Cannon Falls Industrial

Draft Alternative Urban Areawide Review

May 2025

Prepared for:

Cannon City of Falls

Prepared by:

Kimley»Horn

Table of Contents

List of Tables

List of Figures

List of Appendices

Draft Alternative Urban Areawide Review

This Alternative Urban Areawide Review (AUAR) follows the format of an Environmental Assessment Worksheet (EAW) (December 2022 version). Where the AUAR guidance provided by the Minnesota Environmental Quality Board (EQB) indicates that an AUAR response should differ notably from what is required for an EAW, the guidance is noted in *italics*.

1. Project Title

Cannon Falls Industrial

2. Proposer

Proposer: MNLCO Dakota County Two, LLC & MNLCO Dakota County Three, LLC
Contact Person: Kristin Dean
Address: 3300 E 1st Ave Ste 600
City, State, ZIP: Denver, CO 80206
Phone: 303-276-7950
Email: kristin.dean@tract.com

3. RGU

RGU: City of Cannon Falls
Contact Person: Jon Radermacher
Title: City Administrator
Address: 918 River Road
City, State, ZIP: Cannon Falls, MN 55009
Phone: 507-263-9304
Email: cityadmin@cannonfallsmn.gov

4. Reason for EAW Preparation

AUAR Guidance: Not applicable to an AUAR.

The Scenarios examined in the AUAR exceed the threshold for a mandatory EIS under Minnesota Rules 4410.4400 Subp. 11. This allows the City to pursue an AUAR in accordance with Minnesota Rule 4410.3610.

5. Project Location

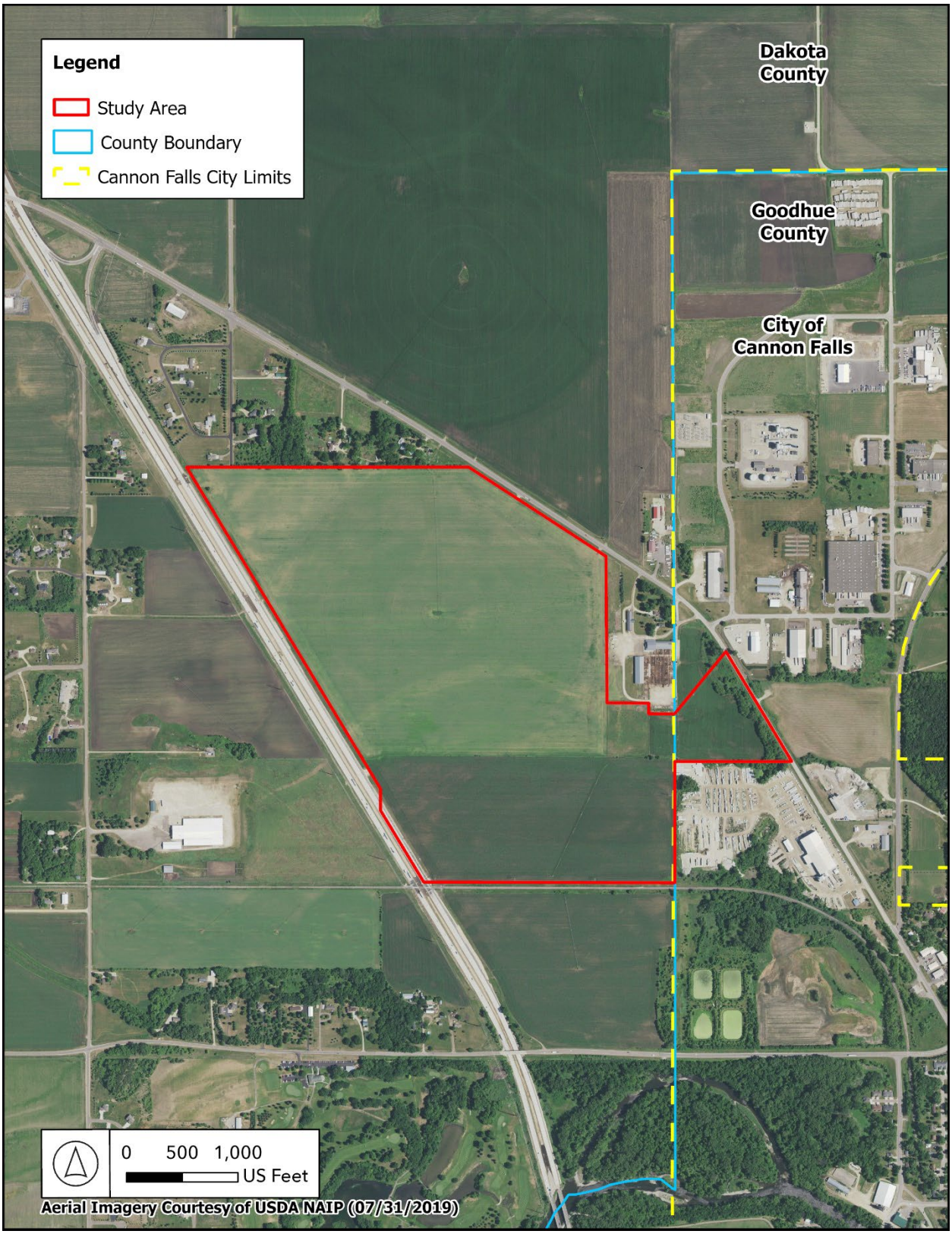
County: Dakota and Goodhue
City/Township: Cannon Falls / Randolph Township
PLS Location (¼, ¼, Section, Township, Range): Section 1, Township 112N, Range 18W and Section 6, Township 112N, Range 17 W.
Watershed (81 major watershed scale): Cannon River
GPS Coordinates: 44.531494, -92.926475
Tax Parcel Number: 310010051010, 310010085010, 310010090011, 310120001012, 525100100

At a minimum, attach each of the following to the AUAR:

- **US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries** (see **Figure 1)**
- **Map depicting the boundaries of the AUAR and any subdistricts used in the AUAR analysis** (see **Figure 2)**
- **List of data sources, models, and other resources (from the Item-by-Item Guidance: *Climate Adaptation and Resilience* or other) used for information about current Minnesota climate trends and how climate change is anticipated to affect the general location of the project during the life of the project (as detailed below in Item 7)**
- **Cover types map as required for Item 8** (see **Figure 6)**
- **Land use and planning and zoning maps as required in conjunction with Item 10** (see **Figure 7, Figure 8, Figure 9)**

Figure 1: USGS Map

Figure 2: AUAR Study Area Boundary



6. Project Description

AUAR Guidance: Instead of the information called for on the EAW form, the description section of an AUAR should include the following elements for each major development scenario included:

- *Anticipated types and intensity (density) of residential and commercial/warehouse/light industrial development throughout the AUAR area*
- *Infrastructure planned to serve development (roads, sewers, water, stormwater system, etc.). Roadways intended primarily to serve as adjoining land uses within an AUAR area are normally expected to be reviewed as part of an AUAR. More "arterial" types of roadways that would cross an AUAR area are an optional inclusion in the AUAR analysis; if they are included, a more intensive level of review, generally including an analysis of alternative routes, is necessary.*
- *Information about the anticipated staging of various developments, to the extent known, and of the infrastructure, and how the infrastructure staging will influence the development schedule*

The AUAR study area encompasses an area totaling approximately 253 acres across 5 parcels in Randolph Township and the City of Cannon Falls, Dakota and Goodhue Counties, Minnesota, see Figure 2. MNLCO Dakota County Two, LLC and MNLCO Dakota County Three, LLC are proposing to develop the study area from existing farmland to industrial or technology park uses. Prior to development, the portion of the study area currently in Randolph Township will be annexed into the City of Cannon Falls, rezoned first to "urban reserve," then rezoned to "I2 - General Industrial" with a Planned Unit Development Overlay.

The intent of the AUAR is to recognize the maximum build for the study area and identify impacts and mitigation measures that may be taken to compensate for those impacts. Development of the study area would include new infrastructure, including water service, sewer, stormwater, streets, and utilities. All new services would be extensions to existing infrastructure or upgrades to existing systems to support the new development.

Development Scenarios

Two development scenarios are under evaluation in the AUAR as outlined in **Table 1: Development Scenarios.** Both scenarios are consistent with the Cannon Falls Comprehensive Plan Future Land Use Designation of "Industrial" for this site. Scenario 1 includes 1,750,000 sq ft of light industrial use, see **Figure 3**. Scenario 2 proposes the development of a 1,750,000 sq ft technology park, see **Figure 4**.

The intent of the AUAR is to recognize the worst-case potential impacts and identify mitigation measures that may be taken to compensate for those impacts. Development of the study area would include new infrastructure, including water service, sewer, stormwater, streets, and utilities. All new services would be extensions to existing infrastructure or upgrades to existing systems to support the new development.

Scenario 1

Scenario 1 represents proposed light industrial development. Construction is anticipated to begin in 2026, see **Figure 3**.

Scenario 2

Scenario 2 represents proposed technology park development. Construction is anticipated to begin in 2026, see **Figure 4**.

Table 1: Development Scenarios

Land Use	Scenario 1	Scenario 2
Light Industrial	1,750,000	-
Technology Park	-	1,750,000
Total Project Area	**253 acres**	**253 acres**

Figure 3: Scenario 1

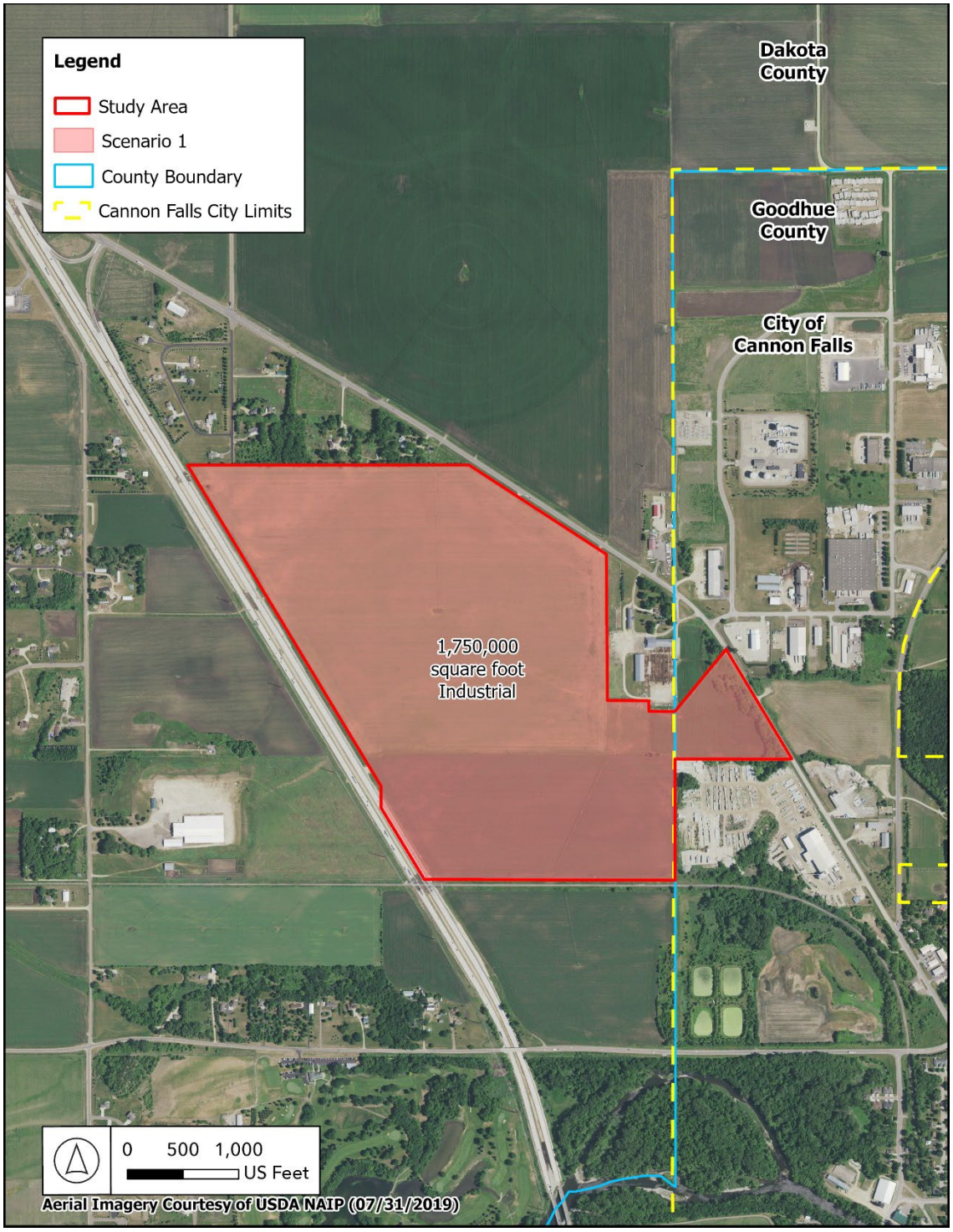
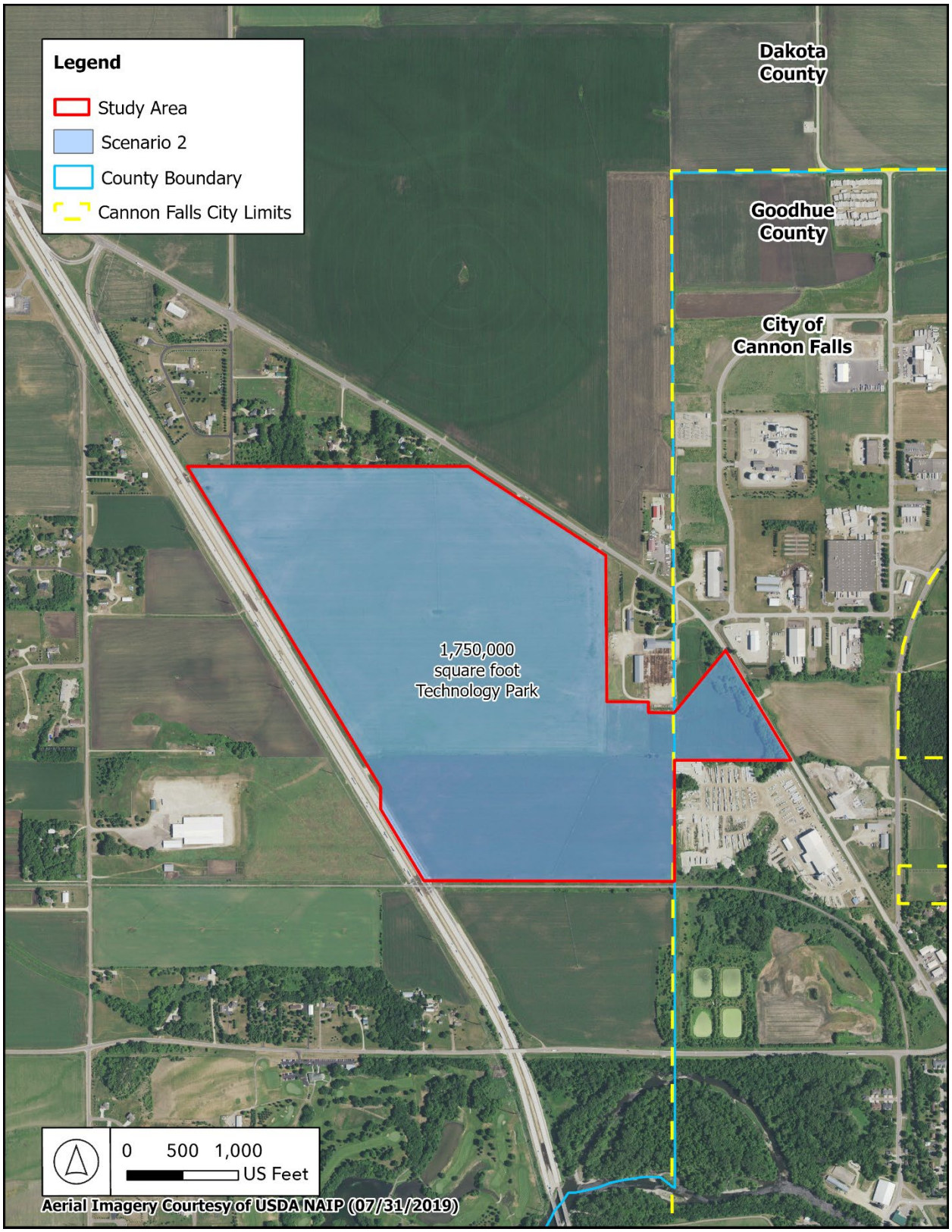


Figure 4: Scenario 2



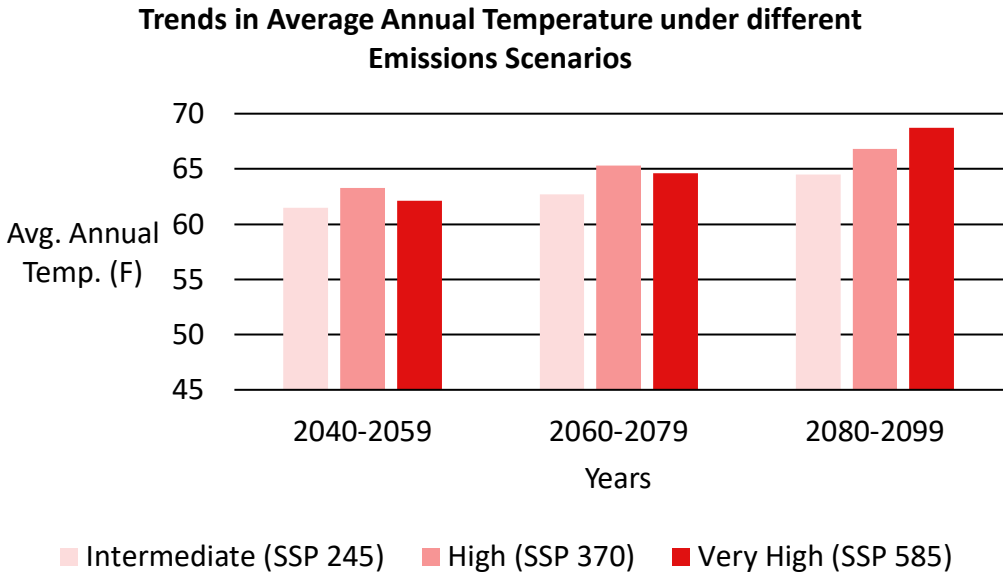
7. Climate Adaption and Resilience

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

Trends in temperature, precipitation, flood risk, and cooling degree days are described below for the general project location. Some of the climate projections summarized below use shared socioeconomic pathways (SSPs) or representative concentration pathways (RCPs), which are greenhouse gas concentration scenarios used by the Intergovernmental Panel on Climate Change. SSP 245 and RCP 4.5 are intermediate scenarios in which emissions decline after peaking around 2040, and SSP 370 and RCP 8.5 are high-emissions scenarios in which emissions continue to rise through the 21st century.

Temperature

According to the Minnesota Climate Mapping and Analysis Tool (CliMAT), the annual daily average temperature in the study area from 1995 to 2014 was approximately 58.0°F. The annual daily average temperature in the study area is projected to increase to 61.5°F from 2040 to 2059 under an intermediate emissions pathway (SSP 245). In 2080 to 2099, annual daily temperature is projected to further increase to 64.5°F and 66.8°F under intermediate emissions (SSP 245) and high emissions (SSP 370) scenarios, respectively.



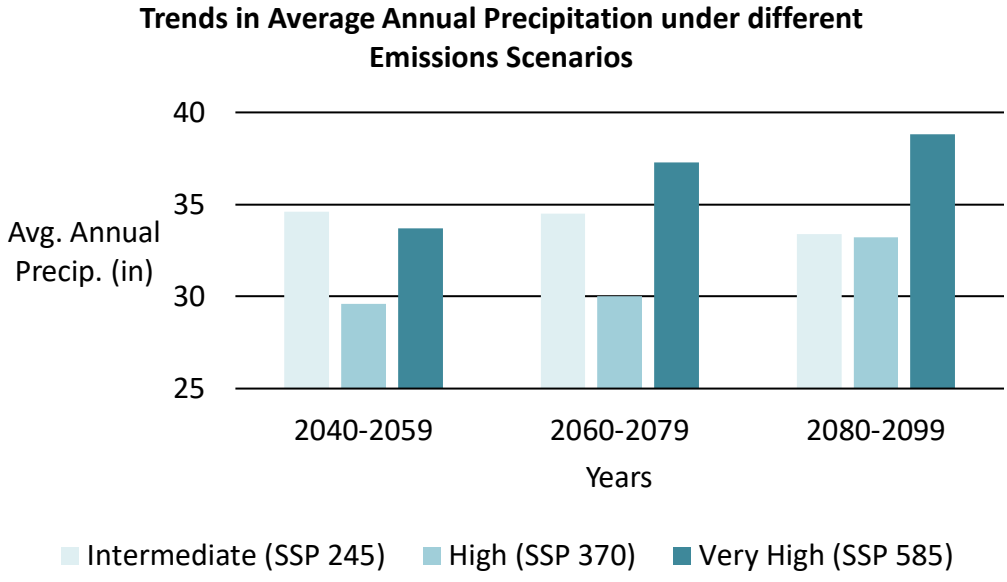
Urban Heat Island

Surfaces and structures such as roads, parking lots, and buildings absorb and re-emit more heat from the sun than natural landscapes. This can significantly raise air temperature and overall extreme heat vulnerability in urban areas where there are dense concentrations of these surfaces. This is referred to as urban heat island effect. According to the Metropolitan Council's Extreme Heat Map Tool, the AUAR study area is located in an area primarily defined by low heat with some areas of medium heat.

Precipitation

According to Minnesota CliMAT, historic average precipitation in the study area from 1995 to 2014 was approximately 34.0 inches. Average annual precipitation in the study area from 2040-2059 is projected to be 34.6 inches under an SSP 245 scenario. From 2080-2099, average annual precipitation is projected to be 33.4 inches and 33.2 inches under SSP 245 and SSP 370 scenarios, respectively.

According to the EPA Climate Resilience Evaluation and Awareness Tool (CREAT) Climate Change Scenarios Projection Map, there is a projected 3.1% to 13.3% increase in 100-year storm intensity by 2035 and a projected 6.0% to 25.8% increase in 100-year storm intensity by 2060.



Flood Risk

In many places, climate change is exacerbating the frequency and intensity of the extreme rainfall events and associated flooding. According to the Metropolitan Council Localized Flood Map Screening Tool, which identifies potential surface flooding locations, the study area is located within Primary, Secondary, Tertiary, and Shallow Flood Impact Zones (FIZ) as shown in **Figure 5**. Primary, Secondary, and Tertiary FIZ describe the first areas to fill with water during a flood event, with Primary filling first, followed by Secondary and Tertiary. Shallow FIZ are separate low areas generally considered low risk, but this depth may still be a concern for certain types of infrastructure.

Cooling Degree Days

As defined by the National Weather Service, degree days are based on the assumption that when the outside temperature is 65°F, heating or cooling is not needed to be comfortable. Degree days are the difference between the daily temperature mean and 65°F. If the temperature mean is above 65°F, 65 is subtracted from the mean and the result is the cooling degree days. For example, if the mean temperature over a 24-hour period is 70°F,

then there have been 5 cooling degree days. Cooling degree days are used as a proxy to estimate cooling needs for buildings.

