

Dayton Park Industrial Center

Environmental Assessment Worksheet



July 27, 2021

Responsible Governmental Unit (RGU)

City of Dayton

12260 South Diamond Lake Road

Dayton, MN 55327

<https://cityofdaytonmn.com/>



Environmental Assessment Worksheet (EAW)

Dayton Park Industrial Center

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Environmental Assessment Worksheet (EAW)

Dayton Park Industrial Center

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: <http://www.egb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

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: Dayton Park Industrial Center

2. Proposer:	<u>Landspec Fund 3 LLC</u>	RGU:	<u>City of Dayton</u>
Contact person:	<u>Jon Rausch</u>	Contact person:	<u>Tina Goodroad</u>
Title:	<u>Development Manager</u>	Title:	<u>City Administrator / Development Director</u>
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4. Reason for EAW Preparation

Required:

☐ EIS Scoping

☒ Mandatory EAW

Discretionary:

☐ Citizen petition

☐ RGU discretion

☐ Proposer initiated

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

Minnesota Rules Part 4410.4300, Subp. 14.A.(2) (Industrial, commercial, and institutional facilities, third or fourth class city)

5. Project Location

County: Hennepin County, Minnesota

City/Township: City of Dayton

PLS Location (¼, ¼, Section, Township, Range): Part of Section 30, T120N, R22W

Watershed (81 major watershed scale): Mississippi River Metro (20)

GPS Coordinates: 45.174240, -93.516299

Tax Parcel Number(s): Part of 30-120-22-31-0005 and all of 30-120-22-32-0005

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

- *County map showing the general location of the project;*
- *U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and*
- *Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.*

6. Project Description

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

Dayton Park Industrial Center will include up to 600,000 square feet of light industrial floor space and up to 300 vehicle parking stalls on 50.76 acres in southwestern Dayton. Site development will include mass grading, installation of municipal sewer and water, and construction of buildings, parking, and stormwater basins.

- 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.*

Dayton Park Industrial Center is proposed on 50.76 acres of land in the southwestern part of the City of Dayton, Hennepin County, Minnesota (**Figure 1**). The project area includes mostly cropland with some wetland and woodland. The site has no existing structures.

The project area is located in the west-central part of Section 30, T120N, R22W (**Figure 2**). The site is located west of French Lake Road W, north of County Road 81, east of Brockton Lane N, and south of 124th Ave N. French Lake is located east of the site and the City of Rogers is immediately west of the site. Adjoining lands are used by a mobile home park and commercial-industrial development to the west, agricultural and rural residential to the north, French Lake to the east, and agricultural and light industrial to the south.

Site topography ranges from nearly flat to moderate slopes. The site includes mostly loamy soils and has 30 feet of topographic relief. Elevations vary from a high of 952 feet in the east-central part of the site down to 916 feet in the southeastern part of site, where runoff flows east under French Lake Road. The site drains to French Lake (DNR public water 27-127P), then through 5.75 miles of Diamond Creek to Hayden Lake, Elm Creek, and the Mississippi River. The local watershed authority is the Elm Creek Watershed Management Organization.

Three alternative Concept Plans are under consideration:

1. **Concept A**, which includes 470,000 square feet of office-warehouse floor space distributed between two buildings and up to 250 parking stalls (**Figure 3**). The floor space will be about 14% office and about 86% warehouse.

2. **Concept B**, which includes 597,700 square feet of floor space distributed among 10 buildings and a smaller number of parking stalls (**Figure 4**). The floor space will be about 56% storage and about 44% office-warehouse.
3. **Concept C**, which includes 539,700 square feet of floor space distributed between two buildings and up to 270 parking stalls (**Figure 5**). The floor space will be about 15% office and 85% warehouse.

Land development and project impacts are expected to fall within the parameters addressed in this EAW. Plans may be revised to accommodate specific light industrial uses. Impact assessments in this EAW are based on the following maximum development scenario:

1. up to 600,000 square feet of building floor space that is 15% office and 85% warehouse;
2. up to 300 parking stalls;
3. up to 36 acres of impervious surface;
4. site access via a street along the south boundary of the site, connecting to Brockton Lane N and French Lake Road W;
5. up to 6.88 acres of stormwater basins; and
6. the 7.25-acre shoreland overlay district will be 40% impervious and 60% open space.

The street connecting Brockton Lane and French Lake Road will parallel the north boundary of the adjacent mobile home park.

The proposed light industrial use will operate 24 hours a day, six days a week. Nighttime noise and light pollution will be minimized with landscape buffers, delivery timing, and by loading trucks inside of buildings.

Project development will involve installation of municipal sewer, water supply, electrical and digital communications lines, a local access street, and mass grading of parking areas, building pads, and stormwater basins. The project area is served by the Dayton Volunteer Fire Department, the City of Dayton Police Department, and the Anoka-Hennepin School District (ISD #11).

The project area is about 71% cropland, 17% wetlands, ponds, and drainages; and 11% woodland. Wetlands, ponds and drainages include 3.46 acres of incidental wetland (previously a wastewater pond), 2.65 acres of delineated wetland, 1.10 acre of ditches and swales, and a 1.30-acre stormwater basin. Part of the site falls in the Shoreland Overlay District of French Lake.

The project will convert about 48 acres of cropland, woodland, wetland, and drainages to buildings, parking lots, stormwater basins, low maintenance grassland, and landscaping. After development, the project area will include about 13 acres of open space consisting of stormwater basins, grassland, and landscaping. The project is expected to impact about 2.65 acres of regulated wetland.

It is anticipated that construction of the development will start in the fall of 2021 and be phased over 1 to 2 years, depending on market conditions. Infrastructure such as water main and sanitary sewer

will generally be installed at the start of each construction phase. It may be necessary to initiate stormwater system construction at the start of each construction phase to obtain borrow material, properly treat stormwater, and minimize potential effects of stormwater runoff.

c. *Project magnitude:*

Table 1. Project Magnitude

Characteristic	Number of Units
Total Project Acreage	50.76
Linear project length	0
Number and type of residential units	0
Commercial building area (square feet)	0
Industrial building area (square feet)	up to 600,000
Institutional building area (square feet)	0
Other uses – specify (acres)	NA
Structure height(s) (feet)	35-50

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.*

Dayton Park Industrial Center is proposed to respond to the demand for light industrial floor space in the City of Dayton. The project will be carried out by a private entity.

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

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

Future stages of the light industrial project are not planned or likely.

While future stages are not planned, the project proponent owns an additional 21.02 acres of land located south of the project and east of the adjacent mobile home park. This acreage may be developed in the future, but the type and timing of development are unknown at this time. The 21.02 acres is expected to be developed independently from the Dayton Park Industrial Center and might be developed as soon as 1 to 3 years in the future. The additional property may be developed to a use that compliments the adjacent mobile home park, or it may be developed to a light industrial use. Given the uncertainty regarding the type and timing of the future use, such future use is not considered a connected or phased action with respect to the project described in this EAW.

f. *Is this project a subsequent stage of an earlier project?* ☐ Yes ☒ No

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

The project is not a subsequent stage of an earlier project.

7. Cover Types

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

Table 2. Cover Types

Land Cover	Before (acres) ¹	After (acres) ¹
Cropland	36.20	0.00
Woodland	5.74	1.23
Incidental wetland	3.46	0.00
Delineated wetland	2.65	0.00
Ditches and swales	1.10	0.54
Stormwater basins	1.30	6.88
Grassland	0.31	3.45
Impervious surface	0.00	36.00
Lawn and landscaping	0.00	2.66
Totals	50.76	50.76

¹ Before and after delineated wetland acreages assume 2.65 acres of wetlands will be impacted for development. Wetland replacement will need to be obtained from acceptable wetland banks.

Existing cover types are shown on **Figure 6**. Delineated wetlands are shown on **Figure 7**.

8. 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 3. Permits and Approvals Required

Unit of Government	Type of Application	Status
City of Dayton	EAW Decision	To be applied for
City of Dayton	Rezoning, PUD, and Preliminary Plat	To be applied for
City of Dayton	Shoreland Conditional Use Permit	To be applied for
City of Dayton	Final Plat and PUD	To be applied for
City of Dayton	Wetland Impact and Replacement Approval	To be applied for
City of Dayton	Grading Permit	To be applied for
City of Dayton	Building Permits	To be applied for
City of Dayton	Stormwater Management and Erosion Control Approval	To be applied for
City of Dayton	Municipal Water Connection Permit	To be applied for
City of Dayton	Sanitary Sewer Connection Permit	To be applied for
Elm Creek Watershed Management Commission	Stormwater, Erosion Control, and Site Plan Approval	To be applied for

Table 3. Permits and Approvals Required

Unit of Government	Type of Application	Status
Minnesota Department of Health	Water Main Extension Approval	To be applied for
Minnesota Department of Natural Resources	Water Appropriation Permit	To be applied for if needed
Minnesota Pollution Control Agency	NPDES/SDS General Permit	To be applied for
Minnesota Pollution Control Agency	Sanitary Sewer Extension Approval	To be applied for if needed
Minnesota Pollution Control Agency	Section 401 Water Quality Certification or Waiver	To be applied for if needed
U. S. Army Corps of Engineers	Section 404 Permit	To be applied for if needed

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land Use

a. Describe:

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

From 1937 until 1964, the project area was mostly agricultural fields with a few trees and wetlands. In 1964, the mobile home park to the west and the stormwater basin in the southeastern part of the site appeared on aerial photography. Between 1969 and 1979, agricultural fields were terraced, and ponds were constructed in the northeastern part of the site to treat wastewater from the mobile home park. Between 2012 and 2017, the wastewater ponds were drained, the terraces were removed, and the fields were returned to cropland.

Surrounding land use includes the adjacent mobile home park and woodland to the south, commercial/industrial use to the west, agricultural land to the north, and French Lake to the east (**Figure 8**). There are no parks adjacent to the site, but French Lake (DNR public water 27-127P) is located across French Lake Road from the project area.

Farmland ratings for soils mapped in the project area are listed under **Item 10b** of this EAW. Of the seven soil map units present in the project area, two are considered prime farmland, three are prime farmland if drained, one is farmland of statewide importance, and one is not prime farmland. Soils mapped as prime farmland cover about 54.3% of the site.

- 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.*

The City of Dayton 2040 Comprehensive Plan guides the site for Industrial land use. The proposed project is consistent with the guided land use. The 2040 Comprehensive Plan shows a proposed neighborhood trail along French Lake Road on the east side of the site, but no other existing or proposed parks are shown in the surrounding area.

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

Zoning Overview

The City of Dayton Zoning Map shows the project area zoned as R-MH Mobile Home District. The site will need to be rezoned to I-1 Light Industrial District or Planned Unit Development (PUD). The project area does not fall within or adjacent to a wild and scenic river, critical area, or agricultural preserve.

Shoreland District

About 14% of the project area (7.25 acres) falls within the Shoreland Overlay District of French Lake (DNR public water 27-127P). French Lake has a Recreational Development shoreland classification and an Ordinary High Water Level (OHWL) of 904.5 feet (NGVD 29 datum). The Shoreland Overlay District extends 1,000 feet from the OHWL (**Figure 9**).

The Shoreland Overlay District is administered under Section 1001.08 of the City of Dayton City Code, the Shoreland Zoning Ordinance. The Shoreland Ordinance states that uncontrolled use of the shorelands affects the public health, safety, and general welfare not only by contributing to pollution of public waters, but also by impairing the local tax base. It is therefore in the best interests of the public health, safety and welfare to provide for the wise development of shorelands. The State Legislature has delegated regulatory oversight for shoreland development to local governments to provide for wise use of waters and related land resources.

The City of Dayton Shoreland Zoning Ordinance sets forth standards for development in Recreational Development Shoreland Districts:

1. Minimum setback from OHWL: 75 feet;
2. Minimum setback from public roadways: Determined by underlying zoning;
3. Maximum impervious surface ratio: 25%; and
4. Maximum structure height: 35 feet.

The Light Industrial (I-1) Zoning District requires structures to be setback a minimum of 50 feet from roads, plus 1 foot of additional setback for each foot of building height over 30 feet, up to a

maximum required setback of 80 feet. The I-1 Zoning District allows for up to 50% building footprints coverage and a maximum building height of 45 to 50 feet.

The proposed project design does not comply with the maximum impervious surface ratio (25%) and maximum building height (35 feet) standards specified in the City of Dayton Shoreland Ordinance. Planned Unit Developments (PUDs) allow for flexibility in development standards such as impervious surface ratios and building heights. Design flexibility may be granted in exchange for meeting design criteria that are often related to site characteristics.

The project proponent intends to apply to develop the site as an Industrial PUD and a Shoreland PUD. The Shoreland Ordinance permits Industrial PUDs only in shorelands served by municipal sewer. While the project proponent can apply for a PUD as part of the development application, the City of Dayton has not yet determined whether a PUD would be appropriate for this development. If a PUD to be granted, the proposal needs to show public benefits of the project design to warrant flexibility in typical design standards.

While a PUD application has not yet been submitted, the project proponent has suggested the project design will minimize effects on shorelands by including over 50% open space in the shoreland and more than a 50% increase in the setback from the OHWL. The application for a PUD will need to demonstrate that 60% open space in the shoreland, the extra setback from the OHWL, and advanced stormwater management practices will help protect shoreland and warrant flexibility allowing up to 40% impervious and a 50-foot building height in the shoreland. Shoreland PUD design criteria and project characteristics are listed in **Table 4**.

Table 4. Shoreland PUD Design Criteria and Project Characteristics

Design Criteria	Project Characteristics
Shoreland area is \geq 50% open space	The shoreland area is proposed to be 60% open space.
Structure setback from OHW increased by at least 50%	The structure setback is about 950 feet, considerably more than the 75-foot minimum.
Conditional Use Permit (CUP) required	A CUP application will need to be submitted.
Advanced stormwater management	Stormwater management will need to meet or exceed requirements.
Minimize vegetation removal	The shoreland area is mostly cropland, so little vegetation will be removed. Trees on the other side of French Lake Road will continue screening some views.

Shoreland Density Evaluation

The project meets minimum criteria for a Shoreland PUD in an industrial district because the shoreland within the project area will be at least 50% open space and buildings will be setback at least 50% more than the minimum distance from the OHWL. With flexibility under a Shoreland PUD, the shoreland within the project area may be up to 40% impervious and buildings in the shoreland may be up to 50 feet in height (**Figure 9**).

Floodplain

The floodplain of French Lake is located over 200 feet east of and across French Lake Road from the proposed project. The City of Dayton used field survey information in 2005 to calculate a 100-year flood (1% annual frequency) elevation of French Lake. That flood elevation is 904.9 feet (**Figure 9, Appendix A**). The calculated flood elevation is 0.4 ft above the OHW of French Lake (904.5 ft) and about 11 feet below the lowest elevation onsite is (916 ft). The proposed project will completely avoid the floodplain.

- 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 project is compatible with surrounding land uses, which mostly include the mobile home park, agricultural fields, and commercial/industrial uses similar to the proposed project. The City of Dayton 2040 Comprehensive Plan guides the project area for Industrial land use. The proposed project will be consistent with industrial land use requirements and the site will be rezoned to I-1 Light Industrial District or Planned Unit Development (PUD) to align with the 2040 Comprehensive Plan.

- c. *Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.*

The project area is proposed to be rezoned to I-1 or PUD. The proposed project is consistent with the intended land uses and zoning classifications, and compatible with adjoining land uses. Buffers and plantings will be required to provide visual screening for the adjacent mobile home park. The shoreland area of the project will be at least 50% open space and buildings will be setback at least 50% more than the minimum distance from the OHWL of French Lake.

10. 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 Geologic Atlas of Hennepin County (Minnesota Geological Survey 2018) indicates surficial sediments in the project area are mostly loamy till. Surface sediments are underlain by Tunnel City Group sandstone bedrock of the Mazomanie and Lone Rock Formation. The Geologic Atlas indicates depth to bedrock in the project area varies from about 176 to 250 feet. Depth to bedrock indicated in logs of nearby domestic water wells varies from 172 to 210 feet (see **Item 11.a.ii**).

Neither the Geologic Atlas nor the Soil Survey of Hennepin County identify sinkholes or karst conditions in the project area. Minnesota Karst Lands Mapping and Sinkhole Mapping prepared by Professor Calvin Alexander and others (2006) does not show covered karst, transition karst, or active karst in the project area. The 2018 Hennepin County Multi-Jurisdictional Hazard Mitigation Plan indicates covered karst exists throughout the southeastern three-quarters of Hennepin County, which

is underlain by carbonate bedrock. The distribution of active karst in Hennepin County is limited mostly to an area along the Mississippi River from North Minneapolis south to Fort Snelling. The thick surface sediments in the project area are expected to reduce the potential for subsurface erosion that leads to sinkholes. Mitigation is not proposed for sinkholes or karst conditions.

Well records for 23 domestic water wells located within about 0.25 mile of the project area were retrieved from the Minnesota Well Index. These wells were drilled to depths ranging from 14 to 350 feet and had static water levels ranging from 7 to 84 feet below the surface. Only four of the 23 wells encountered bedrock. The only known nearby sources of contamination identified in the well logs were septic tank/drain fields, sewers, and an old well. These wells are listed and discussed further under **Item 11.a.ii**.

- 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 11.b.ii.*

The Web Soil Survey indicates the project area includes seven soil mapping units, mostly loams and clay loams (**Table 5** and **Figure 10**). The suitability of these soils for dwelling units and local streets ranges from somewhat limited to very limited due to shrink-swell potential, depth to saturation, ponding, frost action, and low strength. Limitations due to depth to saturation and ponding can be associated with wetlands, which are addressed under **Items 11.a.i** and **11.b.iv** of this EAW. Soils in the project area are generally considered moderately susceptible to the sheet and rill erosion by water, as indicated by K factors that range between 0.28 and 0.43, as well as existing slopes.

Table 5. Soil Classifications

Symbol	Soil Map Unit ¹	% of Area	% Hydric	Hydric Category	Farmland Category
L22C2	Lester loam, 6-10% slopes, moderately eroded	7.0	2	Predominantly non-hydric	Farmland of statewide importance
L23A	Cordova loam, 0-2% slopes	20.2	95	Predominantly hydric	Prime farmland if drained
L24A	Glencoe clay loam, 0-1% slopes	0.7	100	Hydric	Prime farmland if drained
L37B	Angus loam, 2-6% slopes	0.4	5	Predominantly non-hydric	Prime farmland
L44A	Nessel loam, 1-3% slopes	53.9	10	Predominantly non-hydric	Prime farmland
L45A	Dundas-Cordova complex, 0-3% slopes	4.6	30	Predominantly non-hydric	Prime farmland if drained
M-W	Water, miscellaneous	13.2	0	Non-hydric	Not prime farmland

¹The M-W (Water) map unit corresponds to the previous location of the wastewater treatment ponds

Grading necessary for construction is expected to affect about 48 acres and involve movement of about 150,000 cubic yards of soil to construct building pads, access routes, parking areas, and stormwater basins. Grading is expected to avoid disturbance of about 2.75 acres of wetlands and grassed and wooded buffers.

Site topography ranges from relatively flat to moderate slopes and the area includes mostly loamy soils. The site has 30 feet of topographic relief. Elevations vary from a high of 952 feet in the east-central part of the site down to 916 feet in the southeastern part of site, where runoff flows east under French Lake Road. The Soil Survey does not show any slopes steeper than 12% on the site (**Table 5**), but two-foot contour mapping shows the site includes about 3.8 acres of slopes ranging from 12 to 20%, mostly along French Lake Road and around the stormwater pond in the eastern and southeastern parts of the site (**Figure 7**). The site does not include any bluffs. The site drains to French Lake (DNR public water 27-127P), then through 5.75 miles of Diamond Creek to Hayden Lake, then to Elm Creek and the Mississippi River.

Development of the project area will disturb more than one acre of land and therefore will require application for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Construction Permit administered by the Minnesota Pollution Control Agency (MPCA) prior to initiation of earthwork. In compliance with the General NPDES Permit for construction activities, the project proponent and construction contractor will need to implement Best Management Practices (BMPs) to reduce erosion and sedimentation and stabilize exposed soils after construction. Erosion and sedimentation control BMPs related to stormwater runoff are discussed in greater detail under **Item 11.b.ii**. Additional BMPs required for construction projects within 1 mile of and draining to impaired waters are listed under **Item 11.a.i**.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11. 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, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include 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.

Kjolhaug Environmental Services (KES) originally delineated wetlands on the site in June 2015. The City of Dayton approved the wetland delineation in February 2016. On September 28, 2020, KES reviewed the wetlands in the field and found conditions on most of the site were similar to those observed in 2015. The main difference was that fields that were terraced grassland in 2015 had been tilled, smoothed, and planted to corn by 2020. Soils and National Wetlands Inventory maps (**Figures 10 and 11**) were consulted during the wetland delineation. Wetland boundaries had not changed between 2015 and 2020.

The project area includes five delineated wetlands that cover a total of 2.65 acres, several segments of ditches and swales that cover a total of 1.10 acre, a 3.46-acre incidental wetland at the location of a previous wastewater pond, and a 1.3-acre stormwater basin (**Tables 6 and 7, Figure 7**).

On October 7, 2020, KES submitted a report to request that the City of Dayton and the U.S. Army Corps of Engineers (USACE) extend the existing delineation approval. The City of Dayton and Minnesota Board of Water and Soil Resources (BWSR) reviewed the wetlands in the field on October 30, 2020 and verified that wetland boundaries were unchanged. The City approved the wetland delineation and the incidental status of the 3.46-acre wetland on December 7, 2020. On February 25, 2021, the USACE issued an Approved Jurisdictional Determination (AJD) for all wetlands and drainages on the site except the natural intermittent watercourse that drains along the southeastern boundary of the site (**Figure 7**). Wetland delineation approvals and a wetland delineation summary are included in **Appendix B**.

Table 6. Delineated Wetlands

Wetland ID	Acres Onsite	Classification			Dominant Vegetation	Modifier
		Circ. 39	Cowardin	Eggers and Reed		
5	1.00	1/3	PEMA/Cd	Wet meadow, Shallow marsh	Cattail, reed canary grass	Partially drained
6	0.31	1L/3	PFO1A/PEMCd	Bottomland hardwoods, Shallow marsh	Cattail, silver maple, green ash	Partially drained
7	1.02	1/3	PEMA/C	Wet meadow, Shallow marsh	Cattail, reed canary grass	--
8	0.11	2	PEMAf	Seasonally flooded basin	Agricultural weeds	Partially farmed
9	0.21	1	PEMAf	Seasonally flooded basin	Barnyard grass	Partially farmed
Total	2.65					

Table 7. Ditches and Swales

Ditch or Swale ID	Type	Length (Ft)	Width (Ft)	Area (Sq.Ft.)	Acres Onsite
D1	Intermittent ditch	393	10	3,930	0.09
D2	Intermittent ditch	232	10	2,320	0.05
D3	Intermittent ditch	203	10	2,030	0.05
D8 & D9	Intermittent ditch	453	10	4,530	0.10
D15	Intermittent natural/channelized drainage	705	30	21,150	0.49
D16	Intermittent ditch	160	30	4,800	0.11
GS1	Grass swale	370	20	7,400	0.17
GS2	Grass swale	98	20	1,960	0.04
Total		2,614		48,120	1.10

The project area does not include any DNR public waters, wetlands, or watercourses. There are no known trout streams/lakes, wildlife lakes, migratory waterfowl feeding/resting lakes, or outstanding resource value waters in or near the project area. The only impaired water listed by the Minnesota Pollution Control Agency (MPCA) and located within a mile of the site is Diamond Creek (07010206-525). Diamond Creek starts at the outlet of French Lake, 0.7 mile northeast of the site. Diamond Creek is impaired for aquatic life (AQL) and aquatic recreation (AQR) from French Lake downstream 5.75 miles to Hayden Lake.

Diamond Creek has TMDLs (Total Maximum Daily Loads, the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards) approved for dissolved oxygen, E.coli; fish, and invertebrates. MPCA data indicate no other TMDL studies are required.

Because Diamond Creek is an impaired receiving water within 1 mile of the project, additional BMPs are required for water quality, including:

1. complete stabilization of exposed soil within seven calendar days after construction activity in respective parts the project temporarily or permanently ceases;
2. temporary sediment basin(s) for common drainage areas covering five or more acres of area disturbed at one time; and
3. mandatory Stormwater Pollution Prevention Plan (SWPPP) review because the project will disturb more than 50 acres land.

The SWPPP must be submitted to the MPCA at least 30 days prior to the construction start date.

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

Depth to groundwater varies across the project area. Surficial groundwater reaches the surface in the stormwater basin in the southern part of the site. The depth to surficial groundwater can be 1 foot or less in wetlands and watercourses during the spring.

Depth to static groundwater levels based on domestic water wells located near the project area ranged from 7 to 84 feet (**Table 8** and **Appendix C**). Soil borings showed depth to groundwater in three borings varied from 19.0 to 20.4 feet and groundwater was not detected in four borings. Northern Technologies, LLC completed seven soil borings on the site during August 20 to 21, 2019. Results were summarized in a Preliminary Geotechnical Exploration and Engineering Review dated August 28, 2019. Each of the seven soil borings was advanced to a depth of 20.5 feet. Groundwater was encountered in three of the seven borings, at depths of 19.0 to 20.4 feet. Soil borings are provided in **Appendix C**.

The project area does not include any known registered or unregistered groundwater wells. If any unregistered wells are found on the site during future surveying or construction activities, they will need to be abandoned and sealed in compliance with Minnesota Department of Health (MDH)

regulations during the early part of the construction process. Well sealing must be conducted by an MDH licensed well contractor.

The project area does not overlap with any wellhead protection areas. The City of Rogers South Drinking Water Supply Management Area is located about 0.25 mile southwest of the proposed project area.

Table 8. Nearby Registered Groundwater Wells

Well No.	Surface Elevation (feet)	Depth (feet)	Cased Depth (feet)	Depth to		Location (Direction from Site)	Aquifer
				Static Water Level (feet)	Bedrock (feet)		
505628	963	245	200	81	192	Southwest	St. Lawrence-Tunnel City
805841	956	88	83	75	--	Southwest	Quaternary buried
513686	931	84	79	55	--	Southeast	Quaternary buried
401418	955	95	90	75	--	West	Quaternary buried
434473	965	92	87	74	--	Southwest	Quaternary buried
659356	958	15	5	7	--	Southwest	--
565068	943	86	81	60	--	South	Quaternary buried
408653	930	85	80	60	--	Southeast	Quaternary buried
555243	945	78	73	50	--	South	Quaternary buried
743427	941	163	155	65	--	South	Quaternary buried
470624	943	350	262	65	172	South	Tunnel City-Wonewoc
464747	958	232	205	60	--	Southwest	Tunnel City
659357	954	14	4	7	--	South	--
523944	943	113	108	24	--	South	Quaternary buried
752578	963	106	96	84	--	Southwest	Quaternary buried
137728	954	74	70	55	--	West	Quaternary buried
439865	958	120	114	72	--	Southwest	Quaternary buried
452413	962	127	122	80	--	West	Quaternary buried
592530	959	250	200	75	--	Southwest	Tunnel City
659355	954	15	5	7	--	Southwest	--
677955	963	315	210	76	210	West	Tunnel City
492238	943	255	234	60	185	South	Tunnel City
400259	940	94	89	60	--	North	Quaternary buried

- 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 and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.*

The project is expected to produce normal domestic wastewater that is typical of light industrial and office-warehouse developments. The project will not include heavy industrial wastewater production or onsite wastewater treatment.

Sanitary wastewater production for the project was estimated using methods described in the Sewer Availability Charge (SAC) Procedure Manual (Metropolitan Council 2021). Metropolitan Council has established 274 gallons per day (GPD) as the average daily wastewater production from a typical residential unit. For the proposed project, wastewater generation was estimated based on SAC unit equivalents for warehouse and office space. Based on these equivalents, the project is expected to generate about 29,411 gallons of wastewater per day (**Table 9**).

The project will connect to an existing sanitary sewer line along the south property line adjacent to the mobile home park. Wastewater will be pumped southeast through a 12-inch Force Main and a 24-inch sanitary sewer. The sanitary sewer will connect to the Metropolitan Council Environmental Services Elm Creek Interceptor at Holly Lane and the south boundary of the City of Dayton. The project will require a sanitary sewer extension permit, which will need to detail the predicted wastewater flow and be reviewed by Metropolitan Council Environmental Services and the MPCA.

Table 9. Estimated Wastewater Generation

Land Use	Floor Space (Sq.Ft.)	Sq.Ft./SAC Unit	SAC Units	Wastewater Gallons/Day
Office	90,000	2,650	33.96	9,305
Warehouse	510,000	6,950	73.38	20,106
Total	600,000		107.34	29,411

The Elm Creek Interceptor will route wastewater to the Metropolitan Wastewater Treatment Plant (MWWTP), which is owned and operated by Metropolitan Council. The MWWTP is located on the east bank of the Mississippi River, approximately 3 miles south of downtown St. Paul near Pig's Eye Lake. The MWWTP has capacity to treat 251 million gallons of wastewater per day (MGD) and is the largest wastewater treatment facility in Minnesota. Metropolitan Council's 2040 Water Resources Policy Plan includes a specific plan to serve the region's projected growth through 2040 and a general plan to serve the region's growth beyond 2040.

The City of Dayton and Metropolitan Council have planned for increased capacity to convey and treat sanitary wastewater. The proposed project is not expected to require expansion of wastewater treatment infrastructure or raise wastewater treatment capacity concerns.

- 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.*

Wastewater will not be discharged to subsurface sewage treatment systems.

- 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.*

Wastewater will be treated in the MWWTP described above and then discharged to the Mississippi River. The MWWTP is an advanced secondary wastewater treatment plant located on the east bank of the Mississippi River, approximately three miles south of downtown St. Paul. Treatment capability is maintained during times of flood by a levee and floodwall that protect the plant treatment area.

The plant uses an activated sludge process to remove phosphorus and ammonia nitrogen from wastewater prior to discharge to the Mississippi River. Sludge is processed by thickening, centrifugal dewatering, and fluidbed incineration with energy recovery (steam and electricity). These processing facilities were completed in 2004 as part of a major rehabilitation and upgrade program at the plant. At that time, outdated facilities were replaced with fluid bed sludge incinerators, state-of-the-art air pollution control systems and an alkaline stabilization system that produces biosolids for agricultural utilization. Ash from incineration is disposed of in a landfill.

- ii. *Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.*

Pre-Construction Site Runoff

Surface water runoff under existing conditions likely contains some pesticides, fertilizers, and other nutrients from agricultural fields. Existing runoff drains overland and through wetlands and channels to the ditch along French Lake Road and the stormwater basin in the southern part of the site. The project area then drains under French Lake Road, through French Lake and Diamond Creek to Hayden Lake, Elm Creek and the Mississippi River.

Post-Construction Site Runoff

Compliance with the City of Dayton, Elm Creek Watershed Management Commission (ECWMC), and NPDES stormwater requirements is required for project development. Project construction will add about 36 acres of impervious surface consisting of parking areas, buildings, and streets. The increased impervious surface area is expected to generate higher runoff rates, volumes, and pollutants. Stormwater management best management practices will be constructed to mitigate stormwater runoff rates, volumes, and pollutant loading. The project will include stormwater basins

covering about 6.88 acres in compliance City of Dayton requirements (**Figures 3, 4 and 5**). The southern stormwater basin is shown on the City of Dayton Trunk Storm Water System Map as Proposed Stormwater Basin DC-FL2P.

The number and size of stormwater basins may change as the project design advances, but stormwater treatment from the site will need to comply to municipal, watershed, and state regulations. Overall, the site will be designed and constructed in compliance with the City of Dayton, ECWMC and NPDES stormwater management requirements to control, mitigate and treat stormwater runoff. Runoff volume will be reduced to the extent practicable, given the existing soils loam and clay loam soils, which are not well suited for infiltration. Compliance with City of Dayton and ECWMC requirements is expected to limit stormwater runoff rates, volumes, and associated pollutant transport.

Impervious surface runoff from storm events will be retained in stormwater basins until discharged at or below existing peak runoff rates. Temporary sediment basins during construction will meet requirements of the MPCA General Stormwater Permit for Construction Activity.

Potential adverse effects of runoff volume and quality will be mitigated by construction of stormwater basins designed to reduce peak runoff rates and meet agency requirements. City of Dayton stormwater requirements are listed in Section 1001.33 of the City Code, Construction Site Runoff Control. The City of Dayton requires:

1. a written Stormwater Pollution Prevention Plan (SWPPP) application and Stormwater Pollution Prevention Plan;
2. SWPPP compliance with the MPCA General Stormwater Permit for Construction Activities;
3. removal of suspended solids prior to discharge of stormwater to wetlands and lakes;
4. detention ponds to reduce post-development phosphorus loads to predevelopment loadings;
5. detention ponds designed to extend the detention time by 48 hours;
6. stormwater ponds and outlet control structures designed to minimize sediment transport; and
7. permanent best management practices such as seeding, mulching and sodding.

Infiltration is an important practice in design, but filtration may be warranted when site conditions do not allow effective infiltration. Detention systems are preferred for flood storage and rate control. Post development discharge rates must be less than or equal to discharge rates under existing conditions for the 2-year, 10-year, and 100-year storm events. Constructed stormwater ponds are required to have slopes approved by the City Engineer or Zoning Administrator and landscaped with a buffer strip averaging at least 10 feet wide.

Wet ponds also serve to improve water quality. The MPCA found that stormwater ponds designed to Nationwide Urban Runoff Program (NURP) criteria removed up to 90% of total suspended solids (TSS) and significant amounts of other pollutants, such as phosphorus (Protecting Water Quality in Urban Areas. MPCA 2000). The NURP research projects conducted by the U.S. EPA concluded that Actual sediment and nutrient removal varies with site-specific conditions. However, well-designed

wet ponds and constructed wetland treatment systems are effective in removing sediment and associated pollutants, such as trace metals, nutrients and hydrocarbons. Stormwater basins also remove or treat oxygen-demanding substances, bacteria and dissolved nutrients.

The following mitigation measures are expected to minimize potential effects of stormwater runoff of receiving waters:

1. construction of onsite stormwater basins to meet City of Dayton and ECWMC requirements; and
2. sediment basins and BMPs that comply with the General NPDES/SDS Permit for Construction Activities, as discussed below.

Stormwater and Erosion Control BMPs

Because project construction will involve disturbance of more than one acre of land, the project proponent will be required to apply for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit to the MPCA prior to initiating construction. This permit process will require a Stormwater Pollution Prevention Plan detailing practices for erosion and sediment control. BMPs will be employed during construction to reduce erosion and sediment loading of stormwater runoff. Inspection of BMPs will be required after each rainfall exceeding 0.5 inch in 24 hours. The NPDES permit also requires perimeter sediment control maintenance and sediment removal. BMPs to be implemented during construction include:

1. Construction of temporary sediment basins during construction and development of proposed stormwater basins for permanent use following construction.
2. Installation of silt fence and other perimeter erosion controls prior to initiation of earthwork and maintenance of these controls until viable turf or ground cover is established on exposed areas.
3. Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
4. Stabilization of exposed soils within the time limits specified in the General NPDES permit.
5. Energy dissipation, such as riprap, installed at storm sewer outfalls.
6. Use of cover crops, seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.

Projects disturbing more than 50 acres and draining to an impaired water require Stormwater Pollution Prevention Plan (SWPPP) review and approval from the MPCA prior to obtaining coverage under an NPDES/SDS General Construction Stormwater Permit. Additional BMPs required for construction projects within 1 mile of and draining to impaired waters are listed under **Item 11.a.i**. Erosion control plans will be reviewed and accepted by the City of Dayton prior to initiation of each phase of construction. Potential adverse effects from construction-related sediment and erosion on water quality will be minimized by implementation of the above BMPs during and after construction.

Erosion control plans will be reviewed and accepted by the City of Dayton and the ECWMC prior to project construction. Potential adverse effects from construction-related sediment and erosion on water quality will be minimized by implementation of the above BMPs during and after construction.

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 DNR 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. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.*

Surface/Groundwater Appropriation and Dewatering

Project construction may require dewatering and groundwater appropriation to facilitate installation of sanitary sewer and possibly for excavation of stormwater basins. The project may involve pumping from stormwater basins to obtain water for irrigation of green spaces.

Dewatering will require a MN DNR water appropriation permit if it exceeds 10,000 gallons/day or 1 million gallons/year. If construction dewatering does not exceed a total of 50 million gallons and one year in duration, it will be eligible for coverage under the amended MN DNR General Permit 1997-0005 for temporary water appropriations. The potential extent and duration of construction dewatering necessary is currently unknown, but construction dewatering is expected to be temporary. Groundwater appropriated for construction dewatering will be discharged to temporary sediment basins in the project area. Construction dewatering is not expected to continue long enough to affect nearby domestic water wells.

Well Abandonment

As indicated under **Item 11.a.ii**, the project area is not known to include any registered or unregistered wells. Any wells found during future onsite survey or construction activities will need to be sealed and abandoned in compliance with MDH regulations. Well sealing must be conducted by an MDH licensed well contractor.

Connection to a Public Water Supply

The City of Dayton has three separate water distribution systems. The proposed project falls in the southwestern Dayton distribution area, which is served by the City of Maple Grove municipal water supply. The City of Dayton has a water service agreement with the City of Maple Grove, under which the City of Maple Grove supplies enough water to meet an average daily demand not to exceed 2.8 million gallons per day (MGD) and a maximum daily demand of 5.0 MGD. This is sufficient to serve the project area and the projected foreseeable growth in the area.

As listed in **Table 10**, the City of Maple Grove operates 11 wells that draw the municipal water supply from the Mt. Simon and Quaternary Buried Artesian aquifers. These wells range in depth from 157 to 715 feet.

Table 10. Maple Grove Municipal Water Supply Appropriation Permits

Permit No.	Well No.	Permitted Volume (MGY)	Average Use 2013-2018 (MGY)	Max Use 2013-2018 (MGY)
1975-6158	465406	5,110	54.1	113.6
1975-6158	551595	5,110	353.6	537.2
1975-6158	731107	5,110	914.5	1427.5
1975-6158	731108	5,110	606.4	1014.4
1975-6158	204760	5,110	0.1	0.1
1975-6158	160028	5,110	93.7	260.1
1975-6158	161411	5,110	185.8	353.2
1975-6158	122250	5,110	0.0	0.0
1975-6158	161446	5,110	141.2	346.3
1975-6158	420965	5,110	358.4	775.1
1975-6158	465405	5,110	228.3	439.8
Total			242.5	5,267.3

The project will connect to an existing watermain along the property line adjacent to the mobile home park. The City of Maple Grove Drinking Water Supply Management Area is located about 3 miles southeast of the proposed project. The 11 Maple Grove municipal wells are authorized to pump up to 5,110 million gallons of water per year (MGY) based on Minnesota DNR water use data (**Table 10**).

During 2013-2018, these wells used an average of 242.5 MGY and a combined maximum of 5,267.3 MGY. Assuming municipal water use is roughly proportional wastewater production (see **Item 11.b.i.1**), the project will use about 29,411 gallons of municipal water per day and about 10.74 MGY. Based on past use and permitted capacity, the existing municipal wells have sufficient surplus capacity to serve the proposed project. Water flow, pressure, and storage will be adequate to serve the development area.

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. 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.*

Wetlands in the project area are regulated by City of Dayton under the Minnesota Wetland Conservation Act (WCA). Wetlands and natural drainages on the site may be regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Federal Clean Water Act (CWA). The MPCA regulates waters of the state, which all surface waters and waters that serve stormwater storage, conveyance, and water quality functions. Depending on the impacts to waters of the U.S.,

the MPCA may also require an Antidegradation Assessment for Section 401 Water Quality Certification.

Wetland and Ditch Impacts

A specific development plan and application for the site has not yet be submitted to the City. If the maximum development scenario was considered, project construction would fill about 2.65 acres of wetland distributed among five basins and 0.56 acre of ditches and swales distributed among seven locations (**Tables 11 and 12, Figure 12**). Under this development scenario, the proposed project design would use storm sewers and overland flow to perpetuate the flow that now drains through ditches and swales on the property, which would be filled.

In order to proceed with the maximum development scenario, all wetlands at the site would be impacted to construct the proposed parking lots, buildings, stormwater system, and street access. Before and after development wetland acreages assume the project will replace wetland impacts by purchasing credits from an acceptable offsite wetland bank.

The project proponent will need to apply for wetland replacement plan approval under the WCA, demonstrate compliance with the wetland sequencing process, and provide design alternatives that avoid and minimize effects on wetlands to the extent practicable. The maximum development scenario does not avoid wetlands, and as a result adjustments to the site plan to avoid wetlands may be required. As part of the wetland sequencing exercise, the project proponent will need to demonstrate that impacts on wetlands and water resources have been minimized. The development plan will also need to:

1. include specific BMPs targeting water quality protection and limiting potential for sedimentation to reduce and eliminate secondary wetland impacts; and
2. treat stormwater from impervious surfaces to remove sediment and nutrients prior to discharge to wetlands.

Table 11. Estimated Wetland Impacts

Wetland ID	Circ. 39 Type	Size (acres)	Estimated Impact (acres)
5	1/3	1.00	1.00
6	1L/3	0.31	0.31
7	1/3	1.02	1.02
8	2	0.11	0.11
9	1	0.21	0.21
Total		2.65	2.65

Table 12. Estimated Ditch and Swale Impacts

Ditch or Swale ID	Type	Size (acres)	Estimated Impact (acres)
D1	Intermittent ditch	0.09	0.09
D2	Intermittent ditch	0.05	0.05
D3	Intermittent ditch	0.05	0.05
D8 & D9	Intermittent ditch	0.10	0.10
D15	Intermittent natural/channelized drainage	0.49	0.00
D16	Intermittent ditch	0.11	0.06
GS1	Grass swale	0.17	0.17
GS2	Grass swale	0.04	0.04
Total		1.10	0.56

The project proponent has obtained an Approved Jurisdictional Determination (AJD) from the USACE for all wetlands and drainages on the site except the natural intermittent watercourse that drains along the southeastern site boundary (**Appendix B**). The AJD indicates that watercourse is the only water resource on the site that falls under federal jurisdiction. The proposed project is expected to avoid that watercourse.

The project proponent will need to replace wetland impacts by purchasing available wetland credits from approved wetland banks. Wetland credits are expected to come from banks located in the same Major Watershed or Wetland Bank Service Area as the wetland impacts. Credits to be purchased for compensatory mitigation will depend upon credit balances available for sale when wetland impacts are proposed. Avoided wetlands will need to comply with City of Dayton wetland buffer requirements.

The project proponent will be required to implement BMPs or other management practices that help reduce and eliminate wetland impacts over time. As required under Part 9.17 of the MPCA's General Stormwater Permit for Construction Activity, the project proponent will maintain either 50-foot natural buffers or a double row of silt fence down gradient from construction and adjacent to surface waters and wetlands. Stormwater treatment basins will be designed to treat runoff from impervious surfaces prior to discharge to wetlands.

Wetland Buffers

As discussed below, the project is proposing to impact all of the wetlands on the site. If the design is revised to avoid some or all wetlands, the project will need to provide wetland buffers, as required under the City of Dayton Wetland Ordinance, Section 1001.27 of the City Code. Wetlands that remain onsite after project development need to have buffers with an average width of 25 feet and a minimum width of 10 feet. Principal structures need to be setback at least 15 from buffer edges. The Elm Creek Watershed Management Commission has wetland buffer requirements similar to the City of Dayton. Wetland buffers need to be preserved in their natural state, planted to native vegetation if disturbed or weedy, recorded under a conservation easement, and delineated by markers spaced no greater than 250 feet.

- 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. 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 the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.*

The project area does not include any DNR public waters, public waters wetlands, or public watercourses. Effects on wetlands, ditches, and swales are addressed in the preceding **Item 11.b.iv.a**. The proposed project is not expected to affect other surface water features such as lakes or county/judicial ditches.

12. 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.*

Much of the project area has existed as cropland and wastewater treatment basins since at least the 1930s. The project area does not include any buildings, known pipelines, transmission lines, or registered storage tanks. The site is located in an industrial area and several potential contamination sites, environmental permits, and registrations are located in the project vicinity. These sites have been investigated, are closed, inactive, or appear to be under appropriate management. As a result, they do not pose an apparent environmental contamination threat to the project area.

Phase I and Phase II Environmental Site Assessments

Eckland Consultants prepared a Phase I Environmental Site Assessment (Phase I ESA) for the project area and additional property in 1995. That assessment identified:

1. a wastewater treatment lagoon in the northeastern part of the site, later known as Kjellbergs Dayton Mobile Home Park Stabilization Pond;
2. metal tanks and old or stripped vehicles adjacent to south boundary of the site, later known as the Dayton Park Dump; and
3. an underground storage tank (UST) at a former fuel station about 0.2 mile south of the project area.

The Phase I ESA recommended removal of the underground storage tank and the vehicles.

Wenck Associates prepared a Phase I ESA for the project area and additional property in 2019.

Appendix D includes a summary from the Phase I ESA. The Phase I ESA identified the following recognized environmental conditions (RECs) indicating potential for environmental contamination related to past land uses:

1. the former fuel station known as Daytona Market, has tanks listed as active, has potential for a release of petroleum products, and is located about 0.2 mile south of the project area;
2. fill material near adjacent to the south boundary of the site, considered to have potential for petroleum products or hazardous substances associated with the fill material;
3. the Dayton Park Dump near the south boundary of the site, considered to have potential for petroleum products or potentially hazardous substances; and
4. the Former Gas Station located at 19080 County Road 81, about 0.2 mile south of the site, has identified groundwater impacts associated with a gasoline release.

The fill piles at the location of the Dayton Park dump included leaf litter, tree branches, concrete, and asphalt rubble. The MPCA file on the dump indicated the area was used by the mobile home park owner as an open dump prior to 1979. MPCA staff observed the site in 1998 for signs of a dump, but no further investigation was completed.

The Phase I ESA found that the wastewater holding ponds that existing in the northeastern part of the site from at least 1974 to late 2014 is not a REC. The ponds were shown as filled on 2016 aerial photographs and there was no indication of a release of petroleum products or hazardous substances at that time.

Wenck Associates prepared a Phase II Environmental Site Assessment (Phase II ESA) in 2019 to further assess potential for environmental contaminants at the locations of the RECs identified above. A summary from the Phase II ESA is included in **Appendix D**. The Phase II ESA included 11 soil borings and seven soil test pits to assess conditions at tank and dump sites. Soil samples were analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals, polychlorinated biphenyls (PCBs), and organo-chlorine pesticides. Groundwater samples were analyzed for VOCs.

The analysis found that concentrations of arsenic, cadmium, chromium, lead and mercury in soils were similar to naturally occurring background levels. These concentrations did not appear to represent a contamination release at the site. The Phase II ESA said the concentration of benzene in soil from the tank locations about 0.2 mile south the site appeared to indicate a release of petroleum hydrocarbons in the area of one of the tanks. The concentrations of PAHs were below the most conservative risk-screening criteria of the MPCA. Groundwater analysis from two borings at tank locations found concentrations of benzene indicative of a release to release from tanks.

Sampling from one well near the tank locations found trichloroethylene (TCE) in the groundwater. TCE has been widely used in industrial cleaning solutions and as a universal degreasing agent. The Phase II ESA indicated:

1. the TCE may be related to a release at the site;
2. the release should be reported to the Duty Officer of the State of Minnesota's Department of Public Safety – Emergency Management Division in accordance with Minn. Stat. §115.061;
3. the TCE could be a false positive related to laboratory issues or cross-contamination;
4. additional sampling is needed to determine whether groundwater is impacted with TCE; and
5. installation of a monitoring well was recommended to assess whether TCE concentrations of concern are present in the groundwater.

What's in My Neighborhood

Review of MPCA and Minnesota Department of Agriculture (MDA) "What's in My Neighborhood" (WIMN) interactive websites identified 16 listed sites located within an 0.25-mile radius of the project area (**Table 13**). Five of these sites were addressed in detail in the Phase I and Phase II ESAs summarized above and are considered inactive by the MPCA:

1. the wastewater treatment lagoon previously located in the northeastern part of the site, which is listed as Kjellbergs Dayton Mobile Home Park Stabilization Pond;
2. the Dayton Park Dump located adjacent to the southern boundary of the project area;
3. the Former Gas Station located about 0.2 mile south of the project area, a petroleum remediation leak site and an investigation and cleanup site;
4. the Daytona Market located about 0.2 mile south of the project area, a petroleum remediation leak site and an investigation and cleanup site; and
5. Dayton Park Properties located about 0.2 mile south of the project area, a brownfields investigation and cleanup site.

The Kjellbergs Dayton Mobile Home Park Stabilization Pond was added to the Investigation and Cleanup list in 1987. A Site Assessment was completed, the MPCA closed the site in 1997 and the site is now considered inactive. The Dayton Park Dump was added to the Investigation and Cleanup list in 1987. A Site Assessment was completed and the MPCA closed the site in 2000. The site is now considered inactive. State Assessment sites are places the MPCA has investigated due to suspected contamination. They are assessed to determine if they pose a risk to human health or the environment. If so, they are referred to a cleanup program.

The MPCA WIMN website identified 11 other potential contamination sites within an 0.25-mile radius of the project area. These included six hazardous waste sites, two investigation and cleanup sites, two industrial stormwater sites, and one construction stormwater site (**Table 13**). The MDA website did not identify any spills or incidents within 0.25 mile of the project area. Most of the sites listed by the MPCA are inactive. Four hazardous waste sites are listed as active. These include three very small quantity hazardous waste generators and one minimal quantity hazardous waste generator.

Hazardous waste includes substances that are corrosive, explosive, toxic and-or fire hazards. Very small quantity generators produce 220 pounds or less of hazardous waste, and less than 2.2 pounds of acute hazardous waste per month. Minimal quantity generators generate less than 100 pounds per year, none of which is classified as an acute hazardous waste.

