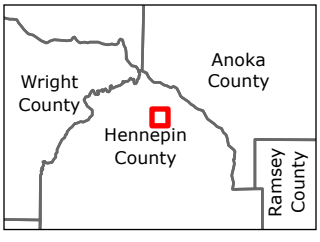

Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: City of Dayton, MnDNR, MnDOT, Met. Council, MetroGIS, Stantec
3. Background: Hennepin County Aerial, 2024

Legend
- Project Area
- Municipal Boundary
- City of Dayton Parks
- Metro Region Parks
- Railroads
- Snowmobile Trails
- City of Dayton Trails

Metro Region Trails/Bikeways
- Planned
- Existing

0 750 1,500 Feet
(At original document size of 8.5x11)
1:18,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
7

Title
Parks and Trails

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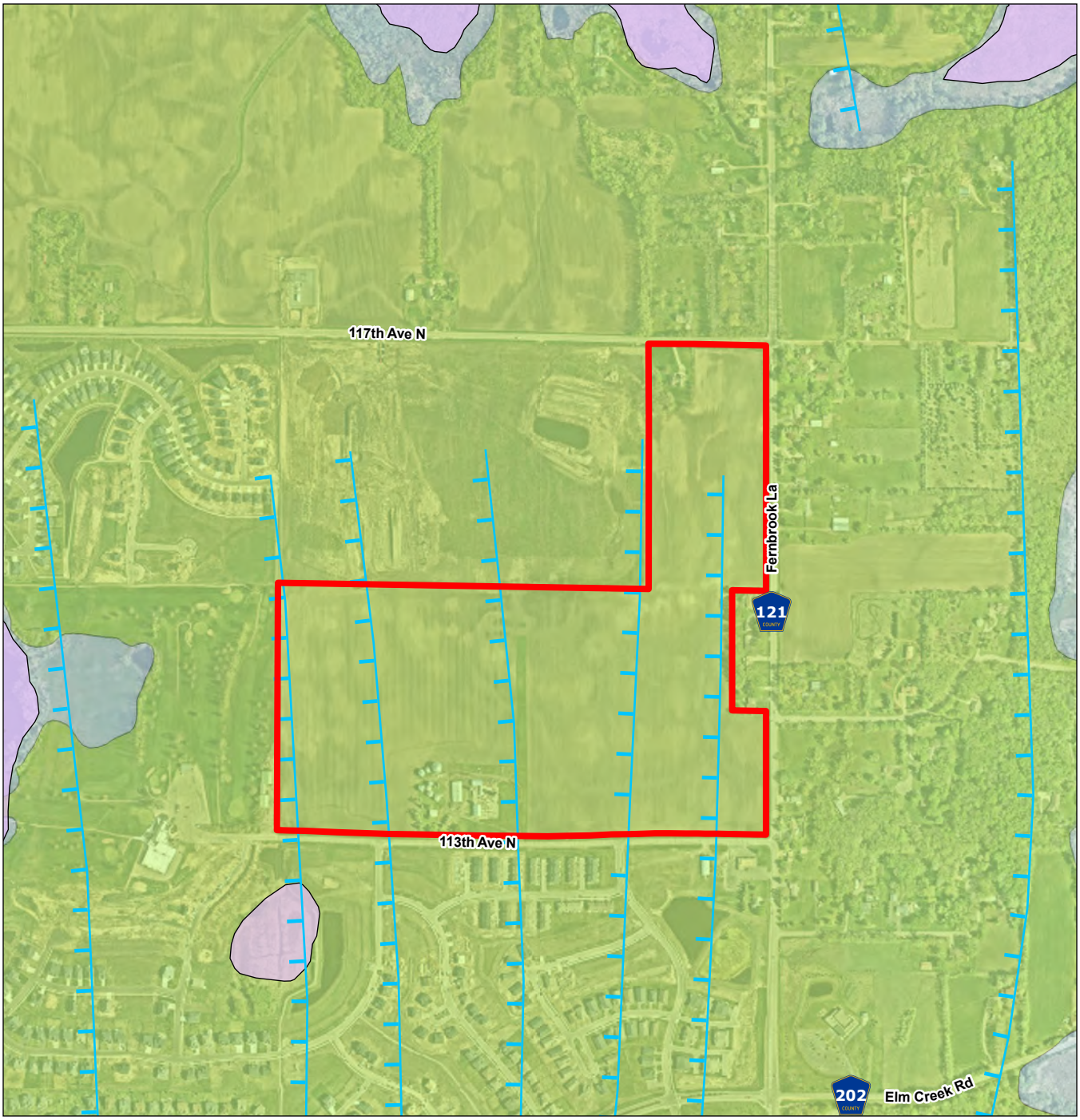

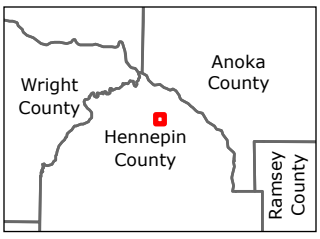

Legend

- Project Area

Hennepin Co. Surficial Geology

- QI, Organic clayey silt to sand
- Qht - New Ulm Fm, Heiberg till
- Peat
- Ice Margin

0 400 800 Feet

(At original document size of 8.5x11)
1:9,600

N

Stantec

Notes

1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: MGS, Stantec,
3. Background: Hennepin County Aerial, 2024

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
8

Title
Surficial Geology

Page 1 of 1

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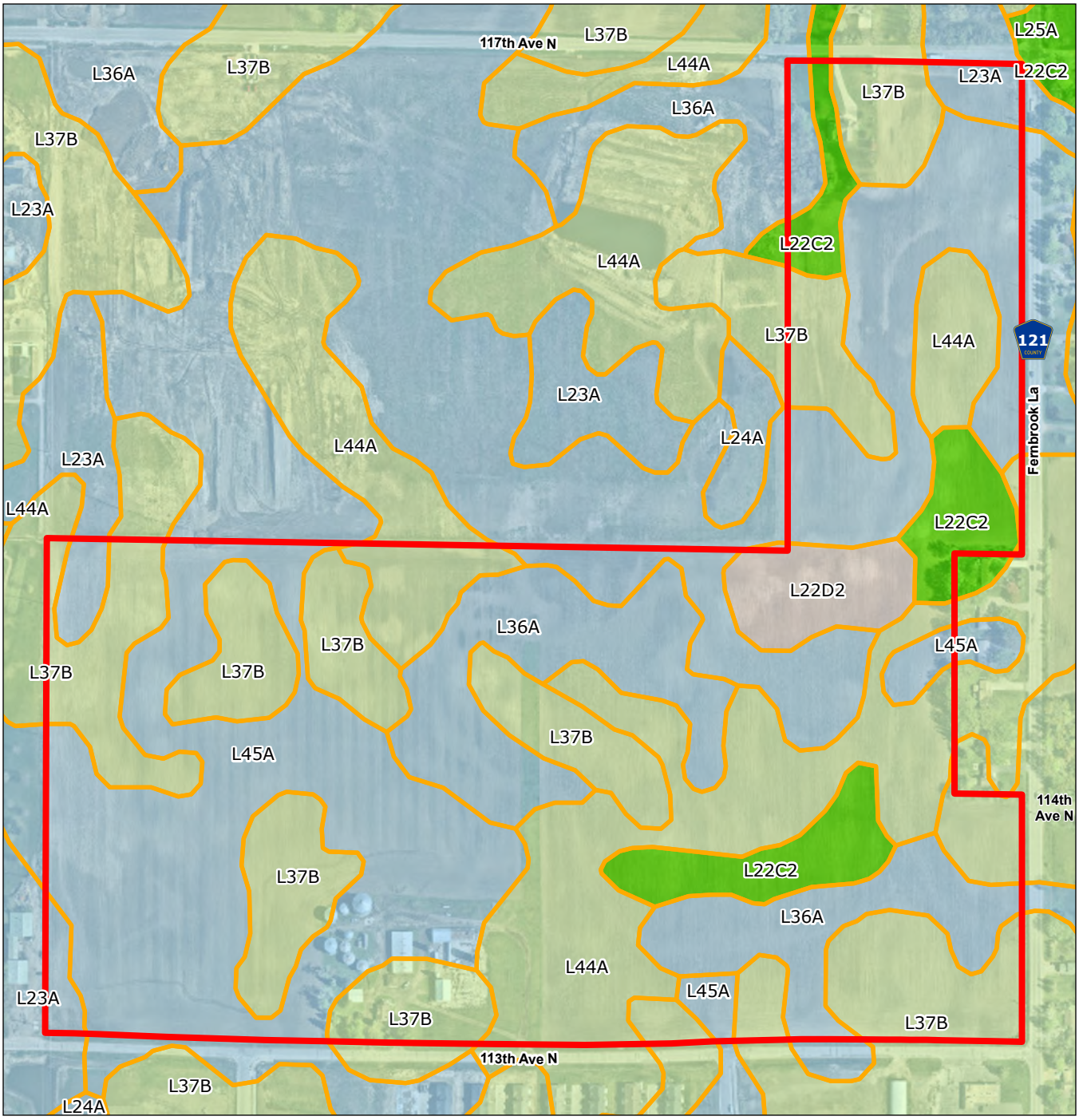

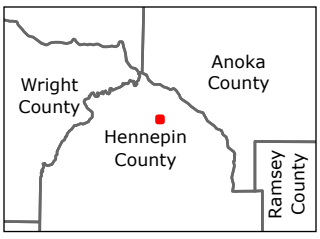

Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: NRCS, Stantec
3. Background: Hennepin County Aerial, 2024

Legend
- Project Area
- Soil Map Unit

Farmland Classification
- All areas are prime farmland
- Farmland of statewide importance
- Not prime farmland
- Prime farmland if drained

0 200 400 Feet
(At original document size of 8.5x11)
1:4,800

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
9

Title
Soil and Farmland Classification

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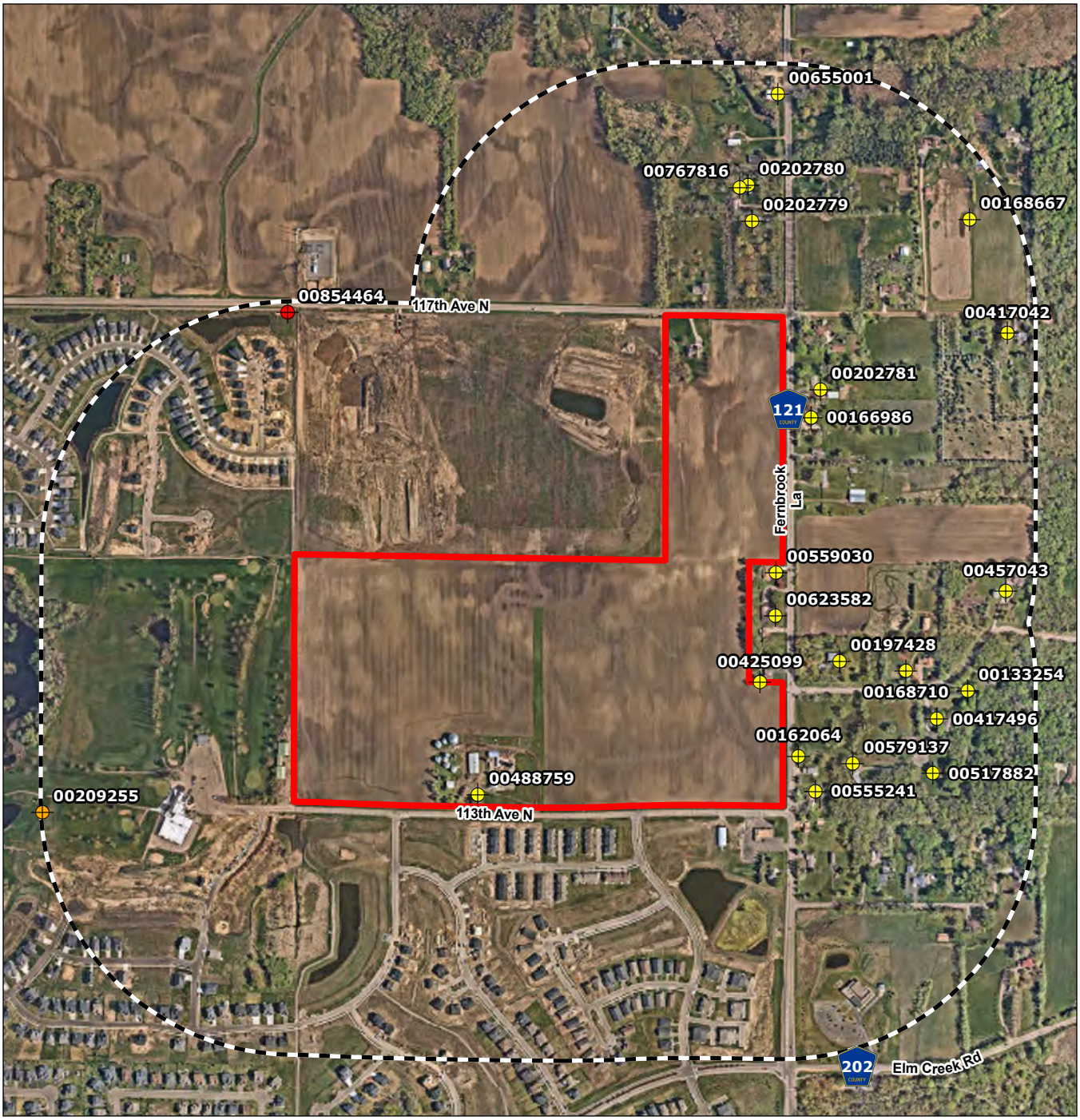
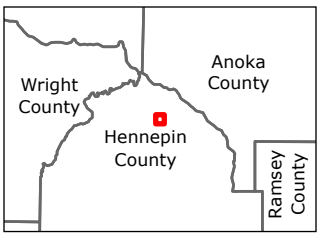




Legend

- Project Area
- 1/4 Mile Buffer

Minnesota Well Index

- Domestic Well
- Irrigation Well
- Thermometer Well

0 400 800 Feet

(At original document size of 8.5x11)
1:9,600

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

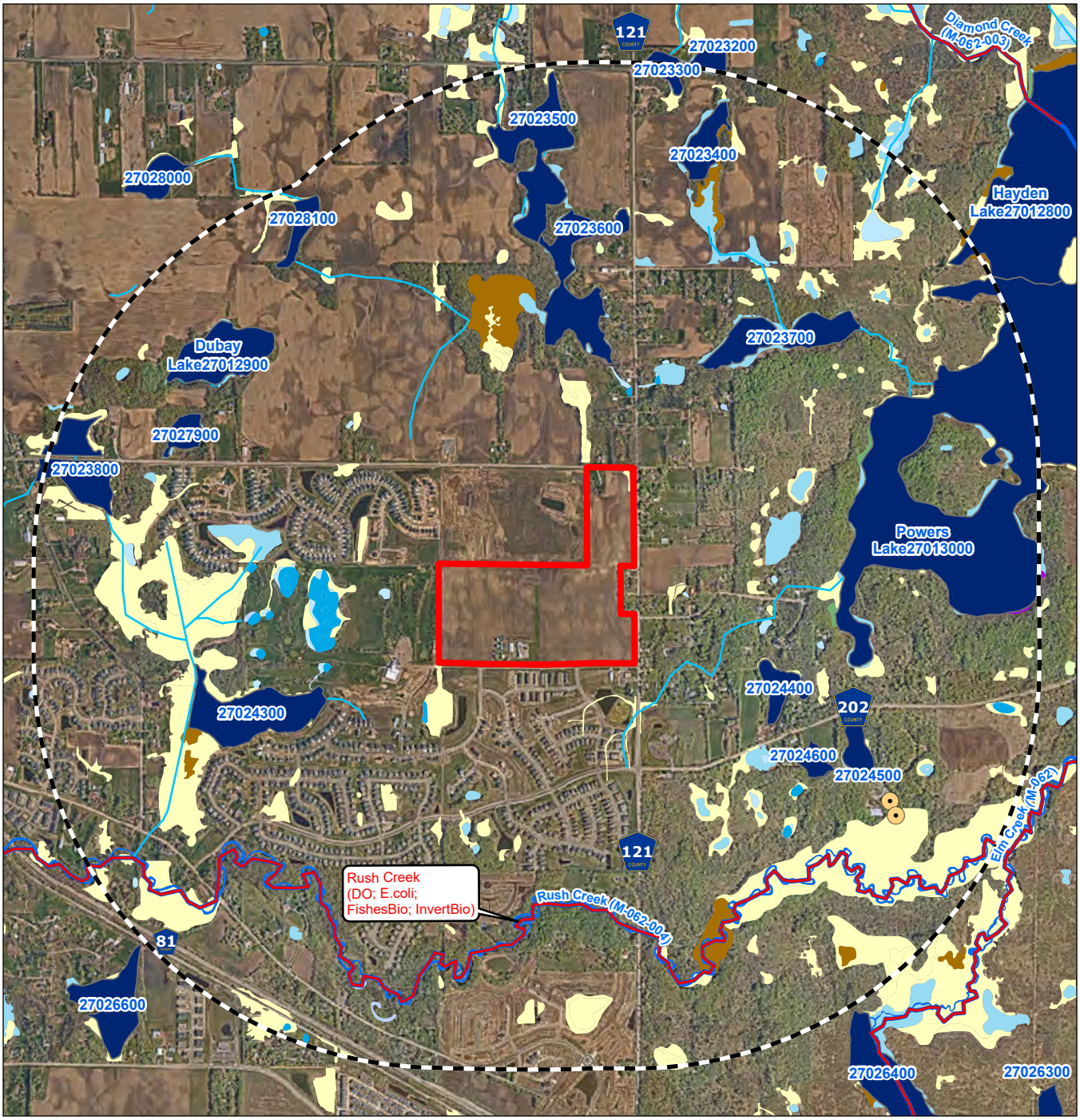
Figure No.
10

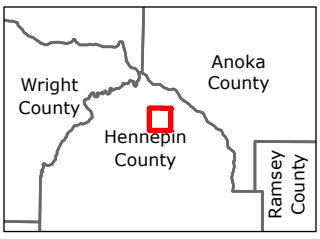
Title
Minnesota Well Index

Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: MDH MWI, Stantec
3. Background: Hennepin County Aerial, 2024

Page 1 of 1

U:\227\227704103\03_data\gis_cad\gisArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley





Notes
1. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet
2. Data Sources: MnDNR, MPCA, NWI, Kjolhaug Environmental Services, Stantec
3. Background: Hennepin County Aerial, 2024

Legend
- Project Area
- 1 Mile Buffer
- springs
- 2024 MPCA Impaired Streams (Draft)
- Public Waters Watercourse
- Public Waters Basin
- DNR Rivers and Streams
- DNR Waters Basin

National Wetland Inventory
- 1 - Seasonally Flooded Basin or Flat
- 2 - Wet Meadow
- 3 - Shallow Marsh
- 4 - Deep Marsh
- 5 - Shallow Open Water
- 6 - Shrub Swamp
- 7 - Wooded Swamp
- 8 - Bog
- Riverine Systems

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

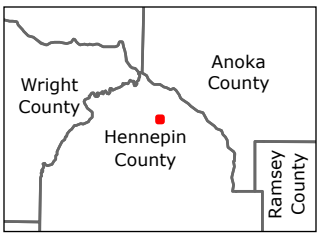
Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
11

Title
Water Resources

U:\227\227704103\03_data\gis_cad\gis\ArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley



Legend

- Project Area
- Field Delineated Wetland (1,090 sq.ft.)
- Potential Wetland Impact (1,090 sq.ft.)

0 200 400 Feet

(At original document size of 8.5x11)
1:4,800

N

Stantec

Notes

1. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet
2. Data Sources: Kjoulhaug Environmental Services, Sathre-Berquist Inc., Stantec
3. Background: Hennepin County Aerial, 2024

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
12

Title
Potential Wetland Impacts

Page 1 of 1

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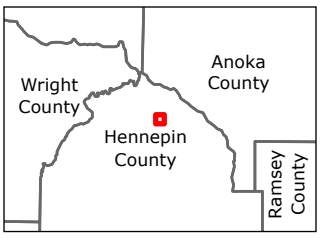


Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: MPCA WIMN, Stantec
3. Background: Hennepin County Aerial, 2024

Legend
- Project Area
- 1/4 Mile Buffer

MPCA Potentially Contaminated Sites
- Multiple Programs
- Feedlots
- Investigation and Cleanup
- Stormwater
- Tanks

0 400 800 Feet
(At original document size of 8.5x11)
1:9,600

N

Stantec

Project Location
T120N, R22W, S33
Dayton, Hennepin Co., MN

Prepared by LAH on 2024-11-12

Client/Project
City of Dayton
DCM Farms
EAW

227704103

Figure No.
13

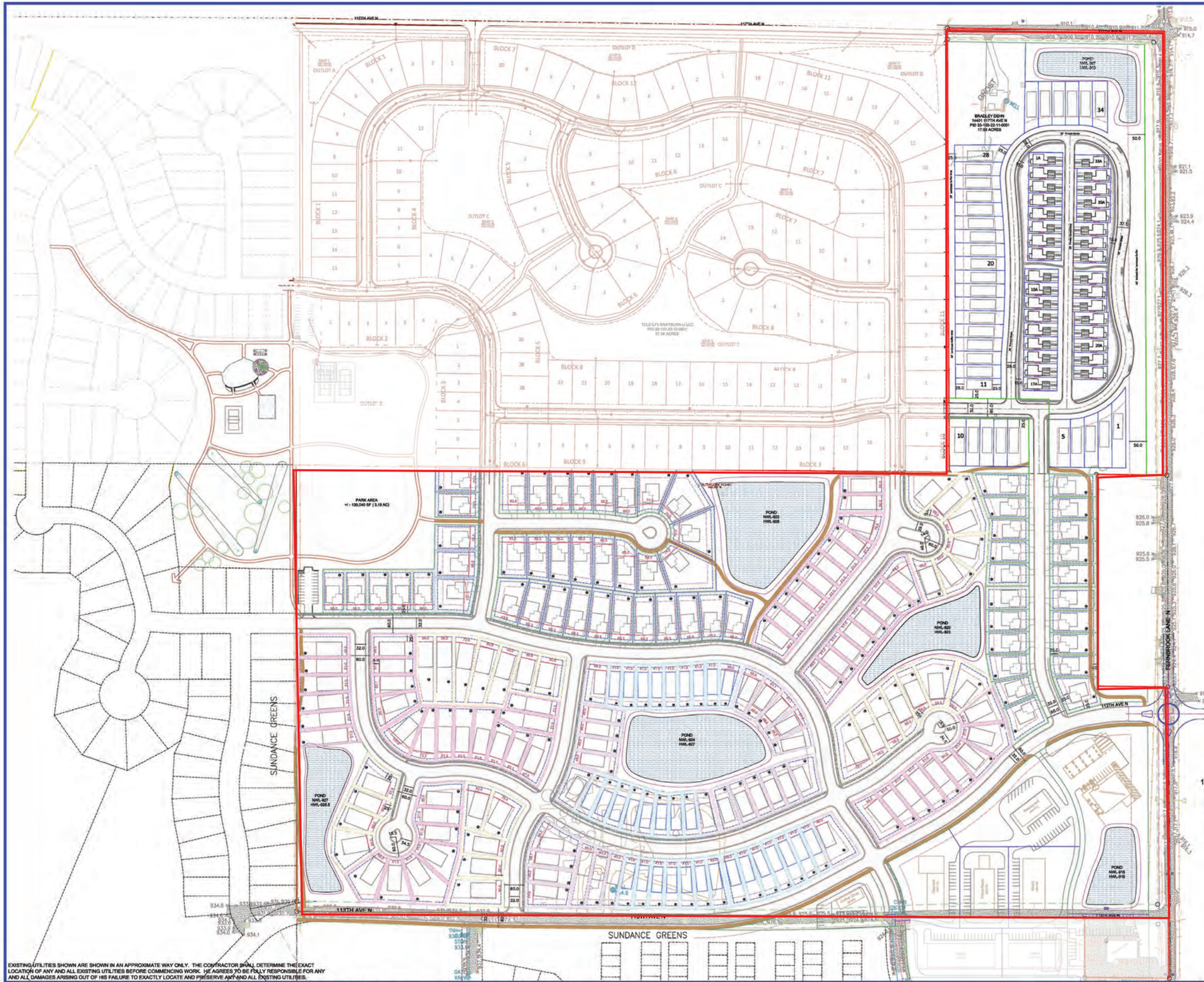
Title
MPCA Potentially Contaiminated Sites

Page 1 of 1

U:\227\227704103\03_data\gis_cad\gis\ArcPro\EAW\EAW.aprx Revised: 2024-11-12 By: lhershley

Appendix B

Concept Plan



LOCATION MAP

DEVELOPMENT DATA

Proposed Zoning - PUD

Total Lots - 267

Street: 60' ROW - 32' B-B
CDS - 60' R

Commercial/Retail Area - +/- 11.2 Acres

Villa Lots
Side yard Setback: 5'/5'

- 40' Villa Lots - 31
- 45' Villa Lots - 26
- 50' Villa Lots -55
- 55' Villa Lots - 29

Single Family Lots
Side yard Setback: 7.5'/7.5'

- 65' SF Lots - 54
- 75' SF Lots - 5

Brad Dehn Parcel
Perimeter 40' Lots - 34

Alley Lots - 33

Setbacks:
Front yard Setback: 25'
Corner Setback: 25'
Rear yard Setback: 25'

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISION
Layout-Dehn CM & 113th	1			
DRAWN				
XXX				
CHECKED				
XXX				
DATE				
XX/XX/XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Name, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.

DAYTON, MINNESOTA

CONCEPT PLAN 7/12/24

DCM FARMS

SUNDANCE WOODS, LLC.

FILE NO.
19214-006

C1-O

Appendix C

FEMA FIRMette

National Flood Hazard Layer FIRMette

93°28'7"W 45°10'9"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

93°27'30"W 45°9'44"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/8/2024 at 3:20 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA

93°28'23"W 45°9'58"N

93°27'46"W 45°9'33"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

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This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix D

MDH Well Log Reports

Minnesota Unique Well No.

162064

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update
Received Date 09/01/2015

Well Name	Township	Range	Dir	Section	Subsection	Use	Status	Well Depth	Depth Completed	Date Well Completed	Lic/Reg. No.
CUTTER, ROBERT	120	22	W	34	BCCCBB	domestic	A	215 ft.	215 ft.	12/20/1979	27056

Elevation 914 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet) **Aquifer** Jordan-Tunnel City **Depth to Bedrock** 125 ft **Open Hole** 179 - 215 ft **Static Water Level** 50 ft

Field Located By Minnesota Geological Survey
Unique No. Verified Address verification
Geological Interpretation Andrew Retzler
Agency (Interpretation)

Locate Method Digitized - scale 1:24,000 or larger (Digitizing
Input Source Minnesota Geological Survey
Input Date 01/01/1990

Universal Transverse Mercator (UTM) - NAD83 - Zone 15 -
UTM Easting (X) 463706
UTM Northing (Y) 500086
Interpretaion Method Geologic study 1:24k to 1:100k

Geological Material	Color	Hardness	Depth (ft.) From	Depth (ft.) To	Thickness	Elevation (ft.) From	Elevation (ft.) To	Stratigraphy	Primary Lithology	Secondary	Minor Lithology
CLAY			0	50	50	914	864	clay	clay		
GRAVEL			50	100	50	864	814	gravel (+larger)	gravel		
CLAY			100	125	25	814	789	clay	clay		
SHALE & SOFT SANDROCK		SOFT	125	215	90	789	699	Jordan-Tunnel City	shale	dolomite	sandstone

Minnesota Well Index - Stratigraphy Report | **162064** | Printed on 11/12/2024

Minnesota Unique Well No.

166986

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update
Received Date 08/18/2014

Well Name	Township	Range	Dir	Section	Subsection	Use	Status	Well Depth	Depth Completed	Date Well Completed	Lic/Reg. No.
DERALD KRENTZ	120	22	W	34	BBBCCA	domestic	A	310 ft.	310 ft.	09/25/1978	86270

Elevation 924 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet) **Aquifer** Tunnel City Group **Depth to Bedrock** 185 ft **Open Hole** 257 - 310 ft **Static Water Level** 65 ft

Field Located By Minnesota Geological Survey
Unique No. Verified Address verification
Geological Interpretation John Mossler
Agency (Interpretation)

Locate Method Digitized - scale 1:24,000 or larger (Digitizing
Input Source Minnesota Geological Survey
Input Date 01/01/1990

Universal Transverse Mercator (UTM) - NAD83 - Zone 15 -
UTM Easting (X) 463726
UTM Northing (Y) 500140
Interpretaion Method Geologic study 1:24k to 1:100k

			Depth (ft.)			Elevation (ft.)					
Geological Material	**Color**	**Hardness**	**From**	**To**	**Thickness**	**From**	**To**	**Stratigraphy**	**Primary Lithology**	**Secondary**	**Minor Lithology**
CLAY	BROWN	SOFT	0	3	3	924	921	clay-brown	clay		
GRAVEL	BROWN	SOFT	3	34	31	921	890	gravel (+larger)-	gravel		
CLAY	GRAY	HARD	34	80	46	890	844	clay-gray	clay		
GRAVEL	GRAY	SOFT	80	120	40	844	804	gravel (+larger)-gray	gravel		
CLAY	RED/BRN	HARD	120	185	65	804	739	clay	clay		
SHALE	GREEN	HARD	185	257	72	739	667	St.Lawrence-Tunnel	shale	dolomite	sandstone
SANDROCK	WHITE	HARD	257	310	53	667	614	Tunnel City Group	sandstone		

Minnesota Well Index - Stratigraphy Report | **166986** | Printed on 11/12/2024

Minnesota Unique Well No.

209255

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING RECORD

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update
Received Date 05/01/2015

Well Name	Township	Range	Dir	Section	Subsection	Use	Status	Well Depth	Depth Completed	Date Well Completed	Lic/Reg. No.
SUNDANCE GOLF	120	22	W	33	CBAAAA	irrigation	A	626 ft.	626 ft.	10/00/1970	62012

Elevation 910 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet) **Aquifer** Tunnel City-Mt. **Depth to Bedrock** 245 ft **Open Hole** 265 - 626 ft **Static Water Level** 26.2 ft

Field Located By Minnesota Geological Survey
Unique No. Verified Information from owner-site
Geological Interpretation Agency (Interpretation) Bruce Bloomgren

Locate Method Digitized - scale 1:24,000 or larger (Digitizing
Input Source Minnesota Geological Survey
Input Date 01/01/1990

Universal Transverse Mercator (UTM) - NAD83 - Zone 15 -
UTM Easting (X) 462504
UTM Northing (Y) 500077
Interpretaion Method Cuttings + geophysical log

Geological Material	Color	Hardness	Depth (ft.) From	Depth (ft.) To	Thickness	Elevation (ft.) From	Elevation (ft.) To	Stratigraphy	Primary Lithology	Secondary	Minor Lithology
DRIFT (SAND, GRAVEL,			0	225	225	910	685	sand +larger	sand	gravel	
SANDROCK			225	245	20	685	665	Quaternary deposit	drift		
SANDROCK			245	273	28	665	637	Tunnel City Group	sandstone	shale	dolomite
SHALE			273	323	50	637	587	Tunnel City Group	shale	sandstone	dolomite
SANDROCK & SHALE			323	325	2	587	585	Tunnel City Group	sandstone	shale	dolomite
SANDROCK & SHALE			325	342	17	585	568	Wonewoc Sandstone	sandstone		
SANDROCK			342	373	31	568	537	Wonewoc Sandstone	sandstone		
SANDROCK			373	395	22	537	515	Eau Claire Formation	shale	sandstone	
SHALE			395	465	70	515	445	Eau Claire Formation	shale		
SHALE			465	471	6	445	439	Mt.Simon Sandstone	sandstone	shale	
SANDROCK			471	626	155	439	284	Mt.Simon Sandstone	sandstone		

Minnesota Well Index - Stratigraphy Report **209255** Printed on 11/12/2024

Minnesota Unique Well Number

133254

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
WILLIAMS, JOHN	120	22	W	34	BCDABB

Elevation 909 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 14011 114TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	5	BROWN	
CLAY	5	83	GRAY	
CLAY & GRAVEL	83	98	GRAY	
GRAVEL & CLAY	98	114	RED	
GRAVEL & SAND	114	120		
GRAVEL	120	137		

Remarks

Well Depth	Depth Completed	Date Well Completed
137 ft.	137 ft.	07/11/1977

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter **Weight**
4 in. To 131 ft. 10.7 lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	4 ft.	131 ft.	137 ft.

Static Water Level
24 ft. land surface Measure 07/11/1977

Pumping Level (below land surface)
ft. 3 hrs. Pumping at 25 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/18/1977
Manufacturer's name JACUZZI
Model Number 754M HP 0.75 Volt 230
Length of drop pipe 54 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat gravel (+larger) Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463975 Y 5000973
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Renner E.H. & Sons	27015	BLACK, D.

Minnesota Unique Well Number

162064

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 09/01/2015
Received Date

Well Name	Township	Range	Dir	Section	Subsection
CUTTER,	120	22	W	34	BCCCBB

Elevation 914 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 11330 FERNBROOK LA N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	50		
GRAVEL	50	100		
CLAY	100	125		
SHALE & SOFT	125	215		SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
215 ft.	215 ft.	12/20/1979

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 179 ft.	lbs./ft.	4 in. To 215 ft.

Open Hole From 179 ft. To 215 ft.

Screen? ☐ **Type** **Make**

Static Water Level
50 ft. land surface Measure 12/20/1979

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
well grouted, type unknown		ft.	ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/21/1979
Manufacturer's name AERMOTOR
Model Number HP 0.75 Volt
Length of drop pipe 72 ft Capacity 50 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Jordan-Tunnel City Aquifer Jordan-Tunnel
Last Strat Jordan-Tunnel City Depth to Bedrock 125 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463706 Y 5000869
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Torgerson Well Co.	27056	HAFFTEN, G.

Minnesota Unique Well Number

166986

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
DERALD	120	22	W	34	BBBCCA

Elevation 924 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 11620 FERNBROOK LA DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	3	BROWN	SOFT
GRAVEL	3	34	BROWN	SOFT
CLAY	34	80	GRAY	HARD
GRAVEL	80	120	GRAY	SOFT
CLAY	120	185	RED/BRN	HARD
SHALE	185	257	GREEN	HARD
SANDROCK	257	310	WHITE	HARD

Remarks

Well Depth 310 ft. **Depth Completed** 310 ft. **Date Well Completed** 09/25/1978

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 257 ft.	11 lbs./ft.	4 in. To 310 ft.

Open Hole From 257 ft. To 310 ft.

Screen? ☐ **Type** **Make**

Static Water Level
65 ft. land surface Measure 09/25/1978

Pumping Level (below land surface)
120 ft. 1 hrs. Pumping at 60 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite	2.5 Cubic yards	0 ft.	257 ft.

Nearest Known Source of Contamination
60 feet North Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/03/1978
Manufacturer's name STA-RITE
Model Number HP 0.5 Volt 230
Length of drop pipe 84 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock St.Lawrence Formation Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 185 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463726 Y 5001407
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Mc Alpine Brothers 86270 BACH, P.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

168667

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 08/18/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
JOE KLINE	120	22	W	27	CCDACB

Elevation 917 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 14100 117TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	46	YELLOW	MEDIUM
SANDY CLAY	46	70	YELLOW	SOFT
SAND	70	78	GRAY	SOFT
CLAY & ROCK	78	150	BROWN	HARD
CLAY	150	215	GRAY	HARD
CLAY & GRAVEL &	215	230	YELLOW	HARD
SANDROCK	230	285	WHITE	HARD

Remarks

Well Depth 285 ft. **Depth Completed** 285 ft. **Date Well Completed** 10/26/1979

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 230 ft.	12 lbs./ft.	6 in. To 230 ft.
		4 in. To 285 ft.

Open Hole From 230 ft. To 285 ft.

Screen? ☐ **Type** **Make**

Static Water Level
50 ft. land surface Measure 10/26/1979

Pumping Level (below land surface)
50 ft. 3 hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		0 ft.	230 ft.

Nearest Known Source of Contamination
50 feet Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/29/1979
Manufacturer's name A.Y. MCDONALD
Model Number 8075K3 HP 0.75 Volt 230
Length of drop pipe 84 ft Capacity 20 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Tunnel City Group Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 230 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463978 Y 5001722
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Mc Alpine's Well Co. 27186 MCALPINE, G.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

168710

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/08/2016
Received Date

Well Name	Township	Range	Dir	Section	Subsection
HYNES,	120	22	W	34	BCACCB

Elevation 913 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13900 114TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	21	BROWN	
CLAY	21	62	GRAY	
CLAY & GRAVEL	62	78	GRAY	
GRAVEL & CLAY	78	103	GRAY	
GRAVEL & CLAY	103	106	RED	
GRAVEL	106	113	RED	
GRAVEL & CLAY	113	117	GRAY	
GRAVEL & SAND	117	139	VARIED	
CLAY	139	139	GRAY	

Remarks

Well Depth 139 ft. **Depth Completed** 139 ft. **Date Well Completed** 11/13/1979

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter		Weight	
4	in. To 138 ft.	10.7	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
4 in.	20	3 ft.	133 ft.	136 ft.

Static Water Level

41 ft. land surface Measure 11/13/1979

Pumping Level (below land surface)

ft. 3 hrs. Pumping at 36 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/20/1980

Manufacturer's name RED JACKET

Model Number BVC 751 HP 0.75 Volt 230

Length of drop pipe ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat clay-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 463877 Y 5001004

Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Renner E.H. & Sons 02015 RENNER, R.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

197428

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 07/05/1991
Update Date 02/14/2014
Received Date 10/24/1983

Well Name	Township	Range	Dir	Section	Subsection
BRUNN,	120	22	W	34	BCBCDA

Elevation 915 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 14250 114TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	20	YELLOW	HARD
CLAY	20	40	GRAY	HARD
GRAVEL	40	62	BROWN	SOFT
CLAY	62	80	GRAY	HARD
GRAVEL	80	92	BROWN	SOFT
CLAY	92	92	BROWN	SOFT

Remarks

BLUE HERION ESTATES BLK 1 LOT 1.

Well Depth 92 ft. **Depth Completed** 92 ft. **Date Well Completed** 09/08/1983

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 87 ft.	11 lbs./ft.	6.2 in. To 92 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON 948

Diameter	Slot/Gauze	Length	Set	
2 in.	18	5 ft.	87 ft.	92 ft.

Static Water Level

40 ft. land surface Measure 09/08/1983

Pumping Level (below land surface)

87 ft. 2 hrs. Pumping at 50 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MERRILL Model SPK

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	70 ft.

Nearest Known Source of Contamination

100 feet Northwes Direction Sewer Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/19/1983

Manufacturer's name AERMOTOR
Model Number HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 10 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat clay-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463771 Y 5001020
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Mc Alpine Brothers	86270	MCALPINE, B.

Minnesota Unique Well Number

202779

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 11/03/2015
Received Date

Well Name	Township	Range	Dir	Section	Subsection
KURR, EDWARD	120	22	W	28	DDDA

Elevation 905 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well DAYTON MN 55316

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	18	BROWN	
CLAY & GRAVEL	18	38	BLUE	
CLAY & GRAVEL	38	50	BROWN	
SAND & GRAVEL	50	66	BROWN	
SILT & GRAVEL	66	70	BROWN	
MUDDY SAND	70	75	BROWN	
MUDDY GRAVEL	75	110	BROWN	
SAND & GRAVEL	110	119	BROWN	

Remarks

Well Depth 119 ft. **Depth Completed** 119 ft. **Date Well Completed** 01/16/1973

Drill Method Cable Tool **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded

Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter **Weight**

4 in. To 115 ft. lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
4 in.	25	4 ft.	0 ft. ft.

Static Water Level

22 ft. land surface Measure 01/16/1973

Pumping Level (below land surface)

22 ft. hrs. Pumping at 20 g.p.m.

Wellhead Completion

Pitless adapter manufacturer BAKER Model

☐ Casing Protection ☐ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed

Manufacturer's name DEMPSTER

Model Number HP 0.75 Volt

Length of drop pipe 44 ft Capacity 15 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand +larger-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 463632 Y 5001719

Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Renner E.H. & Sons	27015	PAUL/BUD/ED

Minnesota Unique Well Number

202780

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 11/03/2015
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BRAUN,	120	22	W	28	DDDABA

Elevation 900 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well DAYTON MN 55316

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	20	BROWN	
SAND	20	31	BROWN	
SAND AND CLAY	31	68	GRAY	
WATER SAND	68	83	GRAY	
CEMENTED SAND	83	88	BROWN	
CLAY AND GRAVEL	88	96	GRAY	
CLAY AND GRAVEL	96	130	BROWN	
GRAVEL DIRTY	130	144	BROWN	
SAND	144	154		

Remarks

Well Depth 154 ft. **Depth Completed** 154 ft. **Date Well Completed** 08/17/1971

Drill Method **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
4	in. To 150 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
4 in.	18	4 ft.	0 ft. ft.

Static Water Level
46 ft. land surface Measure 08/17/1971

Pumping Level (below land surface)
48 ft. hrs. Pumping at 20 g.p.m.

Wellhead Completion
Pitless adapter manufacturer BAKER Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 08/23/1971
Manufacturer's name RED JACKET
Model Number HP 0.75 Volt
Length of drop pipe 63 ft Capacity g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463626 Y 5001777
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Renner E.H. & Sons 27015
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

202781

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 11/03/2015
Received Date

Well Name	Township	Range	Dir	Section	Subsection
COOK, LEE	120	22	W	34	BBBCBA

Elevation 925 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	15	BROWN	
CLAY	15	73	GRAY	
SAND, GRAVEL	73	92	GRAY	
SAND AND GRAVEL-	92	102	GRAY	

Remarks

Well Depth 102 ft. **Depth Completed** 102 ft. **Date Well Completed** 11/29/1971

Drill Method **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
4	in. To 98 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
4 in.	15	4 ft.	0 ft. ft.

Static Water Level
30 ft. land surface Measure 11/29/1971

Pumping Level (below land surface)
30 ft. hrs. Pumping at 17 g.p.m.

Wellhead Completion
Pitless adapter manufacturer BAKER Model
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 11/00/1971
Manufacturer's name AERMOTOR
Model Number 75M HP 0.75 Volt
Length of drop pipe 42 ft Capacity g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand +larger-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463741 Y 5001451
Unique Number Verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Renner E.H. & Sons 27015
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

209255

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 05/01/2015
Received Date

Well Name	Township	Range	Dir	Section	Subsection
SUNDANCE	120	22	W	33	CBAAAA

Elevation 910 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Contact 15240 113TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
DRIFT (SAND, GRAVEL,	0	225		
SANDROCK	225	245		
SANDROCK	245	273		
SHALE	273	323		
SANDROCK & SHALE	323	325		
SANDROCK & SHALE	325	342		
SANDROCK	342	373		
SANDROCK	373	395		
SHALE	395	465		
SHALE	465	471		
SANDROCK	471	626		

Remarks

GAMMA LOGGED 5-5-1994. M.G.S. NO.578.

Well Depth 626 ft. **Depth Completed** 626 ft. **Date Well Completed** 10/00/1970

Drill Method Cable Tool **Drill Fluid**

Use irrigation **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☐ No ☐ **Above/Below** 0 ft.

Casing Diameter	Weight	Hole Diameter
12 in. To 265 ft.	lbs./ft.	12 in. To 626 ft.

Open Hole From 265 ft. To 626 ft.

Screen? ☐ **Type** **Make**

Static Water Level

26.2 ft. land surface Measure 10/00/1970

Pumping Level (below land surface)

58.6 ft. hrs. Pumping at 754 g.p.m.

Wellhead Completion

Pitless adapter manufacturer Model

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☐ Yes ☐ No ☐ Not Specified

Nearest Known Source of Contamination

feet Direction Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 00/00/1970

Manufacturer's name PEERLESS

Model Number HP 0 Volt

Length of drop pipe 100 ft Capacity 700 g.p. Typ Turbine

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Tunnel City Group Aquifer Tunnel City-Mt.

Last Strat Mt.Simon Sandstone Depth to Bedrock 245 ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 462504 Y 5000779

Unique Number Verification Information from Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Keys Well Co. 62012 GIBSON, E.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

417042

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
BEUCHLER,	120	22	W	34	BBAABA

Elevation 920 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13921 117TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	43	YEL/BLK	MEDIUM
SANDY CLAY	43	55	YELLOW	MEDIUM
SAND	55	71	GRAY	SOFT

Remarks

Well Depth 71 ft. **Depth Completed** 71 ft. **Date Well Completed** 06/25/1985

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**

Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter		Weight	
4	in. To 66 ft.		lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	5 ft.	66 ft.	71 ft.

Static Water Level

50 ft. land surface Measure 06/25/1985

Pumping Level (below land surface)

50 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model SU5.5

☐ Casing Protection ☒ 12 in. above grade

☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement		0 ft.	43 ft.
bentonite		43 ft.	66 ft.

Nearest Known Source of Contamination

50 feet Southwes Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 06/26/1985

Manufacturer's name MCDONALD

Model Number 18050K HP 0.5 Volt 230

Length of drop pipe 54 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-gray Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)

System UTM - NAD83, Zone 15, Meters X 464038 Y 5001541

Unique Number Verification Information from Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Mc Alpine's Well Co.	27186	MCALPINE, G.
Licensee Business	Lic. or Reg. No.	Name of Driller

Minnesota Unique Well Number

417496

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/10/2016
Received Date

Well Name	Township	Range	Dir	Section	Subsection
GARBARINI,	120	22	W	34	BCDBBD

Elevation 912 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 11370 DALLAS LA DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	20	BLACK	HARD
CLAY	20	90	BROWN	HARD
HARD PAN	90	105	GRAY	HARD
SAND	105	110	BROWN	SOFT
HARD PAN	110	150	GRAY	HARD
CLAY	150	175	GRAY	HARD
SHALE	175	200	GREEN	HARD
HARD SAND ROCK	200	243	WHITE	HARD

Remarks

Well Depth 243 ft. **Depth Completed** 243 ft. **Date Well Completed** 08/12/1985

Drill Method Non-specified Rotary **Drill Fluid**

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
0 in. To 200 ft.	lbs./ft.	4 in. To 243 ft.

Open Hole From 200 ft. To 243 ft.

Screen? ☐ **Type** **Make**

Static Water Level
40 ft. land surface Measure 08/12/1985

Pumping Level (below land surface)
140 ft. 4 hrs. Pumping at 45 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model SNAPPY
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		ft.	ft.

Nearest Known Source of Contamination
140 feet East Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 09/14/1985
Manufacturer's name AERMOTOR
Model Number SD1250 HP 0.5 Volt 230
Length of drop pipe 60 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☐ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock St.Lawrence Formation Aquifer Tunnel City
Last Strat Tunnel City Group Depth to Bedrock 175 ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463926 Y 5000928
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor
Mork Well Co. 02133 TORGERSON, R.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

425099

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
SCHMITZ	120	22	W	33	ADADDC

Elevation 920 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11421 FERNBROOK LA DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	15	YELLOW	MEDIUM
CLAY	15	42	BLUE	MEDIUM
SAND	42	75	GRY/BRN	SOFT
CLAY	75	82	BLUE	MEDIUM
SAND	82	94	TAN	SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
94 ft.	94 ft.	01/08/1987

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Threaded
Drive Shoe? Yes ☒ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 90 ft.	11 lbs./ft.	6.2 in. To 90 ft.
		4 in. To 94 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
4 in.	12	4 ft.	90 ft. 94 ft.

Static Water Level
50 ft. land surface Measure 01/08/1987

Pumping Level (below land surface)

Wellhead Completion
Pitless adapter manufacturer WHITEWATER Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
other		0 ft.	90 ft.
bentonite		0 ft.	90 ft.

Nearest Known Source of Contamination
feet Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/22/1987
Manufacturer's name RED JACKET
Model Number 50V19BC HP 0.5 Volt 230
Length of drop pipe 68 ft Capacity 10 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table)
System UTM - NAD83, Zone 15, Meters X 463645 Y 5000986
Unique Number Verification Address verification Input Date 01/01/1990

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Ruppert & Son	27086	RUPPERT, G.

Minnesota Unique Well Number

457043

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/04/1991
Update Date 02/14/2014
Received Date

Well Name	Township	Range	Dir	Section	Subsection
	120	22	W	34	BCAABD

Elevation 907 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 13920 114TH AV NE DAYTON MN 55369

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY & GRAVEL	0	8	BROWN	MEDIUM
CLAY	8	18	TAN	SOFT
CLAY & GRAVEL	18	96	GRAY	SOFT
SAND	96	116	GRAY	SOFT

Remarks

Well Depth 116 ft. **Depth Completed** 116 ft. **Date Well Completed** 01/20/1989

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 102 ft.	lbs./ft.	6.2 in. To 116 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set
2 in.	10	16.7 ft.	102 ft. 116 ft.

Static Water Level
27 ft. land surface Measure 01/20/1989

Pumping Level (below land surface)
99 ft. 1 hrs. Pumping at 40 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MONITOR Model 8PL41UC1
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	3 Sacks	ft.	30 ft.

Nearest Known Source of Contamination
feet Direction Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 02/18/1989
Manufacturer's name MYERS
Model Number SJ72 HP 0.75 Volt 230
Length of drop pipe 60 ft Capacity 15 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 464036 Y 5001131
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor
Mork Well Co. 02133 LAWRENCE, R.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

488759

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/31/1993
Update Date 02/14/2014
Received Date 04/01/1992

Well Name	Township	Range	Dir	Section	Subsection
DEHN, WILLARD	120	22	W	33	ACDDCB

Elevation 933 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 14800 113TH AV N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	25	YELLOW	MEDIUM
SAND & CLAY	25	42	YEL/BRN	MEDIUM
CLAY	42	55	BLUE	MEDIUM
SAND	55	79	BRN/GRY	M.SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
79 ft.	79 ft.	03/10/1992

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below** 1 ft.

Casing Diameter	Weight	Hole Diameter
4 in. To 74 ft.	lbs./ft.	8.5 in. To 30 ft.
		6.5 in. To 79 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	5 ft.	74 ft.	79 ft.

Static Water Level

58 ft. land surface Measure 03/10/1992

Pumping Level (below land surface)

70 ft. 3 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model AU5.5

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
bentonite		30 ft.	74 ft.
neat cement		ft.	30 ft.

Nearest Known Source of Contamination

75 feet Northwes Direction Septic tank/drain field Type

Well disinfected upon completion? ☐ Yes ☐ No

Pump ☐ Not Installed Date Installed 03/11/1992

Manufacturer's name AERMOTER (OWNERS)

Model Number SD1275 HP 0.75 Volt 230

Length of drop pipe 63 ft Capacity 15 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463196 Y 5000808
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Mc Alpine's Well Co.	27186	MCALPINE, G.

Minnesota Unique Well Number

517882

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/31/1993
Update Date 02/14/2014
Received Date 05/24/1993

Well Name	Township	Range	Dir	Section	Subsection
BOGLE, PETE &	120	22	W	34	BCDCBD

Elevation 905 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11350 DALLAS LA DAYTON MN 55369

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	18	YELLOW	MEDIUM
CLAY	18	60	BLUE	MEDIUM
GRAVEL	60	67	TAN	M.SOFT
CLAY	67	83	BLUE	MEDIUM
SAND & GRAVEL	83	93	BROWN	M.SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
93 ft.	93 ft.	01/23/1993

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 83 ft.	lbs./ft.	6.7 in. To 93 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** CRESTLINE

Diameter	Slot/Gauze	Length	Set
4 in.	12	4 ft.	83 ft. 93 ft.

Static Water Level

30 ft. land surface Measure 12/22/1992

Pumping Level (below land surface)

50 ft. 3.5 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		40 ft.	83 ft.
neat cement		ft.	40 ft.

Nearest Known Source of Contamination

50 feet Southeas Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/23/1993

Manufacturer's name AERMOTER

Model Number SD1275 HP 0.75 Volt 230

Length of drop pipe 72 ft Capacity 14 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand +larger-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 463920 Y 5000841

Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Ruppert & Son	27086	RUPPERT, C.

Minnesota Unique Well Number

555241

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/16/1996
Update Date 02/14/2014
Received Date 11/17/1994

Well Name	Township	Range	Dir	Section	Subsection
GROVER, KEITH	120	22	W	34	BCCCCA

Elevation 913 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11320 FERNBROOK LA DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	14	YELLOW	SOFT
CLAY	14	53	GRAY	MEDIUM
SAND	53	82	BRN/GRY	SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
82 ft.	82 ft.	10/27/1994

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? **Yes** ☐ **No** ☐ **From** **To**

Casing Type Single casing **Joint** Solvent Welded
Drive Shoe? **Yes** ☒ **No** ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 77 ft.	lbs./ft.	6.5 in. To 77 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	5 ft.	77 ft.	82 ft.

Static Water Level

40 ft. land surface Measure 10/27/1994

Pumping Level (below land surface)

60 ft. 3 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MONITOR Model 4AO5.5

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		30 ft.	77 ft.
bentonite	2 Sacks	ft.	30 ft.

Nearest Known Source of Contamination

50 feet East Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/28/1994

Manufacturer's name AERMOTER

Model Number 12T50 HP 0.5 Volt 230

Length of drop pipe 60 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463733 Y 5000813
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Mc Alpine's Well Co. 27186 MCALPINE, S.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

559030

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/16/1996
Update Date 02/14/2014
Received Date 05/10/1995

Well Name	Township	Range	Dir	Section	Subsection
HALLQUIST, LEE	120	22	W	33	ADAAAA

Elevation 928 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11471 FERNBROOK LA DAYTON MN 55369

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
SAND & CLAY	0	31	BRN/YEL	SOFT
CLAY	31	42	GRAY	MEDIUM
SAND & CLAY	42	49	GRY/BRN	MEDIUM
SAND	49	78	BRN/YEL	SOFT

Remarks

Well Depth 78 ft. **Depth Completed** 78 ft. **Date Well Completed** 04/11/1995

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint** Solvent Welded
Drive Shoe? Yes ☒ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 73 ft.	lbs./ft.	6.5 in. To 73 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	5 ft.	73 ft.	78 ft.

Static Water Level

15 ft. land surface Measure 04/11/1995

Pumping Level (below land surface)

40 ft. 3 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MONITOR Model 4AO5.5
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		30 ft.	73 ft.
bentonite	2 Sacks	ft.	30 ft.

Nearest Known Source of Contamination

50 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 04/12/1995
Manufacturer's name AERMOTER
Model Number 12T50 HP 0.5 Volt 230
Length of drop pipe 40 ft Capacity 12 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☐ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463670 Y 5001161
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Mc Alpine's Well Co. 27186 MCALPINE, S.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

579137

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 08/08/1997
Update Date 07/30/2008
Received Date 08/25/1997

Well Name	Township	Range	Dir	Section	Subsection
BOLLE, PETER	120	22	W	34	BCCDBB

Elevation 909 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11351 DALLAS LA DAYTON MN 55369

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	65	BROWN	MEDIUM
SAND & GRAVEL	65	92	BROWN	SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
92 ft.	92 ft.	10/15/1996

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☐ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 82 ft.	lbs./ft.	6.7 in. To 92 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** plastic **Make** CRESLINE

Diameter	Slot/Gauze	Length	Set	
4 in.	10	10 ft.	82 ft.	92 ft.

Static Water Level

35 ft. land surface Measure 10/04/1996

Pumping Level (below land surface)

58 ft. 2.5 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer MAASS Model 4J1
☐ Casing Protection ☐ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite		ft.	82 ft.

Nearest Known Source of Contamination

50 feet Southwes Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/15/1996
Manufacturer's name MYERS
Model Number HP 0.75 Volt 230
Length of drop pipe 80 ft Capacity 14 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand +larger-brown Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463792 Y 5000857
Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Licensee Business	Lic. or Reg. No.	Name of Driller
Ruppert & Son	27086	RUPPERT, A.

Minnesota Unique Well Number

623582

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/28/1999
Update Date 02/10/2016
Received Date 02/25/1999

Well Name	Township	Range	Dir	Section	Subsection
HANSON,	120	22	W	33	ADAADD

Elevation 925 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11451 FERNBROOK LA DAYTON MN 55369

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL/CLAY	0	10	BLK/BRN	SOFT
SAND	10	20	BROWN	SOFT
CLAY	20	50	GRAY	SOFT
GRAVEL	50	75	VARIED	MEDIUM
CLAY & ROCKS	75	100	BROWN	MEDIUM
SAND	100	120	BROWN	SOFT

Remarks

Well Depth 120 ft. **Depth Completed** 120 ft. **Date Well Completed** 01/19/1999

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 113 ft.	1.9 lbs./ft.	8 in. To 30 ft.
		6.2 in. To 120 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	8 ft.	112 ft.	120 ft.

Static Water Level

65 ft. land surface Measure 01/19/1999

Pumping Level (below land surface)

105 ft. 2 hrs. Pumping at 30 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model

☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	2.5 Sacks	0 ft.	30 ft.
cuttings		30 ft.	113 ft.

Nearest Known Source of Contamination

60 feet West Direction Septic tank/drain field Type

Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 01/21/1999

Manufacturer's name RED JACKET

Model Number HP 0.5 Volt 115

Length of drop pipe 84 ft Capacity 2 g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. buried

Last Strat sand-brown Depth to Bedrock ft

Located by Minnesota Geological Survey

Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or

System UTM - NAD83, Zone 15, Meters X 463669 Y 5001092

Unique Number Verification Address verification Input Date 07/25/2008

Angled Drill Hole

Well Contractor

Stodola Don Well Co. 27172 MOORE, C.

Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

655001

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 10/12/2001
Update Date 07/29/2008
Received Date

Well Name	Township	Range	Dir	Section	Subsection
ROBERSON,	120	22	W	28	DDAAAD

Elevation 878 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

Well 11881 FERNBROOK LA N DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	16	YELLOW	SOFT
CLAY	16	80	GRAY	MEDIUM
WATER SAND	80	96	GRAY	SOFT

Remarks

Well Depth	Depth Completed	Date Well Completed
96 ft.	96 ft.	09/12/2000

Drill Method Non-specified Rotary **Drill Fluid** Water

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Glued
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
4 in. To 88 ft.	2.05 lbs./ft.	8 in. To 30 ft.
		6.2 in. To 96 ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	10	8 ft.	88 ft.	96 ft.

Static Water Level

30 ft. land surface Measure 09/12/2000

Pumping Level (below land surface)

86 ft. 2 hrs. Pumping at 40 g.p.m.

Wellhead Completion

Pitless adapter manufacturer WHITEWATER Model
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
high solids bentonite	2.5 Sacks	0 ft.	30 ft.

Nearest Known Source of Contamination

80 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 10/18/2000
Manufacturer's name GOULDS
Model Number HP 1 Volt 230
Length of drop pipe 42 ft Capacity g.p. Typ Submersible

Abandoned

Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance

Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous

First Bedrock Aquifer Quat. buried
Last Strat sand-gray Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463673 Y 5001922
Unique Number Verification Address verification Input Date 07/23/2008

Angled Drill Hole

Well Contractor

Stodola Don Well Co. 27172 MOORE, C.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

767816

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 04/06/2009
Update Date 08/06/2014
Received Date 06/22/2009

Well Name	Township	Range	Dir	Section	Subsection
BRANDT, BILL	120	22	W	28	DDADCC

Elevation 901 ft. **Elev. Method** 7.5 minute topographic map (+/- 5 feet)

Address

C/W 11801 FERNBROOK LA DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
CLAY	0	8	BROWN	MEDIUM
CLAY	8	27	YELLOW	MEDIUM
CLAY	27	40	GRAY	MEDIUM
CLAY & SAND	40	45	GRY/BRN	SOFT
SAND	45	63	BRN/BLK	SOFT
CLAY	63	69	GRAY	MEDIUM
SAND	69	80	BRN/BLK	SOFT

Remarks

Well Depth 80 ft. **Depth Completed** 80 ft. **Date Well Completed** 12/05/2008

Drill Method Non-specified Rotary **Drill Fluid** Qwik gel

Use domestic **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint** Welded
Drive Shoe? Yes ☐ No ☐ **Above/Below**

Casing Diameter		Weight
4	in. To 76 ft.	lbs./ft.

Open Hole From ft. To ft.

Screen? ☒ **Type** stainless **Make** JOHNSON

Diameter	Slot/Gauze	Length	Set	
2 in.	12	4 ft.	76 ft.	80 ft.

Static Water Level
30 ft. land surface Measure 12/05/2008

Pumping Level (below land surface)
30 ft. 2 hrs. Pumping at 50 g.p.m.

Wellhead Completion
Pitless adapter manufacturer MERRILL Model MCK6
☐ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
cuttings		50 ft.	76 ft.
bentonite	3 Sacks	ft.	50 ft.

Nearest Known Source of Contamination
75 feet South Direction Septic tank/drain field Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☐ Not Installed Date Installed 12/05/2008
Manufacturer's name SCHAEFER
Model Number 7L4Y12 HP 0.75 Volt 230
Length of drop pipe 60 ft Capacity 12 g.p. Typ Submersible

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Aquifer Quat. buried
Last Strat sand Depth to Bedrock ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 463613 Y 5001773
Unique Number Verification Info/GPS from data Input Date 03/17/2009

Angled Drill Hole

Well Contractor
McAlpines Well Drilling of 1477 MCALPINE, T.
Licensee Business Lic. or Reg. No. Name of Driller

Minnesota Unique Well Number

854464

County Hennepin
Quad Anoka
Quad ID 120B

MINNESOTA DEPARTMENT OF HEALTH

WELL AND BORING REPORT

Minnesota Statutes Chapter 1031

Entry Date 12/21/2020
Update Date 02/16/2021
Received Date

Well Name	Township	Range	Dir	Section	Subsection
DAYTON TW 1	120	22	W	33	BAAAAA

Elevation 909 ft. **Elev. Method** LiDAR 1m DEM (MNDNR)

Address

Contact 12260 DIAMOND LAKE RD S DAYTON MN 55327

Stratigraphy Information

Geological Material	From	To (ft.)	Color	Hardness
TOPSOIL	0	1	BROWN	SOFT
CLAY	1	17	BROWN	MEDIUM
CLAY	17	29	GRAY	MEDIUM
SAND	29	66	GRAY	SOFT
CLAY	66	70	GRAY	MEDIUM
SAND	70	76	GRAY	SOFT
CLAY	76	84	BROWN	MEDIUM
CLAY	84	95	GRAY	MEDIUM
SAND	95	107	GRAY	SOFT
CLAY	107	139	BROWN	MEDIUM
SAND	139	145	BROWN	SOFT
CLAY	145	149	GRAY	MEDIUM
SAND	149	158	BROWN	SOFT
CLAY	158	185	BROWN	MEDIUM
SAND & GRAVEL	185	204	BROWN	SOFT
SHALE & SANDSTONE	204	220	BLU/TAN	SOFT
SHALE & SANDSTONE	220	305	BLU/TAN	HARD
SANDSTONE	305	360	TAN	HARD
SANDSTONE	360	380	TAN	HARD
SHALE	377	380	RED	HARD

Remarks

M.G.S. # 5931
DRILLERS: ROBBIE, JASON, NICK , ROY
GAMMA LOGGED ON 2-5-2021 BY TRAUT COMPANIES

Well Depth 380 ft. **Depth Completed** 380 ft. **Date Well Completed** 12/02/2020

Drill Method Non-specified Rotary **Drill Fluid** Bentonite

Use test well **Status** Active

Well Hydrofractured? Yes ☐ No ☒ **From** **To**

Casing Type Single casing **Joint**
Drive Shoe? Yes ☐ No ☒ **Above/Below**

Casing Diameter	Weight	Hole Diameter
6 in. To 240 ft.	18.9 lbs./ft.	10 in. To 240 ft.
		6 in. To 380 ft.

Open Hole From 240 ft. To 380 ft.

Screen? ☐ **Type** **Make**

Static Water Level
33 ft. land surface Measure 12/02/2020

Pumping Level (below land surface)
380 ft. 0.8 hrs. Pumping at 100 g.p.m.

Wellhead Completion
Pitless adapter manufacturer Model
☒ Casing Protection ☒ 12 in. above grade
☐ At-grade (Environmental Wells and Borings ONLY)

Grouting Information Well Grouted? ☒ Yes ☐ No ☐ Not Specified

Material	Amount	From	To
neat cement	3.5 Cubic yards	ft.	240 ft.

Nearest Known Source of Contamination
90 feet East Direction Body of water Type
Well disinfected upon completion? ☒ Yes ☐ No

Pump ☒ Not Installed Date Installed
Manufacturer's name
Model Number HP Volt
Length of drop pipe ft Capacity g.p. Typ

Abandoned
Does property have any not in use and not sealed well(s)? ☐ Yes ☒ No

Variance
Was a variance granted from the MDH for this well? ☐ Yes ☒ No

Miscellaneous
First Bedrock Tunnel City Group Aquifer Wonewoc-Eau
Last Strat Eau Claire Formation Depth to Bedrock 204 ft
Located by Minnesota Geological Survey
Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or
System UTM - NAD83, Zone 15, Meters X 462894 Y 5001574
Unique Number Verification Info/GPS from data Input Date 12/21/2020

Angled Drill Hole

Well Contractor
Mark J Traut Wells, Inc. 1404 SEE REMARKS
Licensee Business Lic. or Reg. No. Name of Driller

Appendix E

Wetland Delineation Report and WCA Notice of Decision

BOARD OF WATER AND SOIL RESOURCES

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit: City of Dayton	**County:** Hennepin
Applicant Name: Tom Dehn **Applicant Representative:** Kjolhaug Environmental – Melissa Barrett	
Project Name: 14800 113th Ave N	**LGU Project No. (if any):**
Date Complete Application Received by LGU: 7/31/2024	
Date of LGU Decision: 9/18/2024	
Date this Notice was Sent: 9/18/2024	

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type ☐ Sequencing ☐ Replacement Plan ☐ Bank Plan (not credit purchase)
☐ No-Loss (8420.0415) ☐ Exemption (8420.0420)
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area**:**
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☐ Approve ☐ Approve w/Conditions ☐ Deny ☒ No TEP Recommendation

LGU Decision

☐ Approved with Conditions (specify below)[1] ☒ Approved[1] ☐ Denied
List Conditions:

Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:

Decision is valid for: ☒ 5 years (default) ☐ Other (specify):

[1] *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision[1].

☒ Attachment(s) (specify): Site Location Map, Wetland Figure
☒ Summary: A wetland boundary & type application was submitted for a site located in Section 33, Township 120N, Range 22W, City of Dayton, Hennepin County. The site is located on the north of 113th Ave N. The property corresponds to 14800 113th Avenue North, and is 100-ac. PIDs 3312022130001 (14800 113th Ave N; 73 acres) and 3312022110001(14401 117th Ave N; 17.99 acres).

A field investigation was performed on June 14, 2024, as well as an offsite determination of the agricultural portions of the site. The LGU reviewed the offsite analysis and conducted a field review. It was determined that one wetland is present on the site.

Wetland 1: Type 1 – 1,090 sf This decision approves the wetland boundary & type for the site shown in the figure, which is attached. The City of Dayton approves this Application.

[1] *Findings must consider any TEP recommendations.*

Attached Project Documents

☒ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Wetland Figure

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for $500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☐ Yes[1] ☒ No

[1]*If yes, all appeals must first be considered via the local appeals process.*

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

Notice Distribution (include name)

Required on all notices:

☒ SWCD TEP Member: Stacey Lijewski , Hennepin SWCD	☒ BWSR TEP Member: Jed Chesnut
☐ LGU TEP Member (if different than LGU contact):	
☒ DNR Representative: Wes Saunders-Pearce and Melissa Collins	
☒ Watershed District or Watershed Mgmt. Org.: Elm Creek WMO	
☒ Applicant: Tom Dehn ☒ Agent/Consultant: Melissa Barrett	

Optional or As Applicable:

☒ Corps of Engineers: usace_requests_mn@usace.army.mil	
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
☐ Members of the Public (notice only):	☒ Other: City of Dayton

Signature: 	**Date:** 9/18/2024

This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.

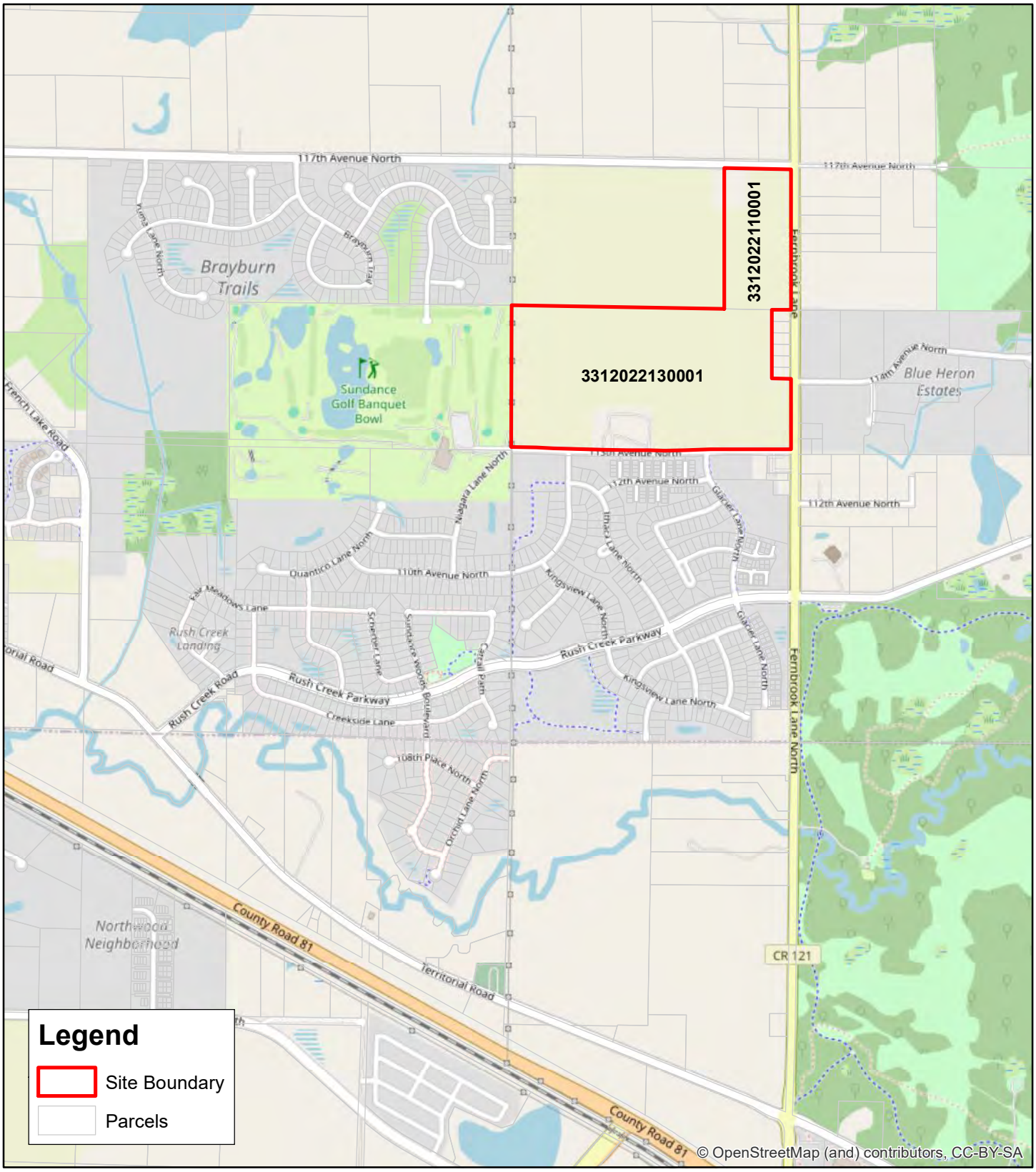


Figure 1 - Site Location

N

0 1,200 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

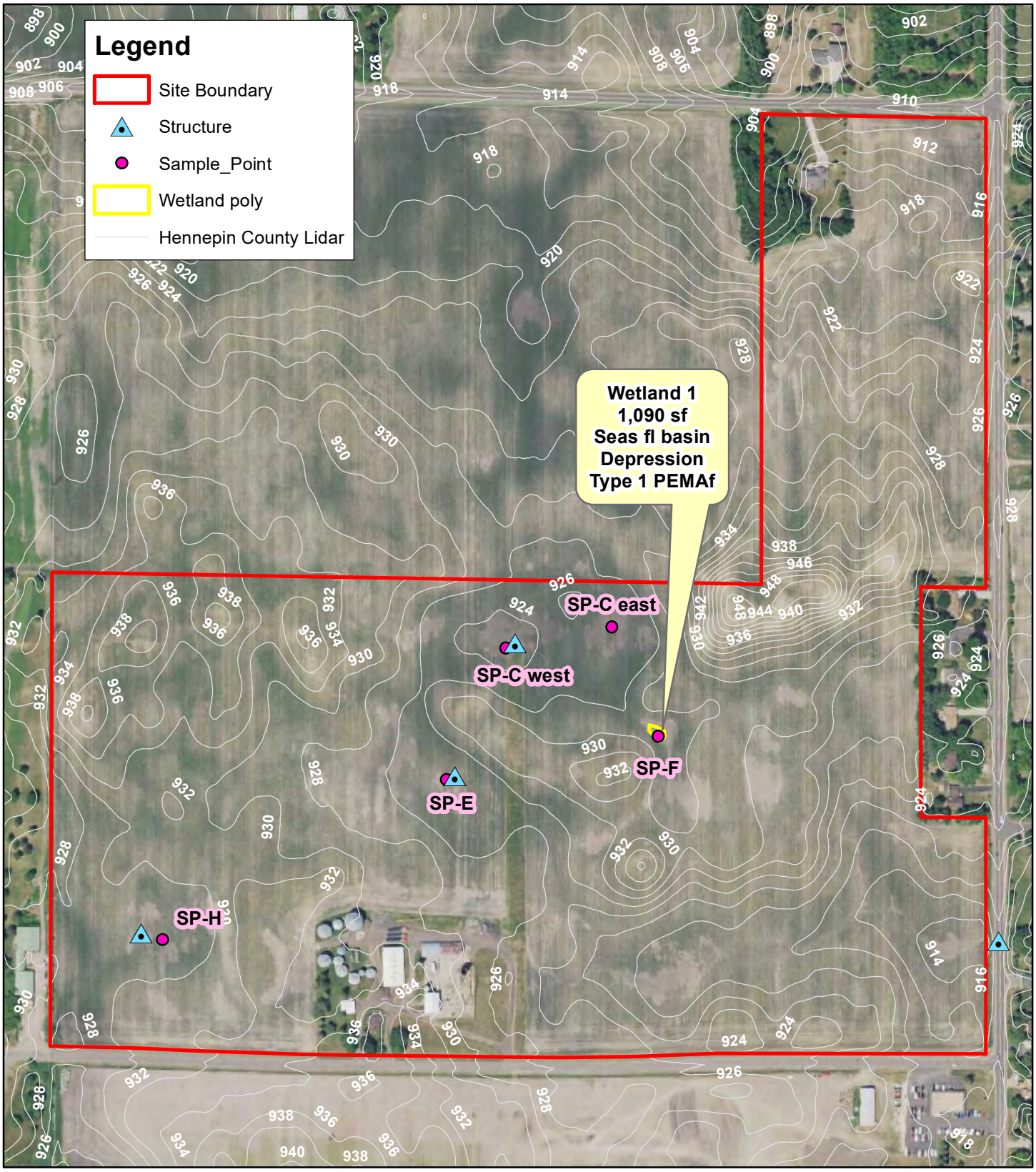


Figure 2 - Existing Conditions (6-18-2021 FSA Photo)

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

14800 113th Ave N

Dayton, Hennepin County, Minnesota

Wetland Delineation Report

Prepared for

Tom Dehn

by

Kjolhaug Environmental Services Company, Inc.
(KES Project No. 2024-063)

July 10, 2024

14800 113th Ave N

Dayton, Hennepin County, Minnesota

Wetland Delineation Report

TABLE OF CONTENTS

FIGURES

APPENDICES

14800 113th Ave N

Dayton, Hennepin County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 90.99-ac 14800 113th Ave N site was inspected on June 14, 2024 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed one PEM1Af wetland in the northeast corner of the site.
- The soil survey showed Cordova and Hamel as the mapped Predominantly Hydric and Partially Hydric soil types within site boundaries. All other soil types on the site are mapped as Not Hydric.
- The DNR Public Waters Inventory did not show any DNR Public Waters, Wetlands, or Watercourses within 1000 feet of site boundaries.
- The National Hydrography Dataset did not show any surface water features within or near site boundaries.
- One (1) Type 1 (PEMAf) farmed, seasonally flooded basin (HGM Class = depression) was delineated on the site as shown on **Figure 2**.

2. OVERVIEW

The 90.99-acre 14800 113th Ave N site was inspected on June 14, 2024 for the presence and extent of wetland. The property was located in Section 33, Township 120 North, Range 22 West, City of Dayton, Hennepin County, Minnesota. The site was located north of 113th Ave N, east of Sundance Golf Course, and West of Ferndale Lane N (**Figure 1**). The property corresponded to the Hennepin County PIDs 3312022130001 (14800 113th Ave N; 73 acres) and 3312022110001 (14401 117th Ave N; 17.99 acres).

The parcel was comprised of row crop land planted with both corn and soybeans for the 2024 season. A farmstead was located along 113th Ave, and a grass air strip was located in the center of the site. Topography on the site was undulating with hills, swales, and depressions scattered throughout. Some depressional areas contained agricultural tile inlets.

One (1) wetland was delineated within the site boundaries. The delineated wetland boundary and existing conditions are shown on **Figure 2**. Figure 2 does not represent an official survey.

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination approval from the City of Dayton under the Minnesota Wetland Conservation Act (WCA).

3. METHODS

Wetlands were identified using the Routine Determination method described in the Corps of Engineers Wetlands Delineation Manual (Waterways Experiment Station, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. The wetland-upland boundary was located in the field using a sub-meter accuracy GPS unit. Figure 2 does not constitute an official survey product.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled.

Soils were characterized to a minimum depth of 24 inches (unless otherwise noted) using a Munsell Soil Color Book and standard soil texturing methodology. Hydric soil indicators used are from Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils, Version 8.1, 2017).

Mapped soils are separated into five classes based on the composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2018 National Wetland Plant List (U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.3, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

4. RESULTS

4.1 Review of NWI, Soils, Public Waters, and NHD Information

The National Wetlands Inventory (NWI) (Minnesota Geospatial Commons 2009-2014 and U.S. Fish and Wildlife Service) showed one PEM1Af wetland in the northeast corner of the site (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Cordova and Hamel as the mapped Predominantly Hydric and Partially Hydric soil types within site boundaries. All other soil types on the site are mapped as Not Hydric. Soil types mapped on the property are listed in **Table 1** and a map showing soil types is included in **Figure 4**.

Table 1. Soil types mapped on the 14800 113th Ave N site.

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	5.6	6.20%	2	Predominantly Non-Hydric
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	2.5	2.80%	0	Not Hydric
L23A	Cordova loam, 0 to 2 percent slopes	2	2.20%	95	Predominantly Hydric
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	12.2	13.40%	45	Partially Hydric
L37B	Angus loam, 2 to 6 percent slopes	22.5	24.70%	5	Predominantly Non-Hydric
L44A	Nessel loam, 1 to 3 percent slopes	15.4	16.90%	10	Predominantly Non-Hydric
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	30.7	33.70%	30	Predominantly Non-Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) did not show any DNR Public Waters, Wetlands, or Watercourses within 1000 feet of site boundaries (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) did not show any surface water features within or near site boundaries (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on June 14, 2024. One (1) wetland was identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following description of the wetland and its adjacent upland reflects conditions observed at the time of the field visit. At that time, the fields were planted with alternating rows/areas of corn and soybeans. Precipitation conditions were atypical (wet) based on the three-month antecedent precipitation data for a date of June 14, 2024, and ~ 3 inches above the 70th % (wet range) based on the 30-day rolling total (**Appendix C**).

Wetland 1 was a Type 1 (PEMAf) farmed, seasonally flooded basin (HGM = depression) that was that was sparely vegetated with yellow nut sedge. The depression lacked free water or

saturated soils within 12 inches of the soil surface. However, secondary hydrology indicators of geomorphic position and FAC-Neutral Test were observed. See ***Area F*** of **Section 4.3**.

No primary hydrology indicators were observed in the upland.

The wetland boundary corresponded with the limits of the sparsely vegetated area. Wetland 1 was not shown as wetland on the NWI map but was located within an area mapped with partially hydric soil (Hamel) on the soil survey.

4.3 Aerial Review for Offsite Hydrology Determinations

Areas in agricultural cropland that exhibited potential wetland signatures on aerial photography and with low or depressional topography were reviewed generally following methods described in Guidance for Offsite Hydrology/Wetland Determinations (Minnesota Board of Water and Soil Resources (BWSR) 2016) and Guidance for Submittal of Delineation Reports to the St. Paul District Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota, Version 2.0 (USACE 2015).