According to Heat Vulnerability in Minnesota, the number of cooling degree days in 2019 for Dakota County was 424, and 375 for Goodhue County. The number of cooling days in 2050 for Dakota County is projected to be 505 and 652 for RCP 4.5 and 8.5, respectively. The number of cooling degree days in 2050 for Goodhue County for both RCP 4.5 and 8.5 is projected to be 460 and 601, respectively.

b. For each resource category in the table below, describe the project's proposed activities and how the project's design will interact with those climate trends. Describe proposed adaptations to address the project effects identified.

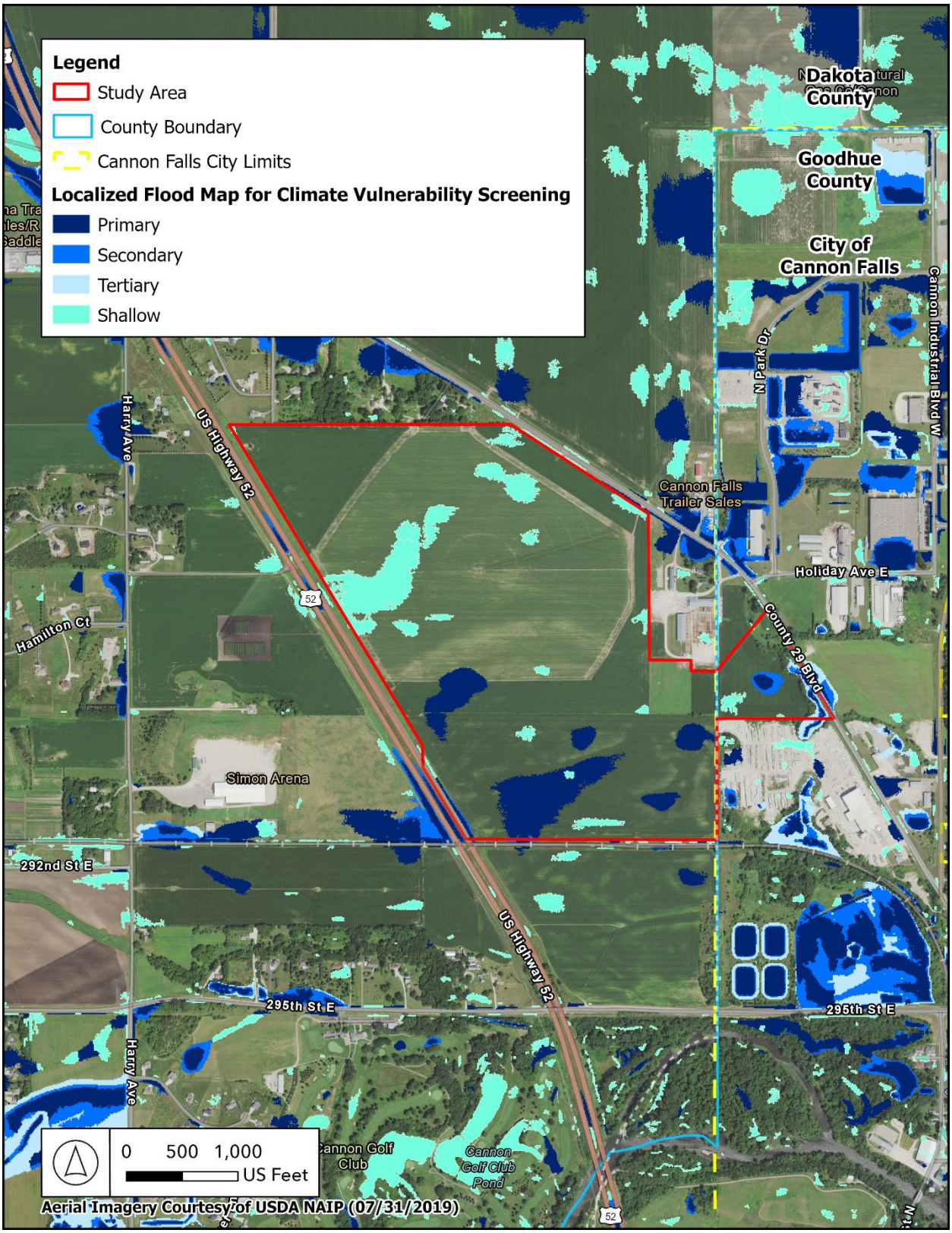
Table 2: Climate Considerations and Adaptations

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
Project Design	Aspects of building architecture/materials choices and site design that may negatively affect urban heat island conditions in the area considering changing climate zones, temperature trends, and potential for extended heat waves	In the coming decades, the location of the study area is anticipated to experience: • Increased annual temperatures • Increased annual precipitation and more frequent heavy rainfall events • Increased freeze-thaw cycles • Medium urban heat island effect	• Energy end-use efficient appliances and equipment and energy efficient lighting will be incorporated into building design • Building shells will be energy efficient • Proposed native trees and landscaping will reduce runoff and mitigate heat island effect • Parking areas will be evaluated to potentially reduce impervious areas within the AUAR study area • Water efficient design will be incorporated in landscaping

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
Land Use	No critical facilities (i.e., facilities necessary for public health and safety, those storing hazardous materials, or those with housing occupants who may be insufficiently mobile) are proposed. Portions of the study area are within FEMA 100-Year floodplains.	Portions of the proposed development may experience flooding during extreme rain events	Design of the stormwater management facilities will be completed to reduce the risk of flooding in the AUAR study area. Infiltration areas will be used to improve water quality and stormwater runoff in the project vicinity
Water Resources	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence water resources	Water resources in the general project area may become warmer, more polluted, and change in volume due to increased temperatures and runoff. There may be more evaporation and water available when it rains leading to an increase in the flood potential. It is projected that there will be more severe storm events with high, intense rain amounts which will require drainage systems to be adequately maintained to accommodate for the increase in water volume.	• The project proposer will consider using native plants and perennials for landscaping and stormwater features will absorb water and reduce the water demand for irrigation. • The project proposer will use native plants and perennials for landscaping within water resource buffers. • Water reuse systems may be implemented to reduce water usage. • Stormwater BMP's shall be designed to meet City of Cannon Falls criteria for rate control and runoff volume

Resource Category	Climate Considerations	Project Information	
		Climate Change Risks and Vulnerabilities	Adaptations
			reduction and criteria for MPCA water quality requirements.
Contamination/ Hazardous Materials/ Wastes	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the potential environmental effects of generation/use/storage of hazardous waste and materials.	The proposed development scenarios are not anticipated to generate hazardous waste or materials.	Not applicable.
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)	Current Minnesota climate trends and anticipated climate change in the general location of the project may influence the local species and suitable habitat.	Suitable habitat for species may become unsuitable due to land use changes, increased temperature, and increased runoff.	Climate-appropriate native plantings and stormwater BMP's will provide suitable habitat for small mammals, insects, and bird species.

Figure 5: Flood Impact Zones



8. Cover Types

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

AUAR Guidance: The following information should be provided:

- *A cover type map, at least at the scale of a USGS topographic map, depicting:*
  - *Wetlands (identified by Circular 39 type)*
  - *Watercourses (rivers, streams, creeks, ditches)*
  - *Lakes (identify public waters status and shoreland management classification)*
  - *Woodlands (break down by classes where possible)*
  - *Grassland (identify native and old field)*
  - *Cropland*
  - *Current development*
- *An overlay map showing anticipated development in relation to the cover types. This map should also depict any "protection areas," existing or proposed, that will preserve sensitive cover types. Separate maps for each major development scenario should be generally provided.*

The AUAR study area is currently 253 acres of undeveloped farmland, woodland, grassland, and some wetland/waterway. Proposed future land use, according to Dakota county, includes approximately 235 acres of agricultural preservation and 18 acres of industrial.

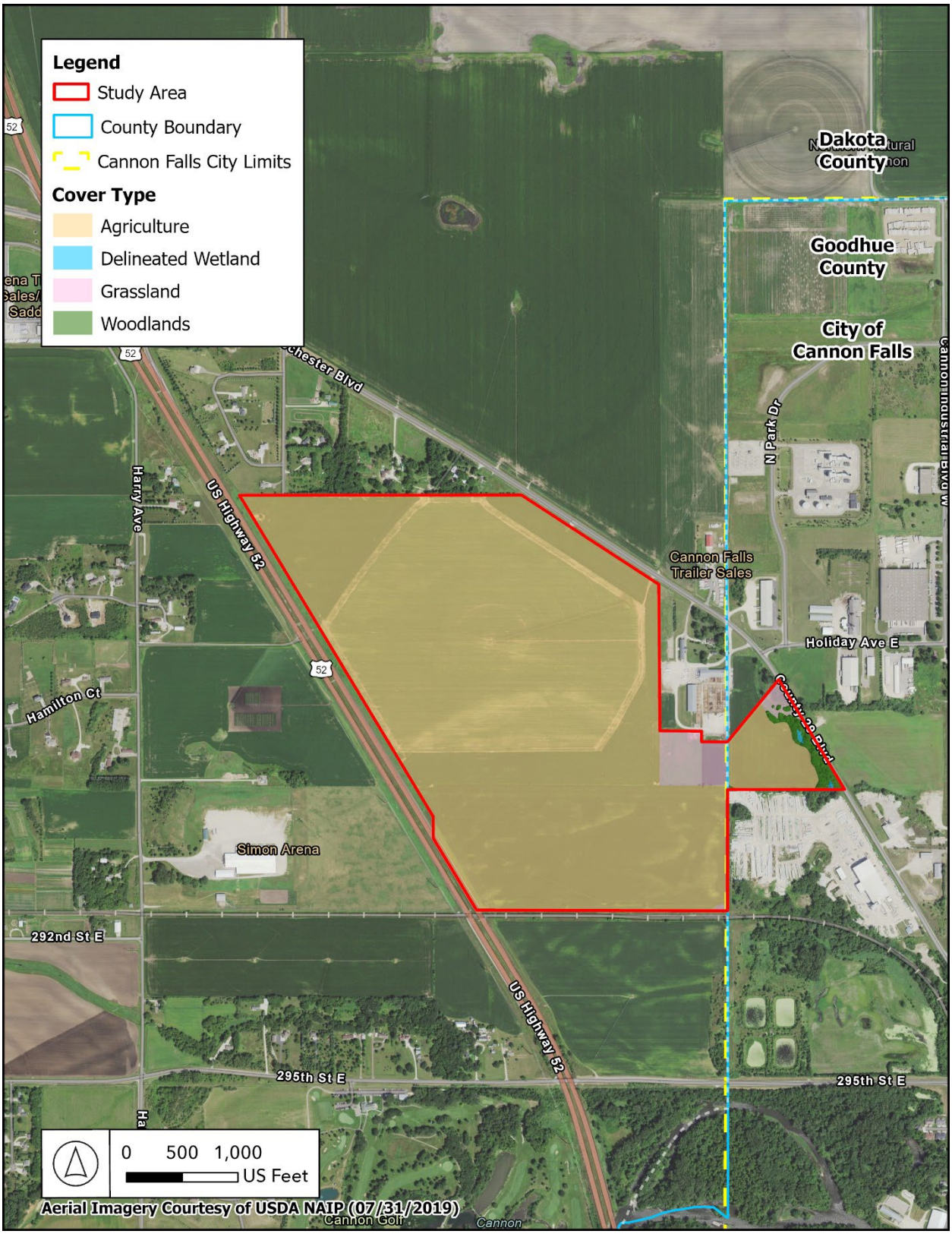
Table 3: Cover Types

Cover Type	Existing (Acres)	Scenario 1 (Acres)	Scenario 2 (Acres)
Wetlands and Shallow Lakes (less than 2 meters deep)	0.16	-	-
Rivers/Streams	565.27 feet	565.27 feet	565.27 feet
Wooded/Forest	2.90	2.90	2.90
Brush/Grassland	7.78	-	-
Cropland	242	-	-
Lawn/Landscaping	-	100	100
Green Infrastructure (total from **Table 4**)	-	13	13
Impervious Surface	-	124	124
Stormwater Pond (wet sedimentation basin)	-	13	13
Total	253	253	253

Table 4: Anticipated Green Infrastructure

Green Infrastructure	Existing (Acres)	Scenario 1 (Acres)	Scenario 2 (Acres)
Constructed Infiltration Systems (infiltration basins, infiltration trenches, rainwater gardens, bioretention areas without underdrains, swales with impermeable check dams)	-	13	13
Total	-	13	13

Figure 6: Cover Types



9. Permits and Approvals Required

AUAR Guidance: A listing of major approvals (including any comprehensive plan amendments and zoning amendments) and public financial assistance and infrastructure likely to be required by the anticipated types of development projects should be given for each major development scenario. This list will help orient reviewers to the framework that will protect environmental resources. The list can also serve as a starting point for the development of the implementation aspects of the mitigation plan to be developed as part of the AUAR.

Table 5: Permits and Approvals Required

Unit of Government	Type of Application	Status
Federal		
US Army Corps of Engineers	Section 404 Permit	To be applied for, if applicable
State		
Minnesota Pollution Control Agency	Section 401 Water Quality Certification	To be applied for, if applicable
	National Pollutant Discharge Elimination System Stormwater Permit for Construction Activities	To be applied for, if applicable
	Sanitary Sewer Extension Permit	To be applied for, if applicable
	Industrial Wastewater Permit	To be applied for, if applicable
	Significant Industrial User Permit	To be applied for, if applicable
	Construction Stormwater Permit	To be applied for, if applicable
	Fuel Storage Tank	To be applied for, if applicable
	Air Permit	To be applied for, if applicable
	Discharge Permit	To be applied for, if applicable
	Water Treatment Plant	To be applied for, if applicable
Minnesota Department of Natural Resources	Temporary Groundwater Appropriation Permit for Construction Dewatering	To be applied for, if applicable
	Water Appropriation Permit or Amendment	To be applied for, if applicable
Minnesota Department of Health	Water Main Installation Permit	To be applied for, if applicable
	Well reconstruction permit	To be applied for, if applicable
Minnesota Department of Labor Industry	Plumbing Review	To be applied for, if applicable
	Electrical Permit	To be applied for; if applicable
County		
Dakota County	Driveway Permit	To be applied for, if applicable
	Public Drainage Permit	To be applied for, if applicable
	Right-of-Way Permit	To be applied for, if applicable
	Final Plat Review	To be applied for, if applicable

Unit of Government	Type of Application	Status
	Well Closure Permit	To be applied for, if applicable
Goodhue County	Public Drainage Permit	To be applied for, if applicable
	Driveway Permit	To be applied for, if applicable
	Wetland Conservation Act	To be applied for, if applicable
	Final Plat Review	To be applied for, if applicable
	Preliminary Plat Review	To be applied for, if applicable
	Right-of-Way Permit	To be applied for, if applicable
City		
City of Cannon Falls	Preliminary/Final Plat	To be applied for, if applicable
	Building Permit	To be applied for, if applicable
	Site Plan Approval	To be applied for, if applicable
	Stormwater Permit	To be applied for, if applicable
	Right-of-Way Permit	To be applied for, if applicable
	Wetland Conservation Act	To be applied for, if applicable
	AUAR Adoption	In process
	Annexation	To be completed
	Rezoning	To be completed, if applicable
Randolph Township	Annexation Agreement	To be completed

10. Land Use

a. Describe:

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

The AUAR study area is located in a semirural area in the northern portion of the City of Cannon Falls and in Randolph Township, Dakota and Goodhue Counties, Minnesota, (refer to **Figure *2***). The study area consists of five parcels, four Dakota County parcels and one Goodhue County parcel. Land use within the study area is generally row crop agriculture, with some undeveloped woodland in the east portion of the study area. The study area is generally bound by Rochester Blvd to the east, a railway to the south, Hwy 52 to the west, and residential properties to the north. Land uses adjacent to the study area include agricultural, commercial, and single family residential, see **Figure *7***.

There are no existing parks within or adjacent to the study area.

According to the Natural Resources Conservation Service (NRCS), approximately 54% of the AUAR study area is classified as All Areas Are Prime Farmland, an additional 44% is classified as Farmland of Statewide Importance, and the remaining 2% is classified as Not Prime Farmland. Impacts to farmland within the AUAR study area will occur as a result of Scenarios 1 and 2. The study area is within Cannon Falls city limits or is within the future land use area for the City of Cannon Falls; therefore, no further evaluation is needed.

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

AUAR Guidance: Water-related land use management districts should be delineated on appropriate maps, and the land use restrictions applicable in those districts should be described. If any variances or deviations from these restrictions within the AUAR area are envisioned, this should be discussed.

City of Cannon Falls Comprehensive Plan

The City of Cannon Falls updated their Comprehensive Plan in 2003 to provide guidance on how to plan for growth, identify environmental protections, and retain the City's small-town atmosphere.[1] The plan is comprised of several interrelated chapters that address the environment protection, land use, transportation, community services, growth and housing, and economic development. According to the Cannon Falls Land Use Plan, the entire study area has a land use designation of Industrial.[2] Refer to **Figure 7** for description of the land use designation.

Randolph Township Future Land Use Plan

The Randolph Township Future Land Use Plan3 from 2018 provides guidance on the future land use of Randolph Township. The future land use for the AUAR study area within Randolph Township identifies it as agricultural and commercial. Adjacent future land uses within the AUAR Study Area vicinity include rural, large-lot residential, agricultural, and commercial land. With the property planned to be annexed into Cannon Falls, then then land use designation under the Cannon Falls Comprehensive Plan is applicable.

Cannon River Watershed Joint Powers Organization

The study area is located within the Cannon River Watershed Joint Powers Organization (CRWJPO) planning area. The CRWJPO was created in 2020 to serve the goal of implementing the Cannon River Comprehensive Watershed Management Plan that was created in 2016 and developed through the Cannon River One Watershed, One Plan process in partnership with the Minnesota Board of Soil and Water Resources (BWSR).

The Minnesota counties and soil and water conservation districts that are part of the CRWJPO include Dakota, Goodhue, Le Sueur, Rice, Steele, and Waseca. The Belle Creek Watershed District and the North Cannon Watershed Management Organization are also members of the CRWJPO.

North Cannon River Watershed Management Organization

The North Cannon River Watershed Management Organization (NCRWMO) was created in 1983 through a joint powers agreement between the eight townships and

[1] City of Cannon Falls. 2003. *Cannon Falls Comprehensive Plan*. Available at: https://www.cannonfallsmn.gov/sites/default/files/fileattachments/economic_development/page/86/comprehensive_plan_cf_2005_reduced_file_size.pdf.
[2] Ibid, page 8.6.
[3] https://clients.bolton-menk.com/ruralcommunities/wp-content/uploads/sites/16/2018/02/DACO_RC_FutureLandUse_Randolph-Township.pdf

three small cities in Dakota County that are located within the Cannon River Watershed. Although the NCRWMO participates on the CRWJPO board, it will continue to operate under its current watershed management plan.[4] The NCRWMO adopted its 4th Generation Watershed Management Plan that will govern watershed management through 2033 focusing on surface water, groundwater, policy and regulation, outreach and education, habitat, data, and emerging issues.[5]

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

AUAR Guidance: Water-related land use management districts should be delineated on appropriate maps, and the land use restrictions applicable in those districts should be described. If any variances or deviations from these restrictions within the AUAR area are envisioned, this should be discussed.

According to the City of Cannon Falls Zoning Map, a portion of the study area is located within the City of Cannon Falls, in the General Industrial (I-2) zoning district, while the rest of the study area is located in Randolph Township in the Agricultural Preservation (AP) zoning district and is planned to be annexed into Cannon Falls and rezoned to I-2 with a PUD Overlay (See **Figure 8**).

Cannon Falls General Industrial (I-2) zoning allowed uses include[6]:

- Bottling establishments
- Building material sales
- Essential services
- Feed and seed sales
- Government and public utility buildings and/or structures
- Greenhouses, nurseries
- Laundry, dry cleaning or dying plant
- Machine shops and metal products manufacturing when not equipped with heavy (exceeding 50-ton pressure punch presses, drop forges, riveting and grinding machines or any equipment which may create noise, vibration, smoke, odors, heat or glare and the like, disturbing to adjacent property occupants
- Manufacturing or assembly of a wide variety of products that produces no exterior noise, glare, fumes, obnoxious products, by-products or wastes or

[4] Cannon River Watershed Joint Powers Organization. 2020. *Cannon River Comprehensive Watershed Management Plan*. Available at: https://www.cannonriverwatershedmn.gov/_files/ugd/33ebb8_742368ec2fcd48a7981e7c6d2a5bb874.pdf.

[5] North Cannon River Watershed Management Organization. 2023. *4th Generation Watershed Management Plan 2023 - 2033*. Available at: https://northcannonriverwmo.org/wp-content/uploads/2023/07/2023-2033_FINAL-RED_NCRWMO-4th-Gen-Plan.pdf.

[6] City of Cannon Falls. 2022. *Cannon Falls, MN Code of Ordinances,* Section 152.686 Permitted Uses. Available at: https://codelibrary.amlegal.com/codes/cannonfalls/latest/cannonfalls_mn/0-0-0-9335

creates other objectionable impact on the environment, including the generation of large volumes of traffic.

- Mass transit terminals
- Professional offices
- Radio and television stations
- Shops and offices for contractors including plumbing, heating, glazing, paper hanging, roofing, ventilating, electrical, carpentry, welding, landscaping, excavating and general contracting, including contractor storage of equipment and building materials if enclosed within a building, but not storage yards
- Truck terminals
- Warehousing and distribution facilities but not including mini self-storage facilities
- Wholesale businesses and offices

Randolph Township Agricultural Preservation zoning allowed uses include:

- Agriculture and accessory agricultural uses
- Stands for the sale of agricultural produces raised on the premises
- Single family residential dwellings at a density not exceeding one (1) home per quarter/quarter section
- Accessory residential uses and structures
- Home occupations
- A state licensed residential facility or a housing with services establishment registered to serve six (6) or fewer persons, except those as provided for under Minnesota Statute 46.357, subdivision 7
- A state licensed day care facility serving twelve (12) or fewer persons or a group family day care facility licensed under Minnesota Rules, parts 9502.0315 to 9502.0445 to serve fourteen (14) or fewer children
- Township governmental facilities and structures
- Essential services

FEMA National Flood Hazard

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (panel number 27037C0420E, effective 12/02/2011; panel number 27037C0418E, effective 12/02/2011; and panel number 27049C0118E, effective 9/25/2009), the majority of the AUAR study area is located in an area of minimal

flooding area, or Zone X.[7] The AUAR will discuss design measures implemented to reduce impacts to the floodplain.

North Cannon Falls Watershed Management Plan[8]

The 4th Generation North Cannon Falls Watershed Management Plan serves as a comprehensive planning document to guide in protecting, preserving, and managing its surface water resources for fish and wildlife habitat, aesthetics, and aquatic recreation as well as groundwater water resources for human consumption and non-potable uses, such as irrigation. The main priorities in the management plan include surface water, groundwater, policy and regulation, outreach and education, habitat, data and studies, and emerging issues. Each priority has associated actionable and measurable goals that will be used to carry out the watershed management mission statement.

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

No critical facilities are proposed as part of the project.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 10a above, concentrating on implications for environmental effects.

AUAR Guidance: The extent of conversion of existing farmlands anticipated in the AUAR should be described. If any farmland will be preserved by special protection programs, this should be discussed.

If development of the AUAR will interfere or change the use of any existing designated parks, recreation areas, or trails, this should be described in the AUAR. The RGU may also want to discuss under this item any proposed parks, recreation areas, or trails to be developed in conjunction with development of the AUAR area.