A listing in the WIMN database, by itself, does not indicate a release or a threat of release of petroleum products or potentially hazardous substances. Available information suggests the WIMN sites identified within an 0.25-mile radius of the proposed project have been properly investigated and are closed, inactive, or appear to be under appropriate management. As a result, they are not expected to affect the project area.

Table 13. What's in My Neighborhood MPCA Sites near Project Area

Site ID	Type	Name	Status ¹	Direction from Project
189908	Investigation and Cleanup	Kjellbergs Dayton Mobile Hm Pk Stab Pond	Inactive	Onsite, NE part of site
186781	Investigation and Cleanup	Dayton Park Dump	Inactive	Adjacent to SW edge of site
102290	Industrial Stormwater	International Computer Appliance Corp	Inactive	West
142111	Construction Stormwater	CLAM Building & Site Improvements	Inactive	West
141399	Hazardous Waste	Enviro-Chem Scrap Metal Recycling Facility	Inactive	West
10124	Hazardous Waste	Superior Iron Inc	Inactive	West
19989	Hazardous Waste, Minimal quantity generator	System Design & Support	Active	West
234055	Industrial Stormwater	Boyd's Custom Cabinets	Inactive	Southwest
8221	Investigation and Cleanup Air Quality, Petroleum Brownfields	Proco Wood Products Inc	Inactive	Southwest
49278	Hazardous Waste, Very small quantity generator	E&A Products	Active	Southwest
189969	Investigation and Cleanup Petroleum Remediation, Leak Site	Former Gas Station	Inactive	South
118324	Investigation and Cleanup Petroleum Remediation, Leak Site; Underground Tanks	Daytona Market	Inactive	South
2978	Investigation and Cleanup Brownfields, Construction Stormwater, Wastewater	Dayton Park Properties	Inactive	South
216587	Hazardous Waste, Very small quantity generator	Elevation Coating Warehouse	Active	South
23427	Aboveground Tanks; Hazardous Waste, Very small quantity generator	JE Dunn Construction Co	Active	South
185775	Investigation and Cleanup Petroleum Brownfields	VSI Construction	Inactive	South

¹Status is according to information available on the MPCA website.

- 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 source reduction and recycling.*

Project construction is expected to generate waste including scraps of wood and other construction materials. Construction contractors will be required to dispose of wastes generated at the site during construction using approved methods and facilities. Onsite construction debris will likely be stored in dumpsters that will be hauled to an MPCA permitted solid waste disposal facility. It is anticipated that contractors will minimize and mitigate adverse effects from solid waste generation and storage by recycling construction waste to the degree practicable. Brush and tree waste generated by construction will likely be chipped or otherwise recycled rather than burned on site. The construction process may also generate limited small quantities of hazardous wastes (e.g., oils, greases, solvents) as a result of routine use and maintenance of construction equipment. Contractors will be responsible for disposing of such wastes in accordance with state requirements as further discussed under **Item 12.d.** below. It is anticipated that site grading will balance the cut and fill quantities of soils, avoiding the need to dispose of excess earthen material.

After development, the light industries that occupy the site will generate mixed municipal solid waste. Most solid waste is expected to include organics, paper, other waste, and plastic (**Table 14**). Municipal solid waste generated will be managed through a routine, scheduled disposal plan using one or more garbage (solid waste) haulers licensed by the City of Dayton. The licensed haulers will truck solid waste to approved nearby solid waste disposal facilities. The City of Dayton will require up-to-date recycling in accordance with the Minnesota State Building code. Project area tenants will be encouraged to minimize waste and recycle to the extent practicable. Participation in recycling by future industries in the project area is expected to help mitigate adverse effects of solid waste.

Neither the construction process nor the proposed project is expected to generate substantial hazardous waste, solid animal manure, sludge, or ash.

Table 14. Estimated Solid Waste Composition

Waste Type	Estimated %
Organic	31.0
Paper	24.5
Other	18.3
Plastic	17.9
Hazardous	0.4
Metal	4.5
Glass	2.2
Electronics	1.2
Total	100.0

Source: 2013 Statewide Waste Characterization
(Burns & McDonnell for MPCA 2013).

- 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 above or below ground tanks to store petroleum or other materials. 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.*

Project development is not expected to generate or store substantial amounts of hazardous wastes or materials. Project construction may include some temporary storage of potentially hazardous substances, such as diesel fuel for construction vehicles. Temporary storage of such hazardous materials will need to be secured by contractors. Future light industrial development is expected to result in the storage or generation of small amounts of typical household cleaners, paints, lubricants, and small engine fuels over time. Petroleum storage tanks and commercial petroleum-based businesses are not proposed in the project area.

- 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.*

Normal construction and light industrial hazardous wastes are anticipated. Toxic or hazardous materials such as fuel for construction equipment and materials used in construction and maintenance (paint, adhesives, stains, contaminated rags, acids, bases, herbicides, and pesticides) will likely be used during project construction and operation. Spills of these materials are not likely to occur, but a substantial spill could require notification of the Minnesota Duty Officer. Contractors will be responsible for proper management and disposal of wastes generated during construction. Site tenants will be responsible for management and disposal of hazardous waste thereafter. Any business that generates greater than five gallons of hazardous waste on the site will need to obtain a hazardous waste license and properly dispose of the hazardous waste.

13. 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.*

Fish and wildlife resources on and near the site are related to the composition, quality, size, and connectivity of plant communities such as croplands, wetlands, woodlands, and grasslands. Vegetation cover type mapping in the project area was based on aerial photography, the wetland delineation, and field reviews (**Figure 6**). The project area is about 71% cropland, 17% wetlands, ponds, and drainages; and 11% woodland. Habitats in the project area are used by a variety of wildlife species common in east-central Minnesota, including species adapted to cropland, emergent wetlands, and woodland. Such species include white-tailed deer, songbirds, waterfowl, small mammals, and amphibians.

The project area falls in the Eastern Broadleaf Forest Province of the MDNR Ecological Classification System and the Big Woods Level IV Ecoregion of the U.S. EPA. This region generally consists of rolling plains covered mostly by row crops with some lakes, pastures, and suburban development. Prior to modern settlement, much of this ecoregion was covered by extensive hardwood forest.

Much of the project area has limited wildlife habitat value because it has been used for production of annually tilled agricultural crops. The cropland was planted to corn in 2020. Wetlands are dominated by reed canary grass, cattail, willows, silver maple, green ash, barnyard grass, and agricultural weeds. Woodlands included mostly green ash and boxelder, with some red oak and buckthorn predominant throughout the understory. Grasslands are mostly dominated by reed canary grass, with some smooth brome and Kentucky bluegrass.

The Hennepin County Natural Resource Inventory does not show any ecologically significant areas, natural resource corridors, DNR native plant communities, or DNR sites of biodiversity significance onsite. The Inventory shows French Lake mapped as a natural resource corridor and ecologically significant area. The proposed project will not have physical effects on French Lake.

- b. *Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County 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-989) and/or correspondence number (ERDB [none assigned]) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.*

State

A Natural Heritage Inventory System (NHIS) data request was submitted to the MN DNR to assess whether rare plant or animal species or other significant natural features are known to occur within an approximate 1-mile radius of the project area. In addition, Kjolhaug Environmental Services (KES) queried a licensed copy of the NHIS database to assess rare species and natural features. This EAW reports on the result of the KES NHIS query because the MN DNR had not responded to the data request at the time this EAW was approved for distribution.

The NHIS review identified records of three state special concern species occurring in the general vicinity of the project area. Neither of these species is on the list of federally threatened and endangered species. These NHIS records include:

1. Common gallinule (*Gallinula galeata*) – A state special concern bird species observed near the project area. Gallinules are found in freshwater cattail-bullrush marshes, sometimes large marshes with deep water and a mix of water and emergent vegetation.
2. Trumpeter swan (*Cygnus buccinator*) – A state special concern bird documented within a mile of the site. The trumpeter swan typically selects small ponds and lakes or bays on larger water bodies with extensive beds of cattails, bulrush, sedges, and/or horsetail.

3. American ginseng (*Panax quinquefolius*) and Big Woods sugar maple forest – American ginseng is state special concern vascular plant species observed in sugar maple Big Woods forest about a mile northwest of the site. Ginseng grows only in well-developed forest soils, usually mesic loams, typically under a closed canopy of mature sugar maple, basswood, or red oak.

Federal

Online information on rare species information maintained by the U.S. Fish and Wildlife Service (USFWS) was also reviewed for the project area. The U.S. Fish and Wildlife Service (USFWS) listed the northern long-eared bat (*Myotis septentrionalis*) as federally threatened on May 4, 2015. On February 2, 2017, the USFWS listed the rusty patched bumble bee (*Bombus affinis*) as federally endangered.

Review of the USFWS [Information for Planning and Consultation](#) (IPaC) website with a polygon encompassing the project area identified the northern long-eared bat as the only threatened or endangered species that may potentially be affected by activities at the project location. The IPaC website also noted that there are no critical habitats at this location.

The northern long-eared bat hibernates in caves during winter and establishes maternity roosting colonies under the loose bark of trees during the summer. The project area is not known to include caves and includes limited tree cover. As of June 3, 2020, MN DNR data showed no [documented maternity roost trees or hibernacula entrances](#) of the northern long-eared bat in the project vicinity.

Review of the USFWS [Rusty Patched Bumble Bee Map](#) indicates the project area falls within a Low Potential Zone. This means that the rusty patched bumble bee is not likely to be present in the project area. The nearest High Potential Zones, where rusty patched bumble bees are likely to occupy suitable habitat, as located about 1.3 mile southeast of the project and is associated with the Elm Creek Park Reserve. Most habitats suitable for rusty patched bumble bees in the Upper Midwest have been converted by agriculture or other land uses. Bumble bees need areas that provide nectar and pollen from flowers, nesting sites (underground and abandoned rodent cavities or clumps of grasses), and overwintering sites for hibernating queens (undisturbed soil). The project area is about 71% cropland and lacks typical pollinator habitat. Site reviews did not identify native prairie plantings or diverse areas of native wildflowers.

- c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. 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.

The project will convert about 48 acres of cropland, woodland, wetland, and drainages to buildings, parking lots, stormwater basins, low maintenance grassland, and landscaping. This habitat conversion is expected to affect the number and type of wildlife species in the area, but changes in wildlife abundance are not expected to be regionally significant. Wildlife species that depend on cropland-wetland-woodland habitats could be displaced during project construction. Non-migratory

species with small home ranges such as small mammals may experience more adverse effects, including mortality during project construction.

Development of the project area is not expected to have substantial effects on state-listed rare species such as the common gallinule and trumpeter swan because the site has been used primarily as cropland and wetlands on the site are range from seasonally flooded to shallow marsh areas with little or no open water. The nearby French Lake will continue to provide potential habitat for these water birds.

The project is not considered likely to adversely affect the northern long-eared bat (NLEB) because there are no known maternity roosts or hibernacula of this species in the project vicinity. Project construction will remove about 4.51 acres and preserve about 1.23 acres of wooded habitat that may be used by bats (**Figure 12**). Tree clearing is not expected to substantially affect essential NLEB behavioral patterns such as breeding, feeding, or sheltering. To the extent practicable, tree clearing will occur between October and April, when migratory songbirds and bats are not nesting or reproducing, and look to avoid the bat reproducing and young rearing period between June 1 and July 31.

The project area is not known to contain highly suitable habitat for the rusty patched bumble bee, and therefore this bee is unlikely to be present in the project area. Site development may improve conditions for pollinators and pollinator dispersal, as development will discontinue agricultural production, reduce agricultural pesticide use, and add landscape buffers.

Although project construction is expected to slightly increase the potential for the spread of invasive and weedy species, a considerable part of the project area has been tilled for agricultural production. BMPs may include the cleaning of construction equipment before transport, which might reduce the potential spread of invasive species.

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

Measures to minimize and mitigate adverse effects on wildlife include the preservation of about 13 acres of open space consisting of stormwater basins, grassland, and landscaping. The project is expected to preserve about 1.23 acres of woodland.

14. 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.

A request for records related to the history of the site has been submitted to the Minnesota State Historic Preservation Office (SHPO) and Nienow Cultural Consultants (NCC) conducted a Phase I Archaeological Survey of the project area in December 2020 and April 2021. SHPO identified a

segment of historic railroad located about 0.3 mile south of the proposed project, the M&NW/StPM&M/GN West Side Line (Osseo Branch), Dayton Segment (HE-DYC-018). The response from SHPO is included in **Appendix E**.

NCC conducted an historical records review and found no previously documented archaeological sites in the project area, but identified four sites from a 2014 study for the French Lake Industrial Center AUAR Area directly north of the project area (**Table 15**).

Table 15. Archaeological Sites North of Project Area

Site No.	Distance North of Project (Ft)	Site Type
21HE442	1,665	Precontact period lithic scatter
21HE443	2,890	Precontact period lithic scatter
21HE444	1,475	Precontact period lithic scatter
21HE445	2,980	Precontact period lithic scatter

NCC completed a field survey of cropland in the project area on December 18, 2020, using standard methods laid out in the Office of State Archaeologist (OSA) and State Historic Preservation Office (SHPO) archaeology manuals. Survey methods consisted primarily of surface survey over all plowed fields (all fields had 30% or greater visibility).

One archaeological site was documented during the surface survey consisting of a single, basalt flake from the production of a stone tool. Modern trash (plastic, cardboard, etc.), rockpiles with modern materials (metal barrels, plastic and metal drainage pipes), and discarded/broken farm implements (plow tines, machinery parts, etc.) were identified in several locations during the pedestrian survey but materials were not collected.

NCC completed four shovel tests on the site on April 17, 2021. Shovel tests were typically 35-40 centimeters (cm) wide and at least 50cm deep. All soils were screened through ¼-inch mesh screen, detailed profile notes completed, photographs taken, and GPS points collected for each shovel test. All shovel tests were negative for cultural materials.

The Phase I Archaeological Survey of the project area identified a single prehistoric archaeological site. The site was represented by a single lithic flake. This flake has been reported to the Office of the State Archaeologist and received site number 21HE0546. This site is not considered eligible for the National Register of Historic Places and NCC recommended that no further archaeological work be completed. The Phase I Archaeological Survey Report is included in **Appendix E**.

15. 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.

Most existing views of the site are farmland, wetlands, and wooded field edges. There are no prominent scenic vistas on or near the property, but part of the property overlooks French Lake. Project development is expected to result in routine effects on visual resources, but substantial effects on visual resources are not anticipated. The main visual effect will be the transition of views from mostly open agricultural land to buildings, parking lots, and stormwater basins. The project will not involve installation of intense lights that would cause glare, and the project is not expected to include industries that would emit vapor plumes. Effects of outdoor lighting can be minimized by using fixtures that direct light where it's needed and shield light from sensitive areas.

The proposed light industrial use will operate 24 hours a day, six days a week. Nighttime noise and light pollution will be minimized with landscape buffers, delivery timing, and by loading trucks inside of buildings. Deliveries are typically scheduled between 7:00am and 9:00pm. The project design will include a minimum 20-foot landscape buffer along the southern project boundary to mitigate noise and light pollution. Landscape plantings are expected to soften visual transitions and help mitigate effects on views from nearby properties and roads. Other potential mitigation measures may be required, such as fencing or walls that would provide security or an enhanced visual buffer near the mobile home park to the south. Stormwater basins will provide a visual transition between French Lake and the light industrial development. The trees along the east side of French Lake Road will continue to screen some views of the development from French Lake.

16. 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, and any greenhouse gases. 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 proposed project does not include heavy industrial facilities, but the project will still involve some stationary source air emissions. New light industrial commercial buildings are expected to include heating and cooling systems operated by natural gas and electricity, which will result in direct or indirect sources of stationary greenhouse gas (GHG) emissions. Emissions from heating and cooling units are expected to be similar to those of other light industrial buildings in the surrounding area.

The Minnesota EQB is working on a framework for integrating GHG quantification and assessment requirements into the Environmental Review Program, but methods and requirements are not yet

final. In light of this constraint and in the absence of official guidance, the GHG assessment presented here is qualitative.

Common GHG emissions include CO₂, CH₄, N₂O. GHG emissions are customarily converted to carbon dioxide equivalents (CO₂e) using global warming conversion factors to represent the global warming potential over 100 years, equivalent to one ton of CO₂ derived from fossil fuel.

GHG emissions are expected to result from:

1. Use of petroleum fueled equipment during project construction;
2. Use of natural gas and other fossil fuels to heat buildings and water;
3. Fossil fuels burned to generate electricity used at the project during construction and operation;
4. Vehicle and air transportation related to project construction and operation;
5. Transport, treatment, and storage of solid waste and wastewater;
6. Loss of carbon sequestration due to conversion of natural vegetation to developed and paved surfaces; and
7. Refrigeration, air conditioning, and the related manufacturing, service, and leakage of equipment.

GHG emissions from this project, while unquantified, are not expected to cause potential for significant environmental effects because the project requires a mandatory EAW due to square feet of light industrial floor space rather than air pollution and because there is no mandatory EIS threshold for air pollution in Minnesota. There are no readily available GHG emission estimates that show a comparably sized Minnesota project with potential to exceed the mandatory EAW threshold of 100,000 tons of CO₂e per year (Minnesota Rules Part 4410.4300, Subp. 15.B.).

Climate change and GHG mitigation measures may be incorporated into the project design. Potential GHG and climate change mitigation measures that may be considered include:

1. Use energy efficient building materials that reduce the need for heating and cooling.
2. Install programable thermostats (already assumed).
3. Install smart irrigation to reduce outdoor water use.
4. Install high-albedo (reflective) roofing materials that reflect the sun's UV rays and save energy needed to cool buildings.
5. Consider rooftop solar, electric vehicle charging stations, and/or battery storage to make the project energy autonomous and EV-ready.
6. Plant turf to no-mow fine fescue mixes or native prairie/pollinator gardens to decrease mowing and increase carbon sequestration.
7. Consider a microgrid for efficient, automated distribution of energy among participants.
8. Install ground-source or air-source geothermal heat pumps during initial construction when most cost-effective.

- 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.*

The proposed project will generate increased traffic, which will result in a relatively small corresponding increase in carbon monoxide, carbon dioxide and other vehicle-related air emissions. Project development is expected to have a minor effect on air quality. GHG emissions related to traffic and transportation are discussed under **Item 16.a** above. The project does not include air quality monitoring or modeling.

- 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 16a). 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 may generate some dust or odors at levels that are typical of light industrial development, particularly during construction. Dust and odors produced during project construction are expected to be consistent with applicable regulations of the MPCA and the City of Dayton. Dust, odors, and noise levels are expected to be slightly higher during project construction than during project operation.

The construction process is expected to generate fugitive dust, but dust is not expected to be generated in objectionable quantities. The dust receptor nearest to the project area is the Dayton Park Mobile Home Park located immediately south of the project. Odors routinely generated during construction will be typical of those associated with construction activity, such as exhaust from diesel and gasoline powered construction equipment.

Consideration will be given to suppression of airborne dust by application of water if fugitive dust generation during site grading exceeds levels typically expected during normal construction practices.

17. 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.

It is anticipated that local noise levels will temporarily increase during project construction, but noise levels are expected to be at or near existing levels after construction is complete. Noise levels on and adjacent to the project area will vary considerably during construction, depending on the amount of construction that occurs simultaneously, the time of operation, and the distance between construction equipment and receptors.

The noise receptor nearest to the project area is the Dayton Park Mobile Home Park located immediately south of the project. Homes in this area will experience noise levels at times during

construction that are elevated in comparison to existing noise levels. Grading and excavation will require heavy equipment, such as scrapers, bulldozers, and other excavating equipment.

The project is expected to minimize disturbances caused by construction noise and comply with Minnesota noise rules and standards. These rules require noise to stay within specified levels depending on the land use and the time of day or night.

Noise generated by construction equipment and building construction will be limited primarily to daylight hours when noise levels are commonly higher than at night. Contractors will be required to minimize noise impacts by maintaining equipment properly, including use of mufflers and other noise controls as specified by manufacturers.

Noise levels after development will be related to truck traffic and light industrial operations. The proposed light industrial development will operate 24 hours a day, six days a week. Nighttime residential noise standards will apply within the mobile home park to the south between 10:00pm and 7:00am. The project will include mitigation measures to reduce nighttime noise levels and is expected to comply with nighttime noise standards. Noise mitigation measures will include:

1. a 20-foot landscape buffer and a potential fence or wall along the southern project boundary;
2. scheduling typical deliveries to occur between 7:00am and 9:00pm; and
3. loading trucks inside of buildings.

Noise monitoring may be needed after the project begins operation to determine if the project is complying with nighttime noise standards for the adjacent residential area. Noise monitoring could identify the need for additional mitigation measures to be implemented.

18. 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.*

Swing Traffic Solutions (STS) completed a Traffic Impact Study to estimate the trips generated by the proposed project and evaluate the potential need for transportation or roadway improvements. The complete Traffic Study is included in **Appendix F**.

Existing and Proposed Parking Spaces

The project area does not include any parking stalls under existing conditions. The proposed project will include up to 600,000 square feet of light industrial floor space and up to 300 vehicle parking stalls. The parking stall estimate is based on Parking Regulations under Section 1001.19 of the Dayton City Code. Parking areas could include stalls for passenger vehicles, trucks, and trailers.

Estimated Traffic Generation

STS prepared a complete Traffic Impact Study for up to 600,000 square feet of office-warehouse development that is 15% office and 85% warehouse. The full Traffic Study focused on this maximum development scenario and the layout shown in **Concept C (Figure 5)**. This scenario has the highest trip generation and the greatest effect on the surrounding roadway network. The Traffic Study assumed full development of the site by 2025. The complete Traffic Impact Study is included in **Appendix F**.

Trip generation was estimated for the maximum development scenario using the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017). The project is expected to generate up to 200 PM peak hour trip trips, consisting of 42 entering vehicles and 158 exiting vehicles (**Table 16**). The Traffic Study included in **Appendix F** provides a full description and analysis of the peak hour traffic and traffic recommendations.

Table 16. Project Trip Generation Estimates

Land Use	ITE Code	SF of Floor Space	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Office	710	90,000	958	95	16	111	16	87	103
Warehouse	150	510,000	851	67	20	87	26	71	97
Total		600,000	1,809	162	36	198	42	158	200

Availability of Transit and Alternative Transportation

Available alternative transportation in the City of Dayton includes Transit Link and additional alternatives are under development. Transit Link serves the seven-county metro area with curb-to-curb minibus or van service for the public where regular route transit service is infrequent or unavailable.

The City of Dayton is provided public transportation to destinations within Sibley, McLeod and Wright Counties as part of the Trailblazer Transit Service. Trailblazer Transit is a general public transit system that provides Dial-A-Ride service in Sibley, McLeod, and Wright Counties plus some other neighboring cities. Buses pick up and drop off passengers at locations specified by the customers. A parcel near the Dayton Parkway interchange area has been identified as a potential park and ride station.

Trails and sidewalks provide another alternative approach for local travel. The City of Dayton 2040 Comprehensive Plan shows a proposed neighborhood trail along French Lake Road on the east side of the site, which will increase local opportunities for walking and bicycling. The City is collaborating with Hennepin County, Wright County, and Metro Transit to integrate transit into its transportation network.

- 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.*

STS documented existing conditions of the nearby roadways with a field inventory during February 22, 2021. Observed conditions were compared with the Updated AUAR traffic study for the French Lake Industrial Center. The study focused on the following intersections:

1. Brockton Lane N and S Diamond Lake Rd;
2. Brockton Lane N and David Koch Avenue;
3. Brockton Lane N and Rogers Drive;
4. Brockton Lane N and 124th Avenue N; and
5. Brockton Lane N and CSAH 81.

Peak hour turning movement counts were conducted at the ICA Corporation site access immediately west of the project and at 117th Avenue N (becomes W French Lake Road) and East French Lake Road, the intersection most closely aligned with the future Dayton Parkway and French Lake Road intersection.

STS analyzed intersection operations using Synchro/Simtraffic, 10th Edition. Recommendations were provided to mitigate impacts based on the traffic control and lane configuration assumed for the 2025 analysis, as summarized in **Table 17**.

Table 17. 2025 Traffic Control and Lane Configuration¹

Intersection	Control	EB	WB	NB	SB
Brockton Lane N & S Diamond Lake Rd	Signal	LTR	LTr	LTR	LTR
Brockton Lane N & David Koch Ave	Side Stop	ltr	ltr	ltr	ltr
Brockton Lane N & Rogers Dr	Signal	LTTR	LTTR	LTTR	LTTR
Brockton Lane N & 124th Ave N	Signal	N/A	LR	TR	LT
Brockton Lane N & Northern Access	Side Stop	N/A	ltr	tr	lt
Brockton Lane N & Southern Access	Side Stop	LR	lr	By-Pass	tr
Brockton Lane N & County Road 81	Signal	LTTR	LTTRR	LTR	LLTR
French Lake Road & Dayton Parkway	Signal	LTRR	LTR	LTTR	LTTR
French Lake Road & 124th Avenue N	Side Stop	LR	N/A	LT	TR

¹Capital letters indicate dedicated movements, lower case letters indicate shared movements.

Effects on Traffic and Roadways

The results of the analysis show that all intersections are expected to operate at acceptable overall Levels of Service (LOS) in 2025 under the no-build scenario. The analysis also show that all

intersections are expected to operate at acceptable overall LOS in 2025 with the proposed project. Further, the results show that all intersections are expected to operate at acceptable overall LOS in 2040 with and without the proposed project. Details are included in **Appendix F**.

The proposed project would require a new site access that would be a public street oriented along the southern site boundary and connecting Brockton Lane with French Lake Road (see **Figures 4 and 5**). The new access to Brockton Lane will initially include turn lanes and traffic will be monitored to determine when a signal would need to be added. A signal would have to satisfy warrants analysis before it could be added, the Traffic Study included in **Appendix F** assumed a traffic signal would be in place by 2040. After 2040, a traffic signal at the Brockton Lane site access would result in improved operations with short queues. Hennepin County has jurisdiction over Brockton Lane (County Road 101) and will have ultimate approval authority for signal installation at this location.

The transportation infrastructure surrounding the site will support the proposed development of this property. The intersection of Brockton Lane and Rogers Drive should be monitored to determine when road striping should be adjusted to support northbound dual left turn lanes, as traffic volume turning left onto Rogers Drive is typically better handled with dual left turn lanes.

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

The traffic analysis considered full build out by 2025 and evaluated conditions in 2040. By 2040, the new site access at Brockton Lane near the southern site boundary is assumed to be signalized, and several regional transportation improvement projects will be complete, including the:

1. upgrade of Brockton Lane N from a two-lane undivided road to a 4-lane divided road;
2. completion of the Dayton Parkway interchange with I-94;
3. completion of the Dayton Parkway and French Lake Road intersection; and
4. upgrade of French Lake Road to a three-lane facility from Dayton Parkway to Rogers Drive.

With these improvements, the transportation system serving this area will have sufficient capacity to include traffic from the Dayton Park Industrial Center as well as several other anticipated projects.

19. 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.

The proposed project covers 50.76 acres and will include up to 600,000 square feet of light industrial building floor space and 300 parking stalls, expected to be constructed over the next 1 to 2 years. The southwestern part of Dayton is mostly guided for industrial development and has municipal sewer and water staged for development. Several properties located within 1 mile of the proposed project and west and south of French Lake have recently developed or are expected to develop or

redevelop soon (**Table 18**). These properties cover a total of about 350 acres and are expected to develop into predominantly light industrial uses. Some of these projects will be under construction at the same time as the proposed project, and the operational timing of all of these projects could overlap. These projects could potentially interact with the proposed project to result in cumulative effects.

- 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.*

Reasonably foreseeable future projects are discussed under **Item 19a** above and listed in **Table 18** below. These projects are likely to interact with the Dayton Park Industrial Center to result in cumulative effects on transportation and stormwater infrastructure as discussed below.

Table 18. Potential and Proposed Future Developments Near Project Area

Property	Description	Acres	Status	Distance from Project
French Lake Industrial Park	Up to 1.84 million square feet of light industrial development	171	Construction started	Adjacent N
Troy Lane Parcel	Future light industrial development	45	Proposed	0.1 mile S
Spaamen Property	Future light industrial development	25	Proposed	0.2 mile S
Commercial Strip	Future commercial redevelopment	7	Interest	0.2 mile S
SW Area Business	Future light industrial redevelopment	27	Interest	0.3 mile S
French Lake Golf Course	Future light industrial development	72	Proposed	0.3 mile SE
Total		347		

- 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.*

Potential cumulative effects on public infrastructure relate to traffic and transportation, municipal water supply, sanitary sewers, and stormwater management. Traffic studies routinely address cumulative effects by accounting for future development and background traffic growth. The City of Dayton has planned for continued growth and expanded infrastructure system capacity to address these effects and serve anticipated future projects. The City of Dayton will consider the timing and staging of other development proposals within the context of the Comprehensive Plan and related growth management tools. Cumulative effects on public infrastructure are not expected to be significant.

Potential cumulative effects of anticipated future projects on natural resources depend on the type, density, and location of future developments. Potential effects on natural resources such as wetlands and wildlife habitat can be greater with industrial than residential development because industrial

uses tend to include large buildings and parking areas with little flexibility for resource avoidance. Impacts also vary with project location and local habitat diversity. Effects of the project on wetlands, vegetation communities, and wildlife resources may combine with effects of nearby concurrent projects to result in local and subtle cumulative effects.

Cumulative effects of suburban development on natural resources can include the loss of agricultural land and the loss and fragmentation of wildlife habitat. Surface water runoff from the project area will ultimately flow to Elm Creek and the Mississippi River. Requirements for stormwater management and erosion and sediment control are expected to minimize cumulative effects of post-development runoff on downstream waters. Policies and regulations of the City of Dayton and other government agencies require the stormwater mitigation measures discussed in this EAW. These mitigation measures will help ensure minimization of cumulative effects on the environment.

The project will contribute to and be affected by cumulative effects related to climate change. In Minnesota, climate change has caused increased extreme heat, large precipitation events, flooding, annual precipitation totals, and growing season days. These trends will continue and increase until climate change is reversed. Effects of climate change on the project area or associates of business in the area could include flooding; increased maintenance of roads, parking, storm sewers, and drainage routes; increased human heat stress and health issues; high pollen counts; and decreased need for irrigation. Increased heat could also affect construction practices such as roofing. Snow skiing and snowmobiling could be impacted due to lack of snow and warmer temperatures. Undesirable pests such as deer ticks and fungal infections could increase due to climate change. Some climate change impacts, such as extreme drought, coastal flooding, and shortages of food and water, are not expected to severely affect the proposed project.

Climate change impacts are incremental and cumulative in nature. Just as the project will be impacted by climate change, the project will also contribute to climate change impacts through emission of greenhouse gases.

20. 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 additional environmental effects are anticipated as a result of development of the project area. Potential environmental effects have been addressed in **Items 1** through **19**.

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 Jena GoodroadDate 8-3-21Title City Administrator

Figures 1 – 12

Dayton Park Industrial Center EAW

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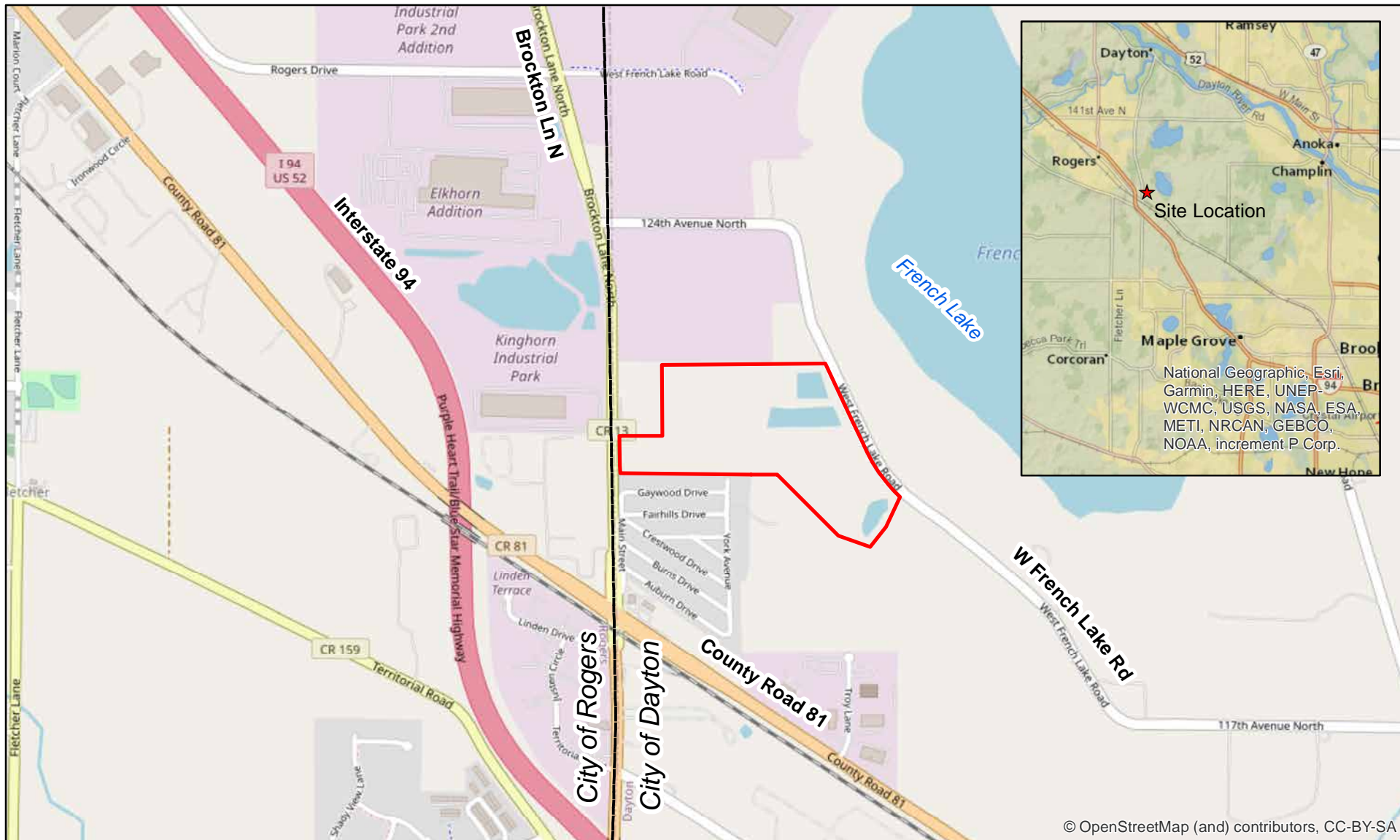
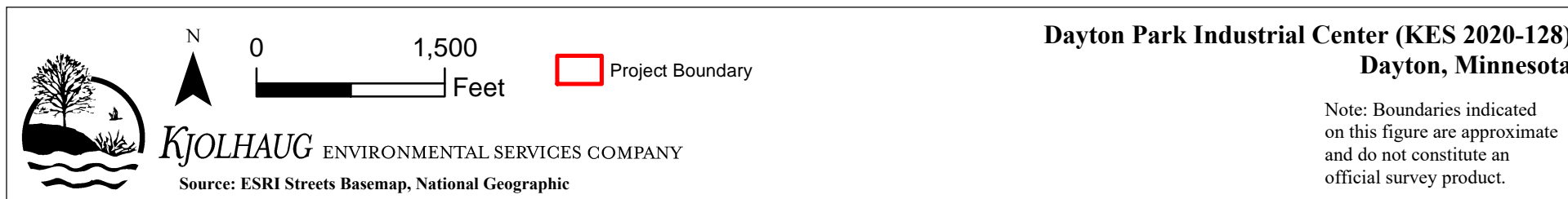


Figure 1 - Project Location



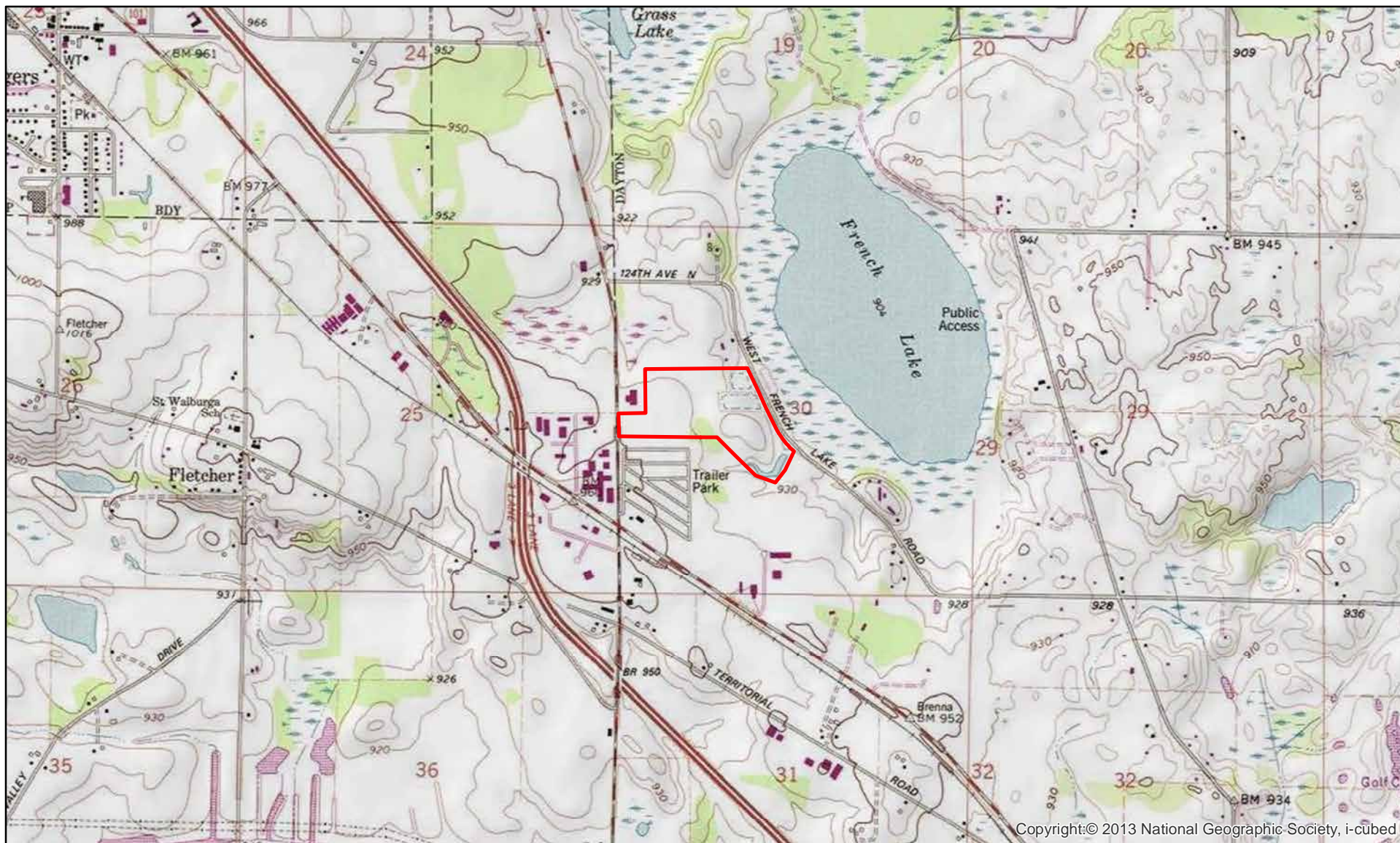


Figure 2 - USGS Topography



N

0 2,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

Dayton Park Industrial Center (KES 2020-128)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 3 - Concept A (Office - Warehouse)

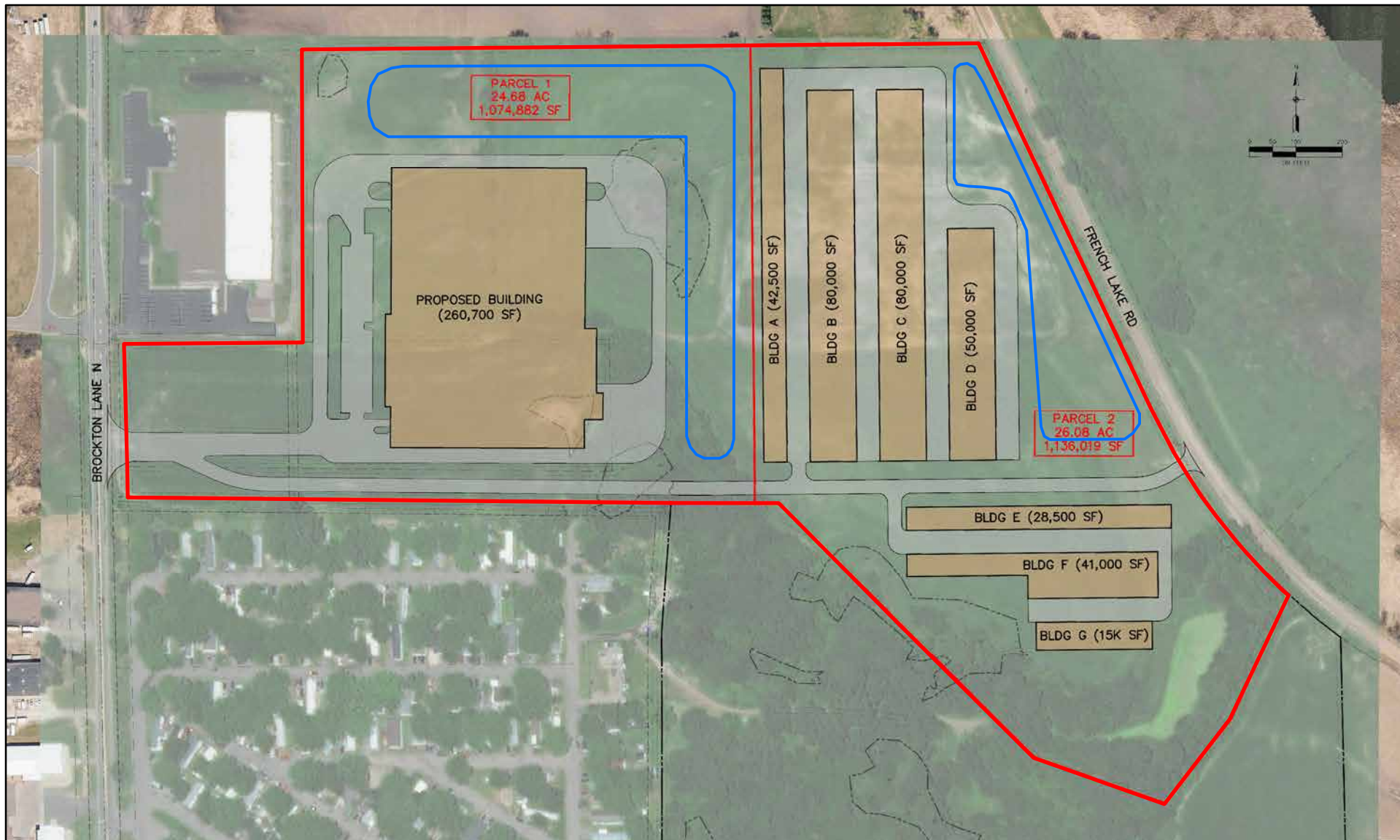


Figure 4 - Concept B (Storage - Warehouse)



Figure 5 - Concept C (Office - Warehouse)

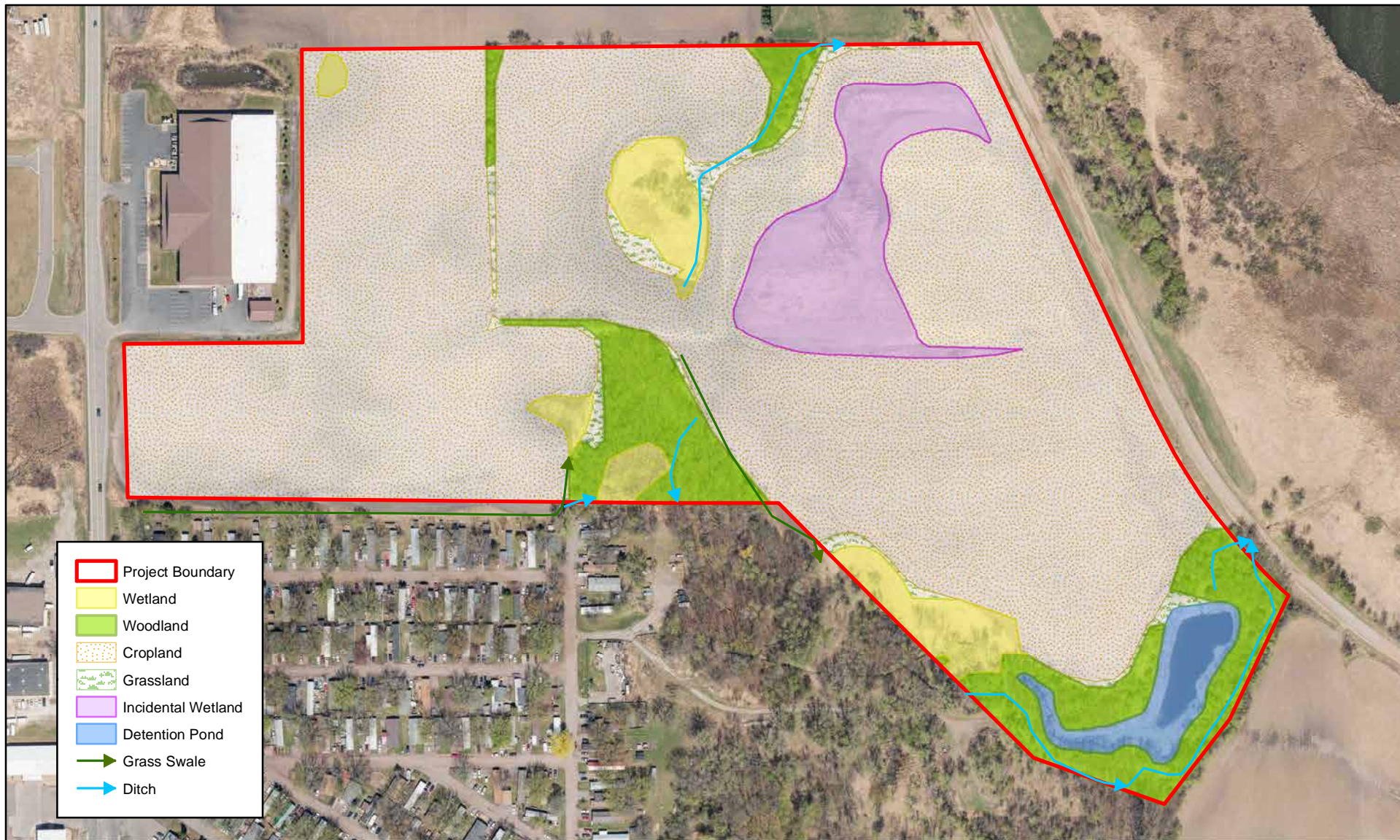


Figure 6 - Existing Cover Types

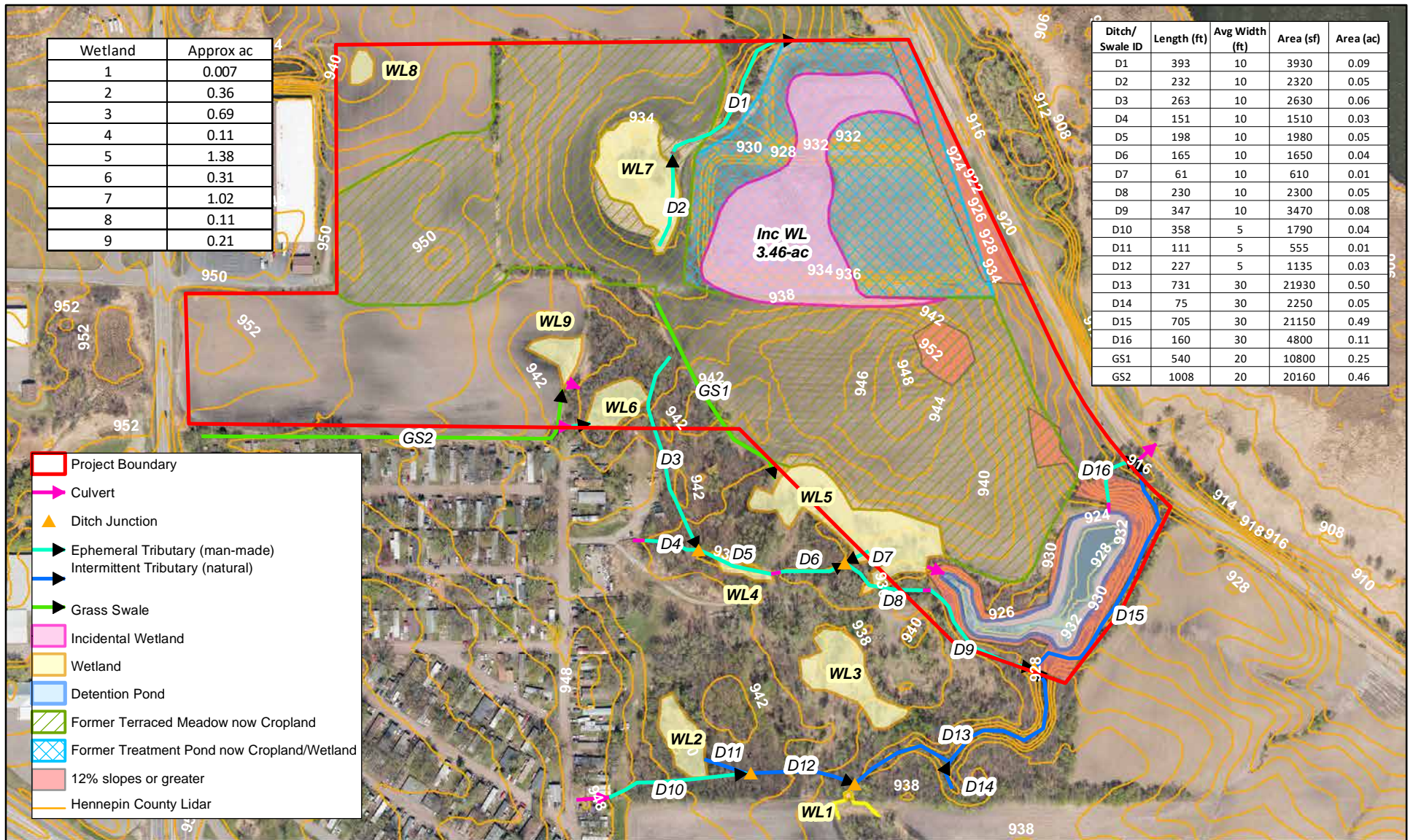


Figure 7 - Wetlands, Drainages, and Slopes



Figure 8 - Existing Land Use



N

0 650 Feet

KJØLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons

Dayton Park Industrial Center (KES 2020-128)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 9 - Shoreland Overlay District and Floodplain