Signatures at locations of potential wetlands on aerial photographs were interpreted and classified using seven codes (**Table 2**).

Table 2. Aerial photograph interpretation codes

Code	Classification	Code	Classification
CS	Crop stress	WS	Wetland signature
DO	Drowned out	AP	Altered pattern
NC	Not cropped	NV	Normal vegetation
SW	Standing water		

This analysis used only aerial photographs taken following periods of average normal antecedent precipitation within the normal range as determined using the Wetland Delineation Precipitation Data Retrieval tool (Minnesota Climatology Office 2015). This tool classifies antecedent precipitation as Normal (N), Wet (W) or Dry (D) by comparing precipitation during the three months preceding the estimated date of aerial photography to the 30-year average from 1981-2010.

All available Google Earth and MnGEO FSA photo years were assessed for wet/normal/dry climatic conditions using the Wetland Delineation Precipitation Data Retrieval. The 8 most recent normal photos used for the assessment included photos from 2023, 2022, 2020, 2019, 2018, 2015, 2014, and 2010.

Eleven (11) areas showing a wet signature on the 2017 FSA photo (most recent “wet” photo) were included in the review. The locations of ***Area A through Area K*** are shown on **Figure 7**. Photographs for each year of review and the Wetland Hydrology Recording from Aerial Imagery - Recording Form are included in **Appendix D**. Results of the review are summarized in Table 3 below.

Table 3. Offsite Review Results

Area	% Signatures during normal period photo	Field Verification Required?	Determination
A	0%	Yes	No - Lack of one primary or two secondary hydrology indicators. Flat planted cropland.
B	0%	No	No
C (west depression)	63%	No (however, area was reviewed in field)	No - tile inlet present. Lack of one primary or two secondary hydrology indicators. See SP-C west.
C (east depression)	63%	No (however, area was reviewed in field)	No – Lack of one primary or two secondary hydrology indicators. See SP-C east.
D	13%	No	No
E	38%	Yes	No - soil not hydric (see SP-E). Tile inlet present. Lack of one primary or two secondary hydrology indicators.
F	50%	Yes	**Yes (Wetland 1**). See SP-F.
G	0%	No	No
H	50%	Yes	No - Tile inlet present. Lack of one primary or two secondary hydrology indicators. See SP-H.
I	25%	No	No
J	13%	No	No
K	13%	No	No

4.4 Other Areas

No other depressional areas with hydrophytic vegetation or wetland hydrology were observed on the site. No other areas were shown as hydric soil on the soil survey or as wetland on the NWI map.

4.5 Request for Wetland Boundary and Jurisdictional Determination

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for a wetland boundary and type determination approval from the City of Dayton under the Minnesota Wetland Conservation Act (WCA).

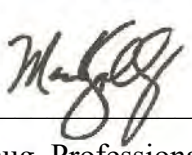
5. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. This wetland delineation and report were prepared in compliance with the regulatory standards in place at the time the work was performed.

Site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation completed by: Melissa Lauterbach-Barrett, Wetland Specialist
Minnesota Certified Wetland Delineator No. 1085

Report prepared by: Melissa Lauterbach-Barrett, Wetland Specialist
Minnesota Certified Wetland Delineator No. 1085

Report reviewed by:  Date: July 8, 2024
Mark Kjolhaug, Professional Wetland Scientist No. 000845

14800 113th Ave N, Dayton

Wetland Delineation Report

FIGURES

1. Site Location
2. Existing Conditions
3. National Wetlands Inventory
4. Soil Survey
5. DNR Protected Waters Inventory
6. National Hydrography Dataset
7. Offsite Hydrology Assessment Areas

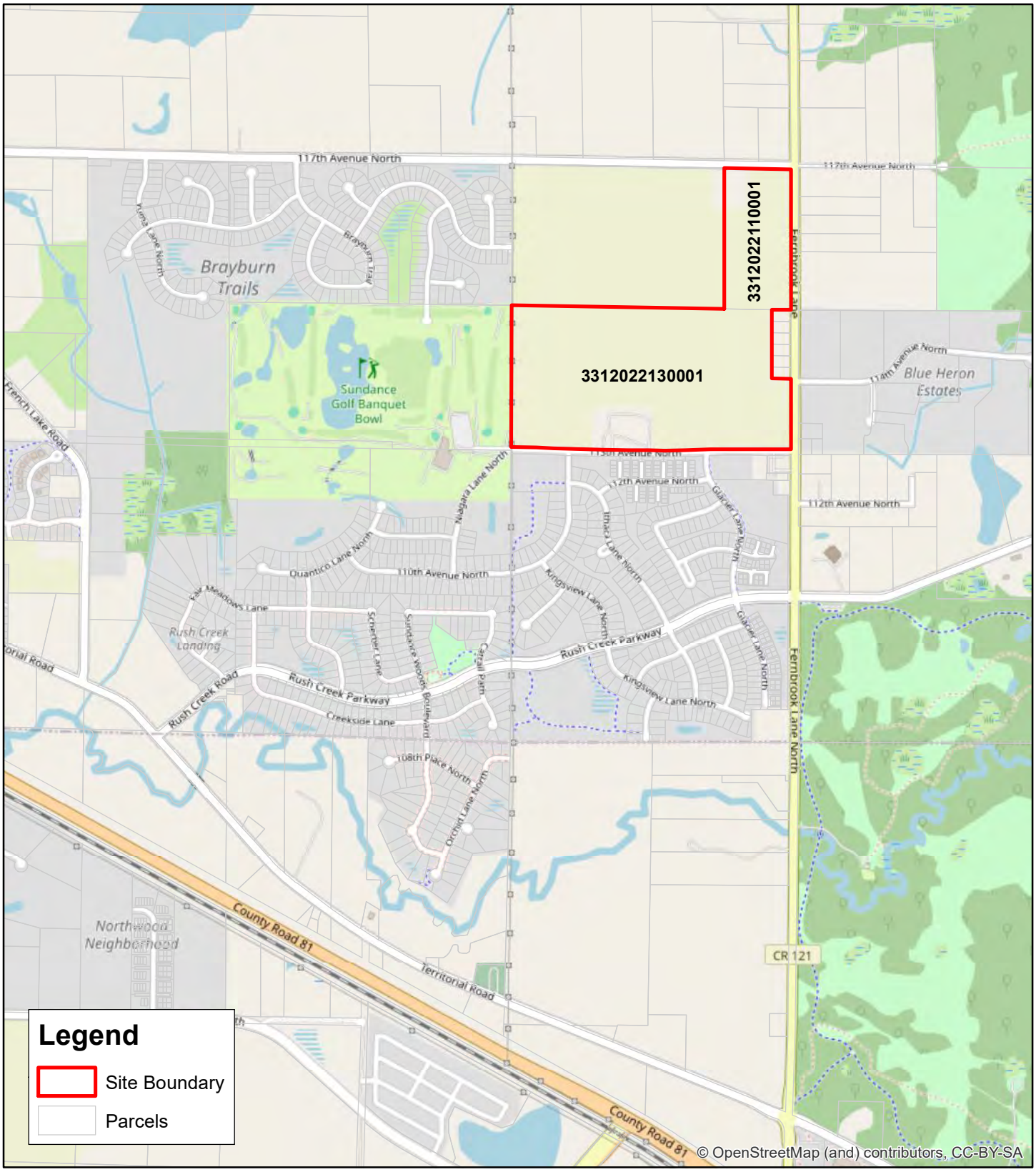


Figure 1 - Site Location

N

0 1,200 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: ESRI Streets Basemap

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

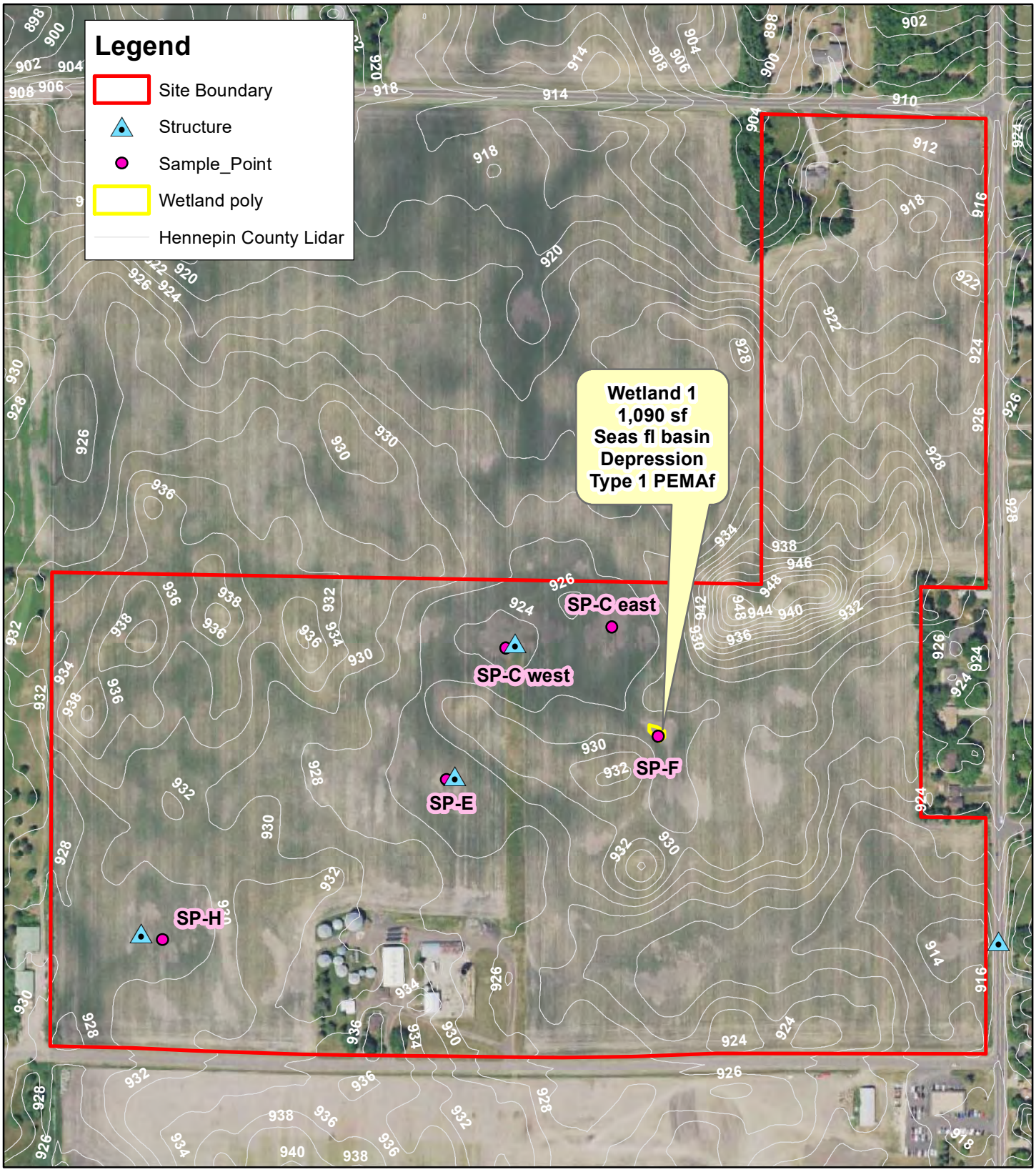


Figure 2 - Existing Conditions (6-18-2021 FSA Photo)

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

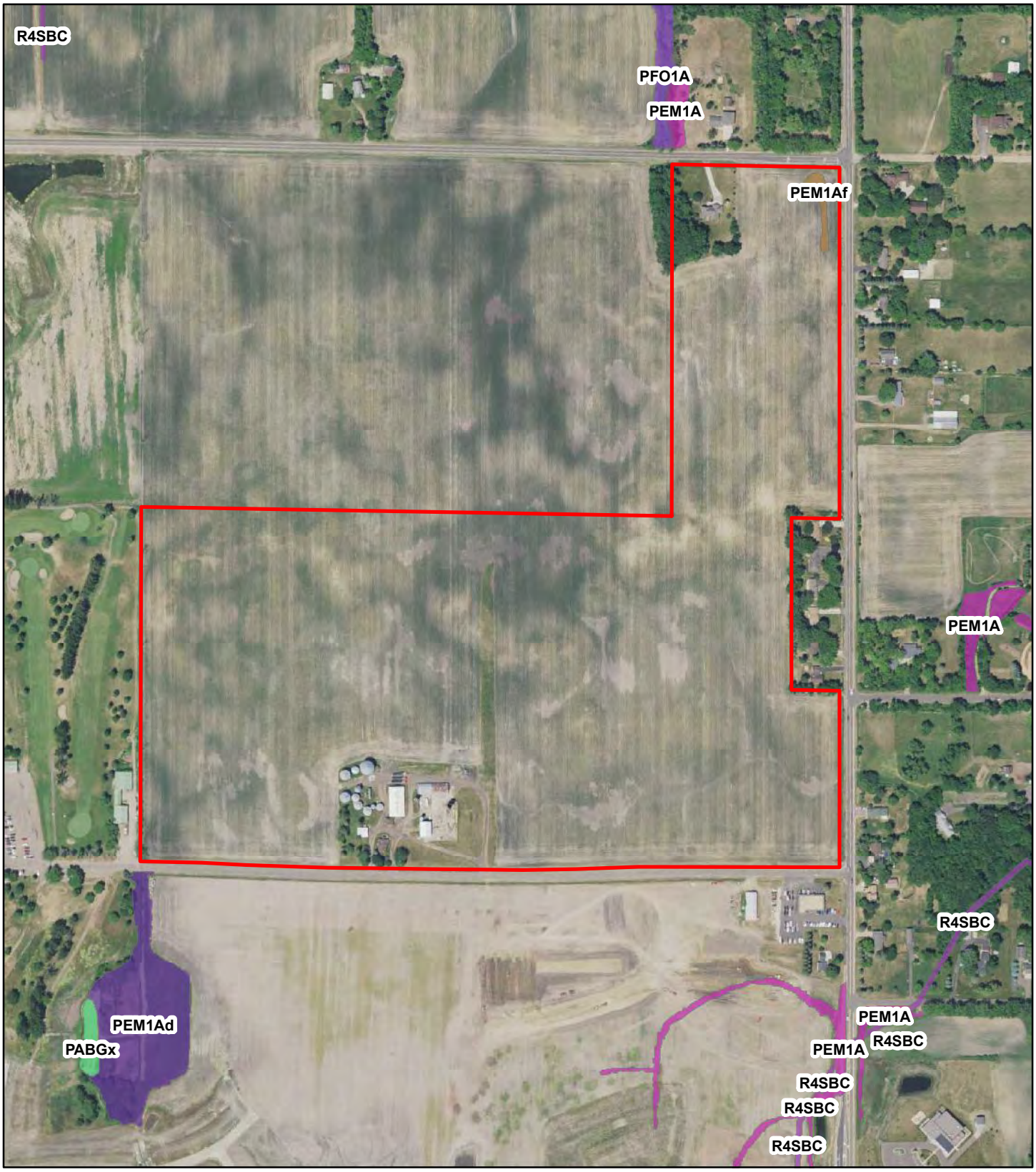


Figure 3 - National Wetlands Inventory

N

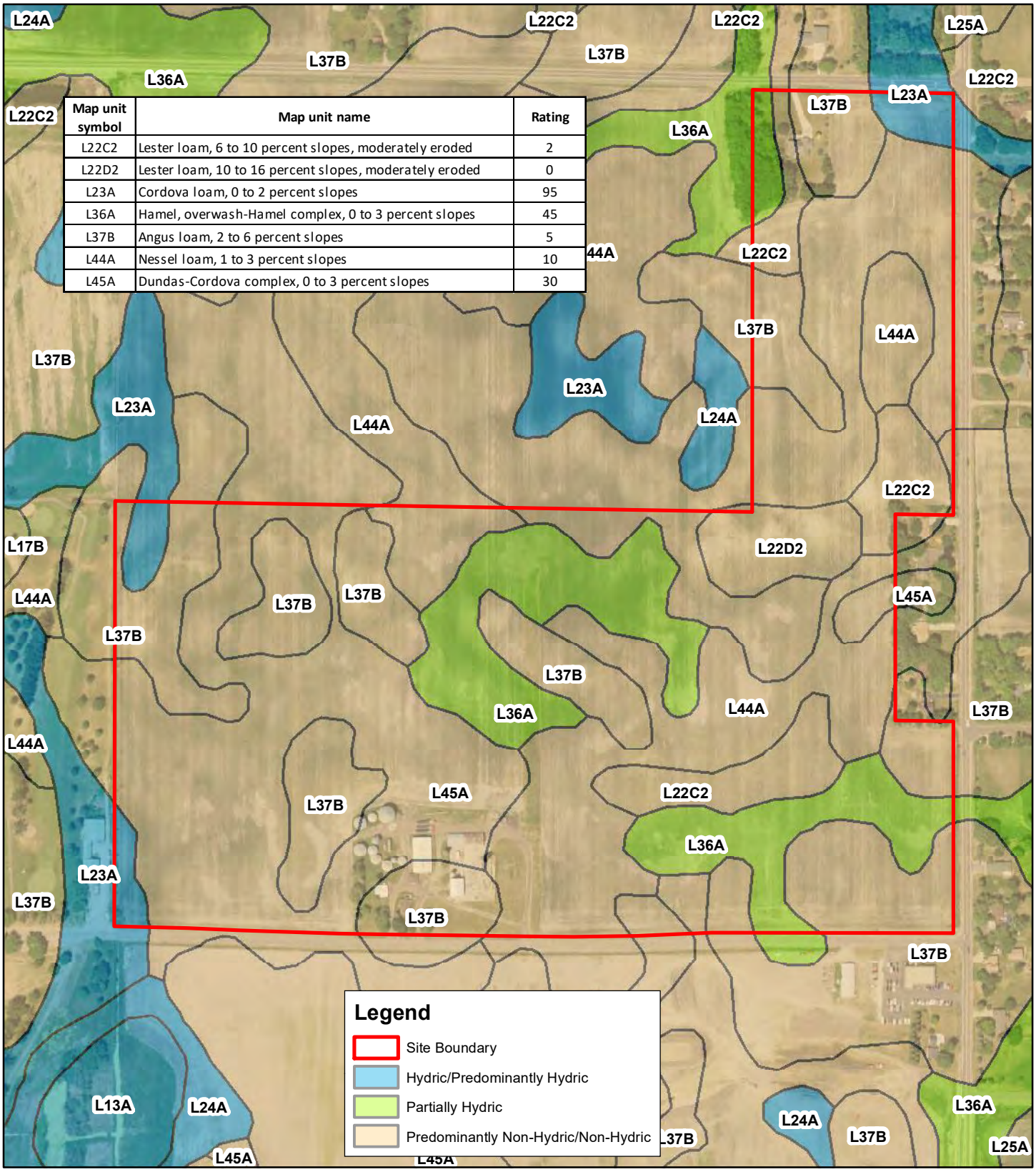
0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Map unit symbol	Map unit name	Rating
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	2
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	0
L23A	Cordova loam, 0 to 2 percent slopes	95
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	45
L37B	Angus loam, 2 to 6 percent slopes	5
L44A	Nessel loam, 1 to 3 percent slopes	10
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	30

Figure 4 - Soil Survey

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USDA, NRCS

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

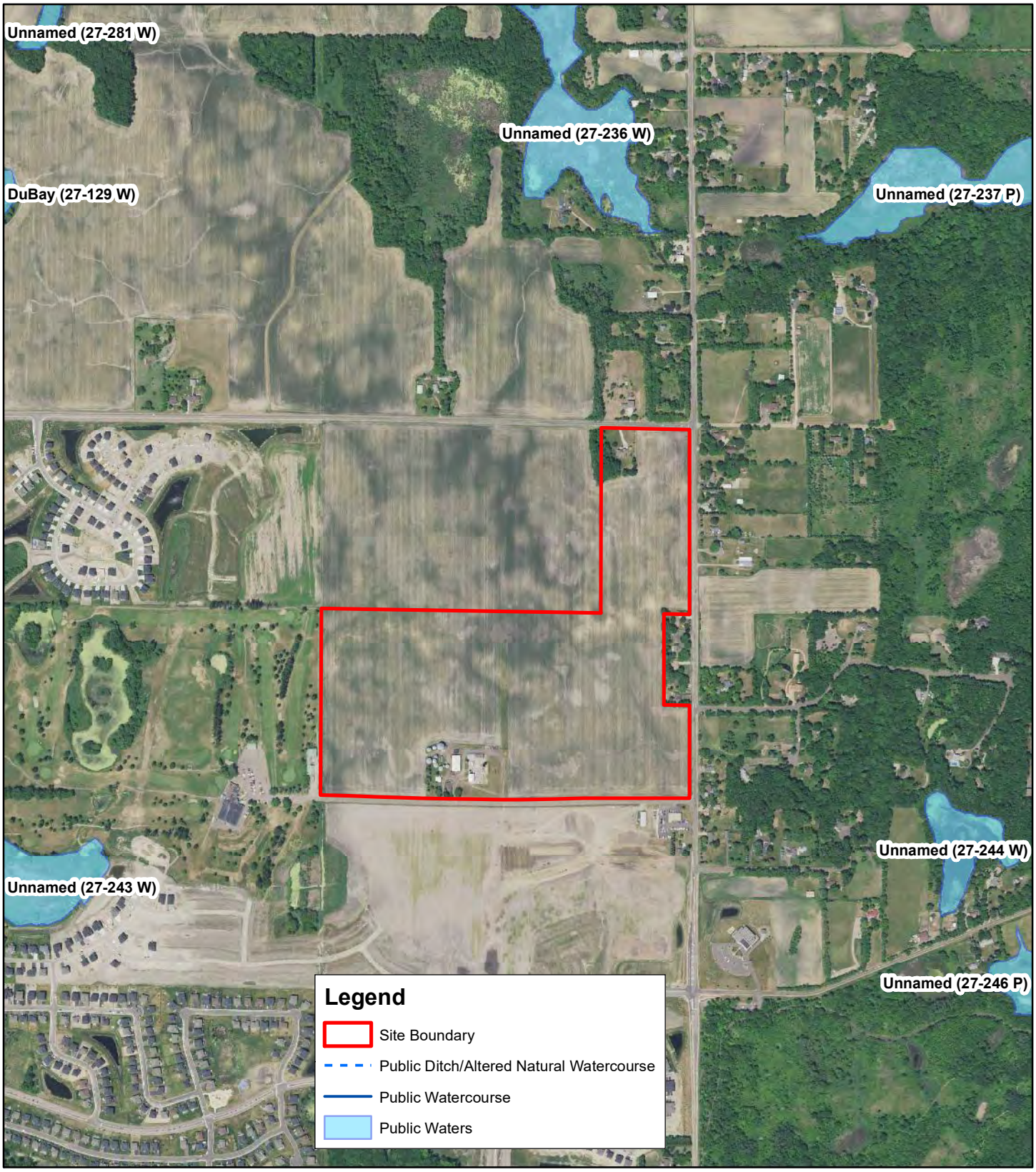


Figure 5 - DNR Public Waters Inventory

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

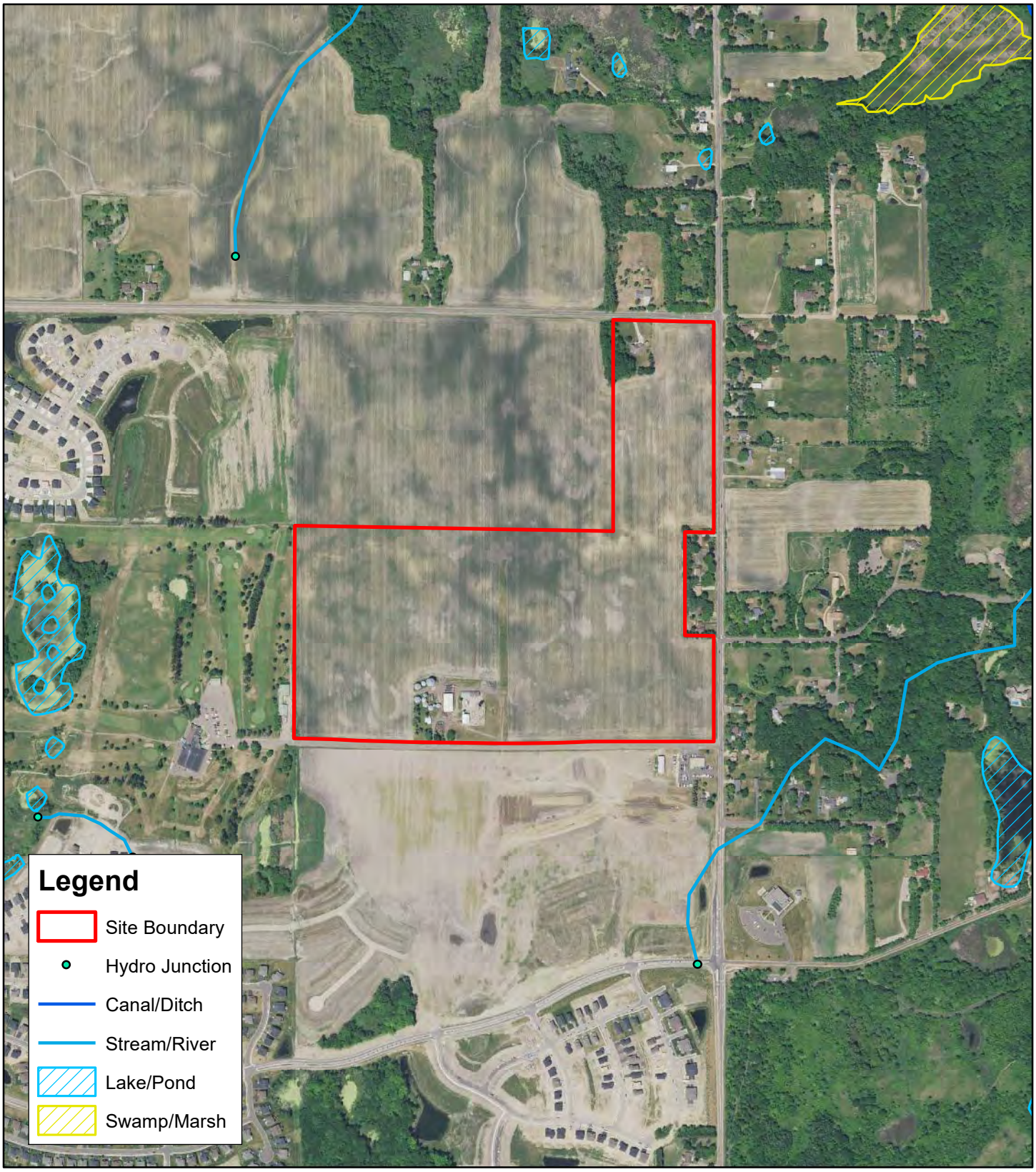


Figure 6 - National Hydrography Dataset

N

0 500 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

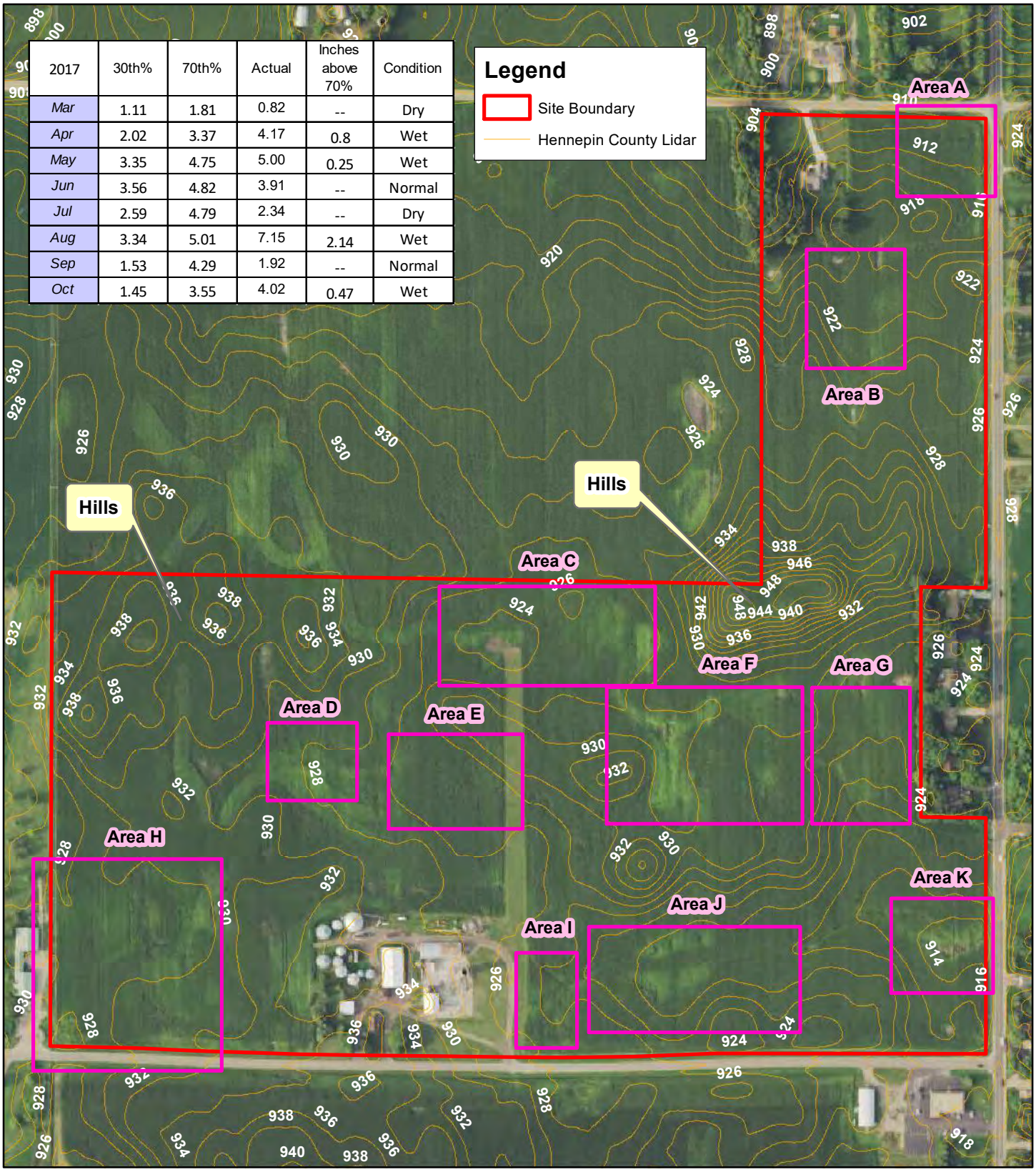


Figure 7 - Offsite Hydrology Assessment Areas (8-21-2017 FSA Wet Photo & Wet spring)

N

0 250 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

14800 113th Ave N, Dayton

Wetland Delineation Report

APPENDIX A

Joint Application Form for Activities Affecting Water Resources in Minnesota

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Tom Dehn
Mailing Address: 6781 Highway 10 Ramsey, MN 55303
Phone: (612)-328-2215
E-mail Address: tom.dehn@powerlodge.com

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name: Melissa Barrett, Kjolhaug Environmental Services
Mailing Address: 2500 Shadywood Road, Suite 130, Orono, MN 55331
Phone: 952-388-3752
E-mail Address: melissa@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township: Dayton**
Parcel ID and/or Address: 3312022130001 and 3312022110001
Legal Description (Section, Township, Range): Sec 33, T120, R22
Lat/Long (decimal degrees): 45.161361, -93.466660
Attach a map showing the location of the site in relation to local streets, roads, highways. See Figure 1.
Approximate size of site (acres) or if a linear project, length (feet): 90.99-ac

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Application is for wetland delineation concurrence/approval.

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: _____ Date: 6/20/24

I hereby authorize _____ to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

14800 113th Ave N, Dayton

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 14800 113th Ave N | City/County: Dayton/Hennepin | Sampling Date: 6-14-2024
Applicant/Owner: Tom Dehn | State: MN | Sampling Point: SP-C west
Investigator(s): M. Barrett, K. Dickerson | Section, Township, Range: Sec 33, T120, R22
Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave
Slope (%): 0-2 | Lat: | Long: | Datum:
Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances" present? No
Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	Y	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)

Climatic conditions wet (atypical) per gridded database; Cropland = Not normal circumstances; disturbed veg.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0 = Total Cover		

Sapling/Shrub stratun (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		

Herb stratum (Plot size: 5)			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
	0 = Total Cover		

Woody vine stratum (Plot size: 30)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 0 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	0	(A)	0	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Due to wetness, recently re-planted soybeans (5%). See Area C west of offsite review.

SOIL **Sampling Point:** SP-C west

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-18	10YR 2/1	100					Loam	
18-20	10YR 2/1	98	10YR 4/4	2	C	M	Loam	
20-24	10YR 3/1	90	10YR 4/4	10	C	M	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- X Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Partially hydric mapped soil. May be depleted at some depth (A12). Soils lack redox w/i 8" or depleted matrix within 24"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No	X	Depth (inches):	___
Water table present?	Yes ___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Corresponds to Area C of offsite review with signatures in 63% normal photos.

Remarks:

Wetland per decision matrix. However, moist (not saturated) at 18 inches in period that is ~3" wetter than 70th%. Tile inlet present - D2 not applicable. Soils lack redox w/i 8" or depleted matrix within 24" of surface.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 14800 113th Ave N | City/County: Dayton/Hennepin | Sampling Date: 6-14-2024
Applicant/Owner: Tom Dehn | State: MN | Sampling Point: SP-C east
Investigator(s): M. Barrett, K. Dickerson | Section, Township, Range: Sec 33, T120, R22
Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave
Slope (%): 0-2 | Lat: | Long: | Datum:
Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances"
Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N	**Is the sampled area within a wetland?**	N
Hydric soil present?	N	If yes, optional wetland site ID:	
Indicators of wetland hydrology present?	N		

Remarks: (Explain alternative procedures here or in a separate report.)

Climatic conditions wet (atypical) per gridded database; Cropland = Not normal circumstances; disturbed veg.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0 = Total Cover		

Sapling/Shrub stratun (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		

Herb stratum (Plot size: 5)			
1 *Glycine max*	10	Y	UPL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10 = Total Cover		

Woody vine stratum (Plot size: 30)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 1 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	10	x 5 =	50	
Column totals	10	(A)	50	(B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

See Area C of offsite review.

SOIL **Sampling Point:** SP-C east

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-14	10YR 2/2	100					Loam	
14-18	10YR 2/1	97	10YR 4/4	3	C	M	Clay loam	
18-24	10YR 2/1	100					Clay loam	
24-26	10YR 2/1	95	10YR 4/6	5	C	PL	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

Partially hydric mapped soil. May be depleted at some depth (A12). Soils lack redox w/i 8" or depleted matrix within 26'

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Corresponds to Area C of offsite review with signatures in 63% of normal photos.

Remarks:

Wetland per decision matrix. However, no water or saturation to 24 inches in period that is ~3" wetter than 70th%. Area underlain by tile - D2 not applicable. Soils lack redox w/i 8" or depleted matrix within 24" of surface.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 14800 113th Ave N | City/County: Dayton/Hennepin | Sampling Date: 6-14-2024
Applicant/Owner: Tom Dehn | State: MN | Sampling Point: SP-E
Investigator(s): M. Barrett, K. Dickerson | Section, Township, Range: Sec 33, T120, R22
Landform (hillslope, terrace, etc.): broad flat depression | Local relief (concave, convex, none): none
Slope (%): 0-2 | Lat: | Long: | Datum:
Soil Map Unit Name: Dundas-Cordova complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances" present? No
Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N
Hydric soil present?	N
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N
If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Climatic conditions wet (atypical) per gridded database; Cropland = Not normal circumstances; disturbed veg.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratun (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Zea mays*	5	Y	UPL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	5	= Total Cover	

Woody vine stratum (Plot size: 30)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 1 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column totals	5 (A)		25 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)
See Area E of offsite review

SOIL **Sampling Point:** SP-E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 2/2	100					Clay loam	
8-10	10YR 3/2	92					Clay loam	
10-12	10YR 3/2	95	10YR 4/6	5	C	M	Clay loam	
12-24	10YR 2/1	98	10YR 4/1	2	D	M	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Corresponds to Area E of offsite review with signatures in 38% of normal photos.

Remarks:

No water or saturation to 24 inches in period that is ~3" wetter than 70th%. Tile inlet present in bottom/center depression - D2 not applicable. Tile effectively removes hydrology.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 14800 113th Ave N | City/County: Dayton/Hennepin | Sampling Date: 6-14-2024
Applicant/Owner: Tom Dehn | State: MN | Sampling Point: SP-F
Investigator(s): M. Barrett | Section, Township, Range: Sec 33, T120, R22
Landform (hillslope, terrace, etc.): depression | Local relief (concave, convex, none): concave
Slope (%): 0-2 | Lat: | Long: | Datum:
Soil Map Unit Name: Hamel, overwash-Hamel complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances"
Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Climatic conditions wet (atypical) per gridded database; Cropland = Not normal circumstances; disturbed veg.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratun (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Cyperus esculetus*	10	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10	= Total Cover	

Woody vine stratum (Plot size: 30)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across all Strata: 1 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	10 (A)		20 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

See Area F of offsite review.

SOIL **Sampling Point:** SP-F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 2/1	100					Clay loam	
4-12	10YR 2/1	98	10YR 4/4	8	C	M	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- X Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

Partially hydric mapped soil. May be depleted at some depth (A12).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches): ___
Water table present?	Yes	___	No	X	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): ___

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Corresponds to Area F of offsite review with signatures in 50% of normal photos.

Remarks:

No water or saturation to 12 inches in period that is ~3" wetter than 70th%.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 14800 113th Ave N | City/County: Dayton/Hennepin | Sampling Date: 6-14-2024
Applicant/Owner: Tom Dehn | State: MN | Sampling Point: SP-H
Investigator(s): M. Barrett, K. Dickerson | Section, Township, Range: Sec 33, T120, R22
Landform (hillslope, terrace, etc.): broad flat depression | Local relief (concave, convex, none): none
Slope (%): 0-2 | Lat: | Long: | Datum:
Soil Map Unit Name: Dundas-Cordova complex, 0 to 3 percent slopes | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances" present? No
Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N
Hydric soil present?	Y
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N
If yes, optional wetland site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Climatic conditions wet (atypical) per gridded database; Cropland = Not normal circumstances; disturbed veg.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratun (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Glycine max*	10	Y	UPL
2			
3			
4			
5			
6			
7			
8			
9			
10			
	10	= Total Cover	

Woody vine stratum (Plot size: 30)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 1 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column totals	10 (A)		50 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)
See Area H of offsite review

SOIL **Sampling Point:** SP-H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 2/1	100					Clay loam	
8-24	10YR 2/1	92	10YR 4/4	8	C	M	Clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	___	No	X	Depth (inches):	___
Water table present?	Yes	___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes	___	No	X	Depth (inches):	___

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Corresponds to Area H of offsite review with signatures in 50% of normal photos.

Remarks:

No water or saturation to 24 inches in period that is ~3" wetter than 70th%. Tile inlet present in bottom/center depression - D2 not applicable. Tile effectively removes hydrology.

14800 113th Ave N, Dayton

Wetland Delineation Report

APPENDIX C

Precipitation Data

14800 113th Ave N, Dayton: Precipitation Summary
Source: Minnesota Climatology Working Group
Site Visit: June 14, 2024

Monthly Totals: 2024

Target: 120N 22W S33

Mon	Year	CC	Tttn	rrW	ss	nnnn	oooooooo	pre
Jan	2024	27	119N	22W	1	SWCD		.19
Feb	2024	27	119N	22W	1	SWCD		.71
Mar	2024	27	119N	22W	1	SWCD		2.32
Apr	2024	27	119N	22W	1	SWCD		4.05
May	2024	27	119N	22W	1	SWCD		5.83
Jun	2024	27	119N	22W	1	SWCD		6.33

April/May/June Daily Records

Date	Precip.
Apr 1, 2024	0
Apr 2, 2024	.05
Apr 3, 2024	0
Apr 4, 2024	0
Apr 5, 2024	0
Apr 6, 2024	0
Apr 7, 2024	.13
Apr 8, 2024	.64
Apr 9, 2024	.14
Apr 10, 2024	0
Apr 11, 2024	0
Apr 12, 2024	0
Apr 13, 2024	0
Apr 14, 2024	0
Apr 15, 2024	0
Apr 16, 2024	1.45
Apr 17, 2024	0
Apr 18, 2024	0
Apr 19, 2024	0
Apr 20, 2024	T
Apr 21, 2024	0
Apr 22, 2024	0
Apr 23, 2024	.10
Apr 24, 2024	0
Apr 25, 2024	0
Apr 26, 2024	.35
Apr 27, 2024	0
Apr 28, 2024	.79
Apr 29, 2024	.04
Apr 30, 2024	.36

Date	Precip.
May 1, 2024	0
May 2, 2024	.49
May 3, 2024	0
May 4, 2024	.21
May 5, 2024	0
May 6, 2024	0
May 7, 2024	.41
May 8, 2024	0
May 9, 2024	0
May 10, 2024	0
May 11, 2024	0
May 12, 2024	0
May 13, 2024	0
May 14, 2024	0
May 15, 2024	.11
May 16, 2024	0
May 17, 2024	.35
May 18, 2024	0
May 19, 2024	0
May 20, 2024	.51
May 21, 2024	1.51
May 22, 2024	0
May 23, 2024	0
May 24, 2024	.26
May 25, 2024	.28
May 26, 2024	0
May 27, 2024	0
May 28, 2024	.54
May 29, 2024	0
May 30, 2024	0
May 31, 2024	1.16

Date	Precip.	
Jun 1, 2024	0	
Jun 2, 2024	0	
Jun 3, 2024	.52	
Jun 4, 2024	.36	
Jun 5, 2024	.06	
Jun 6, 2024	0	
Jun 7, 2024	0	
Jun 8, 2024	.13	
Jun 9, 2024	0	
Jun 10, 2024	0	
Jun 11, 2024	.15	
Jun 12, 2024	.29	
Jun 13, 2024	0	
Jun 14, 2024	0	Site Visit
Jun 15, 2024	1.85	
Jun 16, 2024	0	
Jun 17, 2024	.87	
Jun 18, 2024	.95	
Jun 19, 2024	0	
Jun 20, 2024	0	
Jun 21, 2024	0	
Jun 22, 2024	.47	
Jun 23, 2024	0	
Jun 24, 2024	0	
Jun 25, 2024	0	
Jun 26, 2024	0	
Jun 27, 2024	.68	
Jun 28, 2024	0	
Jun 29, 2024	0	
Jun 30, 2024	0	

1991-2020 Summary Statistics

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*WARM*	*ANN*	*WAT*
30%	0.50	0.53	1.11	2.02	3.35	3.56	2.59	3.34	1.53	1.45	0.84	0.64	17.02	27.70	28.04
70%	0.85	1.00	1.81	3.37	4.75	4.82	4.79	5.01	4.29	3.55	1.92	1.38	22.13	33.03	32.68
mean	0.74	0.82	1.49	2.93	4.19	4.51	4.00	4.16	3.30	2.70	1.56	1.11	20.15	31.51	31.49

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Hennepin** township number: **120N**
township name: **Dayton** range number: **22W**
nearest community: **Fletcher** section number: **33**

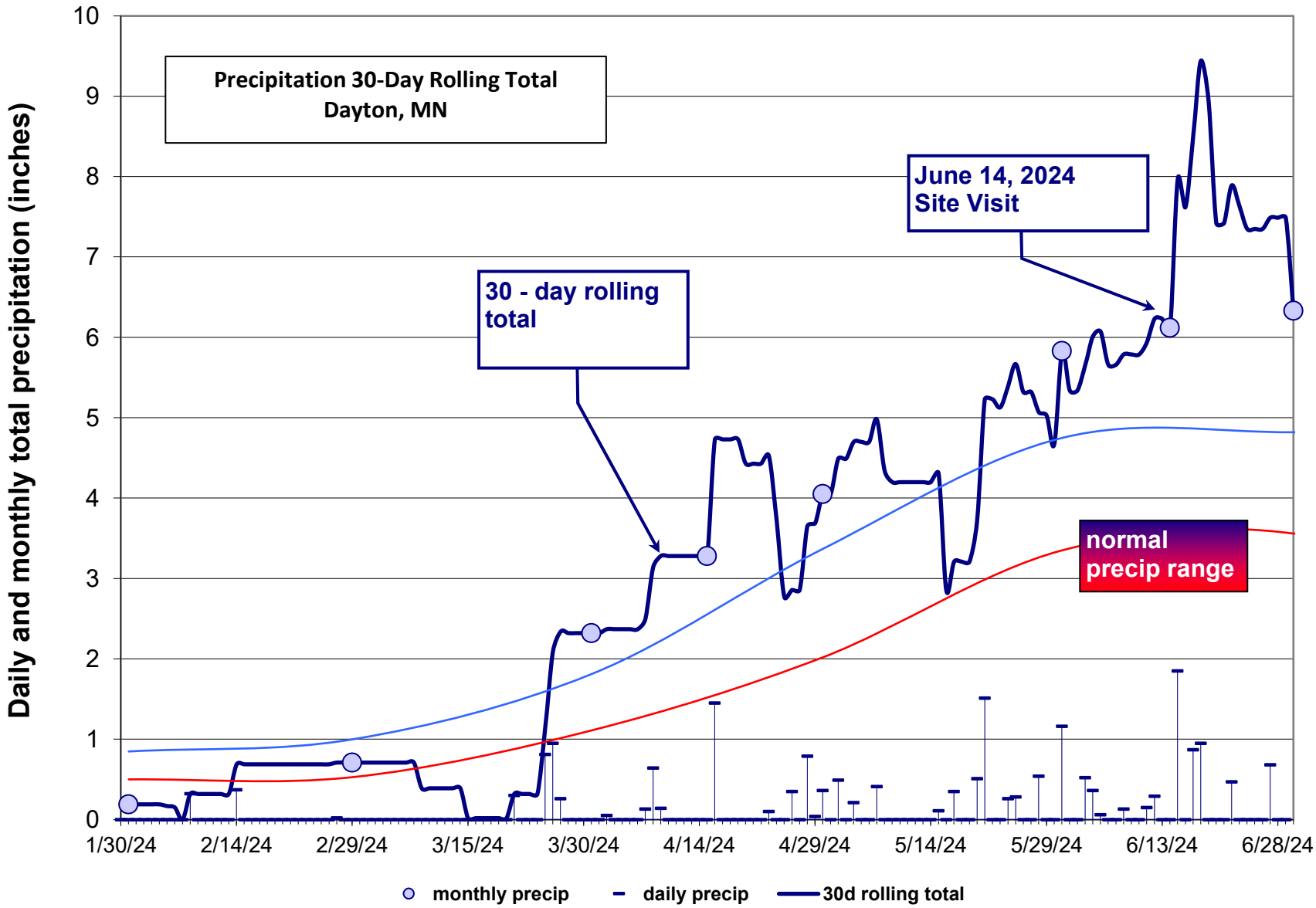
Aerial photograph or site visit date:
Friday, June 14, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **May 2024**	second prior month: **April 2024**	third prior month: **March 2024**
estimated precipitation total for this location:	**5.83**	**4.27R**	**2.29R**
there is a 30% chance this location will have less than:	3.35	2.02	1.11
there is a 30% chance this location will have more than:	4.75	3.37	1.81
type of month: dry normal wet	**Wet**	**wet**	**wet**
monthly score	**3*3=9**	**2 * 3 = 6**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**9+6+3=18 (wet)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)


Precipitation 30-Day Rolling Total
Dayton, MN
June 14, 2024
Site Visit
30 - day rolling
total
normal
precip range
Daily and monthly total precipitation (inches)
10
9
8
7
6
5
4
3
2
1
0
1/30/24
2/14/24
2/29/24
3/15/24
3/30/24
4/14/24
4/29/24
5/14/24
5/29/24
6/13/24
6/28/24
monthly precip
daily precip
30d rolling total

14800 113th Ave N, Dayton

Wetland Delineation Report

APPENDIX D

Offsite Hydrology Review Recording Form and Aerial Photos

Exhibit 1 Field data sheet reference (if applicable):_____

Wetland Hydrology from Aerial Imagery – Recording Form

Project Name: 14800 113th Ave N **Date:** 5-20-2024 **County:** Hennepin

Investigator: M. Barrett **Legal Description (S, T, R):** S: 33 T: 120N R: 22W

Summary Table

Date Image Taken	Date Used	Image Source	Climate Condition (wet, dry, normal)*	Image Interpretation(s)					
				Area A	Area B	Area C	Area D	Area E	Area F
3/7/2024				Prior to growing season. Not used.					
5/25/2023	6/1/2023	Google Earth	Normal (1)	NV	NV	SS (1)	NV	DO (1)	SS (1)
8/4/2022	8/4/2022	Google Earth	Dry	Dry – not used.					
6/27/2022	7/1/2022	Google Earth	Normal (2)	NV	NV	SS (2)	NV	DO (2)	SS (2)
8/13/2021	8/13/2021	Google Earth	Dry	Dry – not used.					
6/18/2021	7/1/2021	FSA	Dry	Dry – not used.					
10/9/2020	10/9/2020	Google Earth	Normal	Used May 2020 normal photo instead.					
5/11/2020	5/11/2020	Google Earth	Normal (3)	NV	NV	SS (3)	NV	NV	NV
10/25/2019	11/1/2019	Google Earth	Wet	Wet – not used.					
7/27/2019	8/1/2019	FSA	Normal (4)	NV	NV	NV	NV	NV	NV
4/28/2018	5/1/2018	Google Earth	Normal (5)	NV	NV	SW (4)	NV	NV	SW (3)
4/5/2017				Prior to growing season. Not used.					
8/31/2017	9/1/2017	FSA	Wet	Wet – not used.					
3/11/2016				Prior to growing season. Not used.					
8/11/2015	8/11/2015	Google Earth	Wet	Normal for a date of 9/1/2015. Used September 2015 normal photo.					
9/27/2015	10/1/2015	FSA	Normal (6)	NV	NV	NV	NV	NV	NV
10/11/2014	10/11/2014	Google Earth	Normal (7)	NV	NV	WO	NV	DO (3)	WO
9/15/2013	10/1/2013	Google Earth	Normal	Wet spring, 7/12/13 FSA photo = Wet. Included for viewing.					
7/12/2013	7/1/2013	FSA	Wet	Wet. Included for viewing.					
4/3/2012				Prior to growing season. Not used.					
9/12/2010	9/12/2010	FSA	Normal (8)	NV	NV	NV	CS (1)	NV	CS (4)
6/23/2010	7/1/2010	Google Earth	Normal	Same photo as FSA photo with known date. Not used.					
5/18/2010	6/1/2010	Google Earth	Dry	Dry – not used.					
				*** Per gridded database/3-month antecedent conditions**					
Number of normal years				8	8	8	8	8	8
Number with wet signatures				0	0	4	1	3	4
Percent with wet signatures				0%	0%	50%	13%	38%	50%

KEY		
WS - wetland signature	SS - soil wetness signature	CS - crop stress
NC - not cropped	AP - altered pattern	NV - normal vegetative cover
DO - drowned out	SW - standing water	NSS – no soil wetness signature
Other labels or comments:	FP - Farming Practice Feature	WO – washout (apparent erosion, not a signature)

Exhibit 1 Field data sheet reference (if applicable):_____

Wetland Determination from Aerial Imagery – Recording Form

Project Name: 14800 113th **Date:** 5-20-2024 **County:** Hennepin

Investigator: M. Barrett **Legal Description (S, T, R):** S: 33 T: 120N R: 22W

Use the Decision Matrix below to complete Table 1.

Hydric Soils present[1]	Identified on NWI or other wetland map[2]	Percent with wet signatures	Field verification required[3]	Wetland?
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

[1] The presence of hydric soils can be determined from the "Hydric Rating by Map Unit Feature" under "Land Classifications" from the Web Soil Survey. "Not Hydric" is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

[2] At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publicly available should be reviewed.

[3] Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

Table 1.

Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures	Field Verification Required	Wetland?
A	Yes	Yes	0%	Yes	No - Lack of one primary or two secondary hydrology indicators. Flat planted cropland.
B	No	No	0%	No	No
C	Yes – Partially Hydric	No	50%	Yes	No - tile inlet present. Lack of one primary or two secondary hydrology indicators. See SP-C west and SP-C east.
D	No	No	13%	No	No
E	Yes – Partially Hydric	No	38%	Yes	No - soil not hydric (see SP-E). Tile inlet present. Lack of one primary or two secondary hydrology indicators.
F	Yes – Partially Hydric	No	50%	Yes	Yes – **Wetland 1**

[1] Answer "N/A" if field verification is not required and was not conducted

Exhibit 1 Field data sheet reference (if applicable):_____

Wetland Hydrology from Aerial Imagery – Recording Form

Project Name: 14800 113th Ave N **Date:** 5-20-2024 **County:** Hennepin

Investigator: M. Barrett **Legal Description (S, T, R):** S: 33 T: 120N R: 22W

Summary Table

Date Image Taken	Date Used	Image Source	Climate Condition (wet, dry, normal)*	Image Interpretation(s)					
				Area G	Area H	Area I	Area J	Area K	
3/7/2024				Prior to growing season. Not used.					
5/25/2023	6/1/2023	Google Earth	Normal (1)	NV	DO (1)	SS (1)	NV	NV	
8/4/2022	8/4/2022	Google Earth	Dry	Dry – not used.					
6/27/2022	7/1/2022	Google Earth	Normal (2)	NV	DO (2)	NV	NV	NV	
8/13/2021	8/13/2021	Google Earth	Dry	Dry – not used.					
6/18/2021	7/1/2021	FSA	Dry	Dry – not used.					
10/9/2020	10/9/2020	Google Earth	Normal	Used May 2020 normal photo instead.					
5/11/2020	5/11/2020	Google Earth	Normal (3)	NV	NV	NV	NV	NV	
10/25/2019	11/1/2019	Google Earth	Wet	Wet – not used.					
7/27/2019	8/1/2019	FSA	Normal (4)	NV	NV	NV	NV	CS (1)	
4/28/2018	5/1/2018	Google Earth	Normal (5)	NV	DO (3)	NV	NV	NV	
4/5/2017				Prior to growing season. Not used.					
8/31/2017	9/1/2017	FSA	Wet	Wet – not used.					
3/11/2016				Prior to growing season. Not used.					
8/11/2015	8/11/2015	Google Earth	Wet	Normal for a date of 9/1/2015. Used September 2015 normal photo.					
9/27/2015	10/1/2015	FSA	Normal (6)	NV	NV	NV	NV	NV	
10/11/2014	10/11/2014	Google Earth	Normal (7)	NV	NV	NV	NV	NV	
9/15/2013	10/1/2013	Google Earth	Normal	Wet spring, 7/12/13 FSA photo = Wet. Included for viewing.					
7/12/2013	7/1/2013	FSA	Wet	Wet. Included for viewing.					
4/3/2012				Prior to growing season. Not used.					
9/12/2010	9/12/2010	FSA	Normal (8)	NV	CS/DO (4)	CS/DO (2)	CS/DO (1)	NV	
6/23/2010	7/1/2010	Google Earth	Normal	Same photo as FSA photo with known date. Not used.					
5/18/2010	6/1/2010	Google Earth	Dry	Dry – not used.					
				*** Per gridded database/3-month antecedent conditions**					
Number of normal years				8	8	8	8	8	
Number with wet signatures				0	4	2	1	1	
Percent with wet signatures				0%	50%	25%	13%	13%	

KEY		
WS - wetland signature	SS - soil wetness signature	CS - crop stress
NC - not cropped	AP - altered pattern	NV - normal vegetative cover
DO - drowned out	SW - standing water	NSS – no soil wetness signature
Other labels or comments:	FP - Farming Practice Feature	WO – washout (apparent erosion, not a signature)

Exhibit 1 Field data sheet reference (if applicable):_____

Wetland Determination from Aerial Imagery – Recording Form

Project Name: 14800 113th **Date:** 5-20-2024 **County:** Hennepin

Investigator: M. Barrett **Legal Description (S, T, R):** S: 33 T: 120N R: 22W

Use the Decision Matrix below to complete Table 1.

Hydric Soils present[1]	Identified on NWI or other wetland map[2]	Percent with wet signatures	Field verification required[3]	Wetland?
Yes	Yes	>50%	No	Yes
Yes	Yes	30-50%	No	Yes
Yes	Yes	<30%	Yes	Yes, if other hydrology indicators present
Yes	No	>50%	No	Yes
Yes	No	30-50%	Yes	Yes, if other hydrology indicators present
Yes	No	<30%	No	No
No	Yes	>50%	No	Yes
No	Yes	30-50%	No	Yes
No	Yes	<30%	No	No
No	No	>50%	Yes	Yes, if other hydrology indicators present
No	No	30-50%	Yes	Yes, if other hydrology indicators present
No	No	<30%	No	No

[1] The presence of hydric soils can be determined from the "Hydric Rating by Map Unit Feature" under "Land Classifications" from the Web Soil Survey. "Not Hydric" is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

[2] At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publicly available should be reviewed.

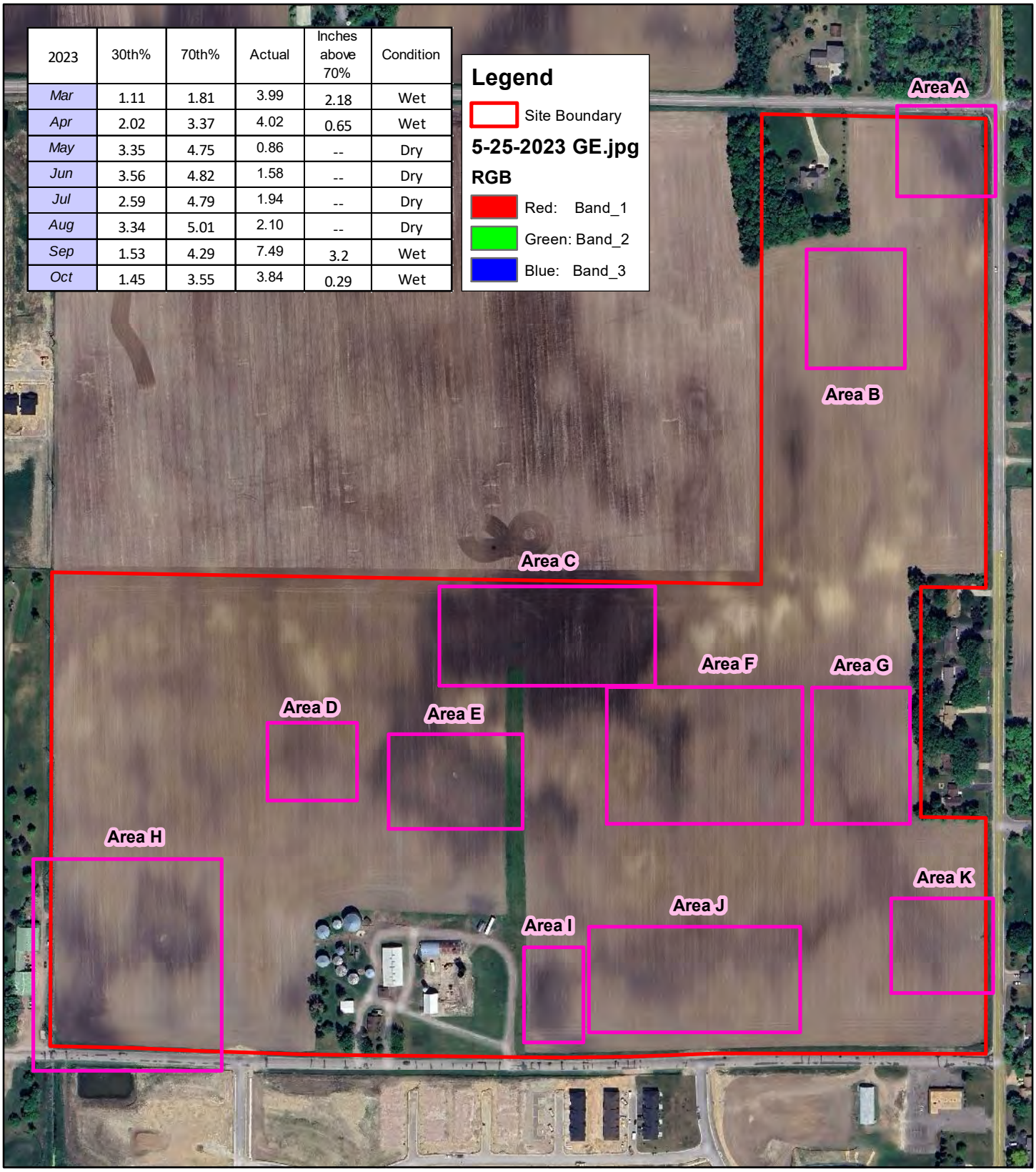
[3] Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2 indicator (geomorphic position).

Table 1.

Area	Hydric Soils Present	Identified on NWI or other wetland map	Percent with wet signatures	Field Verification Required	Wetland?
G	No	No	0%	No	No
H	No	No	50%	Yes	No – tile inlet present. Lack of one primary or two secondary hydrology indicators
I	No	No	25%	No	No
J	Yes – Partially Hydric	No	13%	No	No
K	Yes – Partially Hydric	No	13%	No	No

[1] Answer "N/A" if field verification is not required and was not conducted

2023	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	3.99	2.18	Wet
Apr	2.02	3.37	4.02	0.65	Wet
May	3.35	4.75	0.86	--	Dry
Jun	3.56	4.82	1.58	--	Dry
Jul	2.59	4.79	1.94	--	Dry
Aug	3.34	5.01	2.10	--	Dry
Sep	1.53	4.29	7.49	3.2	Wet
Oct	1.45	3.55	3.84	0.29	Wet



5-23-2023 Google Earth - Normal

N

0 250 Feet

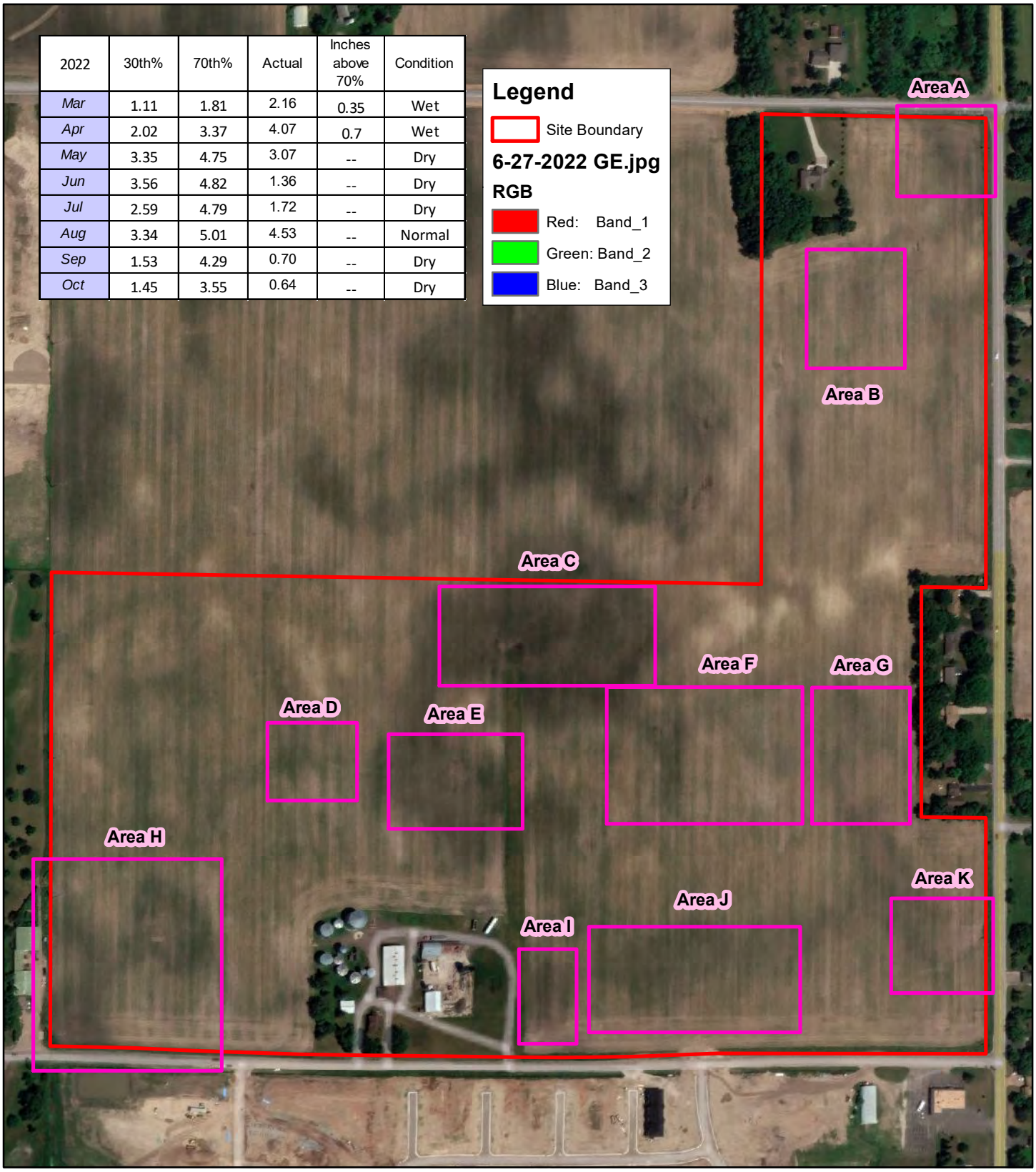
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2022	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	2.16	0.35	Wet
Apr	2.02	3.37	4.07	0.7	Wet
May	3.35	4.75	3.07	--	Dry
Jun	3.56	4.82	1.36	--	Dry
Jul	2.59	4.79	1.72	--	Dry
Aug	3.34	5.01	4.53	--	Normal
Sep	1.53	4.29	0.70	--	Dry
Oct	1.45	3.55	0.64	--	Dry



6-27-2022 Google Earth - Normal (wet spring)

N

0 250 Feet

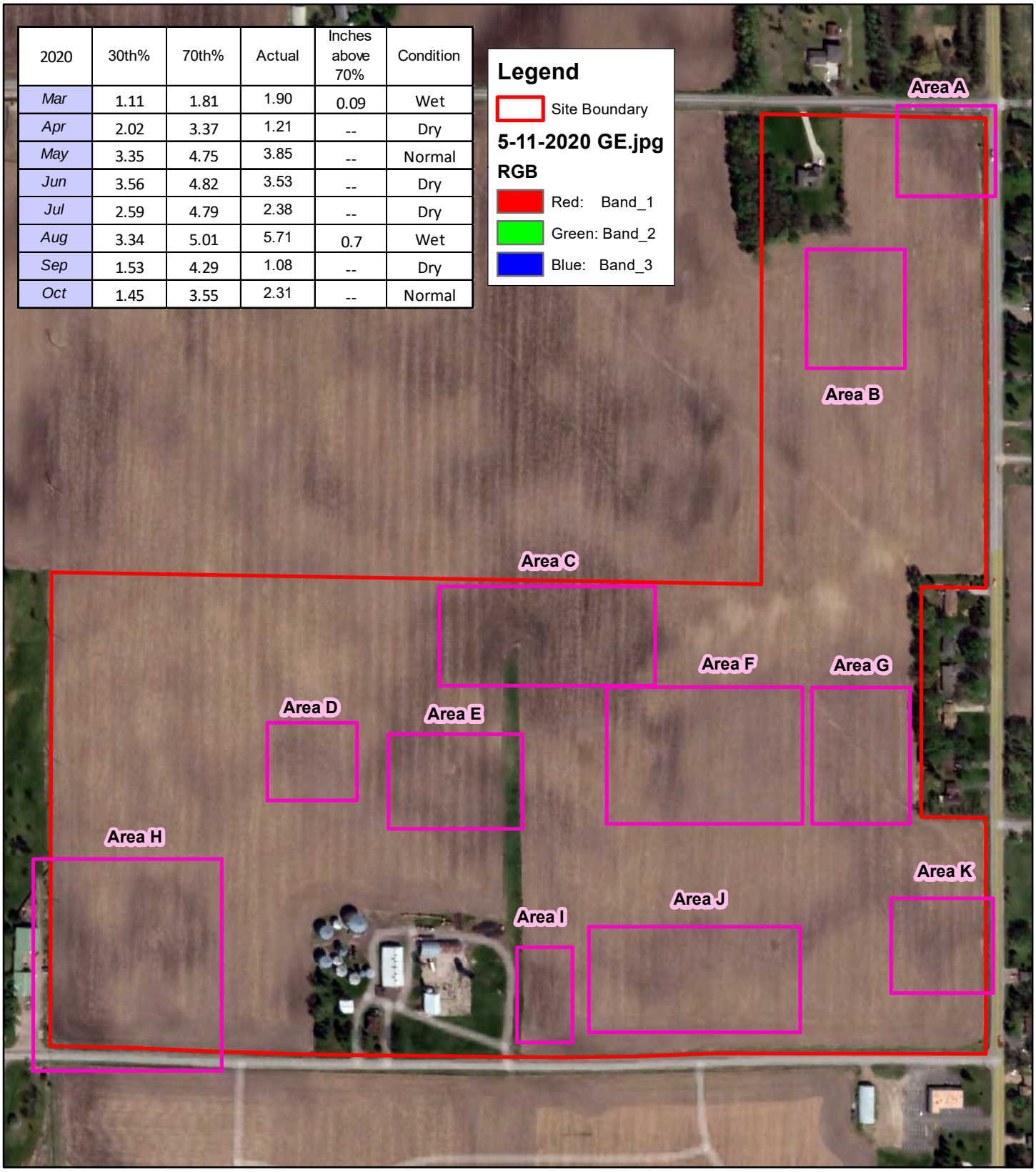
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2020	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	1.90	0.09	Wet
Apr	2.02	3.37	1.21	--	Dry
May	3.35	4.75	3.85	--	Normal
Jun	3.56	4.82	3.53	--	Dry
Jul	2.59	4.79	2.38	--	Dry
Aug	3.34	5.01	5.71	0.7	Wet
Sep	1.53	4.29	1.08	--	Dry
Oct	1.45	3.55	2.31	--	Normal



5-11-2020 Google Earth - Normal

N

0 250 Feet

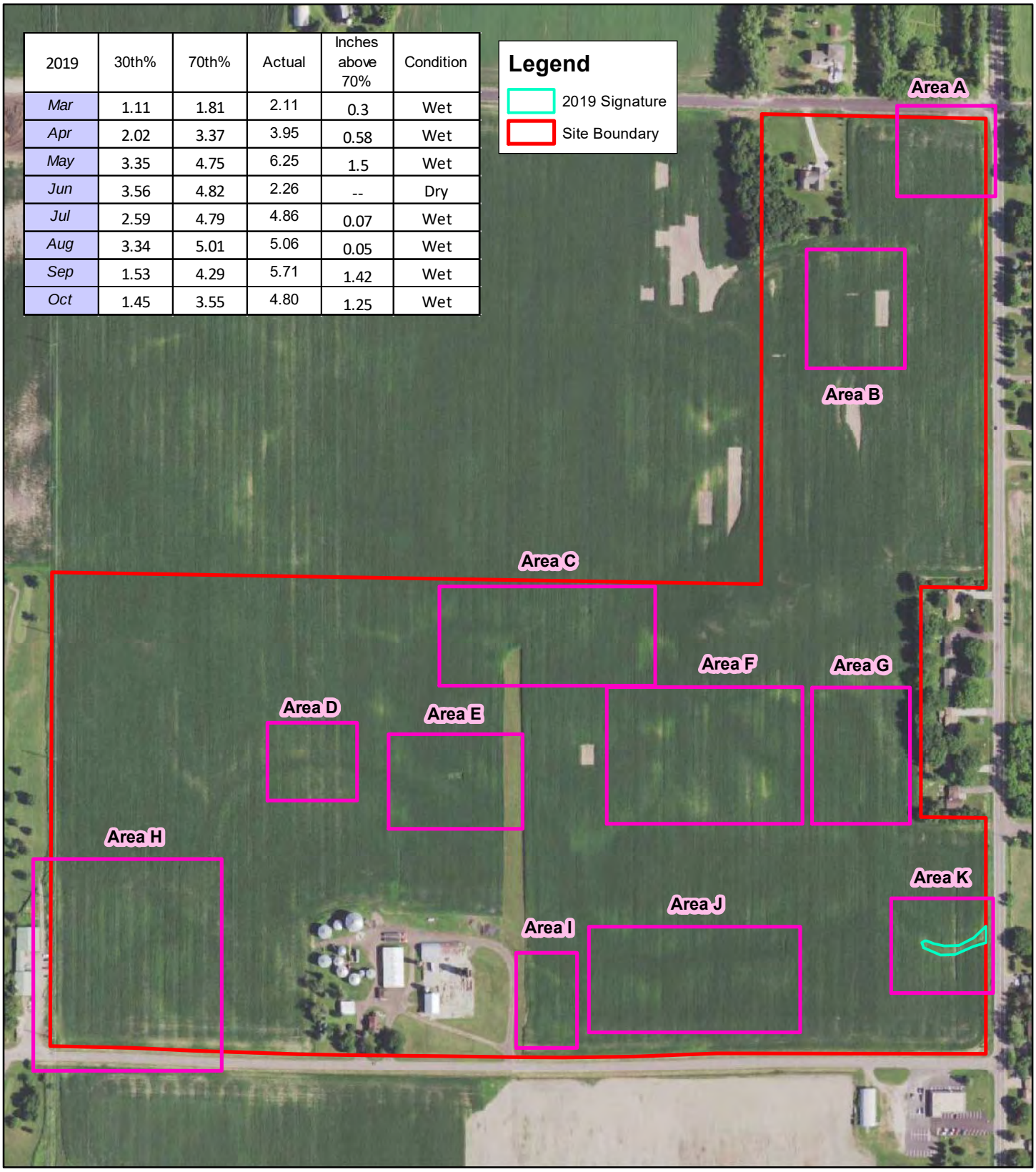
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2019	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	2.11	0.3	Wet
Apr	2.02	3.37	3.95	0.58	Wet
May	3.35	4.75	6.25	1.5	Wet
Jun	3.56	4.82	2.26	--	Dry
Jul	2.59	4.79	4.86	0.07	Wet
Aug	3.34	5.01	5.06	0.05	Wet
Sep	1.53	4.29	5.71	1.42	Wet
Oct	1.45	3.55	4.80	1.25	Wet



7-27-2019 FSA - Normal

N

0 250 Feet

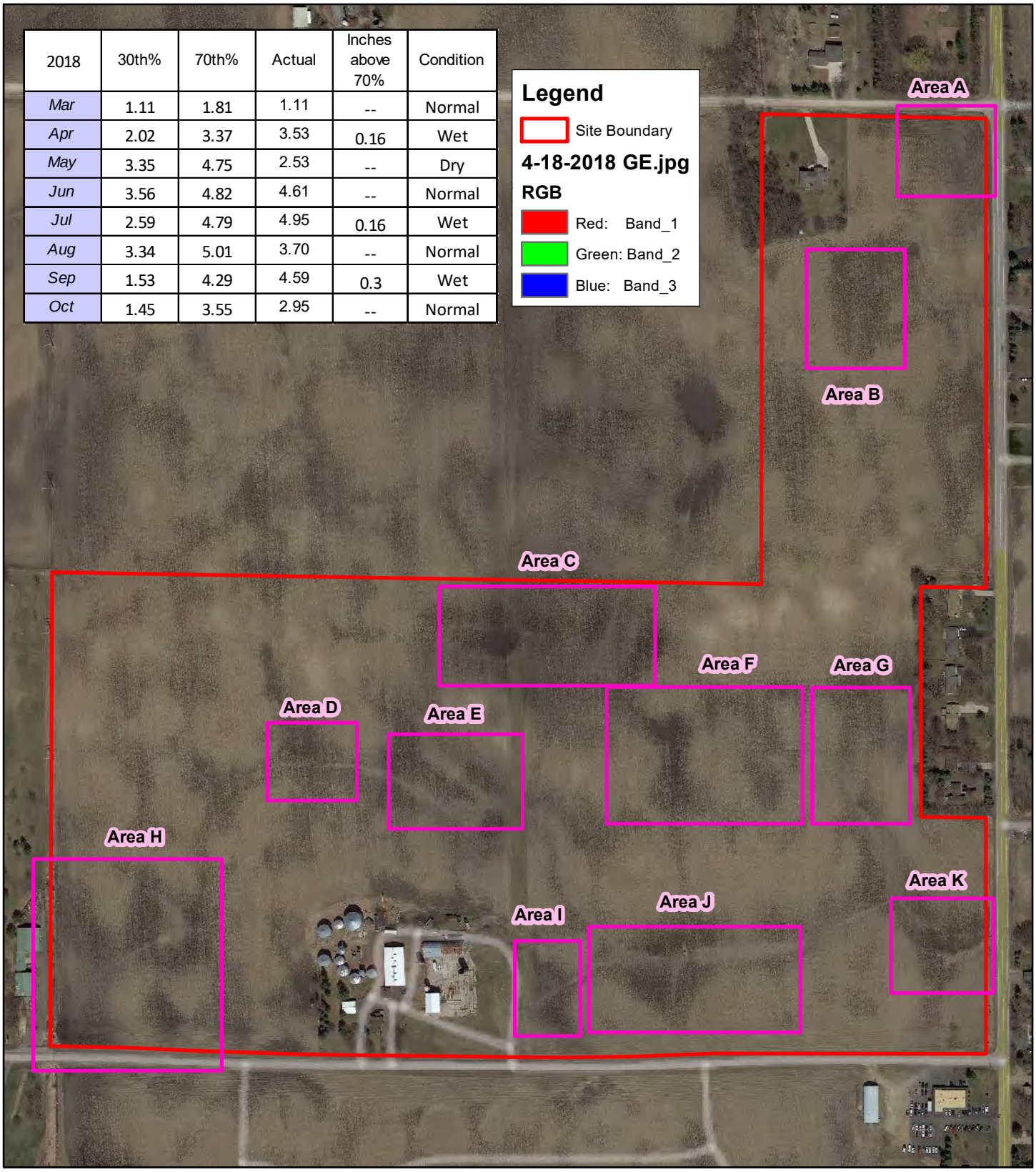
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2018	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	1.11	--	Normal
Apr	2.02	3.37	3.53	0.16	Wet
May	3.35	4.75	2.53	--	Dry
Jun	3.56	4.82	4.61	--	Normal
Jul	2.59	4.79	4.95	0.16	Wet
Aug	3.34	5.01	3.70	--	Normal
Sep	1.53	4.29	4.59	0.3	Wet
Oct	1.45	3.55	2.95	--	Normal



4-28-2018 Google Earth - Normal

N

0 250 Feet

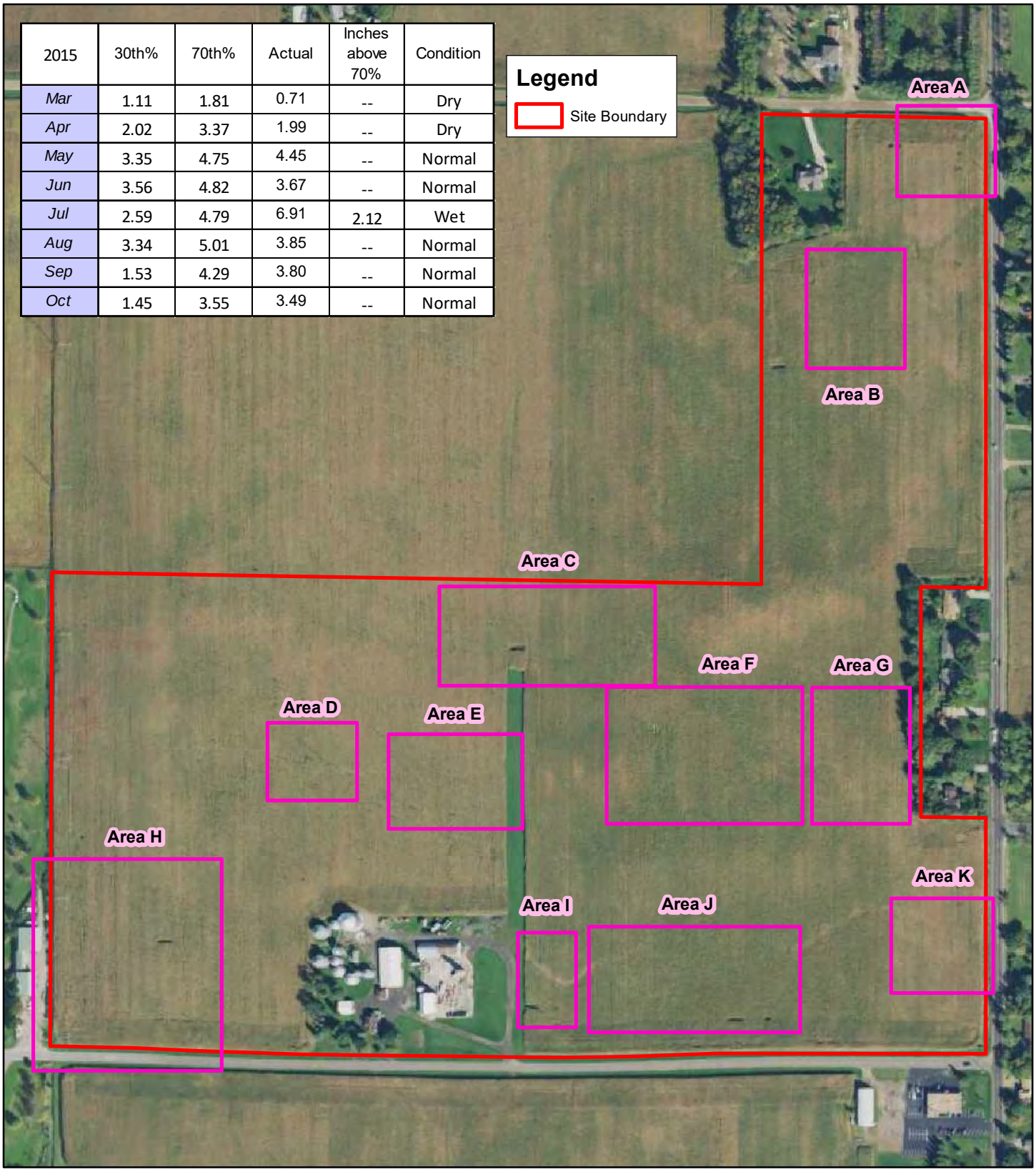
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2015	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	0.71	--	Dry
Apr	2.02	3.37	1.99	--	Dry
May	3.35	4.75	4.45	--	Normal
Jun	3.56	4.82	3.67	--	Normal
Jul	2.59	4.79	6.91	2.12	Wet
Aug	3.34	5.01	3.85	--	Normal
Sep	1.53	4.29	3.80	--	Normal
Oct	1.45	3.55	3.49	--	Normal