The AUAR must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at Minnesota Rules, part 4410.3610, subpart 1. The AUAR document should discuss the proposed AUAR area development in the context of the comprehensive plan. If this has not been done as part of the responses to Items 6, 10, 12, 20, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other items. Necessary amendments to comprehensive plan elements to allow for any of the development scenarios should be noted. If there are any management plans of any other local, state, or federal agencies applicable to the AUAR area, the document must discuss the compatibility of the plan with the various development scenarios studied, with emphasis on any incompatible elements.

[7] FEMA. 2024. *FEMA Flood Map Service Center*. Available at: https://msc.fema.gov/portal/search?AddressQuery=cannon%20falls.

[8] North Cannon River Watershed Management Organization. 2023. *4th Generation Watershed Management Plan*. Available at: https://northcannonriverwmo.org/wp-content/uploads/2023/07/2023-2033_FINAL-RED_NCRWMO-4th-Gen-Plan.pdf.

Existing Land Use

The existing land use for the AUAR study area is primarily agricultural land. A small portion of the study area is classified as woodland.

Existing Zoning

The portion of the property currently located in the Randolph Township is zoned "Agricultural Preservation". The portion of the property located in Cannon Falls is zoned "Industrial". The Randolph Township land area is intended to be annexed into Cannon Falls and zoned to "I-2 General Industrial District" with a Planned Unit Development (PUD) Overlay.

2003 Cannon Falls Comprehensive Plan

The Cannon Falls Comprehensive Plan was last updated in 2003. Since that time all land area within this AUAR has held a Land Use Designation of "Industrial" (see **Figure 10**). Also, in accordance with this Comprehensive Plan, the land currently located in Randolph Township has been identified to be within the Cannon Falls "Future Urban Expansion Area" (see **Figure 11**). Thus, the majority of the land within the AUAR has been envisioned as a future growth area for Cannon Falls and it has been recognized as an appropriate location for Industrial Uses for well over two decades. The remainder of the land currently located in Cannon Falls is also recognized as being an appropriate location for Industrial Uses within the City. Thus, with the entire area within the AUAR being identified as appropriate for Industrial Uses which also include a Technology Park, a Comprehensive Plan Amendment is not needed.

Scenario 1

Scenario 1, which includes light industrial use, is consistent with the 2003 Comprehensive Plan that anticipates industrial land use north of the City between County Road 20 and Highway 52. The city classifies industrial use as encompassing all major industrial, processing, storage, warehouse, trucking activities, and other similar uses.

Scenario 2

Scenario 2, which includes technology park use, is consistent with the 2003 Comprehensive Plan that anticipates industrial land use north of the City between County Road 20 and Highway 52. The city classifies industrial use as encompassing all major industrial, processing, storage, warehouse, trucking activities, and other similar uses.

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

Scenarios 1 and 2 would require rezoning as the parcels will be annexed into the City with an agricultural use. The sites would be rezoned to "I-2 General Industrial District" with a Planned Unit Development (PUD) Overlay which is consistent with the City of Cannon Falls comprehensive plan.

Figure 7: Existing Land Use

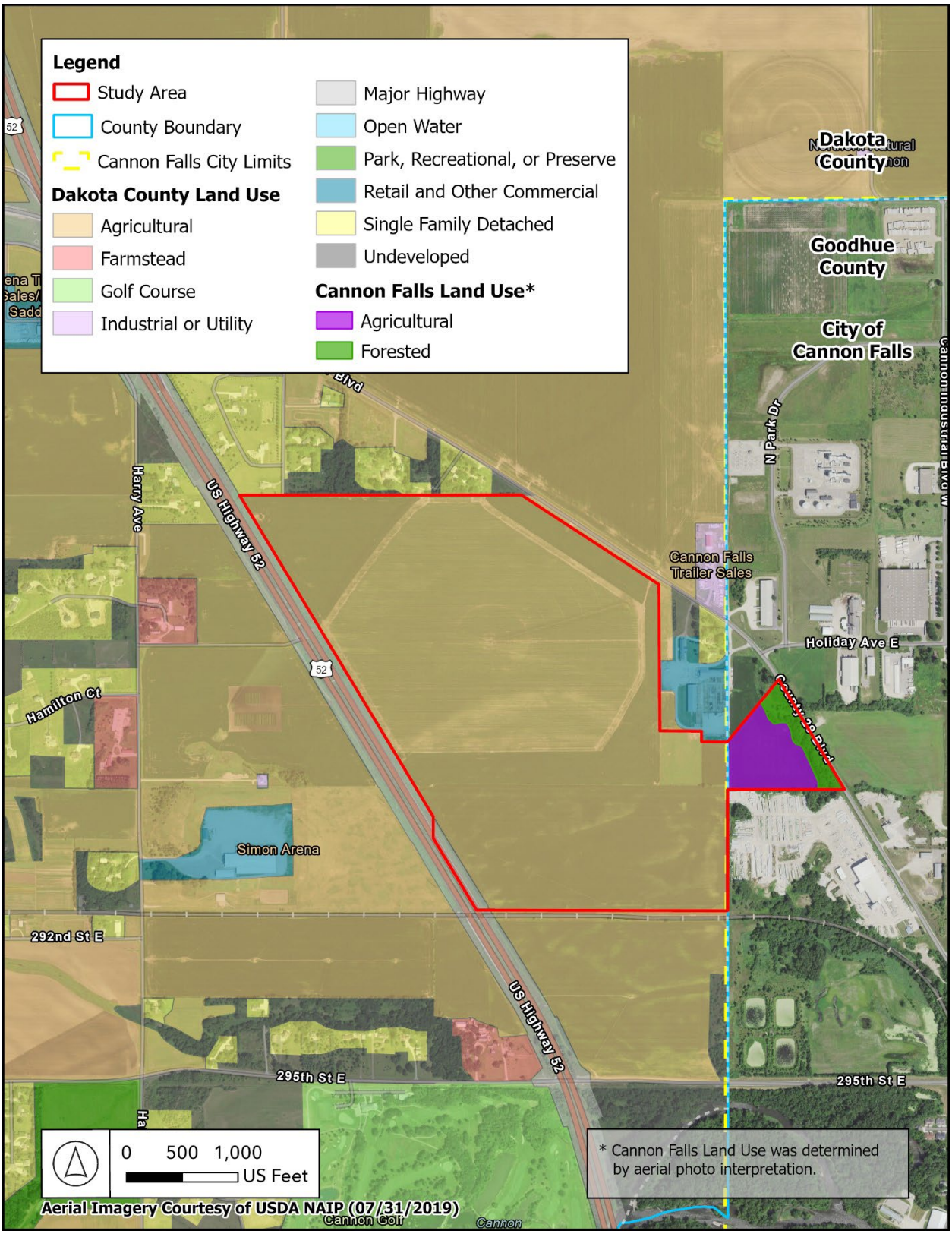


Figure 8: Existing Zoning

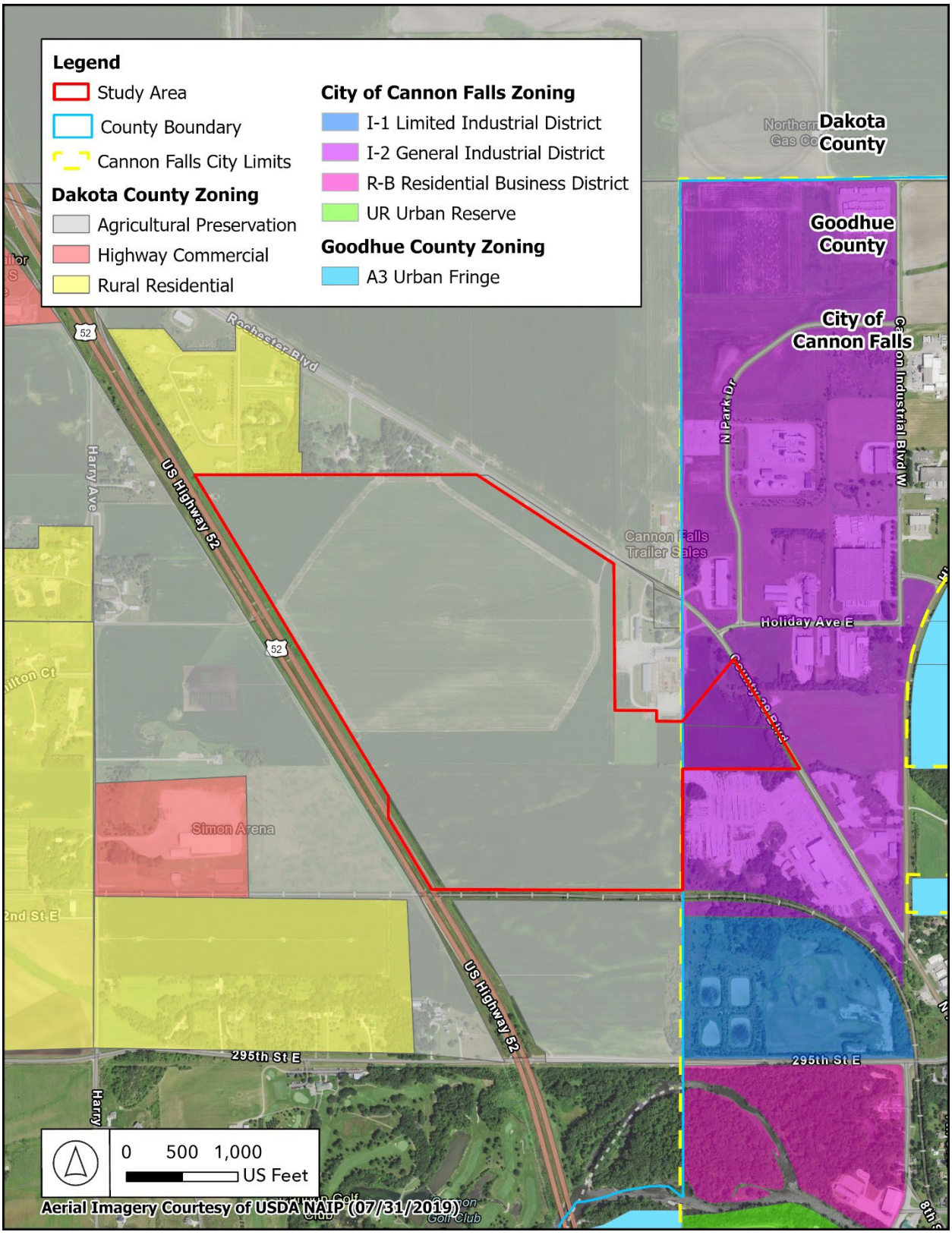


Figure 9: Future Land Use

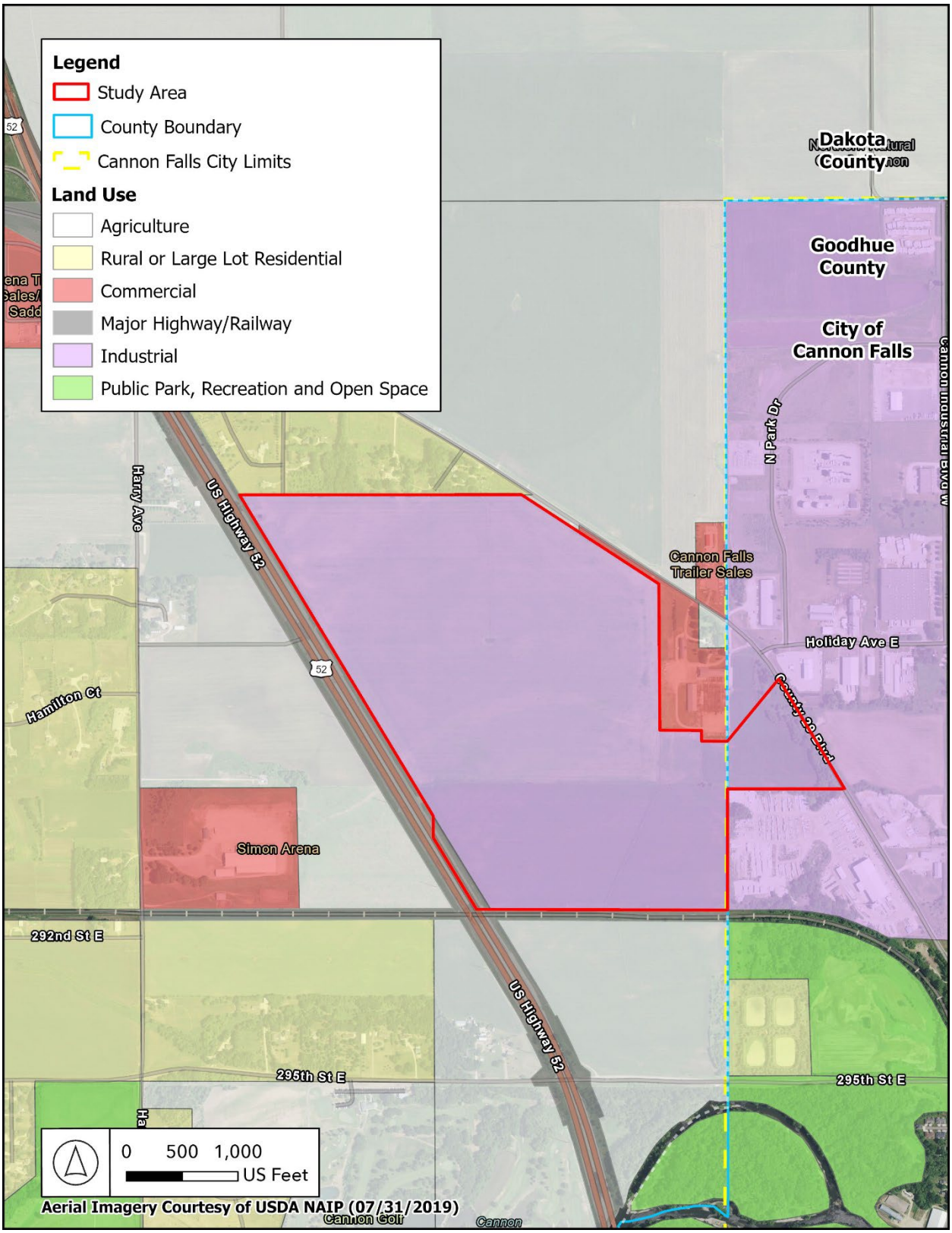
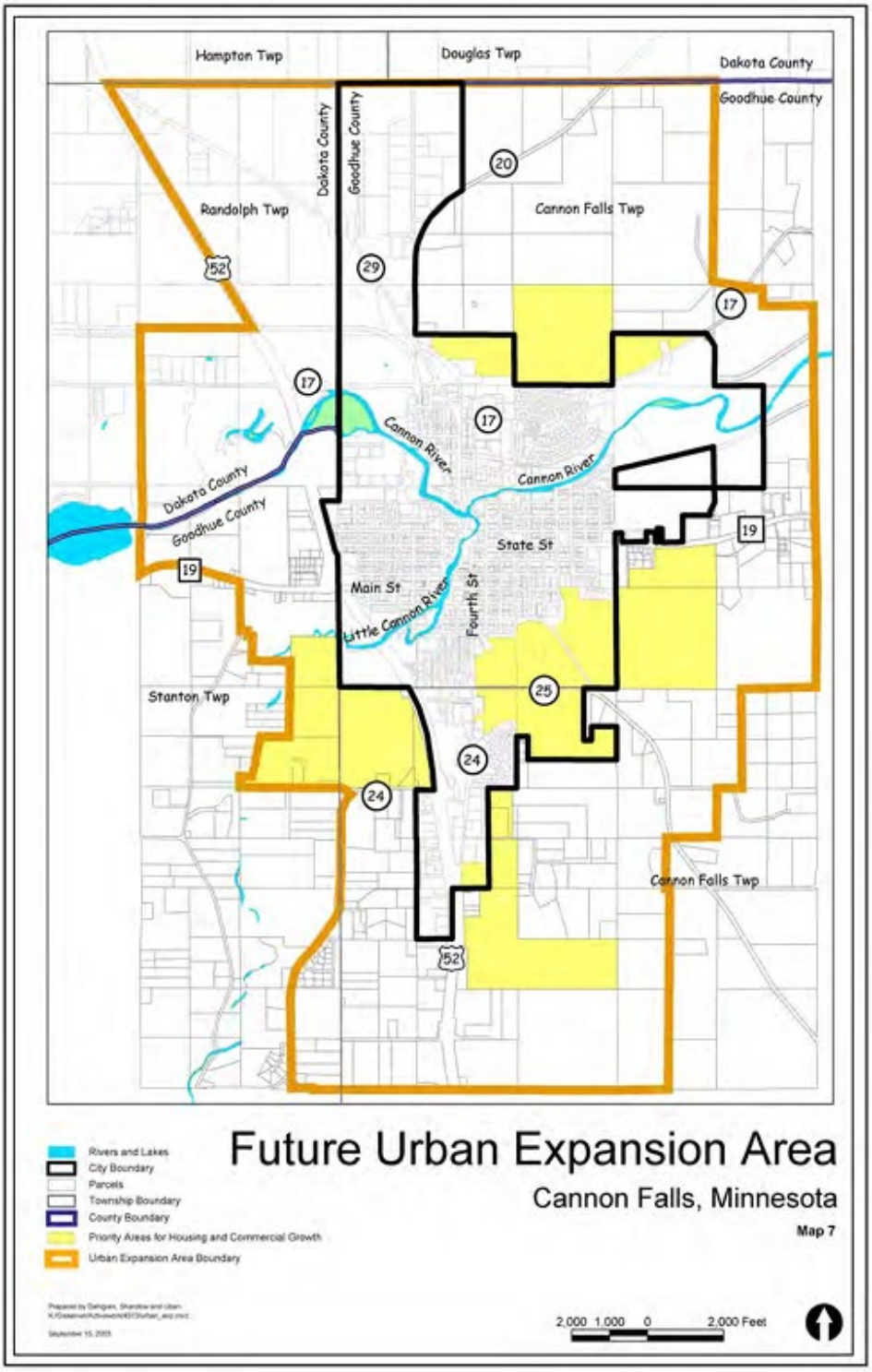
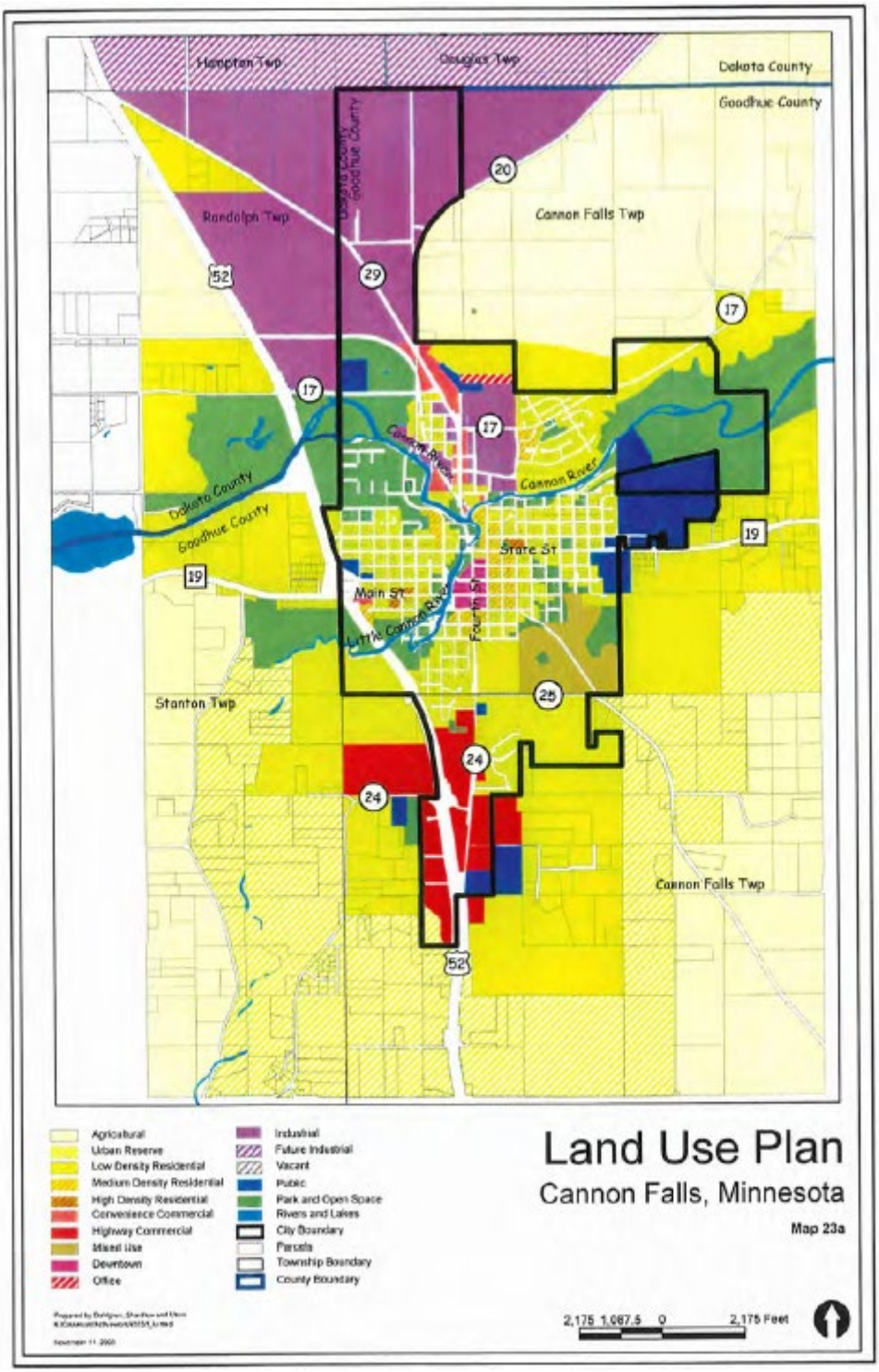


Figure 10: City of Cannon Falls Future Urban Expansion Area[9]



[9] Exhibit courtesy of the Cannon Falls Comprehensive Plan 2003 -https://www.cannonfallsmn.gov/economicdevelopment

Figure 11: City of Cannon Falls Land Use Plan



11. Geology, Soils, and Topography/Landforms

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.

AUAR Guidance: A map should be included to show any groundwater hazards identified.

According to the Geologic Atlas' of Dakota County and Goodhue County, the majority of the AUAR study area is underlain by Paleozoic bedrocks. The two types of Paleozoic rocks are characterized by relatively thick widespread layers of sandstone, shale, and carbonate deposited in shallow seas during the Cambrian and Ordovician Periods. The St. Peter Sandstone, from the Middle to Upper Ordovician, is mostly a white to tan, fine- to medium-grained, friable quartzose sandstone and referred to as the Tonti Member and is present in two small areas in the northern portion of the study area. The majority of the study area is dominated by the *Shakopee Formation*, a heterolithic unit composed of tan- to orangish-brown dolostone, sand dolostone, sandstone, and shale, that sits beneath the St. Peter Sandstone.[10] [11]

There are no known sinkholes or unconfined/shallow aquifers located within the AUAR study area. Additionally, there are currently no mapped karst conditions located within or adjacent to the study area[12]; however, there are known karst features located in southeastern Minnesota. According to the Minnesota Pollution Control Agency (MPCA), karst is a landscape formed by the dissolution of a layer or layers of soluble bedrock, such as limestone, dolomite, or gypsum. One of the distinctive features of karst landscapes is the potential presence of caves and sinkholes. Cracks and fissures form and grow in the bedrock as runoff passes through the ground, forming passages, caves, and possibly even sinkholes. Prior to development, the study area will be investigated to identify subsurface voids, cavities, fractures, or other discontinuities which could pose an environmental concern or a construction hazard to future development. If karst conditions are found to be present, the project proposer will follow City of Cannon Falls and MPCA design guidelines. Karst landscapes provide conditions where runoff and potential contaminants can flow more easily into groundwater.