N

0 300 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, City of Dayton, Mn Topo

Dayton Park Industrial Center (KES 2020-128)

Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

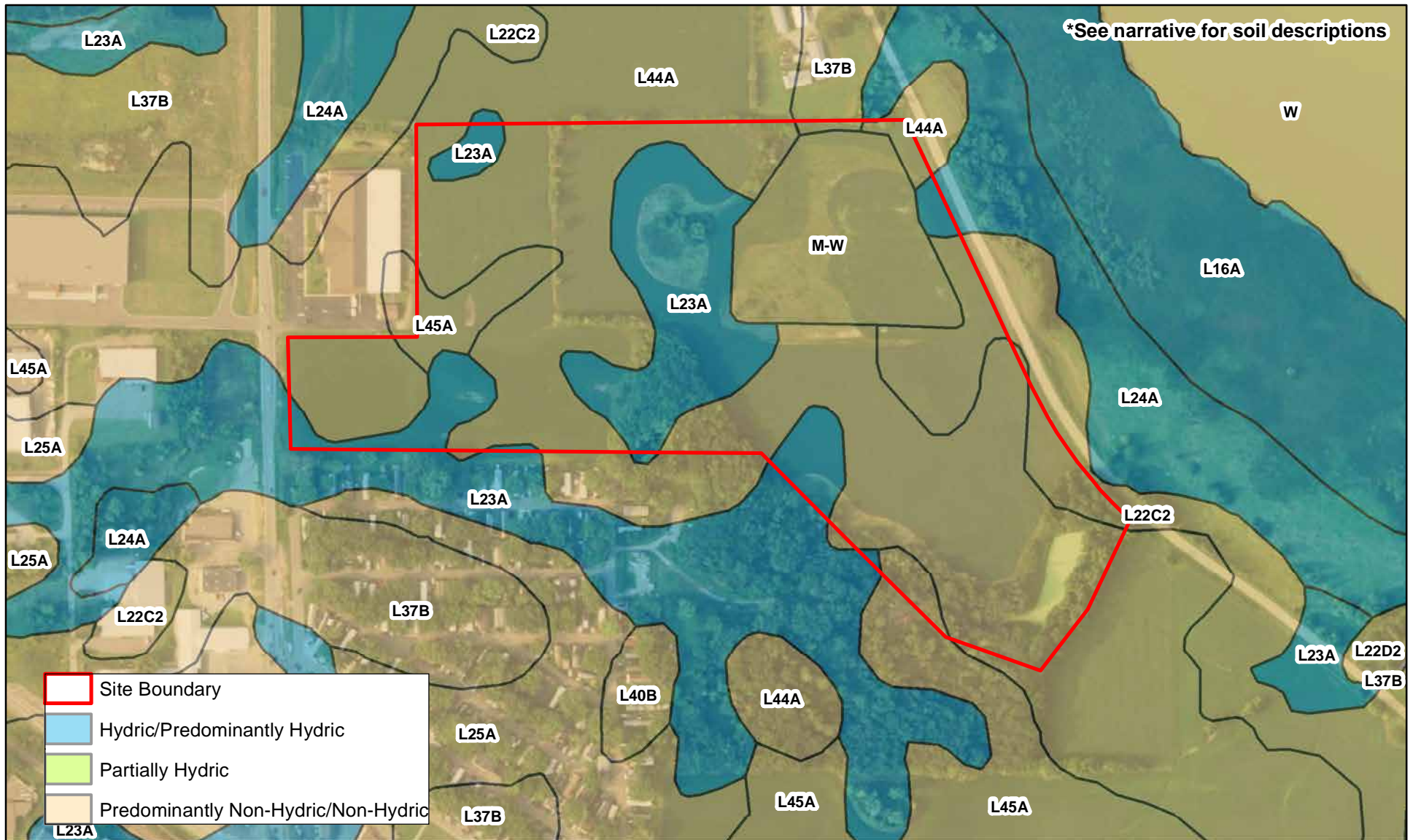


Figure 10 - Soil Types



Figure 11 - National Wetlands Inventory



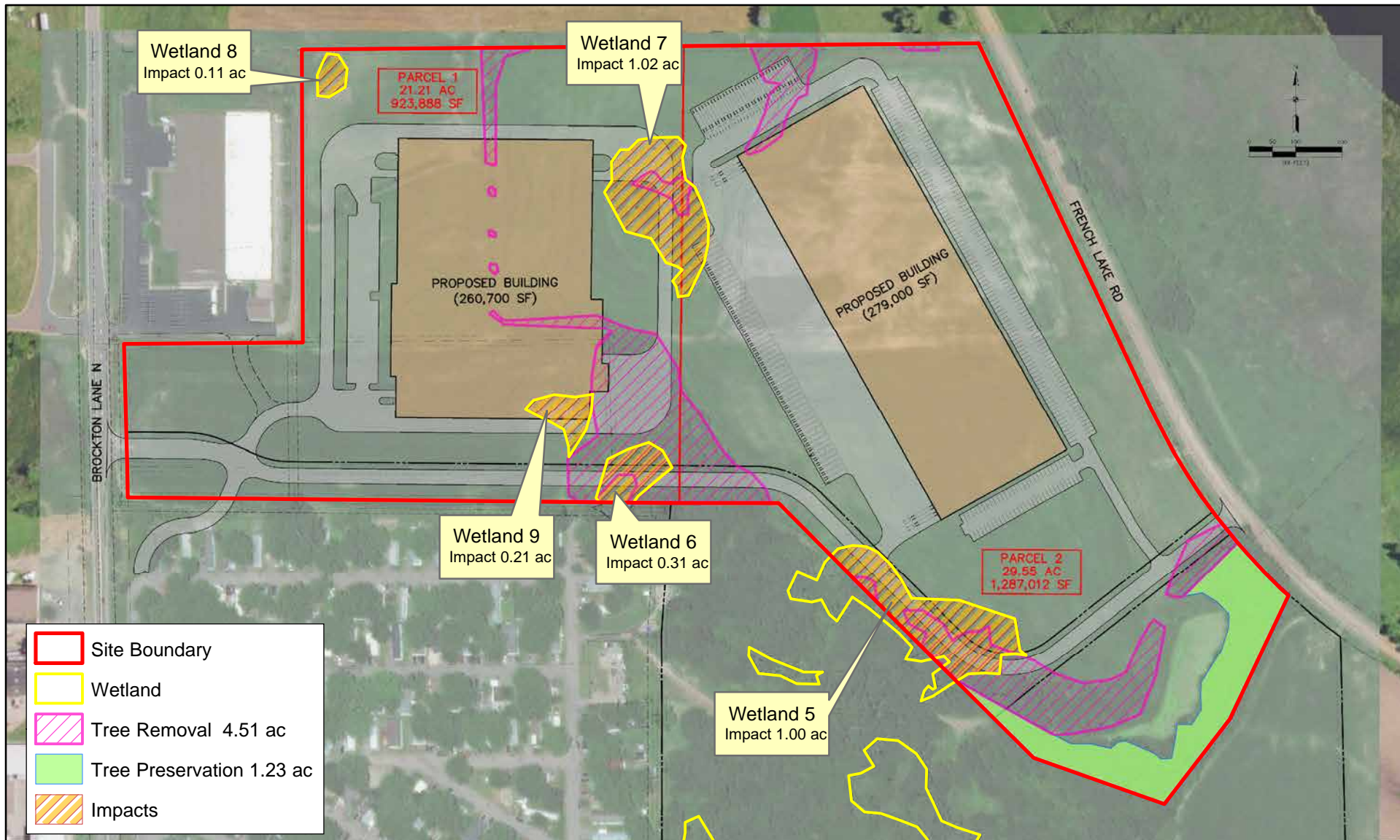


Figure 12 - Wetland Impacts and Tree Removal

Appendix A
Floodplain Elevation Letter
Dayton Park Industrial Center EAW

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Engineers & Architects

January 4, 2005

2335 West Highway 36 • St. Paul, MN 55113

Office: 651-636-4600 • Fax: 651-636-1311

www.bonestroo.com

Mr. Tom Hovey
Minnesota DNR Waters
1200 Warner Road
Saint Paul, MN 55106

Re: Diamond Lake Woods Subdivision
DNR Permit – Grass Lake
HWL's Grass Lake, Diamond Lake, French Lake
Dayton, MN
File No. 174-04-000

Dear Tom:

The attached DNR permit provides for the permanent outlet from Grass Lake to Diamond Lake through the Diamond Lake Woods Subdivision. The permit form, permit fee calculation, and permit fee are enclosed with this letter.

Also enclosed is the background field survey information for Grass Lake, Diamond Lake, and French Lake. This survey information was used along with 10' contours and other assumptions to generate a model to calculate the 100 year bounce. The 100 year HWL is the calculated bounce plus assumed NWL. The assumed NWL for Diamond Lake and French Lake was determined from field survey information, 10 foot contours, and the information submitted from Loucks Associates. The assumed NWL for Grass Lake is the proposed 24" pipe invert in Diamond Lake Woods. We have also forwarded this same information to Ali Durgunoglu at the Elm Creek Watershed for their review. Summarized below are the water levels for each lake:

	Ex water Level	DNR OHW	Assumed NWL	100 Yr. Bounce	Calculated 100 Yr. HWL
Grass Lake	11/2004 909.2	908.0	907.5	1.6	909.1
Diamond Lake	904.6	904.2	904.7	0.7	905.4
French Lake	903.4	904.5	904.1	0.8	904.9

The Diamond Lake Woods Subdivision has received its preliminary approvals from the City of Dayton subject to DNR and Watershed requirements. Once the DNR and Watershed requirements are satisfied, the City of Dayton will consider final plat/developer agreement approval. Once you have completed your review please contact Brent Pember at this office (651-604-4919) or myself at (651-604-4838).

Sincerely,

Mark A. Hanson
Dayton City Engineer

MAH:crw

Enclosures

copy: Ali Durgunoglu – Hennepin County DES (LGU)
Joe Yanta – U.S. Army Corps of Engineers
Lisa Atkinson – City of Dayton

Brad Schleeter, Brent Pember – Bonestroo
John Bergh – Loucks Associates

St. Paul, MN • St. Paul, MN • Rochester, Willmar, MN • Milwaukee, WI • Chicago, IL

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Appendix B

Wetland Delineation Approvals and Summary

Dayton Park Industrial Center EAW

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Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: City of Dayton	County: Hennepin
Applicant Name: Landspec LLC	Applicant Representative: Melissa Barrett, Kjolhaug
Project Name: Dayton Park Properties Site	LGU Project No. (if any):
Date Complete Application Received by LGU: 10/7/2020	
Date of LGU Decision: 12/7/2020	
Date this Notice was Sent: 12/7/2020	

WCA Decision Type - check all that apply

<input checked="" type="checkbox"/> Wetland Boundary/Type <input type="checkbox"/> Sequencing <input type="checkbox"/> Replacement Plan <input type="checkbox"/> Bank Plan (not credit purchase)	
<input checked="" type="checkbox"/> No-Loss (8420.0415) <input type="checkbox"/> Exemption (8420.0420)	
Part: <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H	Subpart: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area: Click here to enter text.
Wetland Replacement Type: <input type="checkbox"/> Project Specific Credits:
<input type="checkbox"/> Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

<input checked="" type="checkbox"/> Approve <input type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input type="checkbox"/> No TEP Recommendation
--

LGU Decision

<input type="checkbox"/> Approved with Conditions (specify below) ¹ List Conditions:	<input checked="" type="checkbox"/> Approved ¹	<input type="checkbox"/> Denied
Decision-Maker for this Application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:		
Decision is valid for: <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> 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 decision¹.

<input type="checkbox"/> Attachment(s) (specify):
<input checked="" type="checkbox"/> Summary: The original wetland delineation was completed by Kjolhaug Environmental Services (KES) on June 13 and 23, 2015. The City of Dayton issued a Wetland Boundary/Type NOD on 2/4/2016. The applicant requested an extension to the Wetland Boundary/Type NOD on 10/7/20. In addition, a WCA application in support of a no-loss was submitted on 11/12/20. The City of Dayton and BWSR conducted a field review of the site on 10/30/20 and verified that the wetland boundaries were unchanged. The only exception was an area with wetland characteristics in the area of a former detention pond. The applicant indicated that these ponds were filled in in 2014 to restore the pond areas to upland. Since the approval of the original NOD, this area has developed wetland characteristics due to soil subsidence and failure to provide proper drainage for surface runoff from

this area. This area was deemed incidental in a no-loss decision. The extension of the Wetland Boundary/Type decision, and the new no-loss decision are valid until 12/7/2025.

¹ Findings must consider any TEP recommendations.

Attached Project Documents

☒ Site Location Map ☒ Project Plan(s)/Descriptions/Reports (specify): Figure 2-Existing Conditions, Original NOD issued 2/4/16

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?

☐ Yes¹ ☒ No

¹If 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:

<input checked="" type="checkbox"/> SWCD TEP Member: Stacey Lijewski , Hennepin SWCD	<input checked="" type="checkbox"/> BWSR TEP Member: Ben Carlson
<input checked="" type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: Lucas Youngsma and Melissa Collins	
<input checked="" type="checkbox"/> Watershed District or Watershed Mgmt. Org.: Elm Creek WMO	
<input checked="" type="checkbox"/> Applicant: Master Real Estate 2, LLC <input checked="" type="checkbox"/> Agent/Consultant: Melissa Barrett, Kjolhaug	

Optional or As Applicable:

<input checked="" type="checkbox"/> Corps of Engineers:	
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input type="checkbox"/> Other:

Signature: 	Date: 12/7/2020
--	------------------------

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.

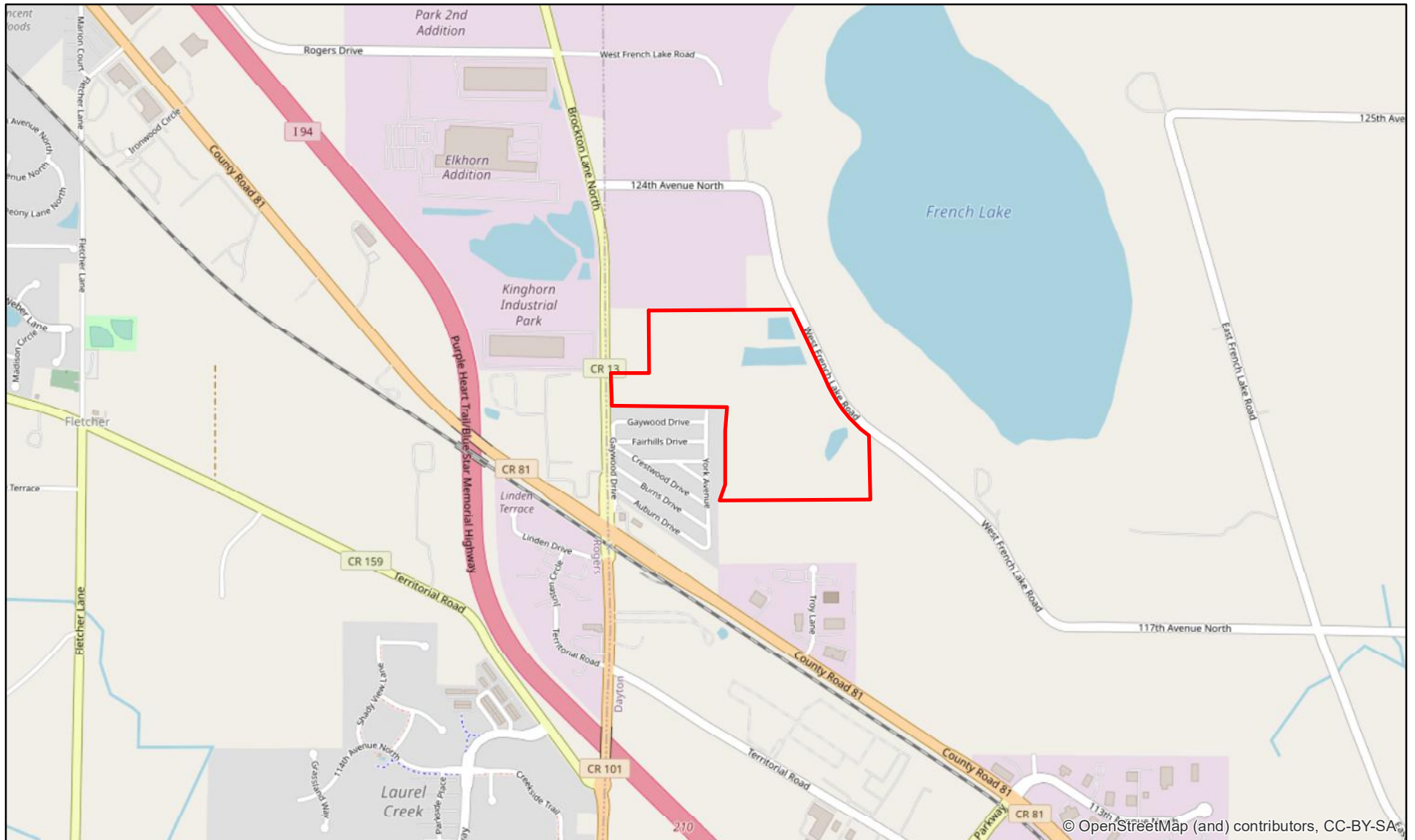
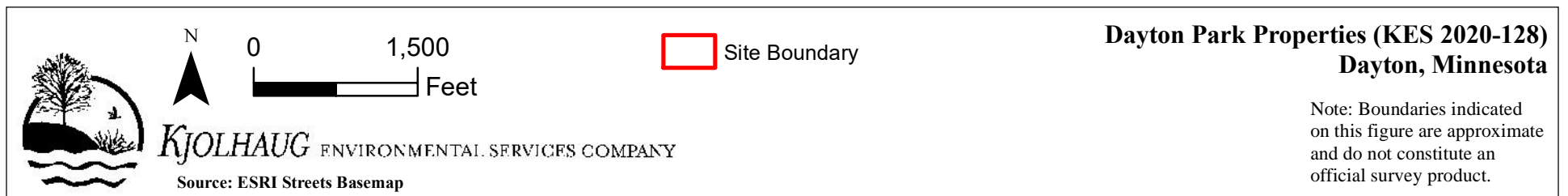


Figure 1 - Site Location





Revised Figure 2B - Existing Conditions with LIDAR Contours (ESRI Aerial)



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678
February 25, 2021

Regulatory File No. MVP-2015-03764-EJW

Landspec LLC
c/o Jon Rausch
5529 Minnetoga Terrace
Minnetonka, Minnesota 55347

Dear Mr. Rausch:

This letter regards an approved jurisdictional determination for the 71.78-acre Dayton Park Properties site in the City of Dayton. The project site is in Section 30, Township 120 North, Range 22 West, Hennepin County, Minnesota. The review area for our jurisdictional determination is identified as WL3-WL9, WLA, GS1, GS2, Detention Pond, D1-D10, and D16 on the enclosed figures labeled MVP-2015-03764-EJW Page 1 of 3 through Page 3 of 3.

The review area consists of WL3-WL9, WLA, GS1, GS2, Detention Pond, D1-D10, and D16, which are not waters of the United States subject to Corps of Engineers (Corps) jurisdiction. Therefore, you are not required to obtain Department of the Army authorization to discharge dredged or fill material within this area. The rationale for this determination is provided in the enclosed Approved Jurisdictional Determination form. This determination is only valid for the review area described. You are also cautioned that the area of waters described on the enclosed Jurisdictional Determination form is approximate and is not based on a precise delineation of aquatic resources.

If you object to this approved jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Mississippi Valley Division Office at the address shown on the form.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the enclosed NAP. It is not necessary to submit an RFA form to the division office if you do not object to the determination in this letter.

This approved jurisdictional determination may be relied upon for five years from the date of this letter. However, the Corps reserves the right to review and revise the determination in response to changing site conditions, information that was not considered during our initial review, or off-site activities that could indirectly alter the extent of wetlands and other resources on-site. This determination may be renewed at the end of the five year period provided you submit a written request and our staff are able to verify that the limits established during the original determination are still accurate.

If you have any questions, please contact me in our St. Paul office at (651) 290-5357 or Eric.J.White@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric J. White". The signature is fluid and cursive, with the first name "Eric" and last name "White" being clearly distinguishable.

Eric White
Project Manager

cc:

Wes Boll (LGU)
Stacey Lijewski (SWCD)
Ben Meyer (BWSR)
Anna Hotz (MPCA)
Melissa Barrett (Agent)



U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): February 25, 2021

ORM Number: MVP-2015-03764-EJW

Associated JDs: N/A

Review Area Location¹:

State/Territory: MN **City:** Dayton **County/Parish/Borough:** Hennepin County

Center Coordinates of Review Area: Latitude 45.173149 Longitude -93.515362

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list **MUST** be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in section II.B).
- ☐ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A	N/A	N/A	N/A

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters)³

(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A	N/A	N/A	N/A

Tributaries ((a)(2) waters):

(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A	N/A	N/A	N/A

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):

(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A	N/A	N/A	N/A

Adjacent wetlands ((a)(4) waters):

(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A	N/A	N/A	N/A

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12))⁴:

Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
D1	393 feet	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1)	The nearest potential (a)(1)-(a)(3) water, French Lake, is located just east of the AJD Review area. A review of the 1909 USGS Topoview map doesn't indicate that there were any tributaries that were relocated on the review area. The soils map in the delineation report show D16 in soils mapped non-hydric indicating that it was not constructed in an adjacent wetland either. The delineation shows that D2 flows to D1 which continues offsite north. The D1_D2 drainage flow_opt figure submitted shows that D1 ends in an upland swale and has no surface connection to any water of the US (WOUS). D3 and D4 drain to D5 which drains to D6, D8, and ultimately D9. Revised Figure 2 states D3-D9, D10, and D16 were excavated which is supported by the provided photos on site. While the soils map provided shows that portions of D3-D6 and D10 were excavated in hydric soils, the NWI, aerial photos, Topoview map, and delineation indicate that they were not excavated in adjacent wetlands. Therefore, D1-10 and D16 do not meet the definition of tributaries under the NWPR, meet the (b)(5) exclusion, and are not waters of the US (WOUS).
D2	232 feet		
D3	263 feet		
D4	151 feet		
D5	198 feet		
D6	165 feet		
D7	61 feet		
D8	230 feet		
D9	347 feet		
D10	358 feet		
D16	160 feet		
Detention Pond	0.96 acres	(b)(10) Stormwater control feature constructed or excavated in upland or in a non-jurisdictional water to convey, treat, infiltrate, or store stormwater runoff	The detention pond was not present in the 1957 photo in the delineation, but appeared in the 1964 photo. This supports the statement in the delineation that the detention pond was constructed in the 1960's in association with the wastewater treatment facility constructed then. The soils map in the delineation shows it was excavated in soils mapped non-hydric and the 1909 Topoview map doesn't indicate wetlands where the pond was excavated. These resources together indicate that the Detention Pond was excavated in uplands and meets the (b)(10) exclusion of the NWPR.
GS1	540 feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	The delineation report describes ditches in the wooded areas that only transport runoff after a precipitation event. Photos provided by the agent and a review of Google earth show little or no flow in the swales and support the claim that GS1 and GS2 are swales that only flow in direct response to precipitation (ephemeral). GS1 and GS2 meet the (b)(3) exclusion under the NWPR.
GS2	1,008 feet		
WL3	0.69 acres	(b)(1) Non-adjacent wetland	The delineation report and Revised Figure 2 show that WL3, WL8, WL 9, and WLA have no surface connection to any (a)(1)-(a)(3) waters and that they are entirely surrounded by uplands. WL7 is adjacent to D1 and D2, but they are non-jurisdictional ditches. The
WL4	0.11 acres		
WL5	1.38 acres		
WL6	0.31 acres		
WL7	1.02 acres		

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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WL8	0.1 acres	delineation shows that Wetlands WL4, WL5, and WL6 are adjacent to non-jurisdictional ditches D3-D6 and D16. D3-D6 and D16 do not meet the definition of tributaries though, so WL3-WL9 and WLA are not adjacent wetlands under the NWPR and are not WOUS.
WL9	0.21 acres	
WLA	3.46 acres	

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

☒ Information submitted by, or on behalf of, the applicant/consultant: Revised Figure 2 (November 12, 2020), Dayton Park Properties Photo Point Map and Photos_opt (9/28/2020), Delineation Report Addendum Dayton Park Properties Site, Dayton MN (January 6, 2016) and Dayton Park Properties Wetland Delineation Report (October 5, 2015) by Kjolhaug Environmental Services Company

This information (is and is not) sufficient for purposes of this AJD.

Rationale: USGS Topoview was used to investigate the presence of historical tributaries

Data sheets prepared by the Corps: *Title(s) and/or date(s)*.

☒ Photographs: (aerial) Google Earth 1991-2020;

☐ Corps Site visit(s) conducted on: *Date(s)*.

☐ Previous Jurisdictional Determinations (AJDs or PJDs): *ORM Number(s) and date(s)*.

☐ Antecedent Precipitation Tool: provide detailed discussion in Section III.B.

☐ USDA NRCS Soil Survey: *Title(s) and/or date(s)*.

☐ USFWS NWI maps:

☒ USGS topographic maps: USGS Topoview 1909

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): N/A

C. Additional comments to support AJD: N/A

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

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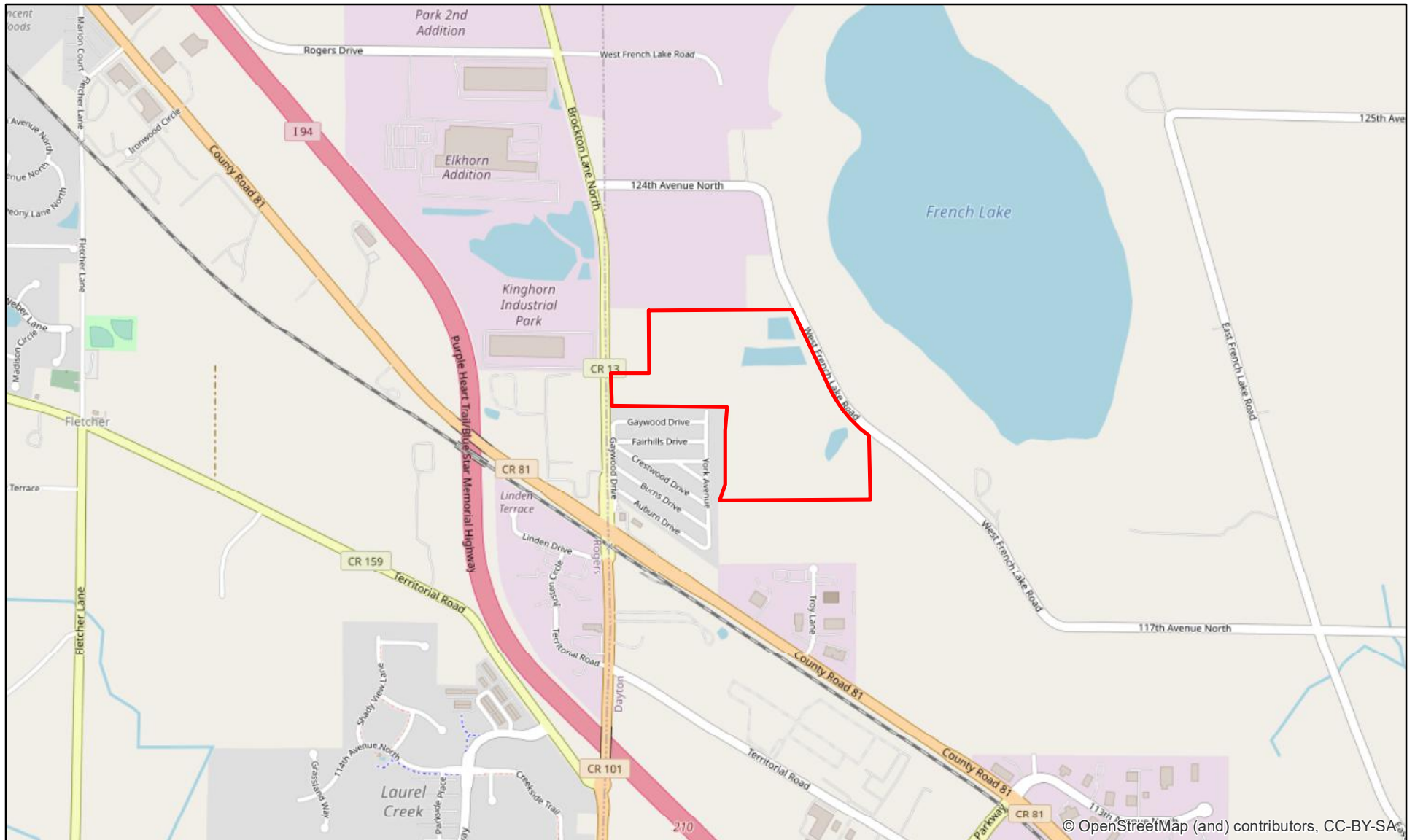
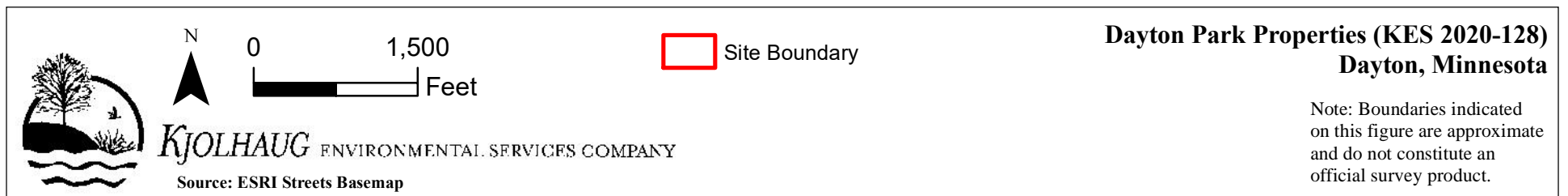
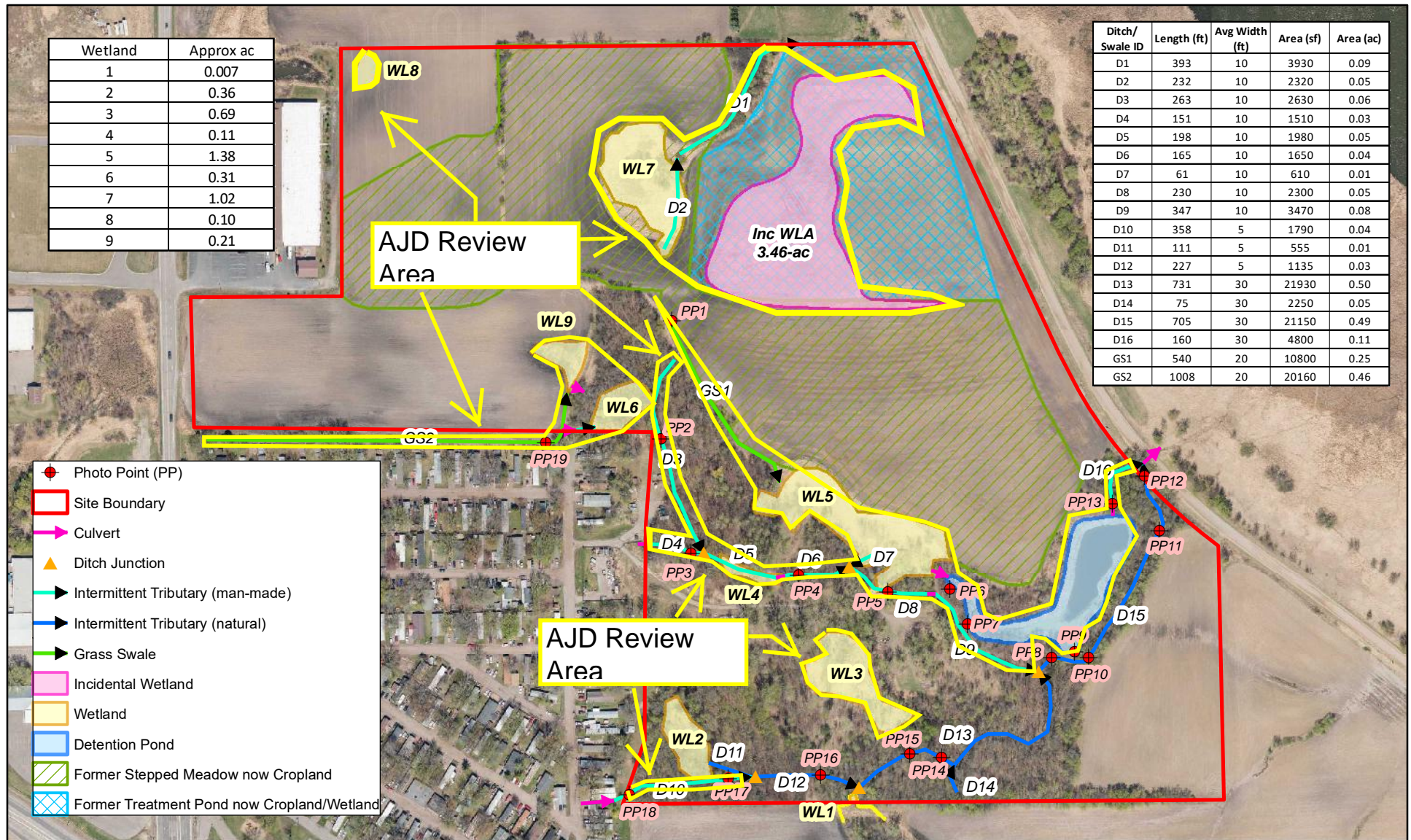


Figure 1 - Site Location





11-12-2020 Revised Figure 2 - Existing Conditions (2018 Hennepin Co 3-in) with Photo Points



**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Landspec LLC – Jon Rausch		File No.: MVP-2015-03764-EJW	Date: February 25, 2021
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
X	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Eric White
U.S. Army Corps of Engineers, Regulatory Branch
180 Fifth Street East, Suite 700
St. Paul, Minnesota 55101
(651) 290-5357

If you only have questions regarding the appeal process you may also contact the Division Engineer through:

Administrative Appeals Review Officer
Mississippi Valley Division
P.O. Box 80 (1400 Walnut Street)
Vicksburg, MS 39181-0080
601-634-5820 FAX: 601-634-5816

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Providing Sound, Balanced, Comprehensive Natural Resource Solutions

Memorandum

Date: October 7, 2020

To: Wes Boll, for City of Dayton
Project Manager, U.S. Army Corps of Engineers (USACE)

From: Melissa Barrett, Kjolhaug Environmental Services Company (KES)

CC: Jon Rausch, Landspec LLC

Re: Request to Extend Approved Delineation, Dayton Park Properties, Dayton, MN
KES#2015-077 (MVP-2015-03764-MMJ)

This memo requests that the 2015 approved wetland delineation for the Dayton Park Properties site be extended for an additional 5 years.

The Dayton Park Properties site is located in Section 30, Township 120N, Range 22W, City of Dayton, Hennepin County, Minnesota. Generally, the site was located north of County Road 81, west of West French Lake Road, and east of Brockton Lane North (**Figure 1**). Site limits correspond to Hennepin County PIDs 3012022310005 (65.22-ac) and 301202232005 (6.56-ac).

The site was originally delineated in June 2015 by Kjolhaug Environmental Services. Copies of the *Dayton Park Properties Wetland Delineation Report* and additional supplemental information can be provided upon request.

The TEP approved wetland boundaries include nine (9) wetlands as shown on **Figure 2**. The City of Dayton (WCA LGU) approved the wetland delineation on February 4, 2016 and the U.S. Army Corps of Engineers issued delineation concurrence on February 8, 2016 (**Attachment A**).

Updated NWI, soils, PWI, and NHD figures are attached as **Figures 3 through 6**. Compared to the previously submitted figures, there were no changes to the NWI, soils, PWI or NHD information.

2020 Site Observations

Kjolhaug Environmental Services revisited the site on September 28, 2020. Cropped portions of the site were planted with corn for the 2020 growing season. A summary of onsite wetlands is provided in **Table 1 on the following page**.

Table 1. Wetlands delineated on the Dayton Park Properties site.

Wetland ID and Size	Wetland Type			Dominant Vegetation	Mapped NWI	Mapped Soils	Hydrology Indicators 2020
	Circular 39	Cowardin	Eggers and Reed				
Wetland 1 (0.707-ac onsite)	Type 1	PEMAd	Partially drained wet meadow	Reed canary grass, smartweed	PEM1A	Cordova	D2, D5
Wetland 2 (0.36-ac)	Type 2	PEMB	Wet meadow	Reed canary grass	PEM1A	Cordova	D2, D5
Wetland 3 (0.69-ac)	Type 1	PEMA	Wet meadow	Reed canary grass; green ash	PEM1A	Cordova	D2, D5
Wetland 4 (0.11-ac)	Type 1	PEMAd	Partially drained seasonally flooded basin (drainageway)	Reed canary grass, jewelweed	--	Cordova	D2, D5
Wetland 5 (1.38-ac)	Type 3/1	PEMC/Ad	Shallow marsh and partially drained wet meadow	Cattail, reed canary grass	PEM1A	Cordova/Nessel	D2, D5
Wetland 6 (0.31-ac)	Type 3/1	PEMC/PFO1Ad	Shallow marsh and partially drained deciduous forested seasonally flooded basin	Cattail, silver maple, green ash	--	Cordova	D2, D5
Wetland 7 (1.02)	Type 3/1	PEMC/A	Shallow marsh with wet meadow fringe	Cattail, reed canary grass	PEM1C	Cordova	D2, D5
Wetland 8 (0.10)	Type 1	PEMAf	Farmed seasonally flooded basin	Ag weeds	--	Cordova	-- (corn)
Wetland 9 (0.21-ac)	Type 1	PEMAf	Farmed seasonally flooded basin	Barnyard grass	--	Cordova	D2, D5

For a majority of the site, conditions remain similar as those observed in 2015. The main site change was conversion of stepped meadow to cropland, including the areas where MPCA treatment ponds were formerly located. (Meadow topography was formerly grass dominated and stepped as a secondary water quality treatment method). In undisturbed portions of the site, 2020 wetland boundaries did not obviously differ from those observed in 2015. The boundary of Wetland 7 is somewhat different due to conversion of land use to row crops around its border.

Requested Approval

This memo includes a Joint Application Form for Activities Affecting Water Resources in Minnesota (**Attachment B**), which is submitted in request to extend the approved wetland delineation an additional 5 years from The City of Dayton (WCA LGU) and U.S. Army Corps of Engineers (USACE). This application also requests Approved Jurisdictional Determinations (AJDs) for all onsite water resources.

Thank you.

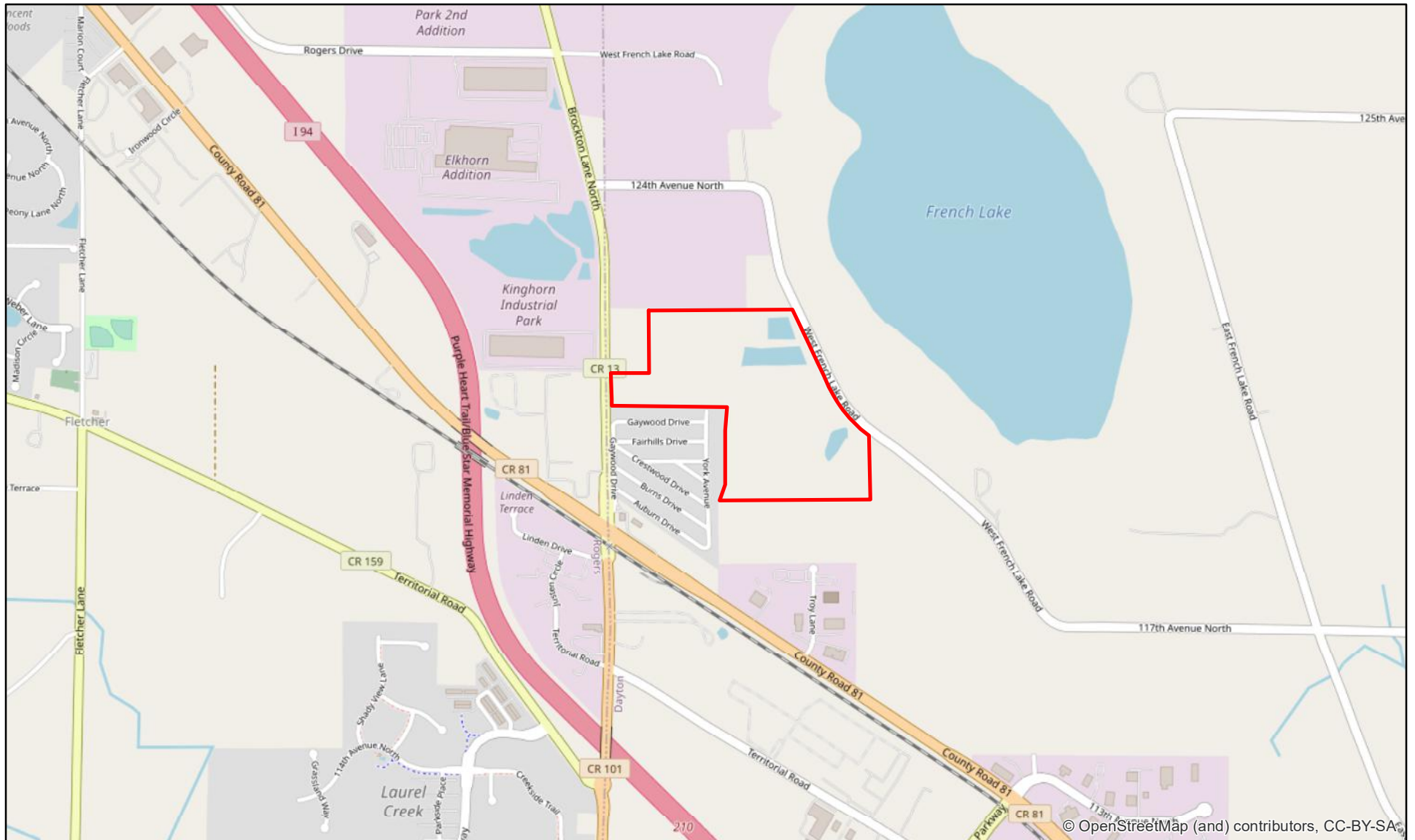
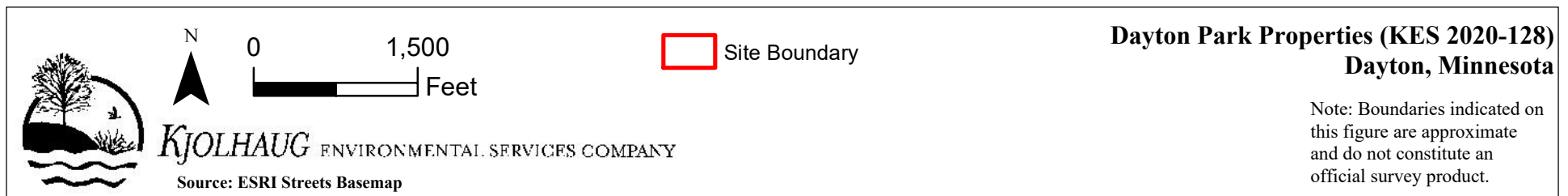
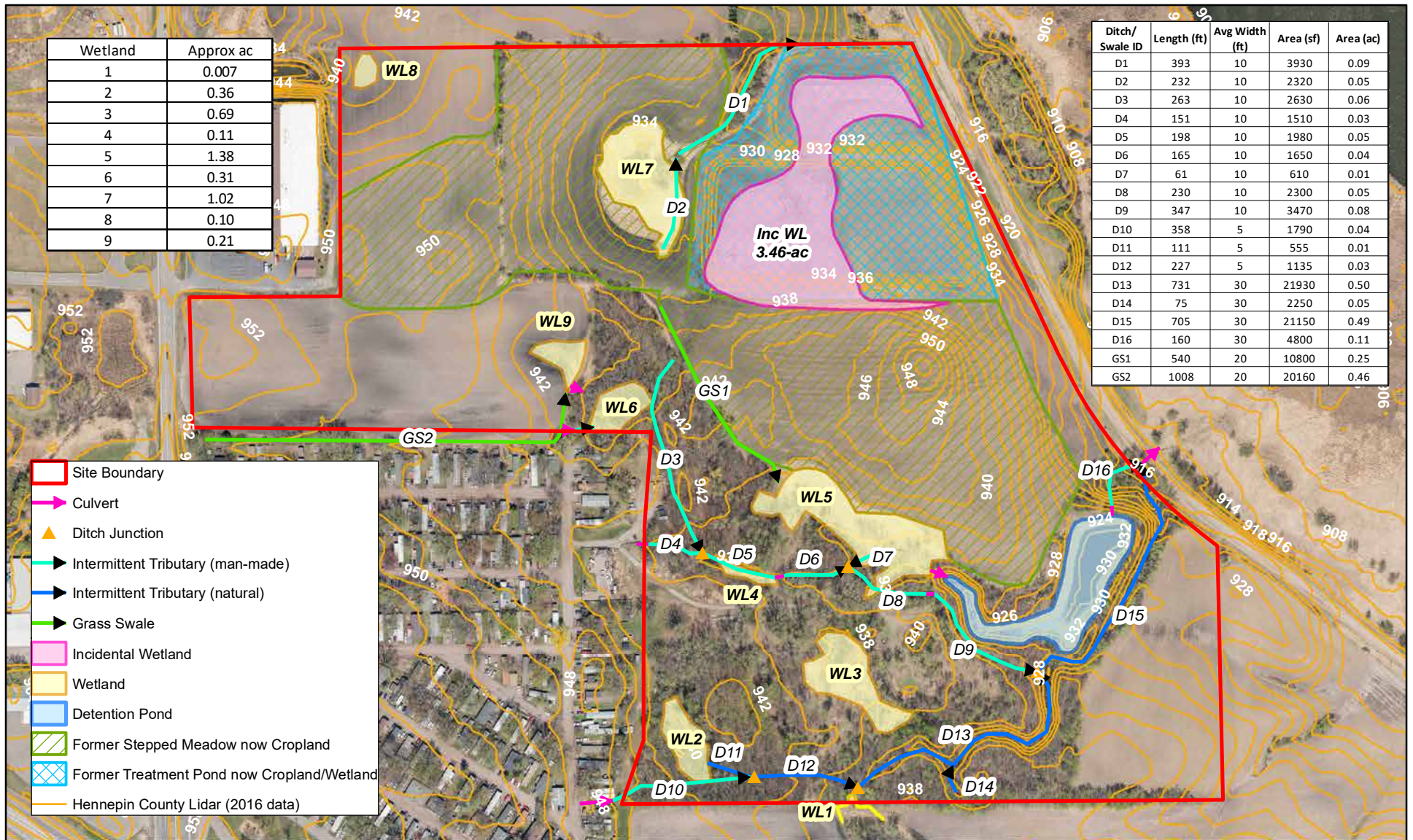


Figure 1 - Site Location





11-12-2020 Revised Figure 2 - Existing Conditions (2018 Hennepin Co 3-in)



Figure 3 - National Wetlands Inventory



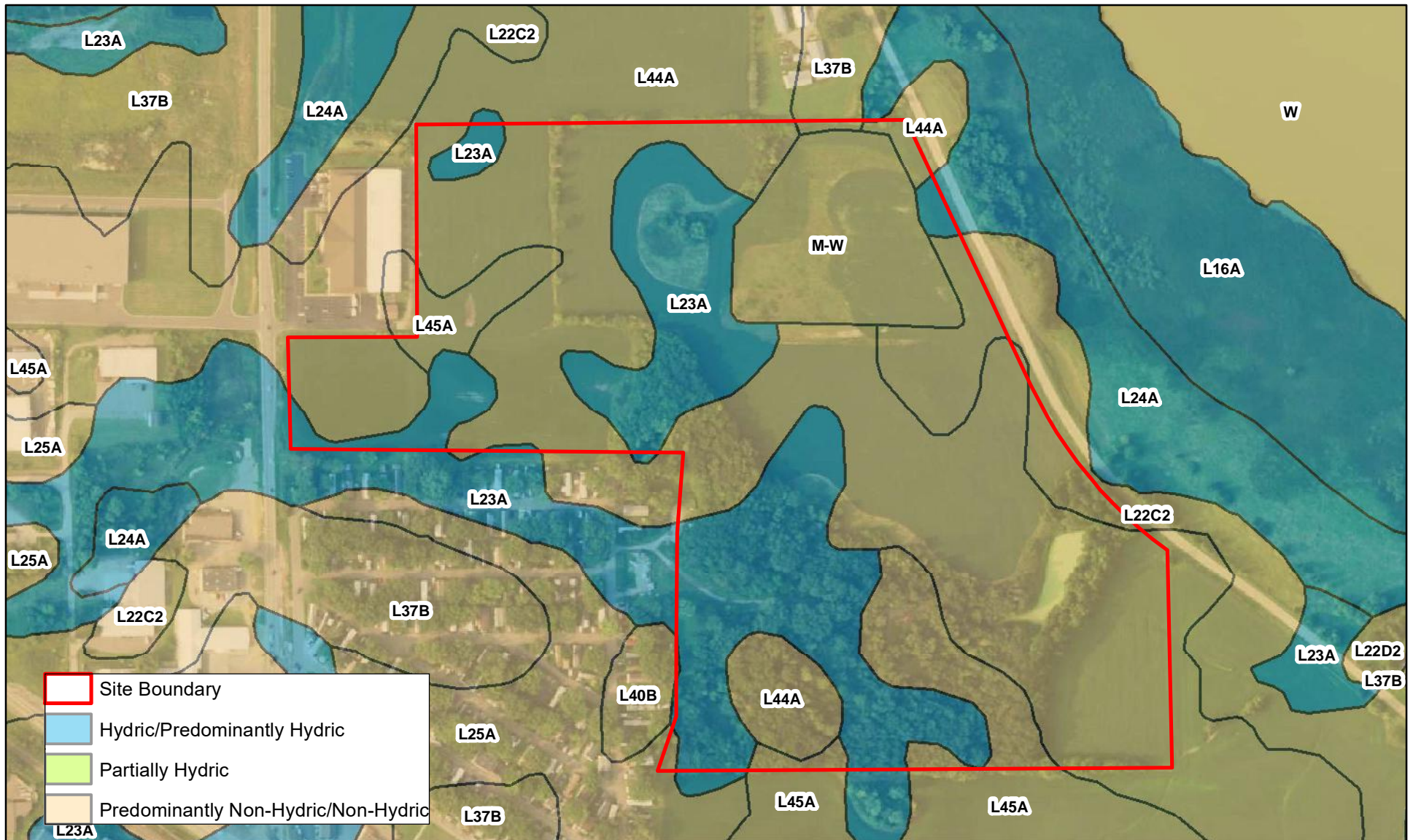


Figure 4 - Soil Survey



Figure 5 - DNR Public Waters Inventory

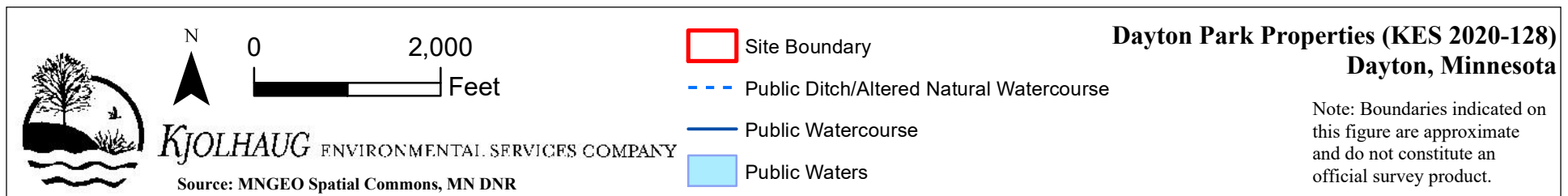




Figure 6 - National Hydrography Dataset



Request to Extend Approved Delineation

Dayton Park Properties, Dayton, MN

ATTACHMENT A

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) City of Dayton	Address 12260 South Diamond Lake Road Dayton, MN 55327
--	--

1. PROJECT INFORMATION

Applicant Name Larry Saliterman, Dayton Park Properties	Project Name Dayton Park Properties	Date of Application 10/6/2015 (Decision period extended to February 6, 2016)	Application Number
<input checked="" type="checkbox"/> Attach site locator map.			