9-27-2015 FSA - Normal

N

0 250 Feet

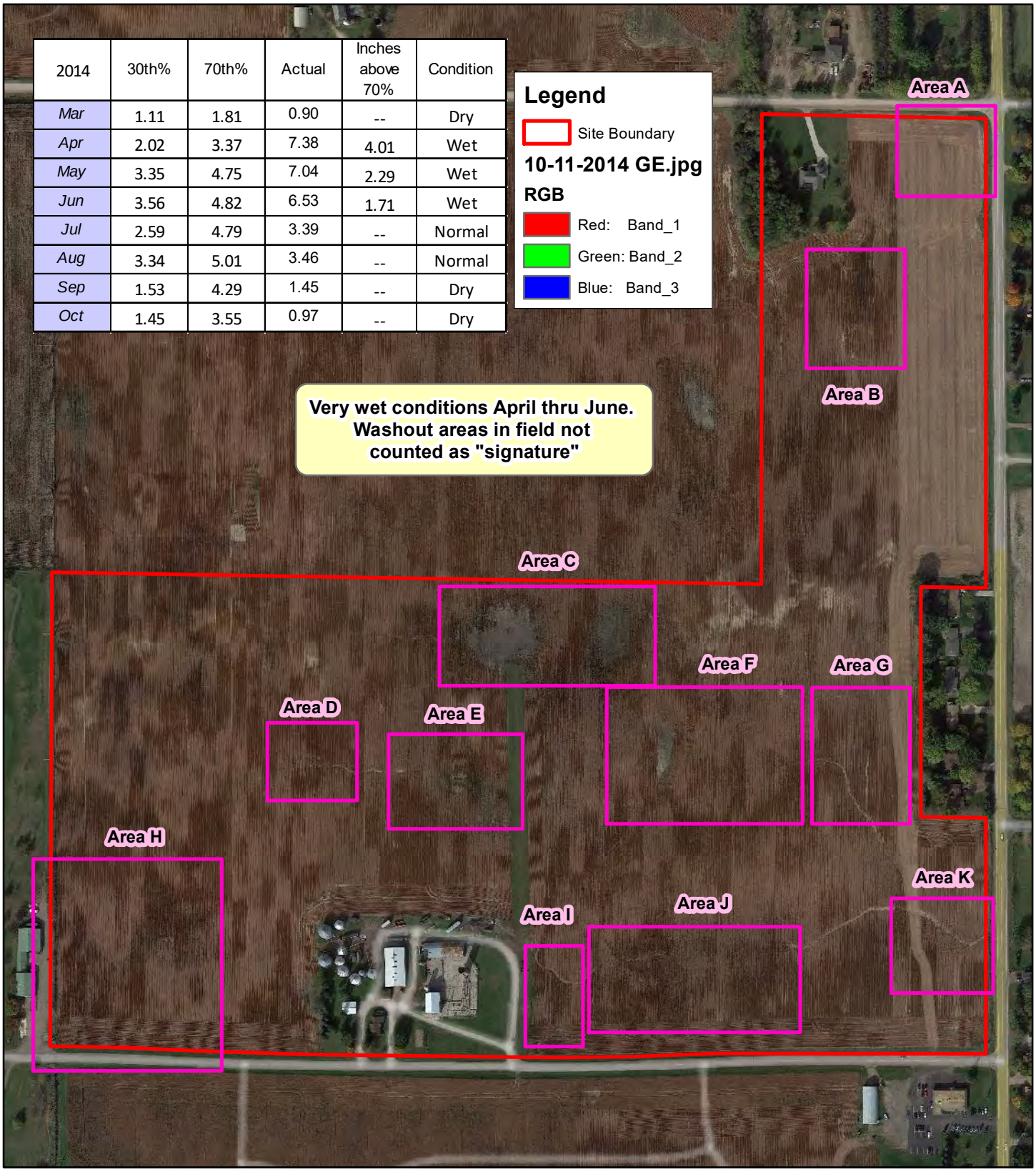
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2014	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	0.90	--	Dry
Apr	2.02	3.37	7.38	4.01	Wet
May	3.35	4.75	7.04	2.29	Wet
Jun	3.56	4.82	6.53	1.71	Wet
Jul	2.59	4.79	3.39	--	Normal
Aug	3.34	5.01	3.46	--	Normal
Sep	1.53	4.29	1.45	--	Dry
Oct	1.45	3.55	0.97	--	Dry



10-11-2014 Google Earth - Normal (very wet spring)

N

0 250 Feet

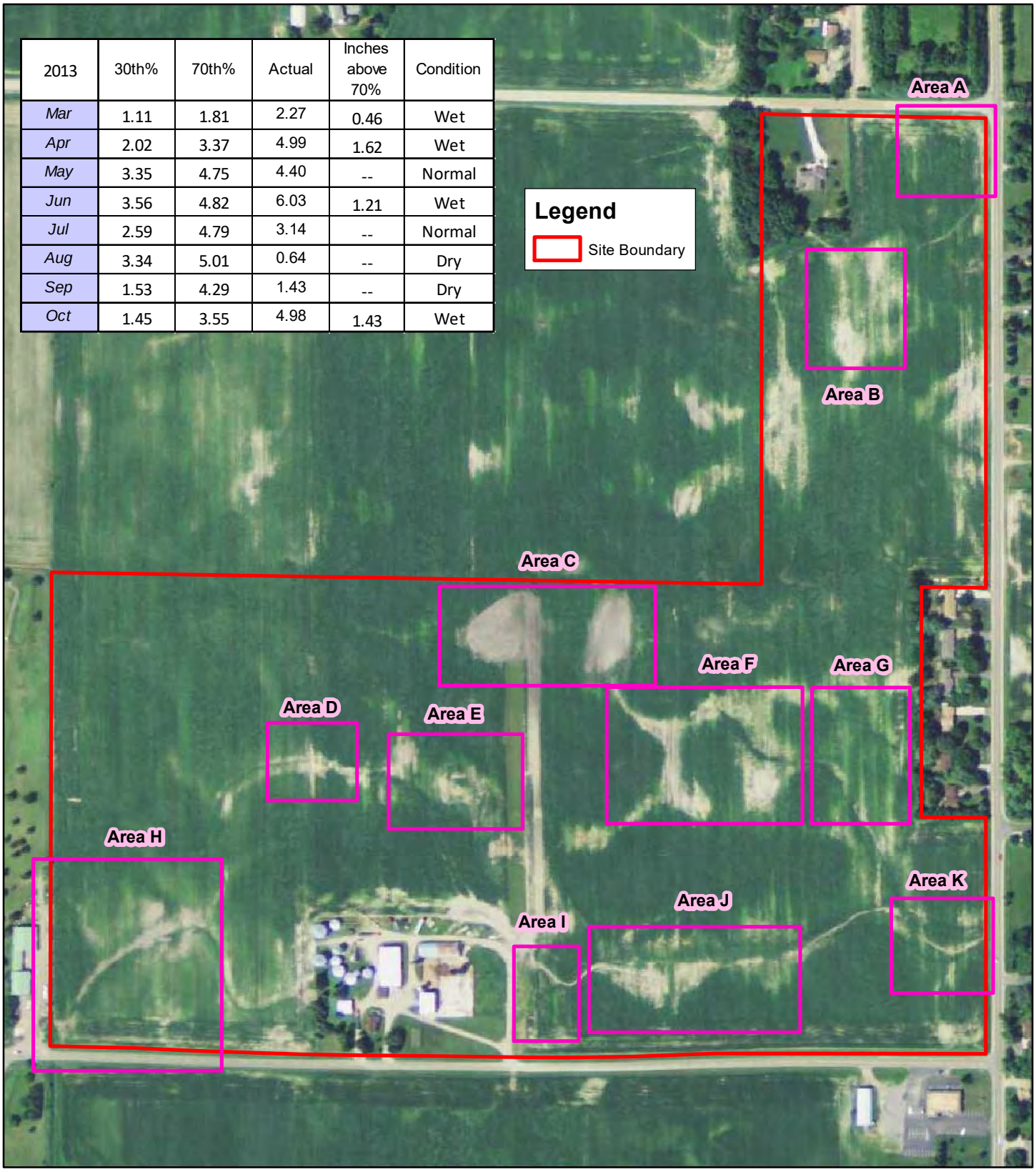
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2013	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	2.27	0.46	Wet
Apr	2.02	3.37	4.99	1.62	Wet
May	3.35	4.75	4.40	--	Normal
Jun	3.56	4.82	6.03	1.21	Wet
Jul	2.59	4.79	3.14	--	Normal
Aug	3.34	5.01	0.64	--	Dry
Sep	1.53	4.29	1.43	--	Dry
Oct	1.45	3.55	4.98	1.43	Wet



7-12-2013 FSA - Wet (included for viewing)

N

0 250 Feet

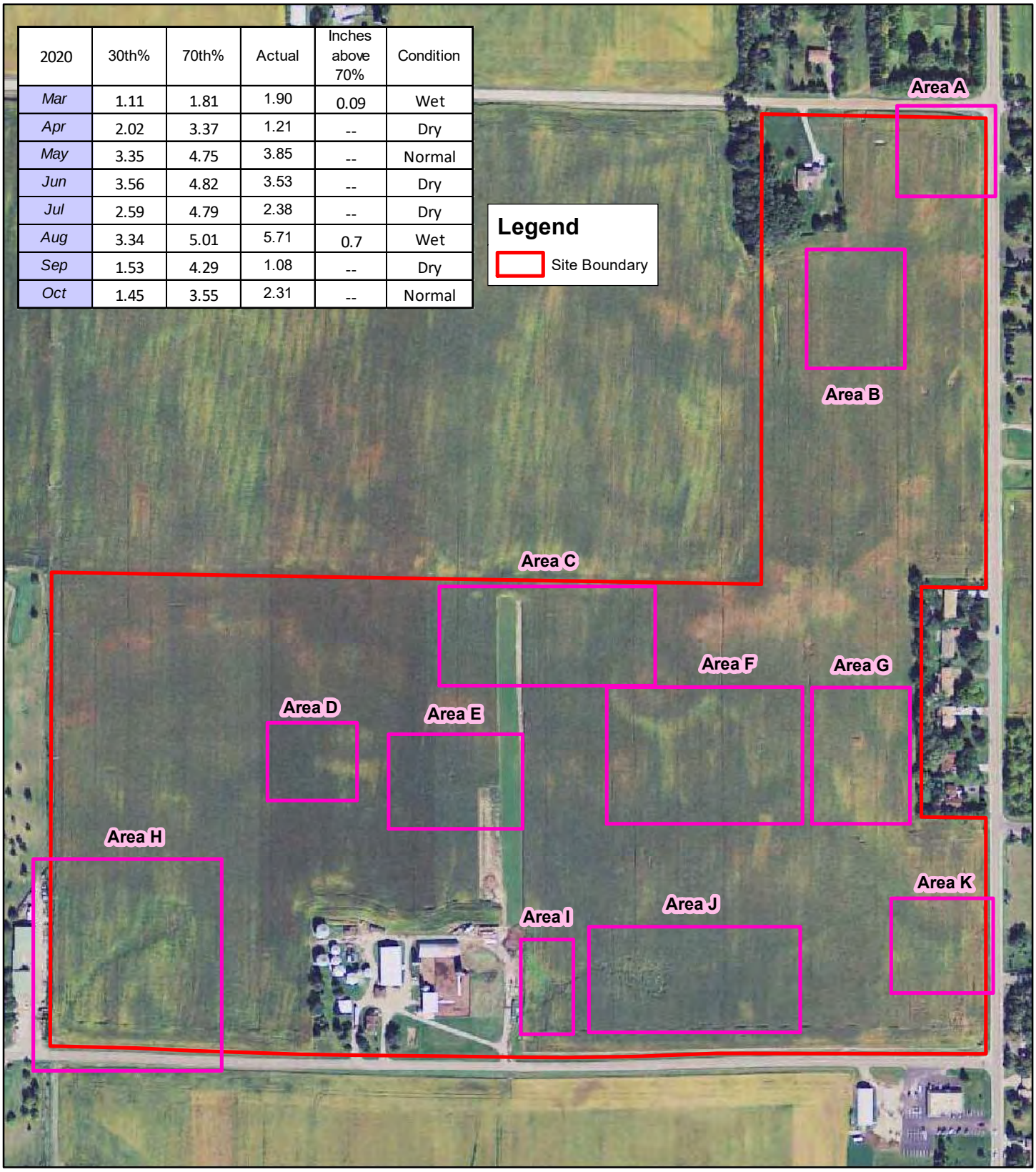
KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

2020	30th%	70th%	Actual	Inches above 70%	Condition
Mar	1.11	1.81	1.90	0.09	Wet
Apr	2.02	3.37	1.21	--	Dry
May	3.35	4.75	3.85	--	Normal
Jun	3.56	4.82	3.53	--	Dry
Jul	2.59	4.79	2.38	--	Dry
Aug	3.34	5.01	5.71	0.7	Wet
Sep	1.53	4.29	1.08	--	Dry
Oct	1.45	3.55	2.31	--	Normal



9-12-2010 Google Earth - Normal

N

0 250 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

14800 113th Ave N (KES 2024-063)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

Appendix F

DNR NHIS Response Letter and USFWS IPaC Species List

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

December 31, 2024

Mia Bauer
Stantec

RE: Natural Heritage Review of the proposed **DCM Farms**,
T120N R22W Section 33; Hennepin County

Dear Mia Bauer,

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2024-00946** in the email subject line.

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

  This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to activities associated with the project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required**:
  - Avoid wetland and aquatic impacts during hibernation season, between September 15 and April 15, if the area is suitable for hibernation.
  - Install and maintain a temporary turtle proof barrier, such as a silt fence, to keep turtles out of soil stockpiles, gravel pads, and other areas of exposed soil/sand/sediment during nesting season, May 15 to July 15. The turtle proof barrier must be buried a minimum of 10 inches and removed once project is complete.

- Check pit/trenches for turtles every morning before construction activities begin and immediately prior to pits/trenches being backfilled.
- Limit erosion and sediment control to wildlife friendly erosion control.
- Avoid hydro-mulch products that contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
- Check bare ground within construction areas for turtles before the use of heavy equipment or any ground disturbance.
- The Blanding's turtle flyer must be given to all contractors working in the area.
- Report any sightings using the Quick Species Observation Form.
- If turtles are in imminent danger, move them by hand out of harm's way; otherwise, they are to be left undisturbed. Directions on how to move turtles safely can be found at Helping Turtles Across the Road
- If installing culverts, Culverts need to be 36 inches or greater in diameter, at least twice as wide as the normal width of open water, and have an elliptical, flat bottom, or embedded.

Additional Blanding's turtle avoidance measures may include, but are not limited to, the following recommendations:

- Recommendations from List 1 and List 2 of the Blanding's turtle fact sheet.
- Roads should be ditched, not curbed or below grade. If curbs must be used, install wildlife friendly curbs to allow turtles to leave the road. Gutters and stormwater inlets should be designed to prevent turtles from entering the storm sewer. For an example, reference "Curb Design and Small Animals" (Chapter 1, Page 24) in Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001 (state.mn.us).

Please contact Review.NHIS@state.mn.us **to confirm that the above required avoidance measures will be implemented or to inform us that they are not feasible.** If the measures are not feasible, a project-specific avoidance plan will likely be needed.

- Little brown myotis (*Myotis lucifugus*) and big brown bat (*Eptesicus fuscus*), both state-listed bat species of special concern, have been documented in the vicinity of the proposed project. During the winter these bats hibernate in caves and mines. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees; and in human structures such as buildings and bridges. Activities that may impact these bats include, but are not limited to, wind farm operation, any disturbance to hibernacula, and destruction/degradation of habitat. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups are not able to fly. To minimize impacts to bats, **the DNR recommends that tree removal be avoided from June 1 through August 15.**

- Please visit the DNR Rare Species Guide for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

- The area of interest overlaps with a U.S Fish and Wildlife Service (USFWS) Rusty Patched Bumble Bee High Potential Zone. The rusty patched bumble bee *(Bombus affinis)* is federally listed as endangered and is likely to be present in suitable habitat within High Potential Zones. From April through October this species uses underground nests in upland grasslands, shrublands, and forest edges, and forages where nectar and pollen are available. From October through April the species overwinters under tree litter in upland forests and woodlands. The rusty patched bumble bee may be impacted by a variety of land management activities including, but not limited to, prescribed fire, tree-removal, haying, grazing, herbicide use, pesticide use, land-clearing, soil disturbance or compaction, or use of non-native bees. If applicable, **the DNR recommends reseeding disturbed soils with native species of grasses and forbs using BWSR Seed Mixes or MnDOT Seed Mixes.**

  To ensure compliance with federal law, please conduct a federal regulatory review using the U.S. Fish and Wildlife Service's online Information for Planning and Consultation (IPaC) tool. Please note that all projects, regardless of whether there is a federal nexus, are subject to federal take prohibitions. The IPaC review will determine if prohibited take is likely to occur and, if not, will generate an automated letter. The USFWS RPBB guidance provides guidance on avoiding impacts to rusty patched bumble bee and a key for determining if actions are likely to affect the species; the determination key can be found in the appendix.

Environmental Review and Permitting

- The Environmental Assessment Worksheet should address whether the proposed project has the potential to adversely affect the above rare features and, if so, it should identify specific measures that will be taken to avoid or minimize disturbance. Sufficient information should be provided so the DNR can determine whether a permit to take will be needed for any of the above protected species.

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available and is the most complete source of data on Minnesota's native plant communities, rare species, and other rare features. However, the NHIS is not an exhaustive inventory and does not contain the locations of all rare features in the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. **If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.**

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit Natural Heritage Review for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, please contact your DNR Regional Environmental Assessment Ecologist.

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Molly Barrett Digitally signed by Molly Barrett
Date: 2024.12.31 16:16:33 -06'00'

Natural Heritage Review Specialist
molly.barrett@state.mn.us

Cc: Melissa Collins, Regional Environmental Assessment Ecologist, Central (Region 3)

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(*Emydoidea blandingii*)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding's turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, racoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

REFERENCES

[1]Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). http://www.natureserve.org/ranking.htm (15 April 2001).

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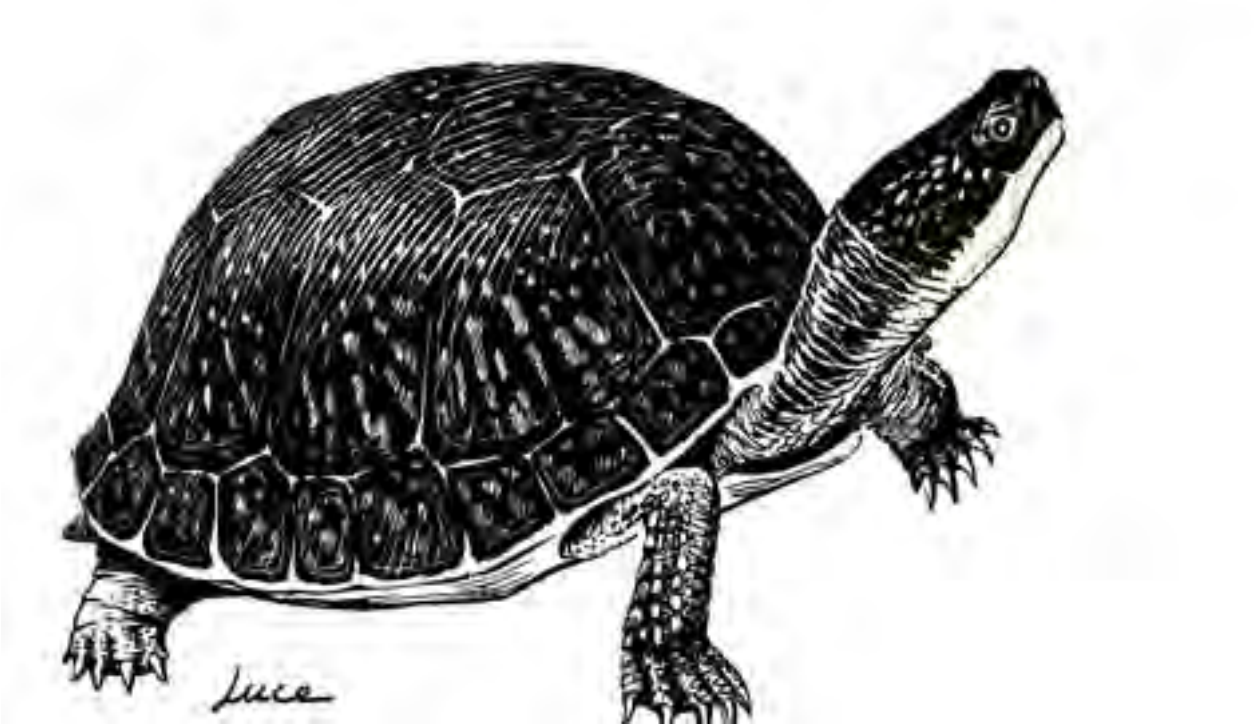
Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.

Sajwaj, T. D., and J. W. Lang. 2000. Thermal ecology of Blanding's turtle in central Minnesota. Chelonian Conservation and Biology 3(4):626-636.

CAUTION



BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are a State Threatened species and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

Illustration by Don Luce, from Turtles in Minnesota, Natural History Leaflet No. 9, June 1989, James Ford Bell Museum of Natural History

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Environmental Review Fact Sheet Series for full recommendations)

- A flyer with an illustration of an adult Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest, and do not allow pets near the nest.
- Blanding's turtles do not make good pets. It is illegal to keep this threatened species in captivity.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

Compiled by the Minnesota Department of Natural Resources Division of Ecological Resources, Updated March 2008
Endangered Species Environmental Review Coordinator, 500 Lafayette Rd., Box 25, St. Paul, MN 55155 / 651-259-5109

Wildlife-friendly Erosion Control

Wildlife entanglement in, and death from, plastic netting and other man-made plastic materials has been documented in birds (Johnson, 1990; Fuller-Perrine and Tobin, 1993), fish (Johnson, 1990), mammals (Derraik, 2002), and reptiles (Barton and Kinkead, 2005; Kapfer and Paloski, 2011). Unfortunately, the use of these materials for erosion control continues in many cases, often without consideration for wildlife impact. This plastic netting is frequently used for erosion control during construction and landscape projects and can negatively impact terrestrial and aquatic wildlife populations as well as snag in maintenance machinery, resulting in costly repairs and delays. However, erosion-control materials that are wildlife friendly do exist and are sold by several large companies. Below are a few key considerations before starting a project.

Know Your Options

- Remember to consult with local natural resource agencies (DNR, USFWS, etc.) before starting a project. They can help you identify sensitive areas and rare species.
- When erosion control is necessary, select products with biodegradable netting (natural fiber, biodegradable polyesters, etc.).
- DO NOT use products that require UV-light to biodegrade (also called "photodegradable") as they do not biodegrade properly when shaded by vegetation.
- Use netting with rectangular-shaped mesh (not square mesh).
- Use netting with flexible (non-welded) mesh.

Woven 100% natural fiber erosion-control materials being utilized along a central Minnesota stream. ©MN DNR, Nick Proulx

Know the Landscape

- It is especially important to use wildlife-friendly erosion control around:
  - Areas with threatened or endangered species.
  - Wetlands, rivers, lakes, and other watercourses.
  - Habitat-transition zones (prairie – woodland edges, rocky outcrop – woodland edges, steep rocky slopes, etc.).

Fish trapped and killed by welded-plastic square erosion-control mesh improperly placed along a small central Minnesota stream. Photo courtesy of Ben Lowe.

- Use erosion mesh wisely; not all areas with disturbed ground necessitate its use. Do not use plastic mesh unless it is specifically required. Other erosion-control options exist (open weave textile (OWT), rolled erosion control products (RECPs) with woven, natural fiber netting).

Protect Wildlife

- Avoid photodegradable erosion-control materials where possible.
- Use only biodegradable materials (typically made from natural fibers), preferably those that will biodegrade under a variety of conditions.
- The cost of erosion-control material that is wildlife friendly is often comparable to conventional plastic netting.

Plains Gartersnake trapped and killed by welded-plastic square erosion-control mesh placed along a newly installed cement culvert in southern Minnesota. ©MN DNR, Carol Hall

A small vole that was strangled and killed by plastic erosion-control material with welded and square mesh. Photo taken in southern Minnesota and provided courtesy of Tom Jessen.

Literature Referenced

Barton, C. and K. Kinkead. 2005. Do erosion control and snakes mesh? Soil and Water Conservation Society 60:33A-35A.

Derraik, J.G.B. 2002. The pollution of the marine environment by plastic debris: a review. Marine Pollution Bulletin 44:842-852.

Fuller-Perrine, L.D., and M.E. Tobin. 1993. A method for applying and removing bird-exclusion netting in commercial vineyards. Wildlife Society Bulletin 21:47-51.

Johnson, S.W. 1990. Distribution, abundance, and source of entanglement debris and other plastics on Alaskan beaches, 1982-1988. Proceedings of the Second International Conference on Marine Debris 331-348.

Kapfer, J.M., and R.A. Paloski. 2011. On the threat to snakes of mesh deployed for erosion control and wildlife exclusion. Herpetological Conservation and Biology 6:1-9.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Hennepin County, Minnesota

Local office

Minnesota-Wisconsin Ecological Services Field Office

(952) 858-0793

3815 American Blvd East

Bloomington, MN 55425-1659

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Salamander Mussel Simpsonaias ambigua Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Rusty Patched Bumble Bee Bombus affinis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9383	Endangered

Western Regal Fritillary Argynnis idalia occidentalis Proposed Threatened
Wherever found

No critical habitat has been designated for this species.

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

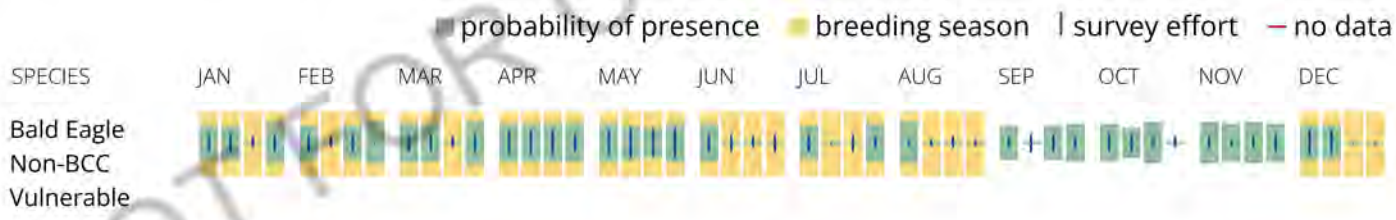
Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this

location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern *Chlidonias niger surinamenisis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Cerulean Warbler Setophaga cerulea — Breeds Apr 22 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Grasshopper Sparrow Ammodramus savannarum perpallidus — Breeds Jun 1 to Aug 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8329

Henslow's Sparrow Centronyx henslowii — Breeds May 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

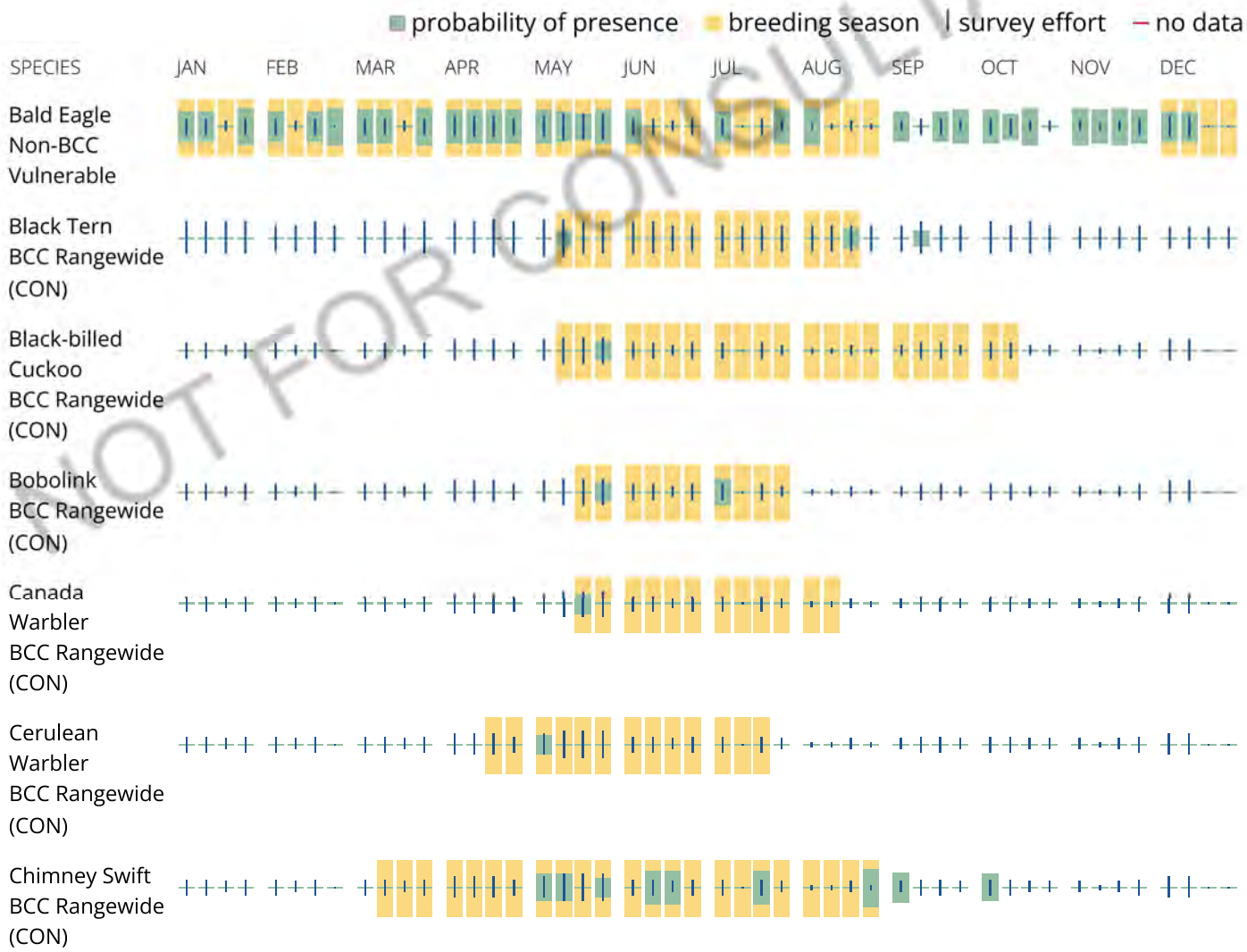
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

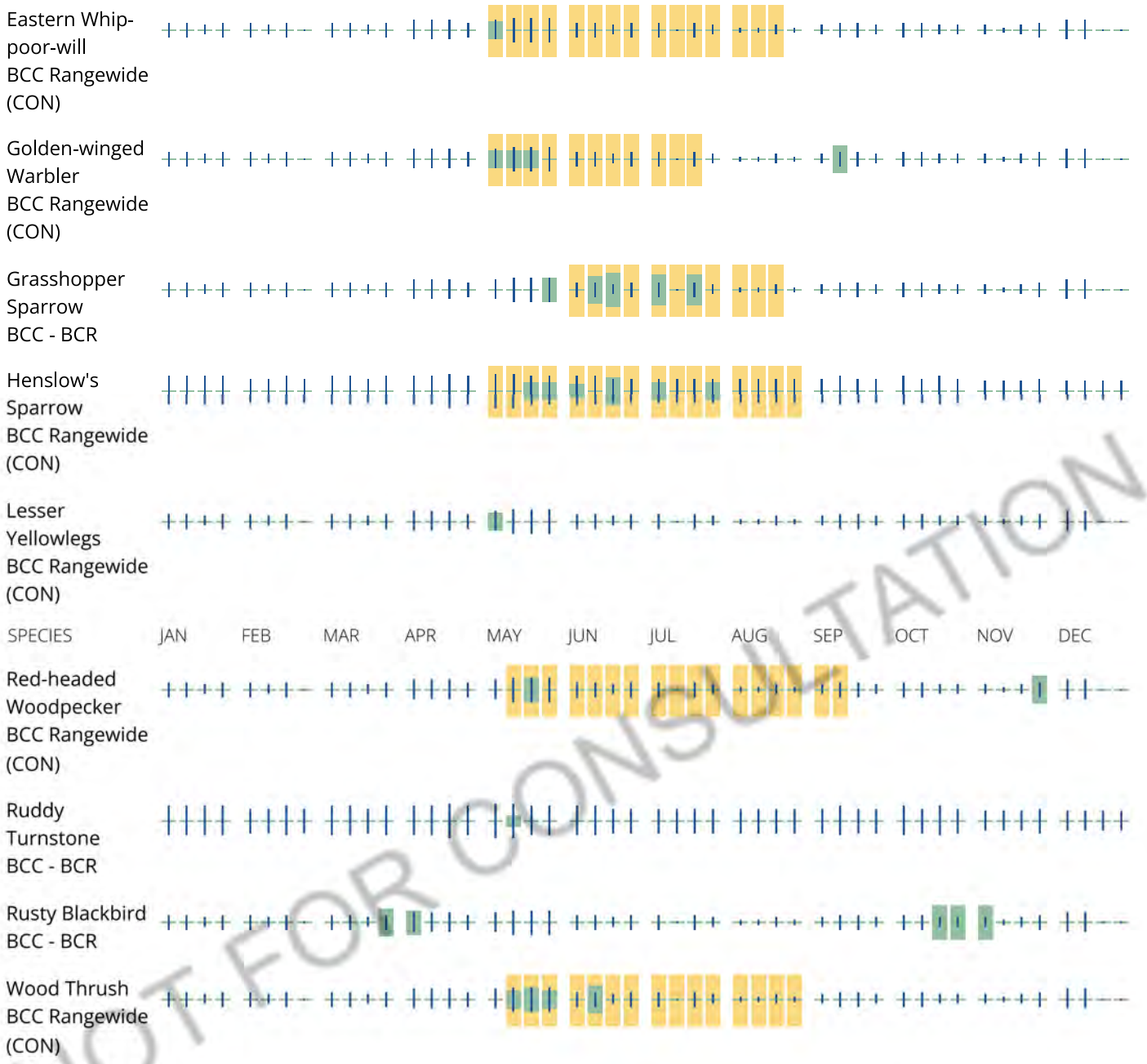
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Appendix G

MnSHPO Concurrence Letter

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

January 3, 2025

Jon Sevald
Community Development Director
City of Dayton
jsevald@cityofdaytonmn.com

RE: DCM Farms Development Project
T120 R22 S33, Hennepin County
SHPO Number: 2025-0285

Dear Jon Sevald:

Thank you for consulting with our office during the preparation of an Environmental Assessment Worksheet for the above-referenced project.

We have reviewed the submitted report, *An Archaeological Reconnaissance Survey of the DCM Farms Project, Hennepin County, Minnesota* (December 5, 2024) as prepared by Stantec. Based on the results of the survey, we have determined that there are **no properties** listed in the National or State Registers of Historic Places, or within the Historic Sites Network, that will be affected by this project. We have also determined that there are no known or suspected archaeological resources in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. Be advised that comments and recommendations provided by our office for this state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

If you have any questions regarding our review of this project, please contact Kelly Gragg-Johnson, Environmental Review Program Specialist, at (651) 201-3285 or kelly.graggjohnson@state.mn.us.

Sincerely,

Amy Spong
Director & Deputy State Historic Preservation Officer

Appendix H

Greenhouse Gas Analysis Calculations

DCM Farms Project
GHG Emissions Summary

		Scenario A - Business Park/Warehouses			
Scope	**Source**	**CO_2 (ton/yr)**	**CH_4 (ton/yr)**	**N_2O (ton/yr)**	**CO_2e (ton/yr)**
Direct Emissions					
Scope 1	Construction - Mobile Sources Onroad - Gasoline and Diesel	48	0.0004	0.0013	48
Scope 1	Construction - Mobile Sources Non-road - Diesel	413	0.041	0.038	425
Scope 1	Operations - Stationary Combustion - Natural Gas	1,611	0.0305	0.00296	1,612
Scope 1	Operations - Mobile Sources - Gasoline and Diesel	51,088	0.725	0.470	51,246
Indirect Emissions					
Scope 2	Purchased Electricity	4,651	0.50	0.070	4,684
Scope 2	Waste - Operations				461
Atmospheric Removals of GHGs					
Scope 1 - Sinks	Land Use (CO2 Removals to Terrestrial Storage)				96
Total		**57,810**	**1.3**	**0.58**	**58,477**

Lifetime 2,923,830

DCM Farms Project

Source ID	Description	Building Activity	Number of Units	Lodging Square Footage[1]	Maximum Build		
					Bldg Square Footage	Natural Gas Combustion (scf/yr)	Electricity Usage (kWh/yr)
Lodging	Villas	Lodging	141	2,000	282,000.00	12,436,200.00	4,342,800.00
Lodging	Single Family	Lodging	59	2,500	147,500.00	6,504,750.00	2,271,500.00
Lodging	Alley Row Homes	Lodging	67	1,800	120,600.00	5,318,460.00	1,857,240.00
Retail	Retail	Retail	N/A	N/A	11,880.00	313,632.00	167,508.00
Food Services	Coffee Shop	Food Services	N/A	N/A	2,400.00	508,800.00	103,440.00
Service	Daycare	Service	N/A	N/A	5,500.00	164,725.00	111,100.00
Retail	Convenience Store	Retail	N/A	N/A	10,000.00	264,000.00	141,000.00
Office	Corporate Office/Bank	Office	N/A	N/A	8,400.00	220,920.00	128,520.00
Food Services	Restaurant	Restaurant	N/A	N/A	5,500.00	1,166,000.00	237,050.00
		Total			**593,780**	**26,897,487**	**9,360,158**

1: Housing square footage based on the average market square footage in Dayton, MN for Villas and Single Family homes. Minimum square footage used for Alley Row Homes.

Back to Intro | Back to Summary | Heat Content | Help

Scope 1 Emissions from Stationary Combustion Sources

Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).
- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Fuel State (solid, liquid, gas)	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*Gas*	*10,000*	*MMBtu*
Lodging	Villas	282,000	Natural Gas	Gas	12,436,200	SCF
Lodging	Single Family	147,500	Natural Gas	Gas	6,504,750	SCF
Lodging	Alley Row Homes	120,600	Natural Gas	Gas	5,318,460	SCF
Retail	Retail	11,880	Natural Gas	Gas	313,632	SCF
Food Servic	Coffee Shop	2,400	Natural Gas	Gas	508,800	SCF
Service	Daycare	5,500	Natural Gas	Gas	164,725	SCF
Retail	Convenience Store	10,000	Natural Gas	Gas	264,000	SCF
Office	Corporate Office/Bank	8,400	Natural Gas	Gas	220,920	SCF
Food Servic	Restaurant	5,500	Natural Gas	Gas	1,166,000	SCF

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Coal and Coke - Solid		
Anthracite Coal	0	short ton
Bituminous Coal	0	short ton
Sub-bituminous Coal	0	short ton
Lignite Coal	0	short ton
Mixed (Commercial Sector)	0	short ton
Mixed (Electric Power Sector)	0	short ton
Mixed (Industrial Coking)	0	short ton
Mixed (Industrial Sector)	0	short ton
Coal Coke	0	short ton
Other Fuels - Solid		
Municipal Solid Waste	0	short ton
Petroleum Coke (Solid)	0	short ton
Plastics	0	short ton
Tires	0	short ton
Biomass Fuels - Solid		
Agricultural Byproducts	0	short ton
Peat	0	short ton
Solid Byproducts	0	short ton
Wood and Wood Residuals	0	short ton
Gaseous Fuels		
Natural Gas	26,897,487	scf
Propane Gas	0	scf
Landfill Gas	0	scf
Petroleum Products		
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Biomass Fuels - Liquid		
Biodiesel (100%)	0	gallons
Ethanol (100%)	0	gallons
Rendered Animal Fat	0	gallons
Vegetable Oil	0	gallons

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Coal and Coke - Solid			
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Mixed (Commercial Sector)	0.0	0.0	0.0
Mixed (Electric Power Sector)	0.0	0.0	0.0
Mixed (Industrial Coking)	0.0	0.0	0.0
Mixed (Industrial Sector)	0.0	0.0	0.0
Coal Coke	0.0	0.0	0.0
Other Fuels - Solid			
Municipal Solid Waste	0.0	0.0	0.0
Petroleum Coke (Solid)	0.0	0.0	0.0
Plastics	0.0	0.0	0.0
Tires	0.0	0.0	0.0
Gaseous Fuels			
Natural Gas	1,464,299.2	27,704.4	2,689.7
Propane Gas	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Petroleum Products			
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**1,464,299.2**	**27,704.4**	**2,689.7**
Biomass Fuels - Solid			
Agricultural Byproducts	0.0	0.0	0.0
Peat	0.0	0.0	0.0
Solid Byproducts	0.0	0.0	0.0
Wood and Wood Residuals	0.0	0.0	0.0
Biomass Fuels - Liquid			
Biodiesel (100%)	0.0	0.0	0.0
Ethanol (100%)	0.0	0.0	0.0
Rendered Animal Fat	0.0	0.0	0.0
Vegetable Oil	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**1,464,299.2**	**27,704.4**	**2,689.7**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**1,465.8**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

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Scope 2 Emissions from Purchase of Electricity

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row *(GREEN Italics)* for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

					Market-Based *Use these cells to enter applicable market-based emission factors*						Location-Based		
					Emission Factors			Emissions			Emissions		
Source ID	Source Description	Source Area (sq ft)	eGRID Subregion *where electricity is consumed*	Electricity Purchased (kWh)	CO_2 Emissions (lb/MWh)	CH_4 Emissions (lb/MWh)	N_2O Emissions (lb/MWh)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*226,880.0*	*27.0*	*4.2*
Lodging	Villas	282,000	MROW (MRO West)	4,342,800	<enter factor>	<enter factor>	<enter factor>	4,324,560.2	464.7	65.1	4,324,560.2	464.7	65.1
Lodging	Single Family	147,500	MROW (MRO West)	2,271,500	<enter factor>	<enter factor>	<enter factor>	2,261,959.7	243.1	34.1	2,261,959.7	243.1	34.1
Lodging	Alley Row Homes	120,600	MROW (MRO West)	1,857,240	<enter factor>	<enter factor>	<enter factor>	1,849,439.6	198.7	27.9	1,849,439.6	198.7	27.9
Retail	Retail	11,880	MROW (MRO West)	167,508	<enter factor>	<enter factor>	<enter factor>	166,804.5	17.9	2.5	166,804.5	17.9	2.5
Food Services	Coffee Shop	2,400	MROW (MRO West)	103,440	<enter factor>	<enter factor>	<enter factor>	103,005.6	11.1	1.6	103,005.6	11.1	1.6
Service	Daycare	5,500	MROW (MRO West)	111,100	<enter factor>	<enter factor>	<enter factor>	110,633.4	11.9	1.7	110,633.4	11.9	1.7
Retail	Convenience Store	10,000	MROW (MRO West)	141,000	<enter factor>	<enter factor>	<enter factor>	140,407.8	15.1	2.1	140,407.8	15.1	2.1
Office	Corporate Office/Bank	8,400	MROW (MRO West)	128,520	<enter factor>	<enter factor>	<enter factor>	127,980.2	13.8	1.9	127,980.2	13.8	1.9
Food Services	Restaurant	5,500	MROW (MRO West)	237,050	<enter factor>	<enter factor>	<enter factor>	236,054.4	25.4	3.6	236,054.4	25.4	3.6
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
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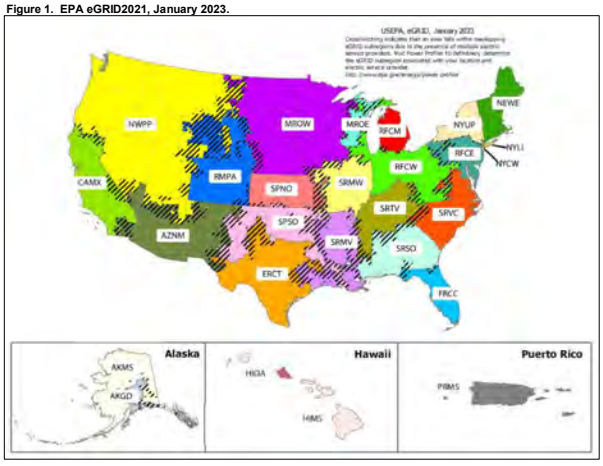
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				9,360,158				9,320,845.3	1,001.5	140.4	9,320,845.3	1,001.5	140.4

GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	4,258.3
Market-Based Electricity Emissions	4,258.3

Notes:
1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance - Indirect Emissions from Purchased Electricity (January 2016).

Figure 1. EPA eGRID2021, January 2023.



Construction Emissions
Mobile Source Information

Construction	3.5	Years (estimate)
Project Lifetime	50	Years (estimate)

									Annual		Total for Project		Emission Factors[4]			Total Emissions (ton)				Emissions Annualized over Project Lifetime (50 yrs)			
Onroad/Off-Road	Vehicle Type[1]	Number of Vehicles per Day[2]	Fuel Type	Vehicle Year[3]	VMT (miles per day, per vehicle)[4]	Miles per Gallon[4]	Fuel Usage (gal/day, all vehicles)	Days Per Year[2]	Miles Traveled (mi/yr, all vehicles)	Fuel Usage (gal/yr, all vehicles)	Miles Traveled (mi)	Fuel Usage (gal)	CO2 (kg/gal)	CH4 (g/mile)	N2O (g/mile)	CO2 (short ton)	CH4 (short ton)	N2O (short ton)	CO2e (short ton)	CO2 (short ton/yr)	CH4 (short ton/yr)	N2O (short ton/yr)	CO2e (short ton/yr)
Onroad	Light Duty Vehicles - Laborers (commute)	30	Gas	2011	20	21.4	28.08	260	156,000	7,301	546,000	25,553	8.78	0.0071	0.0046	246.79	0.0043	0.00276	248	4.9	0.00009	0.00006	4.954
	Heavy Duty Trucks - Dump Trucks (onsite and offsite)	12	Diesel	2011	60	7.6	94.74	260	187,200	24,632	655,200	86,211	10.21	0.0095	0.0431	968.23	0.0068	0.0311	978	19.4	0.00014	0.0006	19.553
	Heavy Duty Trucks - Semis (onsite and offsite)	12	Diesel	2011	60	6.2	116.13	260	187,200	30,194	655,200	105,677	10.21	0.0095	0.0431	1,186.86	0.0068	0.0311	1,196	23.7	0.00014	0.0006	23.926
															Total	**2,402**	**0.018**	**0.065**	**2,422**	**48.0**	**0.00036**	**0.0013**	**48.4**

1. Vehicle types are defined by the Federal Highway Administration (FHWA). Light duty vehicle, short wheel base replaces the old category passenger car and includes passenger cars, light trucks, vans and sport utility vehicles with a wheelbase (WB) equal to or less than 121 inches. Light duty, long wheel base replaces "Other 2-axle, 4-tire vehicle and includes large passenger cars, vans, pickup trucks, and sport/utility vehicles with wheelbases larger than 121 inches. Light Duty Vehicles includes all vehicles in the short and long wheel base category.

2. Estimates based on similar project.

3. Assumed, based on the national average age of cars and light trucks on the road in 2021 (https://www.usatoday.com/story/money/cars/2022/05/24/average-american-car-12-years-old/9907901002/).

4. For light duty vehicles, based on 1995-2020: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics (Washington, DC: Annual Issues), table VM-1, available at http://www.fhwa.dot.gov/policyinformation/statistics.cfm as of Dec. 29, 2021. For heavy duty vehicles, average miles per gallon values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2020 (November 2022), Table VM-1.

5. Emission factors based on the U.S. EPA's Emission Factors Hub (https://www.epa.gov/climateleadership/ghg-emission-factors-hub, updated June 2024).

									Emission Factors[4]			Total Project Emissions				Emissions Annualized over Project Lifetime (50 yrs)			
Onroad/Offroad	Vehicle Type	Number of Vehicles[1]	Fuel type	Engine Size (hp)[1]	Consumption Rate (gal per hp-hr)[2]	Hours per Year[3]	Total Gallons per Year	Total Gallons for Project	CO2 (kg/gal)	CH4 (g/gal)	N2O (g/gal)	CO2 (short ton)	CH4 (short ton)	N2O (short ton)	CO2e (short ton)	CO2 (short ton/yr)	CH4 (short ton/yr)	N2O (short ton/yr)	CO2e (short ton/yr)
Off-road	Crane	4	Diesel	250	0.05	2,080	104,000	364,000	10.21	1.01	0.94	4088.08	0.404	0.376	4,210	81.8	0.0081	0.0075	84.2
	Backhoe	6	Diesel	125	0.05	2,080	78,000	273,000	10.21	1.01	0.94	3066.06	0.303	0.282	3,158	61.3	0.0061	0.0056	63.2
	Loader	8	Diesel	250	0.05	2,080	208,000	728,000	10.21	1.01	0.94	8176.17	0.809	0.753	8,421	163.5	0.0162	0.0151	168.4
	Excavator	4	Diesel	250	0.05	2,080	104,000	364,000	10.21	1.01	0.94	4088.08	0.404	0.376	4,210	81.8	0.0081	0.0075	84.2
	Skid Steer	6	Diesel	50	0.05	2,080	31,200	109,200	10.21	1.01	0.94	1226.43	0.121	0.113	1,263	24.5	0.0024	0.0023	25.3
	Total	28					525,200	1,838,200			**Total**	**20,645**	**2.042**	**1.901**	**21,262**	**412.9**	**0.04084**	**0.0380**	**425.2**

1. Estimates based on similar project.
2. Off-road mobile source fuel usage based on South Coast Air Quality Management District CEQA Air Quality Handbook, Table A9-3E.
3. Based on 8 hr/day, 5 day/wk, 52 wk/yr.
4. Emission factors based on the U.S. EPA's Emission Factors Hub (https://www.epa.gov/climateleadership/ghg-emission-factors-hub, updated June 2024).

Operational Emissions
Mobile Source - Operations

													Emission Factors[7]			Emissions			
Onroad/Off-Road	Vehicle Type[1]	Vehicle Driver	Daily Trips[2]	Fuel Type	Vehicle Year[3]	VMT (miles per trip)[4]	Miles per Gallon[5]	Fuel Usage (gal/day, all vehicles)	Days Per Year[6]	Miles per Year (per Vehicle)	Miles per Year All Vehicles	Fuel Usage (gal/yr, all vehicles)	CO2 (kg/gal)	CH4 (g/mile)	N2O (g/mile)	CO2 (short ton/yr)	CH4 (short ton/yr)	N2O (short ton/yr)	CO2e (short ton/yr)
Onroad	Heavy Duty Trucks	Delivery Vehicles	1674	Gas	2011	30	7.3	6881.10	260	7,800	13,060,320	1,789,085	8.78	0.0071	0.0046	17278.98	0.1020	0.0661	17301.23
Onroad	Light Duty Vehicle, Short Wheel Base (Passenger Cars, small trucks and SUVs)	Retail Workers/Daycare/Office/Food services	6698	Gas	2011	30	22.8	8812.63	260	7,800	52,241,280	2,291,284	8.78	0.0071	0.0046	22129.22	0.4080	0.2643	22218.20
		Residential	2518	Gas	2011	30	22.8	3313.16	365	10,950	27,572,100	1,209,303	8.78	0.0071	0.0046	11679.44	0.2153	0.1395	11726.40
			10890												Total	51,088	0.73	0.47	51,246

1. Assumes employees drive gasoline powered light duty vehicles and deliveries are made by heavy duty diesel vehicles.

2. Estimate, based on traffic study. Assumed 20% of non-residential traffic is heavy duty trucks.

3. Assumed, based on the national average age of cars and light trucks on the road in 2021 (https://www.usatoday.com/story/money/cars/2022/05/24/average-american-car-12-years-old/9907901002/).

4. Assumes 30 miles per trip for all vehicles.

5. For light duty vehicles, based on 1995-2020: U.S. Department of Transportation, Federal Highway Administration, Highway Statistics (Washington, DC: Annual Issues), table VM-1, available at http://www.fhwa.dot.gov/policyinformation/statistics.cfm as of October 2024. For heavy duty vehicles, average miles per gallon values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2022 (January 2024), Table VM-1.

6. Assume daily trips take place 260 days per year.

7. Emission factors based on the U.S. EPA's Emission Factors Hub (https://www.epa.gov/climateleadership/ghg-emission-factors-hub, updated June 2024).

Waste Generation and Disposal Estimates

Location Type	Waste Generation Rate - (lb/unit/day)[1]	Waste Generation Rate - (lb/sq ft/day)[1]	Waste Generation Rate - (lb/seat/day)[1]	Square Footage	Total Units	Total Seats[2]	Total Waste per Day (lb/day)	Total Waste per Year (ton/yr)	Percent of Waste Recycled (paper, cardboard)	Amount of Waste Recycled (ton/yr)	Landfilled Waste	Amount of Waste Landfilled (ton/yr)
Villas	12.23	N/A	N/A	N/A	141	N/A	1,724	315	0%	0	100%	315
Single Family	12.23	N/A	N/A	N/A	59	N/A	722	132	0%	0	100%	132
Alley Row Homes	12.23	N/A	N/A	N/A	67	N/A	819	150	0%	0	100%	150
Retail	N/A	0.046	N/A	11,880.00	N/A	N/A	546	100	0%	0	100%	100
Coffee Shop	N/A	N/A	1	2,400.00	N/A	150	150	27	0%	0	100%	27
Daycare	N/A	0.007	N/A	5,500.00	N/A	N/A	39	7	0%	0	100%	7
Convenience Store	N/A	0.046	N/A	10,000.00	N/A	N/A	460	84	0%	0	100%	84
Corporate Office/Bank	N/A	0.006	N/A	8400.00	N/A	N/A	50	9	0%	0	100%	9
Restaurant	N/A	N/A	1	5500.0	N/A	344	344	63	0%	0	100%	63
											Total	886.0

1 Source: CalRecycle. Accessed November 2024. (https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates)
2 Same source as Reference 1. Used 16 square feet per seat conversion as used in the study referenced at Reference 1.

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EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) First, choose the appropriate material then the disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Copper Wire*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Lodging	Villas	Mixed MSW municipal solid waste	Landfilled	315	short ton	*163,648*
Lodging	Single Family	Mixed MSW municipal solid waste	Landfilled	132	short ton	*68,477*
Lodging	Alley Row Homes	Mixed MSW municipal solid waste	Landfilled	150	short ton	*77,762*
Retail	Retail	Mixed MSW municipal solid waste	Landfilled	100	short ton	*51,861*
Food Services	Coffee Shop	Mixed MSW municipal solid waste	Landfilled	27	short ton	*14,235*
Service	Daycare	Mixed MSW municipal solid waste	Landfilled	7	short ton	*3,654*
Retail	Convenience Store	Mixed MSW municipal solid waste	Landfilled	84	short ton	*43,654*
Office	Corporate Office/Bank	Mixed MSW municipal solid waste	Landfilled	9	short ton	*4,783*
Food Services	Restaurant	Mixed MSW municipal solid waste	Landfilled	63	short ton	*32,622*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	-
Landfilled	460,696
Combusted	-
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste	**460.7**

DCM Farms Project
Greenhouse Gas Emissions Associated with Land Use Changes

			Land Use Emissions or Reductions					
Land Use Change[1]	Description	Land Area (acres)	Net CO2 Emissions Flux (tons CO2e)[2]	Total Area Land Use Change (hectares)[3]	Emission Factor (tons CO2e/acre)	Emissions (tons CO2e, negative value represents sink/removal of carbon)	Project Lifetime Multiplier (assume 50+ years)	Emission Rate (ton/yr)
Wetland Remaining Wetland (includes stormwater ponds)		7.5	15,800,000	37,658,000	0.17	1.3	1	1.3
Wetland to Settlement		0.03	300,000	46,000	2.64	0.1	1	0.1
Forest to Settlement		0.5	61,500,000	541,000	46.01	23.0	1	23
Impervious Surface Remaining Impervious Surface		4.5	0	0	0	0	1	0
Cropland to Wetland (Stormwater Pond)		7.5	5,000	440,000	0.005	0.03	1	0.03
Cropland to Settlement	Settlement includes developed areas, including residential, industrial, commercial and institutional land.	73.5	5,900,000	2,452,000	0.97	71.6	1	72
Total		**93.53**						**96**

1. Stormwater ponds are not represented in the U.S. Greenhouse Gas Emissions Sources and Sinks: 1990-2020 document. Conservatively assume the stormwater ponds have the same carbon sequestration as wetlands.

2. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020. Net Flux from Soil, Dead Organic Matter and Biomass Carbon Stock Changes.
Cropland Converted to Settlements: Table 6-125
Wetland Converted to Settlements: Table 6-125
Forest Converted to Settlements: Table 6-125
Cropland Converted to Wetland: Table 6-87 (Note that value "does not exceed <5,000 tons CO2e")
Wetlands Remaining Wetlands: Table 6-1.

3. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020. Land Use and Land-Use Change for the U.S. Managed Land Base for All 50 States, Table 6-5.

Appendix I

Traffic Impact Study

File #193807316
December 17, 2024

Traffic Impact Study for DCM Farms in Dayton, MN

Prepared for:
City of Dayton
12260 S Diamond Lake Rd
Dayton, MN 55327

Prepared by:

Stantec Consulting Services Inc.
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Table of Contents

FIGURES

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.

_____ DATE: December 17, 2024

Edward F. Terhaar
License No. 24441

1.0 Executive Summary

The purpose of this Traffic Impact Study is to evaluate the impacts of the DCM Farms project, a residential and commercial development in Dayton, MN. The project site is located in the southwest quadrant of the Fernbrook Lane (CSAH 121)/117th Avenue N intersection.

This study examined weekday a.m. and p.m. peak hour traffic impacts of the proposed project at the following intersections:

- Fernbrook Lane/117th Avenue
- Fernbrook Lane/114th Avenue
- Fernbrook Lane/Rush Creek Parkway
- 117th Avenue/E. French Lake Road
- Territorial Road/Rush Creek Parkway

The proposed project will consist of the following uses:

- Single Family Detached - 267 dwelling units
- Gas Station - 20 vehicle positions
- High Turnover Sit-Down Restaurant - 5,500 square feet
- Bank - 8,400 square feet
- Daycare - 5,500 square feet
- Coffee Shop - 2,400 square feet
- Retail - 11,880 square feet

Access will be provided to 113th Avenue and other residential streets to the west in existing developments. The project is expected to be completed by 2030.

The conclusions drawn from the information and analyses presented in this report are as follows:

- The proposed development is expected to generate 1,123 trips during the a.m. peak hour, 1,079 trips during the p.m. peak hour, and 10,890 trips daily.

- Other nearby development is expected to generate 222 trips during the a.m. peak hour, 381 trips during the p.m. peak hour, and 3,541 trips daily.

- At Fernbrook Lane/Rush Creek Parkway, the eastbound and westbound movements operate at poor levels of service under all future scenarios both without and with the proposed project. The overall intersection also operates poorly under the Build scenarios in the a.m. peak hour and both the No-Build and Build scenarios during the p.m. peak hour.

- At Fernbrook Lane/117th Avenue, the eastbound and westbound movements operate at poor levels of service under all future scenarios during the p.m. peak hour both without and with the proposed project. The overall intersection operates at LOS A during all scenarios during the a.m. and p.m. peak hours.

- At Fernbrook Lane/114th Avenue, 117th Avenue/E. French Lake Road, and Territorial Road/Rush Creek Parkway, all movements and intersections operate at acceptable levels of service under all scenarios.

- Based on the traffic forecasts and operations analysis for each intersection, the following mitigation measures are recommended:

    - Fernbrook Lane/117th Avenue - Monitor intersection operations as additional development occurs to determine if intersection control changes are needed.

    - Fernbrook Lane/114th Avenue - Construct intersection with roundabout control.

    - Fernbrook Lane/Rush Creek Parkway – Install traffic signal control or roundabout control.

    - 117th Avenue/E. French Lake Road – No improvements needed.

    - Territorial Road/Rush Creek Parkway – No improvements needed.

2.0 Purpose and Background

The purpose of this Traffic Impact Study is to evaluate the impacts of the DCM Farms project, a residential and commercial development in Dayton, MN. The project site is located in the southwest quadrant of the Fernbrook Lane (CSAH 121)/117th Avenue N intersection. The project location is shown in Figure 1.

This study examined weekday a.m. and p.m. peak hour traffic impacts of the proposed project at the following intersections:

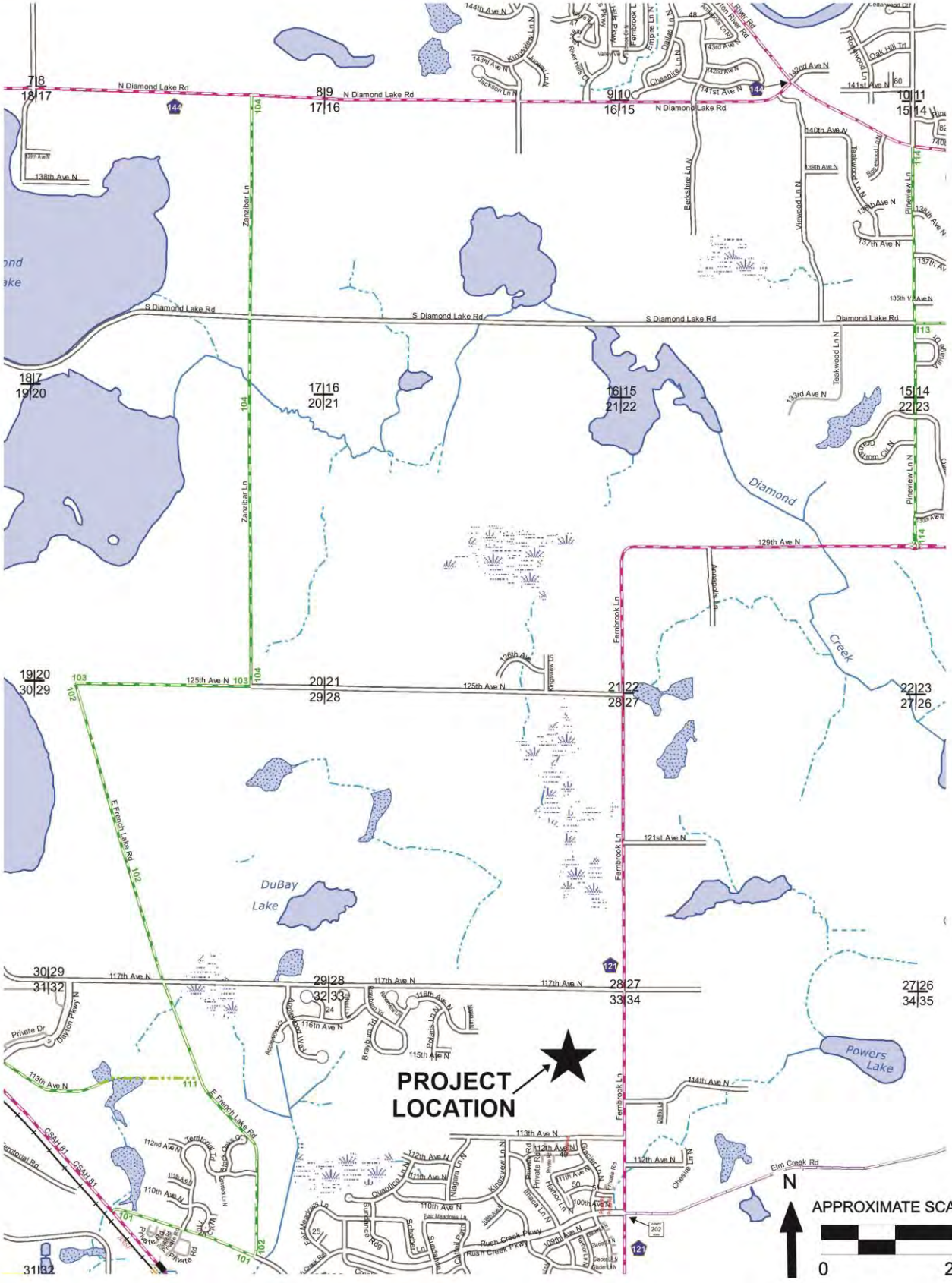
- Fernbrook Lane/117th Avenue
- Fernbrook Lane/114th Avenue
- Fernbrook Lane/Rush Creek Parkway
- 117th Avenue/E. French Lake Road
- Territorial Road/Rush Creek Parkway

Proposed Development Characteristics

The proposed project will consist of the following uses:

- Single Family Detached - 267 dwelling units
- Gas Station - 20 vehicle positions
- High Turnover Sit-Down Restaurant - 5,500 square feet
- Bank - 8,400 square feet
- Daycare - 5,500 square feet
- Coffee Shop - 2,400 square feet
- Retail - 11,880 square feet

Access will be provided to 113th Avenue and other residential streets to the west in existing developments. The project is expected to be completed by 2030. The current site plan is shown in Figure 2.



Stantec

TRAFFIC IMPACT STUDY
FOR DCM FARMS
IN DAYTON, MN

FIGURE 1

PROJECT LOCATION

Stantec

TRAFFIC IMPACT STUDY
FOR DCM FARMS
IN DAYTON, MN

FIGURE 2

SITE PLAN

3.0 Existing Conditions

The proposed project site is currently used for agricultural purposes. The site is bounded by Fernbrook Lane on the east, 117th Avenue on the north, 113th Avenue on the south, and existing residential uses on the west.

Near the site location, Fernbrook Lane, 117th Avenue, and 113th Avenue are two lane roadways with turn lanes at major intersections.

Existing conditions near the proposed project location are shown in Figure 3 and described below.

Fernbrook Lane/117th Avenue

This four-way intersection is controlled with stop signs on the eastbound and westbound approaches. The eastbound approach provides one through/left turn lane and one right turn lane. The northbound, southbound, and westbound approaches provide one left turn/through/right turn lane.

Fernbrook Lane/114th Avenue

This three-way intersection is controlled with a stop sign on the westbound approach. The westbound approach provides one left turn/right turn lane. The northbound approach provides one through/right turn lane. The southbound approach provides through/left turn lane.

Fernbrook Lane/113th Avenue

This three-way intersection is controlled with a stop sign on the eastbound approach. The eastbound approach provides one left turn/right turn lane. The southbound approach provides one through/right turn lane. The northbound approach provides through/left turn lane.

The intersection we be removed when 113th Avenue is relocated north to the 114th Avenue intersection with Fernbrook Lane as shown in the site plan.

Fernbrook Lane/Rush Creek Parkway

This four-way intersection is controlled with stop signs on the eastbound and westbound approaches. The eastbound approach provides one left turn/through lane and one right turn lane. The westbound approach provides one left turn/through/right turn lane. The northbound and southbound approaches provide one left turn lane, one through lane, and right turn lane.

117th Avenue/E. French Lake Road

This four-way intersection is controlled with stop signs on all approaches. All approaches provide one left turn/through/right turn lane.

Territorial Road/Rush Creek Parkway

This three-way intersection is controlled with a stop sign on the westbound approach. The westbound approach provides one left turn/right turn lane. The northbound approach provides one through/right turn lane. The southbound approach provides through/left turn lane.

Traffic Volume Data

Weekday traffic volume data was recorded at the existing intersections in November, 2024. Existing traffic volume data is presented later in this report.

Stantec

TRAFFIC IMPACT STUDY
FOR DCM FARMS
IN DAYTON, MN

FIGURE 3

EXISTING CONDITIONS

4.0 Traffic Forecasts

Traffic Forecast Scenarios

To adequately address the impacts of the proposed project and other development in the area, forecasts and analyses were completed for the years 2030 and 2040. Specifically, weekday a.m. and p.m. peak hour traffic forecasts were completed for the following scenarios:

- *2024 Existing*. Existing volumes were determined through traffic counts at the subject intersections. The existing volume information includes trips generated by existing uses near the project site.

- *2030 No-Build*. Existing volumes were increased by 1.0 percent per year to account for background growth in the surrounding area. The growth rate was based on historic growth in the area. In addition, trips generated from other nearby developments were also included in the 2030 No-Build volumes as described below.

- *2030 Build*. Trips generated by the proposed development were added to the 2030 No-Build volumes to determine 2030 Build volumes.

- *2040 No-Build*. Existing volumes were increased by 1.0 percent per year to account for background growth in the surrounding area. The growth rate was based on historic growth in the area. In addition, trips generated from other nearby developments were also included in the 2040 No-Build volumes as described below.

- *2040 Build*. Trips generated by the proposed development were added to the 2040 No-Build volumes to determine 2040 Build volumes.

Trip Generation for Proposed Project

The expected new development trips were calculated based on data presented in Trip Generation, Eleventh Edition, published by the Institute of Transportation Engineers. These calculations represent total trips that will be generated by the proposed development. The resultant trip generation estimates are shown in Table 4-1.

Table 4-1
Gross Weekday Trip Generation for Proposed Project

Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekday Daily
Single Family Detached	267 DU	47	140	187	158	93	251	2518
Gas Station	20 VFP	270	271	541	228	227	455	5143
High Turnover Sit-Down Restaurant	5,500 SF	29	24	53	30	20	50	590
Bank/Office	8,400 SF	29	18	47	43	47	90	449
Daycare	5,500 SF	32	29	61	29	32	61	262
Coffee Shop	2,400 SF	105	101	206	47	47	94	1281
Retail	11,880 SF	17	11	28	39	39	78	647
Totals		529	594	1,123	574	505	1,079	10,890

Notes: DU=dwelling units, VFP=vehicle fueling positions, SF=square feet

The gross trip totals were reduced by 10 percent to account for internal trips that will not impact the external roadway system.

Trip Generation for Other Nearby Development

Information on nearby development expected by 2030 was obtained from City staff. The expected nearby development trips were calculated based on data presented in Trip Generation, Eleventh Edition, published by the Institute of Transportation Engineers. These calculations represent total trips that will be generated by the proposed development. The resultant trip generation estimates are shown in Table 4-2.

Table 4-2
Weekday Trip Generation for Nearby Development

Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekday Daily
Single Family Detached	234 DU	41	123	164	138	82	220	2207
Retail	24,500 SF	35	23	58	81	80	161	1334
Totals		76	146	222	219	162	381	3,541

Notes: DU=dwelling units, VFP=vehicle fueling positions, SF=square feet

The retail trips can be categorized in the following trip types:

- *New Trips.* Trips solely to and from the proposed development.
- *Pass-By Trips.* Trips that are attracted from the traffic volume on roadways immediately adjacent to the site.

Based on information published in the *Trip Generation Handbook*, 3rd Edition, by the Institute of Transportation Engineers, the percentage of each trip type is as follows:

- Gas Station - 50% new, 50% pass-by
- High Turnover Sit-Down Restaurant - 50% new, 50% pass-by
- Bank - 65% new, 35% pass-by
- Coffee Shop - 50% new, 50% pass-by

Trip Distribution Percentages

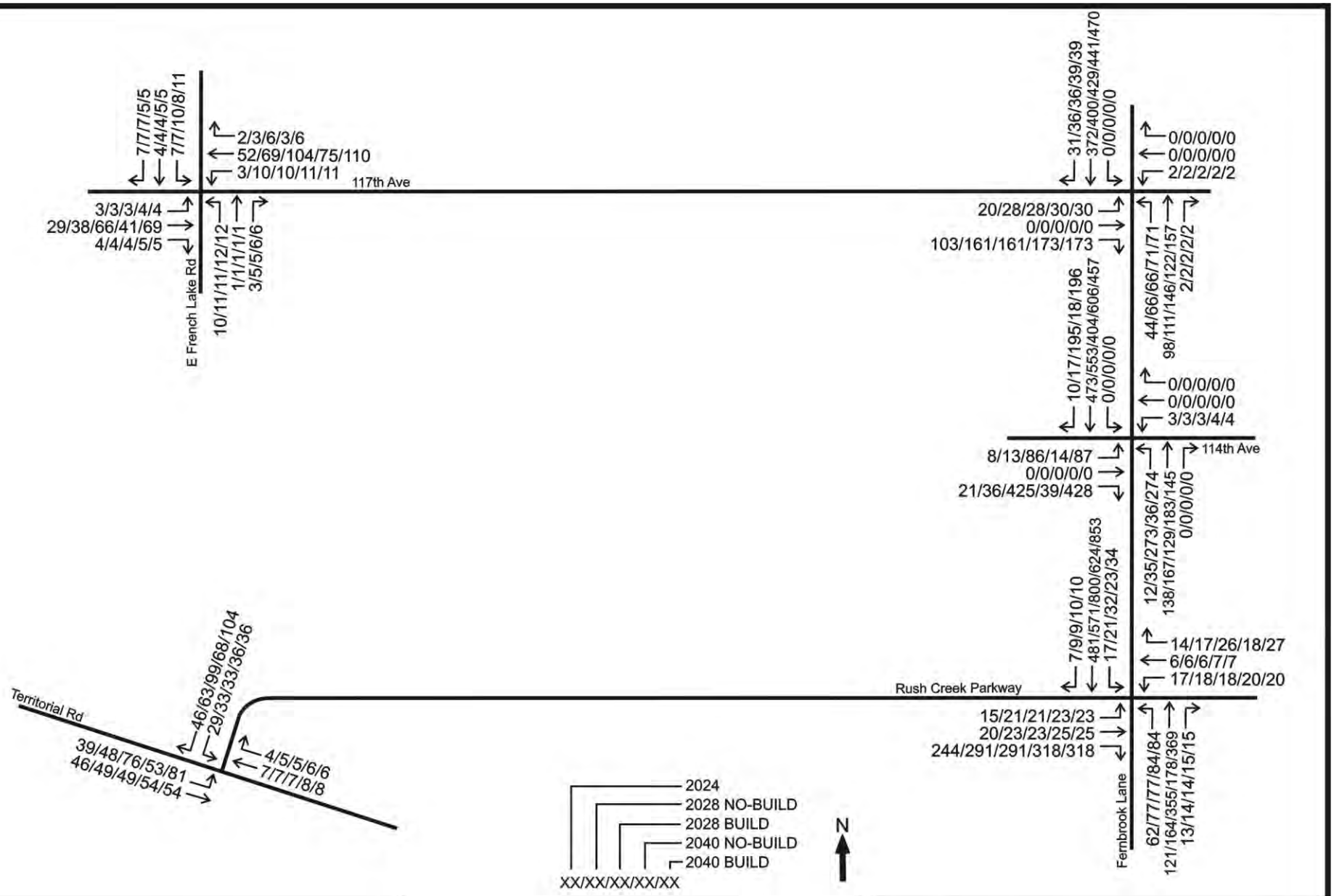
Trip distribution percentages for the subject development trips were established based on the nearby roadway network, existing and expected future traffic patterns, and location of the subject development in relation to major attractions and population concentrations.

The distribution percentages for trips generated by the proposed development are as follows:

- 61 percent to/from the south on Fernbrook Lane
- 10 percent to/from the north on Fernbrook Lane
- 3 percent to/from the east on Elm Creek Road
- 10 percent to/from the west on 117th Avenue
- 10 percent to/from the north on Territorial Road
- 1 percent to/from the north on E. French Lake Road
- 5 percent to/from the south on Territorial Road

Traffic Volumes

Development trips from Tables 4-1 and 4-2 were assigned to the surrounding roadway network using the preceding trip distribution percentages. Traffic volumes were established for all the forecasting scenarios described earlier during the weekday a.m. and p.m. peak hours. The resultant peak hour volumes are shown in Figures 4 and 5.

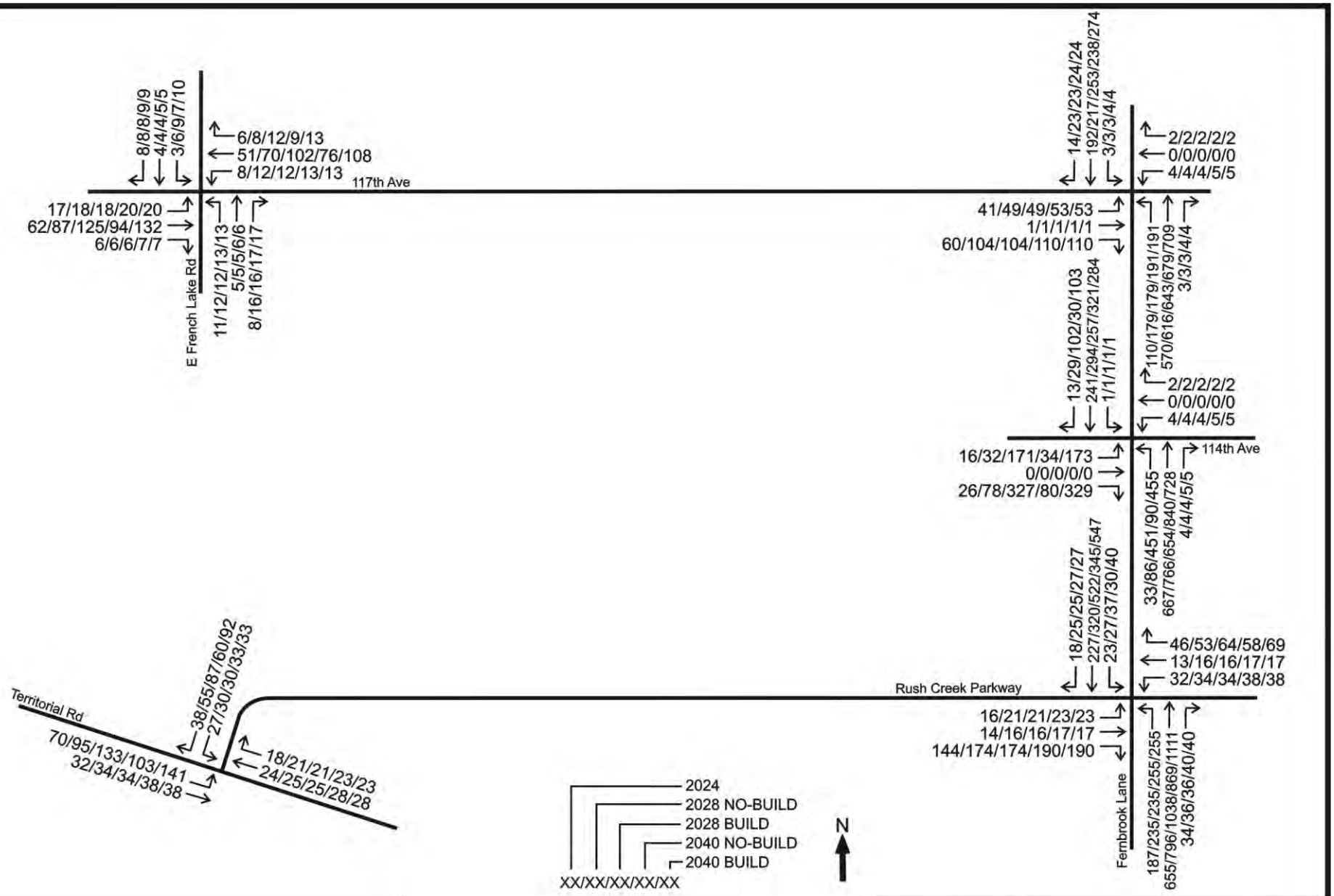


Stantec

TRAFFIC IMPACT STUDY
FOR DCM FARMS
IN DAYTON, MN

FIGURE 4

WEEKDAY AM PEAK HOUR VOLUMES



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TRAFFIC IMPACT STUDY
FOR DCM FARMS
IN DAYTON, MN

FIGURE 5

WEEKDAY PM PEAK HOUR VOLUMES

5.0 Traffic Analysis

Intersection Level of Service Analysis

Traffic analyses were completed for the subject intersections for all scenarios described earlier during the weekday a.m. and p.m. peak hours using Synchro software. Initial analysis was completed using existing geometrics and intersection control at all intersections except Fernbrook Lane/114th Avenue, which was assumed to have roundabout control.