According to the Geologic Atlas' of Dakota County and Goodhue County groundwater is present at approximately 20 feet below grade, excluding the wetlands located within the study area. With the proposed stormwater BMPs and proposed construction, no adverse impacts to groundwater are anticipated as a result of the project.

[10] University of Minnesota. 2023. *Bedrock Geology* (Dakota County). Available at: https://conservancy.umn.edu/server/api/core/bitstreams/699a0e2d-0666-491d-89d9-ffda1c6b2ed0/content.
[11] University of Minnesota. 1998. *Bedrock Geology* (Goodhue County). Available at: https://conservancy.umn.edu/server/api/core/bitstreams/1aec21d9-0b5d-41e7-b7a8-9d70ecb1b4dc/content.
[12] Minnesota Department of Natural Resources. 2025. *Karst Feature Inventory Points*. Available at: https://arcgis.dnr.state.mn.us/portal/apps/webappviewer/index.html?id=9df792d8f86546f2aafc98b3e31adb62

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 soil limitations, such as steep slopes or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections, or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 12.b.ii.

AUAR Guidance: The number of acres to be graded and number of cubic yards of soil to be moved need not be given; instead, a general discussion of the likely earthmoving needs for development of the area should be given, with an emphasis on unusual or problem areas. In discussing mitigation measures, both the standard requirements of the local ordinances and any special measures that would be added for AUAR purposes should be included. A standard soils map for the area should be included.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the study area is comprised of 13 different soil types. Soils are classified by the NRCS into four hydrologic soil groups, A, B, C, and D, with A having the lowest runoff potential and D having the greatest runoff potential. The erosion hazard indicates the hazard of soil loss from off-road areas after disturbance activities that expose the soil surface. All soil information for the Study Area is described in **Figure 12** and locations within the study area are shown in **Table 6**. Within the study area, 1.3 percent of the soil surface is mapped with a "moderate" rating, indicating that some erosion is likely in these areas and that erosion control measures may be needed. The remaining 98.7 percent of the study area is mapped with a "slight" rating, meaning that erosion is unlikely under ordinary climatic conditions.

According to USGS, the approximate elevation within the study area ranges from 842 feet to 894 above mean sea level and water would generally flow toward the southeast.

Soils across the AUAR study area generally consist of hydraulic groups A and B, and are well-suited for infiltration, and more specifically, bioinfiltration. Soil infiltration and stormwater management are discussed further in Section 12.

Scenarios 1 and 2

Scenario 1 and Scenario 2 are generally balanced over the site area. Where appropriate, slope stabilization will be provided by means of vegetation establishment, erosion control blankets, or other standard methods of erosion and sediment control. Scenario 1 and Scenario 2 will require compliance with the City of Cannon Fall's erosion and sediment control standards.

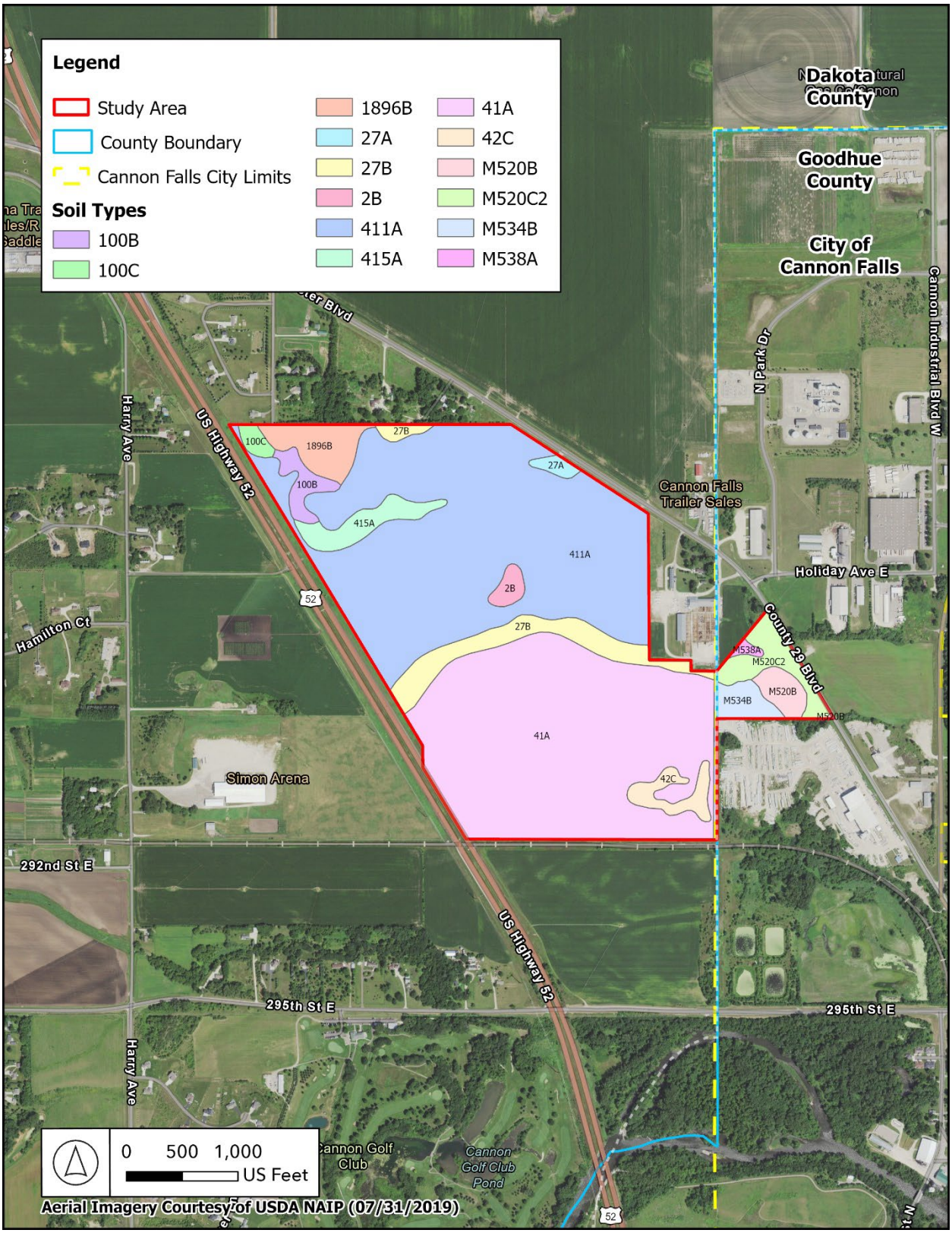
A National Pollutant Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Program Construction Stormwater Permit (SWPPP) will be obtained prior to any earthwork or grading activities within the AUAR study area.

Table 6: Soil Types

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Farmland Rating	Hydric Rating	Hydrologic Soil Group	Erosion Hazard Rating
2B	Ostrander loam, 1 to 6 percent slopes	1.8	0.7%	All areas are prime farmland	0	B	Slight
27A	Dickinson sandy loam, 0 to 2 percent slopes	1.3	0.5%	All areas are prime farmland	0	A	Slight
27B	Dickinson sandy loam, 2 to 6 percent slopes	12.1	5.0%	All areas are prime farmland	1	A	Slight
41A	Estherville sandy loam, 0 to 2 percent slopes	89.6	36.8%	Farmland of statewide importance	0	A	Slight
42C	Alida gravelly coarse sandy loam, 2 to 12 percent slopes	4.2	1.7%	Not prime farmland	0	A	Slight
100B	Copaston loam, 2 to 6 percent slopes	3.5	1.4%	Farmland of statewide importance	0	D	Slight
100C	Copaston loam, 6 to 12 percent slopes	1.4	0.6%	Farmland of statewide importance	0	D	Moderate
411A	Waukegan silt loam, 0 to 1 percent slopes	107.6	44.2%	All areas are prime farmland	0	B	Slight
415A	Kanaranzi loam, 0 to 2 percent slopes	5.8	2.4%	Farmland of statewide importance	0	B	Slight
1896B	Ostrander-carmi loams, 2 to 6 percent slopes	7.1	2.9%	All areas are prime farmland	0	B	Slight
M520B	Rasset sandy loam, 0 to 6 percent slopes	2.9	1.2%	All areas are prime farmland	0	A	Slight

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Farmland Rating	Hydric Rating	Hydrologic Soil Group	Erosion Hazard Rating
M520C2	Rasset sand loam, 6 to 12 percent slopes, moderately eroded	1.7	0.7%	Farmland of statewide importance	0	A	Moderate
M534B	Estherville-Ridgeport complex, 0 to 6 percent slopes	4.5	1.9%	Farmland of statewide importance	0	A	Slight

Figure 12: Soil Types



12. Water Resources

AUAR Guidance: The information called for on the EAW form should be supplied for any of the infrastructure associated with the AUAR development scenarios, and for any development expected to physically impact any water resources. Where it is uncertain whether water resources will be impacted depending on the exact design of future development, the AUAR should cover the possible impacts through a "worst case scenario" or else prevent impacts through the provisions of the mitigation plan.

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

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

The field wetland delineation conducted by Kimley-Horn on October 10, 2024 identified two wetlands within the study area, described in **Table 7** and **Figure 13**. A formal wetland approval process will be initiated with Dakota County and the City of Cannon Falls to review the delineated wetland boundaries and types; a NOD's has not yet been issued.

As shown in **Figure 14**, no MPCA 303d Impaired Waters are located within the study area. The closest MPCA 303d Impaired Water is Cannon River, located approximately 1,700 feet south of the study area.[13] The Mississippi River Corridor Critical Area is not within one mile of the AUAR Study Area.[14] Lastly, no trout streams are located within the study area; the closest stream is Pine Creek located approximately 1.3 miles to the northeast.[15] Additional water resources identified during the wetland delineation are outlined in **Table 7**.

The study area is located within the North Cannon River Watershed Management Organization and Cannon River Watershed Joint Powers Organization areas. Proposed compatibility will be acknowledged in the final design plan. Runoff from the study area generally drains southeast.

[13] Minnesota Pollution Control Agency. 2024. *Impaired Waters: final 2024*. Available at: https://mpca.maps.arcgis.com/apps/webappviewer/index.html?id=fcfc5a12d2fd4b16bc95bb535d09ae82.
[14] Minnesota Department of Natural Resources. 2024. *Background and Purpose MRCCA*. Available at: https://www.dnr.state.mn.us/waters/watermgmt_section/critical_area/background-and-purpose.html.
[15] Minnesota Department of Natural Resources. 2024. *Trout Fishing Streams and Lakes.* Available at: https://www.dnr.state.mn.us/fishing/trout/map.html.

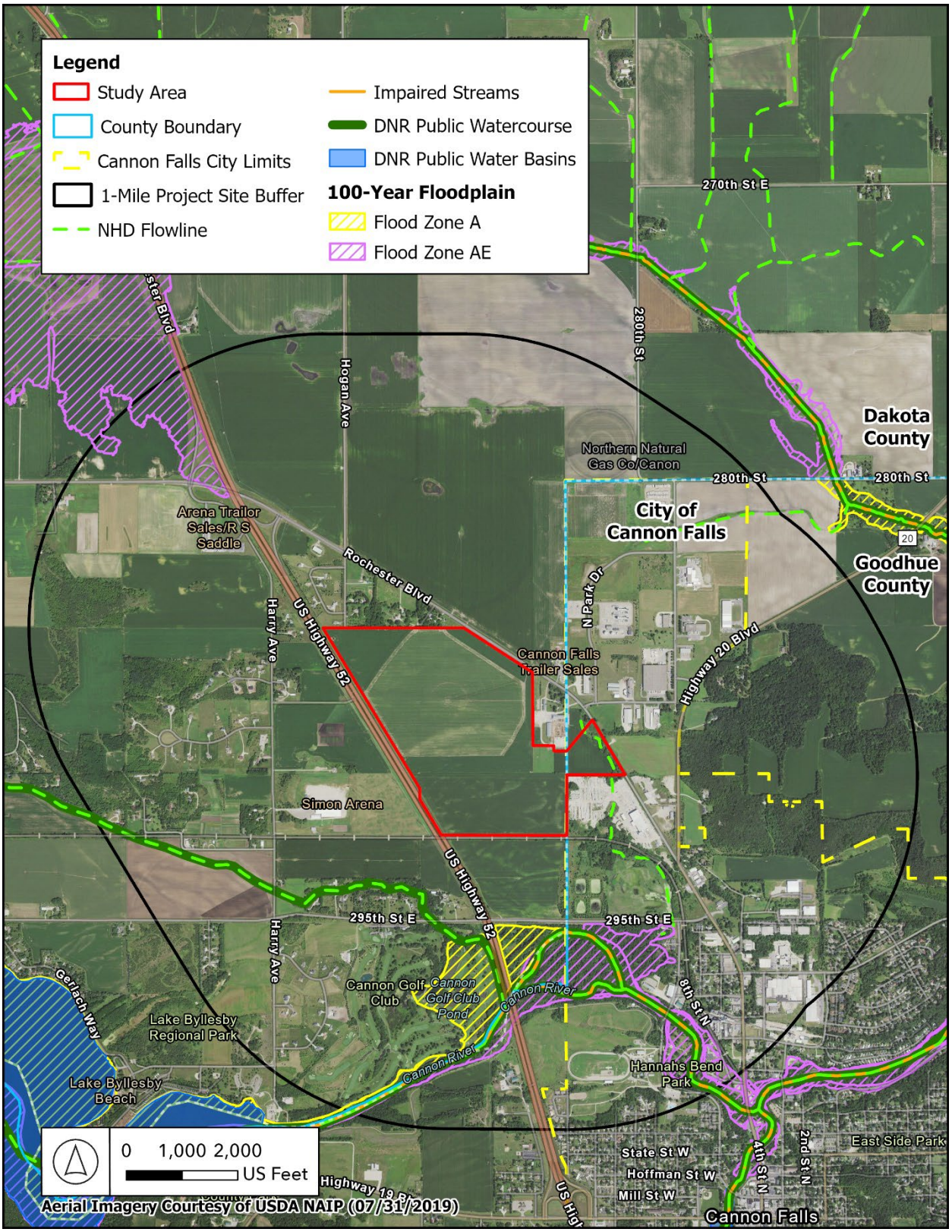
Table 7: Wetland Delineation Summary

Resource ID	Wetland Plant Community	HGM	Cowardin Classisifcation	Size (acres/linear feet)	Regulatory Status
Wetland 1	Seasonally Flooded Basin/Scrub Shrub	Depression	PEM1A	0.10	Jurisdictional (USACE): does have a continuous surficial connection to a Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW). WCA Jurisdictional
Wetland 2	Seasonally Flooded Basin/ Scrub Shrub	Depression	PEM1A	0.06	Jurisdictional (USACE): does have a continuous surficial connection to Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW). WCA Jurisdictional
Intermittent Stream 1	-	-	PEMG	302 ln ft	USACE-Jurisdictional: tributary contributes surface water flow to an offsite Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW).

Resource ID	Wetland Plant Community	HGM	Cowardin Classisifcation	Size (acres/linear feet)	Regulatory Status
Intermittent Stream 2	-	-	PEMG	264 ln ft	USACE-Jurisdictional: tributary contributes surface water flow to an offsite Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW).

Figure 13: Wetland Delineation Summary

Figure 14: Surface Water Resources



ii. Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; and 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.

According to the Geologic Atlas' of Dakota County and Goodhue County, the groundwater is present at greater than 20 feet for the entire study area. The MNDNR has a network of observation wells throughout the state, there are three wells in proximity to the proposed project, well 806094, 120158, and 121846 are the closest to the site. In looking at the data provided from these wells, we find ground water elevations in well 806094 fluctuated from 888.55 to 891.16 in 2024 and typically fluctuate from under 1 ft to 2.6 feet throughout the season. The lowest recorded water table elevation in well 806094 was 877.87 in September of 2015. Well 120158 see season fluctuations from 3.75 feet to almost 15 feet during the season, and ground water elevations from 833.66 to 843.27 in 2024. The lowest recorded elevation in well 120158 was 824.79 in May of 1991. Based on this information the aquifer should be around an elevation of 824 to 890 for this property.

According to the Minnesota Department of Health, there is one well located within the AUAR study area, see **Table 8** and **Figure 15**. This well has a MNDNR appropriation permit for 40.3 million Gallons per Year (GPY). The water appropriations for the well will need to be transferred to the new owner, and the appropriations would also need to be classified as a municipal water source or industrial water source for the project to be able to use the water other than for irrigation purposes. Irrigation wells are constructed to a different standard than municipal wells.

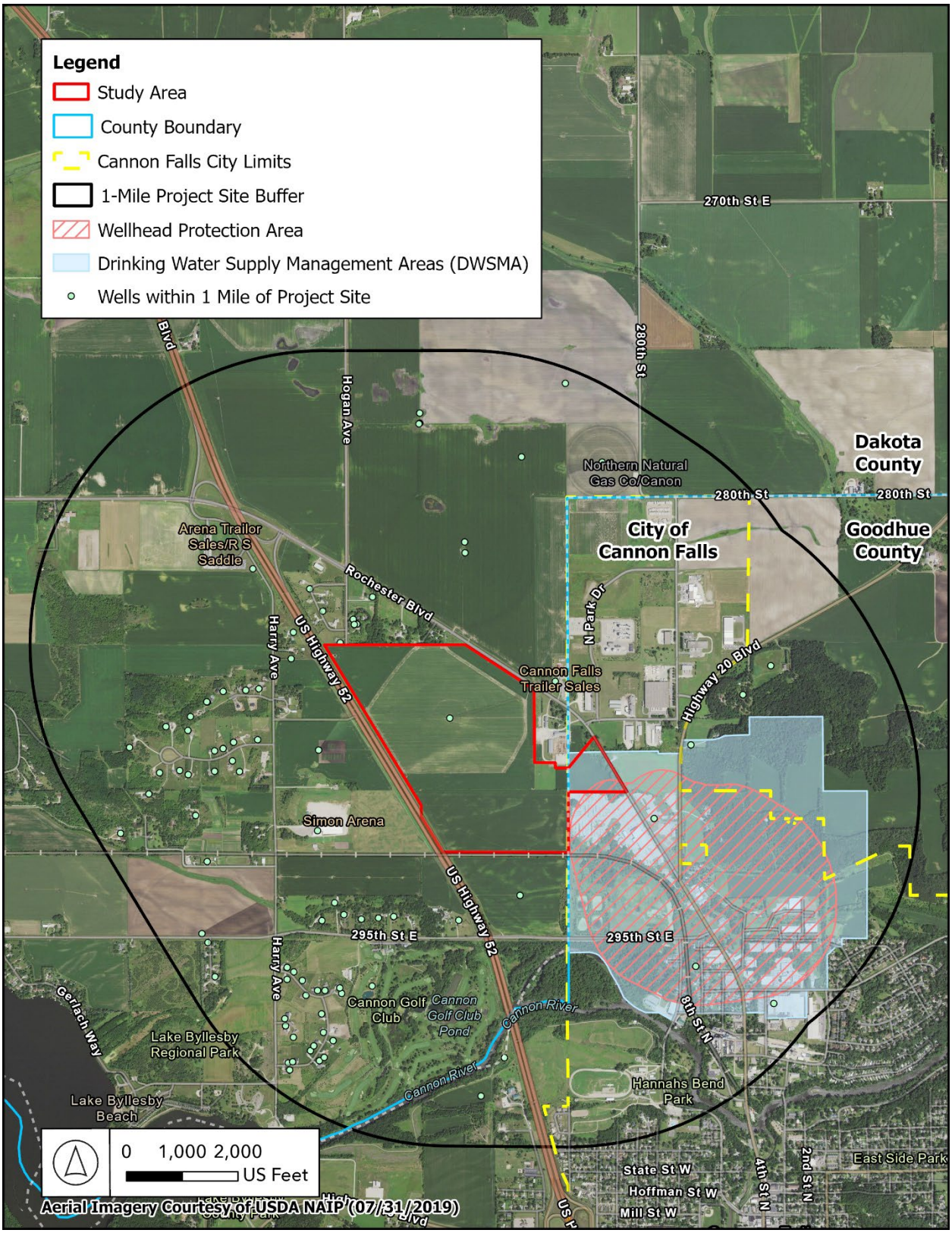
The well on the property will be sealed by a licensed well contractor, if needed. If unidentified wells are found, the Minnesota Department of Health must be contacted to determine the course of action, which may include sealing, relocating, or preserving by a licensed well contractor according to Minnesota Rules Chapter 4725.

The eastern portion of the AUAR study area is located within a wellhead protection area (Cannon Falls) and a Drinking Water Supply Management Area (DWSMA) (Cannon Falls, moderate vulnerability). Any infiltration of the cooling water or stormwater will need to occur outside DWSMA and will be required to be designed to the MPCA and MDH standards for protecting the drinking water supply. Coordination with the city would be required to verify suitability of stormwater infiltration on site due to the DWSMA requirements.

Table 8: Wells within the AUAR Study Area

Well ID Number	Index Status	Well Use	Well Depth (feet)	Permitted Water Appropriations
751667	Active	Irrigation	265	40.3 million gallons/year
Source: Minnesota Department of Health. *Minnesota Well Index*. Available at: https://mnwellindex.web.health.state.mn.us/; https://mnwellindex.web.health.state.mn.us/mwi/index.xhtml?wellId=0000751667				

Figure 15: Groundwater Resources



b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

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

AUAR Guidance: Observe the following points of guidance in an AUAR:

- *Only domestic wastewater should be considered in an AUAR—industrial wastewater would be coming from industrial uses that are excluded from review through an AUAR process*
- *Wastewater flows should be estimated by land use subareas of the AUAR area; the basis of flow estimates should be explained*
- *The major sewer system features should be shown on a map and the expected flows should be identified*
- *If not explained under Item 6, the expected staging of the sewer system construction should be described*
- *The relationship of the sewer system extension to the RGU's comprehensive sewer plan and (for metro area AUARs) to Metropolitan Council regional systems plans, including MUSA expansions, should be discussed. For non-metro area AUARs, the AUAR must discuss the capacity of the RGU's wastewater treatment system compared to the flows from the AUAR area; any necessary improvements should be described.*
- *If on-site systems will serve part of the AUAR, the guidance in the February 2000 edition of the EAW Guidelines on page 16 regarding item 18b under Residential development should be followed.*

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.

Sanitary sewer service will be extended north to the AUAR study area from the City of Cannons Falls sanitary sewer collection system for domestic-strength waste, and potentially industrial process water, if feasible. **Table *9*** below provides the estimated wastewater flows for each scenario, and the industrial process water for Scenario 2. Flows for Scenario 1 are based on the standard usage for an industrial warehouse with 30 % office space under the Metropolitan Council of Environmental Services (MCES) published Sewer Access Charge (SAC) guidance document. The City of Cannon Falls Comprehensive plan indicates the proposed site should be will require a trunk extension along the county road to the site. Further analysis of the system may be required in the future; however, the minimum pipe grade and cover will determine the sewer capacity for this area.