Type of Decision:

<input checked="" type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

Technical Evaluation Panel Findings and Recommendation (if any):

<input checked="" type="checkbox"/> Approve	<input type="checkbox"/> Approve with conditions	<input type="checkbox"/> Deny
Summary (or attach):		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: 2/4/2016		
<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Approved with conditions (include below)	<input type="checkbox"/> Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

Kjolhaug Environmental Services Company, Inc. (KES) conducted a wetland delineation on June 13 and 23, 2015 on the subject property located in Section 30, Township 120N, Range 22W at Hennepin County PID 3012022310005, east of Brockton Lane North and north of County Road 81 in the City of Dayton. (See Figure 1- Site Location Map). The findings were submitted in a Wetland Delineation Report dated October 5, 2015.

KES identified and delineated the boundaries of eight wetland basins on the site. Wetlands 1, 3, 4 and 8 were identified as Type 1 seasonally flooded basins (PEMA/PEMAAd/PEMAf); wetlands 5, 6, and 7 were identified as Type 3/1 shallow marsh/seasonally flooded basin (PEMCd/PSS1Ad/PFO1Ad/PEMAAd/PEMC/A); and wetland 2 was identified as a Type 2 wet meadow (PEMB). The wetland delineation is summarized in the Wetland Delineation Report dated October 5, 2015.

A portion of the investigated property (northeast corner of site) had been significantly altered during its use as a wastewater treatment facility from the late 1960s to 2014. Most treatment ponds on the site were filled in prior to the wetland delineation investigation, with one detention pond, terraces, and ditches remaining. The remnant wastewater treatment features were identified as non-wetland.

Wenck Associates (Wenck) staff conducted a site visit with KES, MN BWSR, and Army Corps of Engineers staff prior to the submittal of the final report on July 16, 2015 to review the delineated wetland boundaries. The TEP verified that the wetland boundaries were accurately delineated and that the type of the wetland was accurately classified.

An addendum to the October 5, 2015 delineation report was submitted on January 6, 2016 to address an additional parcel reviewed for the presence of wetlands. One wetland (Wetland 9) was identified in this parcel during off-site review as a Type 1(PEMAfd) partially drained and farmed seasonally flooded basin and wet meadow wetland.

The City of Dayton approves the wetland boundaries and type as delineated in the field, documented in the October 5, 2015 report and January 6, 2016 addendum and shown in the attached the January 6, 2016 addendum Revised Figure 2B. This decision is valid for five years.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)


Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

- ☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).
- ☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR “Declaration of Restrictions and Covenants” and “Consent to Replacement Wetland” forms have been filed with the county recorder’s office in which the replacement wetland is located.
- ☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name Wes Boll, Wenck Associates, Inc.	Title City of Dayton WCA Agent	
Signature 	Date 2/4/2016	Phone Number and E-mail (763)479-4283 wboll@wenck.com

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

<input checked="" type="checkbox"/> Appeal of an LGU staff decision. Send petition and \$_____ fee (if applicable) to: Wes Boll, Wenck Associates, Inc.	<input type="checkbox"/> Appeal of LGU governing body decision. Send petition and \$500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155
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4. LIST OF ADDRESSEES

<input checked="" type="checkbox"/> SWCD TEP member: Stacey Lijewski-stacey.lijewski@hennepin.us <input checked="" type="checkbox"/> BWSR TEP member: Ben Meyer-ben.meyer@state.mn.us <input checked="" type="checkbox"/> LGU TEP member (if different than LGU Contact): City of Dayton (Tina Goodroad)-tgoodroad@cityofdayton.mn.com <input type="checkbox"/> DNR TEP member: <input checked="" type="checkbox"/> DNR Regional Office (if different than DNR TEP member: Leslie Parris-leslie.parris@state.mn.us <input checked="" type="checkbox"/> WD or WMO (if applicable): Elm Creek Watershed District (Jim Kujawa) james.kujawa@hennepin.us <input checked="" type="checkbox"/> Applicant and Landowner (if different) Larry Saliterman- (salits@aol.com) Consultant: Kjolhaug Environmental (Melissa Barrett)-melissa@kjolhaugenv.com <input type="checkbox"/> Members of the public who requested notice: <input checked="" type="checkbox"/> Corps of Engineers Project Manager: Melissa Jenny – Melissa.m.jenny@usace.army.mil <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

➤ For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➤ For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➤ Department of Natural Resources Regional Offices:

NW Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	NE Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Central Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Southern Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073
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For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➤ For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➤ For Wetland Bank Plan applications, also send a copy of the application to:
Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Figure 1 – Revised Site Location Map |
| <input checked="" type="checkbox"/> | Figure 2B – Revised Existing Conditions with LiDAR Contours |
| <input type="checkbox"/> | |
| <input type="checkbox"/> | |
| <input type="checkbox"/> | |



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MN 55101-1678

FEB 08 2016

Operations
Regulatory (2015-03764-MMJ)

Kjolhaug Environmental Services
Attention: Melissa Barrett
26105 Wild Rose Lane
Shorewood, Minnesota 55331

Dear Ms. Barrett:

This letter is in response to your recent correspondence requesting Corps of Engineers (Corps) concurrence with the delineation of aquatic resources completed on the property known as the Dayton Park Property (Hennepin County PID 3012022310005), which is located east of Brockton Lane North and north of County Road 81, in the City of Dayton. The project site is located in Section 30, T. 120 N., R. 22 W., Hennepin County, Minnesota.

We have reviewed the delineation report completed by Kjolhaug Environmental Services for this parcel, dated October 05, 2015, and an addendum to this report submitted January 08, 2016, and determined that the limits of the aquatic resources have been accurately identified in accordance with current agency guidance including the *Corps of Engineers Wetland Delineation Manual* (1987 Manual) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. This concurrence is only valid for the review area shown on the attached Figures 1-2. The boundaries shown on the attached figure accurately reflect the limits of the aquatic resources in the review area.

This concurrence may generally be relied upon for five years from the date of this letter. However, we reserve the right to review and revise our concurrence in response to changing site conditions, information that was not considered during our initial review, or off-site activities that could indirectly alter the extent of wetlands and other resources on-site. Our concurrence may be renewed at the end of this period provided you submit a written request and our staff are able to verify that the determination is still valid.

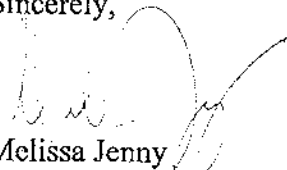
This review did not include a jurisdictional determination as to whether the wetlands, ditches, and storm water pond features on this property would be subject to Corps of Engineers jurisdiction under the Clean Water Act (CWA). Pursuant to Section 404 of the CWA, a Department of the Army permit is required for the discharge of dredged and fill material into a water of the United States. If you would like the Corps to make a determination regarding the status of the wetlands and aquatic resources identified on your property you may request an approved jurisdictional determination by submitting a written request to the letterhead address above, or to the email address below.

Operations
Regulatory (2015-03764-MMJ)

-2 -

If you have any questions, contact me in our St. Paul office at (651) 290-5363, or at Melissa.m.jenny@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory number shown above.

Sincerely,



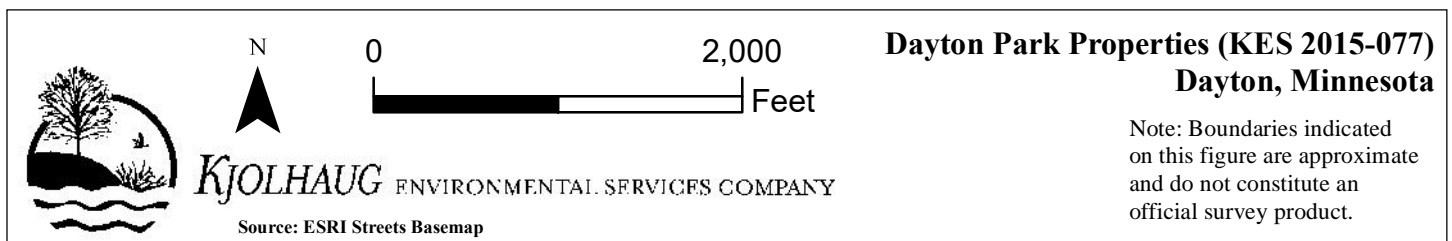
Melissa Jenny
Project Manager

Enclosures

CCs:
Wes Boll, City of Dayton LGU
Ben Meyer, BWSR



Revised Figure 1 - Site Location



Dayton Park Properties (KES 2015-077)
Dayton, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Revised Figure 2B - Existing Conditions with LIDAR Contours (ESRI Aerial)

Request to Extend Approved Delineation

Dayton Park Properties, Dayton, MN

ATTACHMENT B

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: Jon Rausch, Landspec LLC
Mailing Address: 5529 MINNETOGA TERRACE, MINNETONKA MN 55347
Phone: 952 893 8251
E-mail Address: Jon.Rausch@cushwake.com

Authorized Contact (do not complete if same as above):

Mailing Address:
Phone:
E-mail Address:

Agent Name: Melissa Barrett, Kjolhaug Environmental
Mailing Address: 26105 Wild Rose Lane. Shorewood, MN 5331
Phone: 952-401-8757
E-mail Address: Melissa@kjolhaugenv.com

PART TWO: Site Location Information

County: Hennepin **City/Township:** Dayton
Parcel ID and/or Address: 3012022310005, 3012022320005
Legal Description (Section, Township, Range): Sec 30, T120, R22
Lat/Long (decimal degrees): 45°10'24.20"N, 93°30'58.40"W
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 71.78 acres

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.

This application is for WCA and USACE delineation approval extension, and AJDs from USACE for all onsite waters.

PART FOUR: Aquatic Resource Impact¹ 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

¹If 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)".

²Impacts 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).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer 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: Jon Rausch Date: 10/7/20

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.

AJDs requested for all onsite waters.

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>

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Appendix C

Groundwater Well Logs and Soil Borings

Dayton Park Industrial Center EAW

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Minnesota Well Index Dayton Park Industrial Center

505628

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date07/13/1992
Update Date03/21/2017
Received Date12/19/1989

Well Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed				
	120	23	W	25	DDACAB	245 ft.	245 ft.	11/07/1989				
Elevation	963 ft.	Elev. Method	LiDAR 1m DEM (MNDNR)									
Address						Use	commercial	Status	Active			
Well						19180 LINDEN DR ROGERS MN						
Stratigraphy Information						Well Hydrofractured?	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	From	To
						Casing Type	Single casing		Joint	Threaded		
						Drive Shoe?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Above/Below	1 ft.
						Casing Diameter	Weight					
						4 in.	To	200 ft.	10.7 lbs./ft.			
						Open Hole	From	200	ft.	To	245	ft.
						Screen?	<input type="checkbox"/>	Type	Make			
						Static Water Level						
						81	ft.	land surface	Measure	11/02/1989		
						Pumping Level (below land surface)						
						100	ft.	4	hrs.	Pumping at	35	g.p.m.
						Wellhead Completion						
						Pitless adapter manufacturer	BAKER		Model	SNAPPY		
						<input type="checkbox"/>	Casing Protection		<input checked="" type="checkbox"/>	12 in. above grade		
						<input type="checkbox"/>	At-grade (Environmental Wells and Borings ONLY)					
						Grouting Information						
						Well Grouted?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Not Specified
						Material	Amount		From	To		
						bentonite				ft.	200	ft.
						Nearest Known Source of Contamination						
						110	feet	Southwes	Direction		Septic tank/drain field	Type
						Well disinfected upon completion?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
						Pump	<input type="checkbox"/>	Not Installed	Date Installed	12/06/1989		
						Manufacturer's name	GRUNDFOS					
						Model Number	16S10-10	HP	1	Volt	230	
						Length of drop pipe	105	ft	Capacity	g.p.	Typ	Submersible
						Abandoned						
						Does property have any not in use and not sealed well(s)?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		
						Variance						
						Was a variance granted from the MDH for this well?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No		
						Miscellaneous						
						First Bedrock	St.Lawrence Formation		Aquifer	St.Lawrence-		
						Last Strat	Tunnel City Group		Depth to Bedrock	192	ft	
						Located by	Minnesota Geological Survey					
						Locate Method	GPS SA Off (averaged) (15 meters)					
						System	UTM - NAD83, Zone 15, Meters		X	458880	Y	5001911
						Unique Number Verification	Address verification		Input Date	11/17/2014		
						Angled Drill Hole						
						Well Contractor						
						Renner E.H. Well	71015		DAVIDSON, D.			
						Licensee Business	Lic. or Reg. No.		Name of Driller			

<div>Minnesota Unique Well Number</div> <div>805841</div>		County Hennepin	MINNESOTA DEPARTMENT OF HEALTH			Entry Date 03/12/2015	
		Quad Rogers	WELL AND BORING REPORT			Update Date 03/27/2015	
		Quad ID 121A	Minnesota Statutes Chapter 1031			Received Date 01/08/2015	

Well Name				Township		Range		Dir Section		Subsection		Well Depth		Depth Completed		Date Well Completed	
SINAMCO				120		22		W 30		CCCBBB		88 ft.		88 ft.		08/05/2014	
Elevation		956 ft.		Elev. Method		LiDAR 1m DEM (MNDNR)						Drill Method		Non-specified Rotary		Drill Fluid Qwik gel	
Address																	
Well 11810 BROCKTON LA N DAYTON MN																	
Stratigraphy Information																	
Geological Material				From		To (ft.)		Color		Hardness							
CLAY				0		20		BROWN		MEDIUM							
CLAY				20		68		GRAY		M.HARD							
SAND				68		88		BRN/BLK		SOFT							
Use industrial																	
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 83 ft. lbs./ft.																	
Open Hole																	
From ft. To ft.																	
Screen? Type plastic Make JET STREAM																	
Diameter Slot/Gauze Length Set																	
4 in. 15 5 ft. 83 ft. 88 ft.																	
Static Water Level																	
75 ft. land surface Measure 08/05/2014																	
Pumping Level (below land surface)																	
82 ft. 2 hrs. Pumping at 15 g.p.m.																	
Wellhead Completion																	
Pitless adapter manufacturer MERRILL Model MCK7																	
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. 83 ft.																	
well grouted, type unknown 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 08/25/2014																	
Manufacturer's name AERMOTOR																	
Model Number AT12100 HP 1 Volt 230																	
Length of drop pipe 73 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 459048 Y 5001805																	
Unique Number Verification Address verification Input Date 03/27/2015																	
Angled Drill Hole																	
Well Contractor																	
McAlpines Well Drilling of 1477 MCALPINE, T.																	
Licensee Business Lic. or Reg. No. Name of Driller																	

Minnesota Well Index Report	805841	Printed on 12/11/2020
		HE-01205-15

513686

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/31/1993
Update Date 02/14/2014
Received Date

Well Name BOGGS, MRS.	Township 120	Range 22	Dir W	Section 30	Subsection DDBBAC	Well Depth 84 ft.	Depth Completed 84 ft.	Date Well Completed 07/10/1992		
Elevation 931 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)				Drill Method Non-specified Rotary	Drill Fluid Qwik gel				
Address Well 11870 FRENCH LAKE RD W DAYTON MN 55327						Use domestic	Status Active			
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 42 YELLOW MEDIUM CLAY & SAND 42 60 YELLOW SOFT SAND 60 84 YELLOW MEDIUM						Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To				
						Casing Type Single casing Joint Solvent Welded				
						Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Above/Below				
						Casing Diameter 4 in. To 79 ft. lbs./ft.			Hole Diameter 8 in. To 30 ft. 6.5 in. To 79 ft.	
						Open Hole From ft. To ft.				
						Screen? <input checked="" type="checkbox"/> Type stainless Make JOHNSON Diameter Slot/Gauze Length Set 2 in. 12 5 ft. 79 ft. 84 ft.				
						Static Water Level 55 ft. land surface Measure 07/10/1992				
						Pumping Level (below land surface) 67 ft. 3 hrs. Pumping at 30 g.p.m.				
						Wellhead Completion Pitless adapter manufacturer MONITOR Model <input checked="" type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)				
						Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 3 Sacks ft. 79 ft. neat cement 3 Sacks ft. 30 ft.				
Nearest Known Source of Contamination 75 feet East Direction Septic tank/drain field Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										
Pump <input type="checkbox"/> Not Installed Date Installed 07/11/1992 Manufacturer's name AERMOTOR Model Number SD1250 HP 0.5 Volt 230 Length of drop pipe 67 ft Capacity 12 g.p. Typ Submersible										
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No										
Miscellaneous First Bedrock Aquifer Quat. buried Last Strat sand-yellow 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 460236 Y 5001979 Unique Number Verification Address verification Input Date 07/24/2008										
Angled Drill Hole										
Well Contractor Mc Alpine's Well Co. 27186 MCALPINE, T. Licensee Business Lic. or Reg. No. Name of Driller										

401418

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 04/08/2014
Received Date

Well Name PRODUCTION	Township 120	Range 23	Dir W	Section 25	Subsection DADBDA	Well Depth 95 ft.	Depth Completed 95 ft.	Date Well Completed 06/21/1984																																			
Elevation 955 ft. Elev. Method 7.5 minute topographic map (+/- 5 feet)						Drill Method Non-specified Rotary	Drill Fluid																																				
Address C/W 19410 152 HY ROGERS MN 55369						Use domestic	Status	Active																																			
Stratigraphy Information <table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>CLAY</td><td>0</td><td>20</td><td>YELLOW</td><td>HARD</td></tr><tr><td>CLAY</td><td>20</td><td>60</td><td>GRAY</td><td>HARD</td></tr><tr><td>GRAVEL</td><td>60</td><td>70</td><td>GRAY</td><td>SOFT</td></tr><tr><td>CLAY</td><td>70</td><td>83</td><td>GRAY</td><td>HARD</td></tr><tr><td>GRAVEL</td><td>83</td><td>95</td><td>GRAY</td><td>SOFT</td></tr><tr><td>CLAY</td><td>95</td><td>95</td><td>GRAY</td><td>HARD</td></tr></table>						Geological Material	From	To (ft.)	Color	Hardness	CLAY	0	20	YELLOW	HARD	CLAY	20	60	GRAY	HARD	GRAVEL	60	70	GRAY	SOFT	CLAY	70	83	GRAY	HARD	GRAVEL	83	95	GRAY	SOFT	CLAY	95	95	GRAY	HARD	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To		
						Geological Material	From	To (ft.)	Color	Hardness																																	
						CLAY	0	20	YELLOW	HARD																																	
						CLAY	20	60	GRAY	HARD																																	
						GRAVEL	60	70	GRAY	SOFT																																	
						CLAY	70	83	GRAY	HARD																																	
						GRAVEL	83	95	GRAY	SOFT																																	
						CLAY	95	95	GRAY	HARD																																	
						Casing Type Single casing Joint Threaded																																					
						Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Above/Below 1 ft.																																					
Casing Diameter 4 in. Weight 90 lbs./ft. Hole Diameter 6.2 in.																																											
Open Hole From ft. To ft.																																											
Screen? <input checked="" type="checkbox"/> Type stainless Make JOHNSON #948																																											
Diameter Slot/Gauze Length Set																																											
2 in. 18 5 ft. 90 ft. 95 ft.																																											
Static Water Level 75 ft. land surface Measure 06/21/1984																																											
Pumping Level (below land surface) 90 ft. 2 hrs. Pumping at 25 g.p.m.																																											
Wellhead Completion Pitless adapter manufacturer MERRILL Model SPK <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																											
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 0 ft. 70 ft.																																											
Nearest Known Source of Contamination 200 feet Northwest Direction Septic tank/drain field Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																											
Pump <input type="checkbox"/> Not Installed Date Installed 07/19/1984 Manufacturer's name AERMOTOR Model Number HP 0.5 Volt 230 Length of drop pipe 80 ft Capacity 10 g.p. Typ Submersible																																											
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No																																											
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> 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 458901 Y 5002187 Unique Number Verification Information from Input Date 01/01/1990																																											
Angled Drill Hole																																											
Well Contractor Mc Alpine Brothers 86270 MCALPINE, B. Licensee Business Lic. or Reg. No. Name of Driller																																											

<div>Minnesota Unique Well Number</div> <div>434473</div>		County Hennepin	MINNESOTA DEPARTMENT OF HEALTH			Entry Date 07/13/1992					
		Quad Rogers	WELL AND BORING REPORT			Update Date 02/16/2015					
		Quad ID 121A	Minnesota Statutes Chapter 1031			Received Date					
Well Name PROCO WOOD			Township 120	Range 23	Dir Section W 25	Subsection DADCDB	Well Depth 92 ft.	Depth Completed 92 ft.	Date Well Completed 09/15/1987		
Elevation 965 ft.			Elev. Method		LiDAR 1m DEM (MNDNR)			Drill Method Non-specified Rotary	Drill Fluid Bentonite		
Address			Use domestic			Status Active					
C/W 11885 BROCKTON AV N OSSEO MN 55369			Well Hydrofractured?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	From	To		
Stratigraphy Information			Casing Type		Single casing		Joint		Threaded		
			Drive Shoe?		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	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?		<input checked="" type="checkbox"/>	Type		stainless	Make	JOHNSON	
			Diameter		Slot/Gauze	Length		Set			
			2 in.		18	5 ft.		87 ft.	92 ft.		
			Static Water Level		74 ft.		land surface		Measure	09/15/1987	
			Pumping Level (below land surface)		87 ft.		2 hrs.	Pumping at	30	g.p.m.	
Remarks			Wellhead Completion		Pitless adapter manufacturer		MERRILL	Model	SPK		
			<input type="checkbox"/> Casing Protection		<input type="checkbox"/> 12 in. above grade						
			<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)								
			Grouting Information		Well Grouted?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not Specified		
			Material		Amount		From	To			
			bentonite				ft.	65 ft.			
			Nearest Known Source of Contamination		100 feet		West Direction		Sewer Type		
			Well disinfected upon completion?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No				
			Pump		<input type="checkbox"/> Not Installed		Date Installed		09/21/1987		
			Manufacturer's name		AERMOTOR		Model Number		SD12-50	HP	0.5
Length of drop pipe		79	ft	Capacity	g.p.	Typ	Submersible				
Abandoned			Does property have any not in use and not sealed well(s)?		<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No				
Variance			Was a variance granted from the MDH for this well?		<input type="checkbox"/> Yes		<input type="checkbox"/> No				
Miscellaneous			First Bedrock		Aquifer		Quat. buried				
Last Strat			clay-gray		Depth to Bedrock		ft				
Located by			Minnesota Geological Survey		Locate Method		GPS SA Off (averaged) (15 meters)				
System			UTM - NAD83, Zone 15, Meters		X 458873		Y 5002076				
Unique Number Verification			Address verification		Input Date		11/17/2014				
Angled Drill Hole											
Well Contractor			Mc Alpine Brothers		86270		MCALPINE, B.				
Licensee Business			Lic. or Reg. No.		Name of Driller						
Minnesota Well Index Report			434473		Printed on 12/11/2020						
					HE-01205-15						

659356

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/21/2001
Update Date 12/23/2014
Received Date

Well Name COUNTRYSIDE				Township 120	Range 22	Dir W	Section 30	Subsection CCBBBD	Well Depth 15 ft.				Depth Completed 15 ft.				Date Well Completed 02/20/2001			
Elevation 958 ft.				Elev. Method LiDAR 1m DEM (MNDNR)		Drill Method Auger (non-specified)										Drill Fluid				
Address Well 19080 81 HY DAYTON MN Contact CLEARWATER MN 55320									Use monitor well				Status Sealed							
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 5 DK. BRN SANDY CLAY 5 15 LT. BRN									Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				From To							
									Casing Type Single casing				Joint							
									Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				Above/Below							
									Casing Diameter 2 in. To 5 ft.				Weight lbs./ft.				Hole Diameter 9 in. To 15 ft.			
									Open Hole From ft. To ft.											
									Screen? <input checked="" type="checkbox"/>				Type plastic				Make LAIBE			
									Diameter 2 in.				Slot/Gauze 10				Length 10 ft.			
													Set 5 ft.				ft. 15 ft.			
									Static Water Level 7 ft.				land surface				Measure 02/20/2001			
Pumping Level (below land surface)																				
Wellhead Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																				
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified																				
Material Amount From To																				
neat cement 2 Sacks 0 ft. 4 ft.																				
bentonite 0.5 Sacks 4 ft. 4.5 ft.																				
Nearest Known Source of Contamination feet Direction Type																				
Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Pump <input checked="" type="checkbox"/> 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)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																				
Miscellaneous First Bedrock Aquifer Quat. Water Last Strat clay+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 459070 Y 5001995 Unique Number Verification Site Plan Input Date 04/07/2014																				
Angled Drill Hole																				
Well Contractor Traut M.J. Well Co. 71536 Licensee Business Lic. or Reg. No. Name of Driller																				
Remarks WELL SEALED 04-08-2002 BY 27058																				

565068

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/13/1996
Update Date 02/14/2014
Received Date 08/07/1995

Well Name SINKIE	Township 120	Range 22	Dir W	Section 30	Subsection CDCCAD	Well Depth 86 ft.	Depth Completed 86 ft.	Date Well Completed 06/30/1995
Elevation 943 ft. Elev. Method 7.5 minute topographic map (+/- 5 feet)						Drill Method Non-specified Rotary	Drill Fluid Bentonite	
Address Well 18550 81 CR DAYTON MN 55327						Use domestic	Status	Active
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 18 BROWN HARD CLAY 18 45 GRAY HARD CLAY & GRAVEL 45 58 GRAY SOFT GRAVEL 58 86 GRY/BRN SOFT CLAY 86 86 GRAY HARD						Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To		
						Casing Type Single casing Joint		
						Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Above/Below		
						Casing Diameter Weight Hole Diameter 4 in. To 81 ft. 1.9 lbs./ft. 6.5 in. To 86 ft.		
						Open Hole From ft. To ft.		
						Screen? <input checked="" type="checkbox"/> Type stainless Make COOK Diameter Slot/Gauze Length Set 2 in. 18 5 ft. 81 ft. 86 ft.		
						Static Water Level 60 ft. land surface Measure 06/30/1995		
						Pumping Level (below land surface) 81 ft. 1 hrs. Pumping at 30 g.p.m.		
						Wellhead Completion Pitless adapter manufacturer MONITOR Model BULLDOG <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
						Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 0.17 Cubic yards ft. 30 ft.		
Nearest Known Source of Contamination 33 feet West Direction Sewer Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
Pump <input type="checkbox"/> Not Installed Date Installed 07/11/1995 Manufacturer's name AERMOTOR Model Number T-12-75 HP 0.75 Volt 230 Length of drop pipe 70 ft Capacity 15 g.p. Typ Submersible								
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No								
Miscellaneous First Bedrock Aquifer Quat. buried Last Strat clay-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 459500 Y 5001690 Unique Number Verification Tag on well Input Date 08/20/2008								
Angled Drill Hole								
Well Contractor Mc Alpine Brothers 86270 MCALPINE, J. Licensee Business Lic. or Reg. No. Name of Driller								

408653

County Hennepin
Quad Rogers
Quad ID 121A

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 BOGGS,					Township 120	Range 22	Dir W	Section 30	Subsection DACCDC	Well Depth 85 ft.				Depth Completed 85 ft.				Date Well Completed 08/28/1984							
Elevation 930 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary				Drill Fluid											
Address C/W 11870 WEST FRANCH LAKE RD DAYTON MN 55327										Use domestic				Status Active											
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 49 YELLOW MEDIUM CLAY & SAND 49 70 YELLOW MEDIUM SAND 70 85 GRAY SOFT										Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>				From To											
										Casing Type Single casing				Joint											
										Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Above/Below 1 ft.											
										Casing Diameter 4 in.				Weight 80 ft. lbs./ft.											
										Open Hole From ft. To ft.															
										Screen? <input checked="" type="checkbox"/>				Type stainless				Make JOHNSON							
										Diameter 2 in.				Slot/Gauze 12				Length 5 ft.				Set 80 ft. 85 ft.			
										Static Water Level 60 ft. land surface								Measure 08/28/1984							
										Pumping Level (below land surface) 60 ft. 2 hrs. Pumping at								25 g.p.m.							
										Wellhead Completion Pitless adapter manufacturer WHITEWATER Model SU5.5 <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)															
										Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified															
										Material neat cement				Amount From To 0 ft. 49 ft.											
										bentonite				49 ft. 80 ft.											
										Nearest Known Source of Contamination 50 feet North Direction Well disinfected upon completion? <input type="checkbox"/> Yes <input type="checkbox"/> No								Septic tank/drain field Type							
										Pump <input type="checkbox"/> Not Installed Date Installed 08/29/1984 Manufacturer's name AERMOTER Model Number SD1275 HP 0.75 Volt 230 Length of drop pipe 68 ft Capacity 15 g.p. Typ Submersible															
										Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No															
										Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No															
										Miscellaneous First Bedrock sand-gray Last Strat sand-gray Located by Minnesota Geological Survey Locate Method Digitized - scale 1:24,000 or larger (Digitizing Table) System UTM - NAD83, Zone 15, Meters X 460247 Y 5002048 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															
Remarks																									

Minnesota Well Index Report

408653

Printed on 12/11/2020
HE-01205-15

555243

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/16/1996
Update Date 02/14/2014
Received Date 12/13/1994

Well Name OLSON					Township 120					Range 22					Dir Section W 31					Subsection BAABDD					Well Depth 78 ft.					Depth Completed 78 ft.					Date Well Completed 11/09/1994														
Elevation 945 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary					Drill Fluid Qwik gel																																		
Address Well 11660 TROY LA N DAYTON MN 55327																									Use domestic					Status Active																			
Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>																									From					To																			
Casing Type Single casing																									Joint Solvent Welded																								
Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																									Above/Below																								
Stratigraphy Information																																																	
Geological Material										From					To (ft.)					Color					Hardness																								
CLAY										0					25					YELLOW					MEDIUM																								
CLAY										25					49					GRAY					MEDIUM																								
SAND										49					55					YELLOW					SOFT																								
CLAY & SAND										55					61					YELLOW					HARD																								
SAND & GRAVEL										61					78					YEL/BRN					SOFT																								
Open Hole																									From					ft.					To					ft.									
Screen? <input checked="" type="checkbox"/>																									Type stainless					Make JOHNSON																			
Diameter										Slot/Gauze					Length					Set																													
2 in.										12					5 ft.					73 ft.					78 ft.																								
Static Water Level																																																	
50 ft.										land surface					Measure					11/09/1994																													
Pumping Level (below land surface)																																																	
65 ft.										3 hrs.					Pumping at					30 g.p.m.																													
Wellhead Completion																																																	
Pitless adapter manufacturer										MONITOR					Model					4A05.5																													
<input type="checkbox"/> Casing Protection										<input checked="" type="checkbox"/> 12 in. above grade																																							
<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																																	
Grouting Information																									Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified																								
Material										Amount					From					To																													
cuttings															30 ft.					73 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?										<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																							
Pump <input type="checkbox"/> Not Installed <input type="checkbox"/> Date Installed 11/10/1994																																																	
Manufacturer's name										AERMOTER																																							
Model Number										12T50					HP					0.5					Volt					230																			
Length of drop pipe										62 ft					Capacity					12 g.p.					Typ					Submersible																			
Abandoned																																																	
Does property have any not in use and not sealed well(s)?										<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																							
Variance																																																	
Was a variance granted from the MDH for this well?										<input type="checkbox"/> Yes <input type="checkbox"/> No																																							
Miscellaneous																																																	
First Bedrock										Aquifer					Quat. buried																																		
Last Strat										sand +larger					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 459691					Y 5001535																													
Unique Number Verification										Tag on well					Input Date					08/20/2008																													
Angled Drill Hole																																																	
Well Contractor																																																	
Mc Alpine's Well Co.										27186					MCALPINE, T.																																		
Licensee Business										Lic. or Reg. No.					Name of Driller																																		
Minnesota Well Index Report															555243										Printed on 12/11/2020 HE-01205-15																								

743427

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 05/31/2007
Update Date 09/02/2011
Received Date 12/15/2006

Well Name VSI	Township 120	Range 22	Dir W	Section 31	Subsection BABAAA	Well Depth 163 ft.	Depth Completed 163 ft.	Date Well Completed 11/07/2006
Elevation 941 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary	Drill Fluid Bentonite	
Address Well 11751 TROY LA DAYTON MN 55369						Use industrial	Status Active	
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 12 BROWN SOFT SAND 12 28 BROWN SOFT CLAY 28 60 GRAY SOFT GRAVEL 60 110 VARIED MEDIUM CLAY/GRAVEL 110 150 GRAY MEDIUM SAND/GRAVEL 150 163 BROWN SOFT						Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> From To		
						Casing Type Single casing Joint		
						Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Above/Below		
						Casing Diameter 4 in. To 155 ft. 2.01 lbs./ft.		
						Hole Diameter 8 in. To 30 ft. 6.2 in. To 163 ft.		
						Open Hole From ft. To ft.		
						Screen? <input checked="" type="checkbox"/> Type stainless Make JOHNSON Diameter Slot/Gauze Length Set 2 in. 10 4 ft. 155 ft. 163 ft.		
						Static Water Level 65 ft. land surface Measure 11/07/2006		
						Pumping Level (below land surface) 153 ft. 2 hrs. Pumping at 40 g.p.m.		
						Wellhead Completion Pitless adapter manufacturer WHITEWATER Model <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To cuttings 30 ft. 145 ft. pearock 9 Sacks 145 ft. 163 ft. bentonite 3 Sacks ft. 30 ft.								
Nearest Known Source of Contamination 70 feet Southeast Direction Septic tank/drain field Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
Pump <input type="checkbox"/> Not Installed Date Installed 11/08/2006 Manufacturer's name AERMOTOR Model Number HP 1 Volt 230 Length of drop pipe 84 ft Capacity g.p. Typ Submersible								
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 459598 Y 5001618 Unique Number Verification Tag on well Input Date 08/20/2008								
Angled Drill Hole								
Well Contractor Don Stodola Well Drilling 1691 MOORE, C. Licensee Business Lic. or Reg. No. Name of Driller								

470624

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/24/1991
Update Date 07/26/2019
Received Date 11/22/1990

Well Name CODEMA INC.					Township 120		Range 22		Dir Section W 30		Subsection CDDBAA		Well Depth 350 ft.		Depth Completed 350 ft.		Date Well Completed 09/11/1990			
Elevation 943 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary					Drill Fluid					
Address													Use commercial					Status Sealed		
Contact 7924 73RD AV N BROOKLYN PARK MN 55428													Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>					From To		
Well 11790 TROY LA N DAYTON MN 55327													Casing Type Single casing					Joint Threaded		
Stratigraphy Information													Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>					Above/Below 1 ft.		
Geological Material					From		To (ft.)		Color		Hardness		Casing Diameter 4 in. To 262 ft. lbs./ft.					Hole Diameter 6.2 in. To 262 ft. 4 in. To 350 ft.		
CLAY					0		140													
GRAVEL					140		170													
SHALE					170		172													
SHALE					172		193													
SHALE					193		246													
SHALE					246		337													
SHALE					337		350													
Open Hole													From 262 ft.		To 350 ft.					
Screen? <input type="checkbox"/>													Type		Make					
Static Water Level													65 ft.		land surface		Measure		09/11/1990	
Pumping Level (below land surface)													ft.		hrs.		Pumping at		45 g.p.m.	
Wellhead Completion													Pitless adapter manufacturer		MONITOR		Model			
<input type="checkbox"/> Casing Protection													<input checked="" type="checkbox"/> 12 in. above grade							
<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																				
Grouting Information													Well Grouted?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified					
Material					Amount					From		To								
cuttings										0 ft.		40 ft.								
Nearest Known Source of Contamination													feet		Direction		Type			
Well disinfected upon completion?													<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Pump <input type="checkbox"/> Not Installed													Date Installed		09/13/1990					
Manufacturer's name													JACUZZI							
Model Number													HP		2		Volt			
Length of drop pipe													132 ft		Capacity		g.p. Typ Submersible			
Abandoned													Does property have any not in use and not sealed well(s)?		<input type="checkbox"/> Yes <input type="checkbox"/> No					
Variance													Was a variance granted from the MDH for this well?		<input type="checkbox"/> Yes <input type="checkbox"/> No					
Miscellaneous													First Bedrock		St.Lawrence Formation		Aquifer Tunnel City-			
Last Strat													Wonewoc Sandstone		Depth to Bedrock		172 ft			
Located by													Minnesota Geological Survey							
Locate Method													Digitization (Screen) - Map (1:24,000) (15 meters or							
System													UTM - NAD83, Zone 15, Meters		X 459676		Y 5001808			
Unique Number Verification													Information from		Input Date		06/02/2000			
Angled Drill Hole																				
Well Contractor													Torgerson Well Co.		27056		TORGERSON, S.			
Licensee Business													Lic. or Reg. No.		Name of Driller					
Remarks													GAMMA LOGGED 1-12-1991. FULLERTON PARK ADD. BLK 2 LOT 1.							
SEALED 04-26-2019 BY 1691																				
Minnesota Well Index Report													470624				Printed on 12/11/2020 HE-01205-15			

464747

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 09/17/1991
Update Date 02/16/2015
Received Date 02/01/1991

Well Name 120 23 W 25 DDBDDA					Well Depth 232 ft.		Depth Completed 232 ft.		Date Well Completed 08/00/1990																													
Elevation 958 ft. Elev. Method LiDAR 1m DEM (MNDNR)					Drill Method Non-specified Rotary		Drill Fluid Bentonite																															
Address C/W 11785 JUSTEN CI ROGERS MN					Use domestic		Status Active																															
Stratigraphy Information <table><thead><tr><th>Geological Material</th><th>From</th><th>To (ft.)</th><th>Color</th><th>Hardness</th></tr></thead><tbody><tr><td>SAND GRAVEL</td><td>0</td><td>45</td><td>BROWN</td><td>MEDIUM</td></tr><tr><td>CLAY & GRAVEL</td><td>45</td><td>95</td><td>RED/BRN</td><td>MEDIUM</td></tr><tr><td>CLAY</td><td>95</td><td>180</td><td>GRAY</td><td>MEDIUM</td></tr><tr><td>SHALE</td><td>180</td><td>205</td><td>WHITE</td><td>SOFT</td></tr><tr><td>SANDROCK</td><td>205</td><td>232</td><td>YEL/WHT</td><td>HARD</td></tr></tbody></table>					Geological Material	From	To (ft.)	Color	Hardness	SAND GRAVEL	0	45	BROWN	MEDIUM	CLAY & GRAVEL	45	95	RED/BRN	MEDIUM	CLAY	95	180	GRAY	MEDIUM	SHALE	180	205	WHITE	SOFT	SANDROCK	205	232	YEL/WHT	HARD	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>		From To	
					Geological Material	From	To (ft.)	Color	Hardness																													
					SAND GRAVEL	0	45	BROWN	MEDIUM																													
					CLAY & GRAVEL	45	95	RED/BRN	MEDIUM																													
					CLAY	95	180	GRAY	MEDIUM																													
					SHALE	180	205	WHITE	SOFT																													
					SANDROCK	205	232	YEL/WHT	HARD																													
					Casing Type Single casing		Joint																															
					Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Above/Below 1 ft.																															
					Casing Diameter 4 in. To 205 ft.		Weight lbs./ft.																															
		Hole Diameter 8 in. To 30 ft.																																				
		7 in. To 205 ft.																																				
		3 in. To 232 ft.																																				
Open Hole From 205 ft. To 232 ft.					Screen? <input type="checkbox"/>		Type		Make																													
Static Water Level 60 ft. land surface Measure 08/00/1990																																						
Pumping Level (below land surface) 190 ft. 2 hrs. Pumping at 70 g.p.m.																																						
Wellhead Completion Pitless adapter manufacturer WHITEWATER Model 4X5.5 <input checked="" type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																						
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To neat cement 1 Cubic yards ft. 30 ft.																																						
Nearest Known Source of Contamination 80 feet South Direction Septic tank/drain field Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																						
Pump <input type="checkbox"/> Not Installed Date Installed 08/00/1990 Manufacturer's name AERMOTOR Model Number HP 0.75 Volt 230 Length of drop pipe 90 ft Capacity 12 g.p. Typ Submersible																																						
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																						
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																																						
Miscellaneous First Bedrock St.Lawrence Formation Aquifer Tunnel City Last Strat Tunnel City Group Depth to Bedrock 180 ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 458807 Y 5001869 Unique Number Verification Tax Records Input Date 11/17/2014																																						
Angled Drill Hole																																						
Well Contractor Drillco 27264 URAN, J. Licensee Business Lic. or Reg. No. Name of Driller																																						

659357

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/21/2001
Update Date 07/17/2015
Received Date

Well Name MW-3	Township 120	Range 22	Dir W	Section 30	Subsection CCBBCA	Well Depth 14 ft.	Depth Completed 14 ft.	Date Well Completed 02/20/2001																				
Elevation 954 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)																											
Address Well 19080 81 HY DAYTON MN Contact P.O. BOX 473 CLEARWATER MN 55320						Drill Method Auger (non-specified) Drill Fluid																						
Stratigraphy Information <table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>FILL (SAND & GRAVEL)</td><td>0</td><td>4</td><td>BROWN</td><td></td></tr><tr><td>CLAY</td><td>4</td><td>11</td><td>GRN/BLU</td><td></td></tr><tr><td>SANDY CLAY</td><td>11</td><td>14</td><td>BROWN</td><td></td></tr></table>						Geological Material	From	To (ft.)	Color	Hardness	FILL (SAND & GRAVEL)	0	4	BROWN		CLAY	4	11	GRN/BLU		SANDY CLAY	11	14	BROWN		Use monitor well Status Sealed		
						Geological Material	From	To (ft.)	Color	Hardness																		
						FILL (SAND & GRAVEL)	0	4	BROWN																			
						CLAY	4	11	GRN/BLU																			
						SANDY CLAY	11	14	BROWN																			
						Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> From To																						
						Casing Type Single casing Joint																						
						Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Above/Below																						
						Casing Diameter Weight Hole Diameter 2 in. To 4 ft. lbs./ft. 9 in. To 14 ft.																						
						Open Hole From ft. To ft.																						
Screen? <input checked="" type="checkbox"/> Type plastic Make LAIBE Diameter Slot/Gauze Length Set 2 in. 10 10 ft. 4 ft. 14 ft.																												
Static Water Level 7 ft. land surface Measure 02/20/2001																												
Pumping Level (below land surface)																												
Wellhead Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																												
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 2 Sacks 0 ft. 3.5 ft.																												
Nearest Known Source of Contamination feet Direction Type Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												
Pump <input checked="" type="checkbox"/> 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)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												
Miscellaneous First Bedrock Aquifer Quat. Water Last Strat clay+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 459056 Y 5001965 Unique Number Verification Site Plan Input Date 07/16/2012																												
Angled Drill Hole																												
Well Contractor Traut M.J. Well Co. 71536 Licensee Business Lic. or Reg. No. Name of Driller																												
Remarks WELL SEALED 04-08-2002 BY 27058 ORIGINAL USE MW - MONITOR WELL																												

523944

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/31/1993
Update Date 02/14/2014
Received Date 08/17/1993

Well Name WITCHER					Township 120		Range 22		Dir Section W 30		Subsection CDDBBB		Well Depth 113 ft.		Depth Completed 113 ft.		Date Well Completed 04/22/1993				
Elevation 943 ft.					Elev. Method		7.5 minute topographic map (+/- 5 feet)										Drill Method Non-specified Rotary		Drill Fluid Bentonite		
Address														Use other (specify in remarks)				Status Active			
Well 11771 TROY LA N DAYTON MN 55327														Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>				From		To	
Stratigraphy Information														Casing Type Single casing				Joint Threaded			
Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>														Above/Below							
Casing Diameter 4 in. To 108 ft. 10.7 lbs./ft.														Hole Diameter 6.2 in. To 113 ft.							
Open Hole From ft. To ft.																					
Screen? <input checked="" type="checkbox"/>														Type stainless		Make JOHNSON 304					
Diameter 4.5 in.														Slot/Gauze 15		Length 4 ft.		Set 109 ft.		To 113 ft.	
Static Water Level																					
24 ft. land surface														Measure		04/22/1993					
Pumping Level (below land surface)																					
44 ft. 3 hrs. Pumping at														20		g.p.m.					
Wellhead Completion																					
Pitless adapter manufacturer BAKER														Model		SNAPPY					
<input type="checkbox"/> Casing Protection														<input type="checkbox"/> 12 in. above grade							
<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																					
Grouting Information														Well Grouted?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified					
Material bentonite														Amount 1.1		Cubic yards		From ft. 108		To ft.	
Nearest Known Source of Contamination																					
100 feet Northwes Direction														Septic tank/drain field		Type					
Well disinfected upon completion?														<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Pump <input type="checkbox"/> Not Installed														Date Installed		05/10/1993					
Manufacturer's name GRUNDFOS																					
Model Number 10S05-9														HP 0.5		Volt 230					
Length of drop pipe 84 ft														Capacity 11		g.p.		Typ Submersible			
Abandoned																					
Does property have any not in use and not sealed well(s)?														<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Variance																					
Was a variance granted from the MDH for this well?														<input type="checkbox"/> Yes <input type="checkbox"/> No							
Miscellaneous																					
First Bedrock														Aquifer		Quat. buried					
Last Strat clay-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 459643		Y 5001794					
Unique Number Verification														Name on mailbox		Input Date		07/24/2008			
Angled Drill Hole																					
Well Contractor																					
Renner E.H. Well														71015		PRAUGHT, V.					
Licensee Business														Lic. or Reg. No.		Name of Driller					
Minnesota Well Index Report										523944		Printed on 12/11/2020 HE-01205-15									

752578

County Hennepin
 Quad Rogers
 Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 05/02/2013
 Update Date 02/16/2015
 Received Date 04/10/2013