Capacity analysis results are presented in terms of level of service (LOS), which is defined in terms of traffic delay at the intersection. LOS ranges from A to F. LOS A represents the best intersection operation, with little delay for each vehicle using the intersection. LOS F represents the worst intersection operation with excessive delay. In accordance with MnDOT traffic study guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations. The following is a detailed description of the conditions described by each LOS designation:

- Level of service A corresponds to a free flow condition with motorists virtually unaffected by the intersection control mechanism. For a signalized or an unsignalized intersection, the average delay per vehicle would be approximately 10 seconds or less.

- Level of service B represents stable flow with a high degree of freedom, but with some influence from the intersection control device and the traffic volumes. For a signalized intersection, the average delay ranges from 10 to 20 seconds. An unsignalized intersection would have delays ranging from 10 to 15 seconds for this level.

- Level of service C depicts a restricted flow which remains stable, but with significant influence from the intersection control device and the traffic volumes. The general level of comfort and convenience changes noticeably at this level. The delay ranges from 20 to 35 seconds for a signalized intersection and from 15 to 25 seconds for an unsignalized intersection at this level.

- Level of service D corresponds to high-density flow in which speed and freedom are significantly restricted. Though traffic flow remains stable, reductions in comfort and convenience are experienced. The control delay for this level is 35 to 55 seconds for a signalized intersection and 25 to 35 seconds for an unsignalized intersection.

- Level of service E represents unstable flow of traffic at or near the capacity of the intersection with poor levels of comfort and convenience. The delay ranges from 55 to 80 seconds for a signalized intersection and from 35 to 50 seconds for an unsignalized intersection at this level.

- Level of service F represents forced flow in which the volume of traffic approaching the intersection exceeds the volume that can be served. Characteristics often experienced include long queues, stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure. Delays over 80 seconds for a

signalized intersection and over 50 seconds for an unsignalized intersection correspond to this level of service.

The LOS results are described below. All LOS worksheets are included in the Appendix for further detail.

2024 Existing

Weekday Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
Fernbrook Lane/117th Avenue	EB/WB stop	A/C	A/D
Fernbrook Lane/114th Avenue	Roundabout	A/A	A/A
Fernbrook Lane/Rush Creek Pkwy	EB/WB stop	A/D	B/F
117th Avenue/E. French Lake Rd	All-way stop	A/A	A/A
Territorial Road/Rush Creek Pkwy	WB stop	A/A	A/A

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

All intersections operate at LOS A and all movements operate at LOS D or better during the a.m. peak hour. During the p.m. peak hour, all intersections operate at LOS B or better. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS D or better.

2030 No-Build

Weekday Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
Fernbrook Lane/117th Avenue	EB/WB stop	A/C	A/F
Fernbrook Lane/114th Avenue	Roundabout	A/A	A/B
Fernbrook Lane/Rush Creek Pkwy	EB/WB stop	B/F	E/F
117th Avenue/E. French Lake Rd	All-way stop	A/A	A/A
Territorial Road/Rush Creek Pkwy	WB stop	A/A	A/A

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

All intersections operate at LOS B or better during the a.m. peak hour. At Fernbrook Lane/Rush Creek Parkway, the westbound movements operate at LOS F. All other movements operate at LOS D or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS E. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS B or better.

2030 Build

Weekday Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
Fernbrook Lane/117th Avenue	EB/WB stop	A/C	A/F
Fernbrook Lane/114th Avenue	Roundabout	A/B	A/B
Fernbrook Lane/Rush Creek Pkwy	EB/WB stop	F/F	F/F
117th Avenue/E. French Lake Rd	All-way stop	A/A	A/A
Territorial Road/Rush Creek Pkwy	WB stop	A/A	A/B

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

All intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A during the a.m. peak hour. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS C or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through movements operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS C or better.

2040 No-Build

Weekday Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
Fernbrook Lane/117th Avenue	EB/WB stop	A/C	A/F
Fernbrook Lane/114th Avenue	Roundabout	A/A	A/B
Fernbrook Lane/Rush Creek Pkwy	EB/WB stop	C/F	F/F
117th Avenue/E. French Lake Rd	All-way stop	A/A	A/A
Territorial Road/Rush Creek Pkwy	WB stop	A/A	A/A

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

All intersections operate at LOS C or better during the a.m. peak hour. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through movements operate at LOS E and the westbound movements operate at LOS F. All other movements operate at LOS C or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through movements operate at LOS F and westbound movements operate at LOS E. All other movements operate at LOS B or better.

2040 Build

Weekday Peak Hour LOS Results

Intersection	Traffic Control	AM Peak Hour LOS	PM Peak Hour LOS
Fernbrook Lane/117th Avenue	EB/WB stop	A/D	A/F
Fernbrook Lane/114th Avenue	Roundabout	A/B	A/B
Fernbrook Lane/Rush Creek Pkwy	EB/WB stop	F/F	F/F
117th Avenue/E. French Lake Rd	All-way stop	A/A	A/A
Territorial Road/Rush Creek Pkwy	WB stop	A/A	A/B

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

All intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A during the a.m. peak hour. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS D or better.

During the p.m. peak hour, all intersections except Fernbrook Lane/Rush Creek Parkway operate at LOS A. Fernbrook Lane/Rush Creek Parkway operates at LOS F. At Fernbrook Lane/Rush Creek Parkway, the eastbound left turn/through and westbound movements operate at LOS F. At Fernbrook Lane/117th Avenue, the eastbound left turn/through and westbound movements operate at LOS F. All other movements operate at LOS C or better.

Overall Traffic Impacts

At Fernbrook Lane/Rush Creek Parkway, the eastbound and westbound movements operate at poor levels of service under all future scenarios both without and with the proposed project. The overall intersection also operates poorly under the Build scenarios in the a.m. peak hour and both the No-Build and Build scenarios during the p.m. peak hour.

At Fernbrook Lane/117th Avenue, the eastbound and westbound movements operate at poor levels of service under all future scenarios during the p.m. peak hour both without and with the proposed project. The overall intersection operate at LOS A during all scenarios during the a.m. and p.m. peak hours.

At Fernbrook Lane/114th Avenue, 117th Avenue/E. French Lake Road, and Territorial Road/Rush Creek Parkway, all movements and intersections operate at acceptable levels of service under all scenarios.

Intersection Operations at Fernbrook Lane/Rush Creek Parkway with Traffic Control Change

Potential mitigation measures for the operational issues shown at the Fernbrook Lane/Rush Creek Parkway intersection include roundabout control or traffic signal control. The updated intersection operation results with roundabout control or traffic signal control are shown below.

Weekday A.M. and P.M. Peak Hour LOS Results at
Fernbrook Lane/Rush Creek Parkway with Intersection Control Change

Scenario	AM Peak Hour LOS	PM Peak Hour LOS
With Traffic Signal Control		
2030 No-Build	B/B	B/C
2030 Build	B/C	C/D
2040 No-Build	B/B	B/C
2040 Build	C/D	C/D
With Roundabout Control		
2030 No-Build	A/B	A/A
2030 Build	C/C	A/B
2040 No-Build	A/B	A/A
2040 Build	C/D	B/C

Note: Level of service results presented with overall intersection LOS followed by worst movement LOS.

With traffic signal control, all movements operate at LOS D or better and the overall intersection operates at LOS C or better during the a.m. and p.m. peak hours under all scenarios.

With roundabout control, all movements operate at LOS C or better and the overall intersection operates at LOS C or better during the a.m. and p.m. peak hours under all scenarios.

Recommended Mitigation

Based on the traffic forecasts and operations analysis for each intersection, the following mitigation measures are recommended:

- Fernbrook Lane/117th Avenue - Monitor intersection operations as additional development occurs to determine if intersection control changes are needed.
- Fernbrook Lane/114th Avenue - Construct intersection with roundabout control.
- Fernbrook Lane/Rush Creek Parkway – Install traffic signal control or roundabout control.
- 117th Avenue/E. French Lake Road – No improvements needed.
- Territorial Road/Rush Creek Parkway – No improvements needed.

6.0 Conclusions and Recommendations

The conclusions drawn from the information and analyses presented in this report are as follows:

- The proposed development is expected to generate 1,123 trips during the a.m. peak hour, 1,079 trips during the p.m. peak hour, and 10,890 trips daily.
- Other nearby development is expected to generate 222 trips during the a.m. peak hour, 381 trips during the p.m. peak hour, and 3,541 trips daily.
- At Fernbrook Lane/Rush Creek Parkway, the eastbound and westbound movements operate at poor levels of service under all future scenarios both without and with the proposed project. The overall intersection also operates poorly under the Build scenarios in the a.m. peak hour and both the No-Build and Build scenarios during the p.m. peak hour.
- At Fernbrook Lane/117th Avenue, the eastbound and westbound movements operate at poor levels of service under all future scenarios during the p.m. peak hour both without and with the proposed project. The overall intersection operates at LOS A during all scenarios during the a.m. and p.m. peak hours.
- At Fernbrook Lane/114th Avenue, 117th Avenue/E. French Lake Road, and Territorial Road/Rush Creek Parkway, all movements and intersections operate at acceptable levels of service under all scenarios.
- Based on the traffic forecasts and operations analysis for each intersection, the following mitigation measures are recommended:
    - Fernbrook Lane/117th Avenue - Monitor intersection operations as additional development occurs to determine if intersection control changes are needed.
    - Fernbrook Lane/114th Avenue - Construct intersection with roundabout control.
    - Fernbrook Lane/Rush Creek Parkway – Install traffic signal control or roundabout control.
    - 117th Avenue/E. French Lake Road – No improvements needed.
    - Territorial Road/Rush Creek Parkway – No improvements needed.

7.0 Appendix

- Level of Service worksheets

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	29	4	3	52	2	10	1	3	7	4	7
Future Vol, veh/h	3	29	4	3	52	2	10	1	3	7	4	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	33	4	3	58	2	11	1	3	8	4	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.3	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	71%	8%	5%	39%
Vol Thru, %	7%	81%	91%	22%
Vol Right, %	21%	11%	4%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	36	57	18
LT Vol	10	3	3	7
Through Vol	1	29	52	4
RT Vol	3	4	2	7
Lane Flow Rate	16	40	64	20
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.045	0.071	0.022
Departure Headway (Hd)	4.145	3.995	4.017	3.971
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	859	896	892	896
Service Time	2.193	2.022	2.04	2.019
HCM Lane V/C Ratio	0.019	0.045	0.072	0.022
HCM Control Delay	7.3	7.2	7.3	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1	103	2	1	1	44	98	2	1	372	31
Future Vol, veh/h	20	1	103	2	1	1	44	98	2	1	372	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	1	123	2	1	1	52	117	2	1	443	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	687	687	462	748	704	118	480	0	0	119	0	0
Stage 1	464	464	-	222	222	-	-	-	-	-	-	-
Stage 2	223	223	-	526	482	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	361	370	600	329	361	934	1082	-	-	1469	-	-
Stage 1	578	564	-	780	720	-	-	-	-	-	-	-
Stage 2	780	719	-	535	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	345	351	600	251	342	934	1082	-	-	1469	-	-
Mov Cap-2 Maneuver	345	351	-	251	342	-	-	-	-	-	-	-
Stage 1	549	563	-	740	683	-	-	-	-	-	-	-
Stage 2	738	682	-	424	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	15.9	2.6	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	345	600	334	1469	-	-
HCM Lane V/C Ratio	0.048	-	-	0.072	0.204	0.014	0.001	-	-
HCM Control Delay (s)	8.5	0	-	16.2	12.5	15.9	7.5	0	-
HCM Lane LOS	A	A	-	C	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.8	0	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	1	146	1	1	483
Future Vol, veh/h	3	1	146	1	1	483
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	1	180	1	1	596

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	779	181	0	0	181	0
Stage 1	181	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	364	862	-	-	1394	-
Stage 1	850	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	364	862	-	-	1394	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	425	1394	-
HCM Lane V/C Ratio	-	-	0.012	0.001	-
HCM Control Delay (s)	-	-	13.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	20	244	17	6	14	62	121	13	17	481	7
Future Vol, veh/h	15	20	244	17	6	14	62	121	13	17	481	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	22	271	19	7	16	69	134	14	19	534	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	863	858	534	995	852	134	542	0	0	148	0	0
Stage 1	572	572	-	272	272	-	-	-	-	-	-	-
Stage 2	291	286	-	723	580	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	275	294	546	224	297	915	1027	-	-	1434	-	-
Stage 1	505	504	-	734	685	-	-	-	-	-	-	-
Stage 2	717	675	-	417	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	249	271	546	99	274	915	1027	-	-	1434	-	-
Mov Cap-2 Maneuver	249	271	-	99	274	-	-	-	-	-	-	-
Stage 1	471	497	-	685	639	-	-	-	-	-	-	-
Stage 2	651	630	-	198	494	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.3	31.4	2.8	0.3
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1027	-	-	261	546	177	1434	-	-
HCM Lane V/C Ratio	0.067	-	-	0.149	0.497	0.232	0.013	-	-
HCM Control Delay (s)	8.8	-	-	21.2	17.9	31.4	7.5	-	-
HCM Lane LOS	A	-	-	C	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	2.7	0.9	0	-	-

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	46	7	4	39	46
Future Vol, veh/h	29	46	7	4	39	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	56	9	5	48	56

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	164	12	0	0	14	0
Stage 1	12	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	827	1069	-	-	1604	-
Stage 1	1011	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	801	1069	-	-	1604	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	3.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	947	1604	-
HCM Lane V/C Ratio	-	-	0.097	0.03	-
HCM Control Delay (s)	-	-	9.2	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	38	4	10	69	3	11	1	5	7	4	7
Future Vol, veh/h	3	38	4	10	69	3	11	1	5	7	4	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	43	4	11	78	3	12	1	6	8	4	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.5	7.3	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	7%	12%	39%
Vol Thru, %	6%	84%	84%	22%
Vol Right, %	29%	9%	4%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	45	82	18
LT Vol	11	3	10	7
Through Vol	1	38	69	4
RT Vol	5	4	3	7
Lane Flow Rate	19	51	92	20
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.057	0.103	0.023
Departure Headway (Hd)	4.149	4.032	4.043	4.04
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	854	885	885	877
Service Time	2.217	2.07	2.073	2.108
HCM Lane V/C Ratio	0.022	0.058	0.104	0.023
HCM Control Delay	7.3	7.3	7.5	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.3	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	1	161	2	1	1	66	111	2	1	400	36
Future Vol, veh/h	28	1	161	2	1	1	66	111	2	1	400	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	1	192	2	1	1	79	132	2	1	476	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	792	792	498	887	812	133	519	0	0	134	0	0
Stage 1	500	500	-	291	291	-	-	-	-	-	-	-
Stage 2	292	292	-	596	521	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	307	322	572	265	313	916	1047	-	-	1451	-	-
Stage 1	553	543	-	717	672	-	-	-	-	-	-	-
Stage 2	716	671	-	490	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	295	572	165	287	916	1047	-	-	1451	-	-
Mov Cap-2 Maneuver	286	295	-	165	287	-	-	-	-	-	-	-
Stage 1	508	542	-	658	617	-	-	-	-	-	-	-
Stage 2	655	616	-	325	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	20.3	3.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1047	-	-	286	572	240	1451	-	-
HCM Lane V/C Ratio	0.075	-	-	0.121	0.335	0.02	0.001	-	-
HCM Control Delay (s)	8.7	0	-	19.3	14.4	20.3	7.5	0	-
HCM Lane LOS	A	A	-	C	B	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	1.5	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	61	6	250	705
Demand Flow Rate, veh/h	62	6	255	719
Vehicles Circulating, veh/h	702	270	18	49
Vehicles Exiting, veh/h	66	3	746	227
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.3	3.2	3.7	8.7
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.274	0.726	1.000	0.173	0.827	0.971	0.029
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	17	45	6	44	211	698	21
Cap Entry Lane, veh/h	708	782	1129	1328	1399	1290	1362
Entry HV Adj Factor	0.999	0.978	0.997	0.977	0.980	0.980	1.000
Flow Entry, veh/h	17	44	6	43	207	684	21
Cap Entry, veh/h	707	765	1125	1297	1371	1265	1362
V/C Ratio	0.024	0.058	0.005	0.033	0.151	0.541	0.015
Control Delay, s/veh	5.3	5.3	3.2	3.0	3.8	8.9	2.8
LOS	A	A	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	1	3	0

Intersection	
Int Delay, s/veh	10.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	23	291	18	6	17	77	164	14	21	571	9
Future Vol, veh/h	21	23	291	18	6	17	77	164	14	21	571	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	26	323	20	7	19	86	182	16	23	634	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1055	1050	634	1214	1044	182	644	0	0	198	0	0
Stage 1	680	680	-	354	354	-	-	-	-	-	-	-
Stage 2	375	370	-	860	690	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	204	227	479	158	229	861	941	-	-	1375	-	-
Stage 1	441	451	-	663	630	-	-	-	-	-	-	-
Stage 2	646	620	-	351	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	179	203	479	43	205	861	941	-	-	1375	-	-
Mov Cap-2 Maneuver	179	203	-	43	205	-	-	-	-	-	-	-
Stage 1	401	443	-	603	573	-	-	-	-	-	-	-
Stage 2	567	564	-	106	438	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.2	83.4	2.8	0.3
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	941	-	-	191	479	88	1375	-	-
HCM Lane V/C Ratio	0.091	-	-	0.256	0.675	0.518	0.017	-	-
HCM Control Delay (s)	9.2	-	-	30.2	26.7	83.4	7.7	-	-
HCM Lane LOS	A	-	-	D	D	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1	5	2.3	0.1	-	-

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	63	7	5	48	49
Future Vol, veh/h	33	63	7	5	48	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	77	9	6	59	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	190	12	0	0	15	0
Stage 1	12	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	799	1069	-	-	1603	-
Stage 1	1011	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	769	1069	-	-	1603	-
Mov Cap-2 Maneuver	769	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	3.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	943	1603	-
HCM Lane V/C Ratio	-	-	0.124	0.037	-
HCM Control Delay (s)	-	-	9.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	66	4	10	104	6	11	1	5	10	4	7
Future Vol, veh/h	3	66	4	10	104	6	11	1	5	10	4	7
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	74	4	11	117	7	12	1	6	11	4	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.8	7.5	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	4%	8%	48%
Vol Thru, %	6%	90%	87%	19%
Vol Right, %	29%	5%	5%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	73	120	21
LT Vol	11	3	10	10
Through Vol	1	66	104	4
RT Vol	5	4	6	7
Lane Flow Rate	19	82	135	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.093	0.152	0.028
Departure Headway (Hd)	4.384	4.085	4.057	4.321
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	822	871	880	833
Service Time	2.384	2.139	2.1	2.321
HCM Lane V/C Ratio	0.023	0.094	0.153	0.029
HCM Control Delay	7.5	7.6	7.8	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.5	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	1	161	2	1	1	66	146	2	1	429	36
Future Vol, veh/h	28	1	161	2	1	1	66	146	2	1	429	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	1	192	2	1	1	79	174	2	1	511	43

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	869	869	533	964	889	175	554	0	0	176	0	0
Stage 1	535	535	-	333	333	-	-	-	-	-	-	-
Stage 2	334	334	-	631	556	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	272	290	547	235	282	868	1016	-	-	1400	-	-
Stage 1	529	524	-	681	644	-	-	-	-	-	-	-
Stage 2	680	643	-	469	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	253	265	547	142	257	868	1016	-	-	1400	-	-
Mov Cap-2 Maneuver	253	265	-	142	257	-	-	-	-	-	-	-
Stage 1	484	523	-	622	589	-	-	-	-	-	-	-
Stage 2	619	588	-	304	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	22.6	2.7	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1016	-	-	253	547	209	1400	-	-
HCM Lane V/C Ratio	0.077	-	-	0.136	0.35	0.023	0.001	-	-
HCM Control Delay (s)	8.8	0	-	21.5	15.1	22.6	7.6	0	-
HCM Lane LOS	A	A	-	C	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	1.6	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	632	6	497	741
Demand Flow Rate, veh/h	645	6	507	756
Vehicles Circulating, veh/h	514	614	110	349
Vehicles Exiting, veh/h	591	3	1048	271
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.3	4.4	5.0	8.8
Approach LOS	B	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.169	0.831	1.000	0.679	0.321	0.675	0.325
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	109	536	6	344	163	510	246
Cap Entry Lane, veh/h	841	917	843	1220	1293	979	1056
Entry HV Adj Factor	0.981	0.979	0.997	0.980	0.981	0.980	0.980
Flow Entry, veh/h	107	525	6	337	160	500	241
Cap Entry, veh/h	826	899	840	1195	1268	960	1034
V/C Ratio	0.130	0.584	0.007	0.282	0.126	0.521	0.233
Control Delay, s/veh	5.7	12.4	4.4	5.6	3.9	10.4	5.7
LOS	A	B	A	A	A	B	A
95th %tile Queue, veh	0	4	0	1	0	3	1

Intersection	
Int Delay, s/veh	120.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	23	291	18	6	29	77	355	14	32	800	9
Future Vol, veh/h	21	23	291	18	6	29	77	355	14	32	800	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	26	323	20	7	32	86	394	16	36	889	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1555	1543	889	1707	1537	394	899	0	0	410	0	0
Stage 1	961	961	-	566	566	-	-	-	-	-	-	-
Stage 2	594	582	-	1141	971	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	92	115	342	72	116	655	756	-	-	1149	-	-
Stage 1	308	335	-	509	507	-	-	-	-	-	-	-
Stage 2	491	499	-	244	331	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	74	99	342	~ 3	100	655	756	-	-	1149	-	-
Mov Cap-2 Maneuver	74	99	-	~ 3	100	-	-	-	-	-	-	-
Stage 1	273	325	-	451	449	-	-	-	-	-	-	-
Stage 2	408	442	-	~ 12	321	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	74.2	$ 3305.5	1.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	756	-	-	85	342	9	1149	-	-
HCM Lane V/C Ratio	0.113	-	-	0.575	0.945	6.543	0.031	-	-
HCM Control Delay (s)	10.4	-	-	93.5	71.3	$ 3305.5	8.2	-	-
HCM Lane LOS	B	-	-	F	F	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.6	9.9	8.8	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	99	7	5	76	49
Future Vol, veh/h	33	99	7	5	76	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	121	9	6	93	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	258	12	0	0	15	0
Stage 1	12	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	731	1069	-	-	1603	-
Stage 1	1011	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	687	1069	-	-	1603	-
Mov Cap-2 Maneuver	687	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	747	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	939	1603	-
HCM Lane V/C Ratio	-	-	0.171	0.058	-
HCM Control Delay (s)	-	-	9.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	41	5	11	75	3	12	1	6	8	5	8
Future Vol, veh/h	4	41	5	11	75	3	12	1	6	8	5	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	46	6	12	84	3	13	1	7	9	6	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	7.6	7.3	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	63%	8%	12%	38%
Vol Thru, %	5%	82%	84%	24%
Vol Right, %	32%	10%	3%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	50	89	21
LT Vol	12	4	11	8
Through Vol	1	41	75	5
RT Vol	6	5	3	8
Lane Flow Rate	21	56	100	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.025	0.063	0.113	0.027
Departure Headway (Hd)	4.159	4.044	4.059	4.068
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	881	881	869
Service Time	2.236	2.088	2.094	2.144
HCM Lane V/C Ratio	0.025	0.064	0.114	0.028
HCM Control Delay	7.3	7.4	7.6	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.4	0.1

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1	173	2	1	1	71	122	2	1	441	39
Future Vol, veh/h	30	1	173	2	1	1	71	122	2	1	441	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1	206	2	1	1	85	145	2	1	525	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	867	867	548	970	889	146	571	0	0	147	0	0
Stage 1	550	550	-	316	316	-	-	-	-	-	-	-
Stage 2	317	317	-	654	573	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	273	291	536	233	282	901	1002	-	-	1435	-	-
Stage 1	519	516	-	695	655	-	-	-	-	-	-	-
Stage 2	694	654	-	456	504	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	252	264	536	133	256	901	1002	-	-	1435	-	-
Mov Cap-2 Maneuver	252	264	-	133	256	-	-	-	-	-	-	-
Stage 1	471	515	-	631	595	-	-	-	-	-	-	-
Stage 2	628	594	-	280	503	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	23.5	3.2	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1002	-	-	252	536	199	1435	-	-
HCM Lane V/C Ratio	0.084	-	-	0.146	0.384	0.024	0.001	-	-
HCM Control Delay (s)	8.9	0	-	21.7	15.8	23.5	7.5	0	-
HCM Lane LOS	A	A	-	C	C	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	1.8	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	66	7	271	771
Demand Flow Rate, veh/h	67	7	277	786
Vehicles Circulating, veh/h	769	293	19	51
Vehicles Exiting, veh/h	68	3	817	249
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	4.0	4.9	14.1
Approach LOS	A	A	A	B

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.269	0.731	1.000	0.162	0.838	0.972	0.028
Critical Headway, s	4.293	4.113	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	18	49	7	45	232	764	22
Cap Entry Lane, veh/h	635	660	920	1114	1115	1088	1090
Entry HV Adj Factor	0.999	0.980	0.997	0.978	0.980	0.980	1.000
Flow Entry, veh/h	18	48	7	44	227	749	22
Cap Entry, veh/h	634	646	918	1089	1093	1066	1090
V/C Ratio	0.028	0.074	0.008	0.040	0.208	0.703	0.020
Control Delay, s/veh	6.0	6.4	4.0	3.6	5.2	14.4	3.5
LOS	A	A	A	A	A	B	A
95th %tile Queue, veh	0	0	0	0	1	6	0

Intersection	
Int Delay, s/veh	21.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	25	318	20	7	18	84	178	15	23	624	10
Future Vol, veh/h	23	25	318	20	7	18	84	178	15	23	624	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	28	353	22	8	20	93	198	17	26	693	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1152	1146	693	1325	1140	198	704	0	0	215	0	0
Stage 1	745	745	-	384	384	-	-	-	-	-	-	-
Stage 2	407	401	-	941	756	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	175	199	443	133	201	843	894	-	-	1355	-	-
Stage 1	406	421	-	639	611	-	-	-	-	-	-	-
Stage 2	621	601	-	316	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	150	175	443	~ 22	177	843	894	-	-	1355	-	-
Mov Cap-2 Maneuver	150	175	-	~ 22	177	-	-	-	-	-	-	-
Stage 1	364	413	-	573	547	-	-	-	-	-	-	-
Stage 2	535	538	-	59	408	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.1	299.5	2.9	0.3
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	894	-	-	162	443	46	1355	-	-
HCM Lane V/C Ratio	0.104	-	-	0.329	0.798	1.087	0.019	-	-
HCM Control Delay (s)	9.5	-	-	37.8	38.2	299.5	7.7	-	-
HCM Lane LOS	A	-	-	E	E	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.3	7.2	4.6	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	68	8	6	53	54
Future Vol, veh/h	36	68	8	6	53	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	83	10	7	65	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	210	14	0	0	17	0
Stage 1	14	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	778	1066	-	-	1600	-
Stage 1	1009	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	745	1066	-	-	1600	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	3.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	928	1600	-
HCM Lane V/C Ratio	-	-	0.137	0.04	-
HCM Control Delay (s)	-	-	9.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	69	5	11	110	6	12	1	6	12	5	8
Future Vol, veh/h	4	69	5	11	110	6	12	1	6	12	5	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	78	6	12	124	7	13	1	7	13	6	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.9	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	63%	5%	9%	48%
Vol Thru, %	5%	88%	87%	20%
Vol Right, %	32%	6%	5%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	78	127	25
LT Vol	12	4	11	12
Through Vol	1	69	110	5
RT Vol	6	5	6	8
Lane Flow Rate	21	88	143	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.026	0.1	0.162	0.034
Departure Headway (Hd)	4.405	4.1	4.075	4.364
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	817	866	875	825
Service Time	2.406	2.162	2.126	2.365
HCM Lane V/C Ratio	0.026	0.102	0.163	0.034
HCM Control Delay	7.5	7.6	7.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.6	0.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1	173	2	1	1	71	157	2	1	470	39
Future Vol, veh/h	30	1	173	2	1	1	71	157	2	1	470	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	1	206	2	1	1	85	187	2	1	560	46

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	944	944	583	1047	966	188	606	0	0	189	0	0
Stage 1	585	585	-	358	358	-	-	-	-	-	-	-
Stage 2	359	359	-	689	608	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	242	262	512	206	255	854	972	-	-	1385	-	-
Stage 1	497	498	-	660	628	-	-	-	-	-	-	-
Stage 2	659	627	-	436	486	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	222	236	512	113	230	854	972	-	-	1385	-	-
Mov Cap-2 Maneuver	222	236	-	113	230	-	-	-	-	-	-	-
Stage 1	448	498	-	595	566	-	-	-	-	-	-	-
Stage 2	592	566	-	260	486	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	26.5	2.8	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	222	512	172	1385	-	-
HCM Lane V/C Ratio	0.087	-	-	0.166	0.402	0.028	0.001	-	-
HCM Control Delay (s)	9.1	0	-	24.4	16.7	26.5	7.6	0	-
HCM Lane LOS	A	A	-	C	C	D	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.6	1.9	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	636	7	518	807
Demand Flow Rate, veh/h	649	7	529	823
Vehicles Circulating, veh/h	581	637	111	351
Vehicles Exiting, veh/h	593	3	1119	293
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	17.6	5.1	6.3	13.0
Approach LOS	C	A	A	B

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.169	0.831	1.000	0.652	0.348	0.700	0.300
Critical Headway, s	4.293	4.113	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	110	539	7	345	184	576	247
Cap Entry Lane, veh/h	731	752	723	1040	1045	868	884
Entry HV Adj Factor	0.982	0.980	0.997	0.980	0.980	0.980	0.980
Flow Entry, veh/h	108	528	7	338	180	565	242
Cap Entry, veh/h	717	737	721	1019	1025	851	866
V/C Ratio	0.151	0.716	0.010	0.332	0.176	0.663	0.279
Control Delay, s/veh	6.7	19.8	5.1	6.9	5.1	15.5	7.2
LOS	A	C	A	A	A	C	A
95th %tile Queue, veh	1	6	0	1	1	5	1

Intersection	
Int Delay, s/veh	26.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	25	318	20	7	27	84	369	15	34	853	10
Future Vol, veh/h	23	25	318	20	7	27	84	369	15	34	853	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	28	353	22	8	30	93	410	17	38	948	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1648	1637	948	1816	1631	410	959	0	0	427	0	0
Stage 1	1024	1024	-	596	596	-	-	-	-	-	-	-
Stage 2	624	613	-	1220	1035	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	79	101	~ 316	60	101	642	717	-	-	1132	-	-
Stage 1	284	313	-	490	492	-	-	-	-	-	-	-
Stage 2	473	483	-	220	309	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	85	~ 316	-	85	642	717	-	-	1132	-	-
Mov Cap-2 Maneuver	62	85	-	-	85	-	-	-	-	-	-	-
Stage 1	247	302	-	426	428	-	-	-	-	-	-	-
Stage 2	385	420	-	-	298	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	125.2		1.9	0.3
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	717	-	-	72	316	-	1132	-	-
HCM Lane V/C Ratio	0.13	-	-	0.741	1.118	-	0.033	-	-
HCM Control Delay (s)	10.8	-	-	138.3	123.2	-	8.3	-	-
HCM Lane LOS	B	-	-	F	F	-	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	3.5	14.1	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	104	8	6	81	54
Future Vol, veh/h	36	104	8	6	81	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	127	10	7	99	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	278	14	0	0	17	0
Stage 1	14	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	712	1066	-	-	1600	-
Stage 1	1009	-	-	-	-	-
Stage 2	780	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	666	1066	-	-	1600	-
Mov Cap-2 Maneuver	666	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	923	1600	-
HCM Lane V/C Ratio	-	-	0.185	0.062	-
HCM Control Delay (s)	-	-	9.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	62	6	8	51	6	11	5	8	3	4	8
Future Vol, veh/h	17	62	6	8	51	6	11	5	8	3	4	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	70	7	9	58	7	13	6	9	3	5	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.3	7.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	46%	20%	12%	20%
Vol Thru, %	21%	73%	78%	27%
Vol Right, %	33%	7%	9%	53%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	85	65	15
LT Vol	11	17	8	3
Through Vol	5	62	51	4
RT Vol	8	6	6	8
Lane Flow Rate	27	97	74	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.109	0.083	0.019
Departure Headway (Hd)	4.133	4.064	4.052	3.969
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	855	880	880	889
Service Time	2.213	2.1	2.094	2.052
HCM Lane V/C Ratio	0.032	0.11	0.084	0.019
HCM Control Delay	7.3	7.6	7.5	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.3	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	1	60	4	1	2	110	570	3	3	192	14
Future Vol, veh/h	41	1	60	4	1	2	110	570	3	3	192	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	1	65	4	1	2	120	620	3	3	209	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1086	1086	217	1118	1092	622	224	0	0	623	0	0
Stage 1	223	223	-	862	862	-	-	-	-	-	-	-
Stage 2	863	863	-	256	230	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	194	216	823	184	215	487	1345	-	-	958	-	-
Stage 1	780	719	-	350	372	-	-	-	-	-	-	-
Stage 2	349	372	-	749	714	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	172	186	823	151	185	487	1345	-	-	958	-	-
Mov Cap-2 Maneuver	172	186	-	151	185	-	-	-	-	-	-	-
Stage 1	674	716	-	302	321	-	-	-	-	-	-	-
Stage 2	299	321	-	686	711	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	24.3	1.3	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1345	-	-	172	823	194	958	-	-
HCM Lane V/C Ratio	0.089	-	-	0.265	0.079	0.039	0.003	-	-
HCM Control Delay (s)	7.9	0	-	33.3	9.8	24.3	8.8	0	-
HCM Lane LOS	A	A	-	D	A	C	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1	0.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	2	683	4	1	254
Future Vol, veh/h	4	2	683	4	1	254
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	2	776	5	1	289

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1070	779	0	0	781	0
Stage 1	779	-	-	-	-	-
Stage 2	291	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	245	396	-	-	837	-
Stage 1	452	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	245	396	-	-	837	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	281	837	-
HCM Lane V/C Ratio	-	-	0.024	0.001	-
HCM Control Delay (s)	-	-	18.1	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	14	144	32	13	46	187	655	34	23	227	18
Future Vol, veh/h	16	14	144	32	13	46	187	655	34	23	227	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	15	155	34	14	49	201	704	37	25	244	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1450	1437	244	1495	1419	704	263	0	0	741	0	0
Stage 1	294	294	-	1106	1106	-	-	-	-	-	-	-
Stage 2	1156	1143	-	389	313	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	109	133	795	101	137	437	1301	-	-	866	-	-
Stage 1	714	670	-	255	286	-	-	-	-	-	-	-
Stage 2	239	275	-	635	657	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	76	109	795	63	112	437	1301	-	-	866	-	-
Mov Cap-2 Maneuver	76	109	-	63	112	-	-	-	-	-	-	-
Stage 1	604	651	-	216	242	-	-	-	-	-	-	-
Stage 2	169	233	-	485	638	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.3	96.9	1.8	0.8
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1301	-	-	89	795	125	866	-	-
HCM Lane V/C Ratio	0.155	-	-	0.362	0.195	0.783	0.029	-	-
HCM Control Delay (s)	8.3	-	-	66.8	10.6	96.9	9.3	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.4	0.7	4.6	0.1	-	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	38	24	18	70	32
Future Vol, veh/h	27	38	24	18	70	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	42	27	20	78	36

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	229	37	0	0	47	0
Stage 1	37	-	-	-	-	-
Stage 2	192	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	759	1035	-	-	1560	-
Stage 1	985	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	720	1035	-	-	1560	-
Mov Cap-2 Maneuver	720	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	876	1560	-
HCM Lane V/C Ratio	-	-	0.082	0.05	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	87	6	12	70	8	12	5	16	6	4	8
Future Vol, veh/h	18	87	6	12	70	8	12	5	16	6	4	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	99	7	14	80	9	14	6	18	7	5	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.7	7.4	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	16%	13%	33%
Vol Thru, %	15%	78%	78%	22%
Vol Right, %	48%	5%	9%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	111	90	18
LT Vol	12	18	12	6
Through Vol	5	87	70	4
RT Vol	16	6	8	8
Lane Flow Rate	38	126	102	20
Geometry Grp	1	1	1	1
Degree of Util (X)	0.044	0.144	0.117	0.024
Departure Headway (Hd)	4.238	4.111	4.103	4.274
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	865	866	842
Service Time	2.238	2.168	2.164	2.275
HCM Lane V/C Ratio	0.045	0.146	0.118	0.024
HCM Control Delay	7.4	7.9	7.7	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.5	0.4	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1	104	4	1	2	179	616	3	3	217	23
Future Vol, veh/h	49	1	104	4	1	2	179	616	3	3	217	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1	113	4	1	2	195	670	3	3	236	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1318	1318	249	1374	1329	672	261	0	0	673	0	0
Stage 1	255	255	-	1062	1062	-	-	-	-	-	-	-
Stage 2	1063	1063	-	312	267	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	134	157	790	123	155	456	1303	-	-	918	-	-
Stage 1	749	696	-	270	300	-	-	-	-	-	-	-
Stage 2	270	300	-	699	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	108	119	790	85	117	456	1303	-	-	918	-	-
Mov Cap-2 Maneuver	108	119	-	85	117	-	-	-	-	-	-	-
Stage 1	570	693	-	205	228	-	-	-	-	-	-	-
Stage 2	204	228	-	596	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.1	37.9	1.8	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	108	790	117	918	-	-
HCM Lane V/C Ratio	0.149	-	-	0.503	0.143	0.065	0.004	-	-
HCM Control Delay (s)	8.2	0	-	68.1	10.3	37.9	8.9	0	-
HCM Lane LOS	A	A	-	F	B	E	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.3	0.5	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	124	7	951	360
Demand Flow Rate, veh/h	127	7	970	368
Vehicles Circulating, veh/h	339	1003	39	103
Vehicles Exiting, veh/h	132	6	427	907
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	6.1	9.7	5.3
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.299	0.701	1.000	0.101	0.899	0.910	0.090
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	38	89	7	98	872	335	33
Cap Entry Lane, veh/h	988	1065	605	1302	1374	1228	1301
Entry HV Adj Factor	0.973	0.978	0.997	0.980	0.980	0.980	0.970
Flow Entry, veh/h	37	87	7	96	855	328	32
Cap Entry, veh/h	962	1041	604	1276	1347	1204	1262
V/C Ratio	0.038	0.084	0.012	0.075	0.635	0.273	0.025
Control Delay, s/veh	4.1	4.2	6.1	3.4	10.4	5.5	3.1
LOS	A	A	A	A	B	A	A
95th %tile Queue, veh	0	0	0	0	5	1	0

Intersection	
Int Delay, s/veh	42.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	16	174	34	16	53	235	796	36	27	320	25
Future Vol, veh/h	21	16	174	34	16	53	235	796	36	27	320	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	17	187	37	17	57	253	856	39	29	344	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1821	1803	344	1880	1791	856	371	0	0	895	0	0
Stage 1	402	402	-	1362	1362	-	-	-	-	-	-	-
Stage 2	1419	1401	-	518	429	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	60	79	699	54	81	357	1188	-	-	758	-	-
Stage 1	625	600	-	183	216	-	-	-	-	-	-	-
Stage 2	170	207	-	541	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	32	60	699	~ 25	61	357	1188	-	-	758	-	-
Mov Cap-2 Maneuver	32	60	-	~ 25	61	-	-	-	-	-	-	-
Stage 1	492	577	-	144	170	-	-	-	-	-	-	-
Stage 2	101	163	-	370	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	61.5	$ 580.3	1.9	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1188	-	-	40	699	58	758	-	-
HCM Lane V/C Ratio	0.213	-	-	0.995	0.268	1.91	0.038	-	-
HCM Control Delay (s)	8.8	-	-	294.5	12	$ 580.3	9.9	-	-
HCM Lane LOS	A	-	-	F	B	F	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	3.8	1.1	10.5	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	55	25	21	95	34
Future Vol, veh/h	30	55	25	21	95	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	61	28	23	106	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	290	40	0	0	51	0
Stage 1	40	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	701	1031	-	-	1555	-
Stage 1	982	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	652	1031	-	-	1555	-
Mov Cap-2 Maneuver	652	-	-	-	-	-
Stage 1	982	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	5.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	855	1555	-
HCM Lane V/C Ratio	-	-	0.11	0.068	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	125	6	12	102	12	12	5	16	9	4	8
Future Vol, veh/h	18	125	6	12	102	12	12	5	16	9	4	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	142	7	14	116	14	14	6	18	10	5	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8	7.6	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	12%	10%	43%
Vol Thru, %	15%	84%	81%	19%
Vol Right, %	48%	4%	10%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	149	126	21
LT Vol	12	18	12	9
Through Vol	5	125	102	4
RT Vol	16	6	12	8
Lane Flow Rate	38	169	143	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.195	0.164	0.03
Departure Headway (Hd)	4.426	4.148	4.131	4.517
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	855	856	797
Service Time	2.427	2.224	2.213	2.519
HCM Lane V/C Ratio	0.047	0.198	0.167	0.03
HCM Control Delay	7.6	8.2	8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.6	0.1

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	1	104	4	1	2	179	643	3	3	253	23
Future Vol, veh/h	49	1	104	4	1	2	179	643	3	3	253	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	1	113	4	1	2	195	699	3	3	275	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1386	1386	288	1442	1397	701	300	0	0	702	0	0
Stage 1	294	294	-	1091	1091	-	-	-	-	-	-	-
Stage 2	1092	1092	-	351	306	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	120	143	751	110	141	439	1261	-	-	895	-	-
Stage 1	714	670	-	260	291	-	-	-	-	-	-	-
Stage 2	260	291	-	666	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	95	106	751	74	105	439	1261	-	-	895	-	-
Mov Cap-2 Maneuver	95	106	-	74	105	-	-	-	-	-	-	-
Stage 1	533	667	-	194	217	-	-	-	-	-	-	-
Stage 2	192	217	-	563	659	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.6	42.7	1.8	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1261	-	-	95	751	103	895	-	-
HCM Lane V/C Ratio	0.154	-	-	0.572	0.151	0.074	0.004	-	-
HCM Control Delay (s)	8.4	0	-	84.5	10.6	42.7	9	0	-
HCM Lane LOS	A	A	-	F	B	E	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.6	0.5	0.2	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	554	7	1232	400
Demand Flow Rate, veh/h	565	7	1257	408
Vehicles Circulating, veh/h	297	1447	196	516
Vehicles Exiting, veh/h	627	6	666	938
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.2	8.9	9.9	7.5
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.345	0.655	1.000	0.407	0.593	0.718	0.282
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	195	370	7	511	746	293	115
Cap Entry Lane, veh/h	1027	1103	415	1127	1202	840	916
Entry HV Adj Factor	0.979	0.981	0.997	0.980	0.980	0.980	0.983
Flow Entry, veh/h	191	363	7	501	731	287	113
Cap Entry, veh/h	1006	1082	414	1105	1179	823	900
V/C Ratio	0.190	0.335	0.017	0.453	0.621	0.349	0.126
Control Delay, s/veh	5.4	6.7	8.9	8.2	11.0	8.4	5.2
LOS	A	A	A	A	B	A	A
95th %tile Queue, veh	1	1	0	2	5	2	0

Intersection	
Int Delay, s/veh	193.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	16	174	34	16	64	235	1038	36	37	522	25
Future Vol, veh/h	21	16	174	34	16	64	235	1038	36	37	522	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	17	187	37	17	69	253	1116	39	40	561	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2326	2302	561	2379	2290	1116	588	0	0	1155	0	0
Stage 1	641	641	-	1622	1622	-	-	-	-	-	-	-
Stage 2	1685	1661	-	757	668	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	26	39	527	~ 24	39	253	987	-	-	605	-	-
Stage 1	463	469	-	129	161	-	-	-	-	-	-	-
Stage 2	119	154	-	400	456	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 7	27	527	~ 6	27	253	987	-	-	605	-	-
Mov Cap-2 Maneuver	~ 7	27	-	~ 6	27	-	-	-	-	-	-	-
Stage 1	344	438	-	96	120	-	-	-	-	-	-	-
Stage 2	55	115	-	231	426	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 377.7	$ 3036	1.8	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	987	-	-	10	527	18	605	-	-
HCM Lane V/C Ratio	0.256	-	-	3.978	0.355	6.81	0.066	-	-
HCM Control Delay (s)	9.9	-	-	$ 2080.9	15.5	$ 3036	11.4	-	-
HCM Lane LOS	A	-	-	F	C	F	B	-	-
HCM 95th %tile Q(veh)	1	-	-	6.1	1.6	16	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	87	25	21	133	34
Future Vol, veh/h	30	87	25	21	133	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	97	28	23	148	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	374	40	0	0	51	0
Stage 1	40	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	627	1031	-	-	1555	-
Stage 1	982	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	566	1031	-	-	1555	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	982	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	852	1555	-
HCM Lane V/C Ratio	-	-	0.153	0.095	-
HCM Control Delay (s)	-	-	10	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	94	7	13	76	9	13	6	17	7	5	9
Future Vol, veh/h	20	94	7	13	76	9	13	6	17	7	5	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	107	8	15	86	10	15	7	19	8	6	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.8	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	17%	13%	33%
Vol Thru, %	17%	78%	78%	24%
Vol Right, %	47%	6%	9%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	121	98	21
LT Vol	13	20	13	7
Through Vol	6	94	76	5
RT Vol	17	7	9	9
Lane Flow Rate	41	138	111	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.049	0.158	0.127	0.029
Departure Headway (Hd)	4.294	4.129	4.121	4.333
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	861	860	831
Service Time	2.295	2.195	2.194	2.335
HCM Lane V/C Ratio	0.049	0.16	0.129	0.029
HCM Control Delay	7.5	8	7.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.4	0.1

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	1	110	5	1	2	191	679	4	4	238	24
Future Vol, veh/h	53	1	110	5	1	2	191	679	4	4	238	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	1	120	5	1	2	208	738	4	4	259	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1438	1438	272	1497	1449	740	285	0	0	742	0	0
Stage 1	280	280	-	1156	1156	-	-	-	-	-	-	-
Stage 2	1158	1158	-	341	293	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	111	133	767	101	131	417	1277	-	-	865	-	-
Stage 1	727	679	-	239	271	-	-	-	-	-	-	-
Stage 2	239	270	-	674	670	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	96	767	66	94	417	1277	-	-	865	-	-
Mov Cap-2 Maneuver	86	96	-	66	94	-	-	-	-	-	-	-
Stage 1	526	675	-	173	196	-	-	-	-	-	-	-
Stage 2	171	195	-	565	666	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	43.1	50.3	1.8	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	86	767	88	865	-	-
HCM Lane V/C Ratio	0.163	-	-	0.683	0.156	0.099	0.005	-	-
HCM Control Delay (s)	8.4	0	-	109.4	10.6	50.3	9.2	0	-
HCM Lane LOS	A	A	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.3	0.6	0.3	0	-	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	128	9	1039	391
Demand Flow Rate, veh/h	131	9	1060	399
Vehicles Circulating, veh/h	371	1093	41	109
Vehicles Exiting, veh/h	137	8	461	993
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.3	6.6	11.3	5.6
Approach LOS	A	A	B	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.305	0.695	1.000	0.096	0.904	0.915	0.085
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	40	91	9	102	958	365	34
Cap Entry Lane, veh/h	960	1036	561	1300	1371	1221	1294
Entry HV Adj Factor	0.975	0.978	0.998	0.980	0.981	0.980	0.971
Flow Entry, veh/h	39	89	9	100	939	358	33
Cap Entry, veh/h	935	1013	560	1274	1345	1197	1256
V/C Ratio	0.042	0.088	0.016	0.078	0.699	0.299	0.026
Control Delay, s/veh	4.2	4.3	6.6	3.5	12.1	5.8	3.1
LOS	A	A	A	A	B	A	A
95th %tile Queue, veh	0	0	0	0	6	1	0

Intersection	
Int Delay, s/veh	84.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	17	190	38	17	58	255	869	40	30	345	27
Future Vol, veh/h	23	17	190	38	17	58	255	869	40	30	345	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	18	204	41	18	62	274	934	43	32	371	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1979	1960	371	2043	1946	934	400	0	0	977	0	0
Stage 1	435	435	-	1482	1482	-	-	-	-	-	-	-
Stage 2	1544	1525	-	561	464	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	46	63	675	42	65	322	1159	-	-	706	-	-
Stage 1	600	580	-	156	189	-	-	-	-	-	-	-
Stage 2	144	180	-	512	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 21	46	675	~ 16	47	322	1159	-	-	706	-	-
Mov Cap-2 Maneuver	~ 21	46	-	~ 16	47	-	-	-	-	-	-	-
Stage 1	458	554	-	119	144	-	-	-	-	-	-	-
Stage 2	77	138	-	330	539	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	116.2	$ 1169.9	2	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1159	-	-	27	675	39	706	-	-
HCM Lane V/C Ratio	0.237	-	-	1.593	0.303	3.116	0.046	-	-
HCM Control Delay (s)	9.1	-	-	$ 608.5	12.5	$ 1169.9	10.3	-	-
HCM Lane LOS	A	-	-	F	B	F	B	-	-
HCM 95th %tile Q(veh)	0.9	-	-	5.1	1.3	13.7	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	60	28	23	103	38
Future Vol, veh/h	33	60	28	23	103	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	67	31	26	114	42

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	314	44	0	0	57	0
Stage 1	44	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	679	1026	-	-	1547	-
Stage 1	978	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	628	1026	-	-	1547	-
Mov Cap-2 Maneuver	628	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	717	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	5.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	838	1547	-
HCM Lane V/C Ratio	-	-	0.123	0.074	-
HCM Control Delay (s)	-	-	9.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	132	7	13	108	13	13	6	17	10	5	9
Future Vol, veh/h	20	132	7	13	108	13	13	6	17	10	5	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	150	8	15	123	15	15	7	19	11	6	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.1	7.7	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	36%	13%	10%	42%
Vol Thru, %	17%	83%	81%	21%
Vol Right, %	47%	4%	10%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	159	134	24
LT Vol	13	20	13	10
Through Vol	6	132	108	5
RT Vol	17	7	13	9
Lane Flow Rate	41	181	152	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.051	0.209	0.176	0.035
Departure Headway (Hd)	4.485	4.166	4.151	4.572
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	849	850	787
Service Time	2.487	2.254	2.245	2.574
HCM Lane V/C Ratio	0.051	0.213	0.179	0.034
HCM Control Delay	7.7	8.4	8.1	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.8	0.6	0.1

Intersection	
Int Delay, s/veh	8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	1	110	5	1	2	191	706	4	4	274	24
Future Vol, veh/h	53	1	110	5	1	2	191	706	4	4	274	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	1	120	5	1	2	208	767	4	4	298	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1506	1506	311	1565	1517	769	324	0	0	771	0	0
Stage 1	319	319	-	1185	1185	-	-	-	-	-	-	-
Stage 2	1187	1187	-	380	332	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	99	121	729	90	119	401	1236	-	-	844	-	-
Stage 1	693	653	-	230	263	-	-	-	-	-	-	-
Stage 2	230	262	-	642	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	85	729	57	83	401	1236	-	-	844	-	-
Mov Cap-2 Maneuver	75	85	-	57	83	-	-	-	-	-	-	-
Stage 1	489	649	-	162	185	-	-	-	-	-	-	-
Stage 2	160	185	-	533	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	54.4	58.4	1.8	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1236	-	-	75	729	76	844	-	-
HCM Lane V/C Ratio	0.168	-	-	0.783	0.164	0.114	0.005	-	-
HCM Control Delay (s)	8.5	0	-	143	10.9	58.4	9.3	0	-
HCM Lane LOS	A	A	-	F	B	F	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.8	0.6	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	559	9	1321	431
Demand Flow Rate, veh/h	570	9	1347	439
Vehicles Circulating, veh/h	329	1537	198	523
Vehicles Exiting, veh/h	633	8	701	1023
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.5	9.7	11.3	8.1
Approach LOS	A	A	B	A

Lane	Left	Right	Left	Left	Right	Left	Right
Designated Moves	LT	R	LTR	L	TR	LT	R
Assumed Moves	LT	R	LTR	L	TR	LT	R
RT Channelized							
Lane Util	0.346	0.654	1.000	0.383	0.617	0.736	0.264
Follow-Up Headway, s	2.667	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.645	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	197	373	9	516	831	323	116
Cap Entry Lane, veh/h	997	1074	384	1125	1200	834	910
Entry HV Adj Factor	0.980	0.981	0.998	0.981	0.981	0.980	0.983
Flow Entry, veh/h	193	366	9	506	815	317	114
Cap Entry, veh/h	977	1053	384	1103	1177	818	895
V/C Ratio	0.198	0.347	0.023	0.459	0.692	0.387	0.127
Control Delay, s/veh	5.6	7.0	9.7	8.3	13.1	9.1	5.2
LOS	A	A	A	A	B	A	A
95th %tile Queue, veh	1	2	0	2	6	2	0

Intersection	
Int Delay, s/veh	703.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	17	190	38	17	69	255	1111	40	40	547	27
Future Vol, veh/h	23	17	190	38	17	69	255	1111	40	40	547	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	300	-	-	-	300	-	300	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	18	204	41	18	74	274	1195	43	43	588	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2485	2460	588	2543	2446	1195	617	0	0	1238	0	0
Stage 1	674	674	-	1743	1743	-	-	-	-	-	-	-
Stage 2	1811	1786	-	800	703	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 20	31	509	~ 18	31	227	963	-	-	563	-	-
Stage 1	444	454	-	110	140	-	-	-	-	-	-	-
Stage 2	100	134	-	379	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 2	20	509	~ 2	20	227	963	-	-	563	-	-
Mov Cap-2 Maneuver	~ 2	20	-	~ 2	20	-	-	-	-	-	-	-
Stage 1	317	419	-	79	100	-	-	-	-	-	-	-
Stage 2	39	96	-	200	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	1456.9	$ 10746.6	1.9	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	963	-	-	3	509	6	563	-	-
HCM Lane V/C Ratio	0.285	-	-	14.337	0.401	22.222	0.076	-	-
HCM Control Delay (s)	10.2	-	-	$ 8298.1	16.7	$ 10746.6	11.9	-	-
HCM Lane LOS	B	-	-	F	C	F	B	-	-
HCM 95th %tile Q(veh)	1.2	-	-	7.2	1.9	18.6	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	92	28	23	141	38
Future Vol, veh/h	33	92	28	23	141	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	102	31	26	157	42

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	400	44	0	0	57	0
Stage 1	44	-	-	-	-	-
Stage 2	356	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	606	1026	-	-	1547	-
Stage 1	978	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	543	1026	-	-	1547	-
Mov Cap-2 Maneuver	543	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	635	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	831	1547	-
HCM Lane V/C Ratio	-	-	0.167	0.101	-
HCM Control Delay (s)	-	-	10.2	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

CITY OF DAYTON
RESOLUTION 15 - 2025

RESOLUTION IN SUPPORT OF MAGNUS VETRANS FOUNDATION RECEIVING FUNDING FOR CAPITAL IMPROVMENTS

WHEREAS, Magnus Veterans Foundation (Magnus) is a 501(C)(3) charitable organization in Dayton, Hennepin County Minnesota; and

WHEREAS, Magnus exists to provide healing and restoration for veterans and their families by providing medical, mental health, physical, spiritual, and social activities for its members free of charge and without cost; and

WHEREAS, Magnus the only 501(c)(3) nonprofit organization in the world that provides care to veterans and their families using a treatment model previously only available to our elite Special Forces; and

WHEREAS, Magnus has a dedicated, qualified and fully credentialed staff of providers to serve its members, including a Physician, a Licensed Professional Nurse, a Physician's Assistant, a Medical Assistant, mental health professionals and social workers, certified physical trainers, Physical Therapists, a Chiropractor, an Employment Counselor, and a yoga instructor; and

WHEREAS, in 2024 Magnus served over 951 patient members and delivered almost $900,000 of no cost health care; and

WHEREAS, Magnus is experiencing rapid growth in demand for its services; and

WHEREAS, Magnus is currently providing care for over 950 veterans and their families and we will reach 1000 patients within the next few months; and

WHEREAS, Magnus has about one-third, or more than 294 of its members that reside in Hennepin County; and

WHEREAS, Magnus is entirely funded generous donations from individual and corporate donors, and by fraternal organizations like posts of the Veterans of Foreign Wars, the American Lion, and various clubs of Lion's International; and

WHEREAS, Magnus ultimate goal is to serve over 5000 veterans, but must improve and expand its existing facility in Dayton, Minnesota campus to do so; and

WHEREAS, a bill is pending before the Minnesota House of Representatives Capital Investment Committee, known as H.F. 1689, to designate $1,800,000 in fiscal years 2025-2027 for appropriation from the general fund to the Commissioner of the Minnesota

Department of Veterans Affairs, to include money for improvements of a capital nature, including major projects to build out an expand the existing medical and mental health clinic at the Suzanne Rawlings Wellness Center at Magnus, and to remodel the insulation, mechanical, electrical, plumbing, and security systems at the Vince Egan Human Performance Center, and other site renovations to support ongoing and future operations.

NOW THEREFORE BE IT RESOLVED by the City Council of Dayton that:
The City of Dayton urges the Minnesota Legislature to favorably address H.F. 1689; and The City of Dayton urges the Governor is pass the referenced legislation and thereby help ensure that the citizens of the Twin Cities Metropolitan area and greater Minnesota that are Magnus members, or eligible to join, have access to the expanded health care services that an improved facility can provide.

Adopted by the City Council of the City of Dayton on this 11th Day of March 2025.

_____
Dennis Fisher, Mayor

ATTEST:

_____

Amy Benting, City Clerk

ITEM:
Resolution 16-2025; Approving the Final Plat and Development Agreement for Riverwalk 4th Addition

APPLICANT:
Craig Allen, RGW Dayton Development, LLC.

PREPARED BY:
Hayden Stensgard, Planner II

POLICY DECISION / ACTION TO BE CONSIDERED:
Motion to Approve the Final Plat of Riverwalk 4th Addition, and Development Agreement.

BACKGROUND:
RGW Dayton Development, LLC. (applicant) is requesting review and approval of the Final Plat of Riverwalk 4th Addition, consisting of 74 single-family residential lots a part of the overall Riverwalk preliminary plat previously approved on August 24, 2021, which consisted of 239 single-family residential lots. Riverwalk 4th Addition's 74 buildable lots and two outlots incorporate all of Outlot A, Riverwalk 3rd Addition, including the wooded area on the south side of Dayton River Road as an outlot, as well as the remaining area to be Riverwalk 5th Addition.

CRITICAL ISSUES:
There are no outstanding issues.

COMMISSION REVIEW / ACTION (IF APPLICABLE):
N/A

60/120-DAY RULE (IF APPLICABLE):

	60-Days	120-Days
Final Plat	March 16, 2025	May 15, 2025

RELATIONSHIP TO COUNCIL GOALS:
N/A

RECOMMENDATION:
Staff recommends approval of Resolution No. 16-2025, approving the Final Plat and Development Agreement for Riverwalk 4th Addition. The final plat is consistent with the preliminary plat previously approved, and the plat is consistent with the R-3 residential zoning district standards.

ATTACHMENT(S):
Aerial Photo
Applicant Narrative
Resolution 16-2025
Draft Development Agreement for Riverwalk 4th Addition
Final Plat of Riverwalk 4th Addition
Civil Plan Set
Engineer Comment Letter, dated March 11, 2025

Hennepin County Locate & Notify Map

Date: 3/5/2025

Buffer Size:

Map Comments:

Riverwalk 4th Addition

0 205 410 820 Feet

For more information, contact Hennepin County GIS Office
300 6th Street South, Minneapolis, MN 55487 / gis.info@hennepin.us

SATHRE-BERGQUIST, INC.

14000 25TH AVENUE NORTH, PLYMOUTH, MN, 55447

TEL:(952)476-6000 WEB:WWW.SATHRE.COM

Date: January 13, 2025

Subject: Riverwalk 4th Addition – 74 Lots – Final Plat Narrative

Prepared For: RGW Dayton Development, LLC

Contact: Craig Allen - (952) 270-4473

Narrative:

The proposed final plat for **Riverwalk 4th Addition** will consist of 74 single family residential lots. This phase of the project is located along the north, northwest and west of the project. The site is located on the south side of Dayton River Road, east of the neighboring farm (PID: 0912022240001) and north of Pioneer Parkway.

The site grading was completed with the 1st Addition. A portion of the sanitary sewer for this phase was installed with the 1st Addition to provide a trunk line connection which will be extended with this phase to the west property line.

The development is zoned for R-3.

R-3 Requirements:

Minimum Lot Area: 6,000 sf (dev smallest 9,089 sf - 15,860 sf ave)

Minimum Width: varies (dev 65' & 75')

Front yard Setback: 25 feet

Corner yard Setback: 20 feet

Side yard Setback: 7.5 feet

Rear yard Setback: 30 feet

CITY OF DAYTON
COUNTIES OF HENNEPIN AND WRIGHT
STATE OF MINNESOTA

RESOLUTION NO. 16-2025

APPROVAL OF FINAL PLAT AND DEVELOPMENT AGREEMENT FOR RIVERWALK 4TH ADDITION

WHEREAS, Bill Ramsey, RGW Dayton Development LLC (hereinafter referred to as the "Developer") has submitted a proposal for a Final Plat Approval and final plans (hereinafter referred to as the "Application") for the development of the property legally described as Outlot A, Riverwalk 3rd Addition to be known as Riverwalk 4th Addition, a 74 single-family lot development; and

WHEREAS, the City Council on August 24, 2021 passed Resolution Number 46-2021 approving of the Preliminary Plat for Riverwalk, prepared by Sathre-Berquist, Inc, and Ordinance 2021-19 rezoning the Property to R-3, Single-Family Attached and Detached District. The Riverwalk plat consists of 239 Single-family Lots, one amenity lot, and one lot for City well site (hereinafter referred to as the "Preliminary Plat").

WHEREAS, the subject property is guided "Low-Density Residential" and the proposed single-family residential development is consistent with this land use designation as defined in the Comprehensive Plan.

WHEREAS, the City staff studied the matter, reports were issued, and information was provided to the City Council regarding the Application; and

WHEREAS, the City Council at its March 11, 2025 meeting considered the matter and approved the Final Plat of Riverwalk 4th Addition, including a draft development agreement, subject to conditions; and

WHEREAS, the City Council makes the following Findings of Fact in relation to the Final Plat and Development Agreement approval:

1. The Developer proposes to develop the Property pursuant to the Preliminary Plat in multiple phases. This Resolution includes approval for 74 new buildable single-family lots, and 2 outlots as shown in Exhibit B, the Final Plat.

2. The Plat shall be known as Riverwalk 4th Addition.

3. The Developer has submitted, for the City's review and approval, the Final Plat and final plans for the Property prepared by Sathre-Berquist, Inc. (hereinafter referred to as the "Final Plans")

4. The Final plat will include private improvements consisting of site grading, installation of sanitary sewer, storm sewer, watermain, and other utilities. Construction of storm water ponds, and private streets. These improvements are detailed on plans drafted by Sathre-Berquist, Inc. (hereinafter referred to as the "Construction Plans").

5. Minn. Stat. § 462.358, grants the City, for the purpose of protecting and promoting the public health, safety and general welfare, the authority to adopt subdivision regulations providing for the orderly, economic and safe development of land within the City.

6. The City Council has adopted Subdivision Regulations for the orderly, economic and safe development of land within the City.

7. Dayton City Code §1002.02 states that "no land shall be subdivided without complying with the provisions of [Chapter 1002]".

8. The proposed subdivision of the Property is governed by Dayton City Code Chapter 1002.

9. The Final Plans are governed by Dayton City Code Section 1001.

10. The landscaping shall be governed by Dayton City Code Section 1001.24.

11. The Final Plat is substantially similar to the Preliminary Plat reviewed and approved previously by City Council and meets the City Code requirements and the Final Plans meet the City Code requirements, provided they are subject to and satisfies the conditions set forth in this Resolution.

NOW, THEREFORE, based upon the information received and the above Findings it is resolved by the City Council of the City of Dayton as follows:

1. That the City Council does hereby conditionally approve the Final Plat and Developer's Agreement for Riverwalk 4th Addition, and the Mayor and City Clerk are hereby authorized to execute the same, subject to the conditions set forth below that must be met, to the satisfaction of the City, prior to release of the Final Plat, unless otherwise stated:

    A. The conditions and requirements of City Council Resolution No. 46-2021, Resolution No. 58-2021, Resolution No. 76-2022, Resolution No. 21-2023, Resolution No. 45-2024, and this Resolution (Res. No. 16-2025 and modifications to the Development Agreement) must be satisfied to the satisfaction of the City within the timeframes set forth therein, including, but not limited to, the installation of public improvements pursuant to the Final Plans and Construction Plans.

    B. The Construction Plans and Final Plat shall be modified as required based on Engineering prior to a preconstruction meeting. A notice to proceed shall be issued before a preconstruction meeting is scheduled.

    C. The Developer shall address all engineering comments identified in the Memo dated March 11, 2025, and subsequent memos, to the satisfaction of the City Engineer.

D. This resolution provides City Staff the ability to modify the Letter of Credit amounts, Construction Escrow and Fees based on construction bids and applicable credits from trunk improvements constructed by the developer as determined by City Staff or City Consultants.

E. Developer, and all others required by the City Attorney, shall execute, before release of the Final Plat, the Developer's Agreement attached hereto as Exhibit C subject to minor changes (including dates, fee/credit amounts, and/or surety amounts) approved by the City Attorney, City Administrator, City Engineer, and/or City Planner. The Developer's Agreement shall be recorded against the Property by the Applicant contemporaneously with the Final Plat, at the Developer's expense. No permits for the development of the Property, except a grading permit, which by be issued upon submittal of adequate surety, shall be issued until the City is provided with recording information. In addition, the approvals granted herein and the attached Development Agreement are conditioned upon the following, subject to review and approval of the City Engineer and the City Planner: (i) an amount to be included for the Improvements Surety at Section 27 of the Developer's Agreement; and (ii) the amounts for benefit and assessment shall be included at Section 28 of the Developer's Agreement. Current amounts shown in Section 28 are based on provided estimates by Developer, and are subject to minor change upon submittal of a construction bid for actual costs.

F. The Developer shall provide, before the Final Plat will be released, an updated and certified Abstract of Title and/or Registered Property Abstract as required by Minn. Stat. §505.03, or in the alternative, the Developer may provide a Commitment for a Title Insurance Policy for the Property naming the City as the proposed insured and with the amount of coverage for this policy being equal to $100,000.00 per acre dedicated to the City (including but not limited to streets, rights-of-way, and drainage and utility easements). $100,000.00 per dedicated acre represents the coverage amount formula approved by the City for the year 2025. If the Final Plat is not released for filing in the year 2025, the above-referenced policy coverage amount shall be adjusted based upon the formula approved by City for the year in which the Final Plat is actually released for filing with the Hennepin County Recorder. The above-mentioned evidence of title shall be subject to the review and approval of the City Attorney to determine what entities must execute the Final Plat and other documents to be recorded against the Property. In the event the Developer provides the City with a Commitment for a Title Insurance Policy, the Developer shall cause a Title Insurance Policy to be issued

consistent with the Commitment for a Title Insurance Policy provided by the Developer and the requirements of the City Attorney and with an effective date on which the Final Plat is recorded (the City will not issue any certificate of occupancies until it is provided with said Title Insurance Policy). Further, Developer shall provide the City with evidence, which sufficiency shall be determined by the City, that all documents required to be recorded pursuant to this Resolution and by the City Attorney are recorded and all conditions for release of the Final Plat has been met prior to the City processing or approving any building permits or other permits applicable to the development of the Property with the exception of a grading permit, which may be issued upon submittal of adequate surety.

G. The Developer shall pay at time of final plat an escrow deposit in an amount of 4% of the estimated Construction Costs as determined by the City and City Fee Schedule ($113,121.99). This escrow shall be used for all reasonable expenses, related to review, analysis, processing, monitoring, administration and approvals as determined by the City, that the City incurs in relation to this development and City Resolutions. Said expenses shall include, but are not limited to, staff time, including, but not limited to, hourly wage, overhead and benefits, engineering, legal and other consulting fees incurred in relation to the development and its construction activities. Should the escrow deposit be exhausted, the Developer shall submit additional deposits of 4% of the remaining work for the phase as determined by the City Engineer(s).

Adopted this 11th day of March 2025, by the City of Dayton.

_____
Mayor - Dennis Fisher

_____
City Clerk - Amy Benting

Motion by Councilmember _____, Second by Councilmember _____.
The Motion passes.

EXHIBIT A

LEGAL DESCRIPTION OF THE PROPERTY

OUTLOT A, RIVERWALK 3rd ADDITION, Hennepin County, Minnesota

EXHIBIT B

RIVERWALK 4TH ADDITION

C.R. DOC. NO._____

KNOW ALL PERSONS BY THESE PRESENTS: That RGW Dayton Development, LLC, a Minnesota limited liability company, owner of the following described property:

OUTLOT A, RIVERWALK 3RD ADDITION

Has caused the same to be surveyed and platted as RIVERWALK 4TH ADDITION and does hereby dedicate to the public for public use the public ways and the drainage and utility easements as created by this plat.

In witness whereof said RGW Dayton Development, LLC, a Minnesota limited liability company, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

Signed: RGW Dayton Development, LLC

_____
Jacob M. Walesch, President

STATE OF MINNESOTA, COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___, by Jacob M. Walesch, President of RGW Dayton Development, LLC, a Minnesota limited liability company, on behalf of the company.

_____ _____ My Commission Expires:_____
Notary Public,_____, Minnesota (Signature) (Notary Printed Name)

SURVEYORS CERTIFICATE

I Daniel L. Schmidt do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____, 20___.

_____
Daniel L. Schmidt, Licensed Land Surveyor
Minnesota License No. 26147

STATE OF MINNESOTA, COUNTY OF HENNEPIN

This instrument was acknowledged before me this _____ day of _____, 20___, by Daniel L. Schmidt.

_____ _____ My Commission Expires:_____
Notary Public,Hennepin County, Minnesota (Signature) (Notary Printed Name)

CITY COUNCIL, CITY OF DAYTON, MINNESOTA

This plat of RIVERWALK 4TH ADDITION was approved and accepted by the City Council of the City of Dayton, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

City Council, City of Dayton, Minnesota

By:_____, Mayor By:_____, Clerk

COUNTY AUDITOR
Hennepin County, Minnesota

I hereby certify that taxes payable in _____and prior years have been paid for land described on this plat, dated this _____ day of_____, 20___.

Daniel Rogan, County Auditor By: _____, Deputy

SURVEY DIVISION
Hennepin County, Minnesota

Pursuant to Minnesota Statutes Section 383B.565 (1969), this plat has been approved this _____ day of _____, 20___.

Chris F. Mavis, County Surveyor By: _____

COUNTY RECORDER
Hennepin County, Minnesota

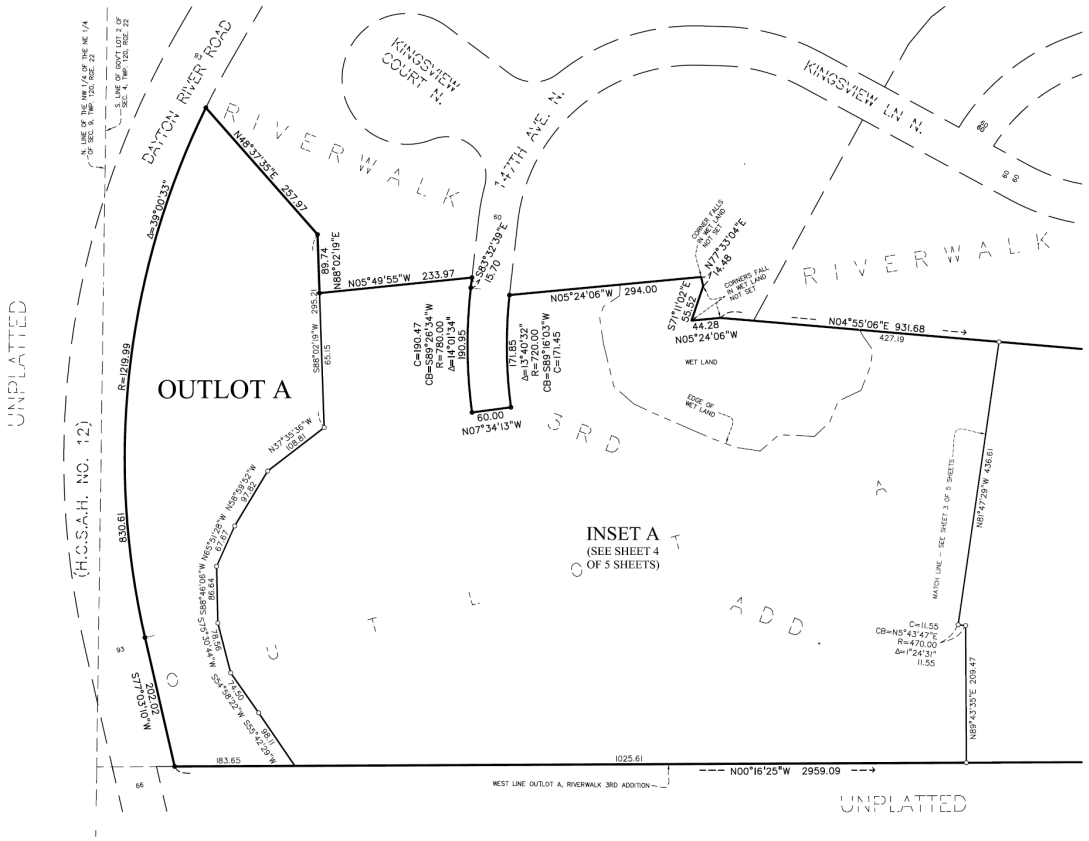
I hereby certify that the within plat of RIVERWALK 4TH ADDITION was recorded in this office this _____ day of _____, 20___, at _____o'clock ____M.

Amber Bougie, County Recorder By:_____, Deputy

SATHRE-BERGQUIST, INC.

RIVERWALK 4TH ADDITION

C.R. DOC. NO.



NORTH

80 40 0 40 80 160
SCALE IN FEET

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

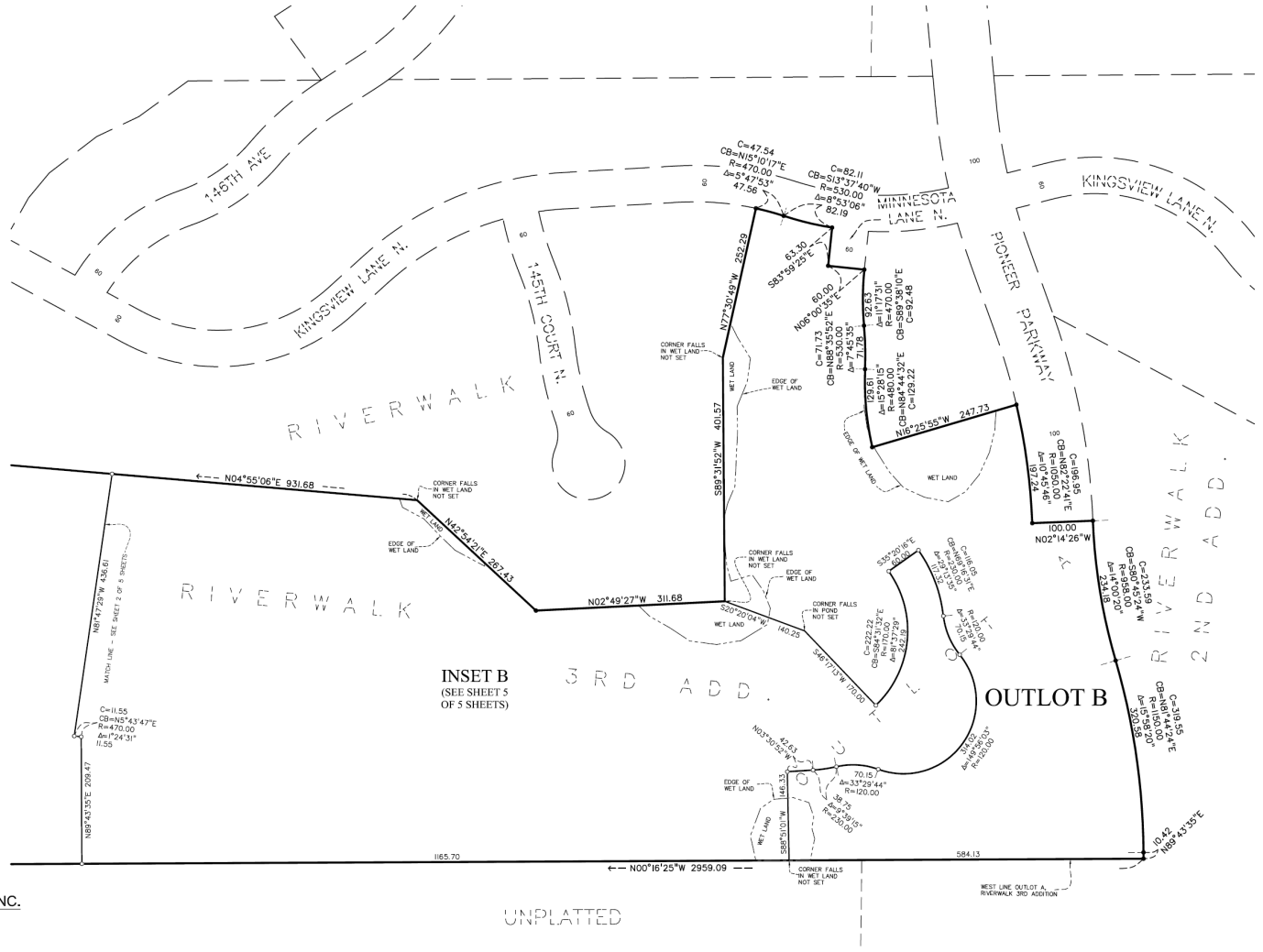
○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

SATHRE-BERGQUIST, INC.

SHEET 2 OF 5 SHEETS

RIVERWALK 4TH ADDITION

C.R. DOC. NO.



SCALE IN FEET

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

SATHRE-BERGQUIST, INC.

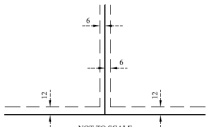
SHEET 3 OF 5 SHEETS

INSET A

RIVERWALK 4TH ADDITION

C.R. DOC. NO.