Table 9: Daily Wastewater Flows

Scenario	Domestic Strength Waste	Industrial Process Water
1. Industrial Park	72,500 GPD	-
2. Technology Park	15,000 GPD	57,000 GPD – 3,300,000 GDP

Under Scenario 1 and for the domestic strength waste of Scenario 2, the wastewater would be treated by the City of Cannon Falls Wastewater Treatment Plant.

Data centers can have a wide range of cooling options which impact the wastewater discharges depending on either the use of a non-water cooled or a water-cooled system. For Scenario 2, it is anticipated that a water-cooled system will be utilized. It is anticipated that Scenario 2 will generate a peak day wastewater discharge of a range between 57,000 to 3,300,000 gallons per day (GPD) during a peak day demand. The peak day demand is weather dependent and the chance of a peak day demand happening is approximately less than 1 % of the time over the course of a six-month period. The total system operates over approximately a 6-month period. Of the total daily flow rate, approximately 15,000 GPD would be domestic strength waste, and the remaining flow would be non-contact cooling water. Domestic wastewater is anticipated to be directed to the City of Cannon Falls Wastewater Treatment Plant. The industrial process water quality under Scenario 2 would contain little to no BOD or TSS and would have slightly higher concentrations of minerals found naturally occurring in the ground water. Industrial process non-contact cooling water would be discharged either to the City's system (pending study results and necessary system improvements), in rapid infiltration basins (RIBs) or through other methods of spray irrigation or attenuation, or a combination thereof. Infiltration would provide some recharge of water to the aquifer, while irrigation for the crops can provide another use of the water verses using ground water to directly irrigate the crops. If it is determined the industrial process water is to be discharged the city system, it will be discharged at a slower rate using attenuation tanks or equalization basins.

The area does have the potential for karst formation based on local mapping and will be investigated further prior to permitting the RIB system. Preliminary geotechnical borings do not show a high probability of karst forming features in the study area.

The infiltration or crop land irrigation will need to be permitted by the Minnesota Pollution Control Agency. The creation and use of RIBs to infiltrate industrial non-contact cooling water will also require a permit from the MPCA.

2) **If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site**

conditions for such a system. If septic systems are part of the project, describe the availability of septage disposal options within the region to handle the ongoing amounts generated as a result of the project. Consider the effects of current Minnesota climate trends and anticipated changes in rainfall frequency, intensity, and amount with this discussion.

No subsurface sewage treatment systems (SSTS) are anticipated within the AUAR study area for the proposed development scenario.

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

No wastewater discharge to surface waters is anticipated for the proposed development scenarios.

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

AUAR Guidance: For an AUAR the following additional guidance should be followed in addition to that in EAW Guidelines:

- *It is expected that an AUAR will have a detailed analysis of stormwater issues*
- *A map of the proposed stormwater management system and of the water bodies that will receive stormwater should be provided*
- *The description of the stormwater systems would identify on-site and "regional" detention ponding and also indicate whether the various ponds will be new water bodies or converted existing ponds or wetlands. Where on-site ponds will*

be used but have not yet been designed, the discussion should indicate the design standards that will be followed.

- *If present in or adjoining the AUAR area, the following types of water bodies must be given special analyses:*
    - *Lakes: Within the Twin Cities metro area, a nutrient budget analysis must be prepared for any "priority lake" identified by the Metropolitan Council. Outside of the metro area, lakes needing a nutrient budget analysis must be determined by consultation with the MPCA and DNR staffs.*
    - *Trout streams: If stormwater discharges will enter or affect a trout stream, an evaluation of the impacts on the chemical composition and temperature regime of the stream and the consequent impacts on the trout population (and other species of concern) must be included.*

The site will be located within the City of Cannon Falls and is subject to the City's stormwater management guidelines and stormwater drainage facilities will comply with all federal, state and local requirements. There are no existing on-site stormwater ponds. The development must comply with the post-construction stormwater standards set forth by the North Canon River Watershed Management Organization (NCRWMO), the City of Cannon Falls, and the NPDES Construction Stormwater Permit. Compliance with these stormwater regulations will prevent negative impacts downstream. The project area is designated as a desirable location for infiltration by Dakota County. The site plans to provide the full infiltration volume, thereby aiding groundwater recharge and reducing downstream runoff volumes.

The site ultimately discharges to the Cannon River to the south of the site. As identified in preliminary geotechnical report, the site consists of mainly graded sand with pockets of silty sand, lean clay and sandy lean clay. These conditions would be conducive to onsite infiltration basins.

The city follows the NPDES Stormwater Construction Permit stormwater requirements. New developments proposing 1-acre or more of new impervious area must provide water quality volume of 1-inch times the sum of the new and fully reconstructed impervious surface. Proposed developments within the City of Cannon Falls are required to control stormwater runoff to equal or reduce the pre-development conditions. All pipe conveyance shall be ten-year design return frequency, and all ponding, detention or retention shall be designed for the 100-year storm condition via the TR55 Method. For sites that are not able to infiltrate, BMPs must be implemented to remove 90% total suspended solids (TSS) and 60% total phosphorus (TP). BMPs can include biofiltration and wet sediment ponds. All infiltration and filtration facilities must be constructed with a pretreatment device to remove pollutants prior to stormwater out-letting into the facilities.

Formations of Decorah Shale are present in southeastern MN up to the Cannon Falls area. The Decorah Edge is a protected rock formation in MN and prohibits infiltration

due to increased risks of karst features potentially causing sink holes. Preliminary geotechnical reports had not encountered any signs of Decorah Shale, however additional geotechnical investigations may be needed to ensure no presence on-site.

The site is partially within a Drinking Water Supply Management Area (DWSMA) of moderate vulnerability and a Wellhead Protection Area. The DWSMA is located on a small sliver of the site to the east. If infiltration is proposed for future stormwater management, the DWSMA and Wellhead Protection Area will be avoided as possible, however the site is not required to limit infiltration as the DWSMA vulnerability is only listed as moderate.

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. Discuss how the proposed water use is resilient in the event of changes in total precipitation, large precipitation events, drought, increased temperatures, variable surface water flows and elevations, and longer growing seasons. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation. Describe contingency plans should the appropriation volume increase beyond infrastructure capacity or water supply for the project diminish in quantity or quality, such as reuse of water, connections with another water source, or emergency connections.**

AUAR Guidance: If the area requires new water supply wells, specific information about that appropriation and its potential impacts on groundwater levels should be given; if groundwater levels would be affected, any impacts resulting on other resources should be addressed.

The water supply for the study area will be obtained from the City of Cannon Falls in both Scenarios, however, in Scenario 2, the industrial water could be supplied from the onsite irrigation well that would be reconstructed to municipal standards. The City provides water to residents from three groundwater wells ranging from 393 to 400 feet deep that draw water from the Jordan and Jordan-St. Lawrence aquifers.[16] The City of Cannon Falls currently has a water appropriation capacity of 250 MGY and is currently utilizing between 151 to 165 MGY over a four-year period from 2019 to 2024. The city is currently reviewing how the existing appropriations and well could work within the city to help shave some peak demand from the City's water system.

For Scenario 1, the onsite well would be capped with the water appropriations permit being terminated. The anticipated average annual daily water demand for Scenario 1

[16] City of Cannon Falls. 2023. *Cannon Falls 2023 Drinking Water Report*. Available at: https://www.cannonfallsmn.gov/sites/default/files/fileattachments/public_works/page/7682/2023_consumer_confidence_report.pdf.

would be approximately 259,860 GPD, which does not include a peak factor. Should a peaking factor be applied, peak day water demands could be up to 3 or 4 times the demand listed in Table 12 below.

The proposed AUAR area contains an onsite irrigation well with water appropriations through the Minnesota Department of Natural Resources for 40.3 MGY drawing water from the Prairie du Chien aquifer. Capping the existing well would remove the 40.3 MGY of appropriations from the Prairie Du Chien aquifer and would reduce the potential demand on the aquifer; however, this may require the city to increase their appropriations. A proposed solution would be to plat an area of land where the new well could be constructed and owned by the city. This would allow the city to remain in control of the water appropriations for the aquifer in the area and provide another water source to the City's system. If the City were to take ownership of the well, onsite chlorination and fluoridation of the water would need to occur. Additional treatment for drinking water standards is not anticipated as the City wells are located in the same aquifer; however, this will need to be verified with further testing.

Under Scenario 2, the onsite well could alternatively be reconstructed to meet industrial standards and utilized for industrial process water, reducing the demand from the development on the City water supply system.

Data centers can have a wide range of cooling options which impact the water demand depending on either the use of a non-water cooled or a water-cooled system. It is assumed that Scenario 2 is a water-cooled system and could have an annual peak water demand of 49 MGY with a peak day of 4.66 million gallons per day when temperatures exceed 100 plus degrees Fahrenheit during the day. Annual average daily water demands are anticipated to be approximately 0.135 MGD for the development, including both domestic and cooling water.

The MNDNR has monitoring wells throughout the state that detects groundwater levels in the aquifer. DNR Observation Well Number 19062 is the closest monitoring well to the site and has a depth of approximately 395 feet above sea level. This well has fluctuated between an elevation of 824 feet in 1994, to a high of 867 feet in 2013. In the last few years, the well has gone from 835 feet in May of 2023, to an elevation of 837 feet in March of 2025. This fluctuation does show the variation of the aquifer with the rain and other seasonal events, but the last 30 years of data shows the aquifer maintains a consistent groundwater elevation within this range. This demonstrates that the aquifer is a reliable and resilient water source with the seasons and does recharge over time.

A Water Use Appropriation Permit would be obtained if temporary dewatering is determined to be necessary for design of development in Scenario 1 or Scenario 2. A Water Use Appropriation Permit is required for temporary water appropriations and limits withdraw to 50 million gallons per year.

iv. Surface Waters

1) Wetlands – Describe any anticipated physical effects or alterations to wetland features, such as draining, filling, permanent inundation, dredging, and vegetative removal. Discuss direct and indirect environmental effects

from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed and identify those probable locations.

The development proposed in Scenario 1 and Scenario 2 may impact the wetlands in the AUAR study area (approximately 0.16 acres).The wetlands are small wetland located along the channel along the county roadway. It is anticipated that impacts to the watershed would be minimal. The project proposer would be required to comply with all federal, state, and local wetland requirements including avoidance, minimization, and wetland mitigation requirements through the purchase of wetland banking credits.

2) **Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal, and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features, taking into consideration how current Minnesota climate trends and anticipated climate change in the general location of the project may influence the effects. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering 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.**

AUAR Guidance: Water surface use need only be addressed if the AUAR area would include or adjoin recreational water bodies.

Wetlands are present within the AUAR study area. Wetland Delineation Summary Surface Water alterations would occur as a result of the installation of a site access road and culvert over Intermittent Stream 1 for Scenarios 1 and 2. Impacts to Intermittent Stream 2, Wetland 1, and Wetland 2 are not anticipated in either Scenario 1 or Scenario 2.

13. Contamination/Hazardous Materials/Wastes

a. **Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or**

exacerbated by project construction and operation. Identify measures to avoid, minimize, or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A Phase I Environmental Site Assessment (ESA) was completed in November 2024 for the Project study area. Regulatory database information pertaining to the study area and surrounding area was obtained. Overhead power transmission lines, distribution lines, and associated electrical components transect the southern portion of the study area. The site has been used for agricultural purposes since before 1940. Agrichemicals have the potential to be located in soils and groundwater within the study area. The application of herbicides for easement vegetation management can result in localized impacts to soil and/or groundwater quality over time. A Phase II Environmental Site Assessment will be completed prior to development within the AUAR Study Area.

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.

AUAR Guidance: Generally, only the estimated total quantity of municipal solid waste generated and information about any recycling or source separation programs of the RGU need to be included.

According to Dakota County Ordinances 110 and 111, and Goodhue County Waste Management Ordinance Section III, Dakota and Goodhue Counties will ensure compliance with applicable laws, rules, and ordinances related to the management of solid and hazardous waste as required by Minnesota Statutes, section 473.811.

Construction Generated Solid Waste

Construction of Scenarios 1 and 2 would generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which would either be recycled or disposed of in the proper facilities in accordance with state regulations and guidelines.

Operation Generated Solid Waste

Recycling for industrial buildings in the AUAR study area will be conducted in accordance with the 2016 Recycling Law (Minnesota Statutes Chapter 115A, Section 115A.151 and Section 115A.552). Additionally, Dakota County Ordinance 15.08 requires all solid waste haulers to offer source separated recycling services and curbside pick-up within the county.

Scenario 1, and Scenario 2 would generate new demands on solid waste management and sanitation services provided in the project area as summarized in **Table 10**.

Table 10. Estimated Solid Waste Generation

	Existing Conditions	Scenario 1	Scenario 2
Non-Residential Area (square feet)	10,592,337	1,750,000	1,750,000

	Existing Conditions	Scenario 1	Scenario 2
Non-Residential Waste (tons per year)	0	26,250	22,500
Total Waste (tons per year)	0	26,250	22,500

c. **Project Related Use/Storage of Hazardous Materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location, and size of any new above or below ground tanks to store petroleum or other materials. Indicate the number, location, size, and age of existing tanks on the property that the project will use. Discuss potential environmental effects from accidental spills or releases 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.**

AUAR Guidance: Not required for an AUAR. Potential locations of storage tanks associated with commercial uses in the AUAR should be identified (e.g., gasoline tanks at service stations).

Scenario 1 is proposed light industrial and does not anticipate the use of diesel-powered backup generators.

Scenario 2 could include diesel-powered backup generators for emergency use. Each of these generators would have diesel belly tanks or utilize larger consolidated storage tanks serving multiple generators that will be installed and maintained in compliance with applicable regulations for above-ground storage tanks, including:

- New Tanks and piping that would be designed to applicable industry standards and guidance.
- Tank upgrades and repairs would follow industry standards.
- Tank Owners would clearly label all tanks and piping.
- Spill prevention and cleanup plan.

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 wastes including source reduction and recycling.**

AUAR Guidance: Not required for an AUAR.

Not applicable.

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

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

AUAR Guidance: The description of fish and wildlife resources should be related to the habitat types depicted on the cover types map. Any differences in impacts between development scenarios should be highlighted in the discussion.

No native plant communities or critical habitats under the jurisdiction of the United States Fish and Wildlife Service (USFWS) are located within the study area.

Habitats that can be found within the study area include minimal grassland, woodland, and wetland. Wildlife that can be found within the study area include birds, insects, small mammals, and the potential for deer or other large mammals, like racoons or possums. There are no areas of biodiversity significance or areas of ecological significance within one mile of the study area.

Both Scenario 1 and Scenario 2 propose to develop the entirety of the site with natural buffers along the project lines. Minimal tree clearing is anticipated for development. Minimal wetland impacts are anticipated for this project.. Grasslands surrounding the boundary of the study area are anticipated to be impacted for the construction of access roads and parking areas.

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

AUAR Guidance: For an AUAR, prior consultation with the DNR Division of Ecological Resources for information about reports of rare plant and animal species in the vicinity is required. Include the reference numbers called for on the EAW form in the AUAR and include the DNR's response letter. If such consultation indicates the need, an on-site habitat survey for rare species in the appropriate portions of the AUAR area is required. Areas of on-site surveys should be depicted on a map, as should any "protection zones" established as a result.

State-Listed Species

Kimley-Horn submitted a Minnesota DNR (MnDNR) Natural Heritage Information System (NHIS) review for the study area and surrounding landscape within one mile of the study area for state-listed threatened, endangered, and special concern species. MnDNR determined that state-listed species are within the vicinity of the study area. Listed species include the loggerhead shrike (*Lanius ludovicianus*), lark sparrow (*Chondestes grammacus*), northern long-eared bat ([NLEB] *Myotis septentrionalis*), and the North American racer (*Coluber constrictor*). Tree clearing will take place between November 1st and March 31st to avoid potential impacts to roosting bat species and breeding migratory birds.

Federally Listed Species

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) tool was used to identify federally listed species with the potential to occur in the vicinity of the study area. The review identified northern long-eared bat (NLEB), monarch butterfly (*Danaus plexippus*), whooping crane (*Grus americana*), dwarf trout lily (*Erythronium propullans*), and prairie bush-clover (*Lespedeza leptostachya*).

Northern Long-eared Bat (NLEB)

A record for NLEB is located in Dakota County. NLEB was designated as a federally endangered species by USFWS in May 2015.[17] According to the Minnesota DNR, NLEB have been found in the winter in Minnesota in natural caves, sand mines, and iron mines. In summer, the species is often found within forested habitats, especially around wetlands. Roosting sites include loose bark, broken tree limbs, cavities, and cracks in a tree.[18] Given that the site area has been cultivated for agricultural use and does not contain caves or large expanses of forested habitat, the potential for the NELB to utilize the site is considered low. Should tree clearing be needed for development of Scenario 1 or Scenario 2, tree clearing activities will be conducted between November 1st and March 31st to avoid potential impacts to NLEB.

Monarch Butterfly

The monarch butterfly is designated as a candidate species for official listing by the USFWS. The preferred habitat for this species is prairie with milkweed and other native forbs. According to the USFWS, there are many potential reasons for the decline in monarch numbers across North America, including overwintering and breeding habitat loss, logging at overwintering sites, disease, pesticides, and climate change. The monarch is currently proposed for official listing as endangered by the USFWS.

Whooping Crane

The whooping crane is designated as an experimental population, non-essential species by the USFWS. Non-essential experimental populations are treated as threatened species on National Wildlife Refuge and National Park land (require consultation under 7(a)(2) of the ESA) and as a proposed species on private land (no section 7(a)(2) requirements, but Federal agencies must not jeopardize their existence (section 7(a)(4)). The preferred habitat for the species includes shallow mashes and adjacent, open grasslands.[19] The project will not occur on federal land; therefore, consultation with USFWS is not required for the species.

Minnesota Dwarf Trout Lily

Minnesota dwarf trout lily is designated endangered caused by habitat destruction. The preferred habitat for the species includes floodplains and forest lands.[20] Given that the study

[17] USFWS. Northern Long-Eared Bat. Available at: https://ecos.fws.gov/ecp/species/9045
[18] Minnesota DNR. *Rare Species Guide*. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMACC01150
[19] USFWS. Whopping Crane. Available at: https://ecos.fws.gov/ecp/species/758
[20] Minnesota Department of Natural Resources. 2024. *Rare Species Guide*. Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PMLIL0U0D0.

area has been cultivated for agricultural use, the potential for the Minnesota dwarf trout lily to occur onsite is low.

Prairie Bush-clover

Prairie bush-clover is designated threatened by the USFWS. The preferred habitat for the species includes upland prairies and rock outcrops.[21] Given that the study area has been cultivated for agricultural use, the potential for the prairie bush-clover to occur onsite is low.

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

Federally Listed Species

Invasive species are a major cause of biodiversity loss and are considered biological pollutants by the DNR. Invasive species can be spread through construction equipment, landscaping equipment, and other debris.

Stormwater

Stormwater run-off can cause a number of environmental problems. When stormwater drains off a construction site, it can carry sediment and pollutants that harm lakes, rivers, streams, and wetlands which in turn may harm wildlife. Strategies for stormwater management and treatment for stormwater runoff is included in Section 12.

Tree Removal

The AUAR study area contains approximately 1.33 acres of forested area. Forests and forested areas provide an important natural resource in Minnesota. Forest clearing and tree removal creates a variety of environmental impacts including habitat destruction, biodiversity impairment, soil erosion, and loss of carbon sinks. Although some tree removal will be necessary, the scope of the removal will be limited to the extent practicable to support the proposed development. Tree removal will adhere to the City of Cannon Fall's tree preservation requirements. The City of Cannon Falls regulates tree preservation and requires developers to submit a tree preservation plan prior to construction if the proposed build area contains significant forest or woods. City staff review these plans and attempt to identify and save as many significant trees as possible. The developer will coordinate with USFWS to determine tree removal commitments with regard to NLEB and loggerhead shrike.

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

State Listed Species

Loggerhead Shrike

[21] Minnesota Department of Natural Resources. 2024. *Rare Species Guide.* Available at: https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDFAB27090.

To prevent impact to loggerhead shrike individuals, tree trimming or removal should occur during the winter months (November 1 – March 31).

Northern Long-eared Bat

To prevent impact to NLEB individuals, tree trimming or removal should occur during the winter months (November 1 – March 31).

Lark Sparrow

No mitigation measures are anticipated to be required.

North American Racer

No mitigation measures are anticipated to be required.

Federally Listed Species

Northern Long-eared Bat

To prevent impact to NLEB individuals, tree trimming or removal should occur during the winter months (November 1 – March 31).

Monarch Butterfly

The use of seed mixes composed of native plants may be used in project landscape designs to promote pollinator-friendly habitat within the study area.

Whooping Crane

No mitigation measures are anticipated to be required as this is an experimental, non-essential species.

Dwarf Trout Lily

No mitigation measures are anticipated to be required as there are no floodplain forests or river terraces within or adjacent to the study area.

Prairie Bush-clover

No mitigation measures are anticipated to be required as there is no native upland dry prairie within or adjacent to the study area.

15. Historic Properties

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

AUAR Guidance: For an AUAR, contact with the State Historic Preservation Office and State Archeologist is required to determine whether there are areas of potential impacts to these resources. If any exist, an appropriate site survey of high probability areas is needed to address the issue in more detail. The mitigation plan must include mitigation for any impacts identified.

According to the Minnesota State Historic Preservation Office (SHPO), no above-ground historic resources are identified within the study area on the available public map.[22] No identified archaeological resources are located within the study area, per the Minnesota Office of the State Archaeologist (OSA). The closest archaeological sites are located adjacent to southeastern boundary of the study area, and one located approximately 0.5 mile to the west of the study area.[23] An unanticipated discoveries plan will be prepared prior to construction within the AUAR Study Area.

16. Visual

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

AUAR Guidance: Any impacts on scenic views and vistas present in the AUAR should be addressed. This would include both direct physical impacts and impacts on visual quality or integrity. EAW Guidelines contains a list of possible scenic resources.

If any non-routine visual impacts would occur from the anticipated development, this should be discussed here along with appropriate mitigation.

The AUAR study area consists of existing agricultural land that is not in the vicinity of any unique designated scenic views or vistas. Any development of agricultural land would have an impact on the visual appearance of a property. Future development is anticipated to meet city ordinance building form, landscape screening, and lighting to avoid impacts to neighboring properties and species, unless otherwise approved through the City's rezoning process. Natural buffers will be maintained around the AUAR study area as feasible to minimize visual impacts to the adjacent properties. No significant visual impacts are anticipated. As building and site designs advance, lighting practices will be selected to address known ecological concerns and prevent avoidable impacts to wildlife, insects, rare plant species, and adjacent natural areas. Guidance from the USFWS to minimize blue light, uplight, and backlight will be adhered to the extent practicable.

17. Air

a. Stationary Source Emissions – Describe the type, sources, quantities, and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants and criteria pollutants. Discuss effects to air quality including any sensitive receptors, human health, or applicable regulatory criteria. Include a discussion of any methods used to 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.

AUAR Guidance: This item is not applicable to an AUAR. Any stationary air emissions source large enough to merit environmental review requires individual review.

[22] MnDOA. Minnesota's Statewide Historic Inventory. Available at: https://mnship.gisdata.mn.gov/
[23] MnOSA. MN OSA Public Viewer. Available at: https://osaportal.gisdata.mn.gov/OSAViewer.

Not applicable to an AUAR. If a project exceeds any of the thresholds as identified in MN Rules 4410.4300, Subpart 15, the project would be required to complete a separate environmental review through the MPCA. The MPCA would be considered the responsible government unit.

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.