Well Name ENGSTROM,	Township 120	Range 23	Dir Section W 25	Subsection DADCDB	Well Depth 106 ft.	Depth Completed 106 ft.	Date Well Completed 12/07/2012
Elevation 963 ft.	Elev. Method LiDAR 1m DEM (MNDNR)				Drill Method Non-specified Rotary	Drill Fluid Bentonite	
Address C/W 11885 BROCKTON LA ROGERS MN 55374					Use domestic	Status Active	
Stratigraphy Information					Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	From	To
					Casing Type Single casing	Joint	
					Drive Shoe? Yes <input type="checkbox"/> No <input type="checkbox"/>	Above/Below	
Geological Material					Casing Diameter	Weight	Hole Diameter
CLAY					4 in. To	96 ft. lbs./ft.	6.2 in. To 106 ft.
CLAY & ROCKS							
CLAY							
GRAVEL							
GRAVEL W/SAND							
					Open Hole	From	To
					Screen? <input checked="" type="checkbox"/>	Type plastic	Make BIG FOOT
					Diameter	Slot/Gauze	Length
					4 in.	15	10 ft. 96 ft. 106 ft.
					Static Water Level		
					84 ft.	land surface	Measure 12/07/2012
					Pumping Level (below land surface)		
					100 ft.	1 hrs.	Pumping at 20 g.p.m.
					Wellhead Completion		
					Pitless adapter manufacturer	WELLS	Model AQUA SEAL
					<input type="checkbox"/> Casing Protection	<input checked="" type="checkbox"/> 12 in. above grade	
					<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
					Grouting Information	Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified	
					Material	Amount	From To
					well grouted, type unknown		ft. ft.
					Nearest Known Source of Contamination		
					53 feet	East Direction	Sewer Type
					Well disinfected upon completion?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
					Pump <input type="checkbox"/> Not Installed	Date Installed	12/07/2012
					Manufacturer's name	AERMOTOR	
					Model Number	T-12	HP 0.5 Volt 230
					Length of drop pipe	98 ft	Capacity 12 g.p. Typ Submersible
					Abandoned		
					Does property have any not in use and not sealed well(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
					Variance		
					Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
					Miscellaneous		
					First Bedrock	Aquifer	Quat. buried
					Last Strat	sand +larger-gray	Depth to Bedrock ft
					Located by Minnesota Geological Survey		
					Locate Method GPS SA Off (averaged) (15 meters)		
					System	UTM - NAD83, Zone 15, Meters	X 458880 Y 5002070
					Unique Number Verification	Address verification	Input Date 11/17/2014
					Angled Drill Hole		
					Well Contractor		
					Macs Well and Pump Service	1913	MCALPINE, D.
					Licensee Business	Lic. or Reg. No.	Name of Driller
Remarks OLD WELL SEALED 12/10/12-H258847							

137728

County Hennepin
Quad Rogers
Quad ID 121A

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 PINE POINT					Township 120	Range 23	Dir W	Section 25	Subsection DABBCA	Well Depth 74 ft.				Depth Completed 74 ft.				Date Well Completed 10/18/1976																									
Elevation 954 ft.					Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary				Drill Fluid																													
Address Well DAYTON MN 55374										Use domestic				Status Active																													
Stratigraphy Information <table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>SAND & GRAVEL</td><td>0</td><td>22</td><td>BROWN</td><td>SOFT</td></tr><tr><td>CLAY</td><td>22</td><td>50</td><td>RED</td><td>HARD</td></tr><tr><td>CLAY</td><td>50</td><td>70</td><td>GRAY</td><td>HARD</td></tr><tr><td>GRAVEL</td><td>70</td><td>74</td><td>YELLOW</td><td>SOFT</td></tr><tr><td>SHALE</td><td>74</td><td>74</td><td>GREEN</td><td>HARD</td></tr></table>										Geological Material	From	To (ft.)	Color	Hardness	SAND & GRAVEL	0	22	BROWN	SOFT	CLAY	22	50	RED	HARD	CLAY	50	70	GRAY	HARD	GRAVEL	70	74	YELLOW	SOFT	SHALE	74	74	GREEN	HARD	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To			
										Geological Material	From	To (ft.)	Color	Hardness																													
										SAND & GRAVEL	0	22	BROWN	SOFT																													
										CLAY	22	50	RED	HARD																													
										CLAY	50	70	GRAY	HARD																													
										GRAVEL	70	74	YELLOW	SOFT																													
										SHALE	74	74	GREEN	HARD																													
										Casing Type Single casing				Joint Threaded																													
										Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Above/Below 1 ft.																																	
										Casing Diameter 4 in.				Weight 70 ft. lbs./ft.																													
Open Hole From ft. To ft.																																											
Screen? <input checked="" type="checkbox"/> Type stainless Make JOHNSON																																											
Diameter Slot/Gauze Length Set																																											
3 in. 12 4.7 ft. 70 ft. 74 ft.																																											
Static Water Level 55 ft. land surface Measure 10/28/1976																																											
Pumping Level (below land surface) 70 ft. 1 hrs. Pumping at 15 g.p.m.																																											
Wellhead Completion Pitless adapter manufacturer Model <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																											
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 2 Cubic yards 0 ft. 70 ft.																																											
Nearest Known Source of Contamination 100 feet North Direction Sewer Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																											
Pump <input type="checkbox"/> Not Installed Date Installed 00/00/1976 Manufacturer's name AERMOTOR Model Number HP 0.5 Volt 230 Length of drop pipe ft Capacity 10 g.p. Typ Submersible																																											
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No																																											
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																																											
Miscellaneous First Bedrock Aquifer Quat. buried Last Strat clay-green 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 458666 Y 5002366 Unique Number Verification Information from Input Date 01/01/1990																																											
Angled Drill Hole																																											
Well Contractor Mc Alpine Brothers 86270 MCALPINE, K. Licensee Business Lic. or Reg. No. Name of Driller																																											

Minnesota Unique Well Number

439865

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 07/13/1992
Update Date 09/03/2019
Received Date

Well Name	Township	Range	Dir	Section	Subsection	Well Depth	Depth Completed	Date Well Completed
	120	23	W	25	DDBBDA	120 ft.	118 ft.	04/26/1988
Elevation	958 ft.	Elev. Method	LiDAR 1m DEM (MNDNR)					
Address						Use	commercial	Status
C/W						Sealed		
19340 LINDEN DR ROGERS MN						Well Hydrofractured?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Stratigraphy Information						From	To	
Geological Material						Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	From
CLAY						2	To	
CLAY						5	To	
STICKY CLAY						10	To	
SAND						60	To	
MED SAND						70	To	
FINE SAND						85	To	
ROCKY CLAY						90	To	
SAND						91	To	
CLAY						95	To	
MEDIUM SAND						110	To	
CLAY						118	To	
Joint						Threaded	2 ft.	
Casing Type						Single casing	Above/Below	
Drive Shoe?						Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	2 ft.
Casing Diameter						Weight		
4 in.						114 ft.	10.7 lbs./ft.	
Open Hole						From	To	
Screen?						<input checked="" type="checkbox"/>	Type	stainless
Diameter						Slot/Gauze	Length	Set
4 in.						18	4 ft.	114 ft.
Static Water Level								
72 ft.						land surface	Measure	04/26/1988
Pumping Level (below land surface)								
100 ft.						3 hrs.	Pumping at	20 g.p.m.
Wellhead Completion								
Pitless adapter manufacturer						BAKER	Model	SNAPPY
<input type="checkbox"/> Casing Protection						<input checked="" type="checkbox"/> 12 in. above grade		
<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)								
Grouting Information						Well Grouted?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Material						Amount	From	To
bentonite							ft.	114 ft.
Nearest Known Source of Contamination								
16 feet						Northwes	Direction	Old/other well Type
Well disinfected upon completion?						<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Pump						<input type="checkbox"/> Not Installed	Date Installed	05/18/1988
Manufacturer's name						GRUNDFOS		
Model Number						16S07-8	HP	0.75
Length of drop pipe						108 ft	Capacity	17 g.p.
Abandoned								
Does property have any not in use and not sealed well(s)?						<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Variance								
Was a variance granted from the MDH for this well?						<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Miscellaneous								
First Bedrock						Aquifer	Quat.	buried
Last Strat						clay-red	Depth to Bedrock	ft
Located by						Minnesota Geological Survey		
Locate Method						GPS SA Off (averaged) (15 meters)		
System						UTM - NAD83, Zone 15, Meters	X	458714
Unique Number Verification						Address verification	Input Date	12/09/2014
Angled Drill Hole								
Well Contractor								
Renner E.H. Well						71015	PRAUGHT, V.	
Licensee Business						Lic. or Reg. No.	Name of Driller	
Remarks								
SEALED 06-14-2019 BY 1938								
Minnesota Well Index Report						439865		
						Printed on 12/11/2020		
						HE-01205-15		

452413

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 07/13/1992
Update Date 02/16/2015
Received Date

Well Name 120 Range 23 Dir Section W 25 Subsection DACCDC					Well Depth 127 ft.		Depth Completed 127 ft.		Date Well Completed 05/11/1989																																									
Elevation 962 ft. Elev. Method LiDAR 1m DEM (MNDNR)					Drill Method Non-specified Rotary		Drill Fluid Bentonite																																											
Address Well 19300 LINDEN DR ROGERS MN					Use domestic		Status Active																																											
Stratigraphy Information <table><thead><tr><th>Geological Material</th><th>From</th><th>To (ft.)</th><th>Color</th><th>Hardness</th></tr></thead><tbody><tr><td>CLAY</td><td>0</td><td>10</td><td>YELLOW</td><td>HARD</td></tr><tr><td>CLAY</td><td>10</td><td>18</td><td>BROWN</td><td>HARD</td></tr><tr><td>CLAY</td><td>18</td><td>76</td><td>GRAY</td><td>HARD</td></tr><tr><td>GRAVEL</td><td>76</td><td>92</td><td>GRAY</td><td>SOFT</td></tr><tr><td>CLAY</td><td>92</td><td>117</td><td>GRAY</td><td>HARD</td></tr><tr><td>GRAVEL</td><td>117</td><td>127</td><td>BROWN</td><td>SOFT</td></tr><tr><td>CLAY</td><td>127</td><td>127</td><td>GRAY</td><td>HARD</td></tr></tbody></table>					Geological Material	From	To (ft.)	Color	Hardness	CLAY	0	10	YELLOW	HARD	CLAY	10	18	BROWN	HARD	CLAY	18	76	GRAY	HARD	GRAVEL	76	92	GRAY	SOFT	CLAY	92	117	GRAY	HARD	GRAVEL	117	127	BROWN	SOFT	CLAY	127	127	GRAY	HARD	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>		From		To	
					Geological Material	From	To (ft.)	Color	Hardness																																									
					CLAY	0	10	YELLOW	HARD																																									
					CLAY	10	18	BROWN	HARD																																									
					CLAY	18	76	GRAY	HARD																																									
					GRAVEL	76	92	GRAY	SOFT																																									
					CLAY	92	117	GRAY	HARD																																									
					GRAVEL	117	127	BROWN	SOFT																																									
					CLAY	127	127	GRAY	HARD																																									
					Casing Type Single casing		Joint																																											
Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Above/Below		1 ft.																																														
Casing Diameter 4 in. To 122 ft.		Weight lbs./ft.		Hole Diameter 8 in. To 127 ft.																																														
Open Hole From ft. To ft.																																																		
Screen? <input checked="" type="checkbox"/>		Type stainless		Make JOHNSON																																														
Diameter 2 in.		Slot/Gauze 18		Length 5 ft.																																														
				Set 122 ft. 127 ft.																																														
Static Water Level 80 ft. land surface Measure 05/11/1989																																																		
Pumping Level (below land surface) 122 ft. 2 hrs. Pumping at 100 g.p.m.																																																		
Wellhead Completion Pitless adapter manufacturer MERRILL Model SPK <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																																		
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To neat cement 3 Cubic yards ft. 110 ft.																																																		
Nearest Known Source of Contamination <u>60</u> feet <u>West</u> Direction <u>Sewer</u> Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																																		
Pump <input type="checkbox"/> Not Installed Date Installed <u>05/17/1989</u> Manufacturer's name AERMOTOR Model Number <u>SD-1275</u> HP <u>0.75</u> Volt <u>230</u> Length of drop pipe <u>100</u> ft Capacity <u>15</u> g.p. Typ <u>Submersible</u>																																																		
Abandoned Does property have any not in use and not sealed well(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																																		
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																		
Miscellaneous First Bedrock Last Strat clay-gray Aquifer Quat. buried Depth to Bedrock ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 458693 Y 5002045 Unique Number Verification Address verification Input Date 11/17/2014																																																		
Angled Drill Hole																																																		
Well Contractor Mc Alpine Brothers 86270 GOODIN, G. Licensee Business Lic. or Reg. No. Name of Driller																																																		

Remarks
EAGLES WINDOW LISTED UNDER WELL LOCATION.

592530

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 06/11/1998
Update Date 02/16/2015
Received Date

Well Name TALBERG,	Township 120	Range 23	Dir W	Section 25	Subsection DDDABC	Well Depth 250 ft.	Depth Completed 250 ft.	Date Well Completed 03/12/1997
Elevation 959 ft.	Elev. Method LiDAR 1m DEM (MNDNR)					Drill Method Non-specified Rotary	Drill Fluid Bentonite	
Address Well 11770 JUSTEN CI MAPLE GROVE MN						Use domestic	Status Active	
						Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>	From To	
Stratigraphy Information						Casing Type Single casing	Joint Above/Below	
						Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Geological Material						Casing Diameter 6 in.	Weight To 200 ft. lbs./ft.	Hole Diameter 8.7 in. To 194 ft. 5 in. To 250 ft.
SAND & GRAVEL								
CLAY								
CLAY								
SAND & GRAVEL								
CLAY								
SAND & GRAVEL								
CLAY								
SHALE								
SANDSTONE								
SHALE								
SANDSTONE								
SHALE								
SANDSTONE								
						Open Hole From 200 ft. To 250 ft.		
						Screen? <input type="checkbox"/>	Type	Make
						Static Water Level 75 ft. land surface	Measure	03/12/1997
						Pumping Level (below land surface) 180 ft. hrs. Pumping at 100 g.p.m.		
						Wellhead Completion Pitless adapter manufacturer MAAS Model 4J1 <input type="checkbox"/> Casing Protection <input checked="" type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
						Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 3 Sacks ft. 30 ft.		
						Nearest Known Source of Contamination feet Direction Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
						Pump <input type="checkbox"/> Not Installed Date Installed 05/01/1997 Manufacturer's name AERMOTOR Model Number A35B300 HP 3.5 Volt 230 Length of drop pipe 180 ft Capacity 300 g.p. Typ Submersible		
						Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
						Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
						Miscellaneous First Bedrock St.Lawrence Formation Aquifer Tunnel City Last Strat Tunnel City Group Depth to Bedrock 194 ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 458942 Y 5001789 Unique Number Verification Address verification Input Date 11/17/2014		
						Angled Drill Hole		
						Well Contractor Traut M.J. Well Co. 71536 ROBBIE & DON Licensee Business Lic. or Reg. No. Name of Driller		

659355

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 08/21/2001
Update Date 07/17/2015
Received Date

Well Name MW-1	Township 120	Range 22	Dir W	Section 30	Subsection CCBBCA	Well Depth 15 ft.	Depth Completed 15 ft.	Date Well Completed 02/20/2001
Elevation 954 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Auger (non-specified)	Drill Fluid Water	
Address Well 19080 81 HY DAYTON MN Contact P.O. BOX 473 CLEARWATER MN 55320						Use monitor well	Status Sealed	
Stratigraphy Information Geological Material From To (ft.) Color Hardness CLAY 0 5 DK. BRN SANDY CLAY 5 15 LT. BRN						Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	From To	
						Casing Type Single casing	Joint Above/Below	
						Drive Shoe? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
						Casing Diameter 2 in. To 5 ft.	Weight lbs./ft.	Hole Diameter 9 in. To 15 ft.
						Open Hole From ft. To ft.		
						Screen? <input checked="" type="checkbox"/> Diameter 2 in.	Type plastic Slot/Gauze 10 Length 10 ft.	Make LAIBE Set 5 ft. 15 ft.
						Static Water Level 7 ft.	land surface Measure	02/20/2001
						Pumping Level (below land surface)		
						Wellhead Completion Pitless adapter manufacturer Model <input checked="" type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input checked="" type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
						Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material bentonite Amount 2 Sacks From 0 To 4 ft.		
						Nearest Known Source of Contamination feet Direction Type Well disinfected upon completion? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
						Pump <input checked="" type="checkbox"/> 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)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
						Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
						Miscellaneous First Bedrock Aquifer Quat. Water Last Strat clay+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 459059 Y 5001976 Unique Number Verification Site Plan Input Date 07/16/2012		
						Angled Drill Hole		
						Well Contractor Traut M.J. Well Co. 71536 DONNIE Licensee Business Lic. or Reg. No. Name of Driller		
Remarks MW#1 CASING PROTECTION: 9 INCH FLUSHMOUNT. WELL SEALED 04-08-2002 BY 27058 ORIGINAL USE MW - MONITOR WELL								

677955

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 03/28/2003
Update Date 02/16/2015
Received Date

Well Name DUNDEE	Township 120	Range 23	Dir Section W 25	Subsection DBDCAB	Well Depth 315 ft.	Depth Completed 313 ft.	Date Well Completed 10/07/2002																																													
Elevation 963 ft.	Elev. Method LiDAR 1m DEM (MNDNR)					Drill Method Non-specified Rotary	Drill Fluid Bentonite																																													
Address Well 19650 TERRITORIAL RD OSSEO MN					Use domestic	Status Active																																														
Stratigraphy Information <table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>CLAY</td><td>0</td><td>30</td><td>GRAY</td><td></td></tr><tr><td>CLAY & SAND</td><td>30</td><td>58</td><td>GRAY</td><td></td></tr><tr><td>CLAY</td><td>58</td><td>97</td><td>GRAY</td><td></td></tr><tr><td>SAND</td><td>97</td><td>110</td><td>GRAY</td><td></td></tr><tr><td>CLAY</td><td>110</td><td>125</td><td>RED</td><td></td></tr><tr><td>SAND</td><td>125</td><td>140</td><td>VARIED</td><td></td></tr><tr><td>CLAY</td><td>140</td><td>210</td><td>RED</td><td></td></tr><tr><td>SANDSTONE RED,</td><td>210</td><td>315</td><td>VARIED</td><td></td></tr></table>					Geological Material	From	To (ft.)	Color	Hardness	CLAY	0	30	GRAY		CLAY & SAND	30	58	GRAY		CLAY	58	97	GRAY		SAND	97	110	GRAY		CLAY	110	125	RED		SAND	125	140	VARIED		CLAY	140	210	RED		SANDSTONE RED,	210	315	VARIED		Well Hydrofractured? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> From To		
					Geological Material	From	To (ft.)	Color	Hardness																																											
					CLAY	0	30	GRAY																																												
					CLAY & SAND	30	58	GRAY																																												
					CLAY	58	97	GRAY																																												
					SAND	97	110	GRAY																																												
					CLAY	110	125	RED																																												
					SAND	125	140	VARIED																																												
					CLAY	140	210	RED																																												
					SANDSTONE RED,	210	315	VARIED																																												
Casing Type Single casing Joint Welded																																																				
Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Above/Below																																																				
Casing Diameter 6 in. To 210 ft. lbs./ft.																																																				
Hole Diameter 11. in. To 210 ft.																																																				
Open Hole From 210 ft. To 315 ft.																																																				
Screen? <input type="checkbox"/> Type Make																																																				
Static Water Level 76 ft. land surface Measure 10/07/2002																																																				
Pumping Level (below land surface) ft. hrs. Pumping at 200 g.p.m.																																																				
Wellhead Completion Pitless adapter manufacturer MAASS Model 6 INCH <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																																				
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 6 Sacks 0 ft. 45 ft.																																																				
Nearest Known Source of Contamination feet Direction Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																																				
Pump <input type="checkbox"/> Not Installed Date Installed 03/10/2003 Manufacturer's name BERKLEY Model Number HP 7.5 Volt 460 Length of drop pipe 105 ft Capacity 85 g.p. Typ Submersible																																																				
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																				
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																				
Miscellaneous First Bedrock Tunnel City Group Aquifer Tunnel City Last Strat Tunnel City Group Depth to Bedrock 210 ft Located by Minnesota Geological Survey Locate Method GPS SA Off (averaged) (15 meters) System UTM - NAD83, Zone 15, Meters X 458487 Y 5002129 Unique Number Verification Address verification Input Date 12/09/2014																																																				
Angled Drill Hole																																																				
Well Contractor Stevens Well Drilling Co. Inc. 86654 JOHNSON, R. Licensee Business Lic. or Reg. No. Name of Driller																																																				

492238

County Hennepin
Quad Rogers
Quad ID 121A

MINNESOTA DEPARTMENT OF HEALTH
WELL AND BORING REPORT
Minnesota Statutes Chapter 1031

Entry Date 12/29/1991
Update Date 09/23/2016
Received Date

Well Name CHRISTIAN	Township 120	Range 22	Dir W	Section 30	Subsection CDDCDD	Well Depth 255 ft.	Depth Completed 255 ft.	Date Well Completed 07/26/1991																																								
Elevation 943 ft. Elev. Method 7.5 minute topographic map (+/- 5 feet)						Drill Method Non-specified Rotary	Drill Fluid Bentonite																																									
Address Well 11700 TROY LA DAYTON MN 55327						Use domestic	Status Active																																									
Stratigraphy Information <table><tr><td>Geological Material</td><td>From</td><td>To (ft.)</td><td>Color</td><td>Hardness</td></tr><tr><td>CLAY</td><td>0</td><td>18</td><td>YELLOW</td><td>HARD</td></tr><tr><td>CLAY</td><td>18</td><td>47</td><td>GRAY</td><td>HARD</td></tr><tr><td>CLAY & GRAVEL</td><td>47</td><td>130</td><td>GRAY</td><td>HARD</td></tr><tr><td>CLAY & GRAVEL</td><td>130</td><td>185</td><td>BROWN</td><td>HARD</td></tr><tr><td>SHALE</td><td>185</td><td>190</td><td>YELLOW</td><td>SOFT</td></tr><tr><td>SHALE</td><td>190</td><td>230</td><td>GREEN</td><td>SOFT</td></tr><tr><td>SANDROCK</td><td>230</td><td>255</td><td>YELLOW</td><td>MEDIUM</td></tr></table>						Geological Material	From	To (ft.)	Color	Hardness	CLAY	0	18	YELLOW	HARD	CLAY	18	47	GRAY	HARD	CLAY & GRAVEL	47	130	GRAY	HARD	CLAY & GRAVEL	130	185	BROWN	HARD	SHALE	185	190	YELLOW	SOFT	SHALE	190	230	GREEN	SOFT	SANDROCK	230	255	YELLOW	MEDIUM	Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/> From To		
						Geological Material	From	To (ft.)	Color	Hardness																																						
						CLAY	0	18	YELLOW	HARD																																						
						CLAY	18	47	GRAY	HARD																																						
						CLAY & GRAVEL	47	130	GRAY	HARD																																						
						CLAY & GRAVEL	130	185	BROWN	HARD																																						
						SHALE	185	190	YELLOW	SOFT																																						
						SHALE	190	230	GREEN	SOFT																																						
						SANDROCK	230	255	YELLOW	MEDIUM																																						
						Casing Type Single casing Joint Threaded																																										
Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Above/Below 1 ft.																																																
Casing Diameter 4 in. To 234 ft. 11 lbs./ft. Hole Diameter 6.2 in. To 234 ft. 4 in. To 255 ft.																																																
Open Hole From 234 ft. To 255 ft.																																																
Screen? <input type="checkbox"/> Type Make																																																
Static Water Level 60 ft. land surface Measure 07/26/1991																																																
Pumping Level (below land surface) 120 ft. 2 hrs. Pumping at 50 g.p.m.																																																
Wellhead Completion Pitless adapter manufacturer MONITOR Model BULLDOG <input type="checkbox"/> Casing Protection <input type="checkbox"/> 12 in. above grade <input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)																																																
Grouting Information Well Grouted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified Material Amount From To bentonite 1.29 Cubic yards 0 ft. 234 ft.																																																
Nearest Known Source of Contamination 150 feet East Direction Septic tank/drain field Type Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																																
Pump <input type="checkbox"/> Not Installed Date Installed 07/30/1991 Manufacturer's name AERMOTOR Model Number SD-1250 HP 0.5 Volt 230 Length of drop pipe 80 ft Capacity 10 g.p. Typ Submersible																																																
Abandoned Does property have any not in use and not sealed well(s)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																
Variance Was a variance granted from the MDH for this well? <input type="checkbox"/> Yes <input type="checkbox"/> No																																																
Miscellaneous First Bedrock St.Lawrence Formation Aquifer Tunnel Last Strat Tunnel City/Mazomanie Depth to Bedrock 185 ft Located by Minnesota Department of Health Locate Method Digitization (Screen) - Map (1:24,000) (15 meters or System UTM - NAD83, Zone 15, Meters X 459684 Y 5001640 Unique Number Verification Information from Input Date 05/20/1996																																																
Angled Drill Hole																																																
Well Contractor Mc Alpine Brothers 86270 GOODIN, G. Licensee Business Lic. or Reg. No. Name of Driller																																																

Remarks
LOCATED BY MDH FOR THE TRITIUM STUDY.

400259

County Hennepin
Quad Rogers
Quad ID 121A


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 UPTON, EUNICE	Township 120	Range 22	Dir W	Section 30	Subsection BABCBA	Well Depth 94 ft.	Depth Completed 94 ft.	Date Well Completed 10/28/1983
Elevation 940 ft.	Elev. Method 7.5 minute topographic map (+/- 5 feet)					Drill Method Non-specified Rotary	Drill Fluid	
Address Well 18600 124TH AV N DAYTON MN 55327						Use domestic	Status Active	
Stratigraphy Information						Well Hydrofractured? Yes <input type="checkbox"/> No <input type="checkbox"/>	From	To
						Casing Type Single casing	Joint	
						Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Above/Below	1 ft.
Geological Material						Casing Diameter	Weight	
CLAY						4 in.	To 89 ft.	lbs./ft.
CLAY								
CLAY & SAND								
SAND								
						Open Hole	From	ft. To
						Screen? <input checked="" type="checkbox"/>	Type stainless	Make JOHNSON
						Diameter	Slot/Gauze	Length
						2 in.	12	5 ft. 89 ft. 94 ft.
						Static Water Level		
						60 ft.	land surface	Measure 10/28/1983
						Pumping Level (below land surface)		
						60 ft.	2 hrs.	Pumping at 25 g.p.m.
						Wellhead Completion		
						Pitless adapter manufacturer	Model	
						<input type="checkbox"/> Casing Protection	<input checked="" type="checkbox"/> 12 in. above grade	
						<input type="checkbox"/> At-grade (Environmental Wells and Borings ONLY)		
						Grouting Information	Well Grouted?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Specified
						Material	Amount	From To
						bentonite		0 ft. 89 ft.
						Nearest Known Source of Contamination		
						50 feet	South Direction	Septic tank/drain field Type
						Well disinfected upon completion?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
						Pump <input type="checkbox"/> Not Installed	Date Installed	10/01/1983
						Manufacturer's name	OWNER INSTALLED	
						Model Number	HP	Q Volt
						Length of drop pipe	ft Capacity	g.p. Typ
						Abandoned		
						Does property have any not in use and not sealed well(s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
						Variance		
						Was a variance granted from the MDH for this well?	<input type="checkbox"/> Yes <input type="checkbox"/> 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 459444 Y 5003132
						Unique Number 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



Boring Location Diagram
12120 Brockton Lane Development
Dayton, Minnesota
NTI Project #: 19.MSP08911.000
NOTE: Boring locations are approximate.

Completed Soil Borings: 





NTI
NORTHERN
TECHNOLOGIES, LLC

Northern Technologies, LLC
6160 Carmen Avenue E
Inver Grove Heights, Minnesota 55076
P: 651-389-4191

BORING NUMBER SB-1

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development

PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota

DATE STARTED 8/22/19 **COMPLETED** 8/22/19 **GROUND ELEVATION** 946 feet **HOLE SIZE** 6 1/2 in.

DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**

DRILLING METHOD 3 1/4 in H.S.A **AT TIME OF DRILLING** --- No Groundwater observed

LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---

CAVE IN (ft) --- **FROST DEPTH (ft)** --- **AFTER DRILLING** ---

NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 8/28/19 17:40 - X11-PROJECTS2019 PROJECTS12120 BROCKTON LANE DEVELOPMENT.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
0.5		TOPSOIL (6.5 Inches)	945.5									
1.5		SANDY LEAN CLAY, (CL) brown, moist, trace gravel (Undocumented Fill)	944.5	SS 1	78	1-2-3 (5)						
		SANDY LEAN CLAY, (CL) brown to dark brown, moist, trace gravel, trace organics (Undocumented Fill)	942.0	SS 2	78	1-1-2 (3)		31				
5		NOTE: Organic content in Sample No. 2 = 1.5% SANDY LEAN CLAY, (CL) light brown to brown, moist, medium to rather stiff, trace gravel (Glacial Till)		SS 3	100	2-3-4 (7)		23				53
				SS 4	89	4-2-4 (6)	1.3					
10				SS 5	100	2-3-5 (8)						
				SS 6	100	2-5-6 (11)	1.5					
15		SANDY LEAN CLAY, (CL) brown to dark brown, moist, rather stiff, trace gravel (Glacial Till)	932.0	SS 7	100	3-4-5 (9)						
20				SS 8	83	4-6-9 (15)						
20.5			925.5									

Bottom of borehole at 20.5 feet.



NTI
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Northern Technologies, LLC
6160 Carmen Avenue E
Inver Grove Heights, Minnesota 55076
P: 651-389-4191

BORING NUMBER SB-2

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development

PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota

DATE STARTED 8/22/19 **COMPLETED** 8/22/19 **GROUND ELEVATION** 920.5 feet **HOLE SIZE** 6 1/2 in.

DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**

DRILLING METHOD 3 1/4 in H.S.A **AT TIME OF DRILLING** 20.50 ft / Elev 900.00 ft

LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---

CAVE IN (ft) --- **FROST DEPTH (ft)** --- **8hrs AFTER DRILLING** 19.50 ft / Elev 901.00 ft

NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 8/28/19 17:40 - X11-PROJECTS2019 PROJECTS12120 BROCKTON LANE DEVELOPMENT.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
		SANDY LEAN CLAY, (CL) dark brown to brown, moist, trace gravel, some organics, occasional roots (Undocumented Fill)	SS 1	44	0-1-2 (3)							
			SS 2	28	1-1-1 (2)							
4.0		916.5										
5		CLAYEY SAND, (SC) gray brown, fine to coarse grained, moist, trace gravel, trace organics (Undocumented Fill)	SS 3	78	1-3-4 (7)			20				
6.5		914.0 NOTE: Organic content in Sample No. 3 = 1.0%										
		CLAYEY SAND, (SC) gray to brown, fine to coarse grained, moist, medium dense to loose, trace gravel (Glacial Till)	SS 4	100	3-4-7 (11)	1.8						
10			SS 5	100	3-3-5 (8)							
11.5		909.0										
		SANDY LEAN CLAY, (CL) dark brown to brown, moist, rather stiff, trace gravel (Glacial Till)	SS 6	100	3-4-6 (10)							
15			SS 7	100	2-4-6 (10)	1.5		19				
15.0		905.5										
		SANDY LEAN CLAY, (CL) dark gray, moist, rather stiff to medium, trace gravel (Glacial Till)										
20			SS 8	100	2-3-5 (8)							
20.5		900.0										

Bottom of borehole at 20.5 feet.



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BORING NUMBER SB-3

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development

PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota

DATE STARTED 8/22/19 **COMPLETED** 8/22/19 **GROUND ELEVATION** 950.5 feet **HOLE SIZE** 6 1/2 in.

DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**

DRILLING METHOD 3 1/4 in H.S.A **AT TIME OF DRILLING** --- No Groundwater observed

LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---

CAVE IN (ft) --- **FROST DEPTH (ft)** --- **AFTER DRILLING** ---

NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL (24.0 Inches)	SS 1	56	0-0-1 (1)							
2.0		948.5	SS 2	89	0-1-2 (3)							
4.0		946.5										
5		SANDY LEAN CLAY, (CL) light brown to gray, moist, soft to medium, trace gravel (Glacial Till)	SS 3	100	1-2-2 (4)	0.5		23				
			SS 4	100	2-2-3 (5)							
10			SS 5	100	1-2-4 (6)	1.5						
11.5		939.0										
13.0		937.5	SS 6	100	2-3-4 (7)							
			SS 7	100	2-4-5 (9)							
15												
20			SS 8	100	2-4-6 (10)							
20.5		930.0										

Bottom of borehole at 20.5 feet.



NTI
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Northern Technologies, LLC
6160 Carmen Avenue E
Inver Grove Heights, Minnesota 55076
P: 651-389-4191

BORING NUMBER SB-5

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development

PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota

DATE STARTED 8/22/19 **COMPLETED** 8/22/19 **GROUND ELEVATION** 927.5 feet **HOLE SIZE** 6 1/2 in.

DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**

DRILLING METHOD 3 1/4 in H.S.A **▽ AT TIME OF DRILLING** 20.40 ft / Elev 907.10 ft

LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---

CAVE IN (ft) --- **FROST DEPTH (ft)** --- **AFTER DRILLING** ---

NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 8/28/19 17:40 - X:\1-PROJECTS\2019 PROJECTS\12120 BROCKTON LANE DEVELOPMENT.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
		0.6 TOPSOIL (7.0 Inches) 926.9	SS 1	67	1-1-1 (2)							
		SANDY LEAN CLAY, (CL) dark brown, fine to coarse grained, moist, trace gravel, some organics, occasional roots	SS 2	56	1-1-2 (3)							
		(Undocumented Fill) 923.5										
5		SILTY SAND, (SM) dark brown to dark brown, fine to medium grained, saturated, loose, trace gravel (Glacial Till)	SS 3	89	2-2-3 (5)			30				
			SS 4	89	1-2-4 (6)			34				49
10		9.0 SILTY SAND, (SM) dark gray, fine to medium grained, moist, loose, occasional clay seams (Glacial Till) 918.5	SS 5	100	3-4-4 (8)							
		11.5 SANDY LEAN CLAY, (CL) dark gray, moist to wet, soft to rather stiff, trace gravel (Glacial Till) 916.0	SS 6	100	1-2-2 (4)	1.3						
15			SS 7	100	2-3-6 (9)							
20			SS 8	100	1-2-3 (5)	1.0						
		20.5 ▽ 907.0										

Bottom of borehole at 20.5 feet.



NTI
NORTHERN
TECHNOLOGIES, LLC

Northern Technologies, LLC
6160 Carmen Avenue E
Inver Grove Heights, Minnesota 55076
P: 651-389-4191

BORING NUMBER SB-6

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development
PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota
DATE STARTED 8/20/19 **COMPLETED** 8/20/19 **GROUND ELEVATION** 939 feet **HOLE SIZE** 6 1/2 in.
DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**
DRILLING METHOD 3 1/4 in H.S.A **AT TIME OF DRILLING** --- No Groundwater observed
LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---
CAVE IN (ft) --- **FROST DEPTH (ft)** --- **AFTER DRILLING** ---
NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
1.5		SANDY LEAN CLAY, (CL) dark brown to black, moist, trace gravel, some organics, occasional roots and wood pieces (Undocumented Fill)	SS 1	78	0-1-1 (2)							
4.0		CLAYEY SAND, (SC) dark brown, fine to coarse grained, moist, trace gravel, some organics, occasional roots and wood pieces (Undocumented Fill)	SS 2	17	6-4-3 (7)							
6.5		CLAYEY SAND, (SC) light brown, fine to coarse grained, moist, trace gravel (Undocumented Fill)	SS 3	100	5-5-7 (12)							
9.5		SILTY SAND, (SM) dark brown, fine to coarse grained, moist, trace gravel, some organics, occasional roots (Undocumented Fill)	SS 4	100	5-5-7 (12)							
10		CLAYEY SAND, (SC) light brown, fine to medium grained, moist, medium dense, trace gravel (Glacial Till)	SS 5	100	7-6-6 (12)			19				
15			SS 6	100	6-7-9 (16)	2.3						
20			SS 7	100	5-7-8 (15)							
20.5			SS 8	100	4-5-7 (12)	1.5		20				

Bottom of borehole at 20.5 feet.



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BORING NUMBER SB-7

PAGE 1 OF 1

CLIENT Landspec Fund 3 LLC **PROJECT NAME** 12120 Brockton Lane Development

PROJECT NUMBER 19.MSP08911.000 **PROJECT LOCATION** Dayton, Minnesota

DATE STARTED 8/22/19 **COMPLETED** 8/22/19 **GROUND ELEVATION** 925 feet **HOLE SIZE** 6 1/2 in.

DRILLING CONTRACTOR NTI **GROUND WATER LEVELS:**

DRILLING METHOD 3 1/4 in H.S.A **AT TIME OF DRILLING** 19.50 ft / Elev 905.50 ft

LOGGED BY Richard Jett **CHECKED BY** Ryan Benson **AT END OF DRILLING** ---

CAVE IN (ft) --- **FROST DEPTH (ft)** --- **8hrs AFTER DRILLING** 19.00 ft / Elev 906.00 ft

NOTES Elevation determined using Trimble GeoXH 6000 (NAVD 88 GeoID 09 datum.)

NTI LOG - GENERAL (USE THIS ONE) - NTI-2017-09-14.GDT - 8/28/19 17:40 - X11-PROJECTS\2019 PROJECTS\12120 BROCKTON LANE DEVELOPMENT.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0												
		SANDY LEAN CLAY, (CL) dark brown, fine to coarse grained, moist, trace gravel, some organics, occasional roots and wood pieces (Undocumented Fill)	SS 1	89	0-0-1 (1)							
			SS 2	89	3-5-6 (11)							
4.0		921.0										
5		CLAYEY SAND, (SC) light brown, fine to coarse grained, moist, trace gravel (Undocumented Fill)	SS 3	100	3-4-5 (9)			23				48
6.5		918.5										
		SANDY LEAN CLAY, (CL) dark brown, moist, trace gravel, some organics (Undocumented Fill)	SS 4	100	2-3-4 (7)							
9.0		916.0										
10		CLAYEY SAND, (SC) light brown, fine to coarse grained, moist, loose to medium dense, trace gravel (Glacial Till)	SS 5	100	2-3-4 (7)	1.3						
			SS 6	100	3-7-8 (15)			22				
15			SS 7	100	3-7-8 (15)	3.3						
19.0		906.0										
20		POORLY GRADED SAND WITH SILT, (SP-SM) brown, fine to coarse grained, moist to saturated, medium dense, trace gravel (Glacial Outwash)	SS 8	100	3-5-5 (10)							
20.5		904.5										

Bottom of borehole at 20.5 feet.

Appendix D

Phase I and Phase II

Environmental Site Assessment Summaries

Dayton Park Industrial Center EAW

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Phase I Environmental Site Assessment



Dayton Park Properties

19000 and 19010 County
Road 81
Dayton, Minnesota
55369

Prepared for:

Messerli & Kramer, P.A.

1400 Fifth Street Towers
100 South Fifth Street
Minneapolis, Minnesota
55402



Prepared by:

WENCK Associates, Inc.
1800 Pioneer Creek Center
Maple Plain, MN 55359
Phone: 763-479-4200

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FIGURES

- 1 Site Location Map
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APPENDICES

- A User Questionnaire
- B GeoSearch Radius Report
- C County/City Information
- D Aerial Photographs
- E City Directories
- F Historical Maps
- G Fire Insurance Map Research Document
- H Subject Property Photographs
- I Research Summary

1.0 Summary

Wenck Associates, Inc. (Wenck) was authorized by Mr. Jonathan Septer of Messerli & Kramer, P. A. to conduct this Phase I Environmental Site Assessment (ESA) of the property and improvements located at 19000 and 19010 County Road 81 and additional unimproved parcels without assigned addresses in Dayton, Hennepin County, Minnesota (the Subject Property). The Subject Property consists of 71.78 acres of agricultural and wooded land with a stormwater retention pond and 6.71 acres occupied by an approximately 5,180-square-foot commercial building, fuel pump island, storm shelter, playground with a paved parking lot and landscaped areas. Access to the Subject Property is from County Road 81, County Road 101 and West French Lake Road. The Subject Property location is depicted in **Figure 1**. A Site Detail Map of the Subject Property is included as **Figure 2**.

This ESA was conducted in accordance with the American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment Process, Designation E-1527-13 (ASTM Phase I Standard) and satisfies standards and practices set forth in 40 CFR Part 312 – Standards for Conducting All Appropriate Inquiry (AAI Rule) for the purposes of meeting the all appropriate inquiries provisions necessary to qualify for certain landowner liability protections under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601(35)(B).

The conclusions contained in this report have been made to assist Messerli & Kramer, P.A. in evaluating environmental conditions at the present time at the Subject Property.

This ESA has identified the following *recognized environmental conditions* (RECs) relative to the Subject Property:

- ▲ The former use of the southern parcel of the Subject Property as a fueling station from at least 1987, with tanks currently listed as “active,” is considered a REC for the Subject Property because there is the potential of a release of petroleum products associated with the tanks and fueling operations.
- ▲ The fill material located on the eastern portion of the southern parcel is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the fill material.
- ▲ The dump identified on the Subject Property associated with the adjacent mobile home park is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the dump.
- ▲ The former gas station located at 19080 County Road 81 is considered a REC for the Subject Property due to the identified groundwater impacts associated with a gasoline release, adjacent location to the Subject Property and fluctuating localized groundwater flow direction.

This ESA has identified no evidence of *controlled recognized environmental conditions* (CRECs) or *historical recognized environmental conditions* (HRECs) in connection with the Subject Property.

5.0 Records Review

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

Wenck requested and reviewed a search of files from federal and state databases from GeoSearch for the Subject Property (the GeoSearch Radius Report). Files were searched from Federal and State environmental records databases within minimum search distances as specified in the ASTM Phase I Standard, and the GeoSearch Radius Report included a more extensive database list than those minimally identified as required by the ASTM Phase I Standard. A summary of the sites identified in the GeoSearch Radius Report are discussed below, along with information regarding the significance of the listing for the Subject Property. The GeoSearch Radius Report, which contains more information regarding database descriptions and search distances, is included in **Appendix B**.

5.1.1 Subject Property

The Subject Property **was** identified on the following reviewed regulatory databases in the GeoSearch Radius Report for Dayton Park Dump, Daytona Market Inc. and Kjellbergs Dayton Mobile Home Park Stabilization Pond:

- ▲ MPCA Remediation Sites (REMSITES) database – 2 listings
- ▲ State Assessment Section (SAS) database – 2 listings
- ▲ Registered Storage Tanks (UAST) database
- ▲ Facility Registry System (FRSMN) database – 2 listings
- ▲ What's In My Neighborhood (WIMN) database – 2 listings

One REMSITES and one SAS listing identifies the Dayton Park Dump, an unpermitted dump site, on the Subject Property. The database identifies the location as "North of Highway 52, southwest of French Lake Road – approximately 18,000 block north of Highway 52, southwest of French Lake Road (¼ mile)." Due to the unclear location description, the MPCA file #SA7676 was reviewed. The file indicated that through interview information, prior to 1979, the mobile home park owner used the wooded area east of the park as an open-pit dump. MPCA staff observed the site in 1998 for signs of a dump. The exact location could not be determined, however an area of cleared vegetation was noted as a potential location. No further investigation was conducted at that time. Based on the potential threat of release of petroleum products or potentially hazardous substances to soil and groundwater associated with the former dump, this listing is considered a REC for the Subject Property.

The remaining REMSITES and SAS listings are associated with the Kjellbergs Dayton Mobile Home Park Stabilization Pond. The MPCA file #SA7675 was requested, however interview information with MPCA staff indicates that there is no file associated with these listings. However, this listing is associated with the WDP listing discussed in Section 5.1.2. Due to the inactive status of the stabilization ponds, these listings are not considered to represent a REC for the Subject Property.

The Daytona Market Inc. is identified in the UAST database for one active 6,000-gallon ethanol blend tank, one active 8,000-gallon gasoline tank and one 4,000-gallon diesel tank. UAST sites are not necessarily indicative of a release or a material threat of release of petroleum products or potentially hazardous substances to soil, groundwater or soil vapor conditions at the Subject Property. While there are no reported releases associated with the

tanks, the prolonged use of the Subject Property as a gas station from at least 1987 with tanks remaining on site (though the facility is currently closed), poses a threat of release of petroleum products to soil and groundwater at the Subject Property, and, therefore, is considered a REC for the Subject Property.

A listing in the FRSMN and WIMN databases are not indicative of a release or a material threat of release of petroleum products or potentially hazardous substances at the facility. Rather, these databases are pointers to other databases that may speak to environmental licenses or records or, in certain cases, releases. In general, these databases are compendia of other record sources.

Wenck reviewed the following State files to determine the potential significance of these database listings for the Subject Property:

- ▲ MPCA #SA7676 for Dayton Park Dump

5.1.2 Surrounding Properties

Additional mapped sites of regulatory interest identified within the search radii defined by the ASTM Phase I Standard, as identified in the GeoSearch Radius Report, include the following:

Number of Sites	Regulatory Database	Comments
4	Resource Conservation and Recovery Act - Generator Facilities (RCRAGR05) sites	<p>RCRAGR05 database refers to facilities currently generating hazardous waste.</p> <p>Heating and Cooling Two, Inc., adjacent east of the southern Subject Property parcel, is listed as a conditionally exempt small quantity generator with an unreported waste stream. Due to the lack of violations and listings in other databases, this listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, is not considered to represent a REC for the Subject Property.</p> <p>E&A Products, located approximately 0.07 miles west of the southern Subject Property parcel, is listed as a conditionally exempt small quantity generator of ignitable waste and spent non-halogenated solvents. Due to the lack of violations, this listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, is not considered to represent a REC for the Subject Property.</p> <p>Atlas Foundation Company, adjacent south of the southern Subject Property parcel, is listed as a conditionally exempt small quantity generator of ignitable waste. Due to the lack of violations, this listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject</p>

Number of Sites	Regulatory Database	Comments
		<p>Property, and therefore, is not considered to represent a REC for the Subject Property.</p> <p>Based on the location and lack of violations, the remaining listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, is not considered to represent a REC for the Subject Property.</p>
3	Resource Conservation and Recovery Act – Non-Generator Facilities (RCRANGR05) sites	<p>RCRANGR05 listings are sites listed by the EPA as non-generators of hazardous waste. Non-generators do not presently generate hazardous waste.</p> <p>Superior Iron Inc., adjacent west-southwest of the Subject Property, is listed as a former generator of corrosive waste. Due to the lack of violations, this listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, is not considered to represent a REC for the Subject Property.</p> <p>Based on the location from the Subject Property and lack of violations, the remaining three listings are not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, are not considered to represent RECs for the Subject Property.</p>
1	Superfund Enterprise Management System Archived Site Inventory (SEMSARCH) site	<p>The SEMSARCH database has replaced the CERCLIS reporting system in 2015. This database reflects sites that have been assessed and no further remediation is planned and is of no further interest under the Superfund program.</p> <p>Rocket Products, located approximately 0.23 miles west of the Subject Property, is listed as an inactive SEMSARCH site. Due to the regulatory status and downgradient location with respect to the shallow groundwater flow direction, this listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and therefore, is not considered to represent a REC for the Subject Property.</p>
1	Enforcement Compliance and History Information (ECHOR05) site	<p>The ECHOR05 database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, and Safe Drinking Water Act public water systems. A listing in the ECHOR05 database, by itself, is not indicative of a release or a material threat of</p>

Number of Sites	Regulatory Database	Comments
		release of petroleum products or potentially hazardous substances at the facility.
2	Facility Registry System (FRSMN) sites	The FRSMN database includes pointers to other databases and facilities that were entered into the Minnesota Delta Program. A listing in the FRSMN database, by itself, is not indicative of a release or a material threat of release of petroleum products or potentially hazardous substances at the facility.
1	Integrated Compliance Information System (ICIS) site	The ICIS database (formerly DOCKETS) tracks civil, judicial and administrative federal Environmental Protection Agency enforcement cases. Dayton Mobile Home Park, adjacent west of the Subject Property, is listed in association with the WDP database discussed below.
1	Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES) site	The ICISNPDES identifies permits for point source dischargers of pollutants into waterways regulated by the EPA. Dayton Mobile Home Park, adjacent west of the Subject Property, is listed in association with the WDP database discussed below.
1	National Pollutant Discharge Elimination System (NPDESRO5) site	The NPDESRO5 database maintain a listed of permitted facilities for point source pollutant discharge. Dayton Mobile Home Park, adjacent west of the Subject Property, is listed in association with the WDP database discussed below.
1	Permit Compliance System (PCSR05) site	The PCSR05 database tracks enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES). Dayton Mobile Home Park, adjacent west of the Subject Property, is listed in association with the WDP database discussed below.
1	Water Discharge Permits (WDP) site	The WDP database includes facilities with the following types of water permits: construction stormwater permits, construction stormwater site subdivisions, industrial stormwater permits, MS4 projects, and wastewater dischargers. Dayton Mobile Home Park, adjacent west of the Subject Property, is listed for an inactive construction stormwater permit and an inactive wastewater permit. Interview information indicates

Number of Sites	Regulatory Database	Comments
		that wastewater at the Mobile Home Park formerly was treated on site prior to discharge to wastewater ponds that were located in the northeast corner of the Subject Property. The wastewater system was decommissioned in 2011 when the site connected to the municipal sanitary sewer system. Two violations are identified with the wastewater permit (MPCA #MN0041432). The MPCA file was reviewed and the violations are associated with administrative violations. The file also identified the wastewater system was abandoned on December 31, 2014. That process included decommissioning the wastewater ponds located on the Subject Property, which required removal of all biosolids and brought to Waste Management in Elk River for disposal, discharge of remaining wastewater to adjacent irrigation fields and continual sampling through 2019. Based on the type of violations and inactive status of the wastewater system, this listing is not considered to represent a REC for the Subject Property.
8	Registered Storage Tank (UAST) sites	<p>The UAST database provides information on aboveground and underground storage tanks registered with the Minnesota Pollution Control Agency.</p> <p>Waconia Farm Supply and Hennepin Coop located at 11810 Brockton Lane North, adjacent south of the Subject Property, are listed for twelve removed tanks that formerly contained gasoline, diesel fuel or fuel oil. This site is associated with a LUAST listing discussed below.</p> <p>Atlas Foundation Co. located at 11730 Brockton Lane North, adjacent south of the Subject Property, is listed for two removed diesel fuel tanks, eight active diesel fuel tanks and one closed-in-place used oil tank. This site is associated with a LUAST listing discussed below.</p> <p>The remaining six UAST sites are not necessarily indicative of a release or a material threat of release of petroleum products or potentially hazardous substances to soil, groundwater or soil vapor conditions at the Subject Property.</p>
2	Petroleum Brownfields Program (PBF) sites	The PBF database lists Petroleum Brownfield Program sites where regulatory assistance has been requested by a voluntary party requiring expedited review. One PBF site identified is associated with a below-referenced VICP site.