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:

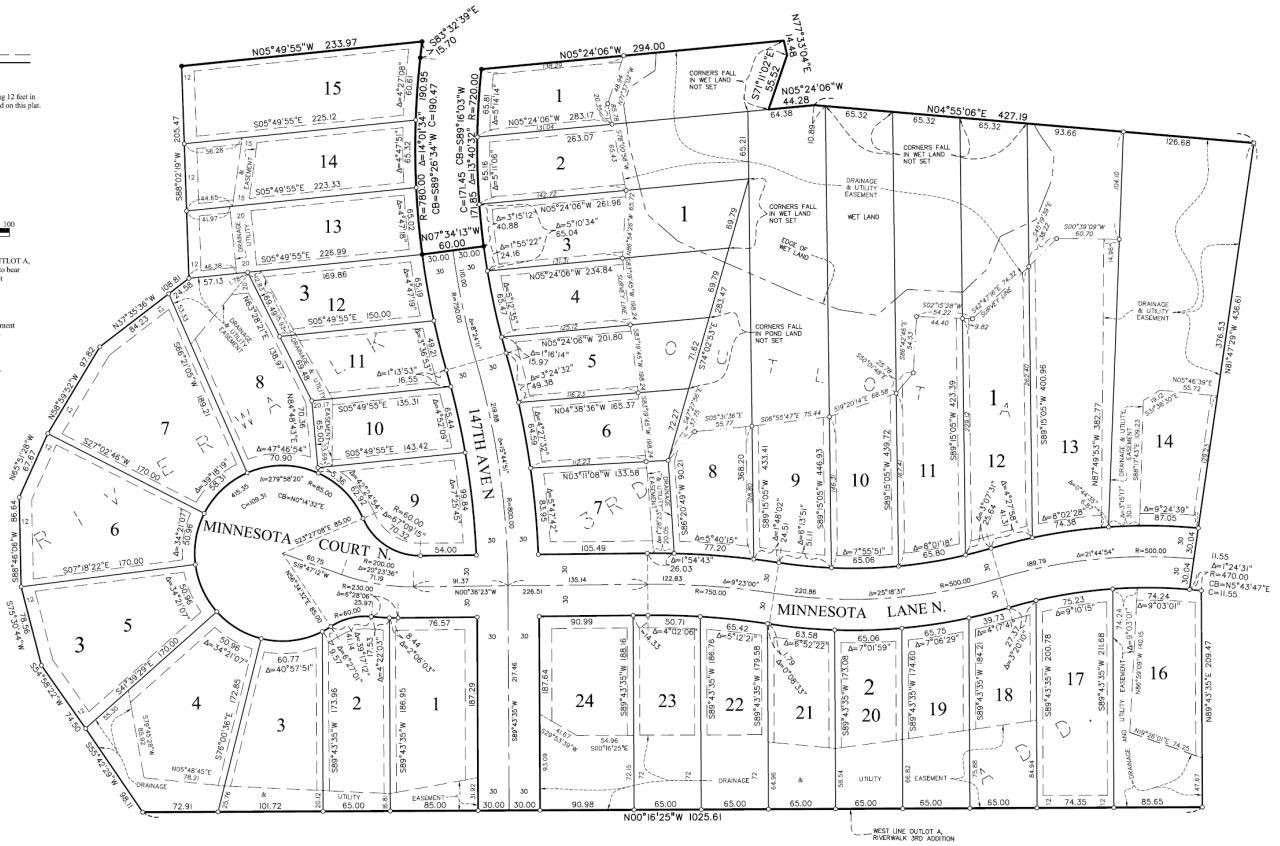


Being 6 feet in width and adjoining side lot lines and being 12 feet in width and adjoining public ways, unless otherwise indicated on this plat.

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147



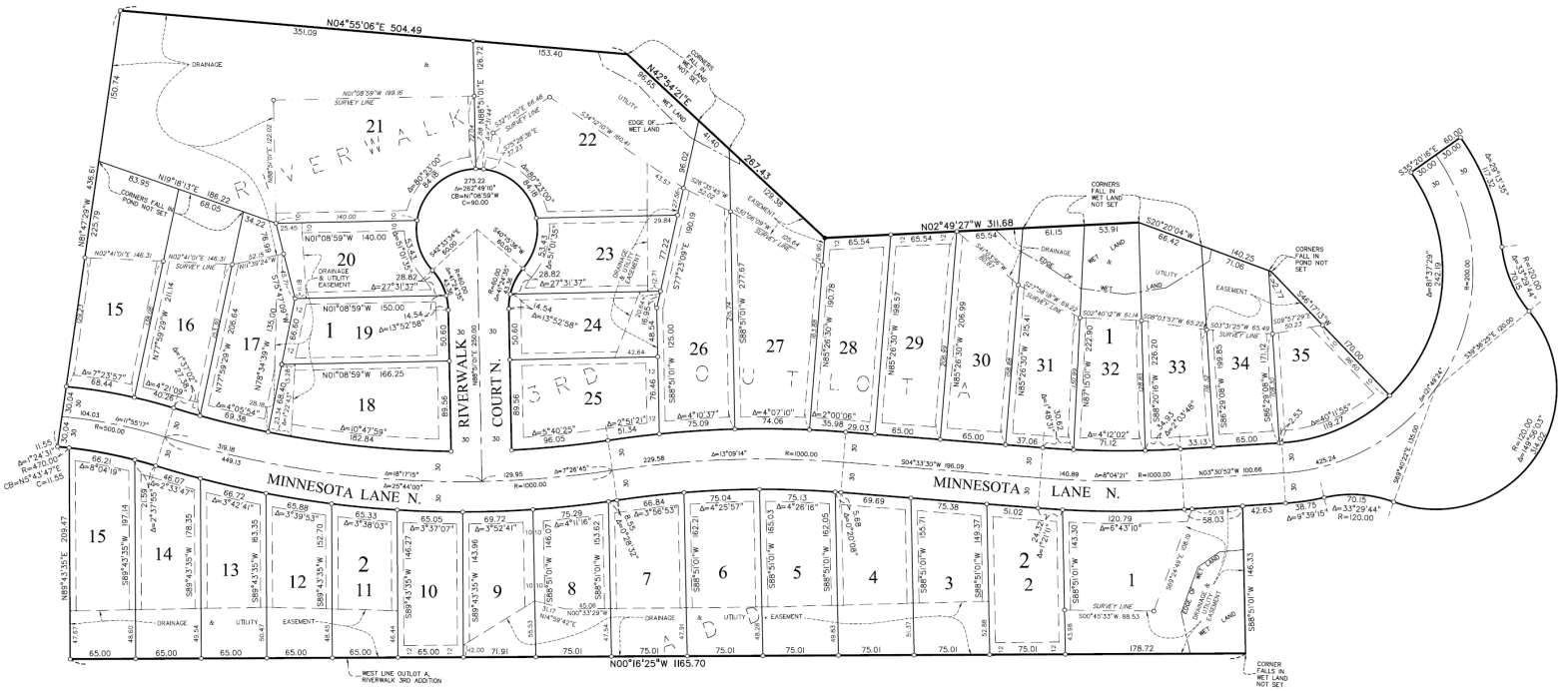
SATHRE-BERGQUIST, INC.

SHEET 4 OF 5 SHEETS

INSET B

RIVERWALK 4TH ADDITION

C.R. DOC. NO.



SCALE IN FEET

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:

NOT TO SCALE

Being 6 feet in width and adjoining side lot lines and being 12 feet in width and adjoining public ways, unless otherwise indicated on this plat.

SATHRE-BERGQUIST, INC.

SHEET 5 OF 5 SHEETS

EXHIBIT C

(reserved for recording information)

DEVELOPMENT AGREEMENT

(Developer Installed Improvements)

RIVERWALK 4TH ADDITION

This **DEVELOPMENT AGREEMENT** ("Agreement") dated March 11, 2025, is by and between the **CITY OF DAYTON**, a Minnesota municipal corporation, whose principal place of business is at 12260 South Diamond Lake Road, Dayton, MN 55327 ("City"), and **RGW DAYTON DEVELOPMENT, LLC,** a Minnesota limited liability company, whose principal place of business is located at 10850 Old Country Road 15, Suite 200, Plymouth, MN 55441 ("Developer").

RECITALS

A. Developer is the fee owner and developer of a parcel or parcels of land that is situated in the City of Dayton, County of Hennepin, State of Minnesota, and is legally described as set forth on **Exhibit A** (the "Property"); and

B. Developer has asked the City to approve a FINAL plat for ***RIVERWALK 4TH*** **ADDITION** (the "Plat" or the "Project"), consisting of 74 single-family lots; and

C. On August 24, 2021, the City Council for the City of Dayton adopted Resolution 46-2021, approving the PRELIMINARY Plat as prepared by Sathre-Bergquist, Inc., which is on file with the City; and

D. Following recording of the Plat as required by this Agreement, the Property shall be legally described as set forth on **Exhibit B**; and

E. This Agreement is entered into for the purpose of setting forth and memorializing for the parties and subsequent owners the understandings and agreements of the parties concerning the Plat and development of the Property.

NOW THEREFORE, the City and Developer agree as follows:

1. **Conditions of Final Plat Approval**. The City approved the Plat on condition that Developer enter into this Agreement, furnish the security required by this Agreement, and record the Final Plat with the Office of the Hennepin County Recorder or Registrar of Titles, as applicable, no later than 60 days after the City Council approves the Final Plat.

2. **Right to Proceed**. Within the Plat or land to be platted, Developer may not grade or otherwise disturb the earth, remove trees, construct sewer lines, water lines, streets, utilities, public or private improvements, or any buildings until all the following conditions have been satisfied: 1) this Agreement has been fully executed by both parties and filed with the City Clerk; 2) the required security has been received by the City; 3) the Plat has been recorded in the Office of the Hennepin County Recorder or Registrar of Titles, as applicable; and 4) the City's Administrator has issued a letter to Developer notifying Developer that all conditions have been satisfied, and allowing Developer to proceed.

3. **Phased Development**. If the Plat is a phase of a multi-phased preliminary plat, the City may refuse to approve final plats of subsequent phases if Developer has breached this Agreement and the breach has not been remedied. The Plat has been approved as a phased development by the City.

4. **Changes in Official Controls**. For two (2) years from the date of this Agreement, no amendments to the City's Comprehensive Plan, or official controls shall apply to or affect the use, development density, lot size, lot layout, or dedications of the approved preliminary plat unless required by state or federal law, or agreed to in writing by the City and Developer. After that date, notwithstanding anything in this Agreement to the contrary, to the full extent permitted by state law, the City may require compliance with any amendments to the City's Comprehensive Plan, official controls, platting, or dedication requirements enacted after the date of this Agreement with respect to that portion of the Property which did not receive final plat approval prior to any such amendments.

5. Zoning. Except otherwise provided herein, the Property shall be subject to the requirements and standards of the R-3, Single-Family Attached and Detached Residential District in effect at the time of Preliminary Plat application submittal in June 2021.

6. **Development Plans**. The Plat shall be developed in accordance with the plans listed below (collectively, the "Plans"). The Plans shall not be attached to this Agreement. With the exception of Plans A, B, F and I, the Plans may be prepared, subject to City approval, after the effective date of this Agreement, but before commencement of any work in the Plat. An erosion control plan must also be approved by the Elm Creek Watershed District. If the Plans vary from the written terms of this Agreement, the written terms of this Agreement shall control. The Plans are:

Plan A – Preliminary Plat, dated 7/28/2021
Plan B – Final Plat of Riverwalk 4th Addition
Plan C – Street Plan
Plan D – Sanitary Sewer & Watermain Plan
Plan E – Storm Sewer Plan
Plan F – Grading Plan
Plan G – Erosion Control Plan
Plan H – Construction Details
Plan I – SWPPP, dated 5/3/2022
Plan J – Landscape Plan, dated 8/23/2021

7. **Improvements**. Developer shall install and pay for the following improvements (collectively, the "Improvements") as required to be built within the subdivision as public improvements in accordance with the approved Plans:

A. Site Grading, Ponding, and Erosion Control
B. Sanitary Sewer
C. Watermain
D. Storm Sewer System
E. Surface Water Facilities (e.g., pipe, pond)
F. Filtration Basin
G. Wetland Buffers
H. Underground Utilities
I. Landscaping
J. Tree Preservation/Protection
K. Retaining Walls
L. Setting of Iron Monuments
M. Surveying and Staking
N. Street Signs and Traffic Control Signs
O. Street Lighting
P. Sidewalks and Trails

The Improvements shall be installed in accordance with the City subdivision ordinance; City standard specifications for utilities and street construction; and any other applicable ordinances. Developer shall submit to the City plans and specifications, which have been prepared by a competent Minnesota professional engineer, for approval by the City Engineer. City Engineer approval shall be provided on the condition that such submittals comply with the Plans and this Agreement. Developer shall instruct its engineer to provide adequate field inspection personnel to assure an acceptable level of quality control. In addition, the City may, at the City's discretion and at Developer's expense, have one or more City inspectors and a soil engineer inspect the work as the City may reasonably determine. Developer shall be responsible for retaining the services of a geotechnical engineer for construction testing. Developer, its contractors and subcontractors, shall follow all instructions received from the City's inspectors. Developer's engineer shall provide for on-site project management. Developer's engineer is responsible for design changes and contract administration between Developer and Developer's contractor. Developer or Developer's engineer shall schedule a pre-construction meeting at a mutually agreeable time at the City Council chambers with all parties concerned, including the City staff, to review the program for the construction work. Within thirty (30) days after the completion of the Improvements and before the security is released, Developer shall supply the City with a complete set of reproducible "as constructed" plans, an electronic file of the "as constructed" plans in an Auto CAD file based upon the Hennepin County coordinate system, all prepared in accordance with City standards.

8. **Iron Monuments**. In accordance with Minnesota Statutes Section 505.021, the final placement of iron monuments for all lot corners must be completed before the applicable security is released. Developer's surveyor shall also submit a written notice to the City certifying that the monuments have been installed.

9. **Permits**. Developer shall obtain, or require its contractors and subcontractors to obtain, all necessary permits, including but not limited to the following to the extent required:

A. City of Dayton for Building Permits
B. City of Dayton Sign Permit
C. City of Dayton Right-of-Way Permit
D. MDH Watermain extension permit. Developer must submit copy to City.
E. NPDES Construction Stormwater Permit. Developer must submit copy to City prior to construction.
F. MPCA Sanitary Sewer Extension permit. Developer must submit copy to City.

10. **Dewatering**. Due to the variable nature of groundwater levels and stormwater flows, it will be the responsibility of Developer and Developer's contractors and subcontractors to satisfy themselves with regard to the elevation of groundwater in the area and the level of effort needed to perform dewatering and storm flow routing operations. All dewatering shall be in accordance with all applicable county, state, and federal rules and regulations. DNR regulations regarding appropriations permits shall also be strictly followed.

11. **Time of Performance**. Developer shall install utility, concrete, and base course bituminous installation and all remaining required public improvements, including the final wearing course bituminous, by October 1, 2026. Developer may, however, request an extension of time from the City. If an extension is granted, it shall be conditioned upon updating the security posted by Developer to reflect cost increases, if any, and the extended completion date.

12. **License**. Developer hereby grants the City, its agents, employees, officers, and contractors a license to enter the Plat to perform all work and inspections deemed appropriate by the City in conjunction with Plat development.

13. **Erosion Control**. Prior to initiating site grading, the Final Grading Plan (Plan F) and Final Erosion Control Plan and SWPPP (Plans G and I) shall be implemented by Developer, and shall be inspected and approved by the City. All proposed erosion control BMP's, including those identified on Plan G shall be identified on the SWPPP. Redundant erosion control BMP's shall be provided around the entire perimeter of all wetlands and infiltration basins. The City may impose additional erosion control requirements if reasonably required. Upon completion of all the improvements for Riverwalk 4th Addition, such erosion controls established for the duration of the work shall be removed by the Developer.

All areas disturbed by the excavation and backfilling operations shall be sodded—or seeded if explicitly permitted by City Code—within five (5) days after the completion of the work, weather permitting, or in an area that is inactive for more than ten (10) days unless authorized and approved by the City Engineer. Except as otherwise provided in the erosion control plan, sodding and seeding shall be in accordance with the City Code's current specifications. All sodded and seeded areas shall be fertilized and watered. The City and Developer recognize that time is of the essence in controlling erosion. If Developer does not comply with the erosion control plan and schedule or supplementary instructions received from the City, the City may take such action as it deems appropriate to control erosion. The City shall notify Developer in advance of any proposed action,

but failure of the City to do so will not affect Developer's and City's rights or obligations under this Agreement. If Developer does not reimburse the City for any cost the City incurred for such work within ten (10) days after written notice to Developer, the City may draw down the letter of credit to pay any costs. No development, utility, or street construction will be allowed and no building permits will be issued unless the Plat is in full compliance with the approved erosion control plan.

14. **Grading Plan**. The Plat shall be graded in accordance with the approved Final Grading Plan (Plan F). The Plan shall conform to City of Dayton specifications. Within thirty (30) days after completion of the grading and before the City approves individual building permits, Developer shall provide the City with an "as constructed" grading plan certified by a Minnesota registered land surveyor or engineer that all ponds, swales, and ditches for public drainage have been constructed on public easements or land owned by the City. The "as constructed" plan shall include field verified elevations of the following: a) cross sections of ponds; b) location and elevations along all swales, wetlands, wetland mitigation areas if any, ditches, locations and dimensions of borrow areas/stockpiles, and installed "conservation area" posts; and c) lot corner elevations, and house pads. The City will withhold issuance of building permits until the approved certified grading plan is on file with the City and all erosion control measures are in place as determined by the City Engineer. Developer certifies to the City that all lots with house footings placed on fill have been monitored and constructed to meet or exceed FHA/HUD 79G specifications.

15. **Street Maintenance, Access During Construction**. Developer shall control dust, clean dirt and debris from streets that has resulted from construction work by Developer, their contractors, subcontractors, agents, or assigns. Prior to any construction in the Plat, Developer shall identify in writing a responsible party and schedule for erosion control, street cleaning, and street sweeping. Warning signs shall be placed when hazards develop in streets to prevent the public from traveling on same and to direct attention to detours. If and when streets become impassable, such streets shall be barricaded and closed. In the event residences are occupied prior to completing streets, Developer shall ensure that the streets are passable to traffic and emergency vehicles. Developer shall be responsible for keeping streets within and without the subdivision swept clean of dirt and debris that may spill, track, or wash onto the street from Developer's operation. Developer shall contract for street cleaning within and immediately adjacent to the development. At a minimum, scraping and sweeping shall take place on a weekly basis. A copy of Developer's street sweeping contract shall be approved by the City before grading is started. Developer's street sweeping contract shall provide that the City may direct the contractor to clean the streets and bill Developer.

In the event dirt and/or debris has accumulated on streets within or adjacent to the Property, City is hereby authorized to immediately commence street cleaning operation if streets are not cleaned by the Developer after twenty-four (24) hours of the notification of violation. Street cleaning shall be defined as the use of any equipment specifically designed for sweeping, necessary for cleaning dirt, mud and debris from the City right-of-way. If conditions are such that street cleaning operation is immediately necessary, City may perform the necessary street cleaning. City will then bill Developer, as the delinquent party for all associated street cleaning costs. Failure to reimburse

City for street cleaning costs within thirty (30) days of such billing shall be cause for default under this Agreement.

Construction traffic access and egress for grading, public utility construction, and street construction is restricted to Kingsview Lane North from Pioneer Parkway, from Dayton River Road. No construction traffic is permitted on the adjacent public or private streets. The route identified herein for construction traffic shall be posted throughout the route at the necessary road intersections for said traffic to adhere to.

A temporary construction road shall be installed connecting the south end of Minnesota Lane North, according to the Riverwalk 4th Addition Plat, to Kingsview North. The road shall be posted on both ends as "Construction Traffic Only" and the developer shall be responsible for maintenance of the road during the duration of the project's construction.

16. **Ownership of Improvements; Acceptance by the City**.

A. Upon completion of the work and construction required by this Agreement, the Improvements lying within public easements shall become City property without further notice or action.

B. Upon completion of the public improvements, the City shall inspect the public improvements and notify Developer if any of the improvements do not conform to the requirements of this Agreement.

C. Prior to acceptance of the Improvements by the City, Developer must furnish the following affidavits:

i. Contractor's certificate
ii. Engineer's certificate
iii. Land surveyor's certificate
iv. Developer's certificate

These affidavits shall certify that all construction has been completed in accordance with the terms of this Agreement.

D. Prior to City acceptance of public improvements and a full an final release of the financial securities required by this Agreement, Developer shall provide the City with final "record" plans, in accordance with the City's most recent engineering guidelines.

E. Upon compliance with this Agreement with respect to public improvements, the City shall give formal notice of acceptance to Developer, and thereafter Developer shall have no responsibility with respect to the maintenance of the public improvements, except during any warranty periods expressly set forth in this Agreement.

F. Developer shall, at its expense, prepare any streets located in the subdivision for snowplowing and other maintenance that Developer wishes the City to undertake prior to formal

acceptance by the City of such streets. This preparation shall include, without limitations, ramping any manholes as necessary to avoid damage to snowplows or other vehicles used in street maintenance, as well as staking the curbs of the streets to protect the newly installed curb during snowplowing.

17. **City Engineering Administration and Construction Observation**. Developer shall, contemporaneously with the execution of this Agreement, deposit with the City: (1) an escrow of $113,121.99 to cover the expenses for engineering administration, application review, and construction observation; and (2) an escrow of $5,000 for legal and planning application review process. Developer shall pay all fees relating to the Project including, but not limited to, legal, engineering, engineering administration, construction observation, planning, recording fees, administrative expenses, and other costs related to this Project.

A. *Engineering Administration*. City engineering administration will include monitoring of construction observation, consultation with Developer and its engineer on status or problems regarding the Project, coordination for final inspection and acceptance, project monitoring during the warranty period, and processing of requests for reduction in security.

B. *Construction Observation*. Developer shall pay for construction observation performed by the City's consulting engineer. Construction observation shall include part- or full-time inspection of proposed public utilities.

C. *Administration and Observation Costs*. Fees for engineering administration and construction observation shall be at standard hourly rates that are in effect at the time of execution of this Agreement. The City will provide Developer a listing of the rates charged to Developer for the City's engineering administration and construction observation.

D. *Escrow*. All fees and costs incurred by the City in connection with the Project shall be charged against said escrow account which shall remain in effect until the completion of the Project. Any funds remaining in the escrow accounts after the completion of the Project shall be refunded to Developer. In the event that the escrow accounts herein are depleted, Developer agrees that upon request of the City, Developer shall post additional sums of money to replenish the accounts to their original balance to cover projected City costs as reasonably determined by the City. Developer agrees that the engineering administration and construction observation escrow account shall always have a balance of no less than $5,000. Developer shall be entitled, upon request, to an itemized statement of all costs and fees charged against these escrow accounts.

18. **Claims**. In the event that the City receives claims from labor, materialmen, or others that work required by this Agreement has been performed, the sums due them have not been paid, and the laborers, materialmen, or others are seeking payment from the City, the City shall provide Developer with written notice of such claim or claims and Developer shall have twenty (20) days to satisfy such claim or claims or provide the City with Developer's defense to such claim or claims. In the event such claim or claims are valid and Developer has not provided the City with Developer's defense to such claim or claims, then Developer hereby authorizes the City to commence an Interpleader action pursuant to Rule 22, Minnesota Rules of Civil Procedure for the District Courts, to draw upon the letter of credit in an amount up to 120 percent (120%) of the

claim(s) and deposit the funds in compliance with the Rule, and upon such deposit, Developer shall release, discharge, and dismiss the City from any further proceedings as it pertains to the performance bond deposited with the District Court, except that the Court shall retain jurisdiction to determine attorneys' fees pursuant to this Agreement.

19. **Sanitary Sewer Trunk Charge and Sewer Access Charge**. Development of the Plat is subject to a charge for Sanitary Sewer Trunk expenses payable at the time of final plat approval. The Sanitary Sewer Trunk expenses will be $2,727.00 x 74 residential units developed, less a sanitary sewer credit amount of $201,798 for a total of $0. The remaining credit toward future sanitary sewer trunk expenses for this Development is 16,125.77 Development of the Plat is also subject to a Sewer Access Charge ("SAC") fee in the amount of $3,452.00 per unit for this Plat. Developer shall pay the SAC fee before the building permit is issued.

20. **Water Trunk Charge and Water Access Charge**. Development of the Plat is subject to a charge for Water Trunk expenses payable at the time of final plat approval. The Water Trunk expenses will be $4,251.00 x 74 residential units developed, for a total of $314,574.00. Development of the Plat is also subject to a Water Access Charge ("WAC") fee in the amount of $5,415.00 per unit for this Plat. Developer shall pay the WAC fee before the building permit is issued.

21. **Storm Water Charge**. Development of the Plat is subject to a charge for Storm Water expenses payable at the time of final plat approval. The Storm Sewer expenses will be $3,669.00 x 74 residential units developed, less a credit of $138,770.28, for a total of $132,735.72.

22. **Park Dedication**. Developer will pay a park dedication fee of $332,778.00 ($4,497 per unit x 74 = $332,778.00) at the time of final plat approval.

23. **Trail Dedication**. Developer will pay a trail dedication fee of $177,904 ($2,796 per unit x 74 = $206,904.00 - $29,000 Credit = $177,904) at the time of final plat approval.

24. **Engineering Costs**. Developer shall pay special engineering fees, including actual costs. The City will submit invoices to Developer, who shall pay the City within 30-days of invoice.

Developer shall pay the cost for the preparation of record construction drawings and City base map upgrading by the City Engineer as part of the Administrative/Engineering Fee.

25. **Landscaping**. Developer shall follow all requirements of the City's Zoning Ordinance and the City's approved landscaping plan. See requirements in Report of City Planner dated 7/14/2021 and Landscape Plan dated 8/23/2021.

26. **Tree Preservation**. Developer shall follow all the requirements of the City's Zoning Ordinance and Tree Preservation plan, dated 6/11/2021, submitted by Developer at the time of Preliminary Plat application.

27. **Special Provisions**. The following special provisions shall apply to Plat development:

A. Implementation of the recommendations listed in Planning Reports prepared for the:

i. August 24, 2021 City Council meeting, approving Preliminary Plat of Riverwalk and Resolution No. 46-2021.
ii. March 11, 2025 City Council meeting, approving Final Plat of Riverwalk 4th Addition and Resolution No. 16-2025

B. All easement documents and all deeds for any outlots transferred to the City shall be provided to the City simultaneously with delivery of the final plat for City signatures. Developer shall dedicate to the City on the final plat drainage and utility easements located within the property, including access, as required to serve the site.

C. The lighting plan must comply with the City of Dayton Zoning and Subdivision Ordinances.

D. The irrigation plan must comply with the City of Dayton Zoning and Subdivision Ordinances.

E. Developer shall execute a Stormwater Maintenance Agreement for the infiltration basins on the property. Developer shall provide the City with infiltration test results for each of the proposed infiltration basins. Developer shall obtain soil borings to verify groundwater depth and soil type within the proposed infiltration basin location and submit the data to the City for review. The infiltration basins shall be seeded with MnDOT seed mix 35-221.

F. All construction shall be in accordance with City of Dayton Standards.

G. Developer is required to submit the final plat in electronic format. The electronic format shall be Auto CAD file. Developer shall also submit one complete set of reproducible construction plans on paper, in .pdf formant, and AutoCAD.

H. Developer is required to establish and maintain a buffer around all wetlands averaging 25 feet, with a minimum width of 10 feet. Developer shall be responsible for placing wetland buffer monuments with location subject to review and approval by the City Engineer. The area within wetlands and buffer zones shall be preserved predominantly in their natural states, except to the extent set forth in Section 1001.27 of the Dayton Zoning Ordinance. Wetlands and buffer zones must be protected by a conservation easement granted to the City by the developer. Any planned disturbance of the wetland buffer area during construction is subject to review and approval by the City Engineer.

I. Developer shall comply with the conditions of the City Engineer's Memo prepared by Jason Quisberg dated March 11, 2025.

J. Access shall be provided to all stormwater ponds.

K. All proposed buildings shall be constructed a minimum of three (3) feet above adjacent pond or wetland High Water Elevations.

L. All storm sewer structures immediately prior to ponds shall be constructed with a sump a minimum of three (3) feet in depth.

28. **Summary of Security Requirements**. To guarantee compliance with the terms of this Agreement, payment of real estate taxes, payment of special assessments, payment of the costs of all public improvements, and construction of all public improvements, Developer shall furnish the City with a letter of credit, in the form attached hereto, from a bank ("Security") for $3,393,659.70. The amount of the Security includes all of the security requirements set forth in the preceding sections of this Agreement, and was calculated as follows:

Construction Costs:	
Sanitary Sewer	$597,451.00
Watermain	$365,175.00
Storm Sewer	$650,840.00
Streets	$1,214,583.75
TOTAL:	**$2,828,049.75**
GRAND TOTAL SECURITIES (120%):	**$3,393,659.70**

This breakdown is for historical reference; it is not a restriction on the use of the security. The bank shall be subject to the approval of the City Administrator. Individual security instruments may be for shorter terms provided they are replaced at least thirty (30) days prior to their expiration. The City may draw down the security, upon ten (10) business days prior written notice to Developer, for any violation of the terms of this Agreement and Developer fails to cure such default within such ten (10) day time period. Amounts drawn shall not exceed the amounts necessary to cure the default. If the required public improvements are not completed at least thirty (30) days prior to the expiration of the security, the City may also draw it down. If the security is drawn down, the proceeds shall be used to cure the default. Upon receipt of proof satisfactory to the City that work has been completed and financial obligations to the City have been satisfied, with City approval the security shall be reduced from time to time by ninety percent (90%) of the financial obligations that have been satisfied. Ten percent (10%) of the amounts certified by Developer's engineer shall be retained as security until all improvements have been completed, all financial obligations to the City satisfied, the required "as constructed" plans have been received by the City, a warranty security is provided, and the public improvements are accepted by the City Council. The City standard specifications for utilities and street construction outline procedures for security reductions.

28. **Summary of Cash Requirements**. The following is a summary of the cash requirements under this Agreement, which must be furnished to the City at the time of final plat approval and execution of this Agreement by the City. The summary below is based on estimates provided by the Applicant, actual cash requirements will be based upon bids submitted to the developer in the near future:

Engineering Administration Escrow	$113,121.99
Legal and Planning Expenses Escrow	$5,000.00
Sanitary Sewer Trunk Charge	$201,798.00 - $201,798.00 Credit = $0.00
Water Trunk Charge	$314,574.00
Storm Water Trunk Charge	$271,506.00 - $138,770.28 Credit = $132,735.72
Park Dedication	$332,778.00
Trail Dedication	$206,904.00 - $29,000.00 Credit = $177,904.00
TOTAL CASH REQUIREMENTS:	**$1,076,113.71**
Remaining Sanitary Sewer Credit	$16,125.77

The City employs a pass through billing process. The $5,000 escrow will be held and all bills will be forwarded for immediate payment. If payments are not made in a timely fashion, the project will stop until payments are made. If said fees are less than estimated, the City shall reimburse Developer within thirty (30) days of receipt of final invoices.

29. **Warranty**. Developer warrants all required improvements against poor material and faulty workmanship. The warranty period for streets is one (1) year. The warranty period for underground utilities as identified in the plan set is two (2) years and shall commence following completion and acceptance by City Council. The one (1) year warranty period on streets shall commence after the final wear course has been installed and accepted by the City Council as documented in official City minutes. The City standard specifications for utilities and street construction identify the procedures for final acceptance of streets and utilities. The warranty period for sod, trees, and landscaping is one (1) growing season following installation. The City shall retain ten percent (10%) of the security posted by Developer until the warranty periods expire. The retainage may be used to pay for warranty work.

30. **Responsibility for Costs**.

A. Except as otherwise specified herein, Developer shall pay all costs incurred by Developer or the City in conjunction with the development of the Plat, including but not limited to Soil and Water Conservation District charges, legal, planning, engineering and inspection expenses incurred in connection with approval and acceptance of the Plat, the preparation of this Agreement, review of construction plans and documents, and all costs and expenses incurred by the City in monitoring and inspecting development of the Plat.

B. Developer shall hold the City and its officers, employees, and agents harmless from claims made by itself and third parties for damages sustained or costs incurred resulting from Plat approval and development. Developer shall indemnify the City and its officers, employees, and

agents for all costs, damages, or expenses which the City may pay or incur in consequence of such claims, including attorneys' fees.

C. Developer shall reimburse the City for reasonable costs incurred in the enforcement of this Agreement, including engineering and attorneys' fees.

D. Developer shall pay, or cause to be paid when due, and in any event before any penalty is attached, all special assessments referred to in this Agreement. This is an obligation of Developer and shall continue in full force and effect even if Developer sells one or more lots, the entire Plat, or any part of it.

E. Developer shall pay in full all bills submitted to it by the City for obligations incurred under this Agreement within thirty (30) days after receipt. If the bills are not paid on time, the City may halt Plat development and construction until the bills are paid in full. Bills not paid within thirty (30) days shall accrue interest at the rate of eight percent (8%) per year.

F. In addition to the charges and special assessments referred to herein, other charges as required by City ordinance may be imposed such as but not limited to building permit fees.

31. **Developer's Default**. In the event of default by Developer as to any of the work to be performed by Developer pursuant to this Agreement, after a ten (10) day written notice of such default has been given to Developer by the City, and Developer has failed to cure such default within the ten (10) day time period, the City may, at its option, perform the work and Developer shall promptly reimburse the City for any expense incurred by the City, provided Developer, except in an emergency as determined by the City, is first given notice of the work in default, not less than forty-eight (48) hours in advance. This Agreement is a license for the City to act, and it shall not be necessary for the City to seek a Court order for permission to enter the land. When the City does any such work, the City may, in addition to its other remedies, assess the cost in whole or in part.

32. **Miscellaneous**.

A. Developer shall be responsible for ensuring that all vacant lots comply with the City's Code regarding nuisances.

B. Third parties shall have no recourse against the City or Developer under this Agreement.

C. Breach of the terms of this Agreement by Developer shall be grounds for denial of building permits, including lots sold to third parties.

D. If any portion, section, subsection, sentence, clause, paragraph, or phrase of this Agreement is for any reason held invalid, such decision shall not affect the validity of the remaining portion of this Agreement.

E. If building permits are issued prior to the acceptance of public improvements, Developer assumes all liability and costs resulting in delays in completion of public improvements and damage to public improvements caused by the City, Developer, its contractors, subcontractors, material men, employees, agents, or third parties. No sewer and water connection permits may be issued and no one may occupy a building for which a building permit is issued on either a temporary or permanent basis until the streets needed for access have been paved with at least one lift of bituminous surface and the utilities are accepted by the City Engineer in writing.

F. The action or inaction of the City shall not constitute a waiver or amendment to the provisions of this Agreement. To be binding, amendments or waivers shall be in writing, signed by the parties and approved by written resolution of the City Council. The City's failure to promptly take legal action to enforce this Agreement shall not be a waiver or release.

G. This Agreement shall run with the land and shall be recorded against the title to the Property. Developer covenants with the City, its successors and assigns, that Developer is well seized in fee title of the Property being final platted and/or has obtained consents to this Agreement, in the form attached to this Agreement, from all parties who have an interest in the Property; that there are no unrecorded interests in the Property being final platted; and that Developer will indemnify and hold the City harmless for any breach of the foregoing covenants.

H. Developer shall take out and maintain, or cause to be taken out and maintained, until six (6) months after the City has accepted the public improvements, commercial general liability and property damage insurance covering personal injury, including death, and claims for property damage which may arise out of Developer's work or the work of its subcontractors or by one directly or indirectly employed by any of them. Limits for bodily injury and death shall be not less than $500,000 for one person and $1,000,000 for each occurrence; limits for property damage shall be not less than $200,000 for each occurrence; or a combination single limit policy of $1,000,000 or more. The City shall be named as an additional insured on the policy, and Developer shall file with the City a certificate evidencing coverage prior to the City signing the Plat. The certificate shall provide that the City must be given ten (10) days' advance written notice of the cancellation of the insurance.

I. Each right, power or remedy herein conferred upon the City is cumulative and in addition to every other right, power or remedy, express or implied, now or hereafter arising, available to City, at law or in equity, or under any other agreement, and each and every right, power and remedy herein set forth or otherwise so existing may be exercised from time to time as often and in such order as may be deemed expedient by the City and shall not be a waiver of the right to exercise at any time thereafter any other right, power or remedy.

J. Developer may not assign this Agreement without the written permission of the City Council. Developer's obligation under this Agreement shall continue in full force and effect even if Developer sells one or more lots, the entire Plat, or any part of it.

K. Retaining walls that require a building permit shall be constructed in accordance with plans and specifications prepared by a structural or geotechnical engineer licensed by the State of Minnesota. Following construction, a certification signed by the design engineer shall be

filed with the City Engineer evidencing that the retaining wall was constructed in accordance with the approved plans and specifications. All retaining walls in the development plans, or special conditions referred to in this Agreement required to be constructed, shall be constructed before any Certificate of Occupancy is issued for a lot on which a retaining wall is required to be built.

L. Nothing contained in this Agreement shall be deemed or construed to create a partnership, joint venture, joint enterprise, or other fiduciary relationship between the City and Developer. Neither party is authorized to act as an agent or on behalf of the other party.

M. The section headings of this Agreement are for reference purposes only, and shall not otherwise affect the meaning, construction, or interpretation of any provision of this Agreement.

33. **Successors and Assigns**. This Agreement shall be binding upon and inure to the benefit of the parties and their respected successors and assigns, including without limitation, any and all future and present owners, tenants, occupants, licensee, mortgagee and any other parties with any interest in the Property. Should Developer convey any lot or lots in the Plat to a third party, the City and the owner of that lot or those lots may amend this Agreement as applied to that lot or those lots without the approval or consent of Developer or the other lot owners within the Plat. Private agreements between the owners of lots within the Plat for shared service or access and related matters necessary for the efficient use of the Property shall be the responsibility of the lot owners and shall not bind or restrict City authority to approve applications from any lot owner.

34. **Counterparts**. This Agreement may be simultaneously executed in any number of counterparts, each of which shall be an original, and all of which together shall constitute but one and the same instrument.

35. **Notices**. All notices provided for in this Agreement must be in writing and shall be hand delivered; by United States mail via prepaid certified mail; or by prepaid overnight mail delivery service providing written evidence of delivery, and addressed as follows:

If to the City:

City of Dayton
ATTN: City Administrator
Dayton City Hall
12260 South Diamond Lake Road
Dayton, Minnesota 55327

If to Developer:

RGW Dayton Development, LLC.
10850 Old Country Road 15, Suite 200
Plymouth, MN 55441

36. **Incorporation of Recitals and Exhibits**. The Recitals that are at the beginning of this Agreement, and the exhibits that are attached to this Agreement are true and correct, and are incorporated into and made part of this Agreement.

[Signature pages to follow]

CITY OF DAYTON

BY: _____
Dennis Fisher, Mayor

(SEAL)

BY: _____
Amy Benting, City Clerk

STATE OF MINNESOTA)
) ss.
COUNTY OF HENNEPIN)

The foregoing instrument was acknowledged before me this _____ day of _____, 2025, by Dennis Fisher and Amy Benting, respectively, the Mayor and City Clerk of the City of Dayton, a Minnesota municipal corporation, on behalf of the corporation and pursuant to the authority granted by its City Council.

_____
NOTARY PUBLIC

DRAFTED BY:
CAMPBELL KNUTSON
Professional Association
Grand Oak Office Center I
860 Blue Gentian Road, Suite 290
Eagan, MN 55121
Telephone: (651) 452-5000

DEVELOPER:
RGW Dayton Development, LLC.

By: _____

Its: _____

Printed Name: _____

STATE OF MINNESOTA)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2025, by _____, its _____ on behalf of RGW Dayton Development, LLC, a Limited Liability Company.

_____
Notary Public

DRAFTED BY:
CAMPBELL KNUTSON
Professional Association
Grand Oak Office Center I
860 Blue Gentian Road, Suite 290
Eagan, MN 55121
Telephone: (651) 452-5000

EXHIBIT A
TO
DEVELOPMENT CONTRACT

Legal Description of Property Prior to Final Plat

Outlot A, Riverwalk 3rd Addition, according to the recorded plat thereof, Hennepin County, Minnesota

EXHIBIT B
TO
DEVELOPMENT CONTRACT

Legal Description of Property Following Recording of Final Plat

Lots 1 through 35, inclusive, Block 1; Lots 1 through 24, inclusive, Block 2; Lots 1 through 15, inclusive, Block 3; Outlot A; and Outlot B, Riverwalk 4th Addition, according to the recorded plat thereof, Hennepin County, Minnesota

MORTGAGEE CONSENT
TO
DEVELOPMENT CONTRACT

_____, which holds a mortgage on the subject property, the development of which is governed by the foregoing Development Agreement, agrees that the Development Agreement shall remain in full force and effect even if it forecloses on its mortgage.

Dated this _____ day of _____, 202__.

_____
<NAME>

By: _____
Its:

STATE OF MINNESOTA)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, _____, by _____ the _____ of _____, on its behalf.

_____
Notary Public

DRAFTED BY:
CAMPBELL KNUTSON
Professional Association
Grand Oak Office Center I
860 Blue Gentian Road, Suite 290
Eagan, MN 55121
Telephone: (651) 452-5000

FEE OWNER CONSENT
TO
DEVELOPMENT CONTRACT

_____, fee owner(s) of all or part of the subject property, the development of which is governed by the foregoing Development Agreement, affirm(s) and consent(s) to the provisions thereof, and agree(s) to be bound by the provisions as the same may apply to that portion of the subject property owned by them.

Dated this _____ day of _____, 202__.

_____
<NAME>

By: _____
Its:

STATE OF MINNESOTA)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, _____, by _____ the _____ of _____, on its behalf.

_____
Notary Public

DRAFTED BY:
CAMPBELL KNUTSON
Professional Association
Grand Oak Office Center I
860 Blue Gentian Road, Suite 290
Eagan, MN 55121
Telephone: (651) 452-5000

CONTRACT PURCHASER CONSENT
TO
DEVELOPMENT CONTRACT

_____, which/who has a contract purchaser's interest in all or part of the subject property, the development of which is governed by the foregoing Development Agreement, affirms and consents to the provisions thereof, and agrees to be bound by the provisions as the same may apply to that portion of the subject property in which there is a contract purchaser's interest.

Dated this _____ day of _____, 202__.

_____
<NAME>

By: _____
Its:

STATE OF MINNESOTA)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, _____, by _____ the _____ of _____, on its behalf.

_____
Notary Public

DRAFTED BY:
CAMPBELL KNUTSON
Professional Association
Grand Oak Office Center I
860 Blue Gentian Road, Suite 290
Eagan, MN 55121
Telephone: (651) 452-5000

RIVERWALK 4TH ADDITION

C.R. DOC. NO._____

KNOW ALL PERSONS BY THESE PRESENTS: That RGW Dayton Development, LLC, a Minnesota limited liability company, owner of the following described property:

OUTLOT A, RIVERWALK 3RD ADDITION

Has caused the same to be surveyed and platted as RIVERWALK 4TH ADDITION and does hereby dedicate to the public for public use the public ways and the drainage and utility easements as created by this plat.

In witness whereof said RGW Dayton Development, LLC, a Minnesota limited liability company, has caused these presents to be signed by its proper officer this _____ day of _____, 20___.

Signed: RGW Dayton Development, LLC

_____
Jacob M. Walesch, President

STATE OF MINNESOTA, COUNTY OF _____

This instrument was acknowledged before me this _____ day of _____, 20___, by Jacob M. Walesch, President of RGW Dayton Development, LLC, a Minnesota limited liability company, on behalf of the company.

_____ _____ My Commission Expires:_____
Notary Public,_____, Minnesota (Signature) (Notary Printed Name)

SURVEYORS CERTIFICATE

I Daniel L. Schmidt do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____, 20___.

_____
Daniel L. Schmidt, Licensed Land Surveyor
Minnesota License No. 26147

STATE OF MINNESOTA, COUNTY OF HENNEPIN

This instrument was acknowledged before me this _____ day of _____, 20___, by Daniel L. Schmidt.

_____ _____ My Commission Expires:_____
Notary Public,Hennepin County, Minnesota (Signature) (Notary Printed Name)

CITY COUNCIL, CITY OF DAYTON, MINNESOTA

This plat of RIVERWALK 4TH ADDITION was approved and accepted by the City Council of the City of Dayton, Minnesota at a regular meeting thereof held this _____ day of _____, 20___, and said plat is in compliance with the provisions of Minnesota Statutes, Section 505.03, Subd. 2.

City Council, City of Dayton, Minnesota

By:_____, Mayor By:_____, Clerk

COUNTY AUDITOR
Hennepin County, Minnesota

I hereby certify that taxes payable in _____and prior years have been paid for land described on this plat, dated this _____ day of_____, 20___.

Daniel Rogan, County Auditor By: _____, Deputy

SURVEY DIVISION
Hennepin County, Minnesota

Pursuant to Minnesota Statutes Section 383B.565 (1969), this plat has been approved this _____ day of _____, 20___.

Chris F. Mavis, County Surveyor By: _____

COUNTY RECORDER
Hennepin County, Minnesota

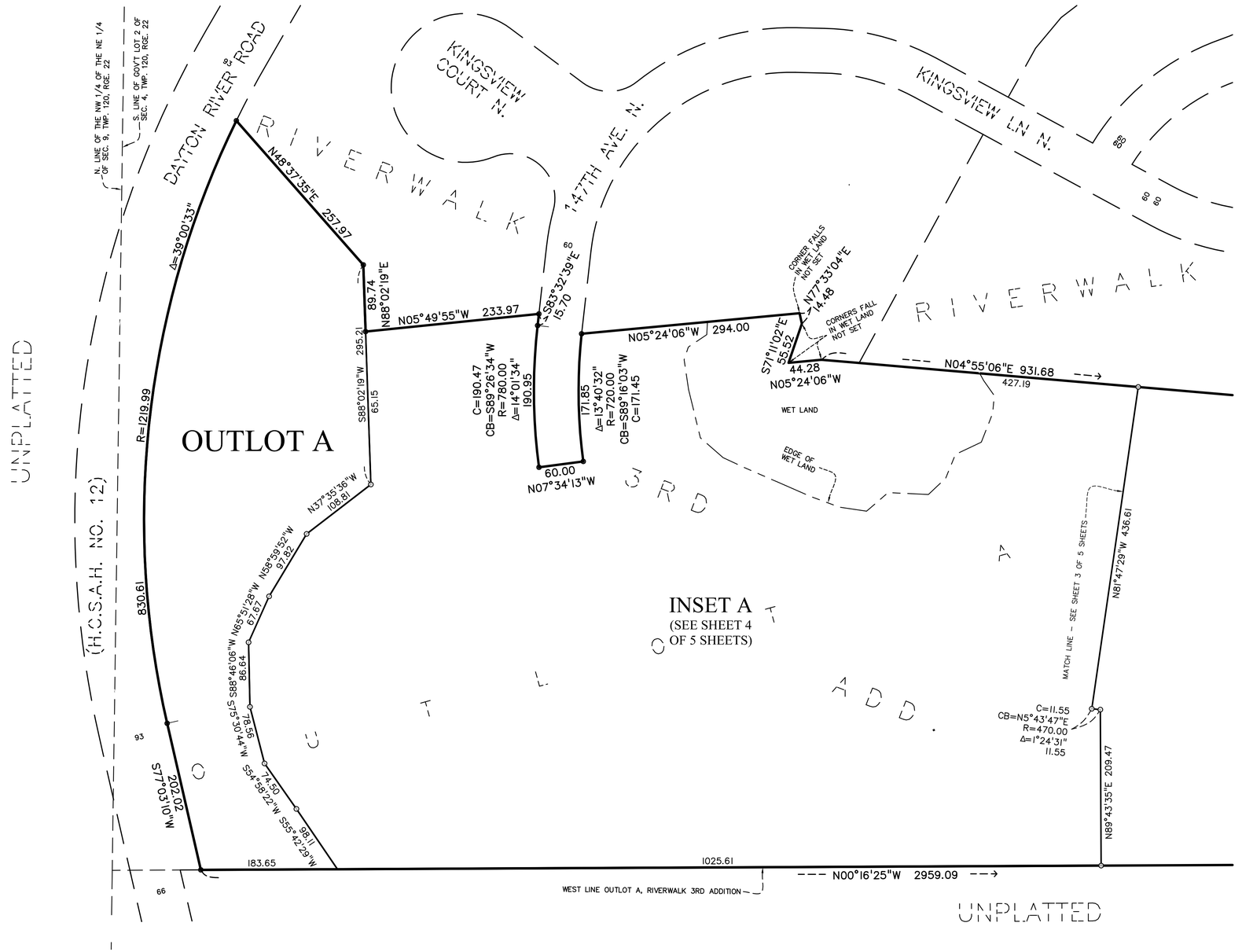
I hereby certify that the within plat of RIVERWALK 4TH ADDITION was recorded in this office this _____ day of _____, 20___, at _____o'clock ____M.

Amber Bougie, County Recorder By:_____, Deputy

SATHRE-BERGQUIST, INC.

RIVERWALK 4TH ADDITION

C.R. DOC. NO._____



The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

SATHRE-BERGQUIST, INC.

RIVERWALK 4TH ADDITION

C.R. DOC. NO._____

145TH AVE

KINGSVIEW LANE N.

145TH COURT N.

RIVERWALK

MINNESOTA LANE N.

PIONEER PARKWAY

KINGSVIEW LANE N.

RIVERWALK 2ND ADD.

RIVERWALK 3RD ADD.

OUTLOT B

INSET B
(SEE SHEET 5
OF 5 SHEETS)

UNPLATTED

WEST LINE OUTLOT A,
RIVERWALK 3RD ADDITION

C=47.54
CB=N15°10'17"E
R=470.00
Δ=5°47'53"
47.56

C=82.11
CB=S13°37'40"W
R=530.00
Δ=8°53'06"
82.19

63.30
S83°59'25"E

60.00
N06°00'35"E

N77°30'49"W 252.29

92.63
Δ=11°17'31"
R=470.00
CB=S89°38'10"E
C=92.48

C=71.73
CB=N88°35'52"E
R=530.00
Δ=7°45'35"
71.78

129.61
Δ=15°28'15"
R=480.00
CB=N84°44'32"E
C=129.22

N16°25'55"W 247.73

CORNER FALLS
IN WET LAND
NOT SET

EDGE OF
WET LAND

WET LAND

S89°31'52"W 401.57

EDGE OF WET LAND

WET LAND

100
CB=N82°22'41"E
R=1050.00
Δ=10°45'46"
197.24

C=196.95

100.00
N02°14'26"W

C=233.59
CB=S80°45'24"W
R=958.00
Δ=14°00'20"
234.18

C=319.55
CB=N81°44'24"E
R=1150.00
Δ=15°58'20"
320.58

10.42
N89°43'35"E

584.13

← N04°55'06"E 931.68 →

CORNER FALLS
IN WET LAND
NOT SET

WET LAND

EDGE OF
WET LAND

N42°54'21"E 267.43

N02°49'27"W 311.68

CORNER FALLS
IN WET LAND
NOT SET

EDGE OF
WET LAND

S20°20'04"W

WET LAND

140.25

S46°17'13"W 170.00

CORNER FALLS
IN POND
NOT SET

C=222.22
CB=S84°31'32"E
R=170.00
Δ=81°37'29"
242.19

S35°20'16"E
60.00

C=116.05
CB=N69°16'31"E
R=230.00
Δ=29°13'35"
117.32

R=120.00
Δ=33°29'44"
70.15

N81°47'29"W 436.61

MATCH LINE – SEE SHEET 2 OF 5 SHEETS

C=11.55
CB=N5°43'47"E
R=470.00
Δ=1°24'31"
11.55

N89°43'35"E 209.47

1165.70

← N00°16'25"W 2959.09 →

CORNER FALLS
IN WET LAND
NOT SET

N03°30'52"W 42.63

70.15
Δ=33°29'44"
R=120.00

314.02
Δ=149°56'03"
R=120.00

EDGE OF
WET LAND

146.33

S88°51'01"W

WET LAND

38.75
Δ=9°39'15"
R=230.00

NORTH

80 40 0 40 80 160

SCALE IN FEET

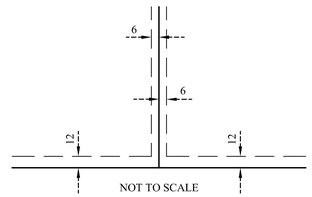
The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

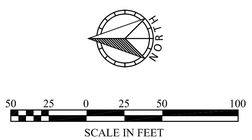
● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

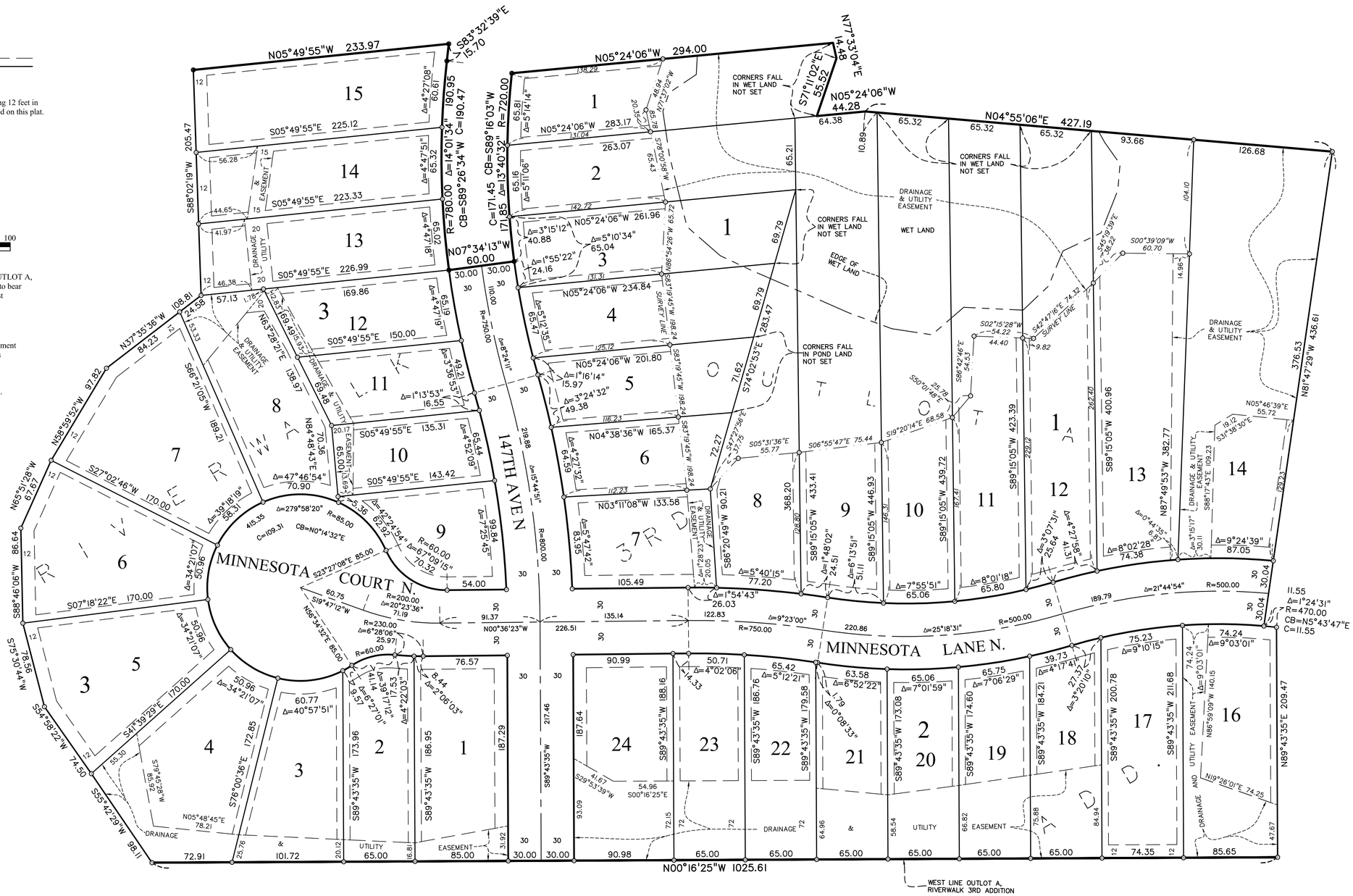
○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

SATHRE-BERGQUIST, INC.

ENGINEERS SURVEYORS PLANNERS DESIGNERS







INSET A

RIVERWALK 4TH ADDITION

C.R. DOC. NO.________

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:

Being 6 feet in width and adjoining side lot lines and being 12 feet in width and adjoining public ways, unless otherwise indicated on this plat.

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

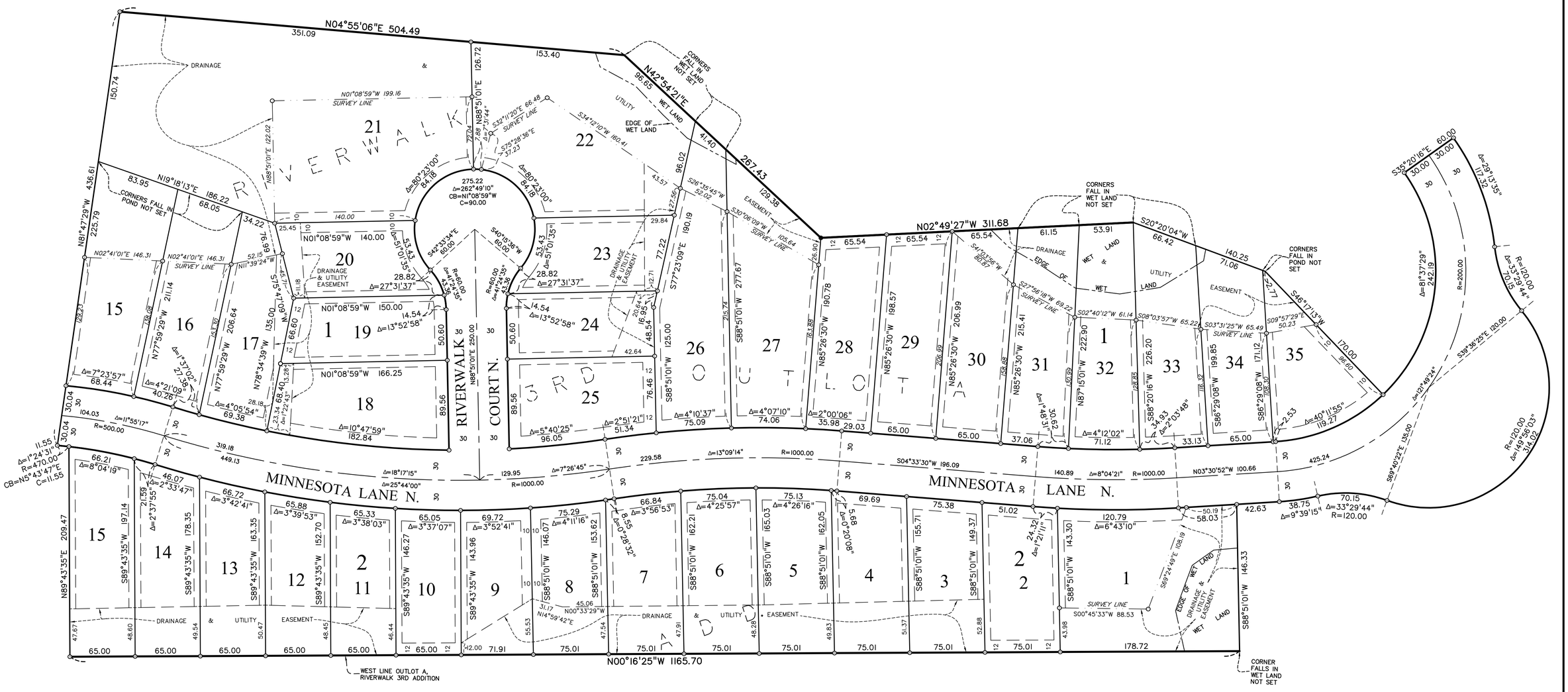
○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

SATHRE-BERGQUIST, INC.

INSET B

RIVERWALK 4TH ADDITION

C.R. DOC. NO._____



NORTH

50 25 0 25 50 100

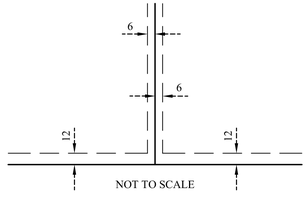
SCALE IN FEET

The basis for the bearing system is the west line of OUTLOT A, RIVERWALK 3RD ADDITION, and is assumed to bear North 00 degrees 16 minutes 25 seconds West

● Denotes a Found 1/2 inch iron pipe monument and marked by License No. 26147, unless shown otherwise

○ Denotes a 1/2 inch by 14 inch iron pipe monument set and marked by License No. 26147

DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



NOT TO SCALE

Being 6 feet in width and adjoining side lot lines and being 12 feet in width and adjoining public ways, unless otherwise indicated on this plat.

ENGINEERS SURVEYORS DESIGNERS PLANNERS

SATHRE-BERGQUIST, INC.

LOCATION MAP

DEVELOPMENT DATA

Proposed Zoning: R-3
4th Addition - 74 Total Lots

Street: 60' ROW - 32' B-B
CDS - 60' R

PARKWAY
100' ROW
20' Lanes
16' Wide Island

SETBACKS
Frontyard Setback: 25'
Corner Setback: 20'
Sideyard Setback: 7.5'/7.5'
Rearyard Setback: 20'

LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE	W S	W S
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
SANITARY STUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

NORTH

150 75 0 75 150 300
SCALE IN FEET

SHEET INDEX TABLE

PREPARED BY	PREPARED FOR
ENGINEER SATHRE-BERGQUIST, INC. 14000 25TH AVENUE NORTH SUITE 120 PLYMOUTH, MINNESOTA 55447 PHONE: (952) 476-6000 FAX: (952) 476-0104 CONTACT : ROBERT S. MOLSTAD, P.E. EMAIL: molstad@sathre.com	DEVELOPER RGW DAYTON DEVELOPMENT, LLC 6885 SYCAMORE LANE N, SUITE 110 MAPLE GROVE, MN 55369 CONTACT: CRAIG ALLEN PHONE: (952) 270-4473 EMAIL: craig@gonyeacompany.com

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

ENGINEERS SURVEYORS DESIGNERS PLANNERS

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

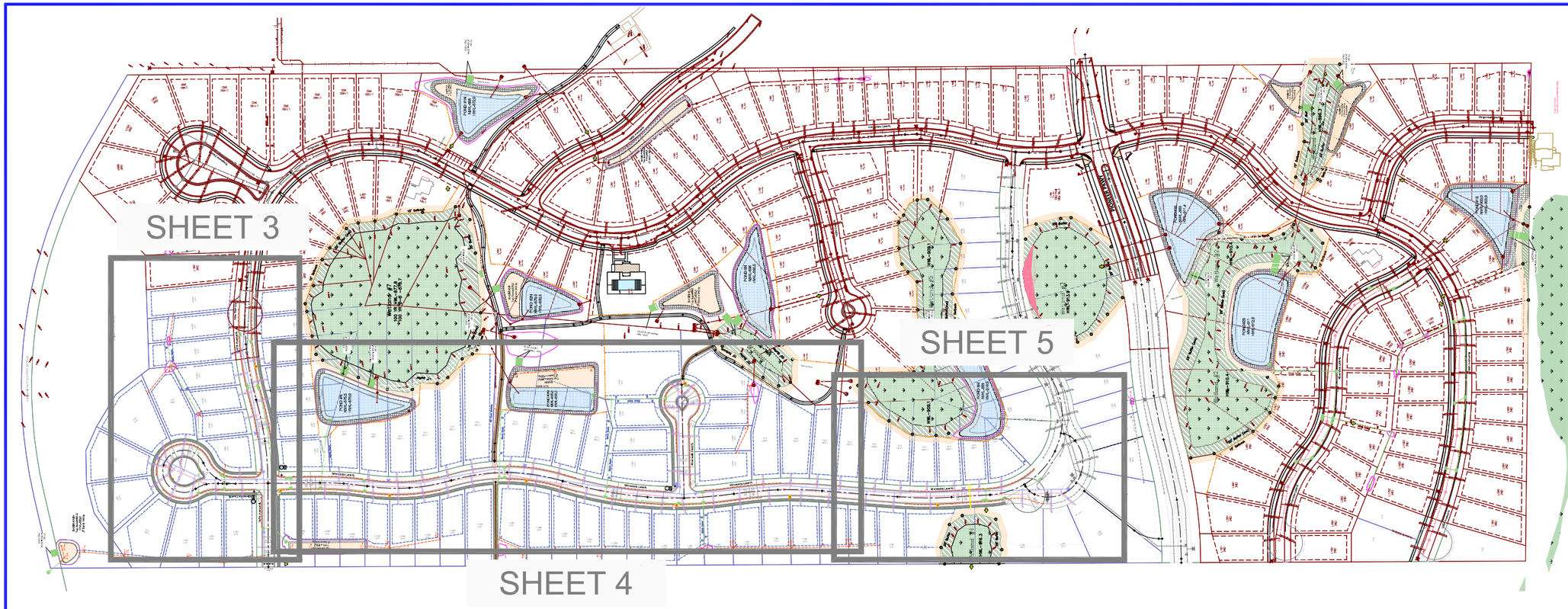
CITY PROJECT NO.
--

DAYTON,
MINNESOTA

TITLE SHEET
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

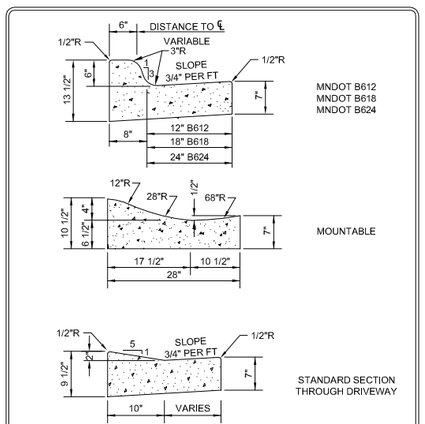
FILE NO.
3120-082-400

1
31



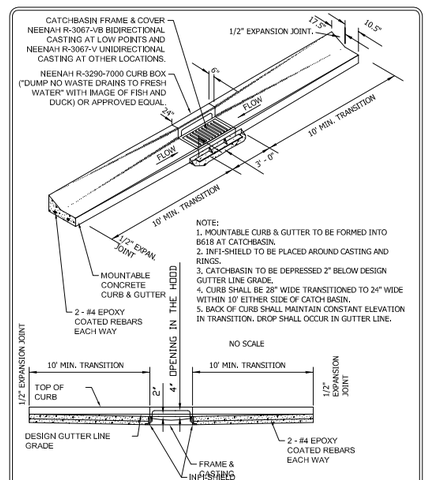
LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE	W S	W S
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
SANITARY STUCTURE LABEL		
SANITARY SEWER MANHOLE	S	S
WATERMAIN	W	W
HYDRANT		
GATE VALVE		

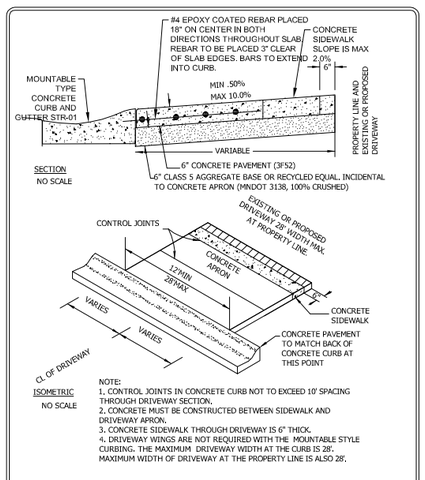


NOTE:
① PLACE A "W" AND "S" STAMP PER CITY PLATE #STR-23 ON FACE OF CURB WHERE CURB & GUTTER CROSSES A WATER OR SEWER SERVICE.

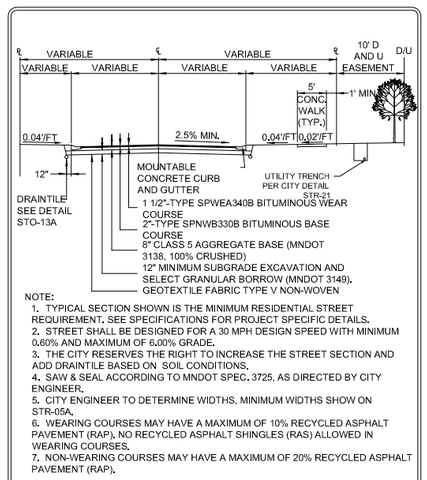
City of Dayton Live the difference	CURB AND GUTTER	LAST REVISION: MAR 2024 PLATE NO. STR-01



City of Dayton Live the difference	MOUNTABLE CURB & GUTTER CONSTRUCTION AT CATCH BASIN	LAST REVISION: MAR 2024 PLATE NO.



City of Dayton Live the difference	RESIDENTIAL CONCRETE DRIVEWAY APRON WITH SIDEWALK (MOUNTABLE TYPE CURB)	LAST REVISION: MAR 2024 PLATE NO. STR-13



NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM RESIDENTIAL STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. STREET SHALL BE DESIGNED FOR A 30 MPH DESIGN SPEED WITH MINIMUM 0.60% AND MAXIMUM OF 6.00% GRADE.
3. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION AND ADD DRAINTILE BASED ON SOIL CONDITIONS.
4. SAW & SEAL ACCORDING TO MNDOT SPEC. 3725, AS DIRECTED BY CITY ENGINEER.
5. CITY ENGINEER TO DETERMINE WIDTHS. MINIMUM WIDTHS SHOW ON STR-05A.
6. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
7. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).

City of Dayton Live the difference	RESIDENTIAL STREET SECTION	LAST REVISION: MAR 2024 PLATE NO. STR-05

STREET NOTES

1. ALL STREETS ARE 32' BB UNLESS OTHERWISE NOTED. CURB DIMENSIONS ARE BACK TO BACK.
2. ALL TEMPORARY, DEAD-END STREETS SHALL BE CLOSED WITH TEMPORARY BARRICADES AND ARE TO BE FULLY REFLECTORIZED AND PROPERLY MAINTAINED UNTIL THE STREET IS EXTENDED TEMPORARY CUL-DE-SACS ARE REQUIRED.
3. SEE CITY DETAILS FOR STREET DESIGN STANDARDS.
4. ALL SIDEWALKS SHALL BE 6". CONSTRUCT PED RAMP AT EACH CURB AND OR/ROAD INTERSECTION PER STANDARD DETAIL PLATES.
5. ALL CONTRACTOR VEHICLES SHALL BE PARKED WITHIN THE CONSTRUCTION LIMITS.
6. EXTENT OF DRAINTILE TO BE DETERMINED/VERIFIED IN FIELD BY CITY ENGINEER BASED ON SITE CONDITIONS.

STOP SEE DETAIL GEN-04

XXXX SEE DETAIL GEN-06
XXXX

SEE DETAIL GEN-05

NORTH

150 75 0 75 150 300
SCALE IN FEET

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

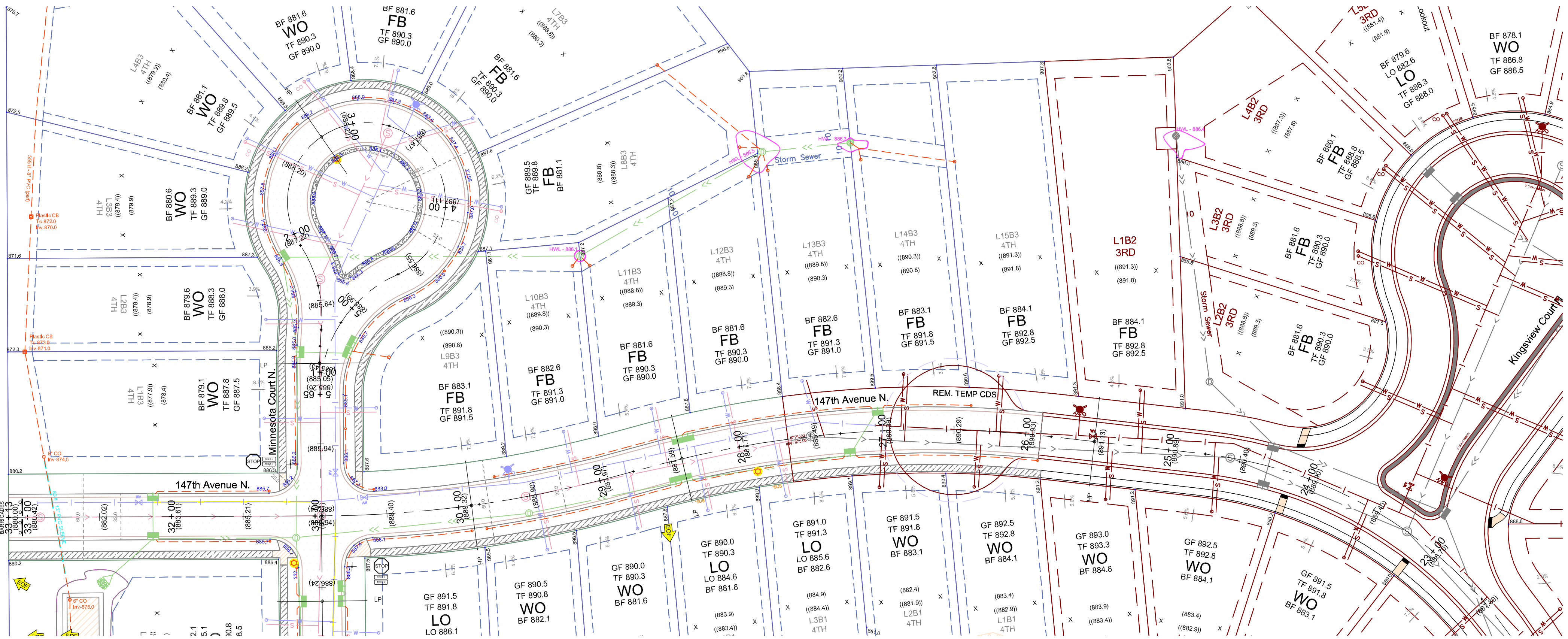
ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--

DAYTON, MINNESOTA

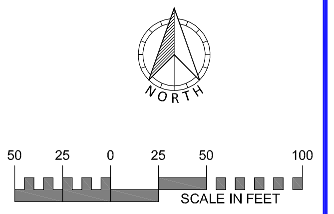
FINAL STREET PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

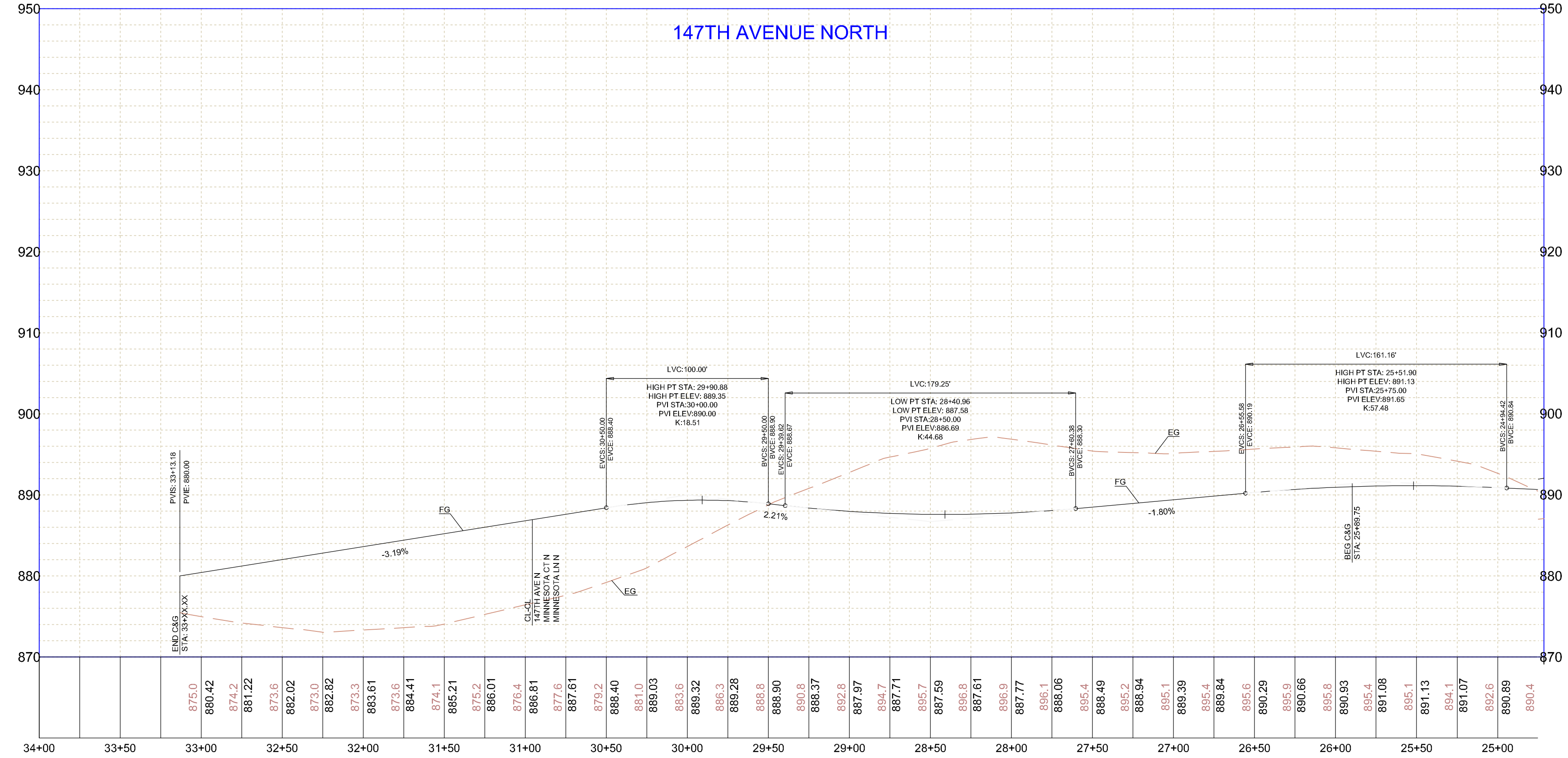
FILE NO.
3120-082-400

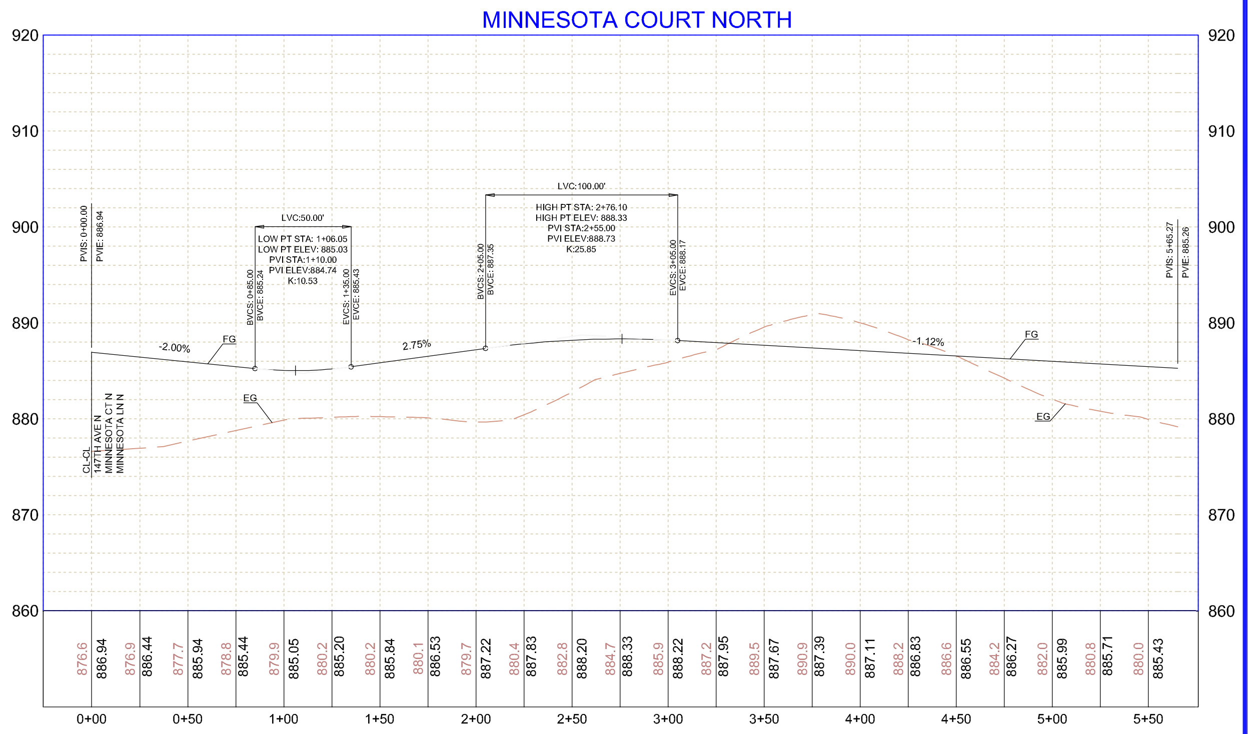


LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	—— BSBL ——	—— BSBL ——
GARAGE SETBACK LINE	—— GSBL ——	—— GSBL ——
PARCEL BOUNDARY LINE	━━━━	━━━━
DRAINAGE AND UTILITY EASEMENTS	– – – –	– – – –
CURB AND GUTTER	═══	═══
RIGHT-OF-WAY	━━━━	━━━━
SAN/WM SERVICE	—W— —S—	—W— —S—
BACKYARD CATCH BASIN	—»—●—»—	—»—●—»—
CATCH BASIN	—»—■—»—	—»—■—»—
STORM SEWER MANHOLE	—»—Ⓓ—»—	—»—Ⓓ—»—
FLARED END SECTION W/RIP-RAP	—»——»—◁	—»——»—◁
STORM STUCTURE LABEL	CB H3	CB H3
SANITARY STUCTURE LABEL	MH10	MH10
SANITARY SEWER MANHOLE	—›—Ⓢ—›—	—›—Ⓢ—›—
WATERMAIN	—|———|—	—|———|—
HYDRANT	—|——|—	—|——|—
GATE VALVE	—|—⋈—|—	—|—⋈—|—







EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: ____________ Lic. No. ____________

ENGINEERS SURVEYORS DESIGNERS PLANNERS

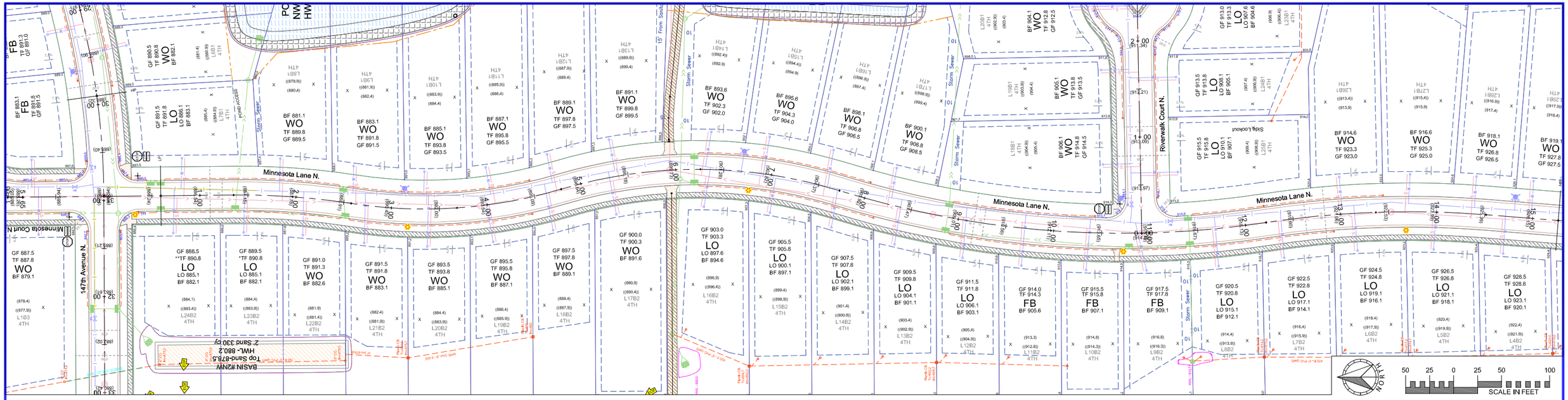
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

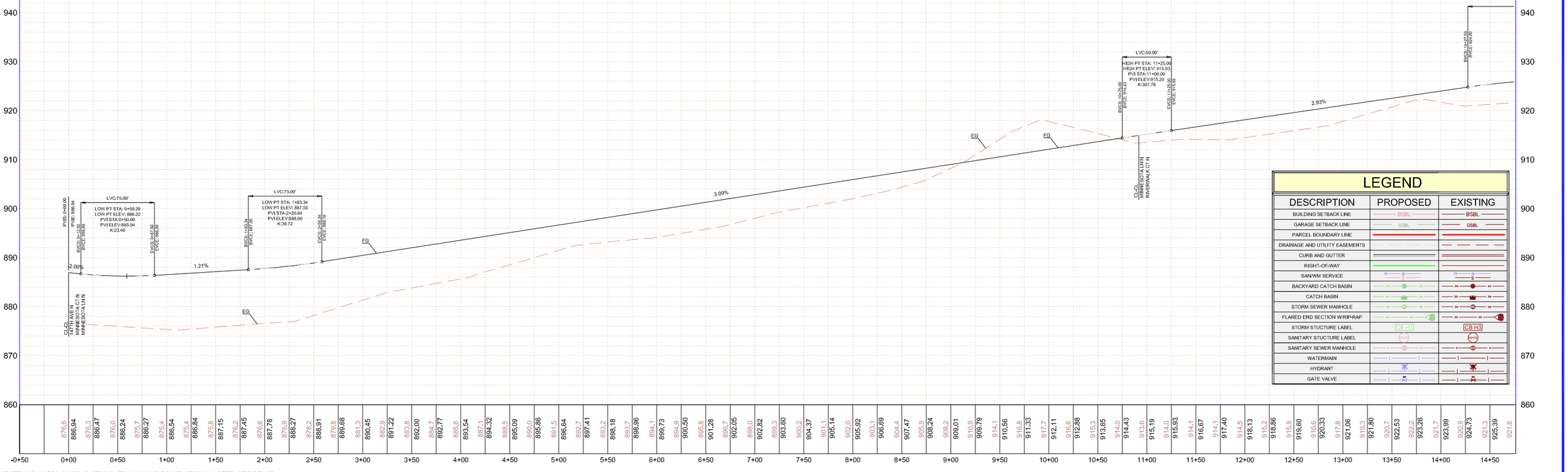
CITY PROJECT NO.