AUAR Guidance: Although the MPCA no longer issues Indirect Source Permits, traffic-related air quality may still be an issue if the analysis in Item 20 indicates that development would cause or worsen traffic congestion. The general guidance from the EAW form should still be followed. Questions about the details of air quality analysis should be directed to MPCA staff.

The Minnesota Department of Transportation (MnDOT) has developed a screening method designed to identify intersections that will not cause a carbon monoxide (CO) impact above state standards. MnDOT has demonstrated that even the 10 highest traffic volume intersections in the Twin Cities will not cause a CO impact above state standards. MnDOT's screening method demonstrates that intersections with total daily approaching traffic volumes below 82,300 vehicles per day will not have the potential to cause CO air pollution problems. None of the intersections in the study area exceed the criteria that would lead to a violation of the air quality standards.

c. Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 17a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

AUAR Guidance: Dust and odors need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any dust control ordinances in effect.

Scenario 1 and Scenario 2 may generate temporary fugitive dust emissions during construction. The City Cannon Falls regulates dust in accordance with the standards set by the MPCA. Dust emissions can be controlled by sweeping, watering, sprinkling, as appropriate or as prevailing weather and soil conditions allow. Dust emissions are not anticipated during operations as all ground surfaces will either be impervious or vegetated.

18. Greenhouse Gas (GHG) Emissions/Carbon Footprint

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

About Greenhouse Gases (GHGs)

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs, however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6), and nitrogen trifluoride (NF3); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming.

Project-related GHG Emissions

This section describes the GHG emissions from the existing buildings within the study area and includes an estimated quantification of the following GHG emissions associated with the proposed scenarios.

- Carbon dioxide (CO2)
- Nitrous oxide (N2O)
- Methane (CH4)

The projected GHG emissions are provided on an average annual basis using the CO2 equivalent (CO2e) and include the proposer's best estimate of average annual emissions over the proposed life/design service life of future development. The estimates also include emissions from the construction and operating phases of the scenario. Emissions were estimated using the US Environmental Protection Agency's Simplified GHG Emissions Calculator (SGEC) (Version 7 June 2021) and are summarized in **Table *11*** and **Table *12*** by project phase (i.e., construction and operations) and source type (e.g., combustion from mobile equipment, off-site electricity). Construction emissions for the two proposed scenarios are based on length of construction and are from mobile equipment including passenger cars, light-duty trucks, and medium and heavy-duty trucks, and construction equipment (both gasoline and diesel).

Table 11. Construction Emissions

Scope	Emission Type	Emission Sub-Type	Emission	Existing CO_{2e} Emissions (total)	Scenario 1 Project-Related CO_{2e} Emissions (total)	Scenario 2 Project-Related CO_{2e} Emissions (total)
Scope 1	Combustion	Mobile equipment	CO_2, N_2O, CH_4	n/a	15,500	13,286
Total				**n/a**	**15,500**	**13,286**

Table 12. Operational Emissions

Scope	Emission Type	Emission Sub-Type	Emission	Existing CO_{2e} Emissions (tons/year)	Scenario 1 Proposed CO_{2e} Emissions (tons/year)	Scenario 2 Proposed CO_{2e} Emissions (tons/year)
Scope 1	Combustion	Stationary equipment	CO_2, N_2O, CH_4	0	1,803	4,557
Scope 2	Off-site electricity	Grid-based	CO_2, N_2O, CH_4	0	5,797	15,207
Scope 3	Off-site waste management	Area	CO_2, CH_4	0	6,289	425
Total				**0**	**13,889**	**20,189**

b. GHG Assessment

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

Unless otherwise noted differently, the following are potential design strategies and sustainability measures that are under consideration for Scenario 1 and Scenario 2 to reduce emissions:

- Use energy efficient appliances, equipment, lighting, and building shells.
- Implement waste best management practices and recycle and compost appropriate materials when applicable.
- Trees and additional landscaping will be implemented as part of the new development.
- Provide electric vehicle-ready charging infrastructure.
- Purchase grid-based wind and solar power.

Implementation of the listed strategies will be evaluated on a case-by-case basis based on code requirements, feasibility, availability of materials, schedule, and tenant considerations. The project proposer will work with the City of Cannon Falls to

identify additional mitigation strategies that could be implemented to reduce greenhouse gas emissions or offset the carbon footprint of the proposed scenarios.

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

- Each scenario would require new appliances, equipment, and lighting during operations. The use of energy efficient technologies would reduce the amount of electricity used per product. Collectively, the implementation of these technologies would reduce overall energy use and in turn, greenhouse GHG emissions.
- Each scenario would require heating and cooling during operation. One of the highest sources of energy use is energy spent heating and cooling buildings. The use of energy efficient building shells reduces the amount of energy needed for the heating and cooling, therefore reducing energy use and GHG emissions.
- Waste would be generated during operation of both scenarios. By implementing waste best management practices and recycle and compost appropriate material when applicable, GHG emitted from waste during operations can be reduced.
- Trees and additional landscaping can reduce the GHG footprint of the project by absorbing the GHG emissions. For both scenarios, tree replacement will occur per City of Cannon Falls requirements.

The potential mitigation listed in Item 18.b.i. was selected to comply with best management practices for new construction and reduce GHG emissions where practicable during operations.

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

The Next Generation Energy Act requires the state to reduce greenhouse gas emissions in the state by 80 percent between 2005 and 2050, while supporting clean energy, energy efficient and supplementing other renewable energy standards in Minnesota. The MPCA's biennial GHG emissions reduction report from 2021 identifies strategies for reducing emissions in the three economic sectors with the highest emissions – transportation, electricity generation, and agriculture, forestry, and land use.

The current AUAR study area currently generates 280 CO2e metric tons per year. Under Scenario 1, the amount will increase to 13,889 CO2e metric tons per year. Under Scenario 2, the amount will increase to 20,189 CO2e metric tons per year.

The expected lifespan of the project of 50 years, this equates to a total estimated 709,950 CO2e metric tons over the lifetime of the development under Scenario 1, and 1,022,736 CO2e metric tons over the lifetime of the development under Scenario 2,

including both construction and operation phases. The proposer will evaluate implementing the sustainability measures listed in Item 18.b.i. to reduce operational emissions to the extent practicable. The proposed project will be built in compliance with state regulations and City of Cannon Falls building codes.

The City will continue to encourage any project proposer within the AUAR study area to implement efficient building designs with efficient energy use and other sustainability measures to minimize their carbon footprint and greenhouse gas emissions to help the state of Minnesota meet their Next Generation Energy Act goals.

19. Noise

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

AUAR Guidance: Construction noise need not be addressed in an AUAR, unless there is some unusual reason to do so. The RGU might want to discuss as part of the mitigation plan, however, any construction noise ordinances in effect.

If the area will include or adjoin major noise sources, a noise analysis is needed to determine if any noise levels in excess of standards would occur, and if so, to identify appropriate mitigation measures. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of Item 20.

Existing Noise

The AUAR study area is currently agricultural land. The existing noise sources at the study area consist mainly of the surrounding roadways; Hwy 52 is adjacent to the west boundary of the study area. The existing agricultural use also contributes to the noise in the project vicinity with the use of farm equipment and the use of the irrigation center pivot.

Construction Noise

As stated in the AUAR guidelines, construction noise need not be addressed unless there is some unusual reason to do so. No unusual circumstances have been identified that would necessitate a detailed construction noise analysis. Construction of the proposed project would comply with the City of Cannon Falls Noise Ordinance [24].

Traffic Generated Noise

A sound increase of 3 dBA is barely noticeable by the human ear, a 5 dBA increase is clearly noticeable, and a 10 dBA increase is heard as twice as loud. For example, if the sound energy is doubled (i.e., the amount of traffic doubles), there is a 3 dBA increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases by a factor of 10, the resulting sound level will increase by about 10 dBA and be heard as twice as loud. Traffic volumes in the project area are either on roadways that do not have receivers that are sensitive

[24] https://codelibrary.amlegal.com/codes/cannonfalls/latest/cannonfalls_mn/0-0-0-1864

to noise, or the traffic levels attributable to the project are well below the amount that would generate a sound increase that could be noticeable. The change in traffic noise levels is not anticipated to be readily perceptible.

Operational Noise

For Scenario 1, the main source of noise will be the additional truck and vehicular traffic, mechanical equipment, and ventilation systems associated with the industrial park . Sensitive receptors within the project site vicinity include adjacent residential houses, and businesses. Noise attenuation measures will be incorporated into project design to ensure that MPCA noise rules and City noise ordinances are followed.

For Scenario 2, the main sources of noise include computers, ventilation systems, industrial traffic and the use of generators tested once a month and in the case of emergency. Sensitive receptors within the project site vicinity include adjacent residential houses, and businesses. Further noise evaluation will be completed as design progresses and best practices to reduce noise will be implemented for the technology park uses to ensure compliance with local and state noise regulations. Noise attenuation measures will be incorporated into project design to ensure that MPCA noise rules and City noise ordinances are followed.

20. Transportation

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

Parking

There are currently no off-street parking spaces on the site as the site is agricultural land.

Off-Street parking requirements listed in Section 152.259 of the City of Cannon Falls code of ordinances will be adhered to for future development. For the Technology Building Use, in lieu of a standard parking requirement, a Parking Analysis Memo as agreed to by the staff will determine an appropriate amount of parking required for the Campus as part of site plan approval.

Existing Conditions

The existing roadway network within the study area includes Rochester Boulevard, US Highway 52, Hogan Avenue, County Road 29, MN 20, and County Road 17. The roadway network is described below:

Rochester Boulevard (Dakota County 86) is currently a two-lane, undivided minor collector with a posted speed limit of 55 miles per hour (mph) in the vicinity of the proposed development. Rochester Boulevard carries an annual average daily traffic (AADT) volume of 2,100 vehicles per day (vpd) west of and 2,700 vpd east of Highway 52 based on 2021 MnDOT AADT data, respectively.

US Highway 52 is a four-lane, divided principal roadway with a posted speed limit of 65 mph in the vicinity of the proposed development. Highway 52 carries an AADT volume of 21,800 vpd south of and 23,600 vpd north of Rochester Boulevard based on 2023 MnDOT AADT data, respectively.

Hogan Avenue (Dakota County 85) is a two-lane, undivided major collector with a posted speed limit of 55 mph north of Rochester Boulevard and 30 mph south of Rochester Boulevard. Hogan Avenue carries an AADT volume 400 vpd north of Rochester Boulevard based on 2022 MnDOT AADT data, respectively. MnDOT Traffic Mapping Application has no traffic data for the roadway south of Rochester Boulevard.

Goodhue County 29 is currently a two-lane, undivided minor collector with a posted speed limit of 40 mph in the vicinity of the proposed development. County 29 Boulevard carries an AADT volume of 2,700 vpd north of Cannon Falls Boulevard (MN 20) based on 2019 MnDOT AADT data, respectively.

Cannon Falls Boulevard (MN 20) is a two-lane, undivided major collector with a posted speed limit of 55 mph in the vicinity of the proposed development. Cannon Falls Boulevard (MN 20) carries an AADT volume of 2,200 vpd east of County 29 Boulevard based on 2022 MnDOT AADT data. MN 20 continues south of Goodhue County 29 and has 5,600 vpd.

Goodhue County 17 is a two-lane, undivided major collector with a posted speed limit of 30 mph in the vicinity of the proposed development. County 17 Boulevard carries an AADT volume of 1,600 vpd west of County 29 Boulevard based on 2019 MnDOT AADT data, respectively.

The adjacent roadways are rural by nature and do not have pedestrian infrastructure.

Traffic Generation

The trip generation of the previously described development scenarios were estimated based on data from the Institute of Transportation Engineer's Trip Generation Manual, 11th Edition. The trip generation of Scenario 1 was estimated using LUC 130 (Industrial Park) and Scenario 2 was estimated using Land Use Code (LUC) 160 (Data Center), while the trip generation of, see **Table 13**.

Table 13. Trip Generation Forecast

Scenario	AM Peak Hour			PM Peak Hour			Daily
	Total	In	Out	Total	In	Out	
Scenario 1	595	482	113	595	131	464	5,898
Scenario 2	165	91	74	135	41	94	1,485

Transit

There are no public transit services available near the site.

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.

AUAR Guidance: For AUAR reviews, a detailed traffic analysis will be needed, conforming to the MnDOT guidance as listed on the EAW form. The results of the traffic analysis must be used in the response to Items 17 and 19.

A Traffic Impact Analysis was completed in January 2025 for the Cannon Falls Industrial site. Based on the findings of the Cannon Falls Industrial TIA, the area's transportation network is expected to support the development within the AUAR study area with mitigation, see **Table 14**. The TIA identified improvements that could be constructed to mitigate possible future traffic impacts associated with development within the AUAR study area. Metrics for traffic analysis include intersection delay as measured by Level of Service (LOS) and queue lengths.

Table 14. Existing and Projected Intersection LOS

Intersection	Existing LOS	No-Build LOS		Scenario 1 LOS		Scenario 2 LOS	
	2024	2029	2044	2029	2044	2029	2044
AM Peak Hour							
Rochester Blvd & US 52 SB Ramps	A	A	A	A	A	A	A
Rochester Blvd & US 52 NB Ramps	A	A	A	C	C	A	A
Rochester Blvd & Hogan Ave	A	A	A	A	B	A	A
County 29 & MN 20	A	A	A	A	A	A	A
MN 20 & County 17 Blvd	A	A	A	A	C	B	A
CSAH 88 & Harry Ave	A	A	A	A	A	B	B
Rochester Blvd & Access 1	-	-	-	A	B	A	A
County 29 Blvd & Access 2	-	-	-	A	A	A	A
PM Peak Hour							
Rochester Blvd & US 52 SB Ramps	A	A	A	A	A	A	A
Rochester Blvd & US 52 NB Ramps	A	A	A	C	D	A	B
Rochester Blvd & Hogan Ave	A	A	A	C	C	A	B

Intersection	Existing LOS	No-Build LOS		Scenario 1 LOS		Scenario 2 LOS	
	2024	2029	2044	2029	2044	2029	2044
County 29 & MN 20	A	A	A	B	B	A	A
MN 20 & County 17 Blvd	C	B	B	B	B	B	B
CSAH 88 & Harry Ave	A	A	A	A	A	B	B
Rochester Blvd & Access 1	-	-	-	A	A	A	A
County 29 Blvd & Access 2	-	-	-	B	B	A	A

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

Based on the results of the capacity analysis and turn lane warrant analysis, the following mitigation measures are recommended for the proposed scenarios:

Existing (2024) Conditions

- No recommended mitigation

Opening Year (2029) No-Build Conditions

- No recommended mitigation

Opening Year (2029) Scenario 1 Conditions

- Install side street stop control at the site access points
- Install a westbound left-turn lane at Access 1 along Rochester Boulevard
- Install an eastbound right-turn lane at Access 1 along Rochester Boulevard
- Install a southbound right-turn lane at Access 2 along County 29 Boulevard

Opening Year (2029) Scenario 2 Conditions

- Install side street stop control at the site access points

Design Year (2044) No-Build Conditions

- No recommended mitigation

Design Year (2044) Scenario 1 Conditions

- All Opening Year (2029) Scenario 1 mitigations

Design Year (2044) Scenario 2 Conditions

- All Opening Year (2029) Scenario 2 mitigations

21. Cumulative Potential Effects

AUAR Guidance: Because the AUAR process by its nature is intended to deal with cumulative potential effects from all future developments within the AUAR area, it is presumed that the responses to all items on the EAW form automatically encompass the impacts from all anticipated developments within the AUAR area.

However, the total impact on the environment with respect to any of the items on the EAW form may also be influenced by past, present, and reasonably foreseeable future projects outside of the AUAR area. The cumulative potential effect descriptions may be provided as part of the responses to other appropriate EAW items, or in response to this item.

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.

Cumulative effects are defined as the "effect on the environment that results from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including a future projects actually planned or for which a basis of expectations has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects." The geographic areas considered for cumulative effects are those areas adjacent to the AUAR study area, and the timeframe considered includes projects that would be constructed in the reasonably foreseeable future.

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.

Future private development projects may result in impacts to transportation, water resources, and utilities. These impacts will be addressed via the regulatory permitting and approval processes and will be individually mitigated to ensure minimal cumulative impacts occur.

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.

Not applicable.

22. Other Potential Environmental Effects

If the project may cause any additional environmental effects not addressed by Items 1 to 21, 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.

There are no other potential environmental effects that have not been addressed in preceding sections.

Draft Mitigation Plan

This Mitigation Plan is submitted as part of the Draft AUAR to provide reviewers and regulators with an understanding of the actions that are advisable, recommended, or necessary to protect the environment and minimize potential impacts by the proposed development scenarios. This Draft Mitigation Plan will be revised and updated based on comments received during the Draft AUAR comment period.

This Mitigation Plan is intended to satisfy the AUAR rules that require the preparation of a mitigation plan that specifies measures or procedures that will be used to avoid, minimize, or mitigate the potential impacts of development within the AUAR study area. Although mitigation strategies are discussed throughout the AUAR document, this plan will be formally adopted by the RGU as their action plan to prevent potentially significant environmental impacts.

The primary mechanism for mitigation of environmental impacts is the effective use of ordinances, rules, and regulations. The plan does not modify the regulatory agencies' responsibilities for implementing their respective regulatory programs nor create additional regulatory requirements. The plan specifies the legal and institutional arrangements that will assure that the adopted mitigation measures are implemented.

In addition to the anticipated permits and approvals listed, the mitigation measures developed in the AUAR process are outlined in Table 15. The remaining AUAR items have identified regulatory requirements and/or mitigation measures that reduce the level of potential impact of development within the study area. The plan is formatted consistent with the sections of the AUAR for ease of reference.

Table 15: Final Mitigation Plan

Resource Area	Mitigation
Land Use	**Scenario 1 and 2:** Any zoning inconsistencies will be addressed through a re-zoning.
Geology, Soils, and Topography	**Scenario 1 and 2:** Erosion prevention and sediment control practices will be implemented on-site per the NPDES General Stormwater Permit requirements.
	Scenario 1 and 2: Site specific subsurface investigations should be completed prior to work commencement. If karst conditions are found to be present, follow City of Cannon Falls and the MPCA design guidelines.
Water Resources	**Scenario 1 and 2:** Infrastructure will be built within the AUAR study area to convey stormwater to stormwater management areas to help achieve the appropriate water quality treatment. As required by the City, the quantity and rate of stormwater runoff from the 1-, 10-, and 100-year, 24-hour rainfall events in post-development conditions will be managed to not exceed the existing conditions.

Resource Area	Mitigation
	Scenario 1 and 2: Maintenance and monitoring of the stormwater management areas will be performed to ensure long term effectiveness of the facilities.
	Scenario 1 and 2: Obtain a permit from the MPCA for a sewer extension and permit to connect.
	Scenarios 1 and 2: Watermain extension along Goodhue County Road 29 to extend services to the AUAR Study Area.
	Scenario 1 and 2: Water Appropriations Permit amendment.
	Scenarios 1 and 2: If needed, groundwater wells will be properly sealed by a licensed well contractor prior to redevelopment within the AUAR study area per MPCA and MDH well sealing requirements if needed. If any unverified wells are identified during construction, they will be examined by a licensed contractor or a Dakota County well inspector to determine the status.
	Scenario 2: If determined feasible, the onsite irrigation well will be reconstructed to meet either municipal or industrial standards and will be used to supply non-contact cooling water. A permit from MDH would be required.
	Scenario 2: If determined feasible, the RIBS or irrigation system will be constructed to meet MPCA guidelines and will be permitted through the MPCA for the non-contact cooling water disposal.
	Scenario 1 and 2: Obtain a permit from MDH for a watermain installation
	Scenarios 1 and 2: A chloride management plan will be implemented, which will meet state and local requirements.
	Scenarios 1 and 2: Best management practices pertaining to stormwater management will be adhered to during construction.
	Scenarios 1 and 2: Avoidance measures will be taken to avoid impacts to the wetlands and intermittent streams within the AUAR study area. If proposed design plans change and impacts to wetlands are necessary, the project proposer will purchase wetland banking credits from the wetland bank within the same Major Watershed if available. Buffers will be installed around wetlands to protect water quality from adjacent development.

Resource Area	Mitigation
Contamination/ Hazardous Waste	**Scenarios 1 and 2:** Development would both generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which would be either recycled or disposed in the proper facilities; Products will be kept in their original containers unless they cannot be resealed. Original labels and Material Safety Data Sheets will be made available. Surplus materials will be properly removed from the property upon completion of use.
	Scenarios 1 and 2: Ensure compliance with applicable laws, rules, and ordinances related to the management of solid and hazardous waste as required by Minnesota Statutes 2020, section 473.811, subdivision 5c.
	Scenarios 1 and 2: Coordinate with the MPCA regarding the required plans, material handling, and disposal.
Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources	**Scenarios 1 and 2:** Wildlife-friendly erosion control methods will be utilized within the study area to minimize impacts to wildlife using the site during construction.
	Scenarios 1 and 2: Invasive species will be controlled during site construction. Additionally, appropriate measures will be taken to control the spread of invasive species will be controlled during construction and landscaping: • Inspecting construction equipment and removing any visible plant, seeds, mud, dirt clods, and animals when arriving and leaving a site. • Using certified weed-free products such as weed-free seed or hay whenever possible. • Using mulch, soil, gravel, etc., that is free of invasive species whenever possible. • Inspecting soil and plant material during planting for signs of invasive species and removing or destroying the invasive species or the plant and associated soil if the invasive species cannot be separated out. • Native and drought-tolerant species will be utilized in landscaped areas.

Resource Area	Mitigation
	Scenarios 1 and 2: Tree and shrub clearing activities will be restricted to winter months when NLEB and migratory birds are not likely to be present (November 1 - March 31). If winter tree clearing is not feasible, technical assistance from the USFWS and Minnesota DNR is required. A specific tree replacement plan will be created and approved by the City prior to development.
Visual	**Scenarios 1 and 2:** Lighting practices will be selected to address known ecological concerns and prevent avoidable impacts to insects, wildlife, rare plants, and adjacent natural areas. Guidance from the USFWS that recommends a lighting system that minimizes uplight and backlight would be adhered to the extent practicable.
Air	**Scenarios 1 and 2:** Construction will generate temporary fugitive dust emissions during construction. These emissions will be controlled by sweeping, watering, sprinkling, as appropriate or as prevailing weather and soil conditions dictate. The City of Cannon Falls regulates dust in accordance with the standards set by the state and federal government.
	Scenario 2: Additional coordination, permitting, and a potential environmental review may be needed for stationary source emissions**.**
GHG Emissions/Carbon Footprint	**Scenarios 1 and 2:** Unless otherwise noted differently, the following are potential design strategies and sustainability measures that are under consideration for Scenario 1 and Scenario 2 to reduce emissions as calculated in Appendix C: ● Use energy efficient appliances, equipment, and lighting ● Energy efficient building shells ● Implement waste best management practices and recycle and compost appropriate material when applicable ● Trees and additional landscaping will be planted as part of the new development The City will continue to encourage any project proposers within the AUAR study area to incorporate design elements to reduce their carbon footprint and greenhouse gas emissions to help the state meet their Next Generation Energy Act goals.