Number of Sites	Regulatory Database	Comments
		Based on the regulatory closure status and lack of remedial action, the remaining listing is not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and, therefore, is not considered to represent a REC for the Subject Property.
5	Registered Leaking Storage Tank (LUAST) sites	<p>The LUAST database is maintained by the Minnesota Pollution Control Agency and contains listings of leaking aboveground and underground storage tanks.</p> <p>Former Gas Station located at 19080 County Road 81, adjacent west of the southern Subject Property parcel, is listed for a gasoline release discovered on August 11, 1998. The MPCA file #LS11735 was reviewed to determine the extent of release. Soil and groundwater at the site were impacted with benzene, toluene, ethylbenzene and xylene (BTEX), gasoline range organics (GRO) and lead, associated with the use of leaded petroleum from approximately 1965 to 1980. Due to slow recharge and insufficient amount of groundwater collected in the Geoprobe sampling in 2001, localized groundwater flow direction could not be calculated at that time. However, various groundwater monitoring events identified a fluctuation in groundwater flow to be to the southwest, then northwest and west. While the petroleum-based groundwater plume was delineated to the eastern border of the site, adjacent to the Subject Property, and the leak received regulatory closure on February 25, 2002, the fluctuation in the groundwater flow indicates that impacts could have migrated to the Subject Property. Therefore, this listing is considered to represent a REC for the Subject Property.</p> <p>Waconia Farm Supply and Hennepin Coop located at 11810 Brockton Lane North, adjacent south of the Subject Property, is listed for a gasoline release discovered on December 14, 1998. The MPCA file #LS12314 was reviewed to determine the extent of release. A Remedial Investigation Report dated April 1999 identified the source of release as overfilling of four USTs. The USTs and approximately 213 cubic-yards of impacted soil was excavate and removed off-site. Perched groundwater was encountered in two Geoprobe borings and one sample detected BTEX, lead and GRO. However, the private well was tested and no</p>

Number of Sites	Regulatory Database	Comments
		<p>impacts were discovered. Due to the impacts confined to the former UST basin and regulatory closure granted on April 30, 1999, this listing is not considered to represent a REC for the Subject Property.</p> <p>Atlas Foundation, adjacent south of the Subject Property, is listed for a diesel fuel release discovered on August 11, 1997. The MPCA file #LS10849 was reviewed to determine the extent of release. An Excavation Report dated July 28, 1997 identified petroleum impacted soils around two removed diesel tanks associated with overfilling. Groundwater was not impacted. Due to incomplete filing of paperwork the site did not receive regulatory closure until August 10, 2001. Due to the extent of release and regulatory status, this listing is not considered to represent a REC for the Subject Property.</p> <p>Based on the location and regulatory status, the remaining two listings are not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and, therefore, are not considered to represent RECs the Subject Property.</p>
5	Registered Leaking Storage Tanks Prior to April 2016 (LUAST2016) sites	The LUAST2016 database is maintained by the Minnesota Pollution Control Agency and contains listings of leaking aboveground and underground storage tanks through April of 2016. The listings in the LUAST2016 database are associated with the LUAST listings discussed above.
8	Site Response Section (SRS)/ Voluntary Investigation and Cleanup Program (VICP) sites	<p>The SRS database includes remediation sites from the Superfund, Voluntary Investigation and Cleanup, Brownfields, Resource Conservation and Recovery Act, Tanks, Landfills and Emergency Response Program. The VICP database is managed by the MPCA and provides listings of sites that participated in the cleanup program.</p> <p>Proco Wood Products, located approximately 0.07 miles west of the southern Subject Property parcel, is listed for groundwater impacts. The site was enrolled in the VIC program on October 12, 2005 following completion of a Phase I ESA and Phase II ESA. A No Further Action Letter was issued on March 7, 2006. Based on the regulatory closure status and presumed downgradient location with respect to the shallow groundwater flow direction, this listing is not considered to represent a REC for the Subject Property.</p>

Number of Sites	Regulatory Database	Comments
		<p>19220 Linden Drive, located approximately 0.14 miles southwest of the Subject Property, is listed for 1,1,2-trichloroethane detected at 19 micrograms per kilogram ($\mu\text{g}/\text{kg}$), which is above the MPCA soil leaching value (SLV). The site entered the VIC program on June 15, 2006 and received regulatory closure on August 15, 2006. Based on the regulatory closure status and downgradient location with respect to the shallow groundwater flow direction, this listing is not considered to represent a REC for the Subject Property.</p> <p>Based on the location and regulatory status, the remaining four listings are not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and, therefore, are not considered to represent RECs the Subject Property.</p>
8	MPCA Remediation (REMSITES) sites	<p>The REMSITES database lists environmental sites that include Brownfield, Integrated Remediation, Leaking Storage Tank, RCRA Remediation, Superfund, Superfund sub-area, and Site Assessment Sites.</p> <p>The REMSITES listings are associated with sites discussed in other database or based on the location and regulatory closure status, these listings are not considered a threat to soil, groundwater or soil vapor conditions at the Subject Property, and, therefore, are not considered to represent RECs for the Subject Property.</p>
1	Bulk Storage Permits (BULKSTORAGE) site	<p>The BULKSTORAGE database lists individuals or companies who hold licenses, certificates or permits related to anhydrous ammonia storage facilities.</p> <p>Hennepin Coop, adjacent south of the Subject Property, is listed for an anhydrous ammonia storage facility permit dated from October 24, 1973 to November 15, 2006. The facility is no longer in operation. This listing is associated with AGSPILLS listings discussed below.</p>
5	Agricultural Spills Listing (AGSPILLS) sites	<p>The AGSPILLS database is maintained by the Minnesota Department of Agriculture and contains sites with reported spill incidents.</p> <p>Hennepin Coop, adjacent south of the Subject Property, is listed for four AGSPILLS listings. Case files #96-1559, #CF-5341, #GSE101054059 and #95-0492 are associated with vapor releases of</p>

Number of Sites	Regulatory Database	Comments
		anhydrous ammonia due to valve malfunctions. Case file #FY88I024 is associated with a leak of weed killer onto gravel. Based on the type of releases and regulatory closure status, these listings are not considered to represent RECs for the Subject Property.
1	Concentrated Animal Feeding Operations (CAFO) site	The CAFO database lists feeding facilities with a capacity of 1,000 or more animal units. Jim and Kris Steller, located approximately 0.22 miles east of the Subject Property is listed a CAFO site. CAFO sites are not necessarily indicative of a release or a material threat of release of petroleum products or potentially hazardous substances to soil, groundwater or soil vapor conditions at the Subject Property.
48	What's In My Neighborhood (WIMN) sites	The WIMN database provides a variety of environmental information about the search area. A listing in the WIMN database, by itself, is not indicative of a release or a material threat of release of petroleum products or potentially hazardous substances at the facility.

No unmapped sites were identified in the GeoSearch Radius Report. Unmapped sites are those where address information is insufficient to allow the sites to be accurately mapped by GeoSearch.

Wenck reviewed the following State files to determine the potential significance of these database listings relative to the Subject Property:

- ▲ MPCA #LS11735 for Former Gas Station
- ▲ MPCA #LS12314 for Waconia Seed Supply and Hennepin Coop
- ▲ MPCA #LS10849 for Atlas Foundation
- ▲ MPCA #VP22080 for 19220 Linden Drive
- ▲ MPCA #MN0041432 for Dayton Mobile Park Home

5.2 ADDITIONAL RECORD SOURCES

Additional record sources may be consulted when, in the judgment of the Environmental Professional, such additional records are reasonably ascertainable, sufficiently useful, accurate and complete, and are generally obtained pursuant to good commercial and customary practice. Such records may include local brownfield lists, or other local lists similar to those federal, state and tribal lists. Such sources may include local health or environmental departments, fire departments, planning departments, building permit or inspection departments, and other local pollution, water quality or utility companies.

6.0 Subject Property

6.1 SUBJECT PROPERTY OBSERVATIONS

Ms. Alison Creeger of Wenck conducted a site reconnaissance on May 23, 2019. Ms. Creeger was accompanied during the site reconnaissance by the Subject Property Representative, Mr. Gary Wrobel, Maintenance Manager at Dayton Park Properties. Wenck staff visually observed the Subject Property to identify current land use, obtain evidence of past uses, and to identify surface characteristics of the Subject Property for the presence of RECs, CRECs or HRECs. Subject Property photographs are included in **Appendix I**.

The site reconnaissance consisted of visually observing the interior and exterior portions of the Subject Property. Wenck staff observed (from the Subject Property boundaries) the adjoining properties for evidence of RECs, CRECs or HRECs, and for indications of past and current land use.

As noted in Section 3.1, the Subject Property consists of three discontinuous parcels. The southern, disconnected parcel is improved with a commercial building, detached fueling pump island, storm shelter, playground, stormwater retention pond, paved parking and a landscaped area (photographs 1 through 4). The building has three tenant spaces. The first space is occupied by Dayton Park Properties management office and consists of a post office area, office space, a kitchenette and storage (photograph 5). The second unit is occupied by Mobile Hope, an open floor-plan tutor center (photograph 6). The remaining tenant space is vacant but was formerly Daytona Market convenience store (photograph 7). The gas station associated with Daytona Market is not in operation. The southern parcel is also semi-permanently occupied by the food truck Rib Cage (photograph 8).

The two connected northern parcels are separated by the Dayton Mobile Home Park. The parcels consist of mixed agricultural and unimproved wooded land (photographs 9 through 11). A stream is located through the south-central portion of the parcels and leads east to a stormwater retention pond on the Subject Property (photographs 12 and 13). An unpaved road leading from the Dayton Mobile Home Park is located on the central portion of the Subject Property leading to a dump on the Subject Property (photograph 14). The dump is discussed in more detail in Section 6.1.4.

The building is heated by natural gas furnaces and cooled by individual air conditioning units.

6.1.1 Materials Management

Materials managed at the Subject Property include office materials, school supplies and a propane tank and food supplies for Rib Cage (photograph 15).

6.1.2 Solid and Hazardous Waste Management

Vendor-maintained dumpsters were noted on the southern parcel manage solid waste prior to regular collection.

No evidence of hazardous waste generation was noted during the site reconnaissance or documented in the GeoSearch Radius Map Report.

6.1.3 Aboveground and Underground Storage Tanks (ASTs/USTs)

Wenck observed evidence of or the database report documents the following ASTs and USTs at the Subject Property:

Tank No.	Size	Contents	Status
1	6,000-gallon UST	Ethanol blend	Active – installed November 20, 1986
2	8,000-gallon UST	Gasoline	Active – installed November 20, 1986
3	4,000-gallon UST	Diesel	Active – installed November 20, 1986
4	Unknown AST	LP Propane	Active

It should be noted that the propane tank (photograph 16) was observed for refill of five-gallon propane tanks. Due to the contents, this tank is unregulated by the MPCA.

6.1.4 Interior and Exterior Surface Observations

Wenck observed no evidence of soil subsidence, surface staining, pooled liquids or stressed vegetation on the Subject Property.

Fill piles were noted on the eastern portion of the southern parcel (photograph 17) as well as in the dump area on the central portion of the northern parcels (photograph 18). The dump area mainly consists of organics, including leaf litter and tree branches (photograph 19). However, there are also piles of concrete and asphalt rubble (photograph 20) as well as one area of approximately 75 full plastic garbage bags (photograph 21). It was evident that most bags were filled with leaf litter, however the contents of every bag could not be determined. Various items of debris and asphalt were noted throughout this area (photograph 22).

Fill piles were also noted at the location of the former wastewater ponds discussed in Section 6.1.7.

6.1.5 Pits, Sumps, Oil-Water Separators and Floor Drains

Wenck did not observe the presence of any pits, sumps or oil-water separators at the time of the site reconnaissance. Floor drains were observed in the restrooms on the Subject Property and are reportedly connected to the municipal sewer system.

6.1.6 Wastewater and Stormwater Discharge Systems

The Subject Property is served by the municipal sanitary sewer system. Stormwater on the southern parcel drains to the south toward the municipal stormwater sewer system associated with County Road 81. Site surface drainage on the northern parcels is toward an onsite stormwater retention pond.

8.0 Evaluation

8.1 DATA GAPS

Historical information was reviewed back to 1909. Data gaps greater than five years exist from prior to 1909, from 1909 to 1937, from 1940 to 1947, from 1947 to 1956, from 1960 to 1966 and from 1978 to 1984.

The interviews, historical maps, city directories and aerial photographs provide generally good corroborating information that allows an understanding of historical Subject Property use. A research summary is included as **Appendix J**.

Wenck considers the evaluation of the presence of RECs, CRECs and HRECs to be complete, based on the lack of identified changes in land use during the periods affected by any data gaps of more than five years. Therefore, we do not recommend additional investigation relative to the resolution of those data gaps, as we do not believe it would materially affect our conclusion.

8.2 IDENTIFIED FINDINGS

Wenck was authorized by Messerli & Kramer, P.A. to conduct this Phase I ESA of the property and improvements located at 19000 and 19010 County Road 81 and additional unimproved parcels without assigned addresses in Dayton, Hennepin County, Minnesota; the Subject Property. The Subject Property consists of 71.78 acres of agricultural and wooded land with a stormwater retention pond and 6.71 acres occupied by an approximately 5,180-square-foot commercial building, fuel pump island, storm shelter, playground with a paved parking lot and landscaped areas.

The building on the Subject Property is occupied by Dayton Park Properties management office and Mobile Hope tutoring center. A third tenant space, formerly occupied by a convenience store and filling station, was vacant at the time of the site reconnaissance. A semi-permanent food truck, the Rib Cage, is also located on the southern parcel. Prior to this time, the Subject Property was undeveloped wooded land or in agricultural use from at least 1901 to 1960, when the currently existing commercial building was constructed on the southern parcel of the Subject Property. Wastewater treatment ponds were located on the northeast corner of the Subject Property from at least 1974 to 2011 when the Subject Property was connected to municipal water and sewer. Past occupants of the Subject Property include Daytona Market gas station, Daytona Video & Bait and Express Lane.

During the site reconnaissance, an unpaved road leading from the mobile home park to a wooded area on central portion of the northern parcels was identified. The road leads to a dump area consisting of organics, including leaf litter and tree branches, piles of concrete and asphalt rubble and one area of approximately 75 full plastic garbage bags. It was evident that most bags were filled with leaf litter, however the contents of every bag could not be determined. Various items of debris and asphalt were noted throughout this area.

Also identified during the site reconnaissance and through interview information, fill piles were noted on the southern parcel. County Road 81 was reconstructed approximately one to two years prior. The removed base fill was stored on the eastern portion of the southern

parcel in anticipation of future development at the Subject Property that would require fill material.

The Subject Property was identified in the GeoSearch Radius Report on the REMSITES, SAS, UAST, FRSMN and WIMN databases. One REMSITES and one SAS listing is associated with the Dayton Park Dump, an unpermitted dump site, on the Subject Property. The reviewed MPCA file indicated that the mobile home park owner, prior to 1979, used the wooded area east of the park as an open-pit dump. MPCA staff observed the site in 1998 for signs of a dump. The exact location could not be determined, it was believed to be the area of cleared vegetation identified during the site reconnaissance. No further investigation was determined.

The remaining REMSITES and SAS listings are associated with the Kjellbergs Dayton Mobile Home Park Stabilization Pond. The MPCA file #SA7675 was requested, however interview information indicates that there is no file associated with these listings. However, this listing is associated with the wastewater permit #MN0041432 for the adjacent mobile home park. The wastewater system was abandoned on December 31, 2014. That process included decommissioning the wastewater ponds located on the Subject Property, which required removal of all biosolids and brought to Waste Management in Elk River for proper disposal, discharge of remaining wastewater to adjacent irrigation fields and continual sampling through 2019. There were two administrative violations associated with the wastewater permit.

The Daytona Market Inc. is identified in the UAST database for one active 6,000-gallon ethanol blend tank, one active 8,000-gallon gasoline tank and one 4,000-gallon diesel tank. While there are no reported releases associated with the tanks, the prolonged use of the Subject Property as a gas station from at least 1987 with tanks that remain active, poses a threat of release of petroleum products to soil and groundwater.

Another mapped site of interest identified in the GeoSearch Radius Report is a former gas station located at 19080 County Road 81, adjacent west of the southern parcel. The gas station was identified in the LUAST database. The MPCA file #LS11735 was reviewed to determine the extent of release. Soil and groundwater at the site were impacted with BTEX compounds, DRO and lead associated with the use of leaded petroleum from approximately 1965 to 1980. Due to slow recharge and insufficient amount of groundwater collected in the Geoprobe sampling in 2001, localized groundwater flow direction could not be calculated at that time. However, various groundwater monitoring events identified a fluctuation in groundwater flow to be to the southwest, then northwest and west. While the petroleum-based groundwater plume was delineated to the eastern boarder of the site, adjacent to the Subject Property, and the leak received regulatory closure on February 25, 2002, the fluctuation in the groundwater flow indicates that impacts could have migrated to the Subject Property.

8.3 OPINIONS

The following opinions are based on the above findings:

- ▲ The former use of the southern parcel of the Subject Property as a fueling station from at least 1987, with currently active tanks, is considered a REC for the Subject Property because there is the potential of a release of petroleum products associated with the tanks and fueling operations.
- ▲ The current use of the building on the southern parcel of the Subject Property as a management office, tutor center and food truck is not considered to represent a REC, CREC or HREC for the Subject Property because there is no indication of a release or a material threat of release of petroleum products or potentially hazardous substances at the Subject Property.
- ▲ The fill material located on the eastern portion of the southern parcel is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the fill material.
- ▲ The former use of the northern parcels on the Subject Property as wastewater treatment ponds from at least 1974 to late 2014 is not considered a REC, CREC or HREC for the Subject Property because there is no indication of a release or a material threat of release of petroleum products or potentially hazardous substances at the Subject Property during this time period.
- ▲ The current use of the northern parcels on the Subject Property as agricultural land or unimproved wooded land from at least 1909 to the present is not considered a REC, CREC or HREC for the Subject Property because there is no indication of a release or a material threat of release of petroleum products or potentially hazardous substances at the Subject Property during this time period.
- ▲ The dump identified on the Subject Property associated with the adjacent mobile home park is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the dump.
- ▲ The former gas station located at 19080 County Road 81 is considered a REC for the Subject Property due to the identified groundwater impacts associated with a gasoline release, adjacent location to the Subject Property and fluctuating localized groundwater flow direction.

8.4 CONCLUSIONS

Wenck performed a Phase I ESA in conformance with the scope and limitations of the ASTM Phase I Standard and in accordance with the AAI Rule (40 CFR Part 312) of the property and improvements of 19000 and 19100 County Road 81 and additional unassigned parcels located in Township 120 North, Range 22 West and the SW ¼ of Section 30, Dayton, Hennepin County, Minnesota. Any exceptions to, or deletions from, the ASTM Phase I Standard are described in Section 2.3 and Section 2.4 of this report.

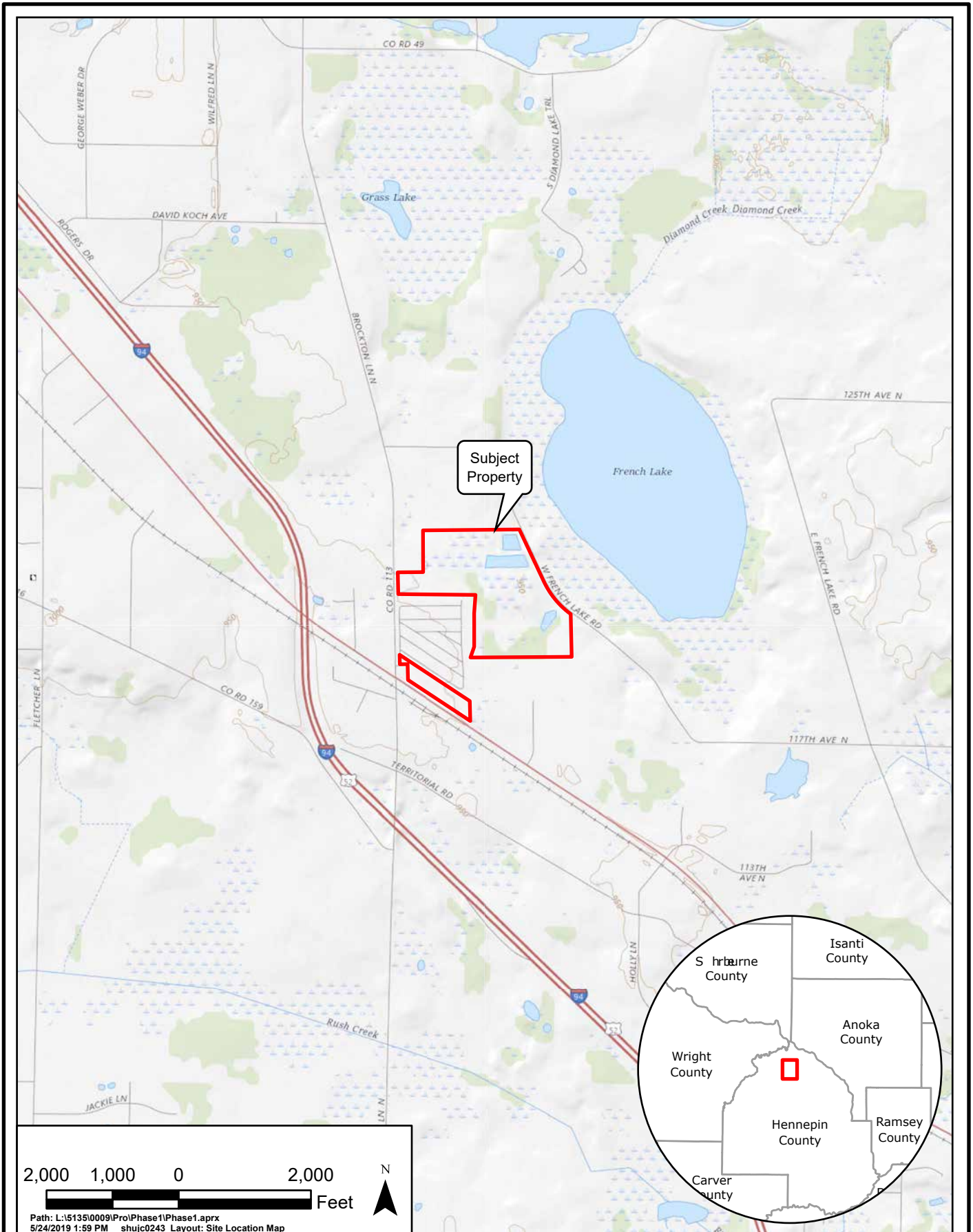
This ESA has identified the following RECs relative to the Subject Property:

- ▲ The former use of the southern parcel of the Subject Property as a fueling station from at least 1987, with tanks currently listed as “active,” is considered a REC for the

Subject Property because there is the potential of a release of petroleum products associated with the tanks and fueling operations.

- ▲ The fill material located on the eastern portion of the southern parcel is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the fill material.
- ▲ The dump identified on the Subject Property associated with the adjacent mobile home park is considered a REC for the Subject Property due to the potential of petroleum products or potentially hazardous substances associated with the dump.
- ▲ The former gas station located at 19080 County Road 81 is considered a REC for the Subject Property due to the identified groundwater impacts associated with a gasoline release, adjacent location to the Subject Property and fluctuating localized groundwater flow direction.
- ▲

This ESA has identified no evidence of CRECs or HRECs in connection with the Subject Property.



M S ER LI AND KRAMER, PA

Site Location Map



MAY 2019

Figure 1



MESSERLI AND KRAMER, PA

Site Detail Map



MAY 2019

Figure 2

Phase II Environmental Site Assessment



Dayton Park Properties
19000 and 19010 County
Road 81, Dayton,
Minnesota 55369

Prepared for:
Messerli & Kramer, P.A.

1400 Fifth Street Towers
100 South Fifth Street
Minneapolis, Minnesota
55402

Prepared by:

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DRAFT

1.0 Purpose and Scope

Wenck Associates, Inc. (Wenck) was authorized by Mr. Jonathan Septer of Messerli & Kramer, P.A. to conduct this Phase II Environmental Site Assessment (ESA) of the property located at 19000 and 19010 County Road 81 and additional unimproved parcels without assigned addresses in Dayton, Hennepin County, Minnesota (the Site).

The purpose of the Phase II ESA activities described herein was to determine if the Site had been impacted by hazardous substances, pollutants or contaminants at concentrations of potential concern. The potential for such impact was identified during completion of a recent Phase I ESA for the Site.

1.1 SCOPE OF SERVICES

The following scope of services was completed for this Phase II ESA:

- ▲ Cleared public and private utilities;
- ▲ Completed eleven (11) soil borings to assess current soil and groundwater conditions;
- ▲ Conducted seven (7) test pits to assess the extent of dumping in the wooded areas of the Site;
- ▲ Observed and collected soil samples recovered from the soil borings and test pits, created soil boring logs and test pit logs, and field-screened soil for the presence of volatile organics with a photoionization detector (PID);
- ▲ Collected a total of eight (8) soil samples for analysis of volatile organic compounds (VOCs), and four (4) soil samples for polynuclear aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals, polychlorinated biphenyls (PCBs) and organo-chlorine Pesticides;
- ▲ Collected eight (8) groundwater samples for analysis of VOCs; and
- ▲ Prepared this report.

5.0 Investigation Results

5.1 SOIL

5.1.1 Geology

Wenck encountered up to 12 feet of fill soils consisting of mainly brown to dark brown silty sand with gravel in boring B-4 in the southern parcel around the dispenser island. Fill was encountered to depths of approximately 3 to 6 feet bg in the other borings in the south parcel. In general, the fill is underlain primarily by brown clay with some silt and gravel. Soil boring logs are included in **Appendix A**.

5.1.2 Soil Analytical Results

Soil investigation data compared detected concentrations of VOCs, RCRA metals, PAHs and PCBs and pesticides to the Minnesota Pollution Control Agency's Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Site from the soil-to-groundwater leaching pathway.

Field Screening

Vapor headspace readings for VOCs were not detected above background concentrations via field screening by PID in soil borings B-1, B-4, B-5, B-6, B-7, B-8, B-9, B-10 and B-11. A headspace reading was detected at 88.6 parts per million (ppm) in sample B-2 (4-6') and 13 ppm in sample B-3 (8-10'). Vapor headspace readings and field observations are included on the soil boring logs in **Appendix A**.

RCRA Metals

Various RCRA metals were detected in all of the samples collected and analyzed for RCRA metals.

Arsenic was detected at 9 mg/kg in sample TP-5 (0-1'), equal to the MPCA Residential SRV of 9 mg/kg. Arsenic was detected at 8.7 mg/kg in sample TP-6 (0-1') and 7.4 mg/kg in TP-3 (0-1'), above the MPCA SLV of 5.8 mg/kg.

The remaining detected concentrations of metals do not exceed the MPCA SLVs, Residential SRVs or Industrial SRVs.

VOCs

A total of eight (8) soil samples collected from borings B-2 (4-6'), B-3 (8-10'), B-4 (10-12'), and B-5 (4-6'); and test pits TP-1 (0-1'), TP-3 (0-1'), TP-5 (0-1') and TP-6 (0-1') were analyzed for VOCs.

Benzene was detected at 0.025 mg/kg in sample B-4 (10-12') slightly above the MPCA SLV of 0.017 mg/kg but below the Residential SRV of 6 mg/kg.

VOCs were not identified in any other soil samples above their respective MPCA SLVs, Residential SRVs or Industrial SRVs.

PCBs

PCBs were sampled in four of the seven test pit samples. PCBs were not detected above laboratory reporting limits in any of the four samples analyzed for PCBs.

PAHs

Various PAHs were detected in sample TP-1 (0-1'). None of the detections were above their respective MPCA SLVs, Residential SRVs or Industrial SRVs. Benzo(a)pyrene (BaP) equivalent concentrations were calculated to estimate the aggregated carcinogenic potential of PAHs relative to benzo(a)pyrene. The benzo(a)pyrene equivalent is calculated using the sum of the products of the respective relative potency slope factors multiplied by the compound's soil concentration. None of the samples were identified to exceed the MPCA Residential or Industrial SRVs or MPCA SLVs for individual PAHs or the BaP equivalent concentrations calculated.

Soil sample results are summarized in **Table 1**. Laboratory reports and supporting chain-of-custody documentation are included in **Appendix B**.

5.2 GROUNDWATER

5.2.1 Hydrogeology

Groundwater was encountered in eight (8) of the eleven (11) borings drilled on the Site. Groundwater was encountered from a range of 2.2 feet in boring B-3 to 15.05 feet in boring B-10. Groundwater was not observed during drilling in borings B-1, B-5, B-9, B-10 and B-11. In these borings, temporary wells were set and groundwater was allowed to recharge for approximately one to three hours prior to sampling. Measured groundwater levels can be found in the boring logs in **Appendix A**.

5.2.2 Groundwater Analytical Results

A groundwater sample was collected from all eight borings where groundwater was encountered. The groundwater samples were analyzed for VOCs. Groundwater investigation data analysis compared detected concentrations of VOCs to the Minnesota Department of Health's (MDH) and MPCA's Health Risk Limits (HRL) and MDH Health Based Values (HBVs) guidance values to assess potential human health risks from exposures to chemicals in groundwater.

Benzene was detected in groundwater sampled from temporary wells B-2 and B-4. Benzene was detected in temporary well B-2 at 9.3 µg/l and in temporary well B-4 at 157 µg/l. Both detections are above the MDH HRL of 2 µg/l.

Trichloroethene (TCE) was detected in groundwater sampled from temporary well B-5 at 4.1 µg/l, above the MDH HRL of 0.4 µg/l.

2-Butanone (MEK) was detected in groundwater sampled from temporary well B-11 at 11.2 µg/l, below the MDH HRL of 4000 µg/l.

Groundwater sample results are summarized in **Table 2**. Laboratory reports and supporting chain-of-custody documentation are included in **Appendix B**.

6.0 Discussion

6.1 SOIL DISCUSSION

The concentrations of arsenic, cadmium, chromium, lead and mercury detected in the soil in the test pit samples analyzed for RCRA metals are within background levels of naturally-occurring arsenic and do not appear to represent a release at the Site, in our opinion.

The benzene detected in soil sample B-4, combined with the elevated head-space readings using a photo-ionization detector (PID) to screen soil collected from macro-core™ sampling tubes appears to indicate a release of petroleum hydrocarbons in the area of the tank system on the southwest portion of the Site.

Concentrations of PAHs are indicative of some anthropogenic impacts, however, do not exceed the most conservative risk-screening criteria promulgated by the MPCA. The concentrations detected in TP-1 likely result from bituminous material intermingled with the sample matrix.

The MPCA document "Best Management Practices for the Off-Site Reuse of Unregulated Fill," dated February 2012, defines unregulated fill as excess soil in which a release of contaminants has been identified at concentrations less than the MPCA's most conservative risk-based values. The criteria for unregulated fill are described as the following:

- ▲ Soil free from solid waste, debris, asbestos containing material, visual staining and chemical odor;
- ▲ Organic vapors less than 10 ppm as measured by a PID;
- ▲ For petroleum impacted soil, less than 100 mg/kg DRO/GRO;
- ▲ For contaminants detected in soil, less than the MPCA's Residential SRVs and MPCA Tier 1 SLVs.

6.2 GROUNDWATER DISCUSSION

Groundwater analytical results from temporary wells B-2 and B-4 indicate the presence of benzene. The concentration of benzene in the groundwater is indicative of a release to groundwater at the Site. Based on the soil data, it appears the release is related to the on-Site tank system.

Groundwater analytical results from temporary well B-5 indicate the presence of TCE. The presence of TCE in the groundwater is difficult to explain in the context of the Phase I ESA. It may or may not be related to an on-Site release.

7.0 Conclusions and Recommendations

Based on the field observations and laboratory analysis of soil and groundwater samples collected and analyzed from the Site, Wenck submits the following conclusions:

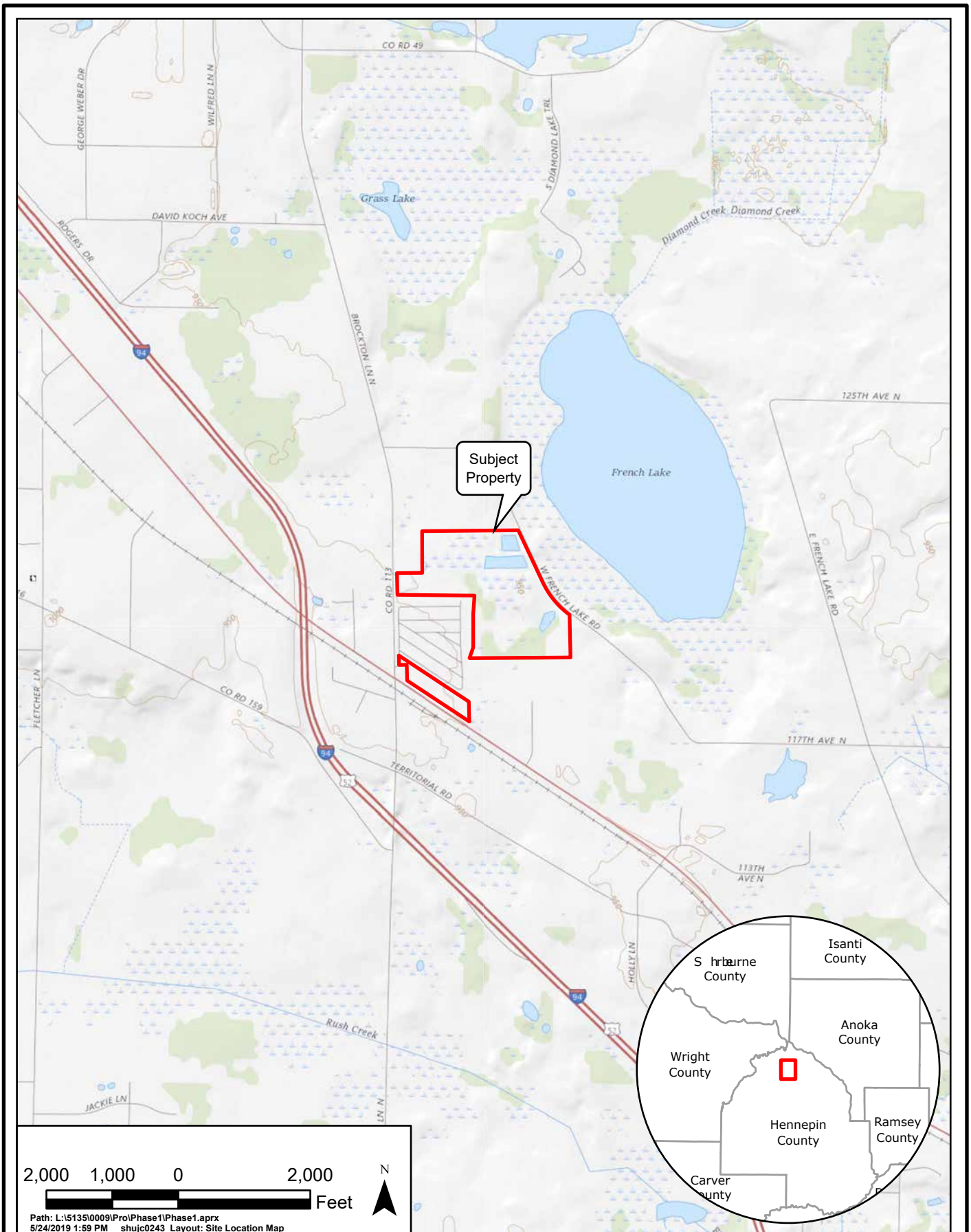
1. Data suggests there has been a release from the UST system associated with historical fuel sales at the Site. This corroborates the concern documented in the Phase I ESA that speculated that due to the age of the USTs and associated distribution systems, that a release may have occurred. It is not immediately evident if the release is associated with a failure of the UST, UST piping or dispenser systems, or potentially from overfills or surface spills.
2. The presence of TCE at low concentrations in groundwater could be related to an on-Site or off-site release to groundwater. There is also a potential that it is a false-positive related to laboratory issues or cross-contamination (either in the field or in the laboratory). Additional characterization activities would be necessary to substantiate whether groundwater is actually impacted with TCE.
3. The waste materials stockpiled above-grade on the north parcel of the Site should be managed appropriately on- or off-site. The wood debris could be ground into mulch for on-Site application. The leaf waste could potentially be composted on-Site, though review should be undertaken to determine if a permit is required by the local unit of government or the state of Minnesota in order to proceed. The concrete debris could be crushed either on- or off-site for use as road base, if sufficiently free from rebar or other materials. Finally, the soil berm containing plastic and other solid waste should be disposed off-site at an appropriate solid waste facility. It could potentially be used as daily cover, subject to the determination of the designated facility.
4. The release should be reported to the Duty Officer of the State of Minnesota's Department of Public Safety – Emergency Management Division in accordance with Minn. Stat. §115.061.
5. If regulatory assurances are desired, the MPCA Brownfields Program can issue determination letters for both petroleum and non-petroleum releases. It should be noted these Brownfields Program assurances are typically subject to the MPCA's concurrence on the additional characterization of the releases to ascertain if potential risk-pathways are present requiring mitigation. The Brownfields Program is also a fee-for-service program, which requires program participants to reimburse the MPCA for its administrative costs. The Petrofund program, however, will reimburse up to 90% of costs involved in getting the petroleum leak incident investigated and "to closure." It should be noted this applies only releases of petroleum from an eligible tank system.

6. We recommend a monitoring well be installed to resolve the question of the whether TCE is actually present in the aquifer at concentrations of concern. A monitoring well can be sampled multiple times to verify with certainty the groundwater quality conditions at the location B-5.

Joel Barthel
Hydrogeologist

J. Joseph Otte
Principal

DRAFT





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Site Detail Map



MAY 2019

Figure 2



MESSERLI AND KRAMER, PA

Sample Location Map

JUL 2019

Figure 3

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Appendix E

**MN SHPO Correspondence and
Archaeological Survey Report**

Dayton Park Industrial Center EAW

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Rob Bouta

From: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Sent: Thursday, February 18, 2021 7:17 PM
To: Rob Bouta
Subject: RE: SHPO DATA REQUEST - Dayton Park Industrial Center EAW
Attachments: History.xls

Hello Rob,

Please see attached.

Jim



SHPO Data Requests
Minnesota State Historic Preservation Office
50 Sherburne Avenue, Suite 203
Saint Paul, MN 55155
(651) 201-3299
datarequestshpo@state.mn.us

Notice: This email message simply reports the results of the cultural resources database search you requested. The database search is only for previously known archaeological sites and historic properties. **IN NO CASE DOES THIS DATABASE SEARCH OR EMAIL MESSAGE CONSTITUTE A PROJECT REVIEW UNDER STATE OR FEDERAL PRESERVATION LAWS** – please see our website at <https://mn.gov/admin/shpo/protection/> for further information regarding our Environmental Review Process.

Because the majority of archaeological sites in the state and many historic/architectural properties have not been recorded, important sites or properties may exist within the search area and may be affected by development projects within that area. Additional research, including field surveys, may be necessary to adequately assess the area's potential to contain historic properties or archaeological sites.

Properties that are listed in the National Register of Historic Places (NRHP) or have been determined eligible for listing in the NRHP are indicated on the reports you have received, if any. The following codes may be on those reports:

NR – National Register listed. The properties may be individually listed or may be within the boundaries of a National Register District.

CEF – Considered Eligible Findings are made when a federal agency has recommended that a property is eligible for listing in the National Register and MN SHPO has accepted the recommendation for the purposes of the Environmental Review Process. These properties need to be further assessed before they are officially listed in the National Register.

SEF – Staff eligible Findings are those properties the MN SHPO staff considers eligible for listing in the National Register, in circumstances other than the Environmental Review Process.

DOE – Determination of Eligibility is made by the National Park Service and are those properties that are eligible for listing in the National Register, but have not been officially listed.

CNEF – Considered Not Eligible Findings are made during the course of the Environmental Review Process. For the purposes of the review a property is considered not eligible for listing in the National Register. These properties may need to be reassessed for eligibility under additional or alternate contexts.

Properties without NR, CEF, SEF, DOE, or CNEF designations in the reports may not have been evaluated and therefore no assumption to their eligibility can be made. Integrity and contexts change over time, therefore any eligibility determination made ten (10) or more years from the date of the current survey are considered out of date and the property will need to be reassessed. If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic/architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson, Environmental Review Specialist @ 651-201-3285 or by email at kelly.graggjohnson@state.mn.us.

The Minnesota SHPO Archaeology and Historic/Architectural Survey Manuals can be found at <https://mn.gov/admin/shpo/identification-evaluation/>.

Given the Governor's implementation of [Stay Safe MN](#), SHPO staff will continue to work remotely and be available via [phone and email](#), and the SHPO office will be closed to visitors and unable to accommodate in-person research and deliveries. Mail is being delivered to the office via USPS, FedEx and UPS, however, staff have limited weekly access to sort and process mail. Our office will continue to take file search requests via DataRequestSHPO@state.mn.us. Check [SHPO's webpage](#) for the latest updates and we thank you for your continued patience.



From: Rob Bouta <robb@kjolhaugenv.com>
Sent: Thursday, February 18, 2021 5:04 PM
To: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Subject: SHPO DATA REQUEST - Dayton Park Industrial Center EAW

This message may be from an external email source.

Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

SHPO Staff,

I am requesting an historical property information/database search for a 50.76-acre site located in Section 30, T120N, R22W, City of Dayton, Hennepin County, Minnesota.

The Lat/Long coordinates of the site are 45.174240, -93.516299.

I am requesting this search because the Dayton Park Industrial Center is proposed on this property and the project requires an EAW. The project area is about 72% cropland, 16% wetlands, ponds, and drainages; and 12% woodland. I have attached Project Location maps and a shapefile of the project boundary for your information.

Thank you,

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COUNTY	CITYTWP	PROPNAME	ADDRESS	TOWNSHIP	RANGE	SECTION	QUARTERS	USGS	REPORTNUM	NRHP	CEF	DOE	INVENTNUM
Hennepin													
	Dayton												
		M&NW/StPM&M/GN W Side Line (Osseo Branch): Dayton Segment	BNSF RR in Dayton	120	22	30		Rogers	HE-2018-4H		Y		HE-DYC-018

Phase I Archaeological Survey of Proposed Dayton Park Industrial Center in Dayton, Hennepin County, Minnesota



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Final Report
April 21, 2021

Phase I Archaeological Survey of Proposed Dayton Park Industrial Center in Dayton, Hennepin County, Minnesota

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Final Report
April 21, 2021

Management Summary

Dayton Park Properties is proposing to build an industrial center in the City of Dayton, Hennepin County, Minnesota. The project area, approximately 50.76 acres in size, is located in the S ½ of the NW ¼ and the N ½ of the SW ¼ of Section 30 of Township 120N and Range 22W in Archaeological Region 4s: Central Lakes Deciduous South. Historically and recently the majority of the project area has been cultivated with small patches of wooded and wetland areas. Wastewater Treatment Ponds were once present in the northeastern corner of the project area starting sometime in the 1970s, but this portion of the project area was returned to agricultural use between 2014 and 2015. Planned development includes eight proposed buildings, and a complex of parking lots and drives.

Nienow Cultural Consultants LLC (NCC) was contracted in December of 2020 to complete a Phase I Archaeological Survey. NCC's Principal Investigators for this project were Jeremy Nienow, PhD., RPA, and Laura Koski, MSc, RPA. Work began with a literature review December 16 followed by fieldwork completed December 18, 2020. Fieldwork consisted of surface survey of all agricultural areas. At time of survey, all fields had been thoroughly plowed allowing for a surface visibility ranging between 30% and 80%. Surface survey transects were spaced on a maximum of a ten-meter interval, with a tighter interval utilized over areas of highest potential. A single prehistoric lithic flake was observed and collected during the surface survey in December of 2020. Recent historic materials (i.e. shotgun shells) and modern debris (i.e. plastics, aluminum cans) were encountered, but not collected. A follow-up field visit was completed on April 17, 2021. Four shovel tests were excavated. Shovel tests were typically 35-40 centimeters (cm) wide and at least 50cm deep. All soils were screened through ¼" mesh screen, detailed profile notes completed, photographs taken, and GPS points collected for each shovel test. All shovel tests were negative for cultural materials.

Shovel test profiles documented consistent agricultural and wetland soils. A single prehistoric archaeological site was identified during the field survey, however it is represented by a single lithic flake. This flake has been reported to the Office of the State Archaeologist and received site number 21HE0546. This site is not considered eligible for the National Register of Historic Places. Based on these results, Nienow Cultural Consultants recommends no further archaeological work be completed.

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1.0 INTRODUCTION

Dayton Park Properties is proposing to build an industrial center in the City of Dayton, Hennepin County, Minnesota. The project area, approximately 50.76 acres in size, is located in the S ½ of the NW ¼ and the N ½ of the SW ¼ of Section 30 of Township 120N and Range 22W in Archaeological Region 4s: Central Lakes Deciduous South. Historically and recently the majority of the project area has been cultivated with small patches of wooded and wetland areas. Wastewater Treatment Ponds were once present in the northeastern corner of the project area starting sometime in the 1970s, but this portion of the project area was returned to agricultural use between 2014 and 2015. Planned development includes eight proposed buildings, and a complex of parking lots and drives.

Nienow Cultural Consultants LLC (NCC) was contracted to complete a Phase I Archaeological Survey in December of 2020. NCC's Principal Investigators for this project were Jeremy Nienow, PhD., RPA who is licensed for Phase I archaeological work in Minnesota (20-042, Appendix A), and Laura Koski, MSc, RPA. NCC subcontracted three individuals to assist in completing research, fieldwork, and lab processing for the project: Fred Sutherland (Sutherland Relics and Rust LLC), John Strot (John's Archaeological Consulting), and Laura Koski (Zooarchaeo Consulting). The investigation was guided by the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48FR44716), the State Historic Preservation Office's (SHPO) Manual for Archaeological Projects in Minnesota (Anfinson 2005), and the State Archaeologist's Manual for Archaeological Projects in Minnesota (Minnesota Office of the State Archaeologist 2011). Research and report preparation were accomplished by professional archaeologists meeting the standards set forth in 35CFR61.

Work began with a literature review December 16 followed by fieldwork completed December 18, 2020. Fieldwork consisted of surface survey of all agricultural areas. At time of survey, all fields had been thoroughly plowed allowing for a surface visibility ranging between 30% and 80%. Surface survey transects were spaced on a maximum of a ten-meter interval, with a tighter interval utilized over areas of highest potential. A follow-up field visit was completed on April 17, 2021. Four shovel tests were excavated. Shovel tests were typically 35-40 centimeters (cm) wide and at least 50cm deep. All soils were screened through ¼" mesh screen, detailed profile notes completed, photographs taken, and GPS points collected for each shovel test.