DAYTON,
MINNESOTA

FINAL STREET PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400





LEGEND

DESCRIPTION	PROPOSED	EXISTING
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GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE	W S	W S
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
SANITARY STUCTURE LABEL	SAN	SAN
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

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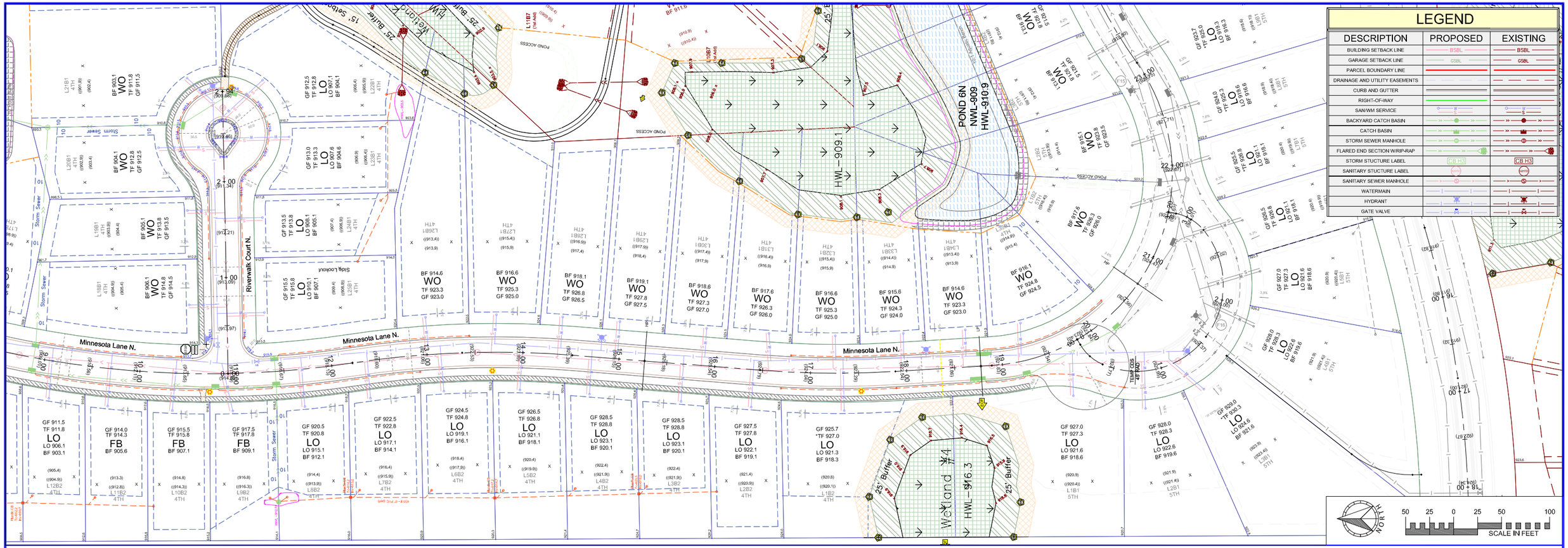

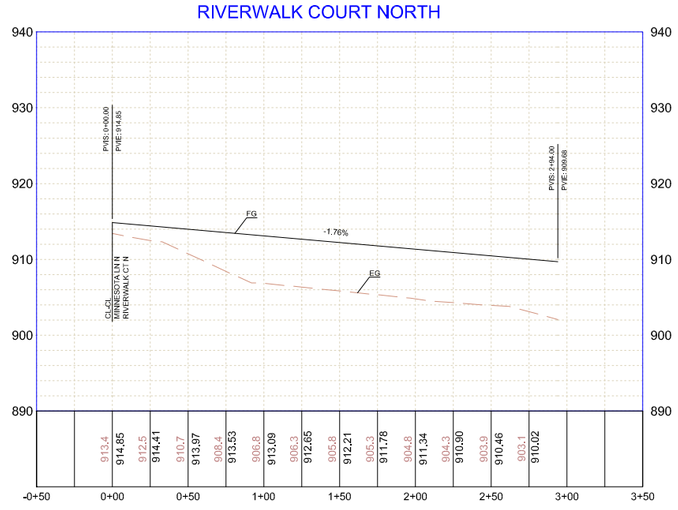

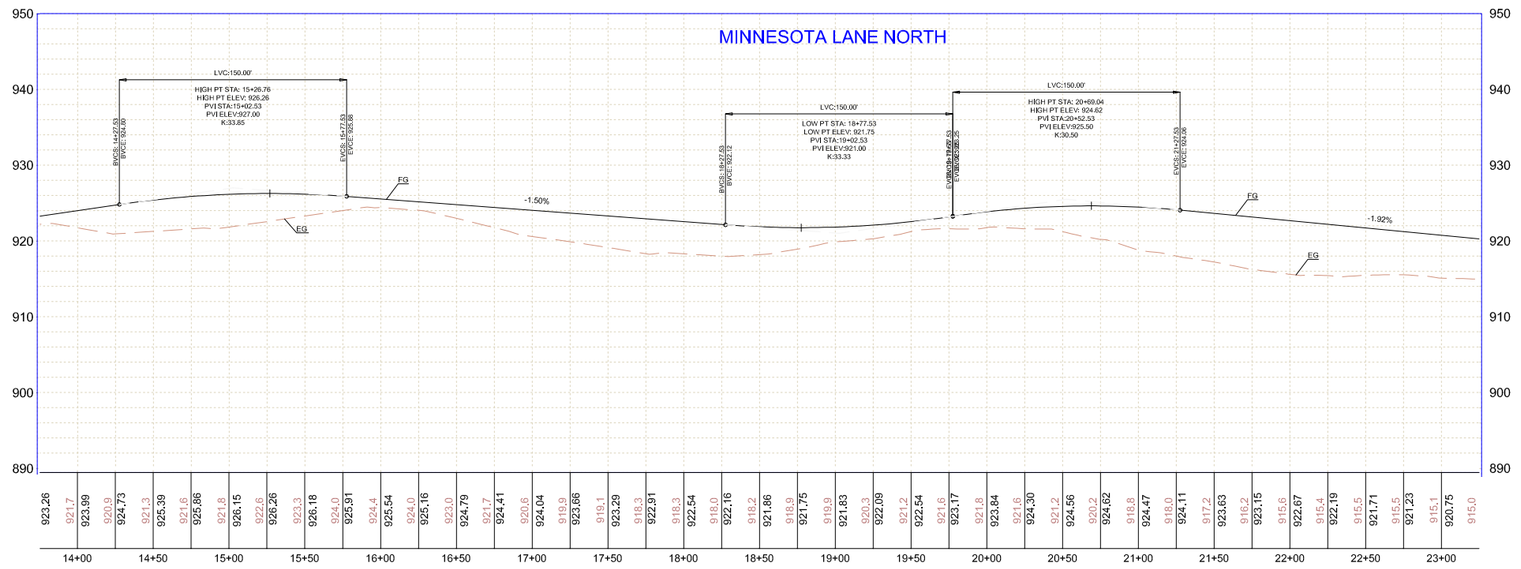

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14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
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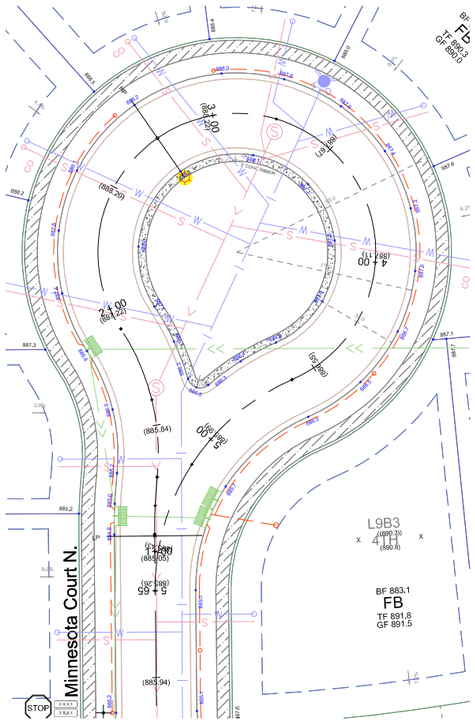
DAYTON, MINNESOTA

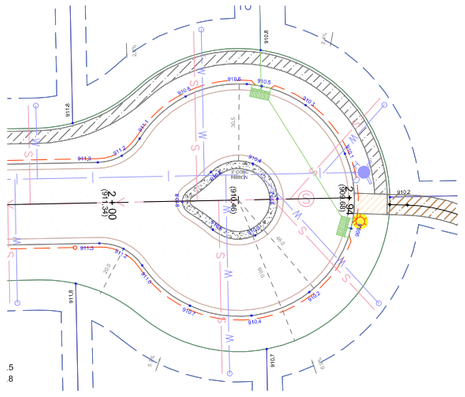
FINAL STREET PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

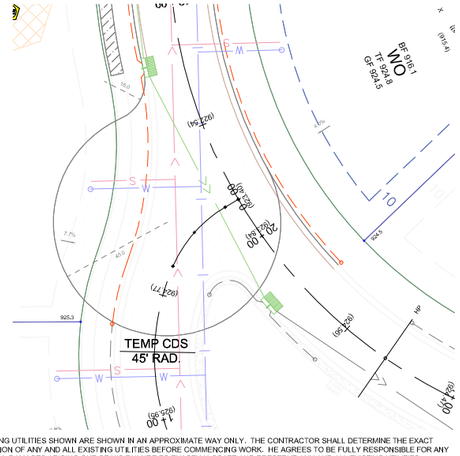
MINNESOTA COURT NORTH



RIVERWALK COURT NORTH



MINNESOTA LANE NORTH (TEMP CDS)



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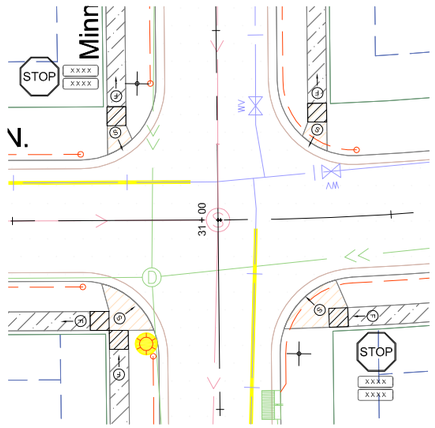
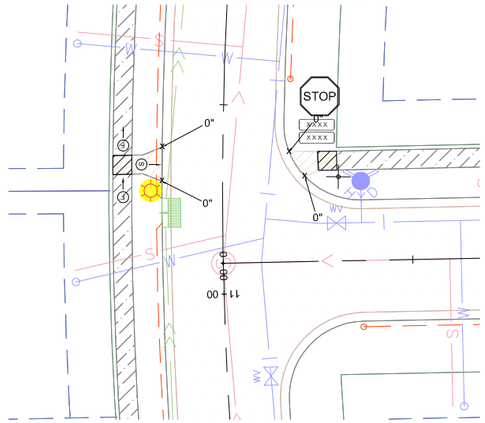
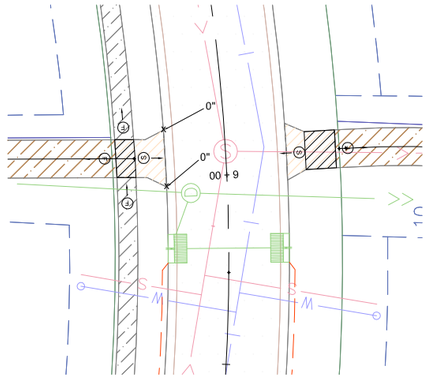
MINNESOTA COURT NORTH
MINNESOTA LANE NORTH
147TH AVENUE NORTH



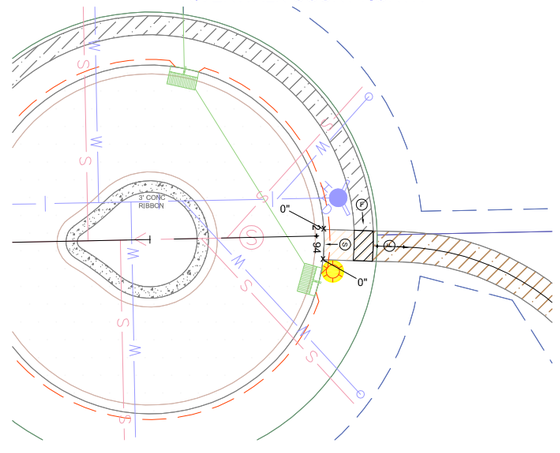
RIVERWALK COURT NORTH
MINNESOTA LANE NORTH



MINNESOTA LANE NORTH



RIVERWALK COURT NORTH



(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 THE CROSS SLOPE SHALL NOT EXCEED 2.0%

INDICATES CURB HEIGHT - TAPER TO MATCH CURB HEIGHT AS NECESSARY UPON PED RAMP DESIGN

LANDING AREA - 4'4' MINIMUM (5'x5' PREFERRED) DIMENSION AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

PER MNDOT PEDESTRIAN CURB RAMP DETAILS

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
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RSM				
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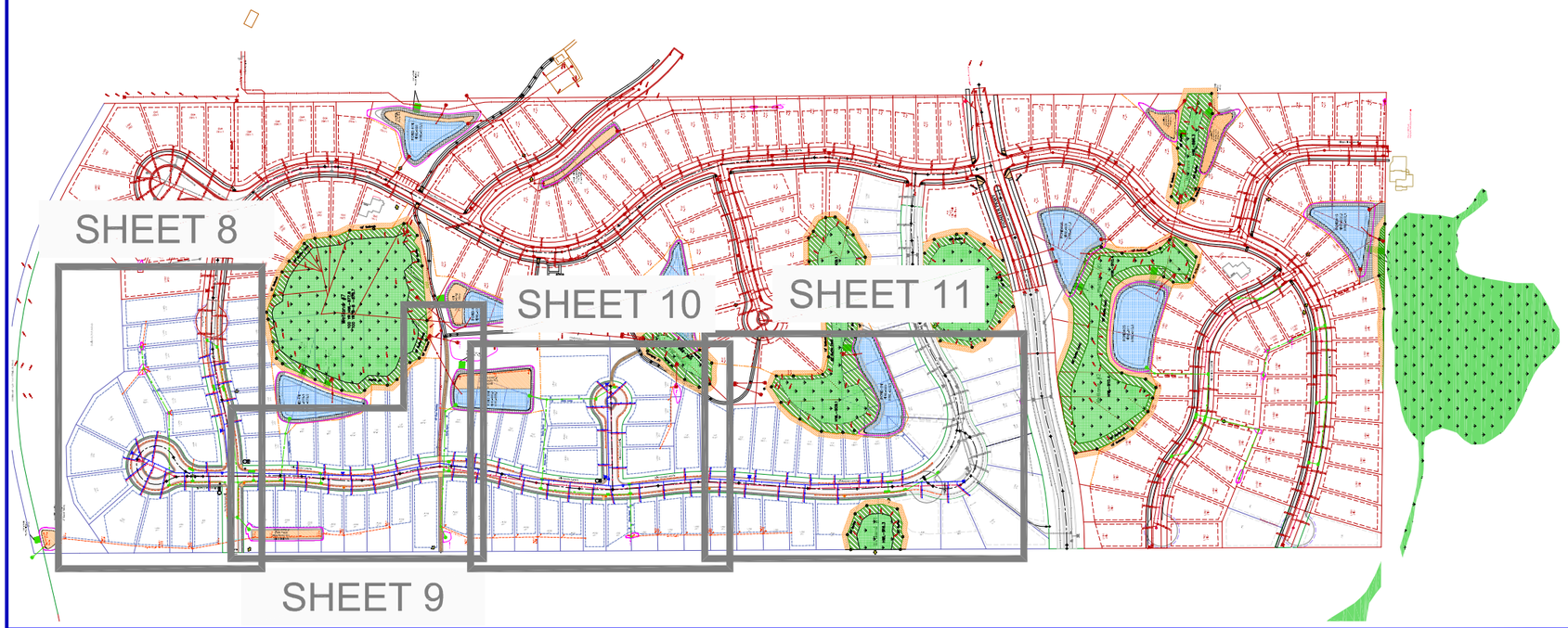
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.

DAYTON, MINNESOTA

CUL-DE-SAC & PEDESTRIAN RAMP DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC 392

FILE NO.
3120-082-400

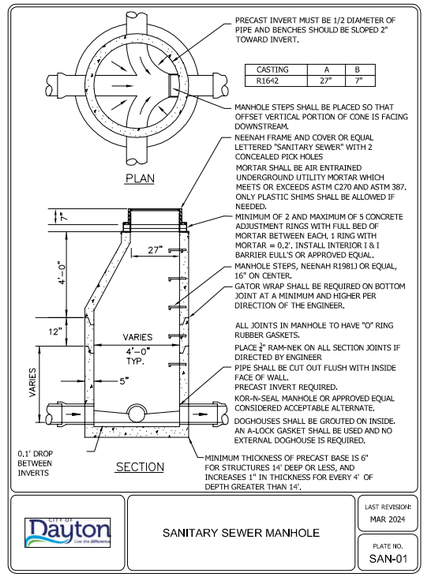


SANITARY SEWER AND WATERMAIN NOTES

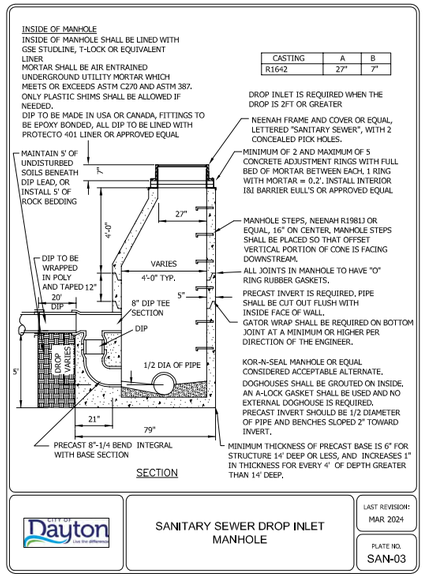
1. ALL DIP FOR SANITARY SEWER LINES SHALL BE POLY-WRAPPED AND ALL BOLTS USED SHALL BE COR-BLU OR APPROVED EQUAL.
2. REFER TO DETAIL SHEETS TO SEE STRUCTURE DETAILS.
3. AFTER INFILTRATION SHELVES ARE EXCAVATED DO NOT DRIVE ON OR STORE MATERIALS IN THAT AREA WHEN APPLICABLE.
4. ALL HYDRANT BENCHMARKS ARE TOP NUT OF HYDRANT.
5. WYE LOCATIONS TO BE SUPPLIED & VERIFIED BY CONTRACTORS. WYE STATIONING IS CALCULATED FROM THE DOWN STREAM MANHOLES.
6. ALL TIES AND DISTANCES ARE TO THE CENTER OF SURFACE STRUCTURES.
7. ALL HYDRANTS AND HYDRANT GATE VALVES ARE RESTRAINED AND TIED BACK TO THE WATERMAIN TEE BY MEANS OF APPROVED MEGALIGS UNLESS OTHERWISE NOTED.
8. ALL SEWER SERVICES (SCHEDULE 40) ARE LOCATED 3 FEET DOWNSTREAM OF WATER SERVICES IF SEWER AND WATER ARE IN THE SAME TRENCH.
9. ALL SEWER AND WATER SERVICES ARE EXTENDED 9 FEET BEYOND THE PROPERTY LINE UNLESS OTHERWISE NOTED.
10. ALL VALVES ON THE WATERMAIN FOR THIS PROJECT SHALL BE GATE VALVES. NO BUTTERFLY VALVES SHALL BE USED ON THE WATERMAIN FOR THIS PROJECT.
11. THE CITY'S CURRENT ENGINEERING GUIDELINES AND SPECIFICATIONS SHALL GOVERN.
12. INSTALL HYDRANTS 5' BEHIND CURB (TYPICAL). INSTALL HYDRANTS 4' BEHIND THE CURB ON THE WALK SIDE OF THE BLVD. PER CITY ENGINEER. POLY WRAP ALL HYDRANT BARRELS. BAG ALL HYDRANTS UNTIL THEY ARE TESTED AND PUT IN SERVICE.
13. ALL 4"-12" WATERMAIN SHALL BE C900 PVC.
14. MECHANICAL BALLS SHALL BE INSTALLED IN SANITARY SEWER AT CONNECTON POINTS FOLLOWING INSTALLATION OF PIPE TO PROTECT EXISTING LINES FROM DEBRIS, & SEDIMENT INFILTRATION. BALLS SHALL REMAIN UNTIL LINES ARE TELEVISED & ACCEPTED BY THE CITY.
15. THE CONTRACTOR SHALL CONTACT THE SEWER AND WATER DEPARTMENT AT LEAST 48 HOURS PRIOR TO ANY PUBLIC SEWER/WATERMAIN CONNECTION.
16. USE AN 8" WIDE EXTERNAL SEAL WRAP, "INF-SHEILD" OR APPROVED EQUAL WITH ALL SANITARY SEWER MANHOLES.
17. ALL SANITARY SEWER MANHOLE ADJUSTING RINGS INSTALLATIONS SHALL HAVE POLYMER I/I BARRIERS BY "STRIKE PRODUCTS" OR APPROVED EQUAL INSTALLED.
18. CONCRETE ADJUSTING RINGS SHALL BE USED ON ALL MANHOLES AND CATCH BASINS.
19. ALL BELOW GRADE BOLTS, T-BOLTS, NUTS AND RODDING SHALL BE ASTM F 593 TYPE 316. THIS APPLIES TO ALL FITTINGS, GATE VALVES, AND HYDRANTS.
20. RESTRAIN VERTICAL BENDS WITH STAINLESS STEEL TIE RODS.
21. ADJUSTMENTS TO THE EXISTING SANITARY SEWER RIM ELEVATIONS SHALL BE MADE USING CONCRETE BARREL SECTIONS TO ENSURE A MINIMUM OF 2 AND A MAXIMUM OF 5 ADJUSTMENT RINGS ARE PLACED ON EACH STRUCTURE.
22. SPRAY IN LINERS WILL BE REQUIRED WHERE DROP MANHOLES ARE INSTALLED ON EXISTING STRUCTURES.
23. ALL CONTRACTOR VEHICLES SHALL BE PARKED WITHIN THE CONSTRUCTION LIMITS.
24. GASKET CONNECTIONS REQUIRED FOR SANITARY MANHOLES PLACED OVER EXISTING SANITARY SEWER LINES.
25. CURB STOPS ARE REQUIRED AT ALL PLUGS AND TAILS.
26. ALL SANITARY SEWER DROP MANHOLES SHALL BE LINED PER CITY OF DAYTON DETAIL SAN-03.
27. SANITARY SEWER MATERIAL SHALL BE AS LISTED:
    8" - SDR 35 AT DEPTHS OF 0'-15', SDR 26 AT DEPTHS OF 15'-25'
    12" - C-900 AT DEPTHS 25'+
    20" - C-905 DR18 AT DEPTHS 25'+
    21" - SDR 35 AT DEPTHS OF 0'-15', SDR 26 AT DEPTHS OF 15'-25'

S&W INDICATES SANITARY & WATERMAIN SERVICE
X+XX INDICATES SANITARY SERVICE STATION (FROM DOWNSTREAM MANHOLE)
XXX.X INDICATES SERVICE ELEVATION
X R INDICATES RISER HEIGHT (IF NEEDED)

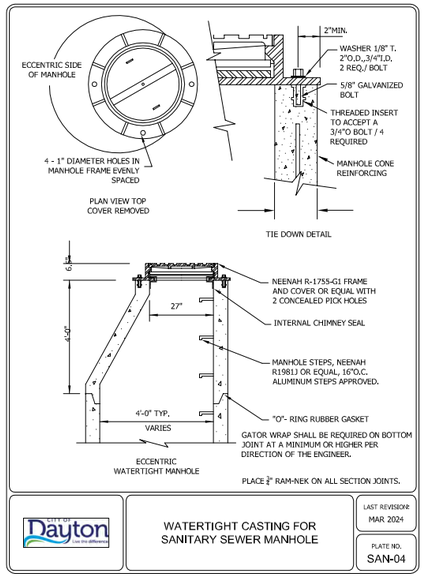
CBOX: INDICATES CURB STOP SERVICE
XXX.X INDICATES CURB STOP ELEVATION



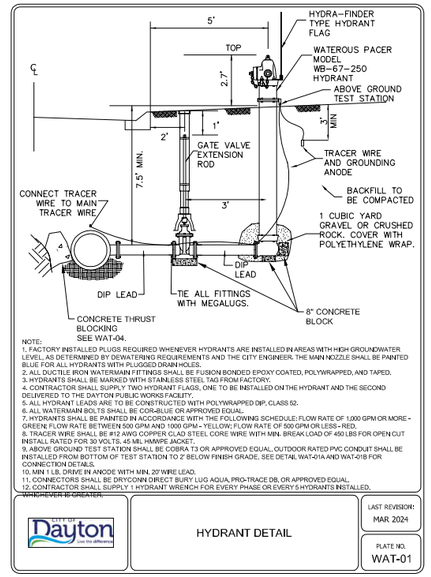
SANITARY SEWER MANHOLE — LAST REVISION: MAR 2024 — PLATE NO. SAN-01



SANITARY SEWER DROP INLET MANHOLE — LAST REVISION: MAR 2024 — PLATE NO. SAN-03



WATERTIGHT CASTING FOR SANITARY SEWER MANHOLE — LAST REVISION: MAR 2024 — PLATE NO. SAN-04



HYDRANT DETAIL — LAST REVISION: MAR 2024 — PLATE NO. WAT-01

LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE	W S	W S
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS	CO	CO
SANITARY STUCTURE LABEL	(SAN)	(SAN)
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

NORTH

200 100 0 100 200 400
SCALE IN FEET

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Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
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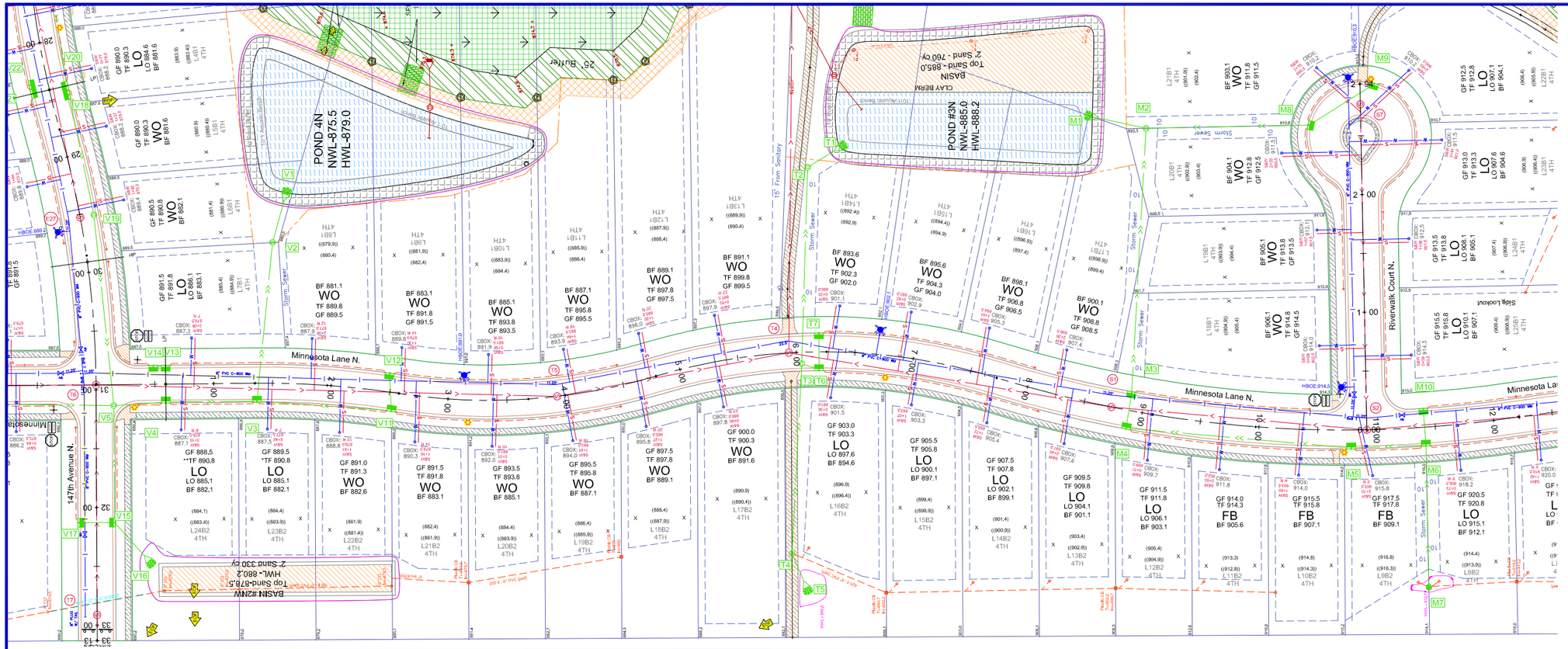
DAYTON, MINNESOTA

FINAL SANITARY SEWER & WATERMAIN PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO. 3120-082-400

393

7
31


POND 4N
NWL-875.5
HWL-879.0
POND #3N
NWL-885.0
HWL-888.2
BASIN
Top Sand - 885.0
2' Sand - 760 cy
BASIN #2NW
Top Sand-878.5
HWL- 880.2
2' Sand 330 cy
25' Buffer
Minnesota Lane N.
147th Avenue N.
Riverwalk Court N.
Storm Sewer
15" From Sanitary
CLAY BERM
MH T1
MH T2
MH T3
MH T4
MH T5
MH T6
MH T7
S1
S2
M1
M2
M3
M4
M5
M6
M7
M8
M9
M10
V1
V2
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V14
V15
V16
V17
V18
V19
V20
V21
V22
E27
HBOE 889.2
HBOE 891.0
HBOE 902.1
HBOE 905.3
HBOE 907.4
HBOE 914.0
HBOE 914.5
HBOE 915.2
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HBOE 915.6
HBOE 915.7
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HBOE 915.9
HBOE 916.0
HBOE 916.1
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HBOE 917.0
HBOE 917.1
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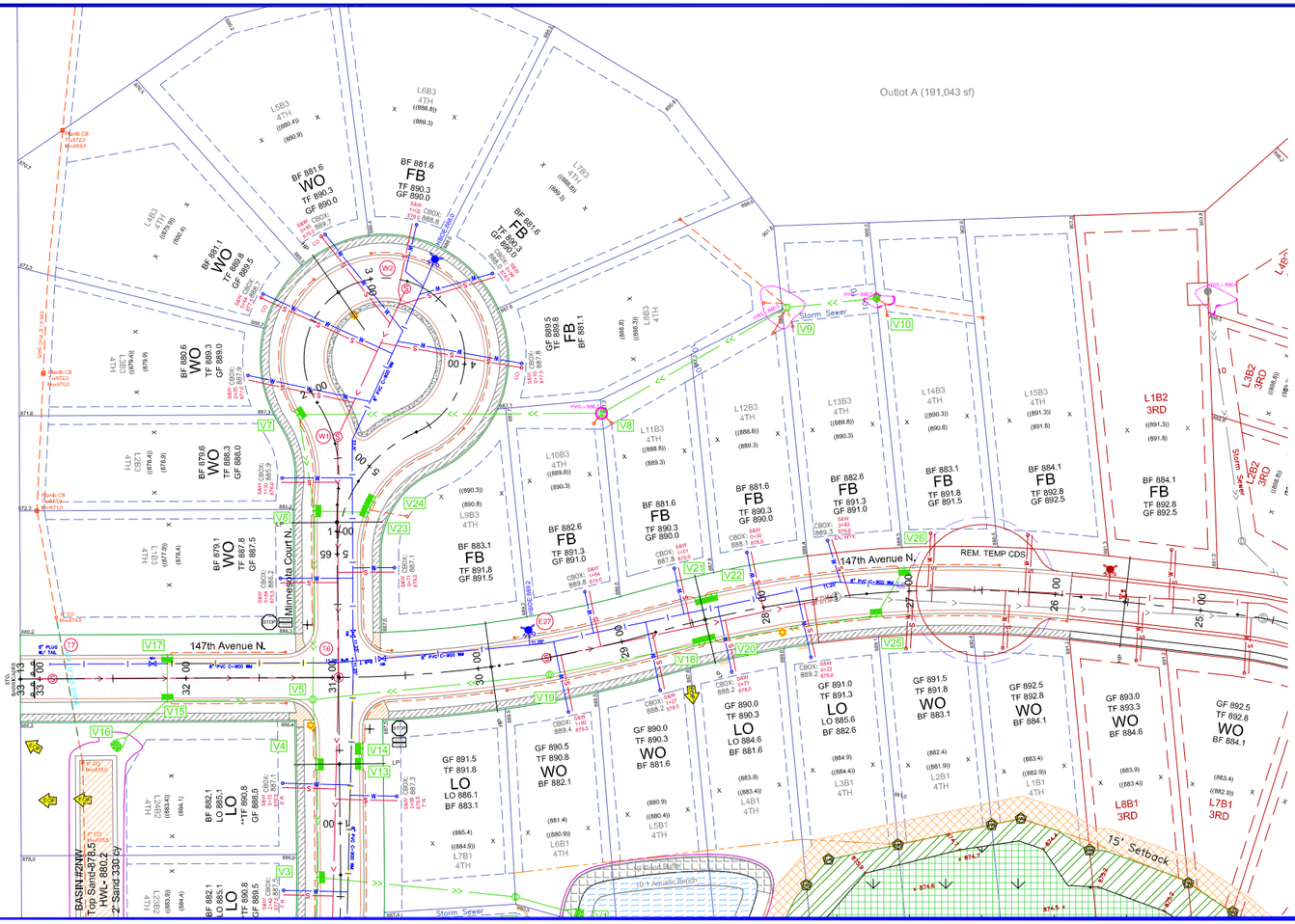

LEGEND

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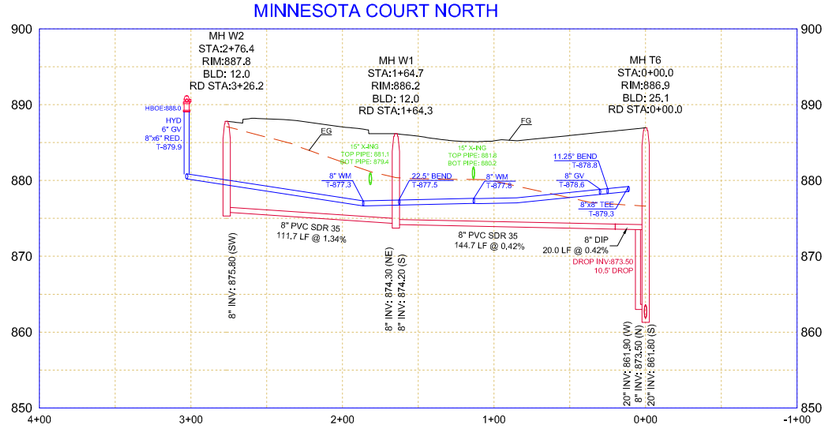
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL	(SHS)	(SHS)
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

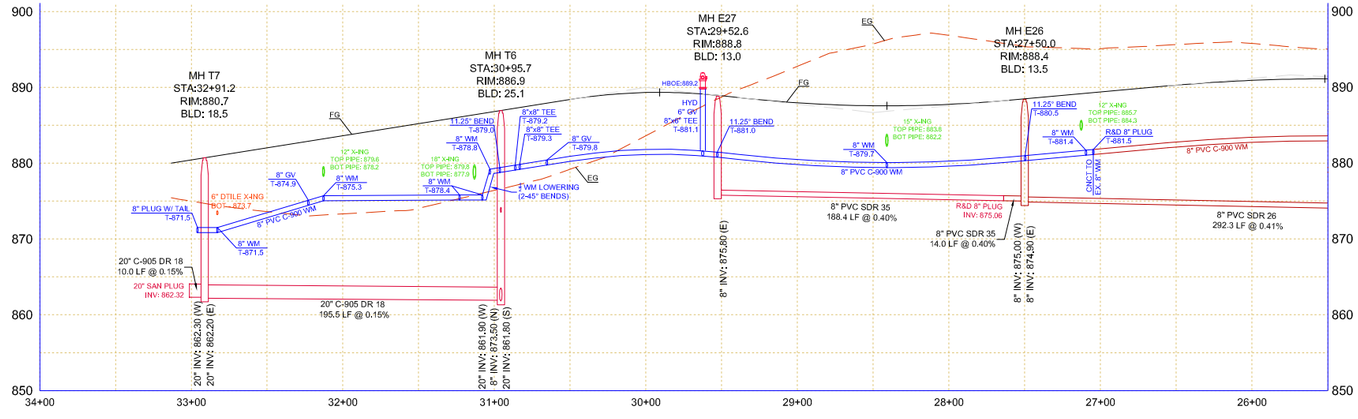
NORTH

50 25 0 25 50 100
SCALE IN FEET

MINNESOTA COURT NORTH



147TH AVENUE NORTH



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RW4	-	-	-	-
DRAWN BY				
MJV				
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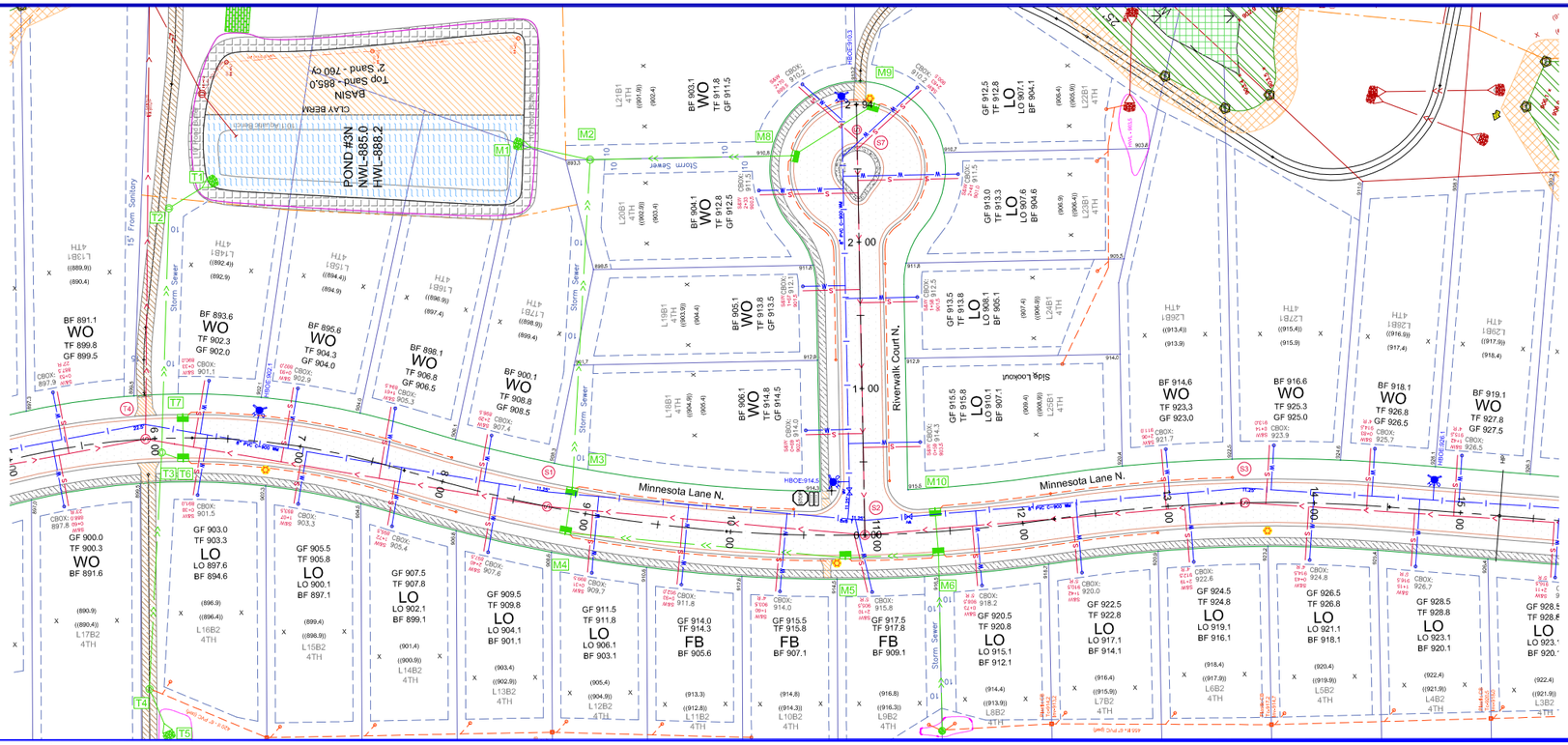
ROBERT S. MOLSTAD, P.E.
Date: _____ Llc. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--
DAYTON, MINNESOTA

FINAL SEWER & WATERMAIN PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400



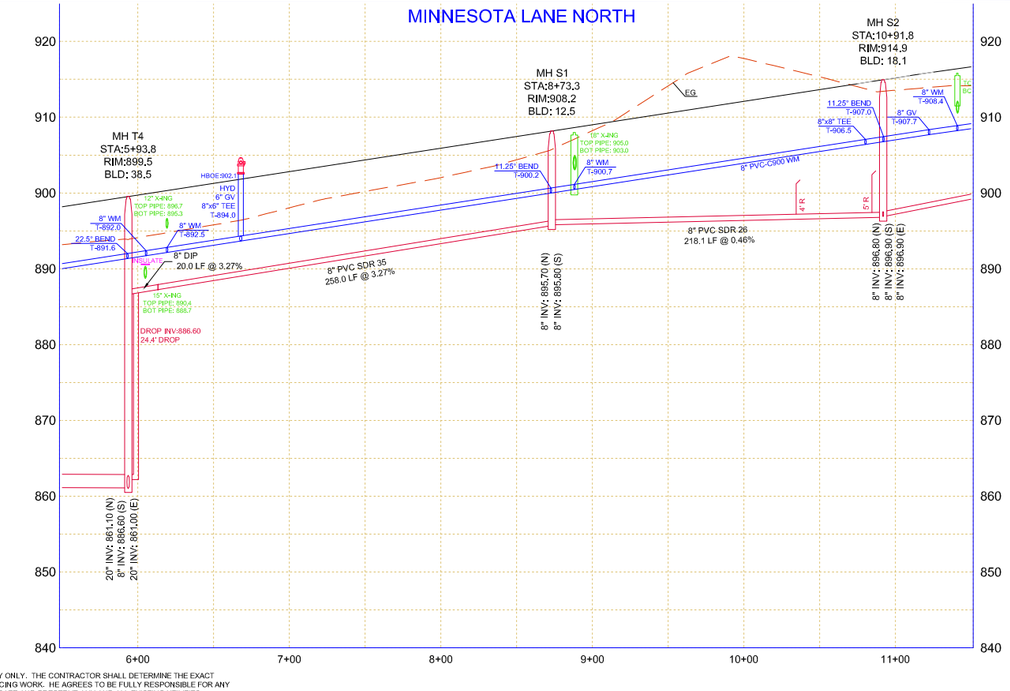
LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL	(S1)	(S1)
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

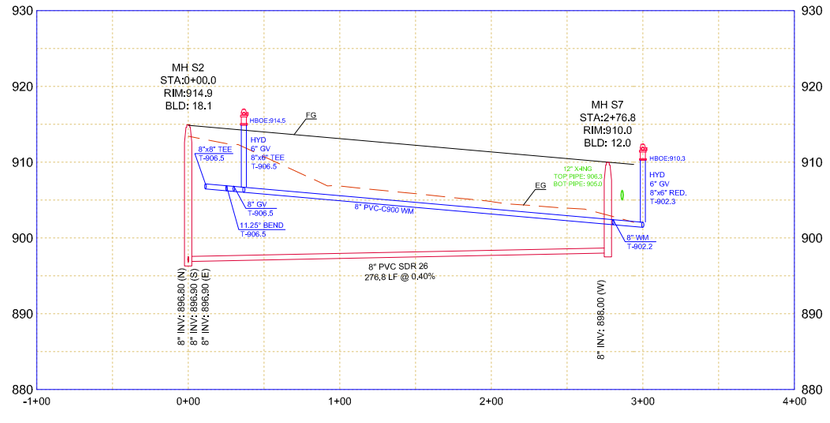
NORTH

50 25 0 25 50 100
SCALE IN FEET

MINNESOTA LANE NORTH



RIVERWALK COURT NORTH



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FINAL SEWER & WATERMAIN PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

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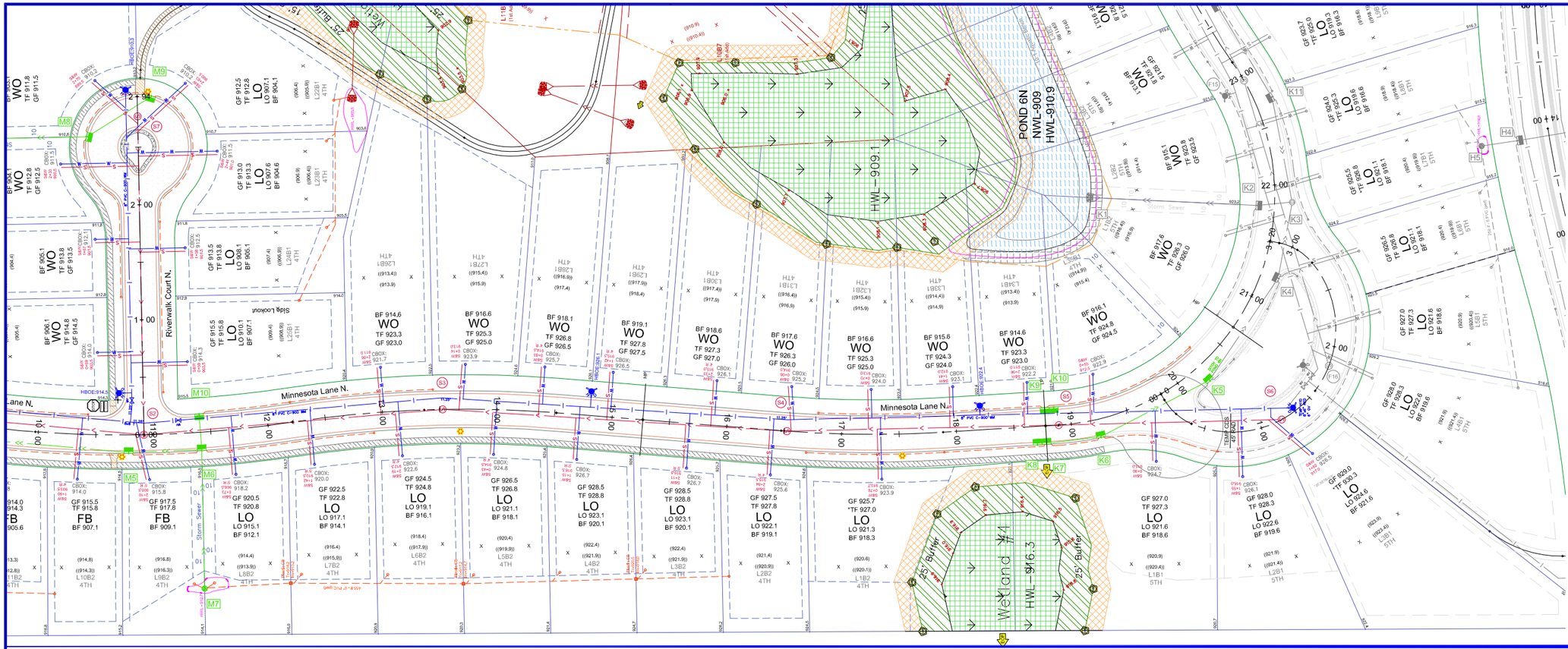

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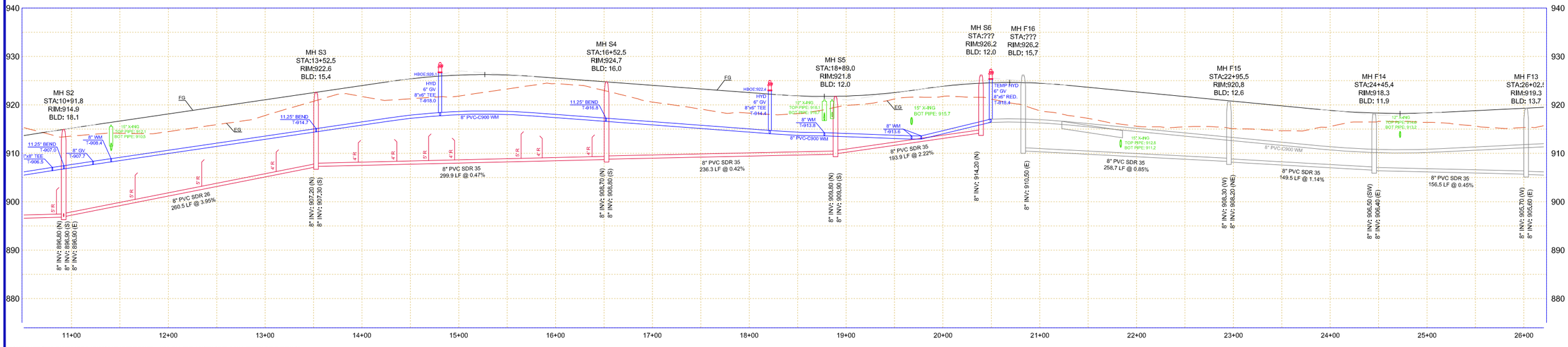
RIGHT-OF-WAY		
SAN/WM SERVICE	S W	S W
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL	(S1)	(S1)
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

MINNESOTA LANE NORTH



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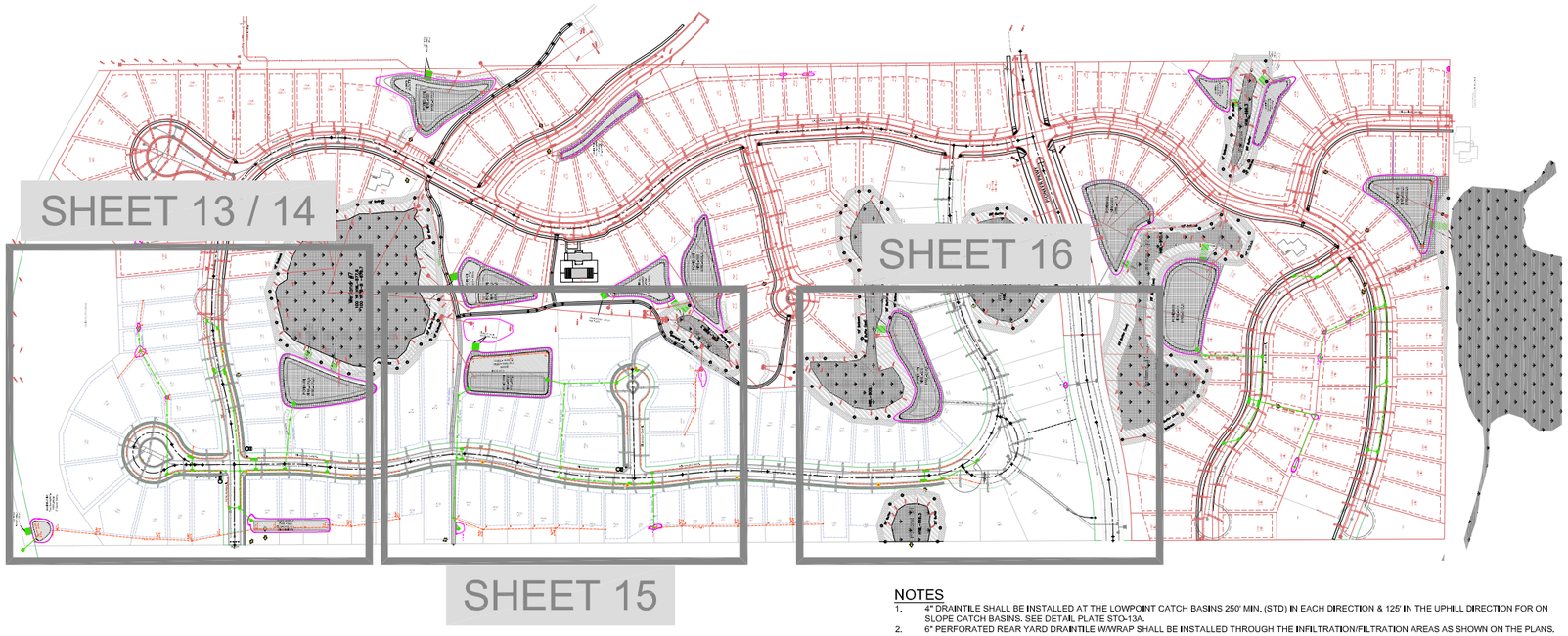

NOTES
1. 4" DRAINTILE SHALL BE INSTALLED AT THE LOWPOINT CATCH BASINS 250' MIN. (STD) IN EACH DIRECTION & 125' IN THE UPHILL DIRECTION FOR ON SLOPE CATCH BASINS. SEE DETAIL PLATE STO-13A.
2. 6" PERFORATED REAR YARD DRAINTILE W/WRAP SHALL BE INSTALLED THROUGH THE INFILTRATION/FILTRATION AREAS AS SHOWN ON THE PLANS.
3. TRASH GUARDS SHALL BE PLACED ON ALL FLARED END SECTIONS.
4. TIE ALL PIPE JOINTS BETWEEN STORM SEWER APRONS AND UPSTREAM STRUCTURE.
5. WIMCO'S OR APPROVED EQUAL TO BE INSTALLED AT ALL STORM INLETS.
6. GRANULAR MATERIAL SHALL BE PLACED UNDER STORM SEWER PIPE OR STRUCTURES THAT ARE LESS THAN 48" BELOW FINISHED GRADE AND EXTEND TO AT LEAST 48" BELOW FINISHED GRADE.
7. RIP-RAP FOR STORM SEWER SHALL BE CONSTRUCTED USING GRANITE ROCK,1' DIAMETER OR LARGER AND SHALL BE HAND PLACED.
8. ALL ADJUSTING RINGS TO BE CONCRETE.
9. ALL EXISTING STORM SEWER PIPES NOT BEING REMOVED MUST FUNCTION AFTER ROADWORK HAS BEEN COMPLETED.
10. IF ACTUAL DRIVEWAY LOCATIONS CONFLICT WITH CB LOCATIONS, CB'S SHALL BE REPLACED BY DEVELOPER WITH A MOUNTABLE CASTING AS APPROVED BY THE CITY.

STRUCTURE TABLE							
STRUCTURE NAME	TYPE	DIAMETER	RIM	BUILD	INV	CASTING	NOTES
K5	CBMH	48.0"	923.9	8.1'	915.8	R-3067-V	
K6	CBMH	48.0"	921.4	5.2'	916.2	R-3067-V	
K7	CBMH	48.0"	921.1	4.7'	916.4	R-3067-B	
K8	CB	2'x3'	921.1	4.3'	916.8	R-3067-V	
K9	CBMH	48.0"	921.1	4.0'	917.1	R-3067-B	
K10	CB	2'x3'	921.1	3.6'	917.5	R-3067-V	
M2	STMH	48.0"	897.4	13.8'	883.6	R1642	
M3	CBMH	48.0"	908.0	7.9'	900.1	R-3067-V	3' SUMP
M4	CBMH	48.0"	908.0	4.6'	903.4	R-3067-V	
M5	CBMH	48.0"	913.9	6.0'	907.9	R-3067-V	
M6	CBMH	48.0"	915.8	8.8'	907.0	R-3067-V	
M7	CB	27.0"	912.0	4.0'	908.0	R-4342	
M8	CBMH	48.0"	910.0	8.7'	901.3	R-3067-V	3' SUMP
M9	CB	2'x3'	909.3	4.0'	905.3	R-3067-B	
M10	CB	2'x3'	915.8	4.0'	911.8	R-3067-V	
T2	STMH	48.0"	892.2	6.1'	886.1	R1642	
T3	STMH	48.0"	899.5	10.5'	889.0	R1642	
T4	STMH	48.0"	893.9	4.3'	889.6	R1642	
T6	CBMH	48.0"	899.7	4.7'	895.0	R-3067-V	
T7	CB	2'x3'	899.7	4.0'	895.7	R-3067-V	
V2	CBMH	48.0"	880.2	4.4'	875.8	R-4342	
V3	CBMH	48.0"	886.4	12.7'	873.7	R-3067-V	3' SUMP
V4	CBMH	48.0"	885.5	8.5'	877.0	R-3067-B	
V5	STMH	72.0"	885.9	8.4'	877.5	R1642	
V6	CBMH	48.0"	884.4	5.6'	878.8	R-3067-B	

STRUCTURE TABLE							
STRUCTURE NAME	TYPE	DIAMETER	RIM	BUILD	INV	CASTING	NOTES
V7	CBMH	48.0"	886.3	6.8'	879.5	R-3067-V	
V8	CBMH	48.0"	886.0	5.8'	880.2	R-4342	
V9	CBMH	48.0"	885.0	4.3'	880.7	R-4342	
V10	CB	27.0"	886.0	4.0'	882.0	R-4342	
V11	CBMH	48.0"	888.4	4.9'	883.5	R-3067-V	
V12	CB	2'x3'	888.2	4.0'	884.2	R-3067-B	
V13	CBMH	48.0"	885.5	4.3'	881.2	R-3067-B	
V14	CB	2'x3'	885.6	4.0'	881.6	R-3067-V	
V15	CBMH	48.0"	882.7	4.7'	878.0	R-3067-V	
V17	CB	2'x3'	882.7	4.1'	878.6	R-3067-V	
V18	CBMH	48.0"	887.0	4.9'	882.1	R-3067-V	
V19	STMH	48.0"	888.5	7.7'	880.8	R1642	
V20	CBMH	48.0"	887.0	4.8'	882.2	R-3067-B	
V21	CBMH	48.0"	887.0	4.4'	882.6	R-3067-B	
V22	CB	2'x3'	887.0	4.0'	883.0	R-3067-V	
V23	CBMH	48.0"	884.4	3.8'	880.6	R-3067-B	
V24	CB	2'x3'	885.1	4.1'	881.0	R-3067-V	
V25	CBMH	48.0"	888.3	4.3'	884.0	R-3067-V	
V26	CB	2'x3'	888.7	4.0'	884.7	R-3067-V	

FES TABLE				
Structure Name	TYPE	SIZE (IN.)	INV	C.Y. RIP RAP
M1	FES	21	885.1	12
T1	FES	18	885.1	10
T5	FES	12	891.0	8
V1	FES	30	875.5	16
V16	FES	24	878.3	13
Y47	FES	18	858.5	10

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CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL	MH1	MH1
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

OUTLET STRUCTURE TABLE			
Structure Name	TYPE	INV	DETAIL
Y46	OCS	859.00	SEE STRUCTURE DETAIL

NORTH
200 100 0 100 200 400
SCALE IN FEET

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RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO. 3120-082-400

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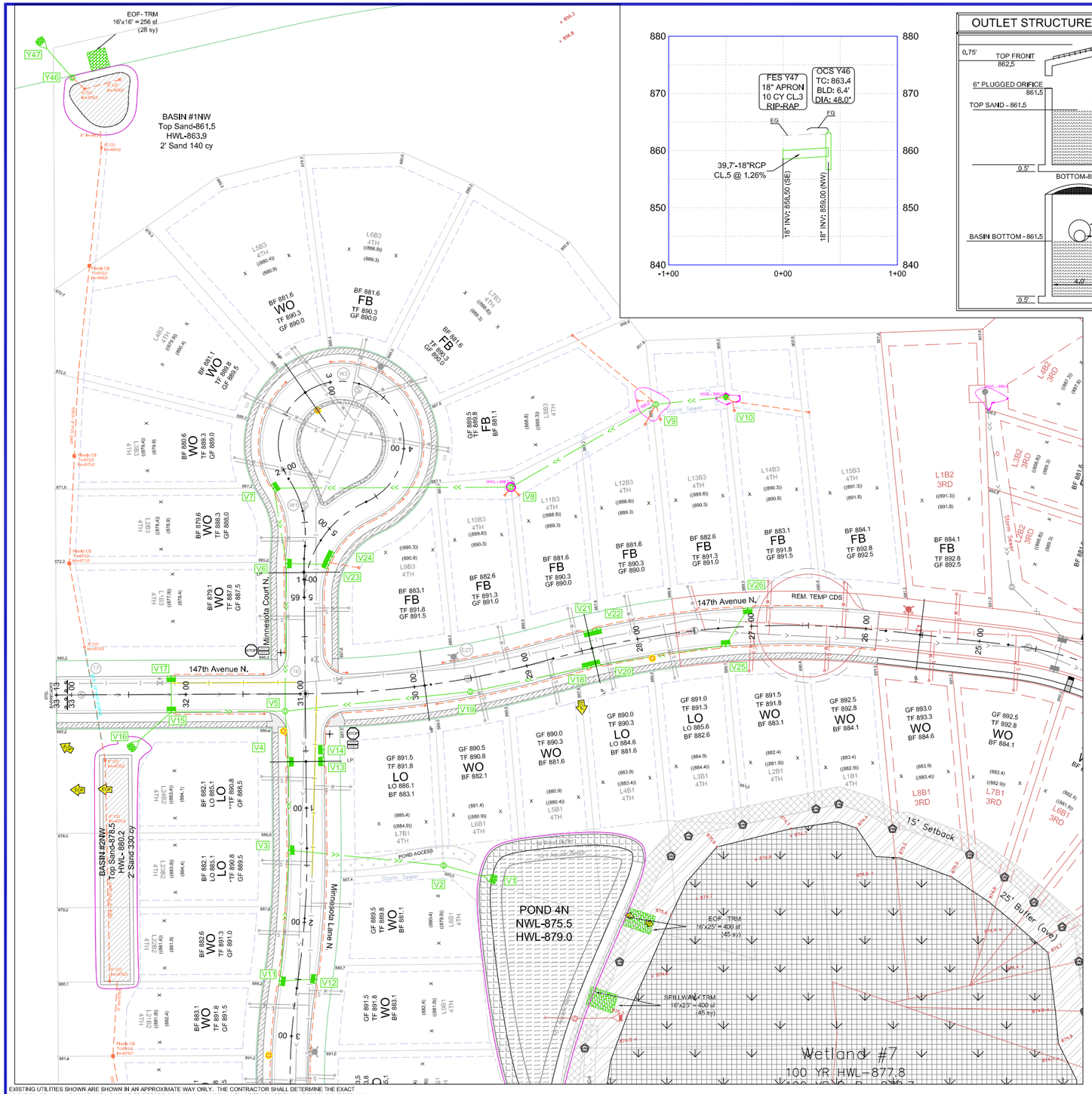

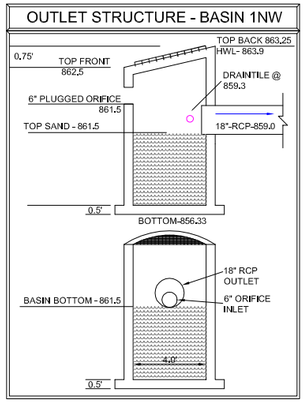

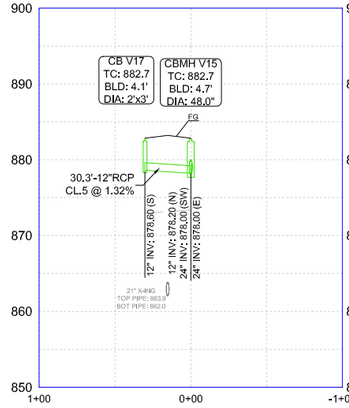

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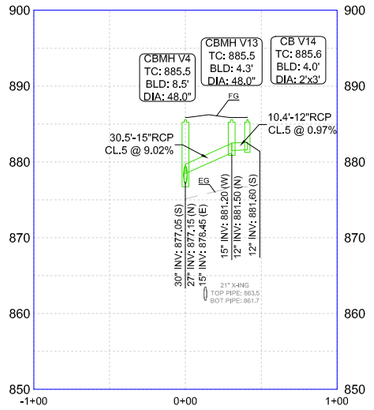
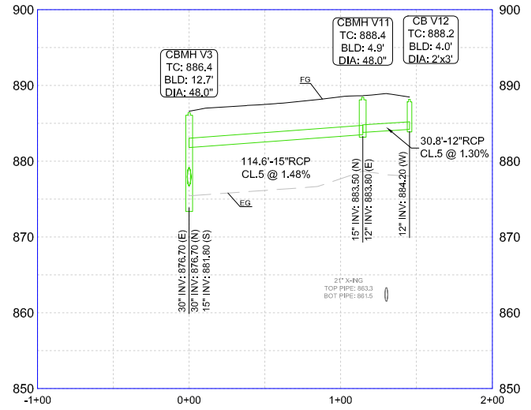
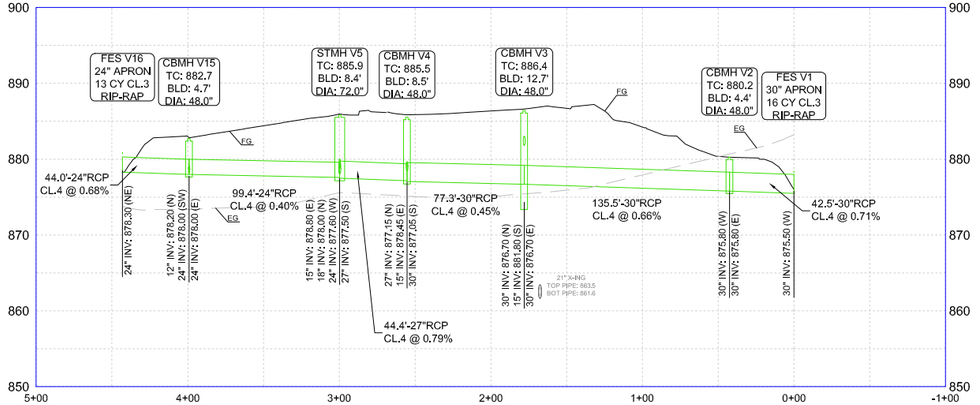
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS	CO	CO
SANITARY STUCTURE LABEL	(MH)	(MH)
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		







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50 25 0 25 50 100
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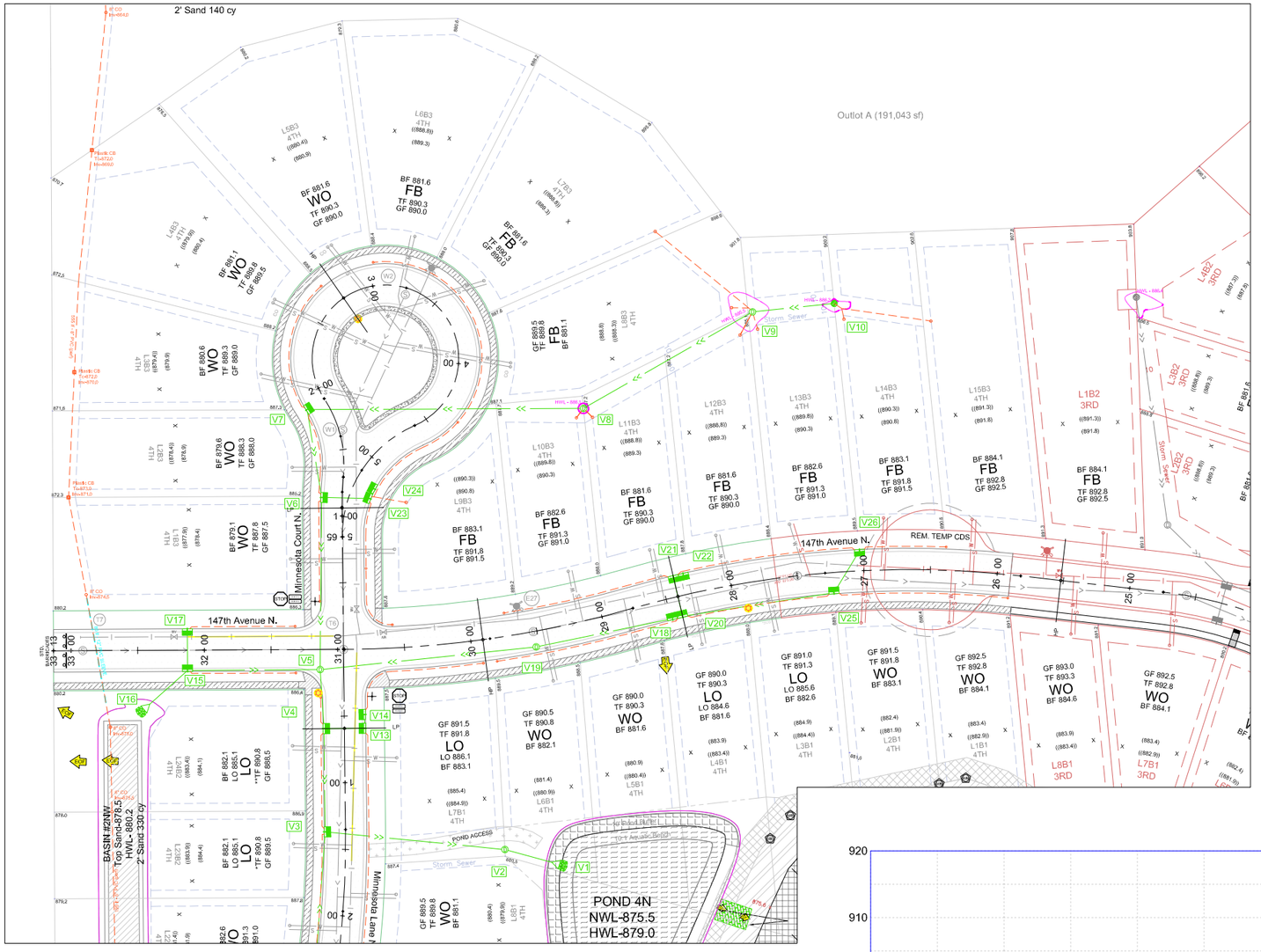

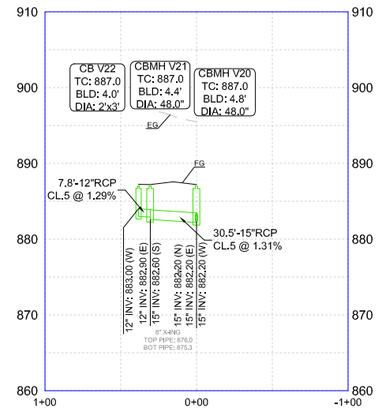

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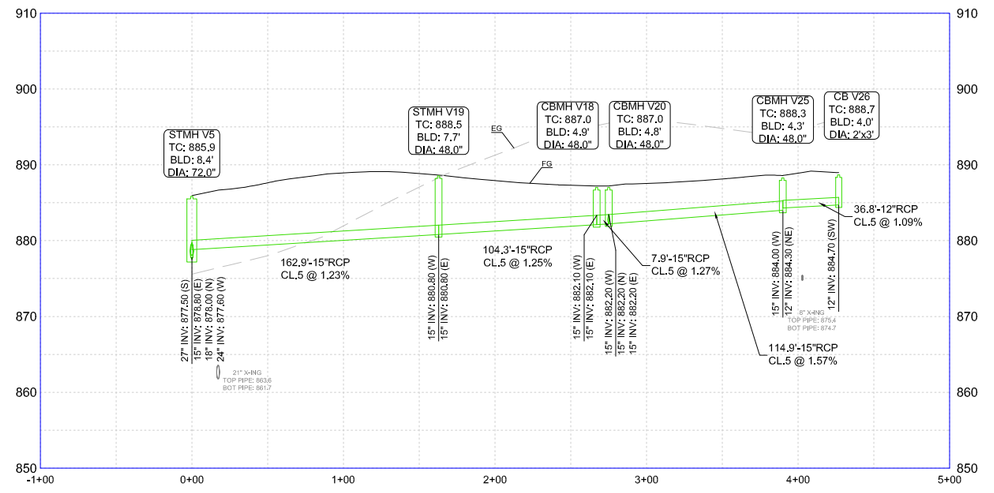
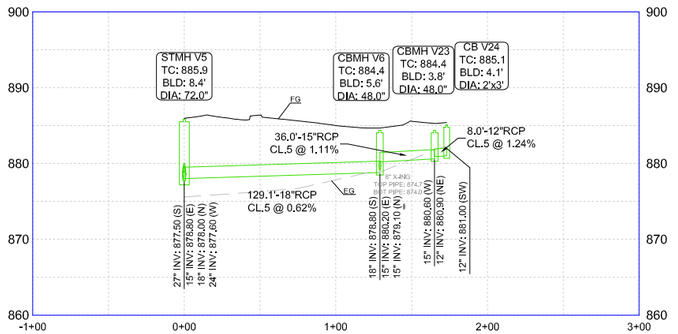
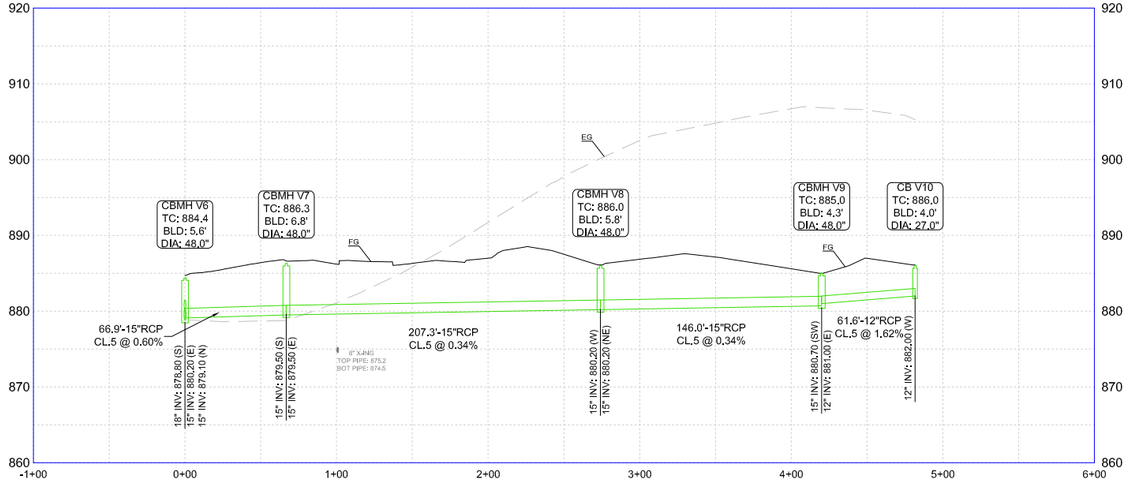
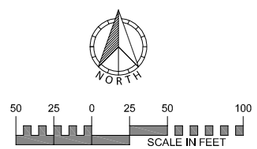
SANITARY STUCTURE LABEL	(SAN)	(SAN)
SANITARY SEWER MANHOLE	S	S
WATERMAIN	W	W
HYDRANT		
GATE VALVE		









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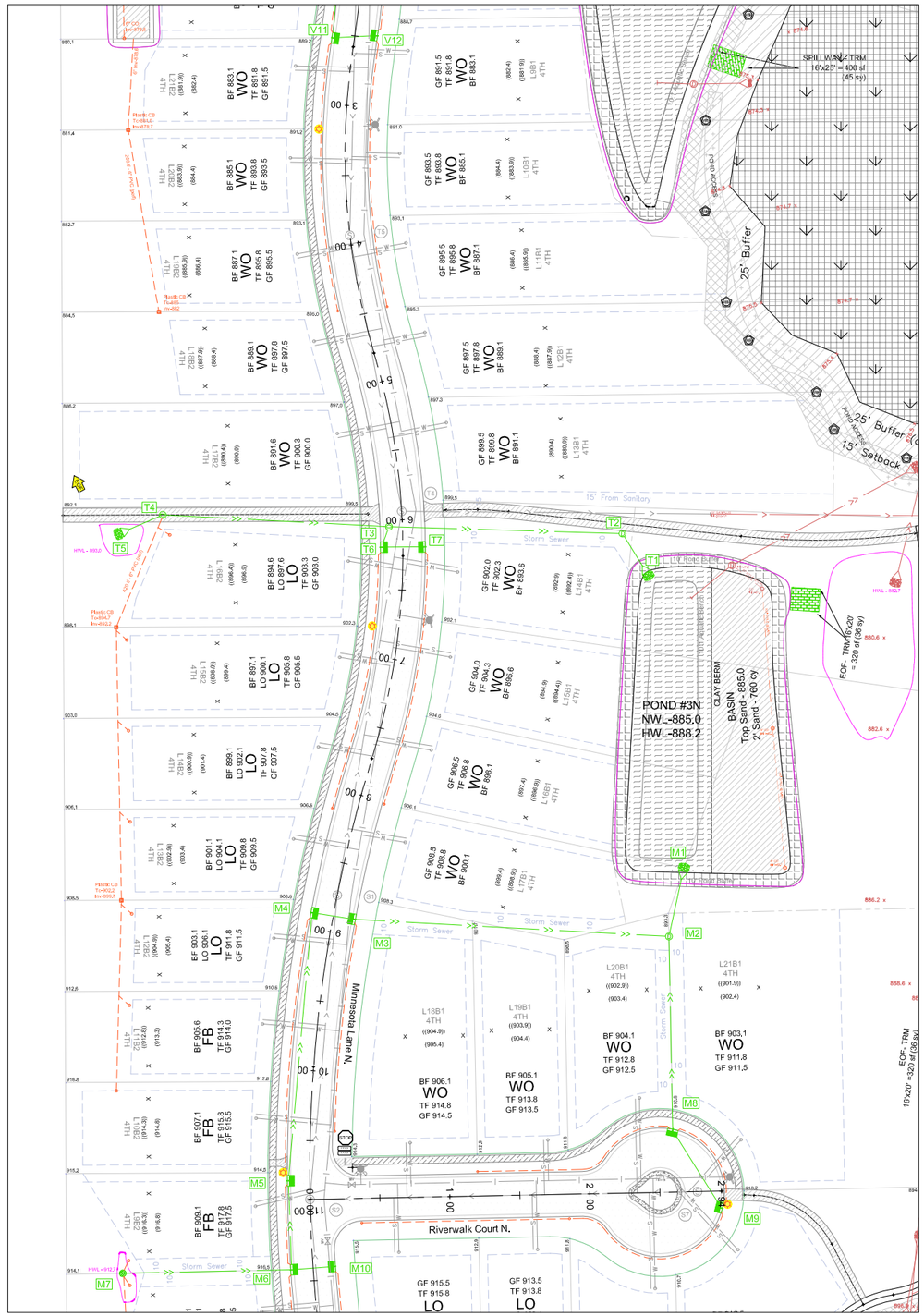
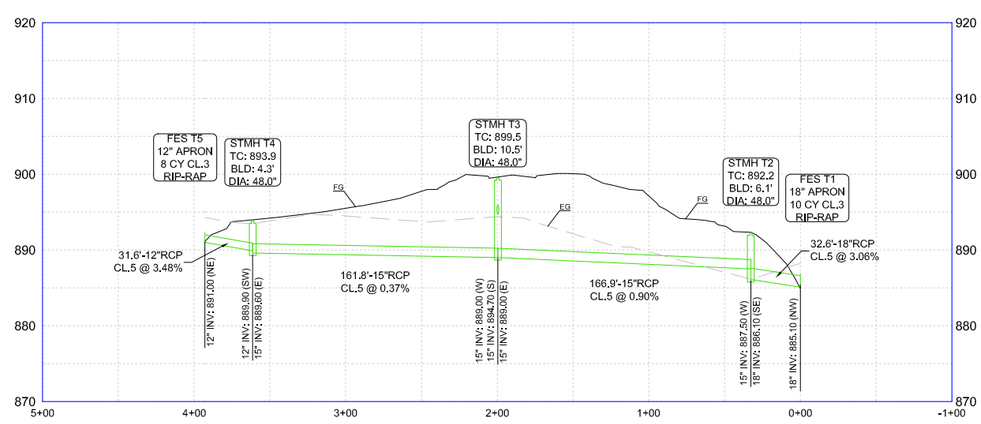
FILE NO.
3120-082-400



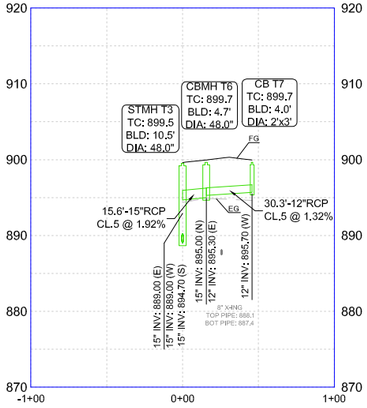


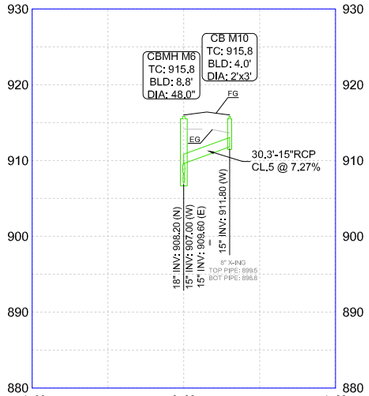
LEGEND

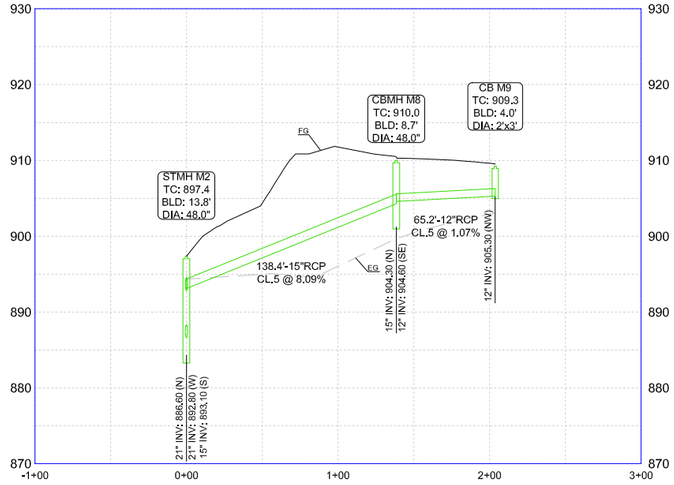
DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

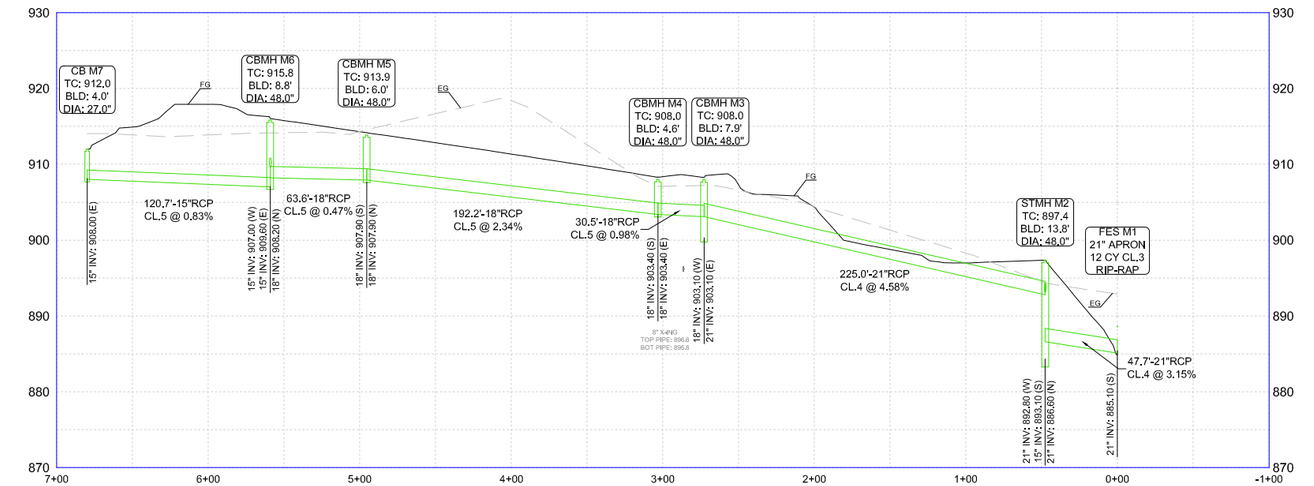
NORTH

50 25 0 25 50 100
SCALE IN FEET









EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

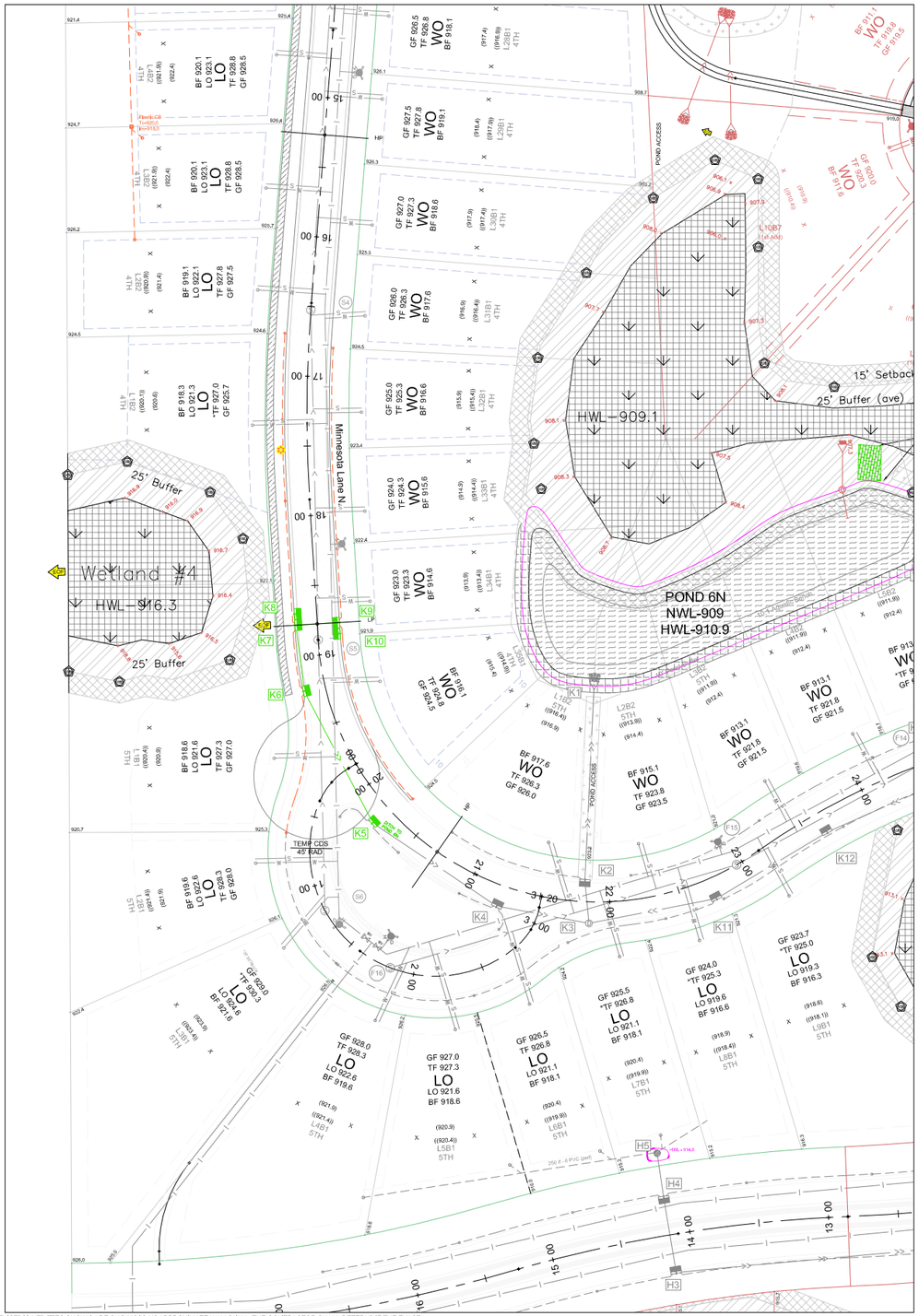
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

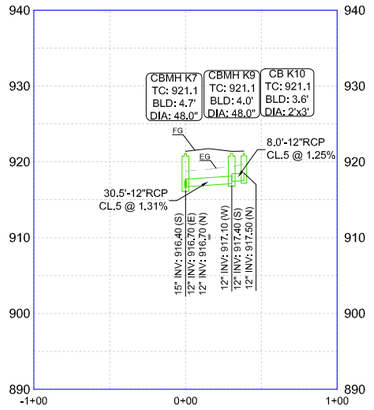
CITY PROJECT NO.