Resource Area	Mitigation
Noise	**Scenarios 1 and 2:** Construction activities may result in temporarily elevated noise levels. To the extent possible, construction activities will be conducted to minimize noise levels and nighttime construction activities. Permits related to construction noise must be obtained from the City of Cannon Falls at least 7 working days prior to the start of construction. **Scenarios 1 and 2:** Further noise evaluation will be completed as design progresses and best practices to reduce noise will be implemented. **Scenarios 1 and 2:** Noise attenuation measures will be incorporated into project design to ensure that MPCA noise rules and City noise ordinances are followed.
Transportation	**Short-Term (2029) Scenario 1 Conditions** • Install side street stop control at the site access points. • Install a westbound left-turn lane at Access 1 along Rochester Boulevard. • Install an eastbound right-turn lane at Access 1 along Rochester Boulevard. • Install a southbound right-turn lane at Access 2 along County 29 Boulevard.
	Short-Term (2029) Scenario 2 Conditions • Install side street stop control at the site access points.
	Long-Term (2040) Scenario 1 Conditions • All Opening Year (2029) Scenario 1 mitigations.
	Long-Term (2040) Scenario 2 Conditions • All Opening Year (2029) Scenario 2 mitigations.

Appendix A

Wetland Delineation Report

Cannon Falls Technology Park

Randolph Township and the City of Cannon Falls

Dakota and Goodhue County, Minnesota

Prepared for:

Tract Management Company, LP
3300 E 1st Ave #600
Denver, CO 80206

Prepared by:

Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100
Saint Paul, MN 55114

November 2024

Kimley»Horn

Table of Contents

List of Tables

List of Figures

Appendices

Executive Summary

Wetland scientists, Keegan Sansone and Cat Maroney with Kimley-Horn and Associates, Inc. conducted a wetland investigation and field delineation for Tract Management Company, LP and the Cannon Falls Technology Park in Randolph Township and the City of Cannon Falls, in Dakota and Goodhue County, Minnesota. In total 2 wetlands and 2 intermittent streams were delineated and are described in **Table 2**. The wetland investigation and delineation included portions of six parcels which are listed in **Table 1** (the "study area"). A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on October 10, 2024.

Table 1: Parcel IDs

Parcel IDs within Study Area
310010051010
310010085010
310010090011
310010090012
310120001012
525100100

1 Introduction

Wetland scientists, Keegan Sansone and Cat Maroney with Kimley-Horn and Associates, Inc. conducted a wetland investigation and field delineation for Tract Management Company, LP and the Cannon Falls Technology Park in Randolph Township and the City of Cannon Falls, Dakota and Goodhue County, Minnesota. The wetland investigation and delineation included portions of six parcels which are listed in **Table 1** (the "study area"). The study area is shown in **Figure 1.** The study area consists of undeveloped agricultural and forested land with a farmstead and two intermittent streams along the eastern portion of the site. Cover types within the study area include cropland, woodland, impervious surface, and surface water.

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on October 10, 2024. The purpose of this delineation was to identify the extent of wetlands within the study area. The information will be used to facilitate project design and determine if aquatic resource impacts are avoidable and/or if minimization of impacts can result from design modifications.

2 Project Description

Tract Management Company, LP is proposing to develop/reconstruct the parcel.

3 Statement of Qualifications

Kimley-Horn has extensive experience completing wetland investigations and delineations across the United States. Kimley-Horn's personnel has been trained to use the *1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987)* along with the applicable regional supplements. Kimley-Horn has

experience completing off-site hydrology analysis, historic aerial reviews, and difficult or atypical situation delineations.

Ashley Payne earned a Bachelor of Arts Degree in Environmental Biology from Saint Mary's University of Minnesota. She is an environmental scientist with 16 years of experience specializing in wetland services environmental documentation and assessments, and geographic information systems mapping and data collection. During the last 16 years, she has successfully completed hundreds of delineations for various types of projects. In the last seven years, Ashley's primary focus has been the delineation of agricultural fields for future development. She is familiar with completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands. Ashley has also obtained environmental permits for clients through efficient and thorough preparation of permit applications, and by coordinating with agency personnel. Ashley is a certified delineator in the state of Minnesota and her primary focus is environmental work in the Midwest. She has extensive experience working in Minnesota, Illinois, Wisconsin, Michigan, Iowa, and South Dakota.

Keller Leet-Otley earned a Bachelor of Arts Degree in Environmental Science from Colby College. He is an environmental scientist who specializes in wetland delineation and permitting, geographic information systems mapping, and threatened and endangered species due diligence. He has led the delineation of agricultural fields, roadway corridors, and undeveloped areas for future development and transit projects. He is proficient using ArcGIS to produce client specific exhibits for various project types. Keller has prepared environmental permit applications and documentation for public and private sector clients. He is a certified delineator in the state of Minnesota and his focus is environmental work in the upper Midwest.

Keegan Sansone holds a Bachelor of Science Degree in Environmental Science from the University of St. Thomas. He brings over 2 years of professional experience in environmental consulting. He specializes in wetland delineation, environmental due diligence, and geographic information systems. He has lead field teams in the delineation of hundreds of aquatic resources in agricultural fields, herbaceous land, and unmanaged forested areas for private sector clients throughout the Midwest. Keegan has completed Phase I Environmental Site Assessments for over 40 projects including cellular tower projects, community and utility scale solar projects, and private land developments in Minnesota, Illinois, Indiana, Michigan, Colorado, South Dakota, Missouri, and Alaska. He has experience in GIS data management, research, development, and optimization for client deliverables and visualization.

Cat Maroney earned both a Bachelor of Science and a Master of Science in Environmental Science from the University of Arizona. She is an environmental scientist who has experience in biological, hazmat, and permit report writing and geographic information systems mapping. She has assisted with wetland delineations in Arizona, Kansas, and Minnesota.

4 Regulatory Requirements

A summary of the permit requirements that may pertain to the project is provided below. Any activity planned within areas identified as wetland must be coordinated with and approved by the appropriate agencies prior to commencement of such activities.

Agencies in Minnesota that regulate activities that affect lakes, rivers, streams, and wetlands include:

- U.S. Army Corps of Engineers (USACE)
  - Section 404 of the Clean Water Act
- Minnesota Department of Natural Resources (DNR)
  - Public Waters Work Permit Program
- Local Governmental Units (LGUs)
  - Wetland Conservation Act (WCA)

The LGU for this project is the Goodhue and Dakota County Soil and Water Conservation District. The WCA applies to nearly all wetlands not regulated by the DNR.

The regulatory authority of the U.S. Army Corps of Engineers (USACE) covers Waters of the United States (WOTUS) in accordance with Section 404 of the Clean Water Act. Generally, the USACE reviews delineations to determine whether wetlands are jurisdictional (i.e., WOTUS). On December 30, 2022, the U.S. Environmental Protection Agency and Department of the Army ("the agencies") announced the final "Revised Definition of 'Waters of the United States'" rule. The rule took effect on March 20, 2023. Based on a preliminary federal injunction on April 12, 2023, the Revised Definition was revoked and the pre-2015 regulatory regime is in effect for 27 states. In Minnesota, the 2023 Revised Definition of the Waters of the United States is in effect as of the date of this report. As of September 8, 2023, the EPA and the Department of the Army amended the WOTUS rule to conform to the 2023 Supreme Court decision in Sackett v. EPA.

Based on the May 25, 2023 ruling of Sackett v. EPA (2023), the Clean Waters Act's use of "waters" encompasses only relatively permanent, standing, or continuously flowing bodies, ordinarily called streams, oceans, rivers, and lakes. Wetlands qualify as WOTUS only if "indistinguishable from waters of the United States," having a continuous surface connection to bodies that are waters of the United States in their own right, with no clear division between waters and wetlands.

In Minnesota, a joint application process has been developed for projects with anticipated wetland impacts. Applications are coordinated between the USACE, DNR, and LGU.

5 Mapping and Background Information

Prior to field reconnaissance, potential wetland areas within the project study areas were identified through a desktop review of United States Geological Survey (USGS) Topographic maps, National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), Department of Natural Resources (DNR) Public Waters Inventory (PWI), LiDAR, the soil survey for Dakota and Goodhue County, aerial photography (2024), and antecedent precipitation for a location near the study area. The selected resources are described below:

5.1 Topographic Map

The Cannon Falls, MN 7.5-minute United States Geological Survey (USGS) topographic map and LiDAR data from USGS were reviewed for the study area. According to the USGS topographic map (see **Figure 2**), the study area is depicted as undeveloped. The LiDAR map depicts the study area sloping southeast with water draining southeast along the eastern border towards an unnamed intermittent stream.. The study area ranges from 842 feet (above mean sea level) to 894 feet, see Appendix A.

5.2 National Wetlands Inventory

NWI mapping, available from the Minnesota DNR (updated in 2022), depicts potential wetland areas and waterbodies based on stereoscopic analysis of high altitude and aerial photographs and was reviewed for the study area. According to the NWI, there is one wetland feature mapped along the eastern border of the study area (R4SBC), see Appendix A.

5.3 National Hydrography Dataset

The National Hydrography Dataset (NHD), available from USGS, depicts drainage networks and related features, including rivers, streams, canals, lakes, and ponds. The NHD is not field verified. According to the NHD, there is one NHD waterbody mapped along the eastern border of the study area, see Appendix A.

5.4 DNR Public Waters Inventory

The Department of Natural Resources (DNR) Public Waters Inventory (PWI) depicts DNR Public Waterways and Waterbodies. No PWI features are depicted within a mile of the study area.

5.5 Soil Survey

The Natural Resources Conservation Service's (NRCS) *Web Soil Survey* for Dakota and Goodhue County was reviewed for the study area. According to the survey, there are 14 soil mapping units within the study area which are mainly complexes and sandy loams with some loam and silt loam soils. The study area was mapped with soils with non-hydric soil rating of 0%. Maps and information obtained from the NRCS online web soil survey are included in Appendix C.

5.6 Precipitation

Precipitation data for the study area was obtained using Minnesota State Climatology Data. Minnesota State Climatology Office data were reviewed for climate stations within the vicinity of the study area to determine the current hydrologic conditions for the site and if those conditions are typical for this time of year. Ninety-day rolling precipitation levels leading up to the field review were compared to historical data. In the 90 days leading up to the field delineation, precipitation conditions were normal. This information is included in Appendix D.

5.7 Aerial Photography Review

Aerial photography, acquired from Google Earth, was reviewed to identify the potential for wetlands across the site. Seven photos were reviewed between 1991 and 2024, available in Appendix B. These photos were used to determine the presence of wetland hydrology using industry accepted offsite hydrology analysis for areas showing crop stress or other potential wetland signatures. Each image was interpreted for the presence or lack of hydrologic indicators.

Six Areas of Investigation (AOIs) were identified in the study area. AOIs 1-6 lacked either hydrophytic vegetation, hydric soil, or hydrology indicators during the field delineation and thus were not delineated as wetland even if 30% of historic aerials showed wetland signatures during normal precipitation conditions. The AOIs are shown in Appendix B.

6 Field Investigation

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on October 10, 2024.

During the onsite delineation, vegetation, soils, and current hydrologic characteristics were evaluated at each wetland area and area of investigation identified within the study area. The sample point locations, wetland boundaries, and aquatic features were surveyed with a Geode GPS for all wetlands, see **Figure 3**.

In addition to wetlands that were investigated and delineated, non-wetland aquatic features were sought but none were delineated. Non-wetland aquatic features are defined based on the observation of the following characteristics:

- Flow
    - Perennial: contains water at all times of the year except during extreme drought
    - Intermittent: contains water occasionally or seasonally
    - Ephemeral: contains water only during and immediately after periods of rainfall or snowmelt

- Ordinary High Water Mark (OHWM): The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris, or other features influenced by the surrounding area
- Bank Shape
    - Undercut: banks that overhang the stream channel
    - Steep: bank slope of approximately greater than 30 degrees
    - Gradual: bank slope of approximately 30 degrees or less

Sample points were completed for all observed wetlands. Historic aerials were reviewed for sample points taken in agricultural fields, see **Appendix B**. The field data sheets are included in **Appendix E**. Site photos and a photo locations map can be found in **Appendix F**

7 Summary of Results

Table 2: Delineation Summary

Resource ID	Wetland Plant Community	HGM	Cowardin Classification[1]	Size (acres/linear feet)[2]	NWI?	Hydric Soils?[3]	Photo ID	Associated Sample Points	NOTES	Regulatory Status[4]
Wetlands										
Wetland 1	Seasonally Flooded Basin/Scrub Shrub	Depression	PEM1A	0.10	-	No	7	SP-3 (Wet), SP-4 (Up)	Wetland 1 located in a depression in the eastern section of the study area. The wetland collects runoff from the surrounding landscape and a series of onsite/offsite mapped NWI and NHD features. The wetland boundary was based on the change in topography, offsite aerial analysis, and hydrophytic vegetation dominance. The resource appears surficially isolated from other aquatic resources.	Jurisdictional (USACE): does have a continuous surficial connection to a Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW). WCA Jurisdictional
Wetland 2	Seasonally Flooded Basin/ Scrub Shrub	Depression	PEM1A	0.06	-	No	8	SP-5 (Wet), SP-6 (Up)	Wetland 2 located in a depression in the eastern section of the study area. The wetland collects runoff from the surrounding landscape and a series of onsite/offsite mapped NWI and NHD features. The wetland boundary was based on the change in topography, offsite aerial analysis, and hydrophytic vegetation dominance. The resource appears surficially isolated from other aquatic resources.	Jurisdictional (USACE): does have a continuous surficial connection to a Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW). WCA Jurisdictional

[1] The Cowardin Classification System codes are found here: https://www.fws.gov/wetlands/documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf
[2] Size of wetland features and additional areas investigated provided in acres and size of non-wetland, linear features provided in linear feet.
[3] Areas identified as hydric contain partially hydric soils (equal to or greater than 33% of soil component) mapped within the resource area.
[4] Regulatory Status is based on best professional judgment and has not been verified with agency staff.

Non-Wetland Aquatic Resources										
Intermittent Stream 1	-	-	PEMG	302 ln ft	R4SBC	No	6	-	Intermittent Stream 1 located along the eastern portion of the site and collects drainage from the surrounding landscape. The stream drains offsite to the east. The stream had banks 1 to 3 feet deep and 3 to 6 feet wide. Flowing water was observed entering the stream through the northern portion of the study area and flowing offsite to the east. Water levels were approximately 3 inches in depth.	USACE-Jurisdictional: tributary contributes surface water flow to an offsite Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW).
Intermittent Stream 2	-	-	PEMG	264 ln ft	R4SBC	No	9	-	Intermittent Stream 2 located along the eastern portion of the site and collects drainage from the surrounding landscape. The stream drains offsite to the south. The stream had banks 1 to 3 feet deep and 3 to 6 feet wide. Flowing water was observed entering the stream through the eastern portion of the study area and flowing offsite to the south. Water levels were approximately 3 inches in depth.	USACE-Jurisdictional: tributary contributes surface water flow to an offsite Traditionally Navigable Water (TNW) or Relatively Permanent Water (RPW).

8 Report Preparation

The procedures followed for this wetland delineation are in accordance with the *Corps of Engineers Wetlands Delineation Manual* and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010).

This report describes site conditions for a specific date in time and is generally valid for a period of five years from the date of the final field investigation and delineation, which was October 10, 2024.

9 Conclusion

The field delineation identified two wetlands and two intermittent streams within the study area. Each of the delineated resources is described in Table 2. Wetlands 1 and 2 are anticipated to be USACE-jurisdictional. All wetlands are anticipated to be WCA regulated. Intermittent Stream 1 and 2 are anticipated to be USACE-Jurisdictional.

10 Disclaimer

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as scientists, of applicable regulations and agency guidance. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the appropriate regulatory agencies. Regulatory agencies occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusions and/or recommendations and may cause a need to reevaluate our conclusions and/or recommendations.

Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the applicable regulatory agencies. The Client acknowledges that they have the opportunity to submit documentation to the regulatory agencies for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.

References

Minnesota Climatology Working Group. *Historical Climate Data Retrieval: Wetland Delineation Monthly Precipitation Data Retrieval from Gridded Database*. Available at http://climate.umn.edu/gridded_data/precip/wetland/wetland.asp, accessed November 2024.

Minnesota Board of Water and Soil Resources. Information regarding Minnesota wetland regulations (includes links to other regulatory websites). Available at http://www.bwsr.state.mn.us/wetlands/index.html, accessed November 2024.

Minnesota Department of Natural Resources. *MnTOPO* (November 2024). Shapefiles available at http://arcgis.dnr.state.mn.us/maps/mntopo/.

Minnesota Department of Natural Resources. *Public Waters Basin and Watercourse Delineations (June 2020).* Shapefiles available at https://gisdata.mn.gov/dataset/water-mn-public-waters.

Natural Resources Conservation Service, U.S. Department of Agriculture. *National Water and Climate Center*. Available at https://www.wcc.nrcs.usda.gov/climate/navigate_wets.html, accessed November 2024.

Natural Resources Conservation Service, U.S. Department of Agriculture. *Web Soil Survey*. Available at http://websoilsurvey.nrcs.usda.gov, accessed November 2024.

NearMap US Inc., MapBrowser. Available at https://www.nearmap.com/us/en, accessed November 2024

U.S. Army Corps of Engineers. *Antecedent Precipitation Tool*. Available at https://www.epa.gov/wotus/antecedent-precipitation-tool-apt, accessed November 2021.

U.S. Army Corps of Engineers. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. January 1987. Available at http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/1987%20Manual.pdf.

U.S. Army Corps of Engineers. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)*. Available at http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/reg_supp/.

U.S. Fish and Wildlife Service. *Wetlands Online Mapper*. National Wetland Inventory mapping. Available at http://www.fws.gov/wetlands/Data/Mapper.html, accessed November 2024.

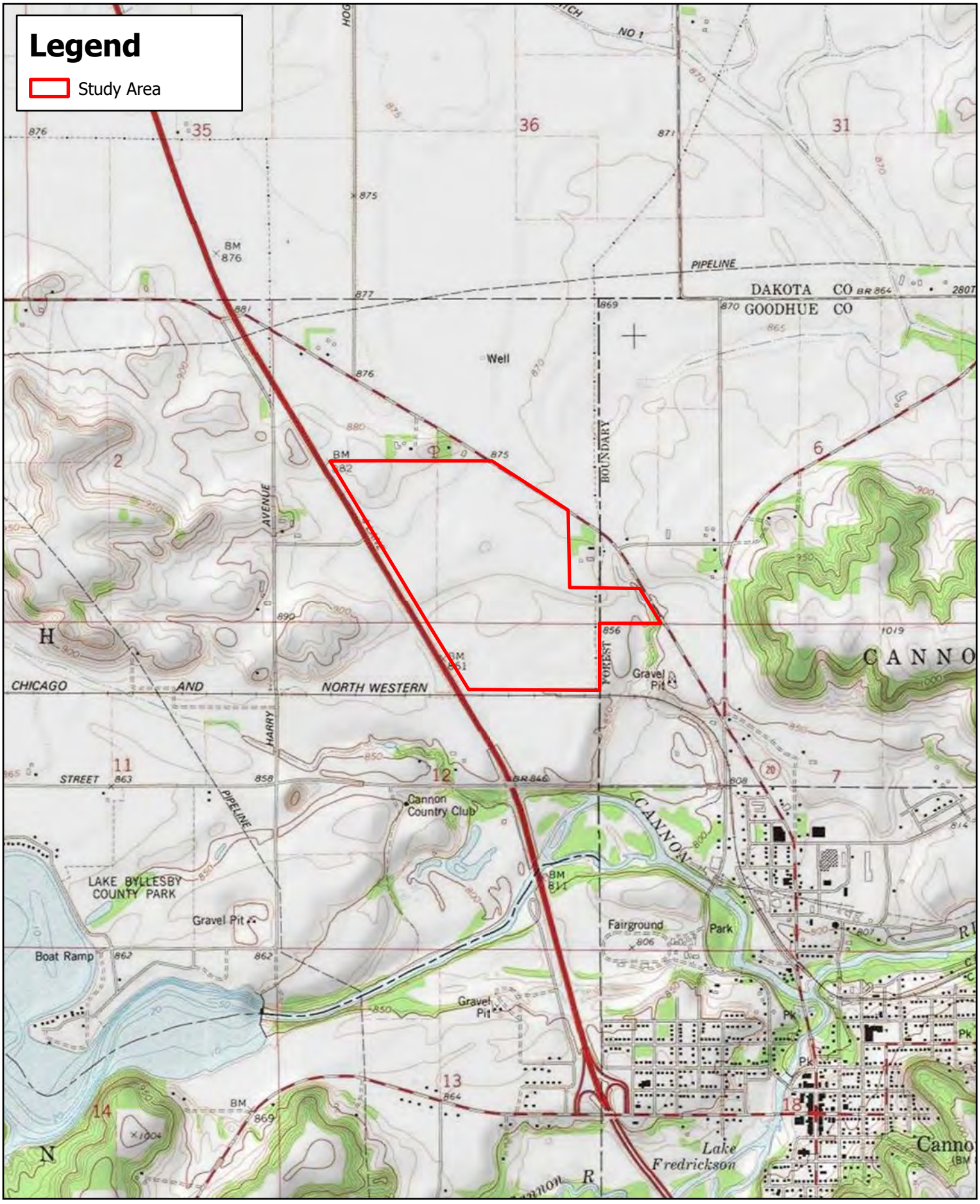
U.S. Geological Survey. *National Hydrography Dataset*. Shapefiles available at https://nhd.usgs.gov/, accessed November 2024.

U.S. Geological Survey. *Topographical Map*. Accessed via ESRI at http://www.arcgis.com/home/item.html?id=30e5fe3149c34df1ba922e6f5bbf808f and via Topo View at https://ngmdb.usgs.gov/topoview/viewer/#4/40.01/-100.06, accessed November 2024.