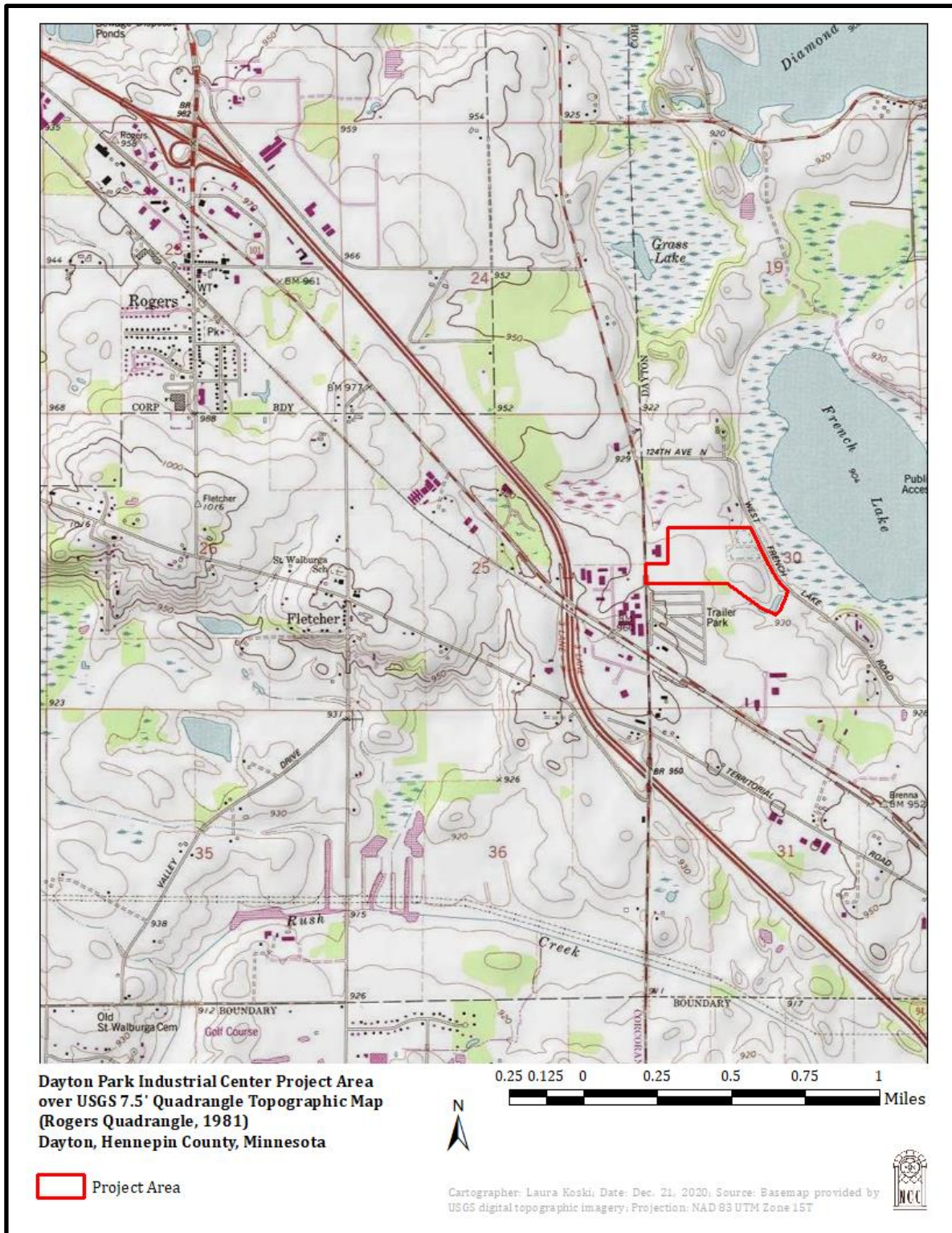


Figure 1: USGS Topographic Map Illustrating Project Area (red boundary).
(USGS 7.5' Topographic Map, Rogers Quadrangle, 1981, 1:24,000)

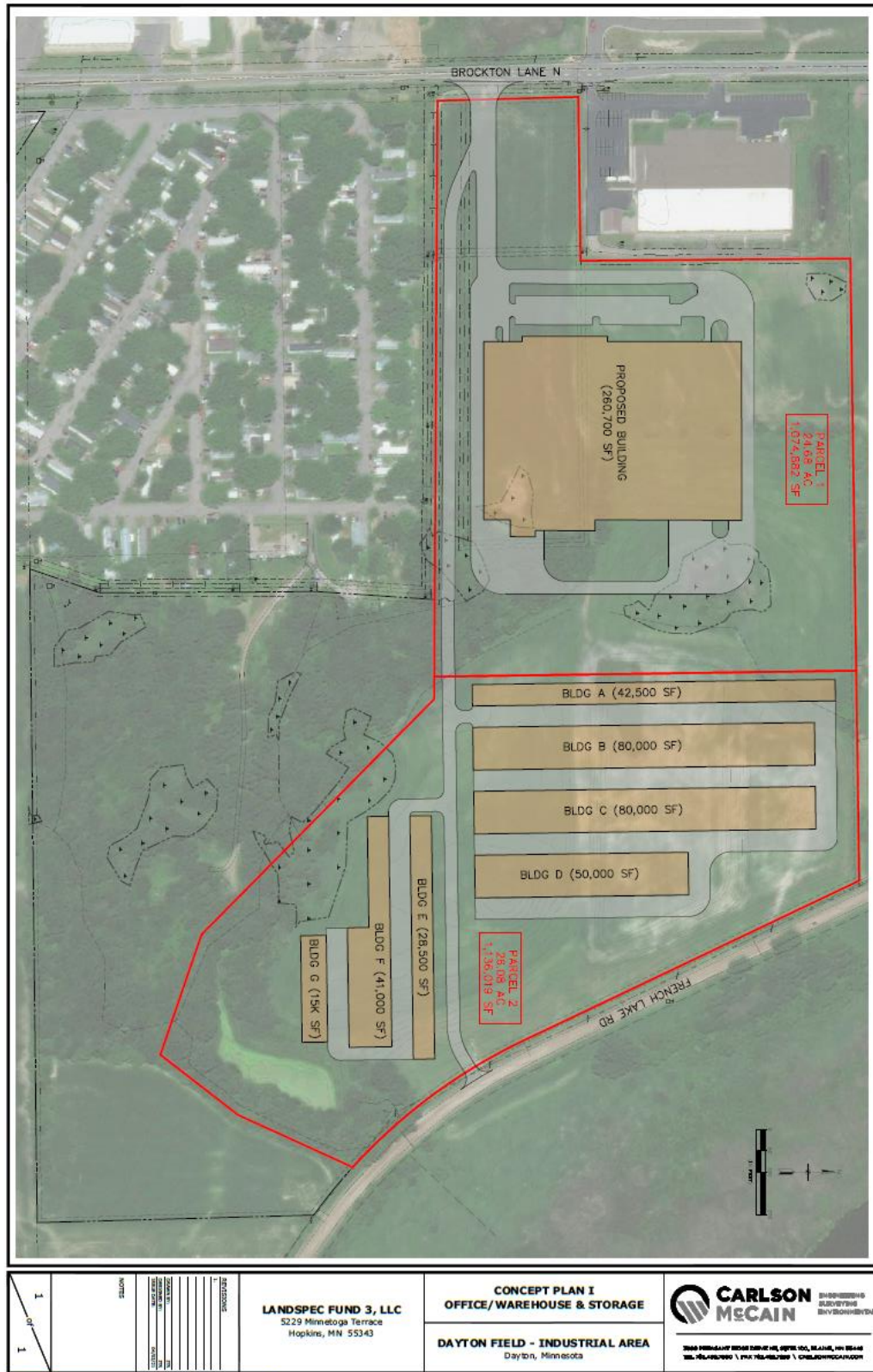


Figure 2: Sketch Plan of Project Area.
(Provided by Kjolhaug Environmental Services)

2.0 RESEARCH DESIGN AND METHODOLOGY

2.1 Literature Review

A literature review was completed on December 16, 2020. Typically, the literature review would be completed by visiting the Office of the State Archaeologist and the State Historic Preservation Office. Unfortunately, both of these offices were closed due to safety precautions surrounding SARS-CoV-2 spread prevention. Instead, previously identified archaeological sites were noted for a two-mile radius surrounding the project area using the online Minnesota Office of the State Archaeologist archaeological sites portal (OSA Portal). In addition, the Township/Range/Sections within the two-mile radius were sent to the State Historic Preservation Office to generate an internal database search. The Township/Range/Section search did not yield any additional sites not included on the OSA Portal.

2.2 Fieldwork

Fieldwork was completed on December 18, 2020 and April 17, 2021. All agricultural portions of the project area were surface surveyed on December 18, 2020. Surface survey was completed on a maximum seven-meter interval, and on tighter intervals in areas of highest interest. Due to the fields having been thoroughly plowed, surface visibility ranged between 30% and 80% (see Appendix A for example surface visibility photographs). A single siltstone tertiary flake was recovered during the surface survey. A follow-up field visit was completed on April 17, 2021. Four shovel tests were excavated. One shovel test was located where the tertiary flake was recovered during the December surface survey. The remaining three were positioned in another area of high cultural potential; just east of the wetlands within the southern-center portion of the project area, with one placed on a high point adjacent to the wetlands. Shovel tests were typically 35-40 centimeters (cm) wide and at least 50cm deep. All soils were screened through ¼" mesh screen, detailed profile notes completed, photographs taken, and GPS points collected for each shovel test.

2.3 Artifact Processing

When the single artifact was identified during the initial survey, it was bagged and a GPS point was recorded for its location. In the lab, the artifact was washed, photographed, lotted, and cataloged. The artifact and its location has been reported to the Minnesota OSA as an archaeological site. The OSA has assigned it site number 21HE0546.

3.0 ENVIRONMENTAL SETTING

3.1 Geological Background and Soils

In his 1990 publication *Archaeological Regions in Minnesota and the Woodland Period*, former State Archaeologist Scott Anfinson divides the state of Minnesota into nine environmental-archaeological regions based on natural resources available within each region. This classification allows archaeologists to research and analyze prehistoric environments in the state, as well as predict where archaeological sites may be located.

The Dayton Park Industrial Center project area falls within the southeastern portion of Anfinson's region 4s: Central Lakes Deciduous South Sub-Region. The region sits within east-central to central Minnesota, spanning Dakota to Becker Counties. Topographically, the region consists of a mixture of moraines, till plains, and outwash plains, and is heavily spotted with lakes, some over 30 meters (m) deep. Major rivers include the Mississippi and Minnesota Rivers flowing along the western boundary of the region, and the St. Croix River along the region's eastern boundary. Streams draining the western part of the region flow in a western direction to the Red River (Anfinson 1990). River formation was the result of a complex glacial history including several episodes of advancing and retreating glacial lobes.

The Central Lakes Deciduous South Sub-Region is located directly east of the Mississippi River. The regional topography consists of moraines, glacial till, and outwash plains, as well as a large variety of lakes, streams, and wetlands (Gibbon et al. 2002). Average precipitation ranges from 22 to 28 inches. Average high winter temperatures range from 12 to 24 degrees Fahrenheit (F) while average high summer temperatures range from 78 to 82 degrees F. The frost-free season ranges from 140 to 160 days (Anfinson 1990).

Soils in the region reflect a diverse history of glacial and vegetation activity. Soil texture ranges from medium to course, with prairie soils more commonly found in the southern and western portions of the region and forest soils found mostly in the north and east portions (Anfinson 1990). Bedrock outcrops are mainly located along the region's central and eastern edge, and are comprised of mainly granite outcroppings along river banks (Gibbon et al. 2002).

All soil source material was deposited during the Wisconsin stage of the Pleistocene epoch. Two main types of glacial drift were deposited over the county when the Superior Lobe retreated from the area around 13,500 years ago. The Superior Lobe, which flowed into the area from the north, deposited coarse textured material, reddish brown in color, with pebbles of basalt, gabbro, and red sandstone. At a later date, the Grantsburg Sub-lobe, an extension of the Des Moines Lobe, advanced into Sherburne County. This lobe brought in what is commonly called "gray till" or "buff till." During the retreat of the Grantsburg Lobe around 12,500 years ago, the ice stagnated in the northern and eastern parts of the county and melt water left intermixed outwash gravel and sand from both of the previous lobes. Additionally, when the Grantsburg Lobe retreated westward, it uncovered the Mississippi Valley, and melt water from the wasting Des Moines Lobe filled the valley throughout the county with coarse alluvium, which underlies two broad terraces parallel to

the Mississippi River. The sands in these areas are coarse in texture near the river and become increasingly finer in texture the further the distance from the river. In various places, it is underlain by strata of calcareous gravel, which was representative of what was found during the current archaeological survey (Grimes 1968).

The project area is comprised of four soil series: Nessel Loam, Dundas-Cordova Complex, Cordova Loam, and Lester Loam. The Nessel Loams series consists of moderately well drained soils 1 to 3 percent slopes found on moraines. The series contains Loam from 0 to 15cm, followed by clay loam from 15 to 96.5cm, and finally loam from 96.5 to 203cm. The Dundas-Cordova Complex consists of somewhat poorly drained soils on 0 to 3 percent slopes found on moraines. The complex contains silt loam from 0 to 22.8cm, followed by loam from 22.8 to 38 cm, then clay loam from 38-101cm, and finally loam from 101-203cm. The Cordova Loam series consists of poorly drained soils from on 0 to 2 percent slopes found on drainageways and moraines. The series contains loam from 0 to 33cm, then clay loam from 33-83cm, and finally loam from 83-203cm. The Lester Loam series consists of well drained soils on 6 to 10 percent slopes found on hillslopes and ground moraines. The series contains loam from 0 to 15cm, then clay loam from 15 to 96.5cm, and finally loam from 96.5 to 203cm (NRCS 2020).

3.2 Regional Flora and Fauna

Vegetation in the area at the time of Euro-American settlement consisted of Big Wood species in both the south and west portions of the region. Most specifically, the trees were deciduous hardwood species, primarily oak, mixed with deciduous-coniferous forest in the northern part of the region (Anfinson 1990) which also contained maple, basswood, and hickory. As Euro-American settlers moved through the area and cleared portions of forest, prairie land became more abundant. White-tailed deer, bison, elk, beaver, bear, prairie chickens, and a variety of fish and waterfowl would have been commonly available resources (Anfinson 1990).

4.0 CULTURAL HISTORY

The Minnesota State Historic Preservation Office (SHPO) has developed statewide contexts examining Minnesota's Prehistoric through recent past. These contexts are laid out on the Minnesota Archaeological Site Form (Minnesota Office of the State Archaeologist 2016). Generally, they describe the history of the state and assist in predicting where specific types of sites may occur.

Native American contexts are commonly divided into three major traditions: Paleoindian, Archaic, and Woodland. Late Woodland is further subdivided into Plains Village, Mississippian, and Oneota Traditions. These divisions are based on significant changes in how these communities lived, with a special focus on subsistence strategies. Historic contexts are generally divided into Contact and Post-Contact periods. The Contact period begins with early European exploration and continues through the Post-Contact period including Euro-American settlement and Minnesota statehood. The following is a general summary of these traditions using the Author's general

knowledge and various disseminated sources for information including the OSA's website, Elden Johnson's 1988 *The Prehistoric Peoples of Minnesota*, Gibbon and Anfinson's 2008 *Minnesota Archaeology: The First 13,000 Years*, and Gibbon's 2012 *Archaeology of Minnesota: The Prehistory of the Upper Mississippi River Region*.

4.1 Pre-Contact Period

4.1.1 Paleoindian Tradition (11,500 to 7,500 B.C.)

The Paleoindian Tradition in Minnesota is divided into two periods: Early Paleoindian and Late Paleoindian/Early Archaic (Gibbon and Anfinson 2008). Throughout the Paleoindian, Native American communities were small, mobile, and focused on hunting. However, between the early and late periods, the environment and available food resources changed dramatically. The beginning of the Early Paleoindian Tradition is characterized by retreat of glacial ice and the growth of spruce forests. During this time, now extinct megafauna like mastodon, mammoth, and large bison were available for hunting. The Early Paleoindian period is poorly understood in Minnesota because most evidence for Paleoindian lifeways comes from isolated finds of large fluted projectile points (Gibbon and Anfinson 2008). Based on more plentiful sites in the southeastern and southwestern portions of the United States, it is generally assumed Native American populations were small, consisting of highly-mobile hunters and foragers who followed large game throughout the landscape (Gibbon and Anfinson 2008).

By the Late Paleoindian period, modern vegetation zones had established themselves in Minnesota. Modern animal species like white tail deer, grouse, and fish were available for Native American communities to hunt and fish. Lithic tool evidence from Late Paleoindian sites in Minnesota take the form of stemmed rather than fluted points and a wider range of tool types including groundstone tools (Gibbon and Anfinson 2008). Again, lifeways during this time are poorly understood, but based on three well-documented sites found in Minnesota (Cedar Creek-21AK58, Bradbury Brook-21ML42, and Browns Valley-21TR5), communities are still small, highly-mobile and focused on hunting larger animals and foraging for wild plants. However, stone toolkits did diversify and communities began exploiting smaller territories. It is also likely populations started to increase (Gibbon and Anfinson 2008).

4.1.2 Archaic Tradition (7,500 to 800 B.C.)

The Archaic Tradition continues the trend of resource diversification started in the Late Paleoindian period. Native American communities developed broader toolkits, used a wider array of foods, and became less mobile over the course of the Archaic. Additionally, by the end of the Archaic, communities were using communal burial sites. Stemmed and notched points, groundstone tools, particularly those for woodworking, and cold-hammered copper tools are hallmarks of the Archaic Tradition in the archaeological record (Anfinson 1997; Gibbon and Anfinson 2008). By the end of this period the climate shifted to a cooler, wetter pattern up until the strong, human-driven, warmer climates of the modern era. Resource gathering technologies

during the Archaic included the aforementioned hunting, as well as trapping, fishing, foraging, woodworking and plant processing. Many of the larger, documented sites in the central portion of the state likely began during the end of this period.

4.1.3 Woodland Tradition (800 B.C. to European Contact)

In the Midwest region, archaeologists tend to divide the Woodland Tradition into three periods: Early, Middle, and Late. However, Anfinson (1987) and Gibbon (2012) suggest in Minnesota it is more appropriate to divide the era into Initial and Terminal Woodland periods. This view is not as widespread as research would at first suggest, with work including Arzigian's *Statewide Multiple Property Documentation Form for the Woodland Tradition* (2008), and Buhta et. al. *On the Periphery?: Archaeological Investigations of the Woodland Tradition in West- Central Minnesota* (2014), retaining the more traditional use of Early, Middle, and Late designations. Beginning approximately 2,800 years ago, peoples in the region experienced increases in population with the advent of first horticultural and then agricultural subsistence strategies to augment already extant systems of hunting, gathering, etc. As populations increased, settlements near favorable transportation and resource corridors shifted from seasonal to year-round occupations as they made forays to collect necessary resources (Johnson 1988; Anfinson 1987:222).

The period also witnessed the technical transition from spear/atlatl to bow and arrow weaponry useful for both hunting and warfare. This change in technology led to the use of smaller projectile points or arrow heads. Similarly, the period also saw the invention of ceramic vessels and it is these vessels and their change over time, from thick walled, grit tempered, conoidal vessels, to thinner walled, shell tempered, globular vessels, which has greatly assisted the archaeological community in further refining their understanding of group identity, cohesion, and integration throughout the region. Indeed, there are more than ten major recognized ceramic complexes for the state with many temporal overlaps, often based more on location than visual representation. A final example representing not only identity and permanence on the landscape, but also religious practices, was the use of earthen burial mounds. Although community size was likely similar between the Early Woodland and Late Archaic periods, by the Late Woodland period, populations were certainly on the rise.

4.2 Contact/Post-Contact Period (1630 A.D. to Present)

This period generally refers to the span of time extending from the first European explorations until intensive Euro-American settlement of the region. Minnesota's historic period began in 1673 when French explorers Marquette and Joliet discovered the upper portion of the Mississippi River. Ten years later, Catholic Missionary Father Louis Hennepin told his story of exploring Minnesota and being held captive by Dakota Indians in the first book written about Minnesota, *Description de la Louisiane* (Hennepin 1683).

The territory containing modern-day Minnesota was claimed at various periods of time by Spain, France, Great Britain, and the United States. Lieutenant Zebulon Montgomery Pike led the first

United States expedition through the area in 1805, which would ultimately become Minnesota in 1858. Fort St. Anthony (later Ft. Snelling) was completed between 1819 and 1824, and in 1836 the Wisconsin Territory, including a portion of Minnesota, was formed. Just one year later, on September 29th, 1837, during treaty negotiations in Washington, D.C., Dakota leaders ceded their lands between the Mississippi and St. Croix Rivers.

The fur trade drove much of European exploration and settlement into Minnesota prior to territorial frontier settlement in the mid-1800s. While the fur trade impacted Native American communities throughout all of Minnesota, the heaviest impacts came with later Euro-American settlement. Intensive settlement and agriculture dramatically transformed the landscape, displacing large numbers of Native Americans and their communities. In 1862 tensions between white settlers and Native Americans resulted in the Dakota War. Ultimately, this war left 462 whites and “an unknown but substantial number” of Native Americans dead (Anderson and Woolworth 1988). The conflict concluded with the largest mass execution in United States history with the hanging of 38 Dakota on December 26, 1862 at Mankato and the deportation of remaining tribal members to Santee, Nebraska.

Native American archaeological site types associated with this period are generally consistent with those of earlier periods, but European and Euro-American traders, missionaries, settlers, and industries affected the locations of these sites. This period also includes Euro-American immigrant settlement patterns, subsistence activities, and economic strategies. Sites associated with Euro-American immigrants appear in the mid-nineteenth century. Associated archaeological and historic site types categorized in the Contact/Post-Contact period include standing structures as well as archaeological sites.

5.0 LITERATURE REVIEW

Six previously identified archaeological sites are located within two miles of the project area (Table 1).

Table 1. Previously Identified Archaeological Sites Within Two Miles

Site Number	Site Name	Site Description	Cultural Affiliation	Miles from Project Area	TRS
21HE0444	-	Lithic Reduction	Pre-Contact	0.26	T120N, R22W, S30 NW ¼, NE ¼, NE ¼
21HE0442	-	Lithic Reduction	Pre-Contact	0.29	T120N, R22W, S30, NE ¼, NW ¼, NW ¼
21HE0443	-	Lithic Reduction	Pre-Contact	0.54	T120N, R22W, S19, SW ¼
21HE0445	-	Lithic Reduction	Pre-Contact	0.58	T102N, R22W, S31, NW ¼, NW ¼, SE ¼
21HE0511	Schany I	Single Projectile Point	Pre-Contact: Woodland	0.9	T120N, R22W, S31, NW ¼, NW ¼, SE ¼
21HE0512	Schany II	Single Thumb Scraper	Pre-Contact	1.17	T120N, R22W, S31 SE ¼, NW ¼, SW ¼

No previously identified archaeological sites are located within the project area. Sites located within two miles are comprised of pre-contact lithic scatters and singular lithic tool find spots. Of these sites only one could be attributed to a cultural tradition. This was site 21HE0511 (Schany I) approximately 0.9 miles from the project area. This site consists of a single projectile point attributed to the Woodland Tradition.

The four densely clustered pre-contact sites just north of the project area, as well as the project's proximity to French Lake, and just a little further north, Diamond Lake and the Mississippi River, indicate the project area exhibits reasonable potential to contain pre-contact cultural material. LiDAR data (provided by MNDNR) was examined in an attempt to identify any visible above-ground features with a potentially archaeological origin. No culturally-originated features were identified, though in the southeastern portion of the project area a hillslope forming a terrace overlooking French Lake was noted as an area of reasonably high potential for pre-contact activity.

6.0 RESULTS

An initial field visit was completed on December 18, 2020. All agricultural portions of the project area were surface surveyed on December 18, 2020. Surface survey was completed on a maximum seven-meter interval, and on a tighter interval over the hillslope overlooking French Lake in the southeastern portion of the project area. Due to the fields having been thoroughly plowed, surface visibility ranged between 30% and 80% (see Appendix A for example surface visibility photographs). A single siltstone tertiary flake was identified on top of the previously noted hillslope during pedestrian survey (Figures 3 and 4).

A follow-up field visit was completed on April 17, 2021. This visit consisted of completing four shovel tests. Shovel Test 1 was located on top of the hillslope where the tertiary flake was recovered during the December surface survey. Shovel Tests 2 through 4 were positioned in another area of high cultural potential; just east of the wetlands within the southern-center portion of the project area, with one placed on a high point adjacent to the wetlands (Figure 5).

Shovel Test 1 reflected typical agricultural soils for the area: 10YR 3/2 Loam from 0 to approximately 10 centimeters below surface (cmbs), followed by 10YR 3/2 Silty Loam from 10cmbs to approximately 40cmbs, and finally 10YR 5/4 Coarse Sand. The shovel test was terminated at 70cmbs, well into subsoils. Shovel Test 1 was negative for cultural materials.

Shovel Tests 2 through 4 reflected typical wetland soils. The average soil profile within this area consists of 10YR 2/1 Loam with a high amount of organics from 0 to approximately 10cmbs, followed by 10YR 2/1 wet Clay Loam from 10 to approximately 60cmbs, and finally 10YR 4/4 wet Sandy Clay or 10YR 5/3 wet Fine Sandy Clay starting at 60cmbs. The shovel tests were terminated between 60 and 70cmbs due to the emerging water table. Shovel Tests 2 through 4 were negative for cultural materials.

The single tertiary siltstone flake was reported to the OSA, and received site number 21HE0546.



Figure 3: Dorsal View of Tertiary Siltstone Flake.



Figure 4: Ventral View of Tertiary Siltstone Flake.



Figure 5: Map of Fieldwork Completed Within Project Area.

7.0 CONCLUSION AND RECOMMENDATIONS

Dayton Park Properties is proposing to build an industrial center in the City of Dayton, Hennepin County, Minnesota. The project area, approximately 50.76 acres in size, is located in the S ½ of the NW ¼ and the N ½ of the SW ¼ of Section 30 of Township 120N and Range 22W in Archaeological Region 4s: Central Lakes Deciduous South. Historically and recently the majority of the project area has been cultivated with small patches of wooded and wetland areas. Wastewater Treatment Ponds were once present in the northeastern corner of the project area starting sometime in the 1970s, but this portion of the project area was returned to agricultural use between 2014 and 2015. Planned development includes eight proposed buildings, and a complex of parking lots and drives.

Work began with a literature review December 16 followed by fieldwork completed December 18, 2020. Fieldwork consisted of surface survey of all agricultural areas. At time of survey, all fields had been thoroughly plowed allowing for a surface visibility ranging between 30% and 80%. Surface survey transects were spaced on a maximum of a ten-meter interval, with a tighter interval utilized over areas of highest potential. A single prehistoric lithic flake was observed and collected during the surface survey in December of 2020. Recent historic materials (i.e. shotgun shells) and modern debris (i.e. plastics, aluminum cans) were encountered, but not collected. A follow-up field visit was completed on April 17, 2021. Four shovel tests were excavated. Shovel tests were typically 35-40 centimeters (cm) wide and at least 80cm deep. All soils were screened through ¼” mesh screen, detailed profile notes completed, photographs taken, and GPS points collected for each shovel test.

Shovel test profiles documented consistent agricultural and wetland soils. A single prehistoric archaeological site was identified during the field survey, however it is represented by a single lithic flake. This flake has been reported to the Office of the State Archaeologist and received site number 21HE0546. This site is not considered eligible for the National Register of Historic Places. Based on these results, Nienow Cultural Consultants recommends no further archaeological work be completed.

With any project there is the chance of unanticipated discovery. Should archaeological materials surface during any future construction, it is advised a professional archaeologist be consulted. Minnesota Statute 307.08 protects unplatted cemeteries (including burial mounds) and issues guidelines for dealing with unexpected finds. Should human remains be encountered during earth moving activity, all work must stop and local law enforcement must be called.

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APPENDIX A:
FIELDWORK PHOTOGRAPHS



Image 1: Of Typical Surface Visibility within Agricultural Fields
During Surface Survey on December 18, 2020.



Image 2: Of Field Crew Surface Surveying
Project Area on December 18, 2020.



Image 3: Of High Point Overlooking French Lake where Find Spot 1 was Located.



Image 4: Photograph of example shovel test pit (STP 1).

APPENDIX B:
SHOVEL TEST FORMS

NCC Shovel Test Form
- Generic 2020

Date: 4/17/21 Personal Initials: JLW LJK
Additional Notes: DAYTON PARK - DAYTON, MN
GIS Information: STPs All (PSID)

Shovel Test Location: STP 1 (at PS 1) Shovel Test Location: STP 3 (in wetland area)

<p>0cm-- <u>10YR 3/2 Loom</u></p> <p>10cm-- <u>10YR 3/2 Silty Loom</u></p> <p>20cm--</p> <p>30cm--</p> <p>40cm-- <u>40cmbs</u></p> <p>50cm-- <u>10YR 5/4 Coarse Sand</u></p> <p>60cm--</p> <p>70cm-- <u>70cmbs</u></p> <p>80cm--</p> <p>90cm--</p> <p>100cm--</p> <p>Max Depth: <u>70cmbs, well into subsails</u></p>	<p>0cm-- <u>10YR 2/1 Loom</u></p> <p>10cm--</p> <p>20cm--</p> <p>30cm-- <u>10YR 2/1 wet Clay Loom</u></p> <p>40cm--</p> <p>50cm--</p> <p>60cm-- <u>60cmbs</u></p> <p>70cm-- <u>↑ Stopped here due to emerging water table</u></p> <p>80cm--</p> <p>90cm--</p> <p>100cm--</p> <p>Max Depth: <u>60cmbs</u></p>
---	--

☒ No Artifacts Found in STP (Check Box)

Sampled Items: / Weight (lbs):

<input type="checkbox"/> Coal	<input type="checkbox"/> Clinker
<input type="checkbox"/> Brick	<input type="checkbox"/> Concrete
<input type="checkbox"/> Limestone	<input type="checkbox"/> Asphalt
<input type="checkbox"/>	

Prehistoric Photographed: Yes

Photo #s: _____

☒ No Artifacts Found in STP (Check Box)

Sampled Items: / Weight (lbs):

<input type="checkbox"/> Coal	<input type="checkbox"/> Clinker
<input type="checkbox"/> Brick	<input type="checkbox"/> Concrete
<input type="checkbox"/> Limestone	<input type="checkbox"/> Asphalt
<input type="checkbox"/>	

Prehistoric Photographed: Yes

Photo #s: _____

NCC Shovel Test Form
- Generic 2020

Date: 4/17/21 Personal Initials: JLW COTL
Additional Notes: DAYTON PARK, DAYTON, MN
GIS Information: ALL STPs GPS'd

Shovel Test Location: STP 4 (wetland area) Shovel Test Location: STP 2 (wetland area)

<p>0cm-- <u>10YR2/1 Loom</u></p> <p>10cm-- <u>loams Heavy Organics</u></p> <p>20cm-- <u>10YR2/1</u></p> <p>30cm-- <u>wet clay loam</u></p> <p>40cm--</p> <p>50cm--</p> <p>60cm-- <u>loams</u></p> <p>70cm-- <u>70ombs</u></p> <p>80cm-- <u>10YR 9/14</u> <u>wet Sandy Clay</u></p> <p>90cm--</p> <p>100cm--</p> <p>Max Depth: <u>70ombs</u> - stopped at <u>70 due to emerging water table</u></p>	<p>0cm-- <u>10YR2/1 Loom,</u></p> <p>10cm-- <u>loams Heavy Organics</u></p> <p>20cm-- <u>10YR2/1</u></p> <p>30cm-- <u>wet clay loam</u></p> <p>40cm--</p> <p>50cm--</p> <p>60cm--</p> <p>70cm-- <u>10YR5/3</u></p> <p>80cm-- <u>70ombs</u></p> <p>90cm-- <u>10YR4/4 wet Sandy clay</u></p> <p>100cm--</p> <p>Max Depth: <u>70ombs</u></p>
--	---

☒ No Artifacts Found in STP (Check Box)

Sampled Items: / Weight (lbs):

<input type="checkbox"/> Coal	<input type="checkbox"/> Clinker
<input type="checkbox"/> Brick	<input type="checkbox"/> Concrete
<input type="checkbox"/> Limestone	<input type="checkbox"/> Asphalt
<input type="checkbox"/>	

Prehistoric
Photographed: Yes Photo #s: _____

☒ No Artifacts Found in STP (Check Box)

Sampled Items: / Weight (lbs):

<input type="checkbox"/> Coal	<input type="checkbox"/> Clinker
<input type="checkbox"/> Brick	<input type="checkbox"/> Concrete
<input type="checkbox"/> Limestone	<input type="checkbox"/> Asphalt
<input type="checkbox"/>	

Prehistoric
Photographed: Yes Photo #s: _____

APPENDIX C:
21HE0546 SITE FORM

MINNESOTA ARCHAEOLOGICAL SITE FORM

OFFICE OF THE STATE ARCHAEOLOGIST
Fort Snelling History Center, St. Paul, MN 55111 (612) 725-2729

SITE #: **21-HE0546**

Site Name:

Agency/Field #: **DPFS1**

(OSA assigns if New Site)

☒ New Site ☐ Site UpdateOSA License #: **N/A, Private Land**

SHPO RC #:

Type of Fieldwork: ☒ Reconnaissance/Phase I
☐ Evaluation/Phase II
☐ Excavation/Phase III

Date(s) of This Fieldwork: **12/18/2020 and 4/19/2021**NRHP Status: ☐ Listed ☐ Determined Eligible ☐ CEF(106) ☒ CNEF(106) ☐ Undetermined**LOCATIONAL INFORMATION**County: **Hennepin**City/Twp. Name: **Dayton**SHPO Sub-Region: **4s**

(see map in instructions)

USGS 7.5' Quadrangle Map (name and year): **Rogers Quadrangle, 1981**

Township: **120N** Range: **22W** Section: **30** ¼ Sections (at least 2): **NE ¼ of NE ¼ of SW ¼**
 Township: Range: Section: ¼ Sections (at least 2):
 Township: Range: Section: ¼ Sections (at least 2):

UTM Coordinates: (less than 10 acres use center; over 10 acres define polygon around site; draw points on USGS)

Zone: **15N** Datum: **1927** ☒ 1983 Method: ☐ USGS Map ☒ GPS ☐ Other
 Point 1: Easting **459622.2** Northing **5002365.5**
 Point 2: Easting Northing
 Point 3: Easting Northing
 Point 4: Easting Northing
 Point 5: Easting Northing

SITE CHARACTERISTICSAcreage: **0.01** Site Dimensions: N-S **1m** E-W **1m** Maximum Cultural Depth (if known) **Surface**

Site Description (✓all that apply, but only one check per line):

☒ single artifact ☐ lithic scatter ☐ artifact scatter
☐ burial mound (number of mounds) ☐ non-mound lone grave ☐ non-mound cemetery
☐ petroglyph ☐ pictograph ☐ petroform
☐ surface features (list below)
☐ other:

Surface Features (✓all that apply): ☐ earthwork ☐ pit/depression ☐ foundation/ruin ☐ other:

Inferred Site Function (✓all that apply): ☐ habitation ☐ mortuary ☐ farm ☐ industrial ☐ transportation
☒ Other (list): **Lithic Reduction** ☐ unknown

Current Land Use (list approximate % for all that apply):

☒ 100% cultivated ☐ fallow ☐ commercial ☐ recreational ☐ industrial ☐ residential
☐ woodland ☐ grassland ☐ water-covered ☐ other:

Surface Visibility (list approximate % for all that apply):

☐ excellent ☒ 100% good ☐ fair ☐ poor/none

Degree of Disturbance (list approximate % for all that apply or ✓ unassessed):

☐ minimal ☒ 100% moderate ☐ heavy ☐ completely destroyed ☐ unassessed

Current Threats to Site: (✓all that apply or ✓ none known)

☐ erosion ☐ development ☒ agricultural ☐ other: ☐ none known

MINNESOTA ARCHAEOLOGICAL SITE FORM

SITE #: 21-HE0546

Site Name:

Agency/Field #: DPFS1

CULTURAL/TEMPORAL AFFILIATION(list all that apply by level of certainty: 1 = confirmed; 2 = probable or √ "not determined"):

Period: ☐ not determined ☐ Contact (1650-1837)
☒ Precontact (9500 BC - 1650 AD) ☐ Post-Contact (1837-1945)

Precontact Context: (list all that apply by level of certainty; if unable to discern specific context, √ where ☒)

Paleoindian Tradition ☐ not determined ☐ Folsom ☐ Lanceolate Point/Plano
☐ Clovis ☐ Eastern Fluted ☐ other: _____

Archaic Tradition ☐ not determined ☐ Prairie ☐ Riverine
☐ Shield ☐ Lake-Forest ☐ other: _____

Woodland Tradition ☐ not determined ☐ Fox Lake ☐ Laurel
☐ SE Mn Early ☐ C Mn Transitional ☐ Lake Benton
☐ Brainerd ☐ Blackduck-Kathio ☐ Psinomani/Sandy Lake
☐ Havana-Related ☐ SE Mn Late ☐ Rainy River Late
☐ other: _____

Plains Village Tradition ☐ not determined ☐ Cambria ☐ Great Oasis ☐ Big Stone
☐ other: _____

Mississippian Tradition ☐ not determined ☐ Silvernale ☐ other: _____

Oneota Tradition ☐ not determined ☐ Blue Earth ☐ Orr ☐ other: _____

Contact Context: (list all that apply by level of certainty; if unable to discern specific context, √ where ☐)

American Indian ☐ not determined ☐ Dakota ☐ Ojibwe ☐ other: _____

Euro-American ☐ not determined ☐ British ☐ other: _____
☐ French ☐ Initial US

Post-Contact Context: (list all that apply by level of certainty; if unable to discern specific context, √ where ☐)

☐ Indian Communities & Reservations (1837-1934) ☐ St. Croix Triangle Lumbering (1830s-1900s)
☐ Early Agriculture & River Settlement (1840-1870) ☐ Railroads & Agricultural Development (1870-1940)
☐ Northern MN Lumbering (1870-1930s) ☐ Iron Ore Industry (1880s-1945)
☐ Tourism & Recreation (1870-1945) ☐ Urban Centers (1870-1940)

Approximate Post-Contact Occupation/Site Formation Date(s): _____

Context Assignment/Dating Methods (√ all that apply):

☐ artifact type/style ☐ feature type ☐ radiometric ☐ relative stratigraphy ☐ geomorphology
☐ historic accounts (list) _____
☐ historic maps (list) _____
☐ other(s) (specify): _____

(For radiometric dates, attach photocopies of laboratory sheets if available.)

MATERIALS PRESENT (√ all that apply):**Basic Artifact Categories**Ceramics

☐ Aboriginal
☐ Euro-American

Lithics

☐ projectile points
☐ other chipped stone tools
☒ debitage
☐ ground/pecked stone
☐ FCR
☐ aboriginal copper

Biological Remains

☐ animal
☐ human
☐ unidentified bone
☐ seeds/nuts
☐ charcoal
☐ wood

Historic Materials

☐ glass
☐ metal
☐ brick
☐ other: _____

SITE #: 21-HE0546

Site Name:

Agency/Field #: DPFS1

Major Exotic Materials (*√all that apply*):

☐ catlinite ☐ native copper ☐ Hixton orthoquartzite
☐ Knife River Flint ☐ obsidian ☐ other: _____

Diagnostic Artifacts:

Ceramics: Prehistoric Types/Wares/Temper _____
 Historic _____
 Prehistoric Lithics: _____
 Glass: _____
 Metal: _____
 Other: _____

ENVIRONMENTAL DATA Current Topographic Setting (*√all that apply*):

<u>Away from Water</u>	<u>Riverine</u>	<u>Lacustrine</u>
<input type="checkbox"/> general upland	<input type="checkbox"/> fan	<input type="checkbox"/> inlet/outlet
<input type="checkbox"/> terrace edge	<input type="checkbox"/> terrace/bluff top	<input type="checkbox"/> peninsula
<input checked="" type="checkbox"/> hilltop	<input type="checkbox"/> stream-stream junction	<input type="checkbox"/> island
<input type="checkbox"/> glacial beach ridge	<input type="checkbox"/> bluff-base	<input type="checkbox"/> isthmus
<input type="checkbox"/> rock outcrop	<input type="checkbox"/> cave/rockshelter	<input type="checkbox"/> general shoreline
<input type="checkbox"/> other: _____	<input type="checkbox"/> floodplain	<input type="checkbox"/> bog/slough/lake bottom
	<input type="checkbox"/> other: _____	<input type="checkbox"/> other: _____

Topographic Feature Name from USGS Map: Feature not named on USGS Map

OWNERSHIP INFORMATION

Source and Date of Ownership Information (*e.g., plat map, county recorder's office, personal communication, etc.*):

Client (Project client and landowner are the same)

Ownership Type (*list approximate % for all that apply; if unknown √here* _____):

☐ Federal ☐ State ☐ Local (public) ☐ Tribal ☒ Private

Land Owner (*name and address if known*): Landspec Fund 3 LLC, 5529 Minnetoga Terrace, Minnetonka, MN 55347

CURRENT INVESTIGATION INFORMATION

Methods/Techniques Employed (*√all that apply*):

☐ informant report ☐ small diameter soil coring (≈ 1" diameter) ☒ surface survey
☒ shovel testing ☐ formal test units ☐ mechanical testing max. test depth _____
☐ geomorphological survey (*specify*): _____
☐ geophysical survey (*specify*): _____
☐ other: _____

Informant Name and Address (if known): No informant

Known Collectors/Collections: None known

Artifact Repository (*name and accession numbers or repository agreement number*): [Waiting on response from landowner] Repository Agreement # 953

Most Recent Survey Report – Title, Author, Date: Phase I Archaeological Survey of Proposed Dayton Park Industrial Center in Dayton, Hennepin County, Minnesota. Completed by Nienow Cultural Consultants LLC for Landspec Fund 3 LLC (Jeremy Nienow and Laura Koski, 2021)

Major Previous Bibliographic Reference(s) to Site: None

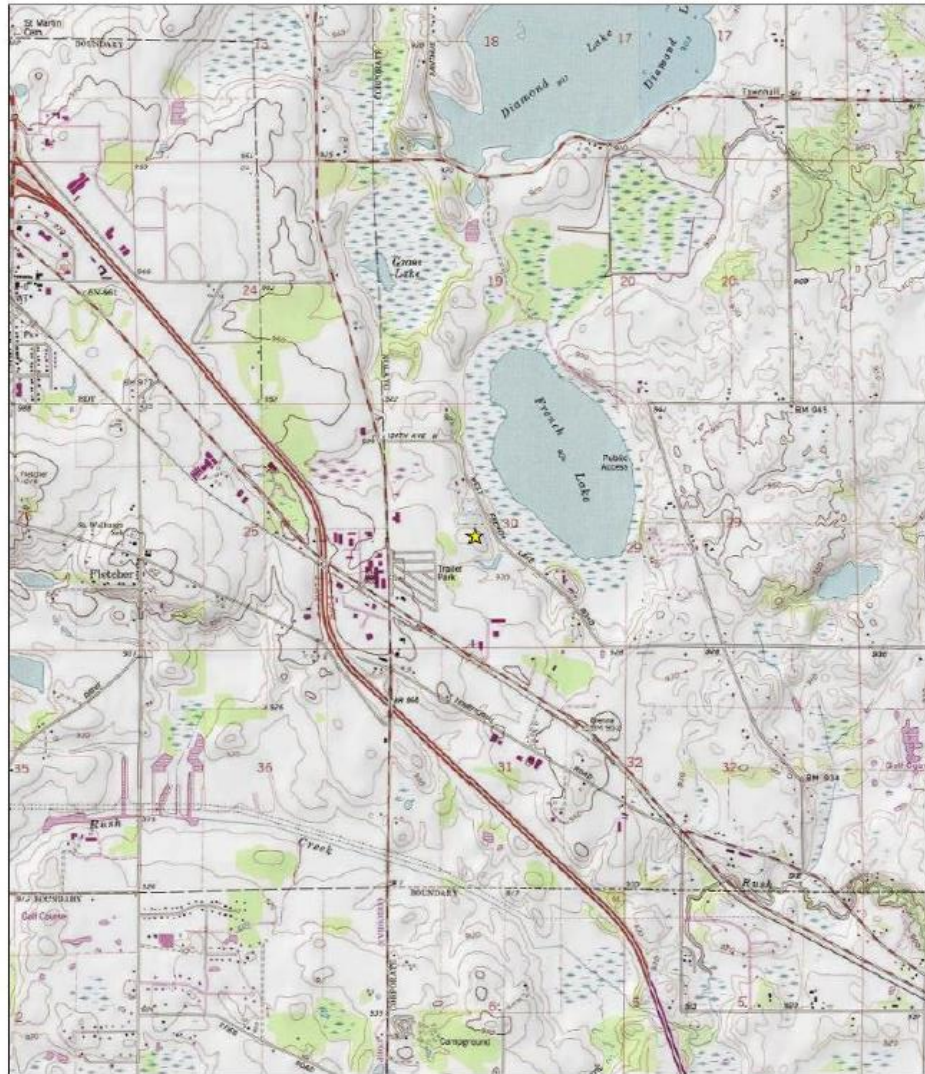
Principal Investigator (*name and affiliation*): Dr. Jeremy Nienow, PhD, RPA and Laura Koski, Msc, RPAForm Completed By (*name and date*): Laura Koski, 2021

SITE #: 21-HE0546

Site Name:

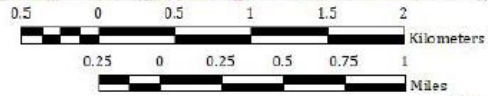
Agency/Field #: DPFS1

MAPS: Attach/include original scale copy of 7.5' USGS map with site location clearly outlined or designated.
 Attach a sketch map if surface features present, if sub-surface testing done, or if complicated boundaries/setting.
 Sketch map must have re-locatable datum, scale, north arrow, and legend if symbols are used.



**Site Location over USGS Topographic Map
 Dayton, Hennepin County, Minnesota**

★ Site Location



Cartographer: Laura Koski, Date: April 19, 2021; Source: Base map provided by
 2010 Google Satellite Imagery; Projection: NAD 83 UTM Zone 15T



**Map 1: USGS Topographic Map Illustrating Project Area (starred)
 (USGS 7.5' Topographic Map, Rogers Quadrangle, 1981, 1:24,000)**

SITE #: 21-HE0546

Site Name:

Agency/Field #: DPFS1



Map 2: Illustration of fieldwork during which this site was identified.
Find Spot 1 is the location of the archaeological site.

SITE #: 21-HE0546

Site Name:

Agency/Field #: DPFS1

ADDITIONAL INFORMATION (*Reason for Update or Survey, Location, Site Characteristics, Materials Present, Setting, Archaeological Methods, etc.; attach extra sheets as needed.*)

At the time of this site form, Dayton Park Properties is proposing to build an industrial center in the City of Dayton, Hennepin County, Minnesota. Planned development includes eight proposed buildings, and a complex of parking lots and drives.

Nienow Cultural Consultants completed initial fieldwork December 18, 2020. During this field visit, all agricultural portions of the project area were surface surveyed. Surface survey was completed on a maximum seven-meter interval, and on a tighter interval over the hillslope overlooking French Lake in the southeastern portion of the project area. Due to the fields having been thoroughly plowed, surface visibility ranged between 30% and 80%. *A single siltstone tertiary flake was identified on top of the previously noted hillslope during pedestrian survey.*

A follow-up field visit was completed on April 17, 2021. This visit consisted of completing four shovel tests. Shovel Test 1 was located on top of the hillslope where the tertiary flake was recovered during the December surface survey. Shovel Tests 2 through 4 were positioned in another area of high cultural potential; just east of the wetlands within the southern-center portion of the project area, with one placed on a high point adjacent to the wetlands.

Shovel Test 1 reflected typical agricultural soils for the area: 10YR 3/2 Loam from 0 to approximately 10 centimeters below surface (cmbs), followed by 10YR 3/2 Silty Loam from 10cmbs to approximately 40cmbs, and finally 10YR 5/4 Coarse Sand. The shovel test was terminated at 70cmbs, well into subsoils. Shovel Test 1 was negative for cultural materials.

Shovel Tests 2 through 4 reflected typical wetland soils. The average soil profile within this area consists of 10YR 2/1 Loam with a high amount of organics from 0 to approximately 10cmbs, followed by 10YR 2/1 wet Clay Loam from 10 to approximately 60cmbs, and finally 10YR 4/4 wet Sandy Clay or 10YR 5/3 wet Fine Sandy Clay starting at 60cmbs. The shovel tests were terminated between 60 and 70cmbs due to the emerging water table. Shovel Tests 2 through 4 were negative for cultural materials.

SITE #: 21- HE0546

Site Name:

Agency/Field #: DPFS1



Photo 1: Dorsal view of tertiary siltstone flake (FS1).



Photo 2: Ventral view of tertiary siltstone flake (FS1).

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Appendix F

Traffic Study

Dayton Park Industrial Center EAW

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**DAYTON FIELD
INDUSTRIAL AREA**



STS

Swing Traffic Solutions

TRAFFIC IMPACT STUDY

in

Dayton, MN

July 26, 2021

DAYTON FIELD - INDUSTRIAL AREA

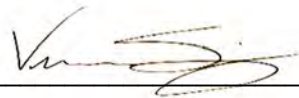
Dayton, MN

TRAFFIC IMPACT STUDY

PROJECT NO. 2021001

July 26, 2021

I hereby certify that this plan, specification, or report 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:



Vernon E. Swing, P.E.

Date: July 26, 2021 Lic. No.: 41417

TRAFFIC IMPACT STUDY

DAYTON FIELD – INDUSTRIAL AREA

DAYTON, MINNESOTA

July 26, 2021

Prepared For:

Landspec Fund 3 LLC
5529 Minnetoga Terrace
Minnetonka, MN 55347

Prepared By:

Swing Traffic Solutions,
LLC 4290 Norwood Lane
North Plymouth, MN 55442
612-968-4142

Project No. 2021001

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TECHNICAL APPENDICES

(Available upon Request)

- A. TRAFFIC COUNTS**
- B. TRIP GENERATION CALCULATIONS**
- C. FRENCH LAKE INDUSTRIAL CENTER AUAR TRAFFIC STUDY & UPDATE**
- D. RESULTS OF OPERATIONAL ANALYSES**

I. INTRODUCTION

Landspec Fund 3 LLC proposes to develop an approximately 50.78-acres site referred to as Dayton Field – Industrial Area in Dayton, Minnesota as an office/warehouse type project. The project will consist of up to 600,000 square feet of office/warehouse buildings assumed to be 15 percent office. This study, therefore, assumes the property will include 90,000 square feet of office and 510,000 square feet of warehouse. For the purposes of this study, it is anticipated that construction will be complete, and the facilities fully occupied by the end of 2025.

The proposed site is located adjacent to the east side of Brockton Lane N and to the east and south of the existing ICA Corporation light industrial warehouse building, and adjacent to the west side of West French Lake Road. The site is approximately one quarter mile south of 124th Avenue N. The site location is illustrated on Figure 1, "Vicinity Map". Direct access to the site is proposed from two locations, the first from Brockton Lane N located near the southern property line where a new public street is planned; and via a new full access drive to the future upgraded French Lake Road located to the south of the proposed buildings. Indirect access to the site is available from CSAH 81, Rogers Drive, and S Diamond Lake Road. The location of these accesses are illustrated on the Concept Site Plan, Figure 2. (Note, Figure 2 is illustrative only and represents a smaller development than has been studied.) This area of Dayton is planned to include several regional road improvement projects, including a new interchange with I-94, and a new roadway referred to as Dayton Parkway, as well as upgrades to Brockton Lane N and French Lake Road. Figure 4 illustrates the new interchange, and the following exhibit reproduced from the City of Dayton Transportation Plan identifies future road improvements and their timing.