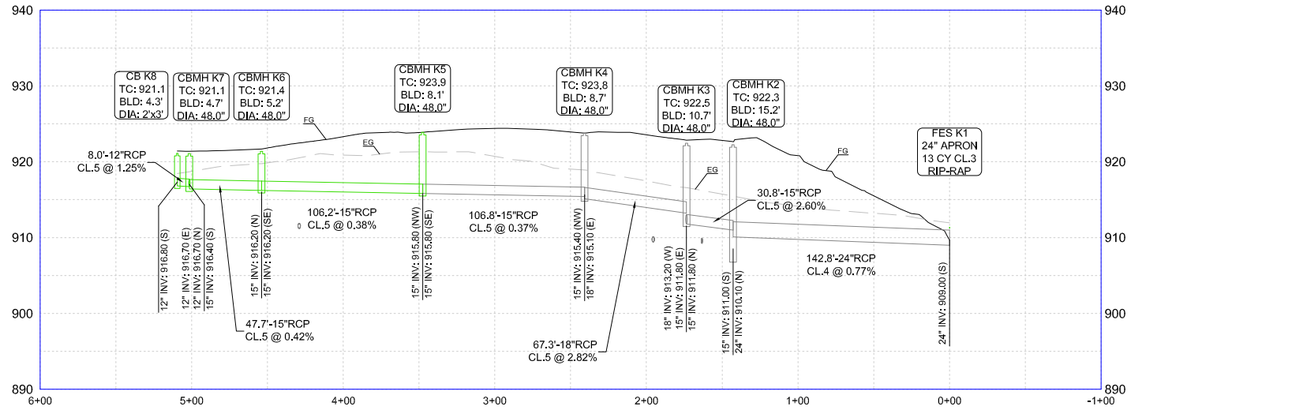
DAYTON, MINNESOTA

FINAL STORM SEWER PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400







LEGEND

DESCRIPTION	PROPOSED	EXISTING
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
SAN/WM SERVICE		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIP-RAP		
STORM STUCTURE LABEL	CB H3	CB H3
DRAINTILE W/CLEANOUTS		
SANITARY STUCTURE LABEL		
SANITARY SEWER MANHOLE		
WATERMAIN		
HYDRANT		
GATE VALVE		

NORTH

50 25 0 25 50 100
SCALE IN FEET

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--

DAYTON,
MINNESOTA

FINAL STORM SEWER PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

402

FILE NO.
3120-082-400

16
31

SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	870	958
MAJOR CONTOUR	870	960
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

ENTIRE SITE GRADED
WITH 1ST ADDITION

Additional +/- 27 ft of ROW (36,305 sf)

Outlot A (191,043 sf)

EOF- TRM
16'x16' = 256 sf
(28 sy)

BASIN #1NW
Top Sand-861.5
HWL-863.
2' Sand 140 cy

147th Avenue N.

Minnesota Court N.

Kingsview Court N.

Kingsview Lane N.

Storm Sewer

Watermain

REM. TEMP CDS

15' Setback

455 LF - SILT PE

POND ACCESS

4" PVC - COND FORCEMAIN

12" HDPE Raw Water Line

NORTH

50 25 0 25 50 100
SCALE IN FEET

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DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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ROBERT S. MOLSTAD, P.E.
Date: _____ Llc. No. _____

ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--

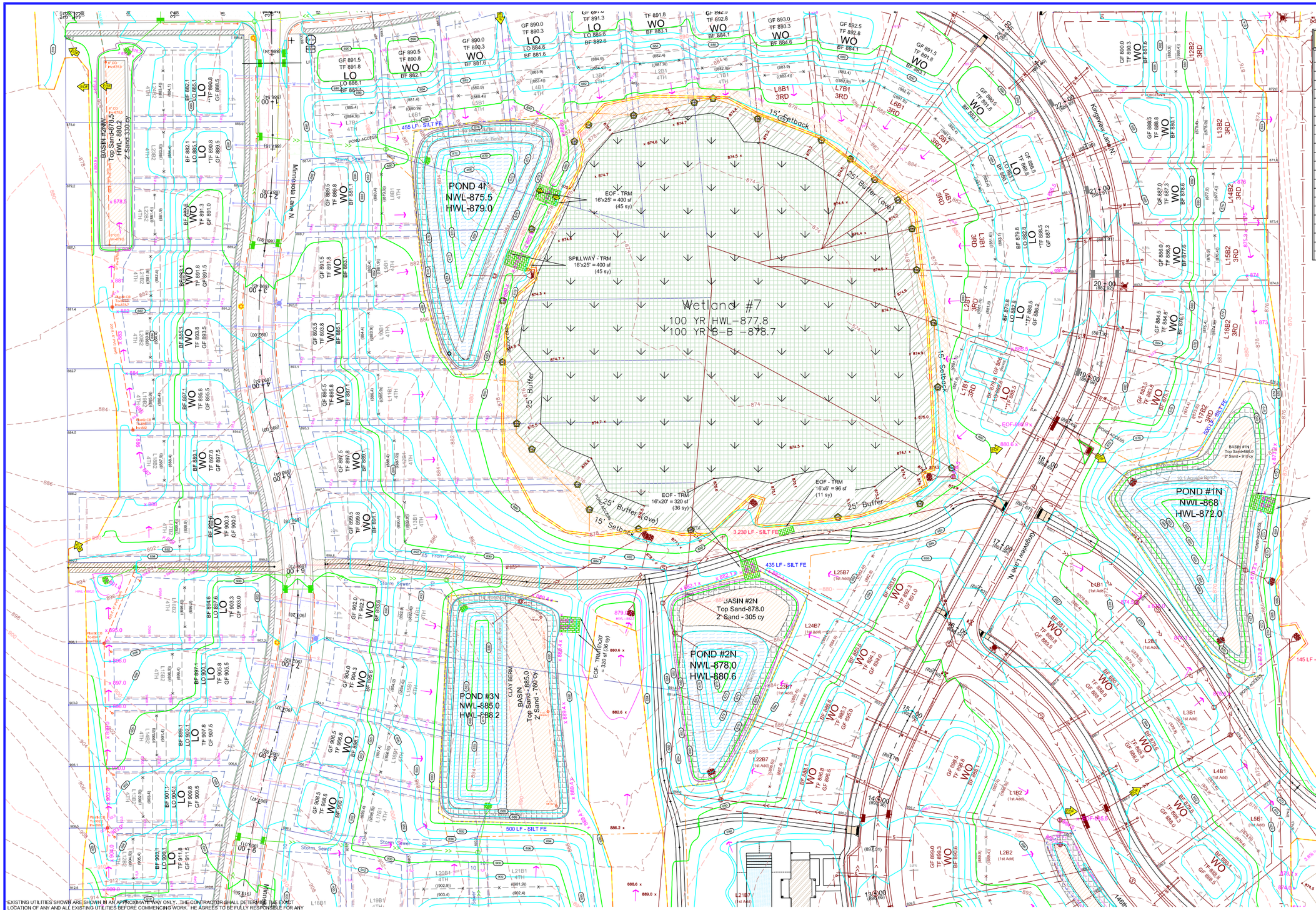
DAYTON,
MINNESOTA

FINAL GRADING PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

403

FILE NO.
3120-082-400

17
31



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	876	876
MAJOR CONTOUR	880	880
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

ENTIRE SITE GRADED
WITH 1ST ADDITION

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

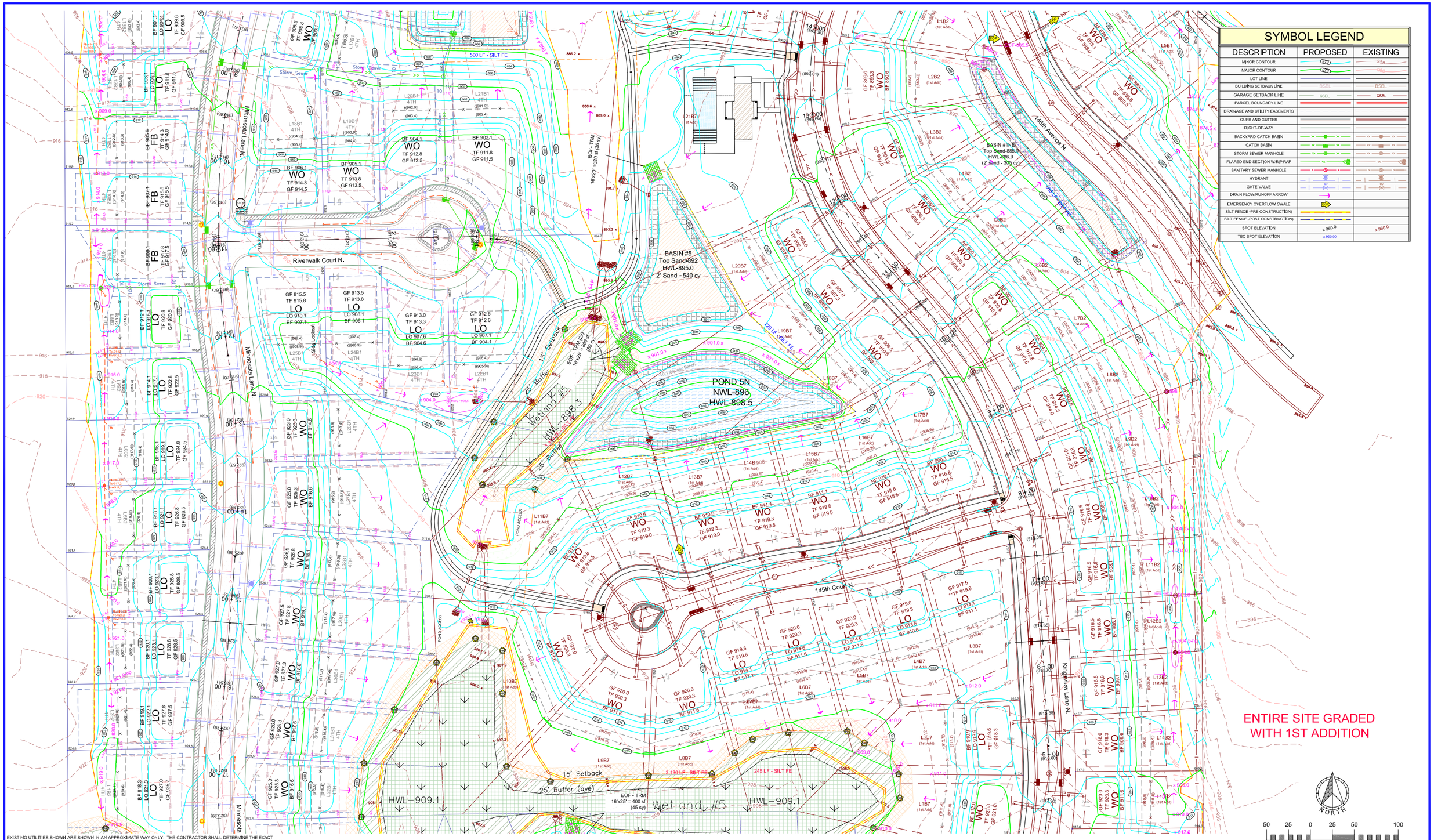
CITY PROJECT NO.
--

DAYTON,
MINNESOTA

FINAL GRADING PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC 404

FILE NO.
3120-082-400

18
31



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	902	902
MAJOR CONTOUR	900	900
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

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DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

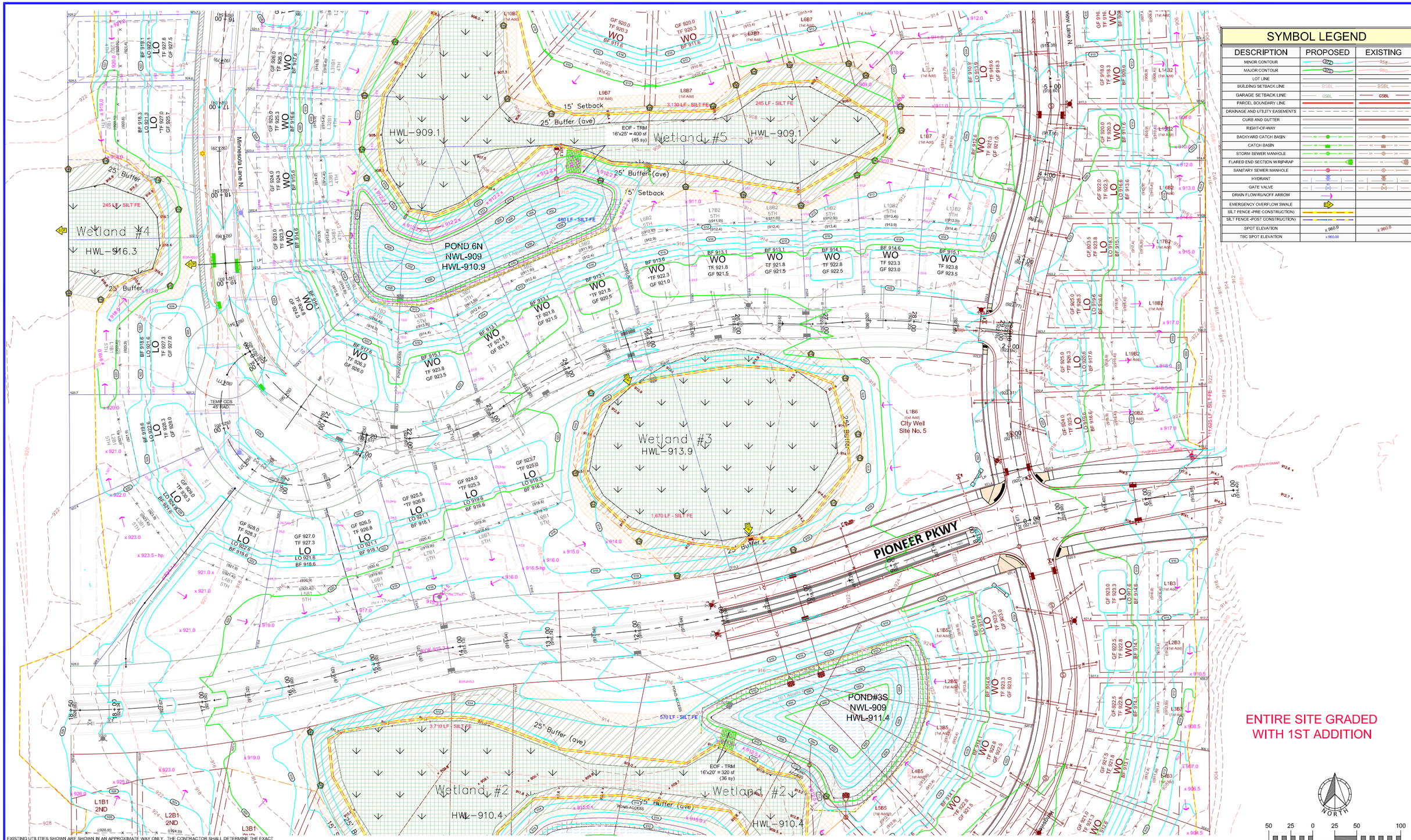
CITY PROJECT NO.

DAYTON, MINNESOTA

FINAL GRADING PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC 405

FILE NO.
3120-082-400

19
31



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	920	920
MAJOR CONTOUR	920	920
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

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DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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Date: _____ Llc. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
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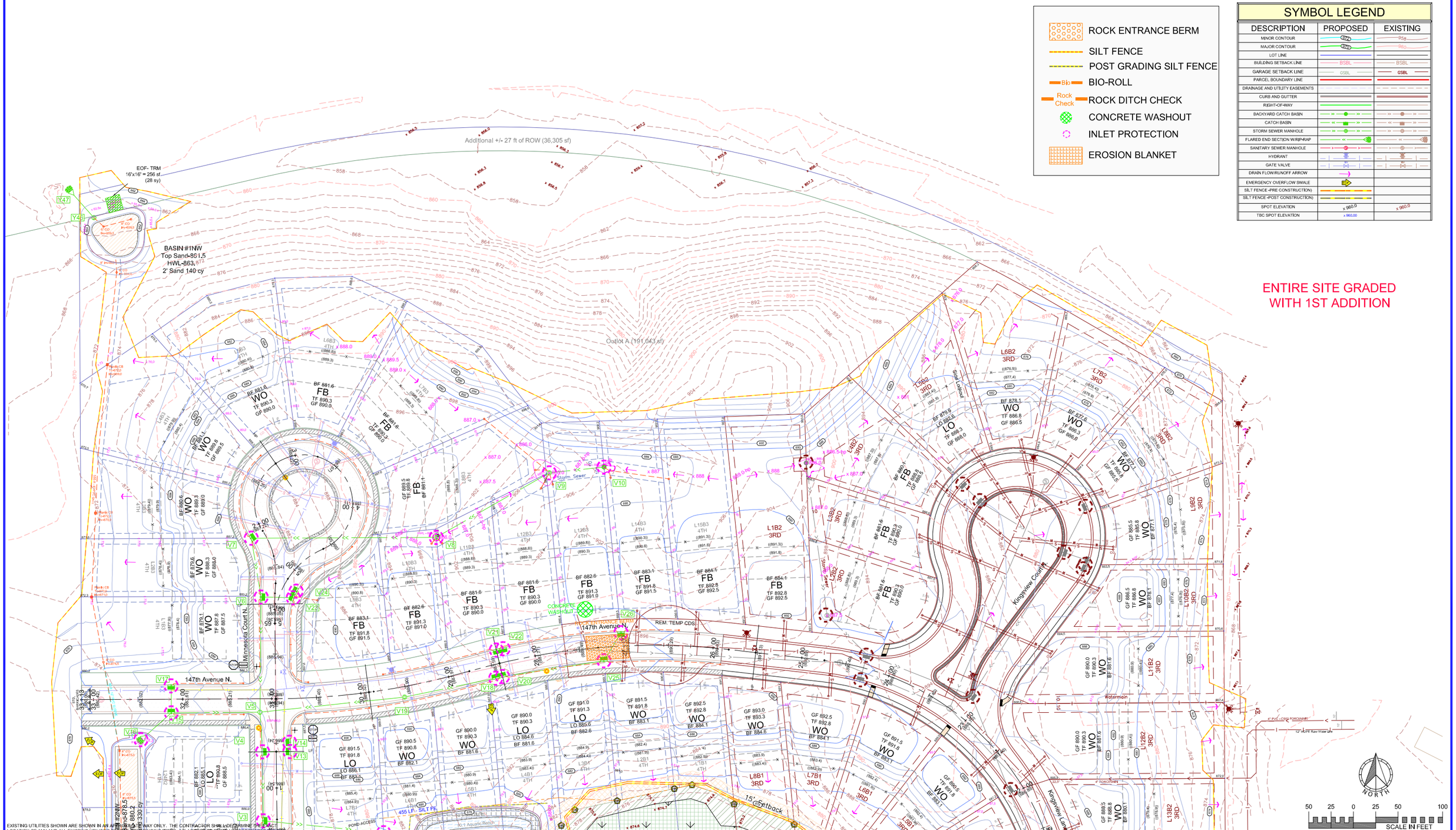
DAYTON, MINNESOTA

FINAL GRADING PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO. 3120-082-400



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	870	858
MAJOR CONTOUR	875	860
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

ENTIRE SITE GRADED
WITH 1ST ADDITION

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

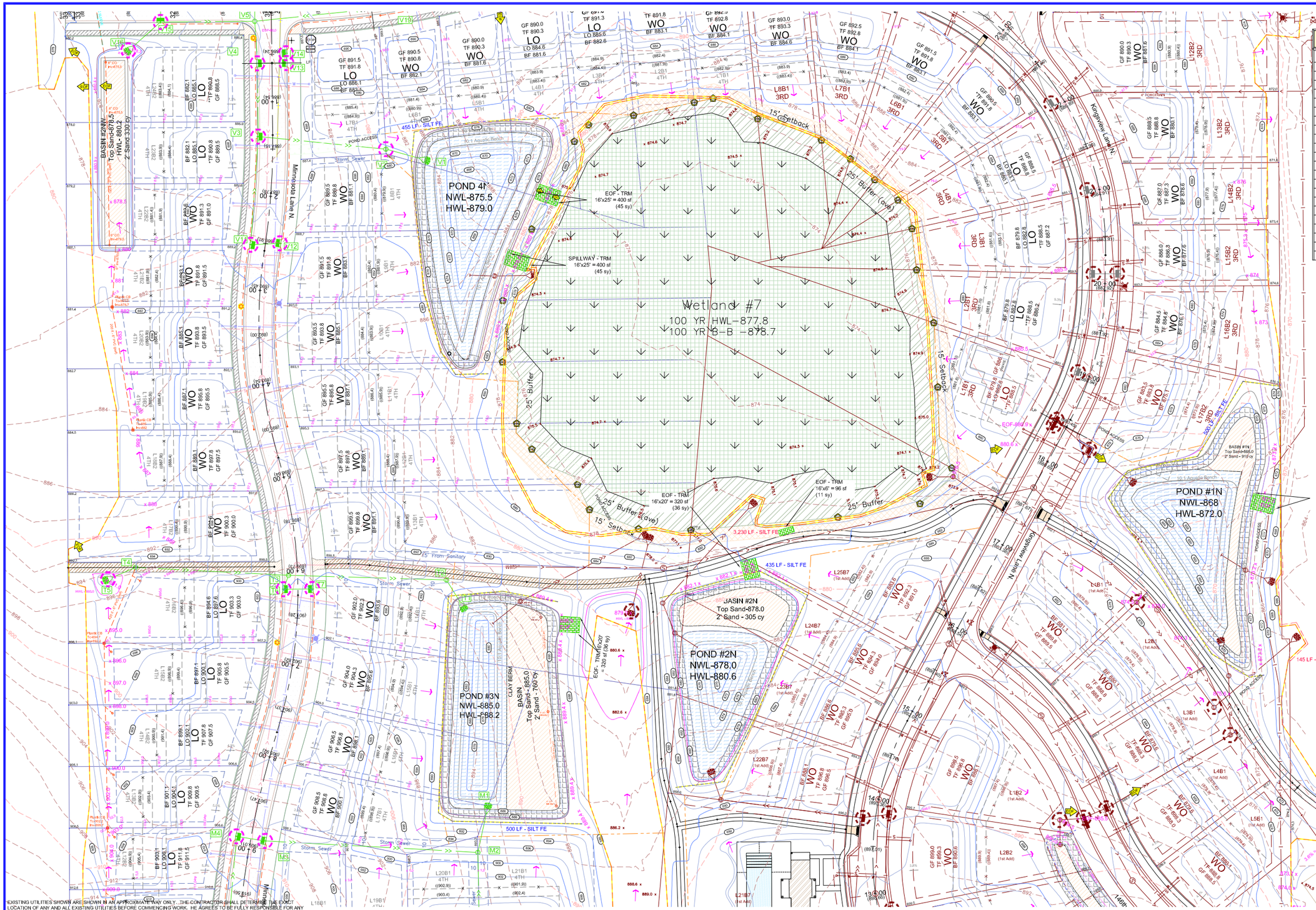
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--
DAYTON, MINNESOTA

FINAL EROSION CONTROL PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

21
31



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	876	876
MAJOR CONTOUR	880	880
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

ROCK ENTRANCE BERM
SILT FENCE
POST GRADING SILT FENCE
Bio BIO-ROLL
Rock Check ROCK DITCH CHECK
CONCRETE WASHOUT
INLET PROTECTION
EROSION BLANKET

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY...THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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CITY PROJECT NO.
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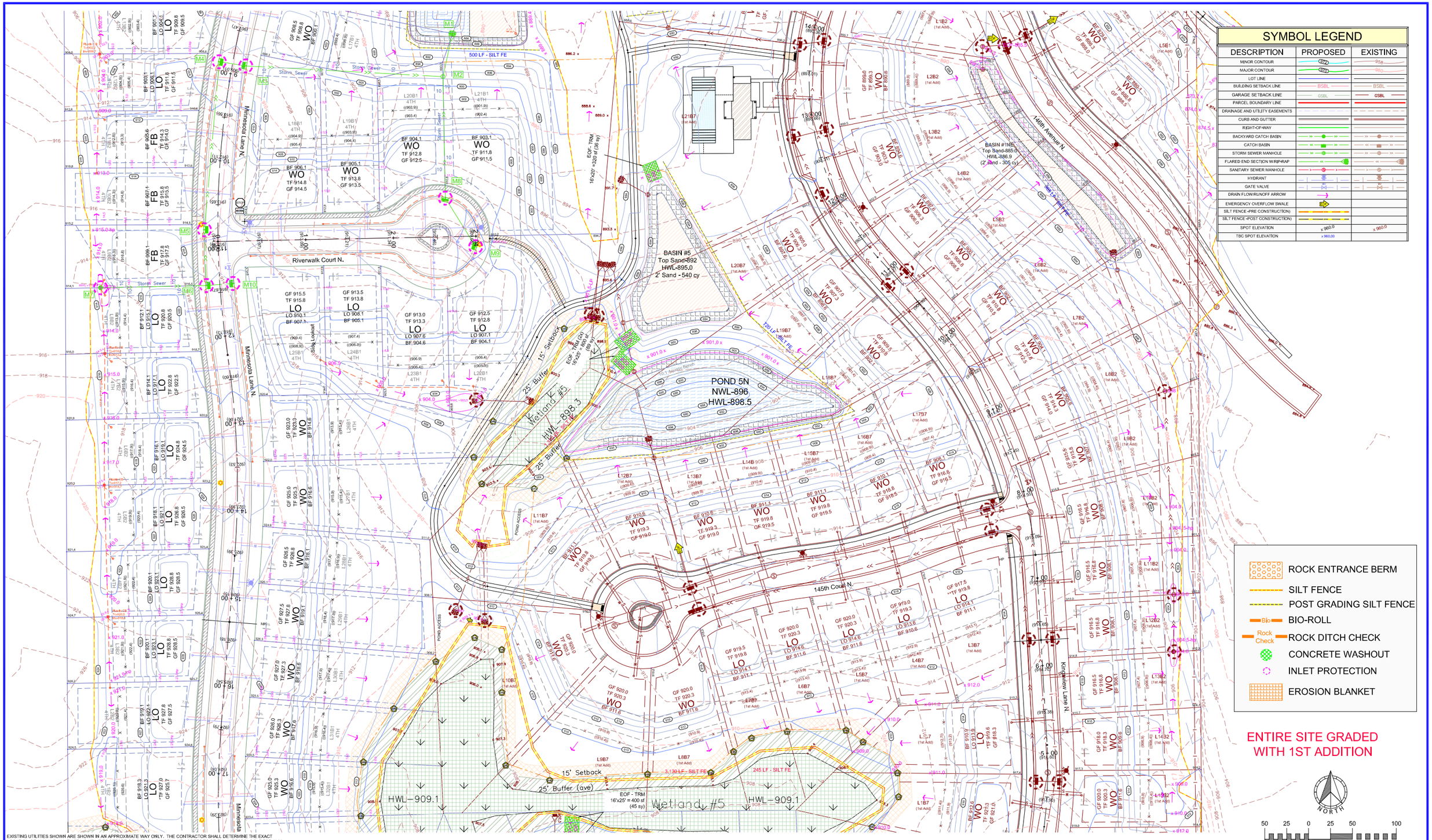
DAYTON, MINNESOTA

FINAL EROSION CONTROL PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

22
31



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	920	958
MAJOR CONTOUR	920	960
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOS	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

ROCK ENTRANCE BERM
SILT FENCE
POST GRADING SILT FENCE
BIO-ROLL
ROCK DITCH CHECK
CONCRETE WASHOUT
INLET PROTECTION
EROSION BLANKET

ENTIRE SITE GRADED WITH 1ST ADDITION

NORTH

50 25 0 25 50 100
SCALE IN FEET

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DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

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Date: _____ Lic. No. _____

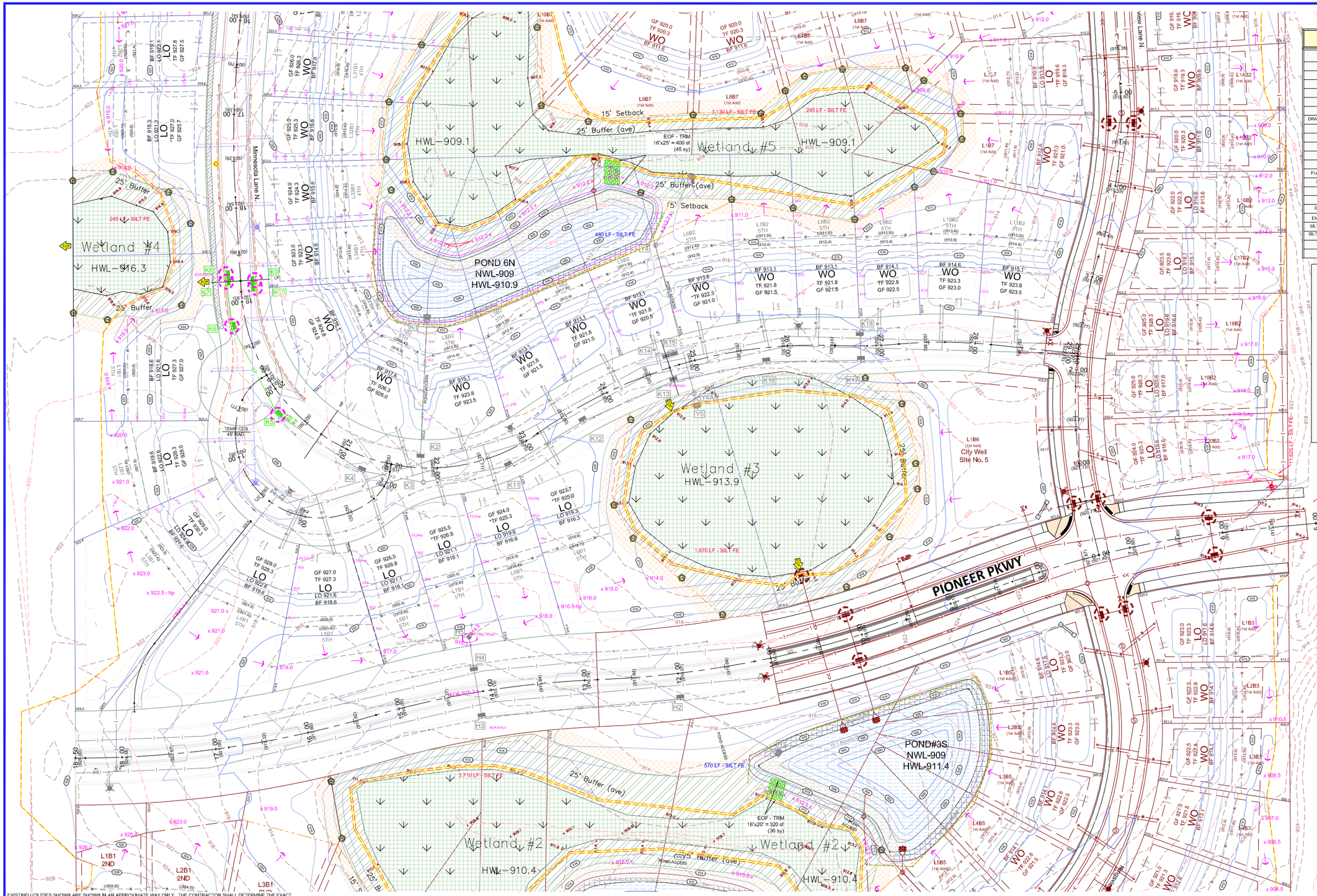
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.

DAYTON, MINNESOTA

FINAL EROSION CONTROL PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO. 3120-082-400



SYMBOL LEGEND

DESCRIPTION	PROPOSED	EXISTING
MINOR CONTOUR	924	924
MAJOR CONTOUR	920	920
LOT LINE		
BUILDING SETBACK LINE	BSBL	BSBL
GARAGE SETBACK LINE	GSBL	GSBL
PARCEL BOUNDARY LINE		
DRAINAGE AND UTILITY EASEMENTS		
CURB AND GUTTER		
RIGHT-OF-WAY		
BACKYARD CATCH BASIN		
CATCH BASIN		
STORM SEWER MANHOLE		
FLARED END SECTION W/RIPRAP		
SANITARY SEWER MANHOLE		
HYDRANT		
GATE VALVE		
DRAIN FLOW/RUNOFF ARROW		
EMERGENCY OVERFLOW SWALE	EOF	
SILT FENCE -PRE CONSTRUCTION)		
SILT FENCE -POST CONSTRUCTION)		
SPOT ELEVATION	x 960.0	x 960.0
TBC SPOT ELEVATION	x 960.00	

- ROCK ENTRANCE BERM
- SILT FENCE
- POST GRADING SILT FENCE
- Bio — BIO-ROLL
- Rock Check — ROCK DITCH CHECK
- CONCRETE WASHOUT
- INLET PROTECTION
- EROSION BLANKET

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--

DAYTON, MINNESOTA

FINAL EROSION CONTROL PLAN
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO. 3120-082-400

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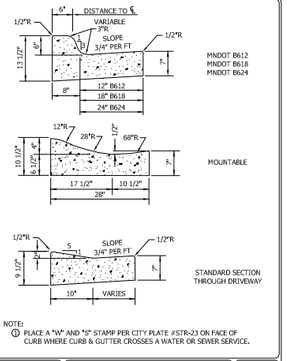
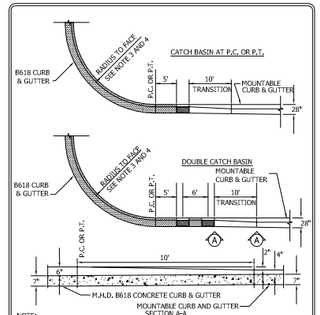


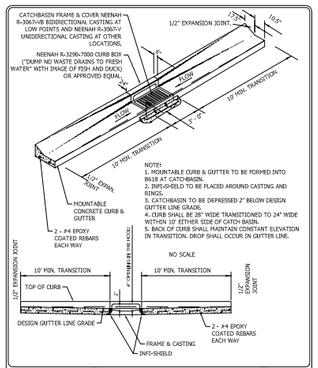
NOTE:
① PLACE A "W" AND "S" STAMP PER CITY PLATE #STR-23 ON FACE OF CURB WHERE CURB & GUTTER CROSSES A WATER OR SEWER SERVICE.

CITY OF DAYTON | CURB AND GUTTER | LAST REVISION: MAR 2024 | PLATE NO.: STR-01

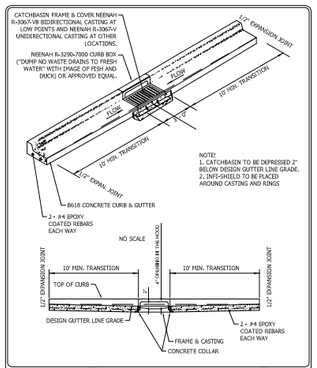


NOTE:
1. ALL RADII ARE MEASURED TO FACE OF CURB.
2. NO CATCH BASINS WILL BE CONSTRUCTED IN THE INTERSECTION RADII.
3. 30' RADII WILL BE REQUIRED AT INTERSECTIONS OF ALL COLLECTOR TO RESIDENTIAL STREETS.
4. 20' RADII WILL BE REQUIRED AT INTERSECTIONS OF ALL RESIDENTIAL TO RESIDENTIAL STREETS.

CITY OF DAYTON | CONCRETE CURB & GUTTER TRANSITION | LAST REVISION: MAR 2024 | PLATE NO.: STR-02

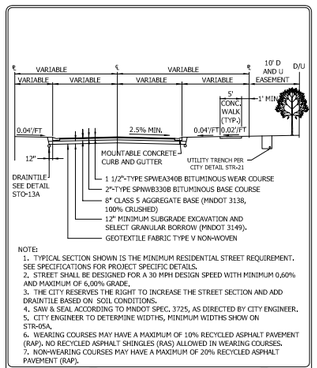


CITY OF DAYTON | MOUNTABLE CURB & GUTTER CONSTRUCTION AT CATCH BASIN | LAST REVISION: MAR 2024 | PLATE NO.: STR-03



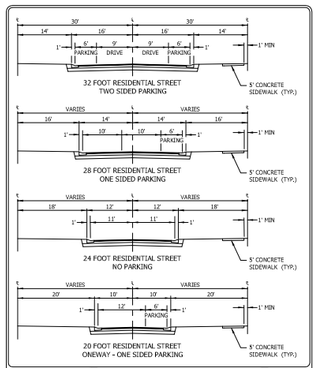
NOTE:
1. CATCHBASIN TO BE DEPRESSED 2" BELOW DESIGN GUTTER LINE GRADE.
2. INFI-SHIELD TO BE PLACED AROUND CASTING AND RINGS

CITY OF DAYTON | B618 CURB AND GUTTER CONSTRUCTION AT CATCH BASIN | LAST REVISION: MAR 2024 | PLATE NO.: STR-04

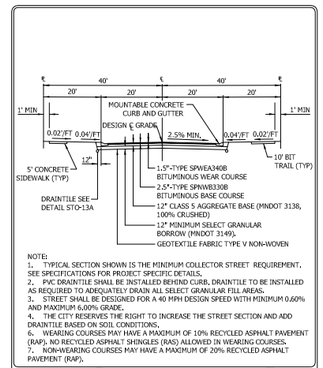


NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM RESIDENTIAL STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. STREET SHALL BE DESIGNED FOR A 30 MPH DESIGN SPEED WITH MINIMUM 0.60% AND MAXIMUM OF 6.00% GRADE.
3. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION AND ADD DRAINTILE BASED ON SOIL CONDITIONS.
4. SAW & SEAL ACCORDING TO MNDOT SPEC. 3725, AS DIRECTED BY CITY ENGINEER.
5. CITY ENGINEER TO DETERMINE WIDTHS, MINIMUM WIDTHS SHOW ON STR-05A.
6. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP), NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
7. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).

CITY OF DAYTON | RESIDENTIAL STREET SECTION | LAST REVISION: MAR 2024 | PLATE NO.: STR-05

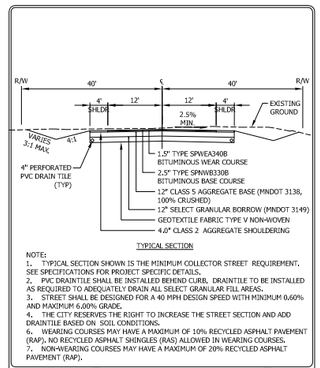


CITY OF DAYTON | TYPICAL RESIDENTIAL STREET DIMENSIONS | LAST REVISION: MAR 2024 | PLATE NO.: STR-05A



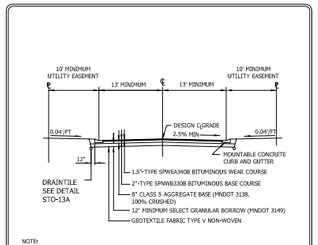
NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM COLLECTOR STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. PVC DRAINTILE SHALL BE INSTALLED BEHIND CURB, DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED FOR A 40 MPH DESIGN SPEED WITH MINIMUM 0.60% AND MAXIMUM 6.00% GRADE.
4. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION AND ADD DRAINTILE BASED ON SOIL CONDITIONS.
6. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP), NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
7. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).

CITY OF DAYTON | URBAN COLLECTOR STREET SECTION | LAST REVISION: MAR 2024 | PLATE NO.: STR-06



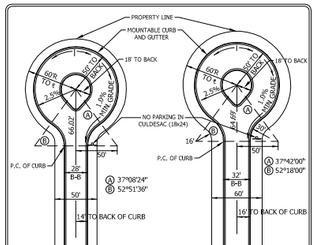
NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM COLLECTOR STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. PVC DRAINTILE SHALL BE INSTALLED BEHIND CURB, DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED FOR A 40 MPH DESIGN SPEED WITH MINIMUM 0.60% AND MAXIMUM 6.00% GRADE.
4. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION AND ADD DRAINTILE BASED ON SOIL CONDITIONS.
6. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP), NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
7. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).

CITY OF DAYTON | RURAL COLLECTOR STREET SECTION W/ AGGREGATE SHOULDER | LAST REVISION: MAR 2024 | PLATE NO.: STR-06A



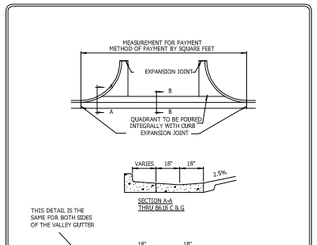
NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM RESIDENTIAL STREET REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. PVC DRAINTILE SHALL BE INSTALLED BEHIND CURB. DRAINTILE TO BE INSTALLED AS REQUIRED TO ADEQUATELY DRAIN ALL SELECT GRANULAR FILL AREAS.
3. STREET SHALL BE DESIGNED FOR A 30 MPH DESIGN SPEED WITH MINIMUM OF 0.60% AND MAXIMUM OF 6.00% GRADE.
4. THE CITY RESERVES THE RIGHT TO INCREASE THE STREET SECTION AND ADD DRAINTILE BASED ON SOIL CONDITIONS.
5. CITY ENGINEER TO DETERMINE WIDTHS.
6. WEARING COURSES MAY HAVE A MAXIMUM OF 10% RECYCLED ASPHALT PAVEMENT (RAP). NO RECYCLED ASPHALT SHINGLES (RAS) ALLOWED IN WEARING COURSES.
7. NON-WEARING COURSES MAY HAVE A MAXIMUM OF 20% RECYCLED ASPHALT PAVEMENT (RAP).

CITY OF DAYTON | TYPICAL PRIVATE STREET SECTION, NO PARKING | LAST REVISION: MAR 2024 | PLATE NO.: STR-07

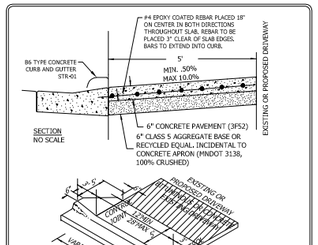


NOTE:
1. ALL RADIUS MEASUREMENTS TAKEN FROM THE FACE OF CURB UNLESS OTHERWISE STATED.
2. ALL CENTER ISLAND SURFACES MUST BE APPROVED BY THE CITY AND PRIVATELY MAINTAINED.
3. SEE STR-27 FOR ADDITIONAL REQUIREMENTS.
4. ON STREETS LONGER THAN 500' ENDING IN A CULDESAC, A "NO OUTLET" (W14-2) SIGN IS REQUIRED AT THE START OF THE STREET.

CITY OF DAYTON | TYPE I CUL-DE-SAC WITH ISLAND FOR A 50' R/W AND A 60' R/W | LAST REVISION: MAR 2024 | PLATE NO.: STR-08

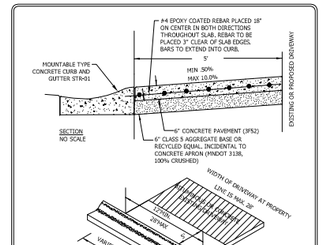


CITY OF DAYTON | CONCRETE VALLEY GUTTER | LAST REVISION: MAR 2024 | PLATE NO.: STR-09



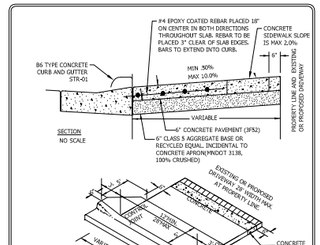
NOTE:
1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. DRIVEWAY WINGS ARE REQUIRED WITH THE B6 STYLE CURBING. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 28' PLUS THE WIDTH OF THE WINGS. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 28'.

CITY OF DAYTON | RESIDENTIAL CONCRETE DRIVEWAY APRON (B6 TYPE CURB) | LAST REVISION: MAR 2024 | PLATE NO.: STR-10



NOTE:
1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. DRIVEWAY WINGS ARE NOT REQUIRED WITH THE MOUNTABLE STYLE CURBING. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 28'. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 28'.

CITY OF DAYTON | RESIDENTIAL CONCRETE DRIVEWAY APRON (MOUNTABLE TYPE CURB) | LAST REVISION: MAR 2024 | PLATE NO.: STR-11



NOTE:
1. CONTROL JOINTS IN CONCRETE CURB NOT TO EXCEED 10' SPACING THROUGH DRIVEWAY SECTION.
2. CONCRETE MUST BE CONSTRUCTED BETWEEN SIDEWALK AND DRIVEWAY APRON.
3. CONCRETE SIDEWALK THROUGH DRIVEWAY IS 6" THICK.
4. DRIVEWAY WINGS ARE REQUIRED WITH THE B6 STYLE CURBING. THE MAXIMUM DRIVEWAY WIDTH AT THE CURB IS 28' PLUS THE WIDTH OF THE WINGS. MAXIMUM WIDTH OF DRIVEWAY AT THE PROPERTY LINE IS ALSO 28'.

CITY OF DAYTON | RESIDENTIAL CONCRETE DRIVEWAY APRON WITH SIDEWALK (B6 TYPE CURB) | LAST REVISION: MAR 2024 | PLATE NO.: STR-12

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.

DAYTON, MINNESOTA

CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

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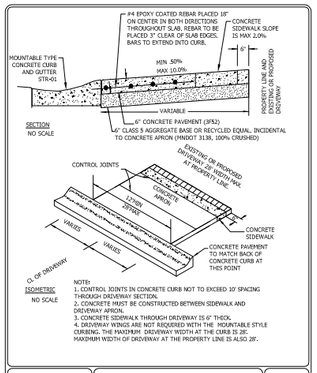
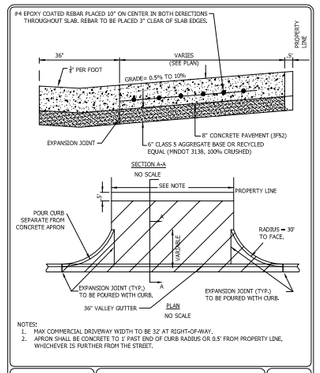
31

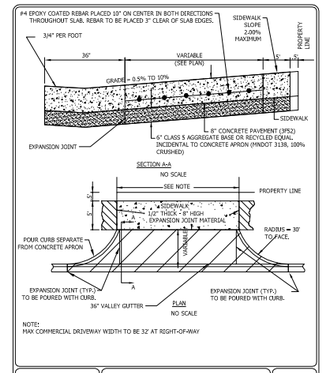


City of Dayton	RESIDENTIAL CONCRETE DRIVEWAY APRON WITH SIDEWALK (MOUNTABLE TYPE CURB)	LAST REVISION: MAR 2024	PLATE NO.: STR-13



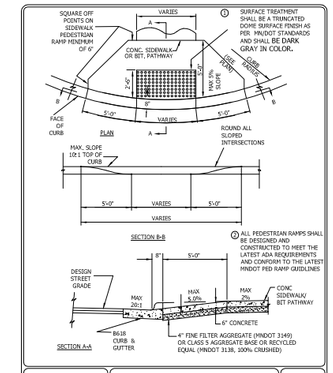
NOTES:
1. MAX COMMERCIAL DRIVEWAY WIDTH TO BE 32' AT RIGHT-OF-WAY.
2. APRON SHALL BE CONCRETE TO 1' PAST END OF CURB RADIUS OR 0.5' FROM PROPERTY LINE, WHICHEVER IS FURTHER FROM THE STREET.

City of Dayton	COMMERCIAL CONCRETE DRIVEWAY APRON	LAST REVISION: MAR 2024	PLATE NO.: STR-14



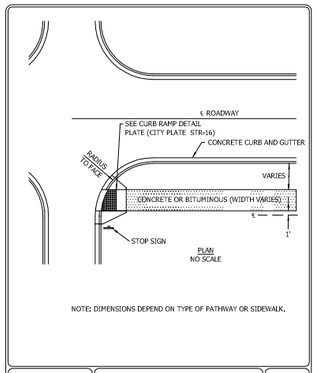
NOTE:
MAX COMMERCIAL DRIVEWAY WIDTH TO BE 32' AT RIGHT-OF-WAY

City of Dayton	COMMERCIAL CONCRETE DRIVEWAY APRON WITH SIDEWALK	LAST REVISION: MAR 2024	PLATE NO.: STR-15



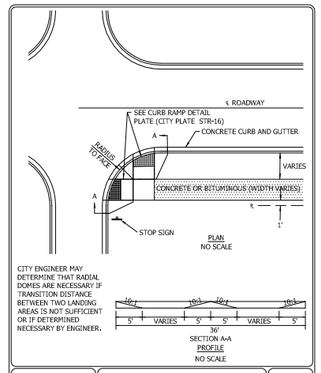
2 ALL PEDESTRIAN RAMPS SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE LATEST ADA REQUIREMENTS AND CONFORM TO THE LATEST MNDOT PED RAMP GUIDELINES

City of Dayton	SIDEWALK/BIKE PATH CURB RAMP	LAST REVISION: MAR 2024	PLATE NO.: STR-16



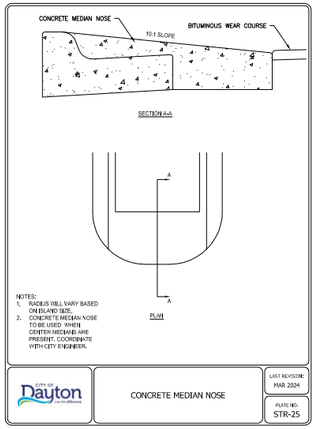
NOTE: DIMENSIONS DEPEND ON TYPE OF PATHWAY OR SIDEWALK.

City of Dayton	SIDEWALK/BIKE PATH CURB RAMP GENERAL LOCATION	LAST REVISION: MAR 2024	PLATE NO.: STR-17



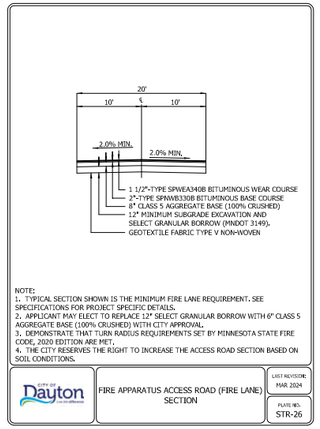
CITY ENGINEER MAY DETERMINE THAT RADIAL DOMES ARE NECESSARY IF TRANSITION DISTANCE BETWEEN TWO LANDING AREAS IS NOT SUFFICIENT OR IF DETERMINED NECESSARY BY ENGINEER.

City of Dayton	DOUBLE SIDEWALK/BIKE PATH CURB RAMP GENERAL LOCATION	LAST REVISION: MAR 2024	PLATE NO.: STR-18



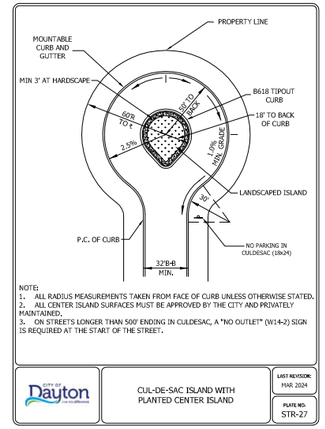
NOTE:
1. RUNNING SLOPE OF TRAILS, SIDEWALKS, OR PATHS MUST COMPLY WITH CURRENT ADA GUIDELINES.
2. SIDEWALK TO BE PRIVATELY MAINTAINED.
3. UP TO 10% RECYCLED MATERIAL SHALL BE ALLOWED IN BITUMINOUS WEAR COURSE.

City of Dayton	TYPICAL BIKE PATH AND SIDEWALK SECTIONS	LAST REVISION: MAR 2024	PLATE NO.: STR-19



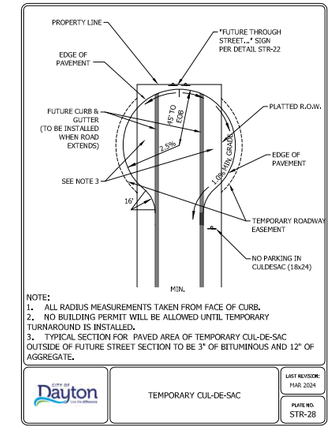
NOTE:
1. ALL CONDUIT CROSSINGS UNDER ROADWAYS SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE CORRECT SIZE AND NUMBER FOR ALL UTILITIES. THE CONTRACTOR SHALL ALSO INSTALL ONE ADDITIONAL CONDUIT CROSSING FOR FUTURE USE.
2. THE CITY REQUIRES JOINT TRENCHING FOR INSTALLATION OF UTILITIES WITHIN CITY UTILITY EASEMENTS. ALL TRENCHES SHALL BE COMPACTED.
3. ALL CURB STOPS AND BOXES WILL BE LOCATED 9' FROM THE PROPERTY LINE WITHIN THE DRAINAGE AND UTILITY EASEMENT.
4. STREET LIGHTS SHALL BE PLACED AS CLOSE TO 300' INTERVALS AS POSSIBLE IN RESIDENTIAL AREAS AND LOCATED ON PROPERTY CORNERS. ALL STREET LIGHT ELECTRICAL LINES SHALL BE RUGGEDIZED TYPE WIRING OR ENCASED IN CONDUIT AND PLACED WITHIN THE JOINT TRENCH.
5. ALL UTILITY BOXES SHALL BE PLACED ON COMMON PROPERTY CORNERS ON BACK SIDE OF DRAINAGE AND UTILITY EASEMENT.

City of Dayton	UTILITY AND LANDSCAPE LAYOUT	LAST REVISION: MAR 2024	PLATE NO.: STR-20



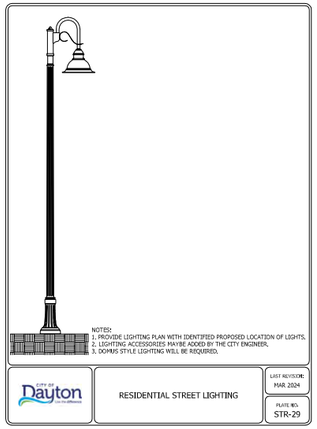
NOTES:
1. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. SIGN SHALL BE REFLECTORIZED AS PER MNDOT 3352.2A.3B
3. SIGN SHALL BE CONSTRUCTED OF ALUMINUM PER MNDOT 3352.2A.1, BLACK ON WHITE WITH 4" LETTERS.

City of Dayton	FUTURE THROUGH STREET SIGN	LAST REVISION: MAR 2024	PLATE NO.: STR-21



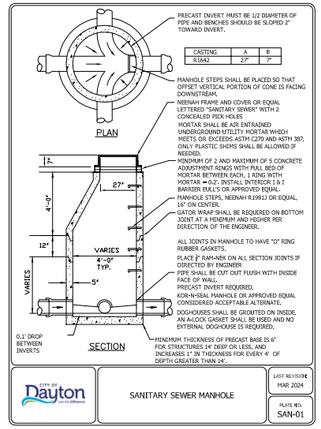
NOTES:
1. FIRE DEPARTMENT REQUIREMENTS FOR APPROVED ALTERNATE TURNAROUNDS ON FIRE DEPARTMENT ACCESS ROADS, AS REQUIRED BY MINNESOTA STATE FIRE CODE, 2020 EDITION.
2. TURNAROUNDS MAY BE SUBSTITUTED FOR CUL-DE-SACS IN PRIVATE DEVELOPMENTS WITH THE CITY ENGINEER'S APPROVAL.
3. CUL-DE-SAC TO BE CONSTRUCTED WITH A 45' RADIUS (MINIMUM).
4. NO BUILDING PERMITS SHALL BE ALLOWED UNTIL TURNAROUND HAS BEEN INSTALLED.
5. CURB & GUTTER SURROUNDING MAY BE ELIMINATED AT THE DISCRETION OF THE ENGINEER.

City of Dayton	PRIVATE DEVELOPMENT TURNAROUND	LAST REVISION: MAR 2024	PLATE NO.: STR-22

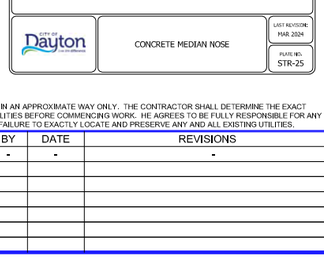


NOTES:
1. ALL NEW AND EXISTING WATER AND SEWER SERVICE LOCATIONS SHALL BE MARKED IN CURB AS SHOWN. STAMPING OF SERVICE LOCATIONS SHALL BE CONSIDERED INCIDENTAL TO THE PRICE OF THE CURB.
2. STAMPS MAY BE BORROWED FROM THE CITY FOR A REFUNDABLE SECURITY DEPOSIT OF $250 EACH.
3. WS AND SS NOT PLACED BY SPECIFIED STAMP WILL NOT BE ACCEPTED AND THAT SECTION OF CURB MUST BE REMOVED AND REPLACED.

City of Dayton	SEWER AND WATER SERVICE LOCATION STAMP IN CURB	LAST REVISION: MAR 2024	PLATE NO.: STR-23

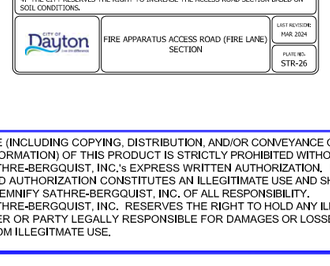


City of Dayton	TYPICAL RESIDENTIAL DRIVEWAY SECTIONS	LAST REVISION: MAR 2024	PLATE NO.: STR-24



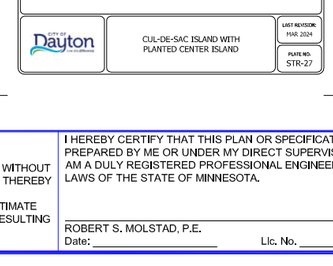
NOTES:
1. RADIUS WILL VARY BASED ON ISLAND SIZE.
2. CONCRETE MEDIAN NOSE TO BE USED WHEN CENTER MEDIANS ARE PRESENT. COORDINATE WITH CITY ENGINEER.

City of Dayton	CONCRETE MEDIAN NOSE	LAST REVISION: MAR 2024	PLATE NO.: STR-25



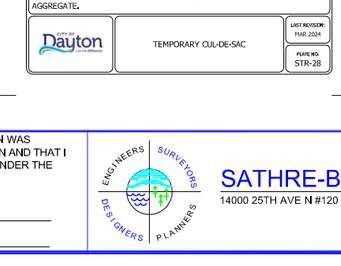
NOTE:
1. TYPICAL SECTION SHOWN IS THE MINIMUM FIRE LANE REQUIREMENT. SEE SPECIFICATIONS FOR PROJECT SPECIFIC DETAILS.
2. APPLICANT MAY ELECT TO REPLACE 12" SELECT GRANULAR BORROW WITH 6" CLASS 5 AGGREGATE BASE (100% CRUSHED) WITH CITY APPROVAL.
3. DEMONSTRATE THAT TURN RADIUS REQUIREMENTS SET BY MINNESOTA STATE FIRE CODE, 2020 EDITION ARE MET.
4. THE CITY RESERVES THE RIGHT TO INCREASE THE ACCESS ROAD SECTION BASED ON SOIL CONDITIONS.

City of Dayton	FIRE APPARATUS ACCESS ROAD (FIRE LANE) SECTION	LAST REVISION: MAR 2024	PLATE NO.: STR-26



NOTE:
1. ALL RADIUS MEASUREMENTS TAKEN FROM FACE OF CURB UNLESS OTHERWISE STATED.
2. ALL CENTER ISLAND SURFACES MUST BE APPROVED BY THE CITY AND PRIVATELY MAINTAINED.
3. ON STREETS LONGER THAN 500' ENDING IN CULDESAC, A "NO OUTLET" (W14-2) SIGN IS REQUIRED AT THE START OF THE STREET.

City of Dayton	CUL-DE-SAC ISLAND WITH PLANTED CENTER ISLAND	LAST REVISION: MAR 2024	PLATE NO.: STR-27



NOTE:
1. ALL RADIUS MEASUREMENTS TAKEN FROM FACE OF CURB.
2. NO BUILDING PERMIT WILL BE ALLOWED UNTIL TEMPORARY TURNAROUND IS INSTALLED.
3. TYPICAL SECTION FOR PAVED AREA OF TEMPORARY CUL-DE-SAC OUTSIDE OF FUTURE STREET SECTION TO BE 3" OF BITUMINOUS AND 12" OF AGGREGATE.

City of Dayton	TEMPORARY CUL-DE-SAC	LAST REVISION: MAR 2024	PLATE NO.: STR-28

NOTES:
1. PROVIDE LIGHTING PLAN WITH IDENTIFIED PROPOSED LOCATION OF LIGHTS.
2. LIGHTING ACCESSORIES MAYBE ADDED BY THE CITY ENGINEER.
3. DOMUS STYLE LIGHTING WILL BE REQUIRED.

City of Dayton	RESIDENTIAL STREET LIGHTING	LAST REVISION: MAR 2024	PLATE NO.: STR-29

City of Dayton	SANITARY SEWER MANHOLE	LAST REVISION: MAR 2024	PLATE NO.: SAN-01

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

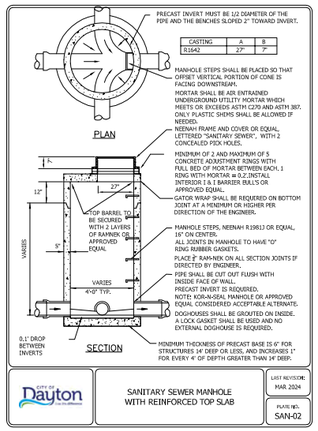
ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--

DAYTON, MINNESOTA

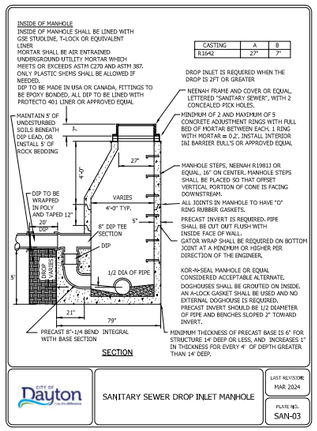
CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC 412

FILE NO.
3120-082-400



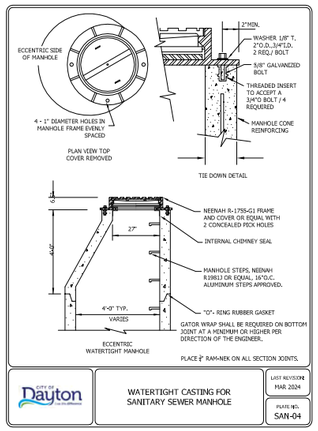
SANITARY SEWER MANHOLE WITH REINFORCED TOP SLAB

LAST REVISION: MAR 2024
PLATE NO.: SAN-02



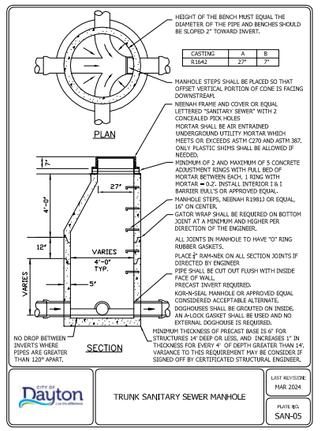
SANITARY SEWER DROP INLET MANHOLE

LAST REVISION: MAR 2024
PLATE NO.: SAN-03



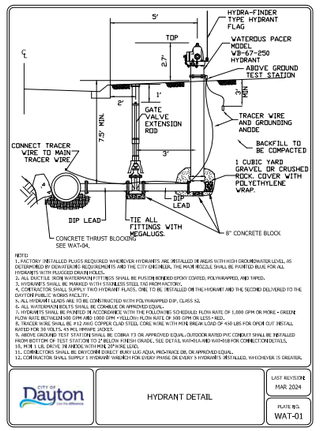
WATERTIGHT CASTING FOR SANITARY SEWER MANHOLE

LAST REVISION: MAR 2024
PLATE NO.: SAN-04



TRUNK SANITARY SEWER MANHOLE

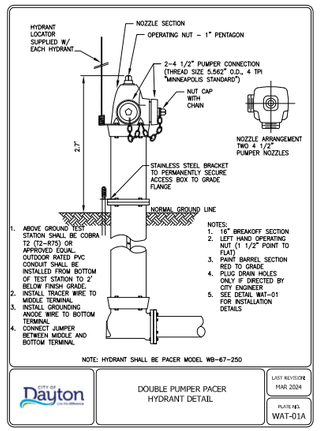
LAST REVISION: MAR 2024
PLATE NO.: SAN-05



NOTE:
1. FACTORY INSTALLED PLUGS REQUIRED WHEREVER HYDRANTS ARE INSTALLED OR MAYBE WITH HIGH GROUNDWATER LEVEL AS DETERMINED BY DEWATERING REQUIREMENTS AND THE CITY ENGINEER. THE MAJOR NOZZLE SHALL BE PLUGGED BLACK FOR ALL HYDRANTS WITH PLUGGED DRAIN PORTS.
2. ALL DUCTILE IRON WATERMAIN FITTINGS SHALL BE FUSION BONDED EPOXY COATED, POLYWRAPPED, AND TAPED.
3. HYDRANTS SHALL BE PAINTED WITH STANDARD STEEL TOO PROM FACTORY.
4. CONTRACTOR SHALL SUPPLY TWO HYDRANT FLAGS, ONE TO BE INSTALLED ON THE HYDRANT AND THE SECOND DELIVERED TO THE CITY INSPECTOR AT THE PRE-CON.
5. ALL HYDRANT LEADS ARE TO BE CONSTRUCTED WITH POLYWRAPPED DIP, CLASS 52.
6. ALL WATERMAIN BOLTS SHALL BE CORROSION PROTECTED.
7. HYDRANTS SHALL BE PLUMBED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: FLOW RATE OF 1,000 GPM OR MORE = GREEN FLOW RATE BETWEEN 500 GPM AND 1000 GPM = YELLOW; FLOW RATE OF 500 GPM OR LESS = RED
8. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN ALL STEEL CONDUIT, CONDUIT AND WIRING SHALL BE RATED FOR 300 VOLTS, 4 X #12, MINIMUM, 3/4" CONDUIT.
9. ABOVE GROUND TEST STATION SHALL BE COBRA T2 OR APPROVED EQUAL, OUTDOOR RATED PVC CONDUIT SHALL BE INSTALLED FROM BOTTOM OF TEST STATION TO 2' BELOW FINISH GRADE, TEE DETAIL MARKING AND WARNING FOR CONNECTION DETAILS.
10. MOR 1 LB. DRIVE 7# INSIDE WITH MIN. 20"x36" LEAD.
11. CONTRACTOR SHALL INSTALL 1 LB OF MAGNESIUM ANODE AND 10GA. PROTRACE DIP, OR APPROVED EQUAL.
12. CONTRACTOR SHALL SUPPLY 1 HYDRANT WRENCH FOR EVERY PHASE OR EVERY 5 HYDRANTS DELIVERED, WHICHEVER IS GREATER.

HYDRANT DETAIL

LAST REVISION: MAR 2024
PLATE NO.: WAT-01

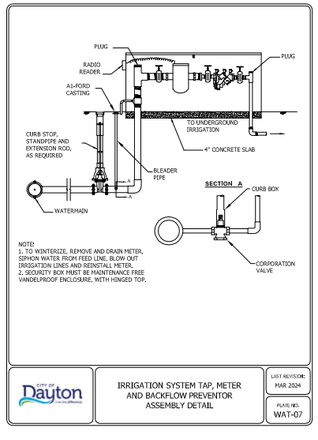


STANDARD PACER HYDRANT DETAIL

LAST REVISION: MAR 2024
PLATE NO.: WAT-01B

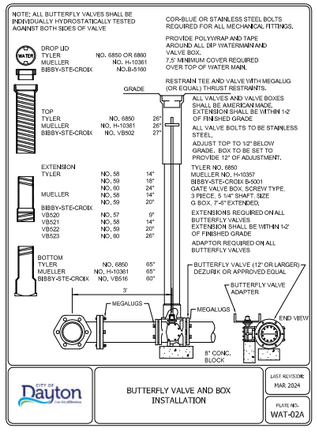
DOUBLE PUMPER PACER HYDRANT DETAIL

LAST REVISION: MAR 2024
PLATE NO.: WAT-01A



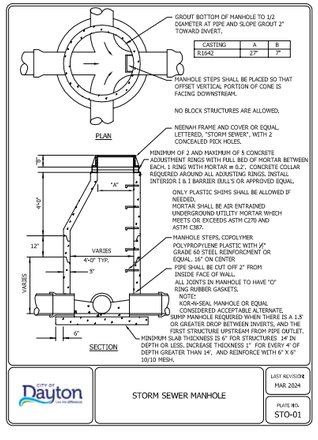
IRRIGATION SYSTEM TAP, METER AND BACKFLOW PREVENTOR ASSEMBLY DETAIL

LAST REVISION: MAR 2024
PLATE NO.: WAT-07



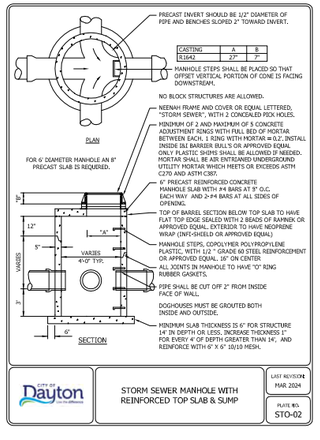
BUTTERFLY VALVE AND BOX INSTALLATION

LAST REVISION: MAR 2024
PLATE NO.: WAT-02A



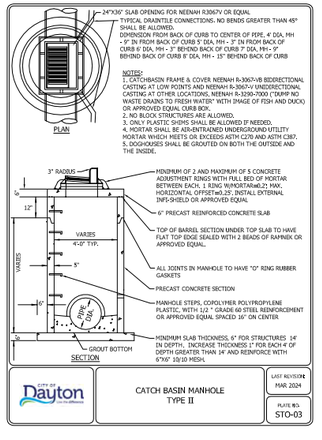
STORM SEWER MANHOLE

LAST REVISION: MAR 2024
PLATE NO.: STO-01



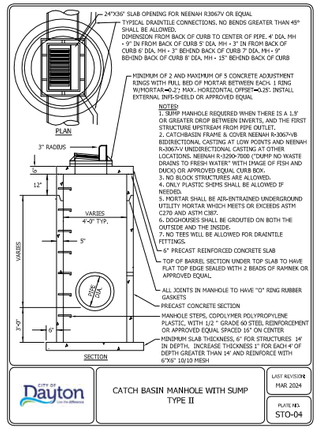
STORM SEWER MANHOLE WITH REINFORCED TOP SLAB & SUMP

LAST REVISION: MAR 2024
PLATE NO.: STO-02



CATCH BASIN MANHOLE TYPE II

LAST REVISION: MAR 2024
PLATE NO.: STO-03



CATCH BASIN MANHOLE WITH SUMP TYPE II

LAST REVISION: MAR 2024
PLATE NO.: STO-04

STANDARD PACER HYDRANT DETAIL

LAST REVISION: MAR 2024
PLATE NO.: WAT-01B

NOTE: ALL WATERMAIN BOLTS ARE TO BE CORE-BLUE OR AN APPROVED EQUAL

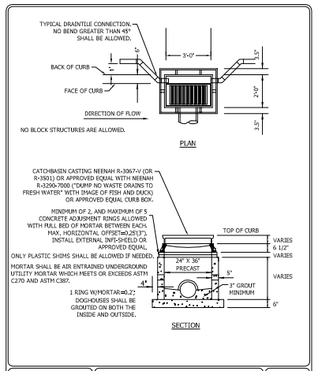
GATE VALVE AND BOX INSTALLATION

LAST REVISION: MAR 2024
PLATE NO.: WAT-02

NOTE: ALL WATERMAIN BOLTS SHALL BE CORE-BLUE OR AN APPROVED EQUAL

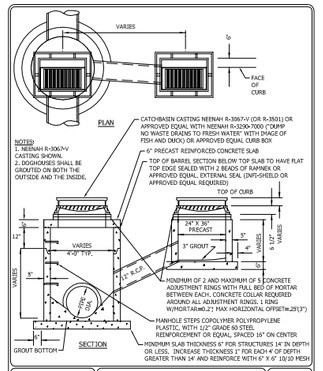
WATER MAIN WETTAP

LAST REVISION: MAR 2024
PLATE NO.: WAT-03



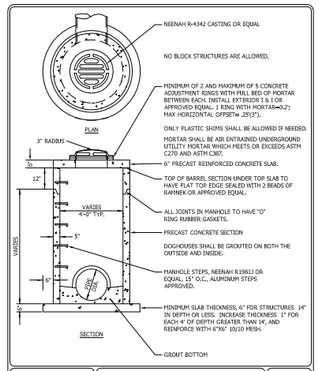
CATCH BASIN
TYPE I

LAST REVISION: MAR 2024
PLATE NO.: STO-05



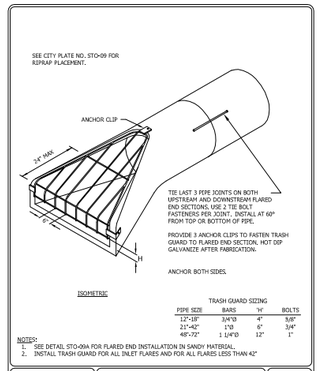
DOUBLE CATCH BASIN
TYPE II CBMH WITH TYPE I CB

LAST REVISION: MAR 2024
PLATE NO.: STO-06



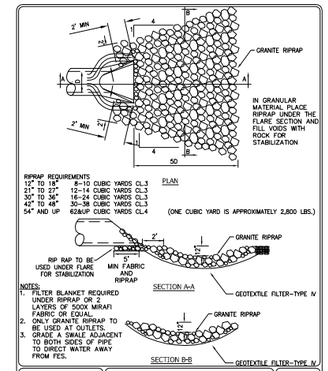
CATCH BASIN MANHOLE
TYPE II

LAST REVISION: MAR 2024
PLATE NO.: STO-07



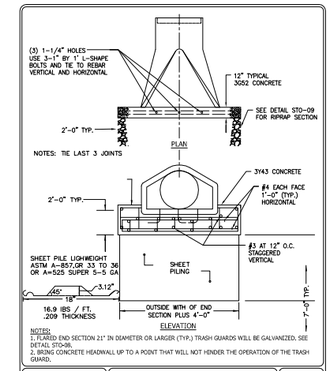
FLARED END SECTION
AND TRASH GUARD

LAST REVISION: MAR 2024
PLATE NO.: STO-08



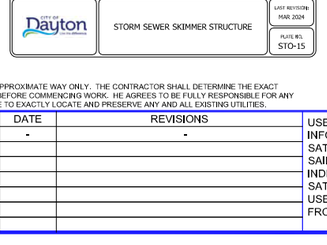
RIPRAP AT OUTLETS

LAST REVISION: MAR 2024
PLATE NO.: STO-09



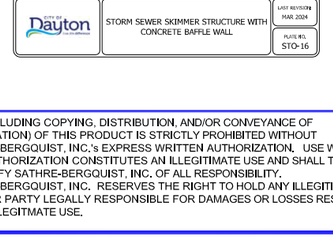
STORM SEWER PILING &
CONCRETE END SECTION

LAST REVISION: MAR 2024
PLATE NO.: STO-09A



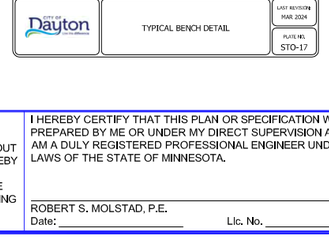
TYPICAL POND EOF

LAST REVISION: MAR 2024
PLATE NO.: STO-10



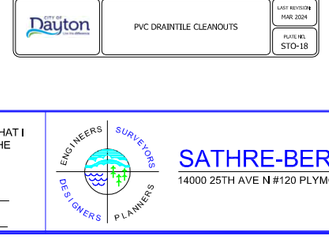
ENERGY DISSIPATOR
AND TRASH GUARD

LAST REVISION: MAR 2024
PLATE NO.: STO-11



"MINI-TEE" MANHOLE

LAST REVISION: MAR 2024
PLATE NO.: STO-12



PVC (RIGID) PERFORATED PIPE
SWALE INSTALLATION

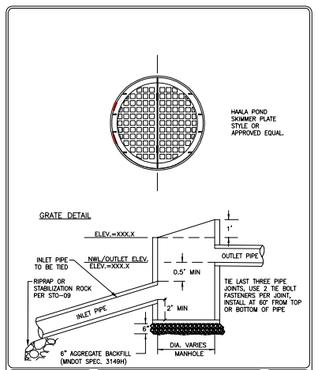
LAST REVISION: MAR 2024
PLATE NO.: STO-13

ROAD SUBDRAIN

LAST REVISION: MAR 2024
PLATE NO.: STO-13A

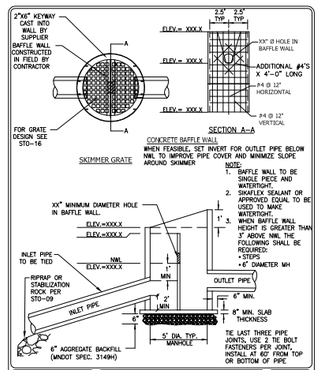
RURAL RESIDENTIAL DRIVEWAY AND
CULVERT

LAST REVISION: MAR 2024
PLATE NO.: STO-14



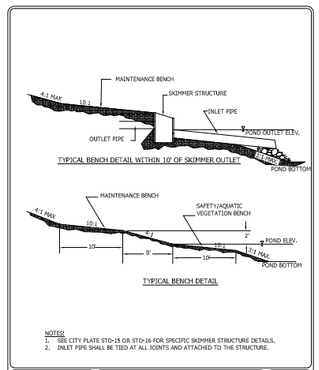
STORM SEWER SKIMMER STRUCTURE

LAST REVISION: MAR 2024
PLATE NO.: STO-15



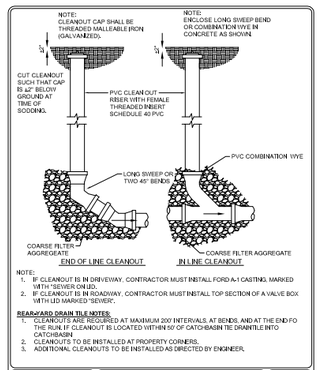
STORM SEWER SKIMMER STRUCTURE WITH
CONCRETE BAFFLE WALL

LAST REVISION: MAR 2024
PLATE NO.: STO-16



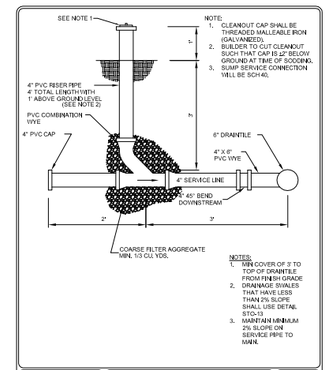
TYPICAL BENCH DETAIL

LAST REVISION: MAR 2024
PLATE NO.: STO-17



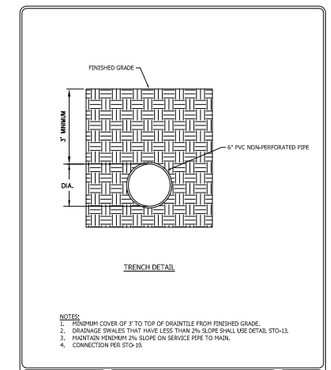
PVC DRAINTILE CLEANOUTS

LAST REVISION: MAR 2024
PLATE NO.: STO-18



SUMP SERVICE CONNECTION

LAST REVISION: MAR 2024
PLATE NO.: STO-19



BACKYARD DRAIN TILE FOR
SUMP CONNECTIONS

LAST REVISION: MAR 2024
PLATE NO.: STO-20

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

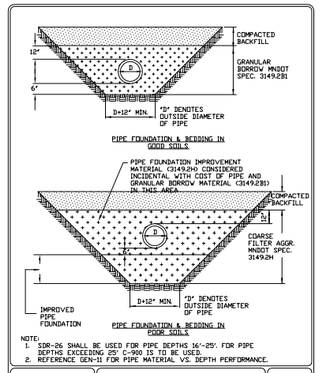
ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
--
DAYTON, MINNESOTA

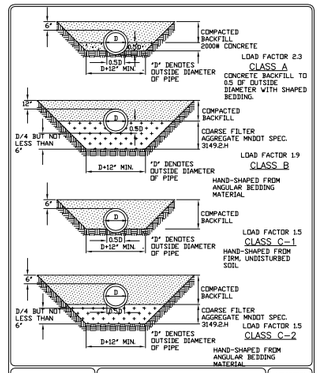
CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

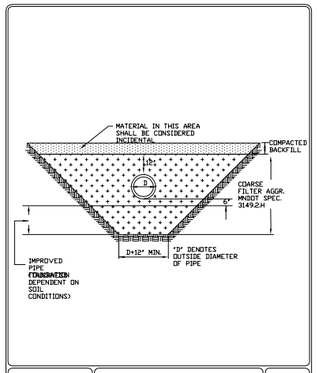


NOTE:
1. SDR-26 SHALL BE USED FOR PIPE DEPTHS 16'-25'. FOR PIPE DEPTHS EXCEEDING 25' C-900 IS TO BE USED.
2. REFERENCE GEN-11 FOR PIPE MATERIAL VS. DEPTH PERFORMANCE.

City of Dayton	BEDDING METHODS FOR PLASTIC PIPE	LAST REVISION: MAR 2024 / PLATE NO.: BED-01

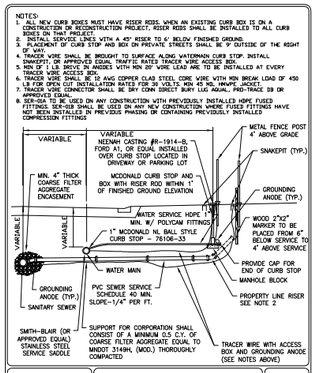


City of Dayton	BEDDING METHODS FOR RCP AND DIP	LAST REVISION: MAR 2024 / PLATE NO.: BED-02

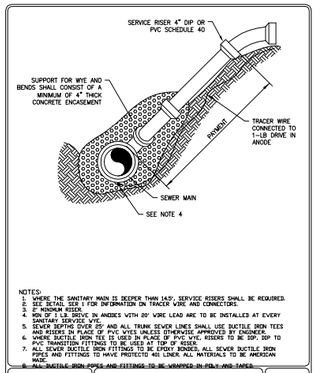


City of Dayton	IMPROVED FOUNDATION FOR RCP AND DIP	LAST REVISION: MAR 2024 / PLATE NO.: BED-03

NOTES:
1. ALL NEW CURB BOXES MUST HAVE RISER RODS. WHEN AN EXISTING CURB BOX IS ON A CONSTRUCTION OR RECONSTRUCTION PROJECT, RISER RODS SHALL BE INSTALLED TO ALL CURB BOXES ON THAT PROJECT.
2. INSTALL SERVICE LINES WITH A 45° RISER TO 6' BELOW FINISHED GRADE.
3. PLACEMENT OF CURB STOP AND BOX ON PRIVATE STREETS SHALL BE 9' OUTSIDE OF THE RIGHT OF WAY.
4. TRACER WIRE SHALL BE BROUGHT TO SURFACE ALONG WATERMAIN CURB STOP. INSTALL SNAKEPIT, OR APPROVED EQUAL TRAFFIC RATED TRACER WIRE ACCESS BOX.
5. MIN OF 1 LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY TRACER WIRE ACCESS BOX.
6. TRACER WIRE SHALL BE 12 AWG COPPER CLAD STEEL CORE WIRE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS MIN 45 MIL HMWPE JACKET.
7. TRACER WIRE CONNECTOR SHALL BE 3RY COMA DIRECT BURY LUG AQUAL, PRO-TRACE 3B OR APPROVED EQUAL.
8. SER-02A TO BE USED ON ANY CONSTRUCTION WITH PREVIOUSLY INSTALLED HDPE FUSED FITTINGS. SER-01B SHALL BE USED ON ANY NEW CONSTRUCTION WHERE FUSED FITTINGS HAVE NOT BEEN INSTALLED IN PREVIOUS PHASING OR CONTAINING PREVIOUSLY INSTALLED COMPRESSION FITTINGS

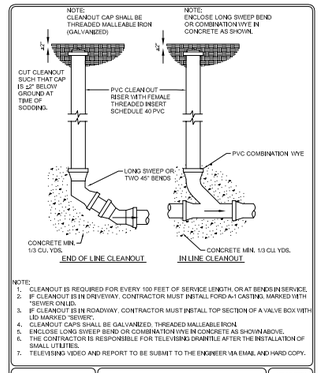


City of Dayton	SEWER AND FUSED WATER SERVICE CONNECTIONS	LAST REVISION: MAR 2024 / PLATE NO.: SER-01A



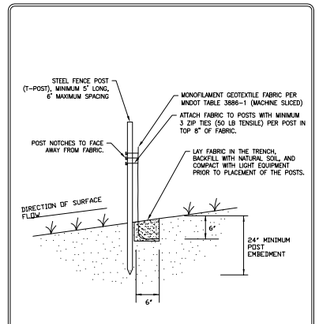
NOTES:
1. WHERE THE SANITARY MAIN IS DEEPER THAN 14.5', SERVICE RISERS SHALL BE REQUIRED.
2. SEE DETAIL SER-1 FOR INFORMATION ON TRACER WIRE AND CONNECTORS.
3. 2" MINIMUM RISER.
4. MIN OF 1 LB. DRIVE IN ANODES WITH 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY SANITARY MANHOLE.
5. ALL SERVICE PIPE 6" ID AND ALL TRUNK SEWER LINES SHALL USE DUCTILE IRON TEES AND RISERS IN PLACE OF PVC WYES UNLESS OTHERWISE APPROVED BY ENGINEER.
6. WHERE DUCTILE IRON TEE IS USED IN PLACE OF PVC WYE, RISERS TO BE 30°, DIP TO PVC TRANSITION FITTINGS TO BE USED AT TOP OF RISER.
7. ALL SEWER DUCTILE IRON FITTINGS TO BE EPOXY BONDED. ALL SEWER DUCTILE IRON PIPE AND FITTINGS TO HAVE PROTECTO 401 LINER. ALL MATERIALS TO BE AMERICAN MADE.
8. ALL DUCTILE IRON PIPES AND FITTINGS TO BE WRAPPED IN POLY AND TAPED.

City of Dayton	SERVICE RISER	LAST REVISION: MAR 2024 / PLATE NO.: SER-02



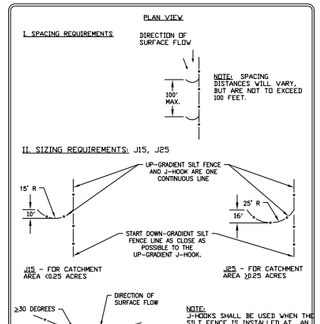
NOTE:
1. CLEANOUT IS REQUIRED FOR EVERY 100 FEET OF SERVICE LENGTH, OR AT BENDS IN SERVICE.
2. IF CLEANOUT IS IN DRIVEWAY, CONTRACTOR MUST INSTALL FORD A-1 CASTING, MARKED WITH "SEWER-ONLY".
3. IF CLEANOUT IS IN ROADWAY, CONTRACTOR MUST INSTALL TOP SECTION OF A VALVE BOX WITH LID MARKED "SEWER".
4. CLEANOUT CAPS SHALL BE GALVANIZED, THREADED MALLEABLE IRON.
5. ENCLOSE LONG SWEEP BEND OR COMBINATION WYE IN CONCRETE AS SHOWN ABOVE.
6. THE CONTRACTOR IS RESPONSIBLE FOR TELEVISING DRAINTILE AFTER THE INSTALLATION OF SMALL UTILITIES.
7. TELEVISING VIDEO AND REPORT TO BE SUBMIT TO THE ENGINEER VIA EMAIL AND HARD COPY.

City of Dayton	PVC SERVICE LINE CLEANOUTS	LAST REVISION: MAR 2024 / PLATE NO.: SER-03



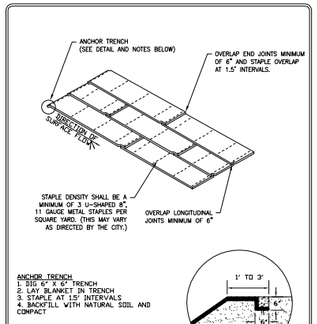
NOTE:
SERVICE CONNECTIONS TO BE AT 2:00 OR 10:00 POSITION.

City of Dayton	SERVICE CONNECTION TO RCP	LAST REVISION: MAR 2024 / PLATE NO.: SER-04



NOTES
1. CURB BOX SHALL NOT BE LOCATED IN DRIVEWAY.
2. ALL SYSTEMS WITH NO FUTURE INTENT FOR USE MUST BE ABANDONED. ALL SOLIDS AND LIQUIDS MUST BE DISPOSED OF ACCORDINGLY BY A LICENSED MAINTENANCE BUSINESS. ALL ELECTRICAL DEVICES AND DEVICES CONTAINING MERCURY MUST BE REMOVED AND DISPOSED OF ACCORDING TO APPLICABLE REGULATIONS. ABANDONED TANKS OR ANY OTHER UNDERGROUND CAVITIES MUST BE REMOVED OR REMAIN IN PLACE AND CRUSHED WITH THE REMAINING CAVITY FILLED WITH SOIL OR ROCK MATERIAL. ACCESS FOR FUTURE DISCHARGE TO THE SYSTEM MUST BE PERMANENTLY DENIED.
3. SANITARY SEWER SERVICE SHALL BE 4" PVC SCHEDULE 40.
4. WATER SERVICE SHALL BE INSTALLED WITH TRACER WIRE.
5. COMPLY WITH MINNESOTA DEPARTMENT OF HEALTH SEPARATION REQUIREMENTS.

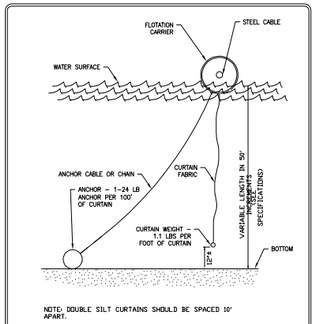
City of Dayton	RESIDENTIAL SEWER AND WATER SERVICE CONNECTIONS FROM STUB TO HOUSE	LAST REVISION: MAR 2024 / PLATE NO.: SER-05



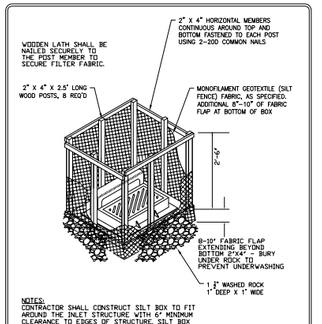
NOTES
1. GATE VALVE SHALL NOT BE LOCATED IN DRIVEWAY.
2. ALL SYSTEMS WITH NO FUTURE INTENT FOR USE MUST BE ABANDONED. ALL SOLIDS AND LIQUIDS MUST BE DISPOSED OF ACCORDINGLY BY A LICENSED MAINTENANCE BUSINESS. ALL ELECTRICAL DEVICES AND DEVICES CONTAINING MERCURY MUST BE REMOVED AND DISPOSED OF ACCORDING TO APPLICABLE REGULATIONS. ABANDONED TANKS OR ANY OTHER UNDERGROUND CAVITIES MUST BE REMOVED OR REMAIN IN PLACE AND CRUSHED WITH THE REMAINING CAVITY FILLED WITH SOIL OR ROCK MATERIAL. ACCESS FOR FUTURE DISCHARGE TO THE SYSTEM MUST BE PERMANENTLY DENIED.
3. SANITARY SEWER SERVICE SIZE SHALL BE BASED ON FLOW USAGE
4. WATER SERVICE SIZE SHALL BE BASED ON USAGE/FIRE PROTECTION.
5. WATER SERVICE SHALL BE INSTALLED WITH TRACER WIRE.
6. COMPLY WITH MINNESOTA DEPARTMENT OF HEALTH SEPARATION REQUIREMENTS.

City of Dayton	NON-RESIDENTIAL SEWER AND WATER SERVICE CONNECTIONS FROM STUB TO BUILDING	LAST REVISION: MAR 2024 / PLATE NO.: SER-06

NOTES:
1. ALL NEW CURB BOXES MUST HAVE RISER RODS. WHEN AN EXISTING CURB BOX IS ON A CONSTRUCTION OR RECONSTRUCTION PROJECT, RISER RODS SHALL BE INSTALLED TO ALL CURB BOXES ON THAT PROJECT.
2. INSTALL SERVICE LINES WITH A 45° RISER TO 6' BELOW FINISHED GRADE.
3. PLACEMENT OF CURB STOP AND BOX ON PRIVATE STREETS SHALL BE 9' OUTSIDE OF THE RIGHT OF WAY.
4. TRACER WIRE SHALL BE BROUGHT TO SURFACE ALONG WATERMAIN CURB STOP. INSTALL SNAKEPIT, OR APPROVED EQUAL TRAFFIC RATED TRACER WIRE ACCESS BOX.
5. MIN OF 1 LB. DRIVE IN ANODES WITH MIN 20' WIRE LEAD ARE TO BE INSTALLED AT EVERY TRACER WIRE ACCESS BOX.
6. TRACER WIRE SHALL BE 12 AWG COPPER CLAD STEEL CORE WIRE WITH MIN BREAK LOAD OF 450 LB FOR OPEN CUT INSTALLATION RATED FOR 30 VOLTS MIN 45 MIL HMWPE JACKET.
7. TRACER WIRE CONNECTOR SHALL BE 3RY COMA DIRECT BURY LUG AQUAL, PRO-TRACE 3B OR APPROVED EQUAL.
8. WATER SERVICE MUST BE CONTINUOUS WITH NO JOINTS AND STIFFENERS ON ALL FLEXIBLE PLASTIC CONNECTIONS

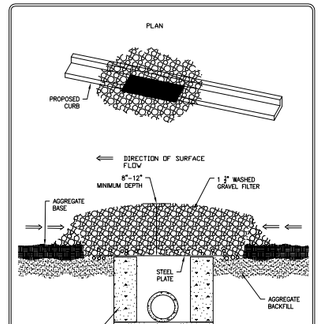


City of Dayton	SEWER AND COMPRESSION WATER SERVICE CONNECTIONS	LAST REVISION: MAR 2024 / PLATE NO.: SER-01B



NOTE:
THE MACHINE SLICED METHOD (THIS DETAIL) IS THE STANDARD SILT FENCE INSTALLATION METHOD. HEAVY-DUTY (ERO-1B) OR STANDARD (ERO-1C) SILT FENCE INSTALLATION METHODS SHOULD ONLY BE USED WHEN APPROVED OR DIRECTED BY THE CITY.

City of Dayton	SILT FENCE MACHINE SLICED	LAST REVISION: MAR 2024 / PLATE NO.: ERO-01A



City of Dayton	SILT FENCE HEAVY DUTY	LAST REVISION: MAR 2024 / PLATE NO.: ERO-01B

City of Dayton	SILT FENCE STANDARD	LAST REVISION: MAR 2024 / PLATE NO.: ERO-01C

City of Dayton	SILT FENCE J-HOOK	LAST REVISION: MAR 2024 / PLATE NO.: ERO-01D

City of Dayton	EROSION CONTROL BLANKET INSTALLATION	LAST REVISION: MAR 2024 / PLATE NO.: ERO-02

NOTE: DOUBLE SILT CURTAINS SHOULD BE SPACED 10' APART.

City of Dayton	FLOATING SILT CURTAIN	LAST REVISION: MAR 2024 / PLATE NO.: ERO-03

NOTES:
CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND THE INLET STRUCTURE WITH 4" MINIMUM CLEARANCE TO EDGES OF STRUCTURE. SILT BOX TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE OPENING. TOP OF SILT BOX TO EXTEND 18" MINIMUM ABOVE EXISTING GRADE.

City of Dayton	INLET PROTECTION SILT BOX FOR CATCH BASIN BEFORE ROAD CONSTRUCTION	LAST REVISION: MAR 2024 / PLATE NO.: ERO-04A

City of Dayton	INLET PROTECTION ROCK FILTER FOR CATCH BASIN DURING ROAD CONSTRUCTION	LAST REVISION: MAR 2024 / PLATE NO.: ERO-04B

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

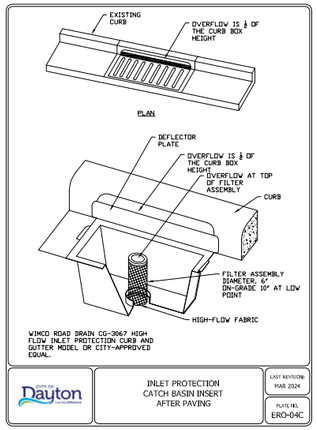
CITY PROJECT NO.
--

DAYTON, MINNESOTA

CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC 415

FILE NO.
3120-082-400

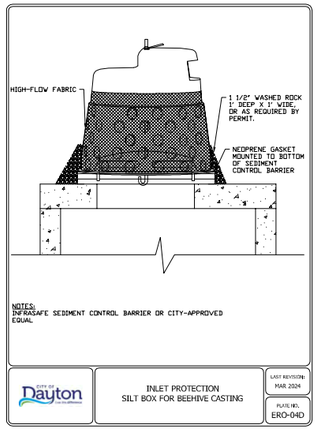
29
31



CITY OF Dayton

INLET PROTECTION
CATCH BASIN INSERT
AFTER PAVING

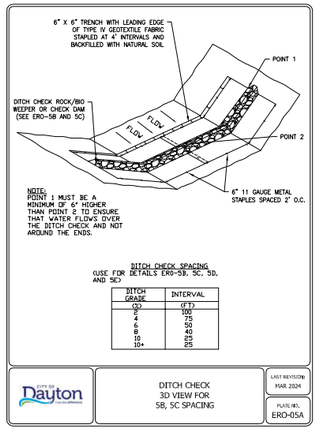
LAST REVISION: MAR 2024
PLATE NO.: ERO-04C



CITY OF Dayton

INLET PROTECTION
SILT BOX FOR BEEHIVE CASTING

LAST REVISION: MAR 2024
PLATE NO.: ERO-04D



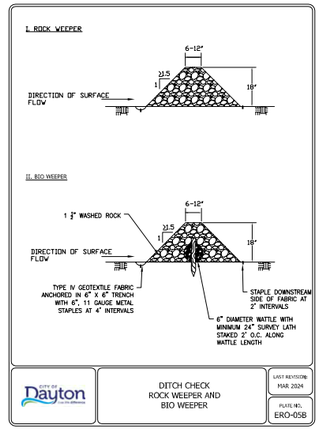
DITCH CHECK SPACING
(USE FOR DETAILS ERO-5B, 5C, 5D, AND 5E)

DITCH GRADE (%)	INTERVAL (FT)
2	100
4	75
6	50
8	40
10	25
10+	25

CITY OF Dayton

DITCH CHECK
3D VIEW FOR
5B, 5C SPACING

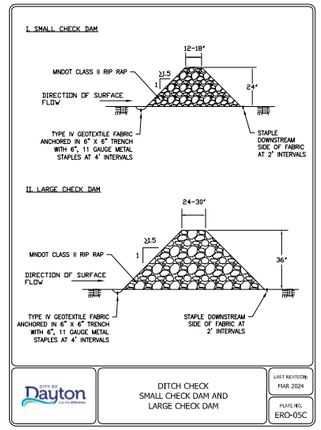
LAST REVISION: MAR 2024
PLATE NO.: ERO-05A



CITY OF Dayton

DITCH CHECK
ROCK WEEPER AND
BIO WEEPER

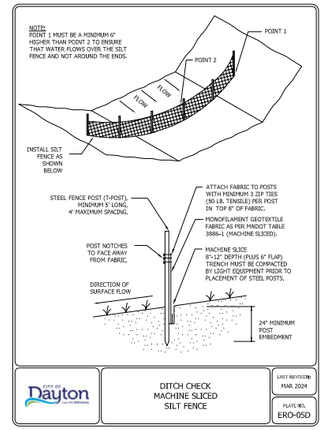
LAST REVISION: MAR 2024
PLATE NO.: ERO-05B



CITY OF Dayton

DITCH CHECK
SMALL CHECK DAM AND
LARGE CHECK DAM

LAST REVISION: MAR 2024
PLATE NO.: ERO-05C



CITY OF Dayton

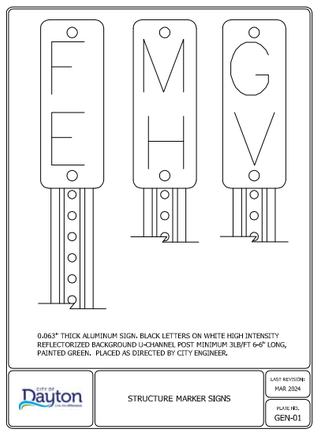
DITCH CHECK
MACHINE SLICED
SILT FENCE

LAST REVISION: MAR 2024
PLATE NO.: ERO-05D

CITY OF Dayton

DITCH CHECK
TRIANGULAR SILT DIKE

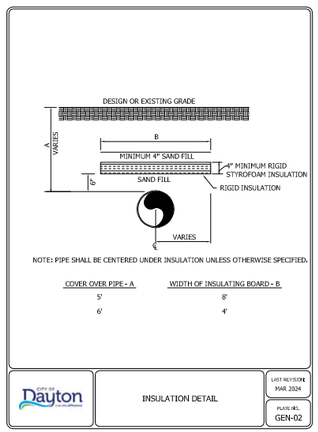
LAST REVISION: MAR 2024
PLATE NO.: ERO-05E



CITY OF Dayton

FILTER LOG DITCH CHECK

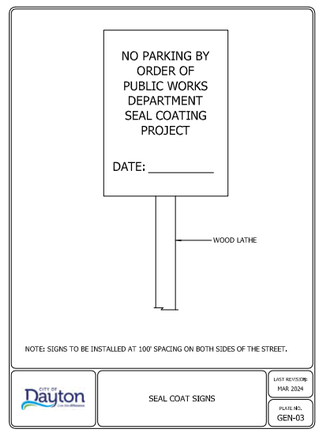
LAST REVISION: MAR 2024
PLATE NO.: ERO-06



CITY OF Dayton

CONSTRUCTION ENTRANCE
ROCK

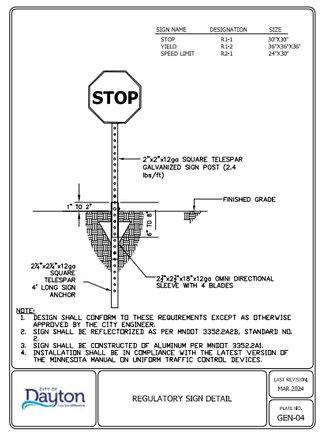
LAST REVISION: MAR 2024
PLATE NO.: ERO-07



CITY OF Dayton

TEMPORARY SEDIMENT BASIN
SKIMMER OUTLET

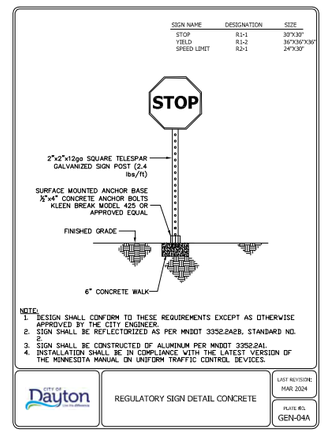
LAST REVISION: MAR 2024
PLATE NO.: ERO-08A



CITY OF Dayton

TEMPORARY SEDIMENT BASIN
STANDPIPE OUTLET

LAST REVISION: MAR 2024
PLATE NO.: ERO-08B



CITY OF Dayton

TEMPORARY SEDIMENT TRAP

LAST REVISION: MAR 2024
PLATE NO.: ERO-09

CITY OF Dayton

SLOPE TRACKING

LAST REVISION: MAR 2024
PLATE NO.: ERO-10

CITY OF Dayton

STRUCTURE MARKER SIGNS

LAST REVISION: MAR 2024
PLATE NO.: GEN-01

CITY OF Dayton

INSULATION DETAIL

LAST REVISION: MAR 2024
PLATE NO.: GEN-02

CITY OF Dayton

SEAL COAT SIGNS

LAST REVISION: MAR 2024
PLATE NO.: GEN-03

CITY OF Dayton

REGULATORY SIGN DETAIL

LAST REVISION: MAR 2024
PLATE NO.: GEN-04

CITY OF Dayton

REGULATORY SIGN DETAIL CONCRETE

LAST REVISION: MAR 2024
PLATE NO.: GEN-04A

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

ENGINEERS SURVEYORS DESIGNERS PLANNERS
SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
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DAYTON, MINNESOTA

CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

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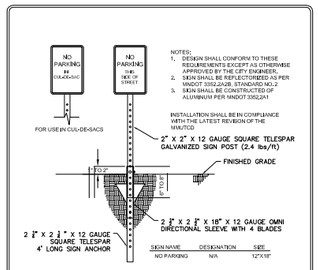
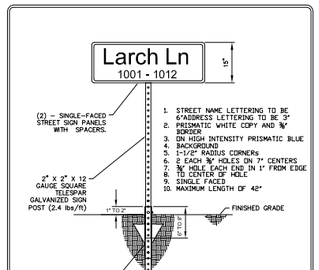
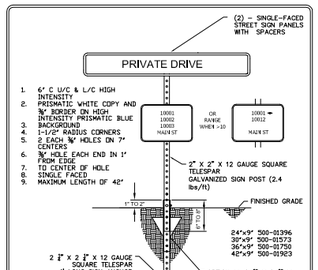


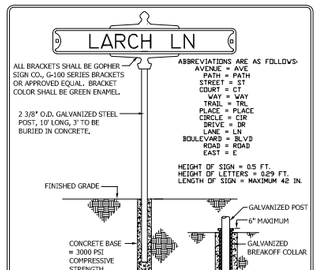
CITY OF Dayton	NO PARKING SIGNS	LAST REVISION: MAR 2024	PLATE NO. GEN-05



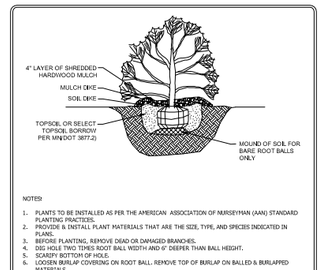
CITY OF Dayton	PRIVATE DRIVE SIGN - RESIDENTIAL	LAST REVISION: MAR 2024	PLATE NO. GEN-06A



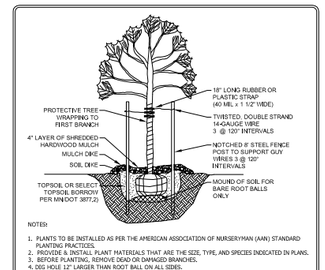
CITY OF Dayton	PRIVATE DRIVE SIGN - RURAL	LAST REVISION: MAR 2024	PLATE NO. GEN-06B



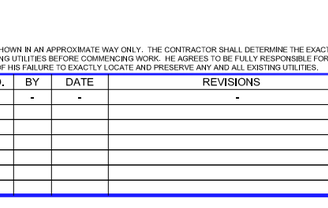
CITY OF Dayton	STREET SIGN DETAIL	LAST REVISION: MAR 2024	PLATE NO. GEN-06



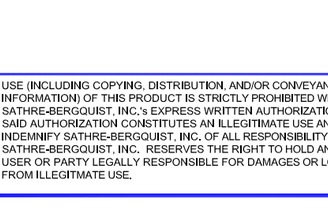
CITY OF Dayton	SHRUB PLANTING DETAIL	LAST REVISION: MAR 2024	PLATE NO. GEN-07



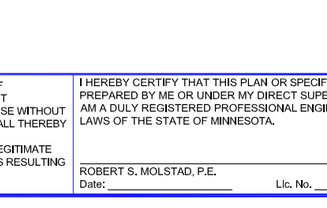
CITY OF Dayton	DECIDUOUS TREE PLANTING DETAIL	LAST REVISION: MAR 2024	PLATE NO. GEN-08



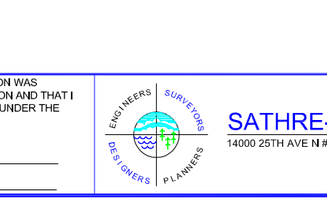
CITY OF Dayton	CONIFEROUS TREE PLANTING DETAIL	LAST REVISION: MAR 2024	PLATE NO. GEN-09



CITY OF Dayton	WETLAND BUFFER CONSERVATION AREA AND CITY NATURAL AREA SIGN	LAST REVISION: MAR 2024	PLATE NO. GEN-10



CITY OF Dayton	TYPICAL PARALLEL PARKING AND STALL DETAILS	LAST REVISION: MAR 2024	PLATE NO. GEN-11



CITY OF Dayton	DEFLECTION TEST PIPE MATERIAL AND MANDREL SIZE	LAST REVISION: MAR 2024	PLATE NO. GEN-12


GENERAL TESTING NOTES:
1. PIPE MATERIAL AND TESTING REQUIREMENTS MAY CHANGE DEPENDING ON SOIL CONDITIONS AND OTHER FACTORS.
2. ALL TESTING TO occur before BUILDING PERMITS ARE ISSUED OR CONSTRUCTION OF WEAR COURSE PAVEMENT.
3. CITY TO BE NOTIFIED MINIMUM 48 HOURS BEFORE ANY UTILITY TESTING OR BUILDING PERMIT.

SANITARY SEWER TESTING NOTES:
1. A MINIMUM WAITING TIME PERIOD OF 30 DAYS AFTER INSTALLATION IS REQUIRED BEFORE DEFLECTION TEST MAY BE PERFORMED. (SEE GEN-11)
2. TRACER WIRE TEST TO BE PERFORMED ON ALL SANITARY SEWER AND SANITARY SEWER SERVICES BY METROTECH OR APPROVED EQUAL.
3. AIR TEST WILL BE PERFORMED AT A PRESSURE OF 4.0 PSIG GREATER THAN THE PRESSURE EXERTED BY GROUNDWATER, IF PRESENT.
4. IF GROUNDWATER IS PRESENT, FOR EVERY FOOT OF GROUND WATER ABOVE THE PIPE SPRING LINE, INCREASE THE GAGE TEST PRESSURE BY 0.43 PSI TO COMPENSATE FOR WATER BACK PRESSURE. (SEE GEN-11)
7. THE SEWER LINE WHICH IS BEING TESTED WILL BE ACCEPTED AS PASSING THE AIR TEST IF THE PRESSURE DOES NOT DROP MORE THAN 0.5 PSI IN LESS TIME THAN 30 SECONDS PER INCH IN DIAMETER OF THE PIPE BEING TESTED.
8. TESTING SHALL BE PERFORMED ON ALL NEWLY INSTALLED GRAVITY SEWER FOLLOWING ALL OTHER SUCCESSFUL TESTING.
9. SANITARY SEWER TO BE JETTED PRIOR TO TELEVISING.
10. ALL PROXIMATE STORM SEWER MUST BE INSTALLED BEFORE WATERMAIN TESTING BEGINS.

FORCEMAIN TESTING NOTES:
1. FORCEMAIN HYDROSTATIC TEST PROCEDURE AS FOLLOWS-
1.1. PUMP SYSTEM TO MINIMUM 75 PSI.
1.2. THE FORCEMAIN SYSTEM WILL BE ACCEPTED AS PASSING IF THE PRESSURE HAS NO DROP IN PRESSURE IN 2 HOURS.
2. GAUGE TO BE USED WILL BE AN ASHCROFT, MODEL 1082, 4 1/2" DIAMETER IN ONE PSI INCREMENTS OR APPROVED EQUAL.
3. TRACER WIRE TEST REQUIRED FOR ALL FORCEMAIN TRACER WIRE

WATERMAIN TESTING NOTES:
1. WATERMAIN TESTING TO INCLUDE ALL CURB STOPS AND HYDRANT LEADS.
2.1. PUMP SYSTEM TO MINIMUM 150 PSI AS FOLLOWS-
2.2. THE WATERMAIN SYSTEM WILL BE ACCEPTED AS PASSING IF THE PRESSURE HAS NO DROP IN PRESSURE IN 2 HOURS.
2.3. ALL BUTTERFLY VALVES TO BE INDIVIDUALLY HYDROSTATICALLY TESTED AGAINST BOTH SIDES OF VALVE.
3. BACTERIA TEST (MINIMUM 2 SETS)
3.1. 1 TEST FOR EVERY 1000 LF
3.2. 1ST SET OF TESTS 24 HOURS AFTER INITIAL FLUSHING.
3.3. SECOND SET OF TESTS TO BE TAKEN AFTER PASSING RESULTS FROM FIRST TEST, MINIMUM 24 HOURS AFTER FIRST TEST.
4. TRACER WIRE TEST TO BE PERFORMED BY A METROTECH OR APPROVED EQUAL. TRACER WIRE TO BE CONTINUOUS FOR THE ENTIRE LINE.
5. WATERMAIN TESTING TO MEET MINNESOTA DEPARTMENT OF HEALTH STANDARDS.
6. ALL PROXIMATE STORM SEWER MUST BE INSTALLED BEFORE WATERMAIN TESTING BEGINS.

STORM SEWER TESTING NOTES:
1. TELEVISING SHALL BE PERFORMED ON ALL NEWLY INSTALLED STORM SEWER.
2. TELEVISING SHALL BE PERFORMED ON ALL DRAINTILE AFTER REAR CCDMC AND AFTER PRIVATE UTILITIES ARE INSTALLED.
3. TELEVISING SHALL BE PERFORMED ON ALL REAR YARD DRAINTILE AFTER RESTORATION IS COMPLETE.
4. ALL TELEVISING TAPES TO BE EMAILED TO CITY REPRESENTATIVE.

CITY OF Dayton	TESTING REQUIREMENTS	LAST REVISION: MAR 2024	PLATE NO. GEN-13


BUILDINGS, BUILDING CODES, GRADING REQUIREMENTS:
1. ELEVATIONS SHOWN ON THESE PLANS ARE REFERENCES BY A MINNESOTA LICENSED LAND SURVEYOR. IT IS RECOMMENDED THAT ANY SURVEY WORK PERFORMED BY OTHERS BE REVIEWED BY A MINNESOTA LICENSED LAND SURVEYOR. ANY DISCREPANCIES OR OMISSIONS SHALL BE REPORTED TO THE PREPARERS OF SURVEYS AND APPROVED PLANS. CONTRACTOR AND ACCURATE INFORMATION WILL EXPEDITE THE PLAN REVIEW PROCESS.

CERTIFICATE OF SURVEY:
1. CERTIFICATE OF SURVEY IS REQUIRED TO OBTAIN A BUILDING PERMIT FOR NEW CONSTRUCTION AND MAY BE REQUIRED FOR ADDITIONS, DECKS, OR OTHER STRUCTURE ADDITIONS OR DEVELOPMENT CHANGES WHEN A LAND SURVEY IS NOT REQUIRED BY CITY CODE.
2. GRADING REQUIREMENTS:
3. GRADING REQUIRED TO BE MOST 3:1 SLOPES EXCEPT WHERE HELD ON TO 2:1 SLOPES CONSTRUCTION FOR NEW CONSTRUCTION AND WHEN APPROVED BY CITY ENGINEER. ALL SLOPES SHALL BE STABILIZED WITH SOD OR SEED AND MULCH. EROSION CONTROL MEASURES TO BE PROVIDED AND SUBMITTED PRIOR TO CONSTRUCTION WITH BUILDING PERMIT APPLICATIONS.

DESIGNED SURFACE MUST SHOW:
1. ALL SPOT ELEVATIONS
2. NOTE DESCRIBING STYLE, GRADIENT, VOLUMETRIC, LOCATION, ETC.)
3. ALL BENCHMARKS
4. ALL BUILDING STRUCTURES (INCLUDING WELLS AND NORTH ARROW)
5. ALL DESCRIPTIONS (EXISTING/PROPOSED) ELEVATIONS AND REVISION DATES

FEATURES:
1. ALL UTILITIES (INCLUDING STUB, BASEMENT, WALKOUT, LOOKOUT, ETC.)
2. ALL DRIVEWAYS
3. ALL RETAINING WALLS
4. ALL SWALES (INCLUDING LOW POINT)
5. MID-POINT ELEVATIONS ALONG LOT LINES
6. ALL DRAINAGE STRUCTURES WITH RIM ELEVATIONS
7. ALL INVERTS AND SLOPES
8. ALL PIPES WITH SIZE AND TYPE
9. WELL, SEPTIC SYSTEM, TANKS
10. ELEVATIONS AND DIMENSIONS OF EXISTING AND PROPOSED STRUCTURES
11. ALL EASEMENTS OF RECORD AND DRAINAGE EASEMENTS
12. METHODS OF DRAINAGE (SURFACE, SUBSURFACE, SWALES, ETC.)
13. ALL EXISTING AND PROPOSED TREES, SHRUBS, HEDGES, TREE RESERVES
14. DRAINAGE DETAILS, INLET CONTROL STRUCTURES, AND EMERGENCY OVERFLOWS
15. ALL EXISTING AND PROPOSED SIDEWALKS AND TRAILS
16. WETLAND, WATER LEVEL, AND HIGH WATER LEVEL ELEVATIONS OF ADJOINING LAKES, WETLANDS, PONDS, AND STREAMS
17. UTILITY POTENTIAL GRADING AS-BUILT ONLY!
18. ALL EASEMENTS AND R/W LINES

ELEVATIONS MUST BE SHOWN AT ALL CRITICAL REQUIREMENTS FOR AS-BUILT CONSTRUCTION AND GRADING SURVEYS. ELEVATIONS MUST BE CROSS-REFERENCED WITH APPROVED ELEVATIONS.

MINIMUM BUILDING BUILDING ELEVATIONS:
BUILDING OPENINGS AND FLOOR ELEVATIONS
ALL BUILDINGS SHALL BE CONSTRUCTED AT LEAST TWO (2) FEET ABOVE 100-YEAR FLOOD ELEVATION AND TWO (2) FEET ABOVE HIGHEST ANTICIPATED WATER LEVEL. ONLY ELEVATION AS ESTABLISHED BY THE APPROVED PLANS AND THE CITY ENGINEER.

BUILDING AND GARAGE FLOOR ELEVATIONS
ALL BUILDINGS SHALL BE CONSTRUCTED AT LEAST ONE (1) FOOT ABOVE 100-YEAR FLOOD ELEVATION AND TWO (2) FEET ABOVE HIGHEST ANTICIPATED WATER LEVEL. ONLY ELEVATION AS ESTABLISHED BY THE APPROVED PLANS AND THE CITY ENGINEER.

BUILDING AND GARAGE FLOOR ELEVATIONS
ALL BUILDINGS SHALL BE CONSTRUCTED AT LEAST ONE (1) FOOT ABOVE ALL EMERGENCY OVERFLOW.

THIS INFORMATIONAL DOCUMENT MAY NOT COMPREHENSIVELY ADDRESS ALL LAWS RELATED TO THE SUBJECT ADDRESSES. IT IS PROVIDED AS GENERAL GUIDE ONLY AS A HELPFUL GUIDE. SITE PREPARATION OR PERMITTED WORK IS NOT ALLOWED UNTIL PERMITS HAVE BEEN ISSUED BY THE CITY OF DAYTON.

CITY OF Dayton	CERTIFICATE OF SURVEY AND GRADING AS-BUILT REQUIREMENTS	LAST REVISION: MAR 2024	PLATE NO. GEN-14

EXISTING UTILITIES SHOWN ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY AND ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES ARISING OUT OF HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.

DRAWING NAME	NO.	BY	DATE	REVISIONS
RW4	-	-	-	-
DRAWN BY				
MJV				
CHECKED BY				
RSM				
DATE				
XX-XX-XX				

I HEREBY CERTIFY THAT THIS PLAN OR SPECIFICATION WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

ROBERT S. MOLSTAD, P.E.
Date: _____ Lic. No. _____

SATHRE-BERGQUIST, INC.
14000 25TH AVE N #120 PLYMOUTH, MN. 55447 (952) 476-6000

CITY PROJECT NO.
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DAYTON, MINNESOTA

CONSTRUCTION DETAILS
RIVERWALK 4TH ADDITION
RGW DAYTON DEVELOPMENT, LLC

FILE NO.
3120-082-400

31
31

Stantec

Memo

To:	Jon Sevald	From:	Jason Quisberg, Engineering Nick Findley, Engineering Ben Otto, Engineering
Project:	Riverwalk 4th Addition	Date:	3/11/2025

Exhibits:

This Memorandum is based on a review of the following documents:

1. Riverwalk 4th Addition Final Plat by Sathre-Bergquist, Inc., undated, 5 sheets
2. Riverwalk 4th Addition Final Plat Plans by Sathre-Bergquist, Inc., undated, 31 sheets
3. Landscape Plan Riverwalk 4th Addition by Pioneer Engineering, dated 08-23-21, 6 sheets
4. Stormwater Management Plan by AE2S, dated 03-30-2022, 1292 sheets

Comments:

General

1. Consistent with the review process, a comment response letter shall be provided in response to the following comments provided in this Memorandum in which the applicant provides a written response to each item.
2. In addition to engineering related comments per these plans, the proposed plans are subject to addition planning, zoning, land-use, and other applicable codes of the City of Dayton.
3. Final approval by the Elm Creek Watershed Management Commission must be attained before any site grading or activity may commence.
4. For any site activity (demo, grading, utilities, etc.) no closures or restrictions of any kind shall be imposed upon the public use of 147th Ave N without the City's permission or Dayton River Road without the permission of the City and County. Should any lane restrictions be necessary, the Contractor shall notify the City at least 48 hours in advance and provide a Traffic Control Plan.
5. Any underlying easements no longer necessary must be vacated.
6. Outlots shall be covered by drainage and utility easements.
7. Work is shown taking place on an adjacent site, ensure all access rights and agreements are obtained.
8. Update detail plates to be the most recent set. Coordinate with engineer.

Plat

9. In locations where proposed trails are within drainage and utility easement, ensure said easement include trail rights for access and maintenance.
10. Ensure all storm sewer has a minimum of 20' of drainage and utility easement on center. An example of where this is not maintained is between Lots 7 & 8 Block 1.
11. Ensure the 100-year HWL for all wetlands is within drainage and utility easements.

12. Pond access is shown outside of easement for Pond 4N.
13. Sufficient easement is not provided for the proposed trunk sanitary sewer. In discussions with the developers engineer it was proposed to supply a casing pipe for which the proposed sanitary sewer main to travel through in lieu of additional easement. This will be acceptable with the following conditions:
    - Casing pipe is to be steel with sacrificial anodes, sand filled, bulkheaded on both ends, and utilize manufacturer recommended skids/spacers to adequately keep the sewer main in place.
    - Casing pipe is to extend from manhole T4 located in the street to as close as feasible to the connection to the existing sewer line.
    - There are concerns for the possible disturbance caused by excavation for the pipe installation to the future foundation area for both homes proposed along the proposed sewer run. Impacts are not to take place within 10' of building pad location without the review and recommendations of a licensed geotechnical engineer. The analysis and documentation by the developer's geotechnical engineer is to be provided to the City for the records.

Erosion Control/SWPPP

14. Provide additional information on ditching from manhole K5 to Pond 6N. Ditch checks or other BMPs may be required to limit erosion.
15. Submit SWPPP with current relevant information updated for this addition of development, signed by SWPPP certified individual with active certification.

Transportation

16. Ensure vertical curves meet 30 mph design speeds per standard detail STR-05.

Site Plans

17. Provide no parking in cul-de-sac signs per standard detail STR-08.
18. Street signage is to be on a separate post, see standard detail Gen-06 for guidance on placement.
19. Storm structure shown partially within trail, casting to be either entirely within the trail or entirely outside of the trail.

Grading /Stormwater

20. Drainage swales, including side lot swales are to be a minimum of 2% with a maximum of 4:1 in maintained areas. Ensure swales include spot elevations confirming they are within compliance. The list below is not inclusive and is intended to provide examples.
    - Between lots 3 & 4 block 1
    - Between lots 24 & 25 block 1
    - Between lots 28 & 29 block 1
    - Between lots 13 & 14 block 2
    - Between lots 20 & 21 block 2
21. There are numerous locations of grading shown at 3:1 or greater. Maintained areas are to be 4:1 or less.

22. Lot 5 Block 3 appears to have very little useable backyard due to the proposed drainage swale located in the backyard. We recommend adjusting the lot to sheet drain to the proposed lot similar to Lot 6 Block 3. This may require changes to the home type.
23. Drainage arrows shown within lot 12 & 13 appear to be incorrect. If drainage is sent across the lots as shown, easement will be required.
24. Drainage appears to be traveling outside of drainage and utility easement between lot 1 & 2 block 2. Provide additional easement or show the drainage swale is with D & U.
25. Drainage swale located within the backyard of Lot 5 & 6 Block 1 of 5th Addition contours conflict with the drainage arrows shown. Provide a more defined swale prior to the completion of 5th Addition.
26. Provide spot elevations as a part of the pedestrian ramp details.
27. Provide profiles for off street trail showing they are 5% or less meeting ADA standards.
28. A minimum of 3.0’ of cover underneath paved surfaces and 2.0’ of cover in non-paved areas for storm sewer is required.
29. Provide sanitary sewer and watermain crossings as a part of the storm sewer profile.
30. Match crowns on all storm sewer where feasible.
31. Pipe slope/size and capacity should incrementally increase from upstream to downstream MH’s.
32. Plastic catch basins will not be allowed, provide at a minimum 27” diameter concrete storm structure.
33. Revise double inlets located at approximately station 18+90 of Minnesota Lane to be on the same side of the low point catch basin.
34. Sumps shall be added at last upstream catch basin or storm manhole near to the road. An example of where this is not maintained is the T storm sewer run.
35. Storm sewer run between CBMH M3 and STMH M2 is shown higher than the proposed grade. Ensure cover requirements are met.
36. Show berm grading for basin 2NW or add note/detail for design in field. Provide TRM or Rip rap stabilization along the entire width of the flow path.
37. Provide rear yard sump connections where lots do not back up to ponds or wetlands.
38. Provide updated subcatchment drainage area map for inlets used in the Hydraflow calculations.
39. Show upstream and downstream invert elevations in Hydraflow calculations.
40. Provide a maximum average velocity of 10 fps and a minimum average velocity of 3fps.
41. Gutter spread is shown to exceed 8’ of spread or ½ the drive lane of 16’. Spacing should be adjusted or additional inlets added to reduce spread. For example, V12-11, V6-V5, V4-V3, and V3-V11.
42. Provide electronic files for the HydraFlow calculations.
43. Update Hydraflow and plans to match the stormsewer run for Stormfile V.
    - Include CB’s V26-V25.
    - Show profiles for all CBs in plans. V20-V19 appears to be missing.
    - Hydraflow shows routing from V21 to V6. V21 appears to be parallel to V18/V20 and is not connected to V6.

- Pipe length from V19-V20 shown in HydraFlow conflicts with the plans. Update to match between model and plans.
- No V18A shown in plans.
- V23 to V19 does not appear to be routed correctly.
- Include V14-13 in the model.
- Update pipe slopes to match between Hydraflow and plans.

44. Update Hydraflow and plans to match for the stormsewer run for Stormfile T.
    - Update pipe slopes to match the plans. For example, there are inconsistencies between T1 and T5.
45. Update the Storm M Files to match the plans for consistency. Examples are shown below:
    - Pipe sizes for storm runs M7-M6 and M4-M5 all show different pipe sizes on the plans than shown on Hydraflow. For example, M4-M5 shows an 18" pipe while the Hydraflow shows a 15".
    - Invert of 15" 907 is shown lower than the outgoing outlet of 908.20 in structure M6.
    - Slopes between manholes and Hydraflow do not match for most of the M pipe run. For example, M5-M6 shows .5% on the plans but 1.9% on the Hydraflow.
    - Velocities shall not exceed 10fps. For example, M2-M3 shows an average velocity of 11 fps.
46. Update the Storm K Files to match the plans for consistency. Examples are shown below:
    - Revise slopes and lengths to match between the Hydraflow and plans. For example, plans show K7-K8 shows 8' of pipe and a 1.25% slope while the Hydraflow shows 30' and 1.32% slope.

<u>Watermain/Sanitary Sewer</u>

47. There are multiple instances where the elevations called out in the profiles do not match the location shown on the profile. All features included in the profiles shall be accurately displayed. An example of this is the Watermain located from 30+60 to 32+25.
48. Watermain located near MH T4 has less than 2' of separation from the proposed storm crossing per the provided elevations. Ensure proper separation is provided for both the watermain above and the sanitary sewer below the proposed storm crossing.
49. Per standard detail WAT-06 shift gate valves to end rads where feasible.
50. Provide temporary hydrant at the stub end of 147th Ave N, in lieu of plug with tail.
51. Storm structure M3 is shown in conflict with the proposed watermain. Revise to ensure proper separation is maintained.
52. There are multiple instances of watermain running below storm sewer structures, 2' of separation shall be provided from the bottom of the structure to the top of watermain.
53. Shift hydrants where applicable to be at the highpoint of the watermain.
54. Sanitary sewer run from S3 to S4 shall be SDR 26 per standard detail Gen-12.

55. Sanitary sewer manhole S6 is shown extending above proposed surface. This appears to be caused by manhole being offset from the alignment, confirm rim functions with 5th addition planned grading.

Landscaping

56. Landscaping is proposed along drainage swale located in the backyard of Lot 5 & 6 Block 1 of 5th Addition. Revise prior to submittal of 5th Addition Plans.

End of Comments

PRESENTER: Marty Farrell

ITEM: Dust control application for all City gravel roads.

PREPARED BY: Marty Farrell

POLICY DECISION / ACTION TO BE CONSIDERED: Accepting low quote of $1.345 per gallon from Quality Propane for application of Magnesium Chloride dust control to 5.5 miles of City gravel roads.

BACKGROUND: The City Council decided that it would be beneficial to treat all of the Cities gravel roads with dust control. This will cut gravel costs and improve the longevity of the driving surface.

CRITICAL ISSUES: N/A

BUDGET IMPACT: Funded from the street maintenance and repair budget.

RECOMMENDATION: Approve quote from Quality Propane.

ATTACHMENT(S): Two proposals from Quality Propane and Envirotech

QUALITY PROPANE INC.

12650 Zenith Ave S. Burnsville MN. 55337 PHONE (612) 788-6906

February 19, 2025

City of Dayton
13700 Zanzibar Lane N
Dayton, MN 55327

kmontgomery@cityofdaytonmn.com

Phone: 763-323-4017

RE: Dust Control

On behalf of Quality Propane, I am pleased to present this proposal for your consideration for the 2025 season.

Quality Propane will apply Magnesium Chloride to approximately 5 ½ miles of roads within the City of Dayton as directed at a .3 rate. Approximately 10,000 gallons. Quality Propane will charge the City of Dayton a rate of $1.345 per gallon applied. The City of Dayton must provide all necessary tax-exempt certificates as required by the State of Minnesota or an additional per gallon charge will apply. Please provide the ST-3 form upon acceptance of the proposal. The rate above will be for contiguous work. Additional driveway charges of $25 will be charged if applicable.

A 4% Fuel Surcharge will be applied for all work performed. ($.053 gal.)
Should you have any questions, please feel free to contact me at (612) 788-6906. Thank you for the opportunity to service your dust control needs. We very much look forward to taking care of you this year!

Rob Miller
www.qualitypropanemn.com
rob@qualitypropanemn.com
12650 Zenith Ave
Burnsville MN. 55337
612-788-6906

ENVIROTECH SERVICES
PO Box 5512 · Denver, CO 80217
For Inquiries:
West Region · 509-936-7102
Rocky Mtn Region · 800-577-5346
Midwest Region · 800-881-5848
ETS East · 877-664-3401

Quotation

Quotation Date:	Date Printed:	Expiration Date:
2/6/25	2/6/25	10/31/25
Quotation Number:	**Revision No:**	**Customer Number:**
S6912	1	14160
Your Reference:		**Our Reference:**
		Rodney Havard

Delivery Address:
City of Dayton
City Shop
16470 South Diamond Lake Road
Dayton MN 55327

Document Address:
City of Dayton
12260 South Diamond Lake Road
Dayton MN 55327

Product Application
Length in Feet:
Width in Feet:
Rate in Gallons:

Wanted Delivery Date:

Payment Terms:
30 Days Net
Label Note:
Calcium Quote

Water Application
EnviroTech: N
Rate:
Gallons Required:

Del	Description	Qty	Unit	Price/Unit	Disc. %	Net Amount	Gross Amount
1	Calcium Chloride 38% - Applied	4,300	gal	1.66	0.00%	7,138.00	7,746.53

Net Total:	**7,138.00**
Tax Total	**608.53**
Gross Total	**7,746.53**

PRESENTER: Marty Farrell

ITEM: Approval of Allied Blacktop Company low bid to provide Spring and Fall street sweeping services

PREPARED BY: Marty Farrell

POLICY DECISION / ACTION TO BE CONSIDERED: Approval of proposal from Allied Blacktop Company for Spring and Fall Street sweeping for $120.00 per hour per broom.

BACKGROUND: It is critical that the City maintains its street sweeping program to protect the storm water systems. It is also required by the Storm Water Pollution Prevention Program (SWPPP) as part of their annual tracking document

CRITICAL ISSUES:

- SWPPP compliance

BUDGET IMPACT: Cost included in the streets budget for 2025

RECOMMENDATION: Approve the street sweeping proposal from Allied Blacktop Company for $120.00 per hour.

ATTACHMENT(S): Proposal from Allied Blacktop & Pearson Bros., Inc.

10503 - 89th Avenue North
Maple Grove, MN 55369
www.alliedblacktopmn.com

Matt Dolecki
Phone: 763-425-0575
Cell: 612-834-0167
Email: M.dolecki@alliedblacktopmn.com

Proposal

Date: February 11, 2025

Company Name: City of Dayton
Billing Address: 12260 South Diamond Lake Rd
Dayton, MN 55327
Contact Person: Kelsey Montgomery
Phone: 763-427-3224
Email: kmontgomery@cityofdaytonmn.com

Project Name: 2025 Spring/Fall Sweeping
Project Contact Person: Martin Farrell
Phone: (612)751-8847
Email: mfarrell@cityofdaytonmn.com

We hereby submit specifications and quotations for the following:

Description of Work to be Performed	Unit	Qty.	Unit Price	Price	INT
Sweeping Elgin Pelican(Pick up style broom) Price quoted is hourly rate for each sweeper provided. City to provide water and all necessary trucking. City responsible for proper disposal of sweepings.	HR	1	$120.00	$120.00	

Exclusions: Bonds, permits, fees, surveying, engineering, testing, rail road insurance, special insurance, site specific training for employees, landscaping, irrigation, watering of sod, soil corrections, dewatering, traffic control, utility or structural sheeting, shoring, underpinning, buried debris, rock excavation, class V base materials, drain tile, footing insulation or waterproofing, separation fabrics, vapor barriers, drainage layers, hazardous materials, removal of contaminated soils, haul road construction, erosion control, site restoration, gas, mechanical, or electrical excavation, site fencing, locating private utilities, private utility repairs, winter or cold weather conditions, night or weekend work, winter conditions.

Note: See Allied Inc. Warranty Terms, Qualifications, and Construction Specifications.
Note: Contracted prices are subject to re-pricing if the WTI oil pricing exceeds $125/Barrel at time of delivery

We propose to furnish material and labor, complete in accordance with the above specifications, for the total lump sum of:

TOTAL ALL:	See Above

ADD 1% Bonding if Necessary

Payment terms are net 30 days. Payment terms for chip seal applications are 90% due net 30 days, balance due upon completion of sweeping.
Allied Blacktop Co. accepts credit card payments, but a 4% service charge will be applied to these transactions.
Note: This proposal may be withdrawn if not accepted within 15 days. Any alteration or deviation from the above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements are contingent upon strikes, accidents, weather or other delays beyond our control.
Allied Inc. to carry proper insurance including Workers Compensation.

Authorized Signature: Matt Dolecki
Matt Dolecki

Acceptance of Proposal: The above prices, specifications, conditions, and attached warranty qualifications are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____ Signature: _____

Pearson BROS. INC.

PROPOSAL FOR 2025 STREET SWEEPING

11079 LAMONT AVE. NE HANOVER, MN 55341 PHONE: (736)391-6622 FAX: (736)391-6627

DATE SUBMITTED: 02/12/2025

WE HEREBY SUBMIT THE FOLLOWING ITEMS FOR BID:

TOTAL $140.00 PER HOUR

CITY OF DAYTON

13700 Zanzibar Lane N | Dayton, MN 55327

ATT: KELSEY MONTGOMERY

FAX: 763-323-4917

EMAIL: KMONTGOMERY@CITYOFDAYTONMN.COM

LOOKING FOR THE FOLLOWING INFORMATION:

NUMBER OF BROOMS:

ESTIMATED START DATE: _____ ESTIMATED NUMBERS OF DAYS: _____

WORK HOURS:

WATER AVAILABILTY: PROVIDED BY CITY

LOCATION/ADDRESS TO MEET:

ONSITE FOREMAN- CONTACT WITH CELL NUMBER:

JACK E. PEARSON

PRESIDENT

ITEM:
South Diamond Lake Road Improvements

PREPARED BY:
Jason Quisberg, Engineering

POLICY DECISION / ACTION TO BE CONSIDERED:
Authorize Preparation of Plans and Specifications for the South Diamond Lake Road Improvements Project

BACKGROUND:
Improvements to South Diamond Lake Road (SDLR) are identified in the City's pavement management plan. Mill and overlay improvements are proposed for the entire length of the road within city limits. Note that the segment between Brockton Lane and the Rogers/Dayton border is also included in the project; costs associated with this segment will be the responsibility of Rogers.

Council authorized the preparation of plans and specifications back in October. Plans have been completed and are ready for Council consideration for approval.

Scope:
In addition to the improvements to South Diamond Lake Road, through Dayton and into Rogers, some additional pavement markings, elsewhere in the city, are being included with the project.

Cost Estimate:

Total Construction:	$1,332,000
Engineering:	$58,000
Other Indirect Costs:	$40,000
Total Project:	**$1,430,000**
Add'l Pavement Markings:	-$16,000
Est Rogers Cost:	-$68,000
Dayton SDLR Costs:	**$1,378,000**

The CIP identifies $1,484,000 for the project. The use of Municipal State Aid funds is planned for Dayton's portion of the SDLR improvements. Funding for the pavement marking components of the project is expected to be from Public Works road maintenance reserves.

Schedule:

Approve Plans/Authorize Bids	March 11th
Open Contractor Bids	April 8th
Review Bids/Award Contract	April 25th
Start Construction (Early)	Mid July
Substantial Completion	September

Other Work at the Site:
Dayton Elementary is planning a project involving the construction of crosswalk enhancements at the pedestrian crossing in front of the school. The construct start date for the road improvements has been set for July 7th (or later) in attempt to accommodate improvements the school may want to complete prior to the final paving.

Staff has been, and will continue to be, in communication with the school district regarding their project. Should any conflicts between efforts on these projects surface, staff will work to find resolution to minimize cost and inconvenience. If any conflicts that may arise be found to be significant, Council will be notified and/or consulted as needed.

Storm Sewer:
During pre-design site inspections, a storm culvert near Diamond Lake was found to be in poor condition. Options evaluating a repair by complete replacement vs. a subsurface solution (pipe lining) is being evaluated. It is expected that the costs for each option are comparable such that the lining makes sense as it avoids a shutdown of South Diamond Lake Road and potential settlements that could come with cutting and excavating through the road.

The work associated with this, regardless of option, will be brought to Council as a separate project; expecting that the timeline will be targeted for a completion prior to the start of the road project (prior to July). More information on this will be shared at a future meeting.

Additional Information:
The use of State Aid funding on a project triggers additional plan and construction requirements. Because the decision to use State Aid funding came late in the project development process, costs associated with these additional requirements were not included in the original estimates. We are hopeful that cost estimate presented here account for the additional efforts required to satisfy State Aid requirements.

Also, as has been mentioned, Dayton's State Aid account balance returned to the positive upon the recent allotment – with a current balance of $585,768. To fully fund this project (specifically, Dayton's portion of the road project) using State Aid funds, an advance request, in an amount sufficient to accommodate $1,500,000 in costs, was submitted. It has been confirmed that this request was submitted for processing.

RECOMMENDATION:
Staff recommends approving the plans and specifications and authorizing the advertisement for contractor construction bids. It is expected the bidding process will require roughly $3,500 worth of effort.

ATTACHMENT(S):
South Diamond Lake Road Imps plans (cover sheet only – full plans available upon request)
Advertisement for Bids

2/19/2025 1:50:14 PM

DESIGN DESIGNATION SOUTH DIAMOND LAKE ROAD

STA. 00+00 TO STA. 264+15	
FUNCTIONAL CLASSIFICATION	ARTERIAL
R VALUE	--
ΣN-18	745,000 TO 1,187,000
NO. & WIDTH OF TRAFFIC LANES	2 & 12 FT
ADT (PRESENT YEAR) 2025	2181 TO 3397
ADT (FUTURE YEAR) 2045	2400 TO 3740
DESIGN SPEED (MPH)	35 (STA -12+62 TO 2+35)
	50 (STA 2+35 TO 158+40)
	45 (STA 158+40 TO 193+15)
	40 (STA 193+15 TO 264+15)
DESIGN LOAD	--
DESIGN SPEED BASED ON	STOPPING SIGHT DISTANCE
HEIGHT OF EYE (FT.)	3.5
HEIGHT OF OBJECT (FT.)	2.5
DESIGN SPEED NOT ACHIEVED AT	NA

MINNESOTA DEPARTMENT OF TRANSPORTATION
CITY OF DAYTON
HENNEPIN COUNTY, MINNESOTA
MILL AND OVERLAY FOR
SOUTH DIAMOND LAKE ROAD

CONSTRUCTION PLAN FOR: PLANT-MIXED BITUMINOUS PAVEMENT, MILLING, AND RELATED APPURTENANCES

SAP 229-113-001 LOCATED ON SOUTH DIAMOND LAKE ROAD

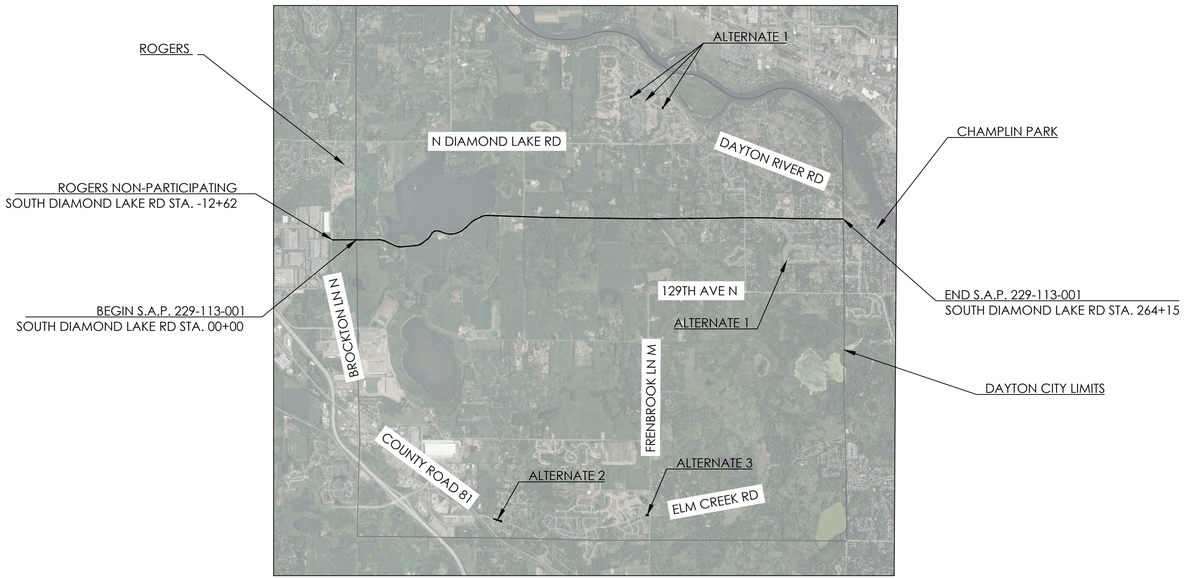
GEOGRAPHICAL DESCRIPTION
FROM: BROCKTON LANE NORTH
TO: EASTERN CITY LIMIT OF THE CITY OF DAYTON

LEGAL DESCRIPTION
FROM: SECTION 24, T120N, R23W
TO: SECTION 14, T120N, R22W

SOUTH DIAMOND LAKE ROAD, S.A.P. 229-113-001

GROSS LENGTH	27,676.84	FEET	5.24	MILES
BRIDGES-LENGTH	0	FEET	0	MILES
EXCEPTIONS-LENGTH	1262.20	FEET	0.24	MILES
NET LENGTH	26,414.64	FEET	5.00	MILES

PROJECT LOCATION MAP



ENGINEER

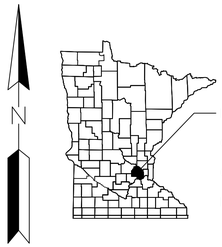
STANTEC CONSULTING SERVICES, INC.
ONE CARLSON PARKWAY
PLYMOUTH, MN 55447
(P) - (763) 479-4200

OWNER

CITY OF DAYTON
12260 S DIAMOND LAKE RD
DAYTON MN 55327

HORIZONTAL DATA
HENNEPIN COUNTY COORDINATE SYSYEM
DATUM: NAD83, 1986 ADJUSTMENT (NON HARN),
UNITS: US SURVEY FEET

VERTICAL DATA
DATUM: NAVD88



PROJECT LOCATION
CITY: DAYTON
COUNTY: HENNEPIN
DISTRICT: METRO

SCALES
TYPICAL PLAN 0 50 100 GRAPHIC SCALE IN FEET
INDEX MAP 0 2000 2000 GRAPHIC SCALE IN FEET

MINN. PROJ. NO. STATE FUNDS

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

INDEX

THIS PLAN CONTAINS 26 SHEETS

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.

PRINT NAME: MARK J. SCHROEHER LICENSE NO.: 49904

DATE: 2/19/2025 SIGNATURE:

CONSULTING ENGINEER - CITY OF DAYTON
STANTEC CONSULTING SERVICES., INC.

APPROVED: DATE: 2/19/2025
CITY ENGINEER, CITY OF DAYTON

REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY: DATE:
DISTRICT STATE AID ENGINEER

APPROVED FOR STATE AID FUNDING: DATE:
FOR STATE AID ENGINEER

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTNG UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

GOPHER STATE ONE CALL

TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166

Stantec
ONE CARLSON PARKWAY, SUITE 100
PLYMOUTH, MN 55447
FAX: 763-479-4200
PHONE: 763-479-4242

CLIENT: Dayton MINNESOTA CITY OF DAYTON

MILL AND OVERLAY FOR SOUTH DIAMOND LAKE ROAD
S.A.P. 229-113-001

PREPARED FOR:
CITY OF DAYTON
12269 DIAMOND LAKE ROAD.
DAYTON, MN 55327

ISSUE NO:	DESCRIPTION:	DATE:
0	ISSUED FOR STATE AID APPROVAL	2/19/2025

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

MARK SCHROEHER
LICENSE NO.: 49904
DATE: 2/19/2025

PROJECT NO.: 193807303

DWN BY:	CHK'D BY:	APP'D BY:
OJ	NF	MS

ISSUE DATE: 2/19/2025
ISSUE NO.: 0
SHEET TITLE: TITLE SHEET
SHEET NO.: 1 OF 26

SAP 229-113-001

U:\193807303\CAD\dwg\PLANSHEETS\193807303-0001.dwg 2/28/2025 JAVANCIA, OLIVIA

SECTION 00 11 13
ADVERTISEMENT FOR BIDS

NOTICE TO CONTRACTORS

Electronic Bid Proposals will be received by the City of Dayton, Minnesota, on the QuestCDN.com website via the VirtuBid electronic bidding application. Only electronic bids will be accepted for this project. Bids will be received on the QuestCDN.com website, until 10:00 A.M., CDT, on Tuesday, April 8, 2025, at which time they will be opened electronically and reviewed for the furnishing of all labor, materials, and all else necessary for the following:

MILL AND OVERLAY FOR SOUTH DIAMOND LAKE ROAD

The work, in accordance with Drawings and Specifications prepared by Stantec Consulting Services Inc., consists of the following major items of work and approximate quantities:

86000 Sq Yds	Mill Bituminous Surface
8100 Tons	Asphalt Pavement
52000 Lin Ft	6" Multi-Component Striping

Together with selective demolition, traffic control, striping, and other related appurtenances.

Each bid proposal shall be accompanied by a "Bid Security" in the form of a certified check made payable to the "City of Dayton" (OWNER) in the amount not less than five percent (5%) of the total bid, or a surety bond in the same amount, running to the OWNER, with the surety company thereon duly authorized to do business in the State of Minnesota. Such Bid Security to be a guarantee that the bidder will not, without the consent of the OWNER, withdraw their bid for a period of sixty (60) days after the opening of bids, and if awarded a contract, will enter into a contract with the OWNER; and the amount of the certified check will be retained or the bond enforced by the OWNER in case the bidder fails to do so. All bid securities except those of the three lowest bidders will be returned within five days after the opening of bids.

Eligible Bidders for this project must meet the Minimum Criteria as defined in the Section 00 45 49 Responsible Contractor Law in accordance with Minnesota Statutes § 16C.285, subdivision 3, and additional criteria required by the OWNER.

Bid Proposals shall be submitted on forms furnished for that purpose. Bids shall be submitted electronically through the QuestCDN website in accordance with the Instructions to Bidders. No bidder shall withdraw their bid, without the consent of the OWNER, for the period of days indicated above after the date for the opening thereof. The OWNER, however, reserves the right to reject any or all bids and to waive any minor irregularities, informalities or discrepancies. A work history detailing qualifications and past experience must be provided upon request.

The Project Manual is available on QuestCDN (www.questcdn.com). You may download the digital plan documents for a fee by inputting **Quest Project #XXXXXXX** on the website's project search page. Please contact QuestCDN at 952-233-1632 or

Direct inquiries to Mark Schroeher at (651) 395-5216 or mark.schroeher@stantec.com or Nick Findley at (651) 334-0653 or nick.findley@stantec.com.

Jason Quisberg, City Engineer
City of Dayton/Stantec Consulting Services, Inc.

PUBLISHED: QuestCDN.com: March 20, 2025
Dayton-Champlin Press: March 20, 2025