Table 2. List of Programmed and Planned Improvements

Roadway	Extents		Timeframe	Jurisdiction
I-94 Interchange	Interchange Area		2020	Dayton/MnDOT/Hennepin Co
Dayton Parkway	Brockton Lane (CR101) to CSAH 81	4-Lane Construction	2020	Dayton/MnDOT/Hennepin Co
Dayton Parkway	CSAH 81 to 117th Avenue	4-Lane Construction	2025	Dayton/Hennepin Co
113th Avenue	113th Avenue existing to East French Lake Road	3-Lane Construction	2025	Dayton
French Lake Road	Rogers Drive to Dayton Parkway	2-Lane Construction	2025	Dayton
Pioneer Parkway	Lawndale Lane to Dayton River Road (CR12)	2-Lane Construction	2030*	Dayton
Dayton Parkway	117th Avenue to Fernbrook Lane Extension	4-Lane Construction	2035	Dayton/Hennepin Co
Fernbrook Lane	Fernbrook Lane existing to 125th Avenue	4-Lane Construction	2035	Dayton/Hennepin Co
Zanzibar Lane	125th Avenue to North Diamond Lake Road	Roadway Extension	2040	Dayton/Hennepin Co
Dayton Parkway	Fernbrook Lane Extension to 129th Avenue	4-Lane Construction	2040**	Dayton/Hennepin Co
Dayton Parkway	129th Avenue to East City Limits	4-Lane Construction	2040**	Dayton/Hennepin Co
Zanzibar Lane	North Diamond Lake Road to Vicksburg Lane	Roadway Extension	2040	Dayton/Hennepin Co
Vicksburg Lane	Zanzibar Lane Extension to Dayton River Road (CR12)	3-Lane Reconstruction	2040	Dayton/Hennepin Co
Pineview Lane	129th Avenue to Dayton River Road	4-Lane Construction	2040	Dayton

* Development driven for roadway completion

** Construction of this roadway network is highly dependent on development growth and jurisdictional coordination

The purpose of this study is to support the EAW completed for the Dayton Field – Industrial Area, particularly to evaluate the impact of traffic generated by the proposed development on the operations and safety of the adjacent roadway network. The study focuses on the roads and intersections that provide direct and indirect access into the site. This study details the existing and future roadway conditions at studied intersections and includes traffic volumes, lane geometrics and traffic operational analysis results. Recommendations regarding roadway improvements to accommodate site generated traffic, as well as the anticipated growth in background traffic are included as necessary.



VICINITY MAP
FIGURE 1

Dayton Field- Industrial Area
Dayton, Minnesota





Moving Forward

After nearly 10 years of study and collaboration, the Dayton Parkway Interchange is close to becoming a reality. The city has been working with its partners on funding and plan refinements. The refinements to the design have lowered costs by \$7M - \$10M while preserving safety and functionality for users. This interchange is part of a long-term system plan that eventually will include an extension of County Road 117 to the west and an arterial roadway through the center of Dayton.

Construction is planned to start in 2020 and the interchange is anticipated to open in the fall of 2021.

Dayton Parkway finally gives Dayton direct access to I-94.
This will unlock the economic potential of Dayton, and substantially cut the commute time for its residents.

— Tim McNeil, Mayor, City of Dayton

Why a Diverging Diamond Interchange?

The diverging diamond interchange is a very efficient and safe option when the majority of traffic in the interchange is turning. In the case of Dayton Parkway and I-94 there is two to six times the level of traffic turning versus traveling through the interchange. The proposed configuration stopped half as many vehicles as the next best alternative.

- Meets federal, state, and county requirements
- Meets traffic demands for future urbanization of Dayton
- Works well with heavy truck volumes
- Supports multimodal use
- Safer than most other interchanges
- Minimizes additional permanent ROW
- Minimizes size of bridge
- One of the lower cost options
- Supports good access spacing and has good circulation to residents and businesses

Scan this QR code to see a traffic simulation of the proposed Dayton Parkway diverging diamond interchange.



Dayton Field- Industrial Area
 Dayton, Minnesota

DAYTON PARKWAY
 INTERCHANGE
 FIGURE 4

I. Existing Conditions

A. Data Collection

The existing conditions of the nearby roadway system were documented by a field inventory conducted during the week of February 22, 2021, and compared with the Updated AUAR traffic study for the French Lake Industrial Center. The purpose was to identify features that affect roadway capacity, including traffic control, sight distances, turn lanes, speed limits, etc. In addition, turning movement traffic counts completed in 2019 for the Updated AUAR were utilized in this study for the following intersections:

- Brockton Lane N and S Diamond Lake Rd
- Brockton Lane N and David Koch Avenue
- Brockton Lane N and Rogers Drive
- Brockton Lane N and 124th Avenue N
- Brockton Lane N and CSAH 81

Further, Peak Hour turning movement counts were conducted at the ICA Corporation site access, and at 117th Avenue N (becomes W French Lake Road) and East French Lake Road, the intersection most closely aligned with the future Dayton Parkway and French Lake Road intersection. Figure 3 illustrates the existing AM and PM Peak hour turning movement counts. Also, the 2019 average daily traffic volume for Brockton Lane N, and W French Lake Road published in the French Lake Industrial Center AUAR Update indicates Brockton Lane N carries 12,300 trips a day, and W French Lake Road carries 200 trips a day in the site vicinity.

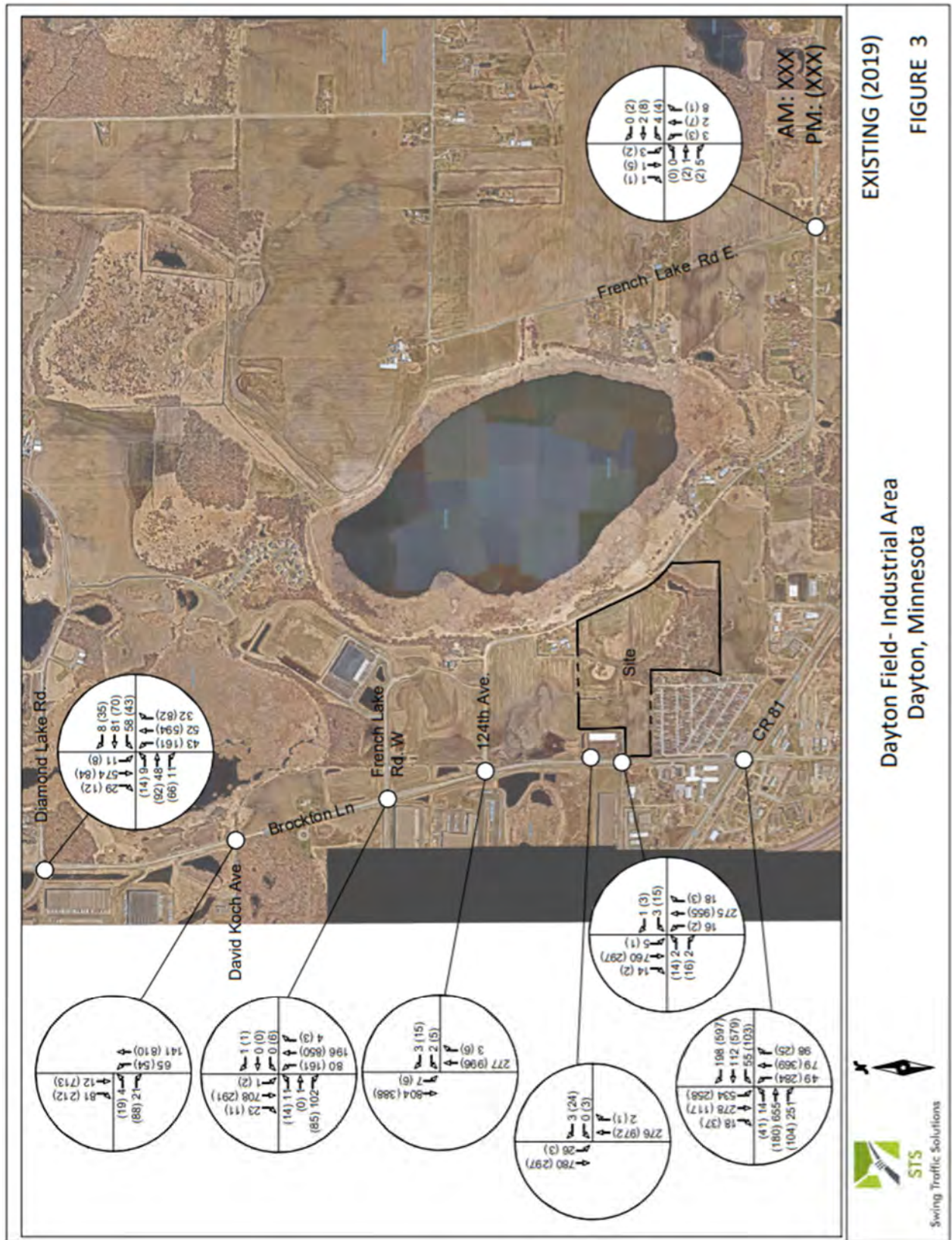
B. Roadway Descriptions

The existing geometrics of the Study Area Roadway Network have been document based on a field review. The discussion that follows details specific items such as lane and shoulder layout, roadway classifications, and turn lane storage lengths.

- **Brockton Lane N**, runs generally north/south to the west of the site. It is a functionally classified as an A Minor Arterial and provides direct access to the site. In the study area, Brockton Lane N is a 35 mph, 2-lane undivided facility with right and left turn lanes at intersecting streets. Brockton Lane is expected to be enhanced to a 4-lane divided road by 2040, with several intersection upgrades. At this time following changes have occurred within the study area: The Brockton Lane/Rogers Drive intersection has been constructed and signalized. It is now a four leg intersection with exclusive left and right turn lanes on each approach. A channelized, yield-controlled eastbound right turn lane has been included on South Diamond Lake Road at Brockton Lane. Brockton Lane/CSAH 81 includes two through lanes for eastbound and westbound, channelized yield-controlled right turn lanes for northbound and southbound, dual southbound left turn lanes and dual westbound right turn lanes.
- **W French Lake Road**, runs generally northwest to southeast along the eastern border of the site. It is a Dayton City road and is functionally classified as a Major Collector. It has a two-lane undivided rural cross-section footprint, and is unpaved in the vicinity of the site and is signed for 40 mph. W French Lake Road provides direct access to the site and will connect with the new Dayton Parkway by 2025.
- **S Diamond Lake Road**, South Diamond Lake Road is City of Rogers Municipal State Aid Street 106 which runs generally east-west and is designated as a B-Minor Arterial. It is a four lane, divided roadway with a 35 mph speed limit near the proposed development.
- **David Koch Road**, runs generally east west, is City of Rogers Municipal State Aid Street 110 and is designated as a local city street. It is a four lane, undivided roadway near Rogers Drive and transitions to a two lane roadway near Brockton Lane. It has a 50 mph speed limit near the proposed development.
- **Rogers Drive**, runs east-west, and intersects Brockton Lane N providing indirect access to the site.

It is City of Rogers Municipal State Aid Street 110 and is designated as a Collector. It is a four lane, partially divided roadway with a 40 mph speed limit near the proposed development. Rogers drive will connect with French Lake Road in 2025 providing direct access to Dayton Parkway and the new I-94 interchange.

- **124th Avenues**, runs east-west, is a city street and is designated as a B-Minor Arterial. It is a two lane, undivided gravel roadway with a 40 mph speed limit near the proposed development.
- **County Road 81**, runs east-west, is Hennepin County State Aid Highway 81, and is designated as an A-Minor Arterial. It is a two lane, undivided roadway with a 55 mph speed limit near the proposed development, which expands to 4-lanes with turn lanes at its intersection with Brockton Lane (as discussed above).



III. NO-BUILD ALTERNATIVE

To address the impacts of a development on the surrounding roadway system, it is necessary to predict the traffic that would be present on the roadway system at the time (the design year) of completion of the proposed development, without the inclusion of the proposed development. This is considered the No-Build scenario, and serves as a basis with which to compare Build scenarios. In this study two design years were analyzed 2025, the year after the development is fully built and occupied, and 2040, the current planning year horizon.

A. Background Growth

Review of the latest City of Dayton Comprehensive Transportation Plan, and the Hennepin County Comprehensive Plan indicate the traffic in the area is expected to increase through the year 2040. The City's Plan includes a complete TAZ analysis based on residential and employment statistics which suggest areas associated with the site will have an annual increase in background traffic of approximately 2.35 percent per year. In addition to the background growth rate, this study includes traffic from the completion of the Henry Development and completion of the French Lake Industrial Center, both of which are assumed to be occur prior to the 2025 Design Year. (Note the AUAR for French Lake Industrial Center is available upon request.) Figures 5 and 6 illustrate the anticipated 2025 and 2040 No-Build peak hour traffic volumes.

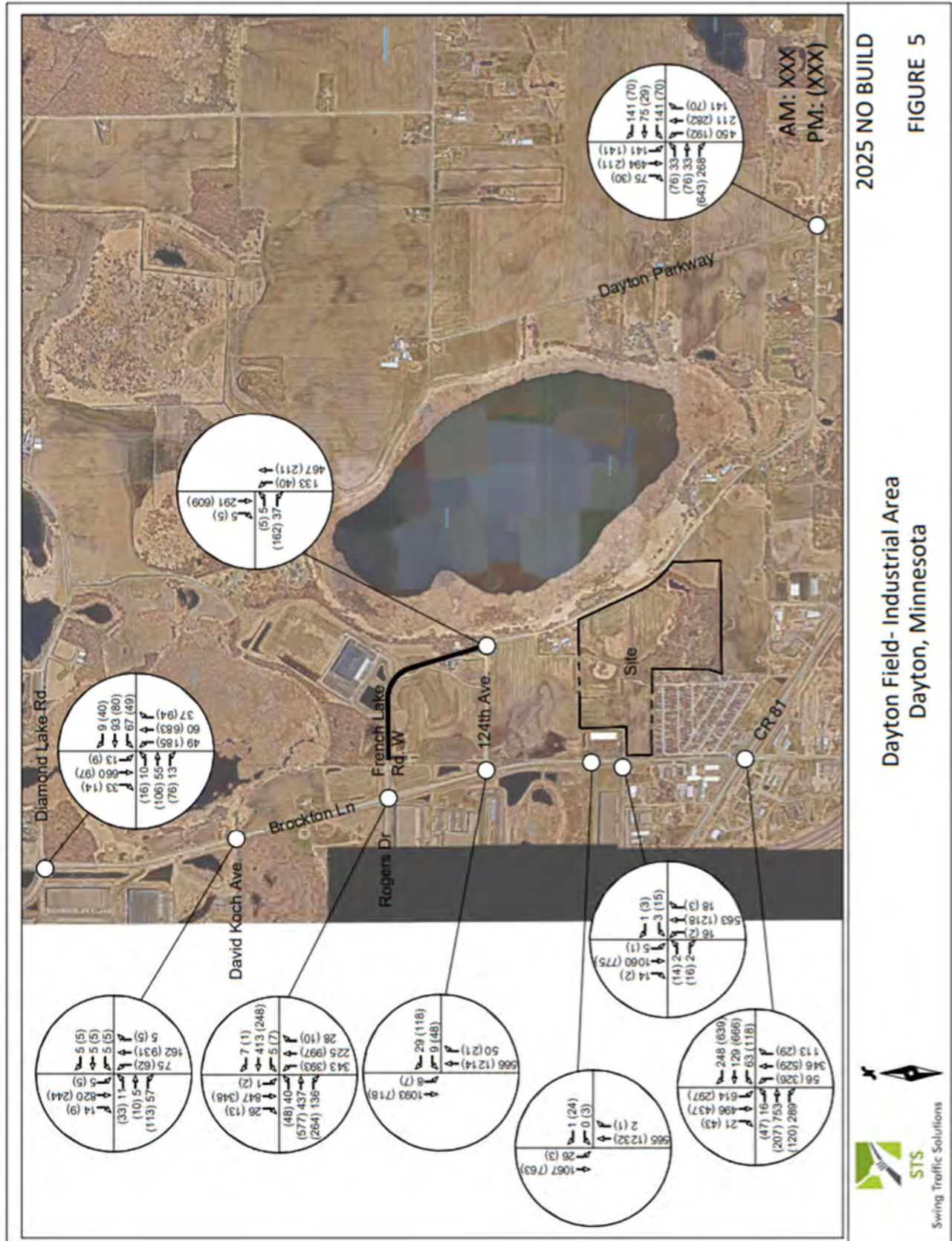
B. Anticipated Improvements for No-Build Conditions

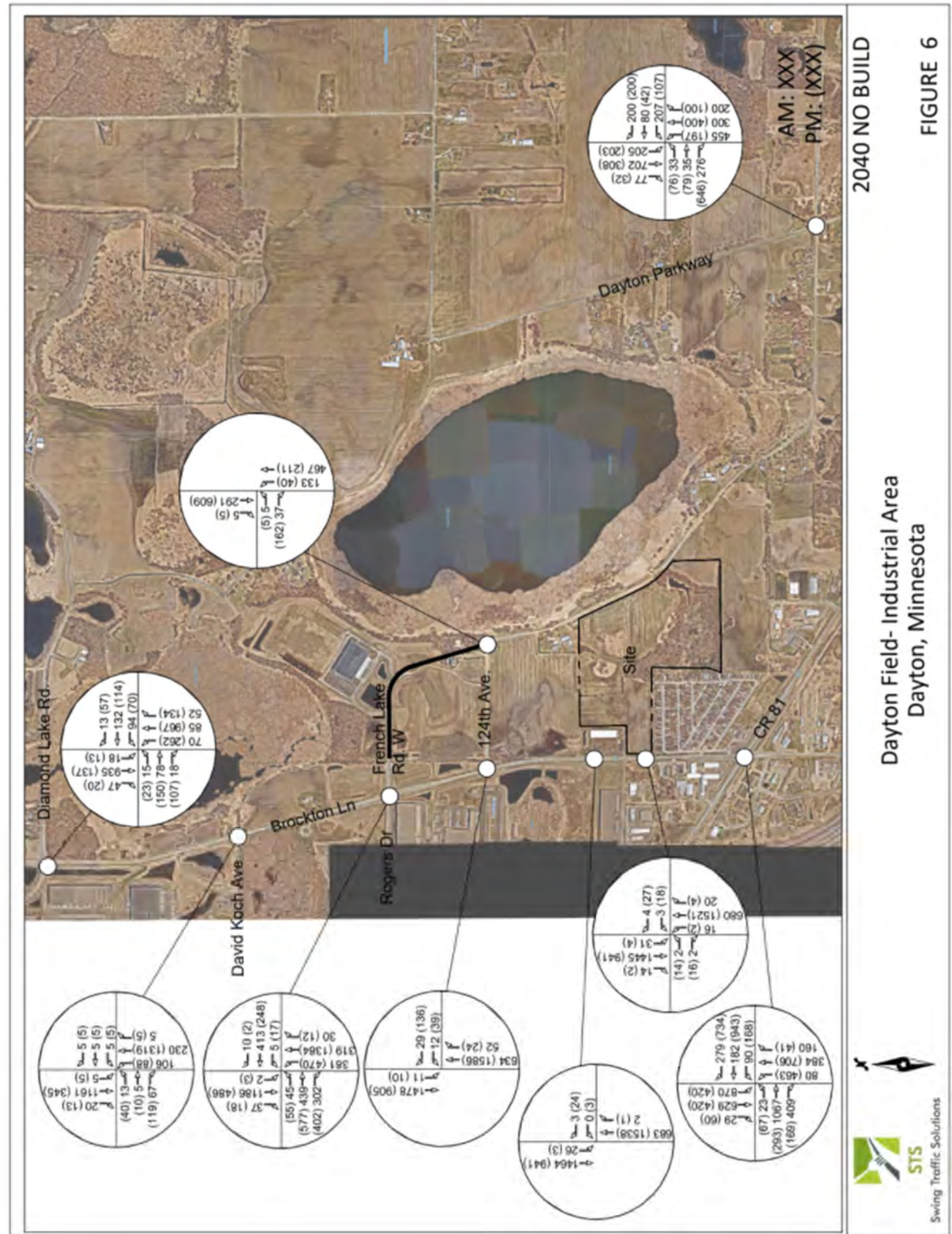
The 2040 Dayton Comprehensive Transportation Plan identified several road improvements that would be required to manage the anticipated growth in traffic. As mentioned earlier these include the completion of Dayton Parkway, and the completion of French Lake Road from Rogers Drive to Dayton Parkway by 2025. Further, by 2040 Hennepin County has identified that Brockton Lane will be expanded to 4 lanes divided with turn lanes at intersections from County Road 81 to S Diamond Lake Road. Also, for the 2025 No-

Build conditions, it is assumed the intersection of Brockton Lane and 124th Avenue N will be improved to include a traffic signal, a southbound left turn lane, northbound right turn lane and westbound right turn lane.

C. Results of Analysis

The study area intersections identified in Section II were analyzed for the 2025 and 2040 No-Build scenarios. Complete discussion of the results of these analyses is provided in Section IV, where a comparison with corresponding design year Build alternatives are made.





IV. BUILD ALTERNATIVE

A. Site-Generated Traffic

The number of vehicle trips generated by the 600,000 square foot office/warehouse building to potentially be developed as part of Dayton Field Industrial Area were estimated for the weekday daily, and AM and PM traffic peak hours using the data and methodologies contained in the 10th Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE). The proposed Warehouse development will include 15 percent office and 85 percent warehouse corresponding to ITE Land Use Codes 710 and 150, respectively. Table 1 summarizes the trip generation estimates.

Table 1
Trip Generation

Land Use	AM Peak Hour		PM Peak Hour		Daily Trips
	Enter	Exit	Enter	Exit	
Office (90 K-SF)	95 Trips	16 Trips	16 Trips	87 Trips	958 Trips
Warehouse (510 K-SF)	67 Trips	20 Trips	26 Trips	71 Trips	851 Trips
TOTAL	198 Trips		200 Trips		1,809 Trips

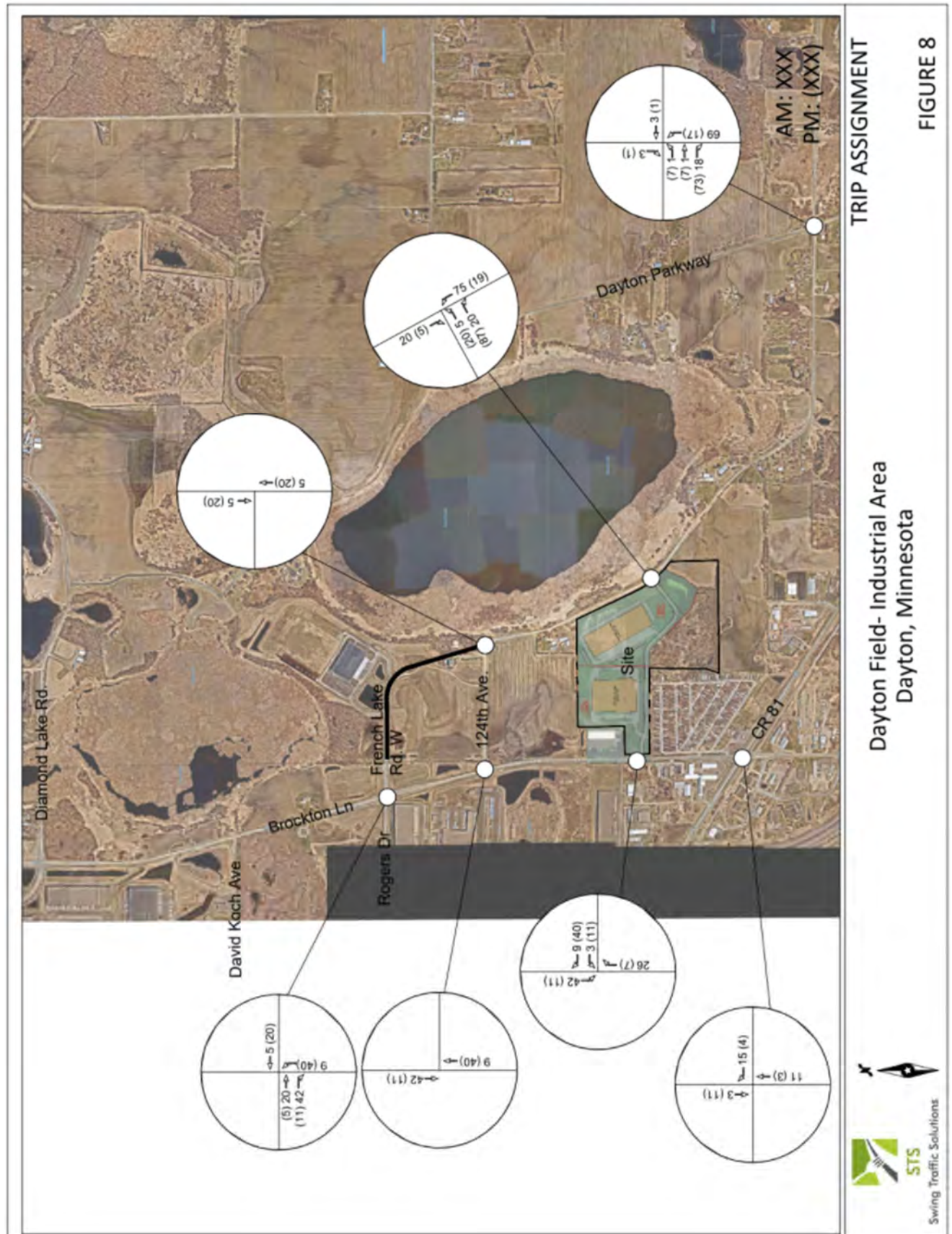
1. Per the data and methodologies in Trip Generation, 10th Edition, published by ITE.

B. Trip Distribution and Assignment

The distribution of site-generated traffic from and to the adjacent street system was based on the future traffic pattern reported in the French Lake Industrial Center which reflects completion of the Dayton Parkway interchange, and the French Lake Road and Dayton Parkway intersection (assumed to be controlled with a traffic signal). Figure 7, titled "Trip Distribution," depicts the distribution of the estimated site-generated traffic entering and exiting the study area roadway network. Traffic was assigned to the roadway network on the route that would minimize travel time. The completion of the project will include a new access intersection from French Lake Road, and a new access that consolidates the ICA Corporation driveways within the project area and combines with the site traffic. This new access is located approximately near the southern property line and is proposed to be a new public street. Preliminary review of operating conditions in 2040 suggest the new access will satisfy the Peak Hour traffic signal warrant.

Figure 8, titled "Trip Assignment," illustrates the estimated changes in traffic volume on the study area roadways associated with the proposed redevelopment.





C. Build Traffic Volumes

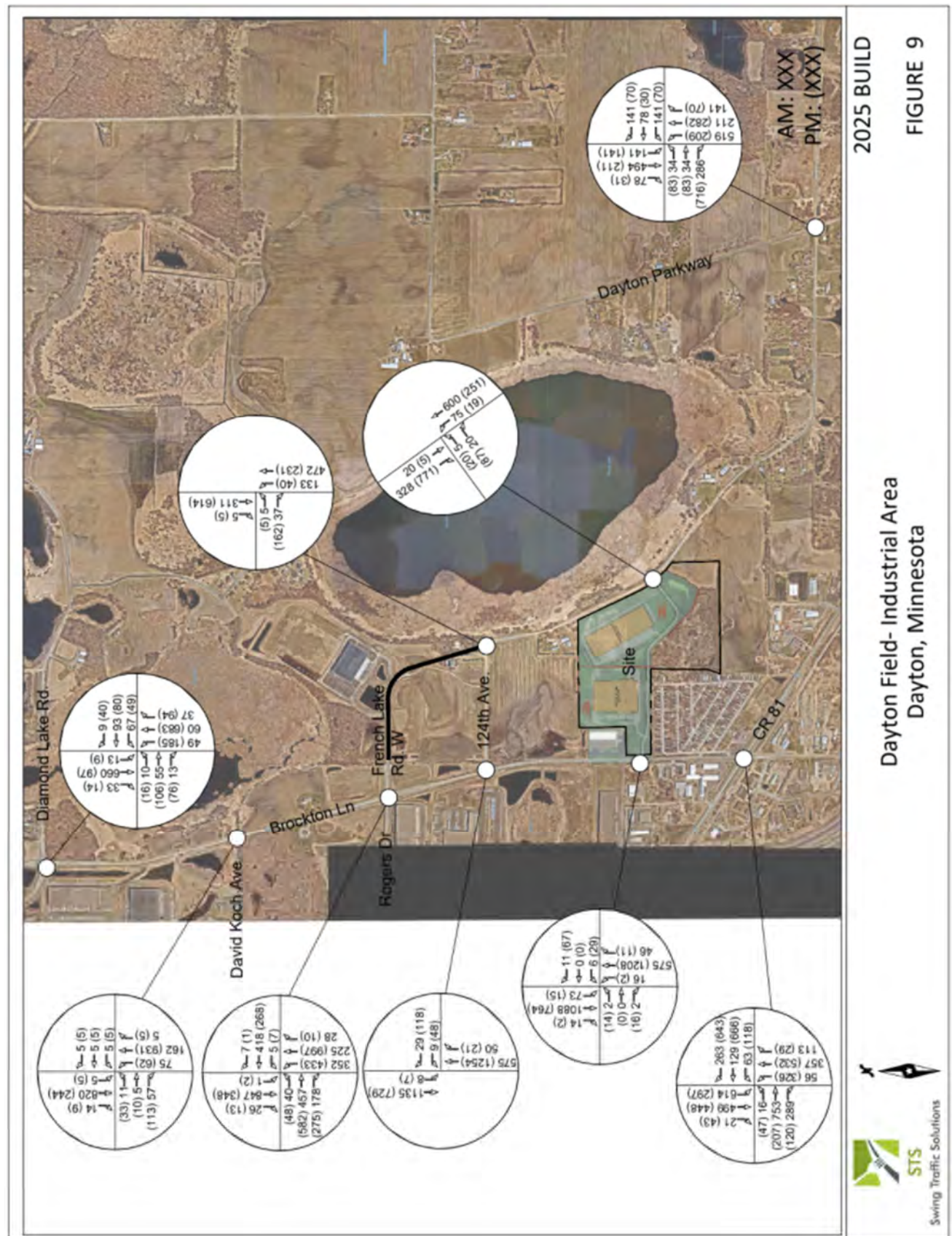
When combined, the site-generated traffic volumes and No-Build scenario traffic volumes result in the Build scenario traffic volumes, shown on Figures 9 and 10 for the 2025 and 2040 design years, respectively.

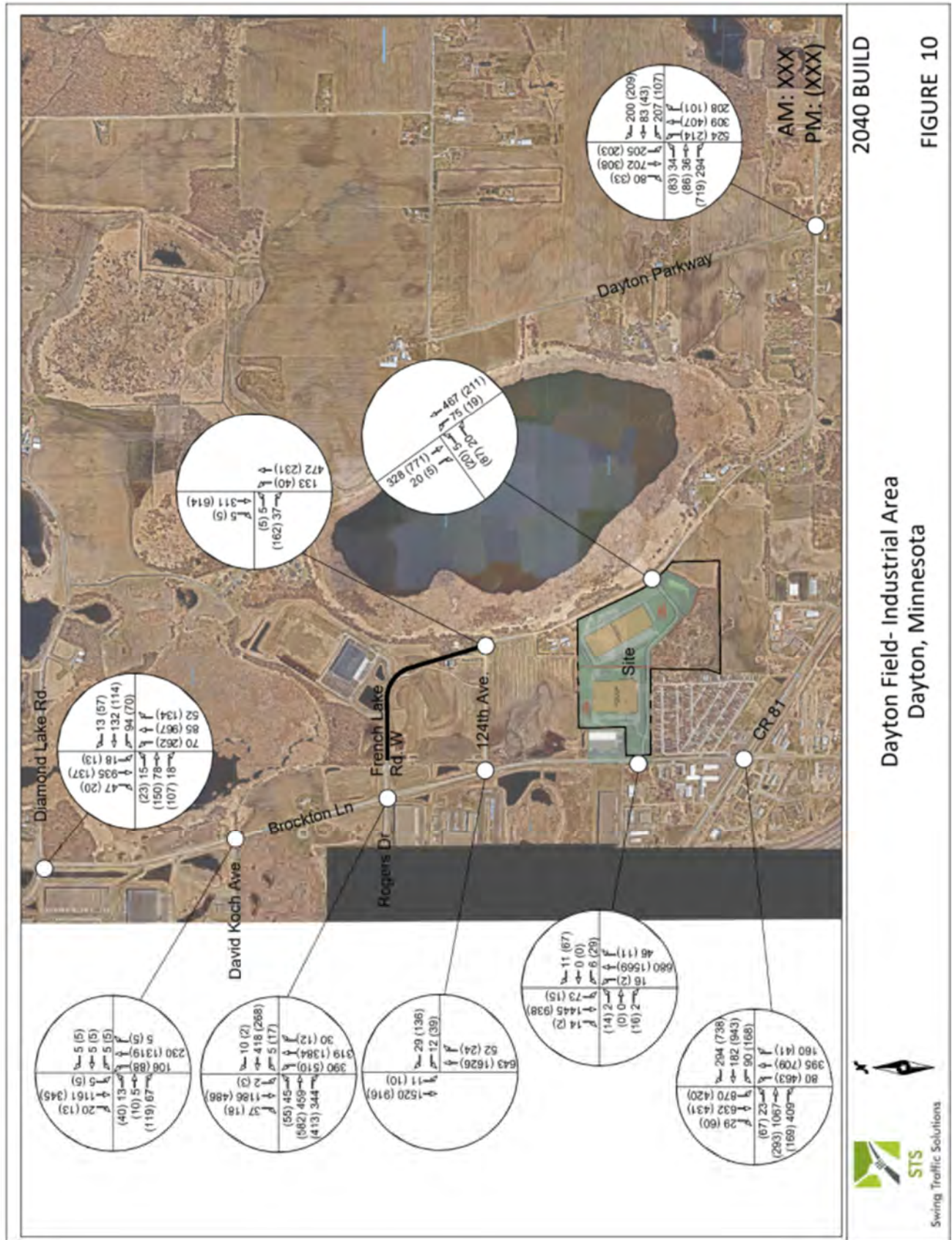
D. Intersection Operational Analysis Description

The operating conditions of transportation facilities, such as roadways, traffic signals and stop-controlled intersections, are evaluated based on the relationship of the theoretical capacity of a facility to the actual traffic volume on that facility. Various factors affect capacity including travel speed, roadway geometry, grade, number of travel lanes, and intersection control. The current standards for evaluating capacity and operating conditions are contained in the 6th Edition of Highway Capacity Manual, published by the Transportation Research Board. The procedures describe operating conditions in terms of driver delay represented as a Level of Service (LOS). Operations are given letter designations with "A" representing the best operating conditions and "F" representing the worst. Generally, level of service "D" represents the threshold for acceptable overall intersection operating conditions during a peak hour. The Chart below summarizes the level of service and delay criteria for signalized and unsignalized intersections.

LOS Designation	Signalized Intersection Average Delay/Vehicle (Sec.)	Unsignalized Intersection Average Delay/Vehicle (Sec.)
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

A final fundamental component of operational analyses is a study of vehicular queuing, or the line of vehicles waiting to pass through an intersection. An intersection can operate with an acceptable Level of Service, but if queues from the intersection extend back to block entrances to turn lanes or accesses to adjacent land uses, unsafe operating conditions could result. In this report, the Industry Design Standard 95th percentile queue length is used. The 95th Percentile Queue Length refers to that length of vehicle queue that has only a five-percent probability of occurring during an analysis hour.





E. Results of Analysis

This section contains the results of the intersection operational analyses based on Synchro/Simtraffic, 10th Edition, and provides recommendations, as necessary to mitigate the impacts. Traffic control and lane configuration assumed for the 2025 analysis are summarized in Table 2. Table 3 summarize the results of the operational analyses for the 2025 No Build scenario (assumes 2.35 percent annual growth in traffic from existing conditions, and includes full build traffic from Henry and French Lake Industrial Center developments). It is noted, this analysis assumes development will occur east of Brockton Lane N at David Koch Avenue by 2025.

Table 2
2025 Traffic Control
and Lane Configuration

Intersection	Control	EB	WB	NB	SB
Brockton Lane N & S Diamond Lake Rd	Signal	LTR	LTr	LTR	LTR
Brockton Lane N & David Koch Ave	Side Stop	ltr	ltr	ltr	ltr
Brockton Lane N & Rogers Dr	Signal	LTTR	LTTR	LTTR	LTTR
Brockton Lane N & 124 th Ave N	Signal	N/A	LR	TR	LT
Brockton Lane N & Northern Access	Side Stop	N/A	ltr	tr	lt
Brockton Lane N & Southern Access	Side Stop	LR	lr	LTR	LTR
Brockton Lane N & County Road 81	Signal	LTTR	LTTRR	LTR	LLTR
French Lake Road & Dayton Parkway	Signal	LTRR	LTR	LTTR	LTTR
French Lake Road & 124 th Avenue N	Side Stop	LR	N/A	LT	TR

1. Capital letters indicate dedicated movements, lower case letters indicate shared movements.

**Table 3
2025 No-Build Operations**

Intersection	Overall LOS & Delay (sec)		Notes/95 th Percentile Q
	AM Peak Hour	PM Peak Hour	
Brockton Ln N & S Diamond Lake Rd	C (20.3)/E sbl (66.3)	C (21.6)/D ebl (51.4)	SBT Q is 224 ft in AM; NBT Q is 254 ft in PM
Brockton Ln N & David Koch Ave	a (6.6)/c wbl (19.8)	b (12.6)/e wbt (48.4)	EBR Q is 61 ft in AM; EBR Q is 56 ft in PM
Brockton Ln N & Rogers Dr	D (35.9)/D ebl (49.4)	C (31.1)/D ebt (43.1)	SBT Q is 457 ft in AM; EBT Q is 631 ft in PM
Brockton Ln N & 124 Ave N	B (11.2)/D wbl (54.7)	A (9.4)/E wbl (64.2)	SBT Q is 410 ft in AM; SBT Q is 157 ft in PM
Brockton Ln N & North ICA Driveway	a (3.6)/a wbr (7.8)	a (3.5)/d sbl (29.6)	SBL Q is 77 ft in AM SBL Q is 225 ft in PM
Brockton Ln N & South ICA Driveway	a (3.9)/f wbl (59.4)	a (8.2)/f wbr (293.4)	NBL Q is 118 ft in AM NBL Q is 158 ft in PM
Brockton Ln N & County Rd 81	C (29.4)/D ebl (44.2)	C (33.5)/E ebl (67.7)	EBT Q is 341 ft in AM; NBT Q is 376 ft in PM
French Lake Rd & Dayton Parkway	B (19.8)/D ebt (50.8)	B (16.9)/D wbl (38.5)	NBL Q is 277 ft in AM NBL Q is 112 ft in PM
French Lake Rd & 124 th Ave N	a (8.4)/c ebl (24.2)	a (4.1)/b ebl (12.5)	NBL Q is 51 ft in AM; EBR Q is 56 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 3 indicate all intersections are expected to operate at acceptable overall LOS in 2025 without the proposed project. That said, in the PM Peak the westbound approach at the southern access includes very long delay times that may lead drivers to accept unsafe gaps in traffic. Also, the Eastbound queue length on Rogers Drive is unusually long suggesting a capacity improvement at the intersections should be considered. This condition should be monitored to determine if improvements are warranted.

Table 4 summarizes the operational analyses results for the 2025 Build conditions. In this scenario, the northern and southern accesses to ICA are eliminated and the volume is combined with the site traffic at the new public street access along the southern property line, which is assumed to be unsignalized and include dedicated turn lanes from Brockton Lane N. Also, a new access to the site is provided from French Lake Road, which includes dedicated turn lanes on all approaches.

**Table 4
2025 Build Operations**

Intersection	Overall LOS & Delay (sec)		Notes/95 th Percentile Q
	AM Peak Hour	PM Peak Hour	
Brockton Ln N & S Diamond Lake Rd	C (23.6)/E sbl (78.1)	C (23.4)/E wbl (63.3)	WBT Q is 145 ft in AM; NBL Q is 257 ft in PM
Brockton Ln N & David Koch Ave	a (3.8)/e ebl (49.1)	b (11.1)/e ebt (36.5)	NBL Q is 61 ft in AM; SBL Q is 90 ft in PM
Brockton Ln N & Rogers Dr	C (34.9)/D wbt (51.7)	C (26.8)/D wbl (49.7)	SBT Q is 364 ft in AM; NBL Q is 286 ft in PM
Brockton Ln N & 124 Ave N	B (11.2)/E wbl (55.5)	B (11.4)/D wbl (54.7)	SBT Q is 76 ft in AM; NBT Q is 190 ft in PM
French Lake Road & Site Access	a (6.0)/b ebl (13.9)	a (2.6)/a nbl (9.5)	NBL Q is 51 ft in AM EBR Q is 41 ft in PM
Brockton Ln N & New South Driveway Street	a (4.8)/c wbl (23.1)	b (15.3)/f wbl (412.2)	SBL Q is 52 ft in AM WBTL Q is 190 ft in PM
Brockton Ln N & County Rd 81	C (28.7)/D ebt (42.5)	C (34.3)/D ebl (54.8)	SBT Q is 369 ft in AM; NBT Q is 525 ft in PM
French Lake Rd & Dayton Parkway	C (20.6)/D wbl (44.5)	B (14.8)/C wbl (31.4)	NBL Q is 346 ft in AM NBL Q is 142 ft in PM
French Lake Rd & 124 th Ave N	a (2.9)/b ebl (10.2)	a (4.0)/b ebl (12.5)	NBL Q is 59 ft in AM; EBR Q is 93 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 4 indicate all intersections are expected to operate at acceptable overall LOS in 2025 with the proposed project. The proposed Site Access and Brockton Lane N intersection will operate poorly in the PM peak with long delays, however, the vehicle queues are at a manageable length. Peak hour volumes are approaching peak hour traffic signal warrant thresholds, and the intersection should be monitored to determine when warrants are satisfied. Note, Hennepin County has jurisdiction over Brockton Lane (County Road 101) and will have ultimate approval authority for signal installation at this location. The transportation infrastructure surrounding the site will support the development of this property. That said, the magnitude of traffic traveling north to west at the Brockton Lane and Rogers Drive intersection is typically better handled with dual left turn lanes, thus it is suggested this intersection be monitored to determine when the striping is adjusted to support northbound dual left turn lanes.

F. 2040 Operations

The long-range planning horizon year is 2040, as mentioned in the No-Build section. The results of the analysis of the 2040 No-Build traffic conditions, which continue to reflect a 2.35 percent annual growth

rate are summarized in Table 6. In this scenario, the previously discussed improvements to Brockton Lane N and other routes in the area are expected to be in place. In particular, the new Brockton Lane intersection along the southern property line is assumed to be in place, consolidating the two ICA accesses and the CLAM Corporation access at this location. Table 5 summarizes the 2040 traffic control and lane configuration assumed for this study.

Table 5
2040 Traffic Control
and Lane Configuration

Intersection	Control	EB	WB	NB	SB
Brockton Lane N & S Diamond Lake Rd	Signal	LTR	LTR	LTTR	LTTR
Brockton Lane N & David Koch Ave	Side Stop	lTr	lTr	LTTR	LTTR
Brockton Lane N & Rogers Dr	Signal	LTTR	LTTR	LLTTR	LTTR
Brockton Lane N & 124 th Ave N	Signal	N/A	LR	TTR	LTT
Brockton Lane N & New South DW St	Side Stop	Ltr	Ltr	LTTR	LTTR
Brockton Lane N & County Road 81	Signal	LTTR	LTTRR	LTTR	LLTTR
French Lake Road & Dayton Parkway	Signal	LTRR	LTR	LTTR	LTTR
French Lake Road & 124 th Avenue N	Side Stop	LR	N/A	LT	TR

1. Capital letters indicate dedicated movements, lower case letters indicate shared movements.

Table 6
2040 No-Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95 th Percentile Q
	AM Peak Hour	PM Peak Hour	
Brockton Ln N & S Diamond Lake Rd	B (15.9)/D ebt (45.4)	B (14.8)/D ebt (45.7)	SBT Q is 169 ft in AM; EBT Q is 207 ft in PM
Brockton Ln N & David Koch Ave	a (7.3)/f wbt (53.1)	a (6.9)/e wbl (37.5)	NBL Q is 82 ft in AM; EBL Q is 75 ft in PM
Brockton Ln N & Rogers Dr	D (35.1)/D nbl (54.9)	C (26.8)/D sbl (40.1)	SBT Q is 417 ft in AM; NBT Q is 363 ft in PM
Brockton Ln N & 124 Ave N	A (7.5)/E wbl (62.6)	A (7.1)/E wbl (60.2)	SBT Q is 46 ft in AM; NBT Q is 109 ft in PM
Brockton Ln N & New South Driveway Street	a (2.7)/f ebl (103.8)	a (5.0)/f ebl (51.4)	SBL Q is 47 ft in AM WBR Q is 40 ft in PM
Brockton Ln N & County Rd 81	D (37.6)/E nbt (68.8)	C (34.5)/E ebl (73.8)	EBT Q is 401 ft in AM; NBT Q is 402 ft in PM
French Lake Rd & Dayton Parkway	C (27.3)/D ebt (48.7)	B (26.5)/D ebl (43.6)	NBL Q is 338 ft in AM SBT Q is 235 ft in PM
French Lake Rd & 124 th Ave N	a (8.4)/c ebl (19.4)	a (4.3)/b ebl (12.7)	NBL Q is 57 ft in AM; EBR Q is 62 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 6 indicate all intersections are expected to operate at acceptable overall LOS in 2040 without the proposed project. That said, some minor approaches are expected to experience long delays, however, these approaches are very low volume approaches and are not shown to have long vehicle queues. Modification to the future geometry or traffic control to improve the traffic operation on these approaches is not recommended. Table 7 summarizes the results of the 2040 Build traffic operational analyses. Again, the northern and southern accesses to ICA are eliminated and the volume is combined with the site traffic at the new South Driveway Street access, which is assumed to be signalized and includes dedicated turn lanes from Brockton Lane N. Also, a new access to the site is provided from French Lake Road, which includes dedicated turn lanes on all approaches.

Table 7
2040 Build Operations

Intersection	Overall LOS & Delay (sec)		Notes/95 th Percentile Q
	AM Peak Hour	PM Peak Hour	
Brockton Ln N & S Diamond Lake Rd	C (22.9)/E nbl (65.6)	C (21.0)/D wbl (50.9)	SBT Q is 205 ft in AM; NBL Q is 220 ft in PM
Brockton Ln N & David Koch Ave	a (7.2)/d ebt (29.9)	a (7.3)/f wbl (55.0)	NBL Q is 88 ft in AM; EBL Q is 67 ft in PM
Brockton Ln N & Rogers Dr	C (29.4)/D wbt (44.6)	C (23.3)/D sbl (49.7)	SBT Q is 334 ft in AM; NBT Q is 266 ft in PM
Brockton Ln N & 124 Ave N	A (6.8)/E wbl (73.0)	A (6.9)/D wbl (53.7)	SBT Q is 75 ft in AM; NBT Q is 107 ft in PM
French Lake Rd & Site Access	a (5.6)/a nbl (9.5)	a (3.3)/b ebl (14.7)	NBL Q is 46 ft in AM NBL Q is 44 ft in PM
Brockton Ln N & New South Driveway Street	A (6.4)/E wbl (63.3)	A (7.4)/E ebl (67.3)	NBT Q is 157 ft in AM NBT Q is 108 ft in PM
Brockton Ln N & County Rd 81	C (38.8)/E nbt (58.9)	C (34.8)/D nbt (45.1)	EBT Q is 430 ft in AM; NBT Q is 368 ft in PM
French Lake Rd & Dayton Parkway	C (33.9)/E wbl (67.6)	B (18.5)/D wbl (41.3)	NBL Q is 419 ft in AM NBT Q is 167 ft in PM
French Lake Rd & 124 th Ave N	a (2.8)/b ebl (11.0)	a (3.1)/c ebl (20.0)	NBL Q is 56 ft in AM; EBR Q is 81 ft in PM

1. Overall Level of Service reported from SimTraffic delay, first letter represents intersection LOS, while second letter represents worst LOS of individual approach. Upper case letters indicate signalized intersection, and lower-case letters indicate unsignalized intersection
2. 95th percentile queues are a result from an average of 10 SimTraffic simulations.

The results shown in Table 7 indicate all intersections are expected to operate at acceptable overall LOS in 2040 with the proposed project. The long range transportation plans including improvements to Brockton Lane N, and the new interchange at Dayton Parkway and I-94 will address the area transportation needs.

V. SUMMARY AND SUGGESTIONS

The preceding analysis has evaluated the potential traffic impacts of the proposed development of the Dayton Field Industrial Area office/warehouse project, on the operations of the study area intersections. The site is located along the east side of Brockton Lane N and along the west side of W French Lake Drive in the City of Dayton, Minnesota.

Two design years were considered in this study, 2025 to correspond to the year after build-out and 2040 to remain consistent with the long range planning horizon. For both design years a No-Build and Build scenario, was analyzed and compared to assess the development's impact, and the area's future infrastructure needs. Development of the office/warehouse project on the Dayton Field Industrial Area site by 2025 is expected to result in approximately 1,809 new vehicle trips on the study area roadway network per average weekday. Peak hour trips generated by the development are estimated at 198 during the AM peak hour and 200 during the PM peak hour.

The site access approaches to the existing street system will consist of one lane in and one lane out, with dedicated turn lanes for right turns provided. The access from Brockton Lane N should provide dedicated left and right turn lanes on Brockton Lane N to remove the turning traffic from the path of the through vehicles. This access will initially be unsignalized and is planned to be located near the southern property line and will become a new public street. Initially the access will be unsignalized, however, by 2040 it will likely satisfy traffic signal warrants and is assumed to be signalized. Similarly, the access from French Lake Road should include dedicated left and right turn lanes at on French Lake Road. The development trips were distributed through the site accesses to the regional roadways according to 2025 forecast regional patterns, assuming the completion of the Dayton Parkway Interchange with I-94 and completion of the Dayton Parkway connection with French Lake Road. Growth in background traffic at a rate of 2.35 percent

per year was accounted for in the analysis, as well as the total traffic from the development of the Henry property and the French Lake Industrial Center property.

Results of the operational analyses in the 2025 and 2040 No-Build analysis indicate the new southern access street intersection with Brockton Lane N will have long delays. There are a number of changes planned along Brockton Lane N between 2025 and 2040 that are assumed will be complete by 2040, and are included in the 2040 No-Build and Build analyses, including the expansion of the corridor from two lane undivided to four lane divided. The results of the 2040 Build scenarios assuming a traffic signal is provided at the Brockton Lane N Access indicate all intersections will operate acceptably with manageable vehicle queues. The planned transportation improvements to the area will accommodate the traffic from the proposed development.