Figures

Kimley»Horn

Figure 1. Project Location Map
Tract Management Company, LP
Cannon Falls, MN

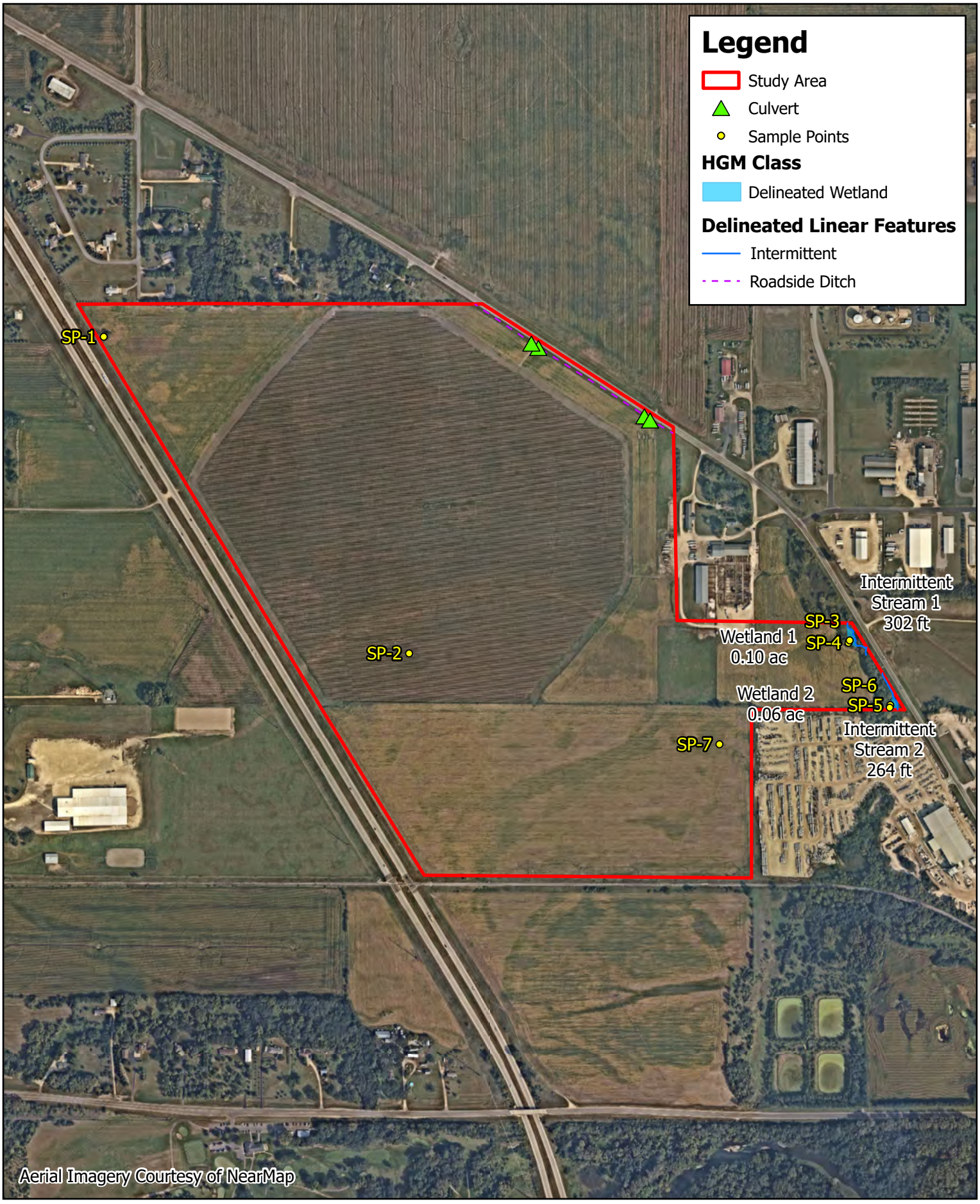


Kimley»Horn

0 1,000 2,000 Feet

N

Figure 2. USGS Topographic Map
Tract Management Company, LP
Cannon Falls, MN



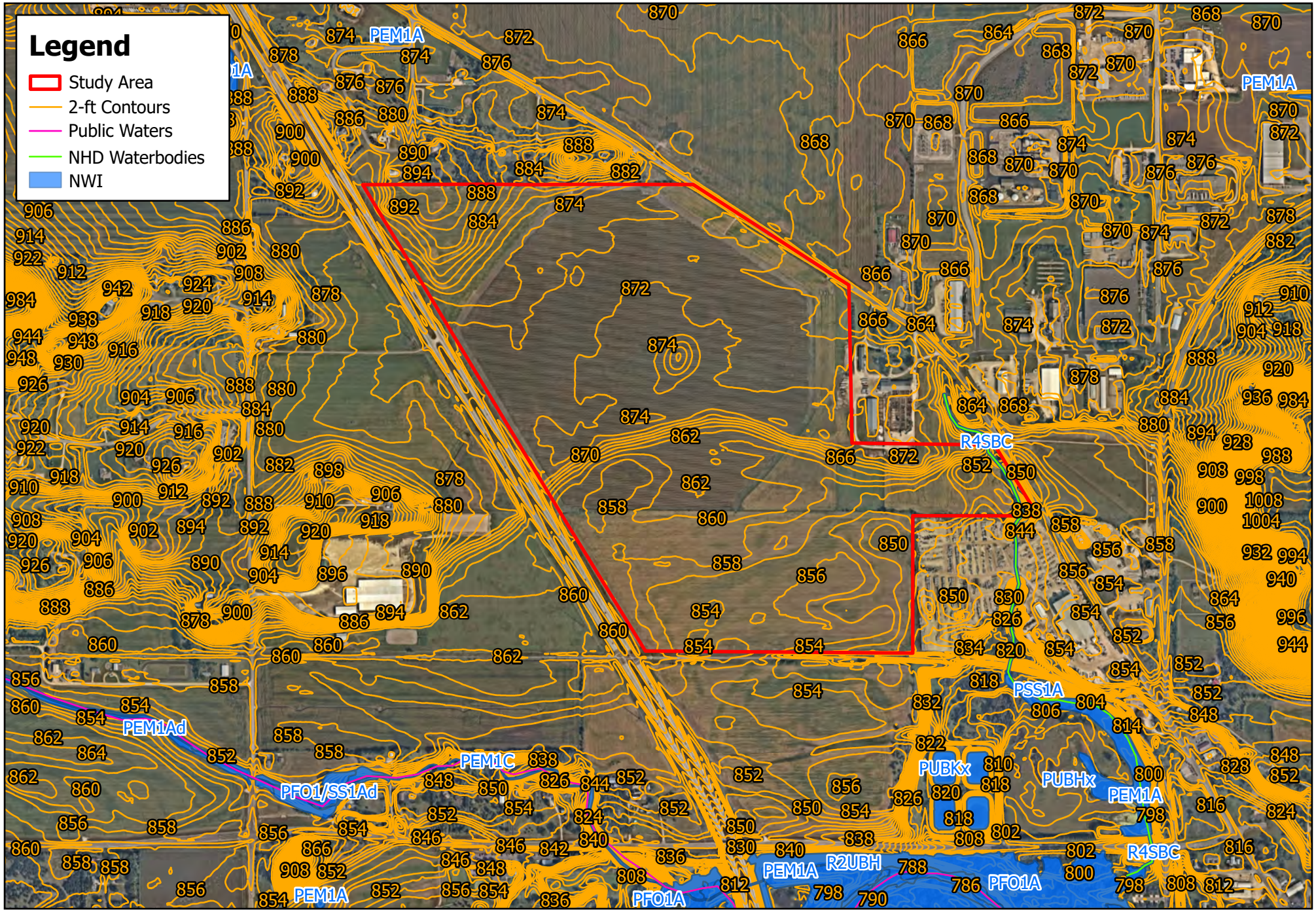
Kimley»Horn

0 400 800
Feet

N

Figure 3. Delineated Resources Map
Tract Management Company, LP
Cannon Falls, MN

Appendix A: National Wetlands Inventory/DNR Public Waters Inventory/National Hydrography Dataset/2-ft Contours



Appendix A. 2-ft Contours, PWI, NHD, NWI
Tract Management Company, LP
Cannon Falls, MN

Kimley»Horn

Appendix B: Historic Aerial Review

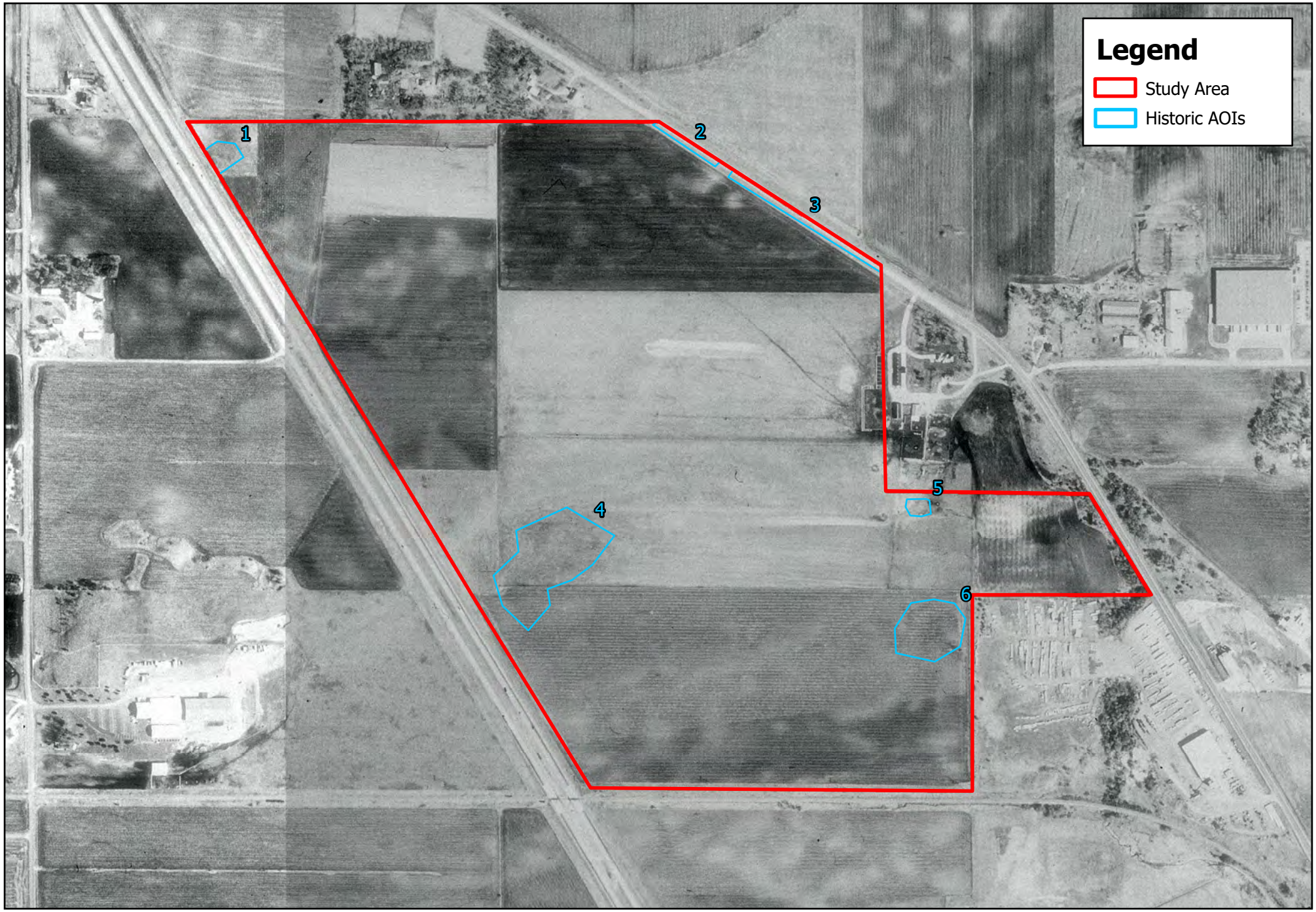
Appendix B. Historic Aerial Review*

		Image Interpretation** (Area of Investigation)					
Date Image Taken	Climate Condition***	1	2	3	4	5	6
4/16/1991	Normal	NV	NV	NV	NV/SS	SS	NV
5/31/2003	Normal	NC/SS	NV	NV	NV/SS	SS	NV
6/2/2009	Drier than normal	SS	NV	NV	NV	SS	NV
4/26/2015	Drier than normal	NV	NV	NV	CS/SS	SS	CS/SS
5/31/2017	Normal	NV	SS	SS	AP/CS	AP/SS	NV
10/25/2019	Wetter than normal	AP	SS	SS	CS/SS	SS	NV
5/4/2024	Normal	SS	SS	SS	NV	SS	SS
Number of normal years		4	4	4	4	4	4
Number of normal years with wet signatures		2	4	4	1	3	1
Percent of normal years with wet signatures		50%	100%	100%	25%	75%	25%
Hydric Soils present		No	No	No	No	No	No
Identified on NWI		No	No	No	No	No	No
Hydrology indicators observed during field review?		No	No	No	No	No	No
Has wetland signature in 30% or more in normal years?		Yes	Yes	Yes	No	Yes	No
Wetland Present?		No	No	No	No	No	No
Wetland Number		-	-	-	-	-	-

**Methodology for determining the presence of wetland explained in Guidance for Offsite Hydrology/ Wetland Determinations from Minnesota Boarc of Water and Soil Resources (BWSR) and St Paul District Corps of Engineers (July 1, 2016)*

***CS = Crop Stress, NC = Not Cropped, SS = Soil Wetness Signature, SW = Standing Water, AP = Altered Pattern, NV = Normal Vegetative Cover, DO= Drowned Out*

****Climate condition based on USACE APT 90-day rolling precipitation total for wetland hydrology determination for the given photo date. Methodology is described in report.*

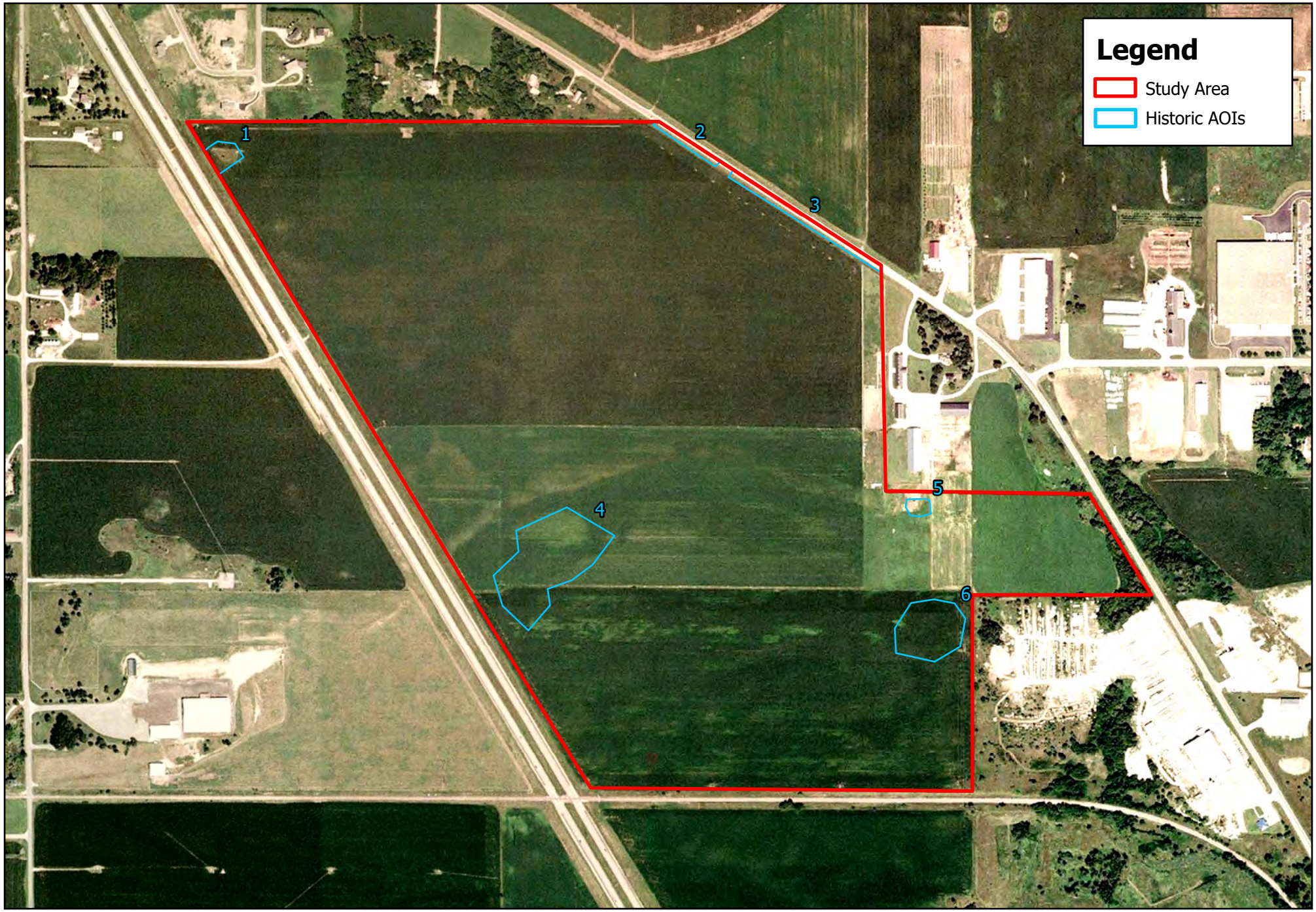


Kimley»Horn

0 350 700
Feet

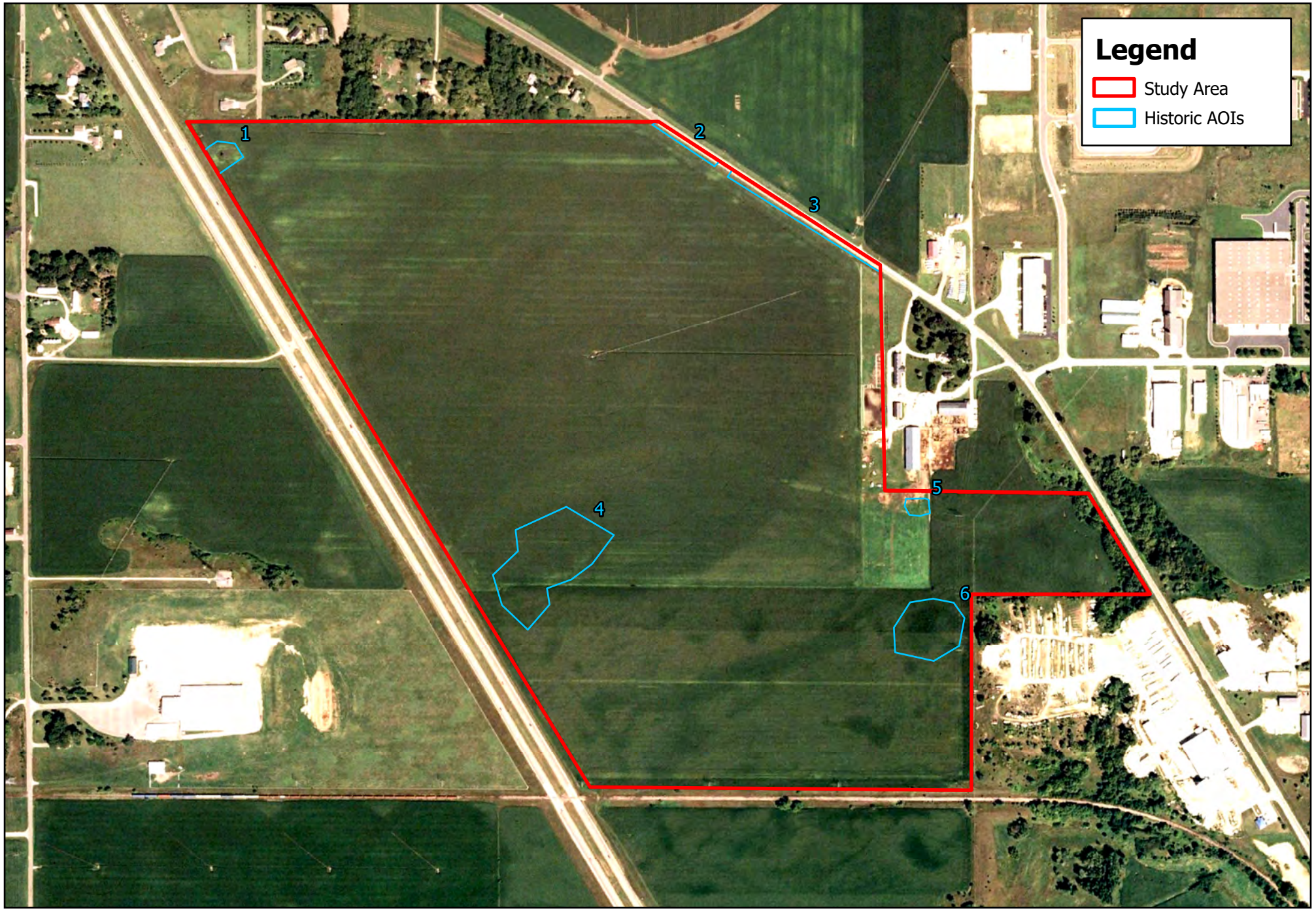
N

Appendix B. Historic Aerial (April 1991)
Tract Management Company, LP
Cannon Falls, MN



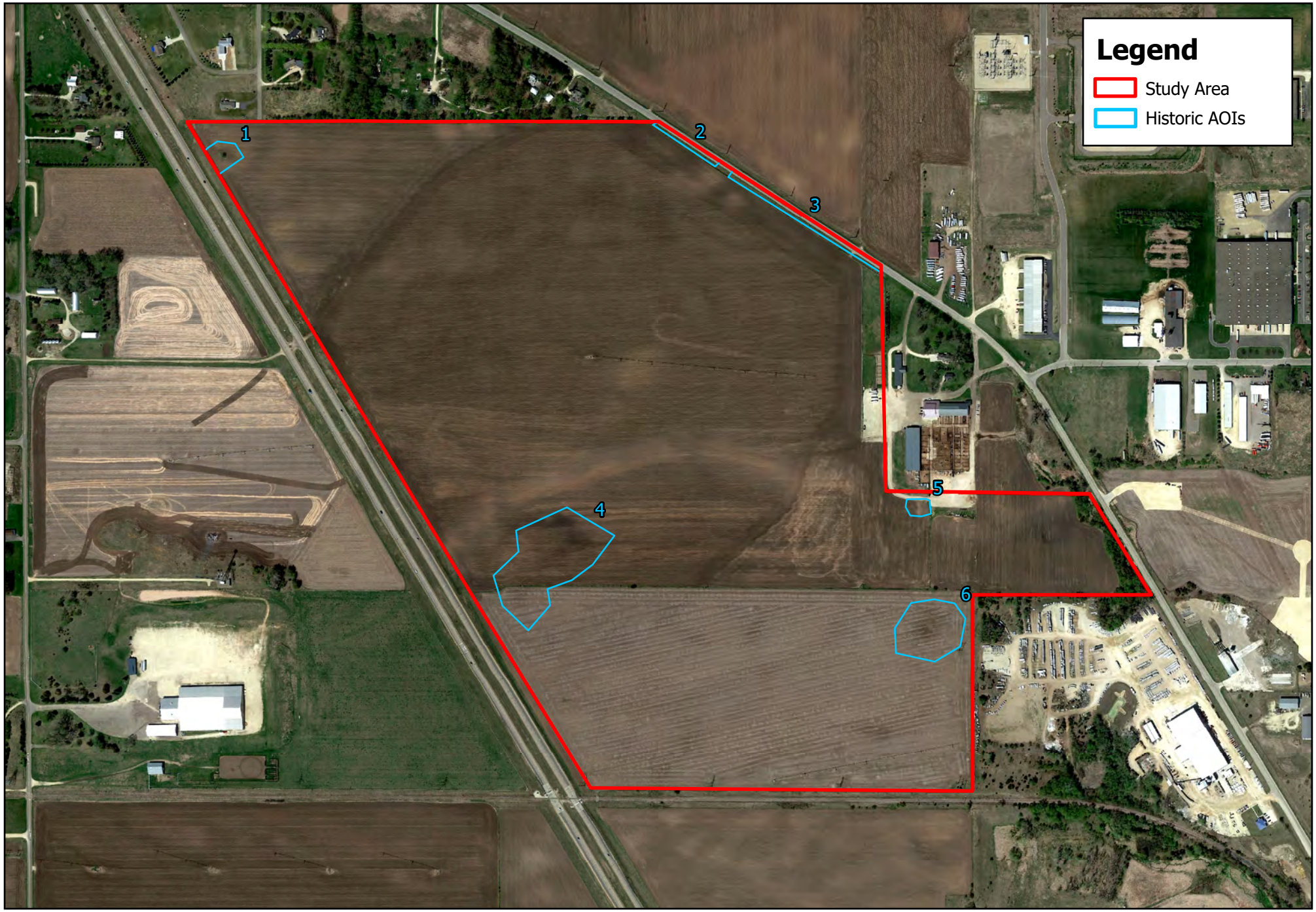
Kimley»Horn

Appendix B. Historic Aerial (May 2003)
Tract Management Company, LP
Cannon Falls, MN



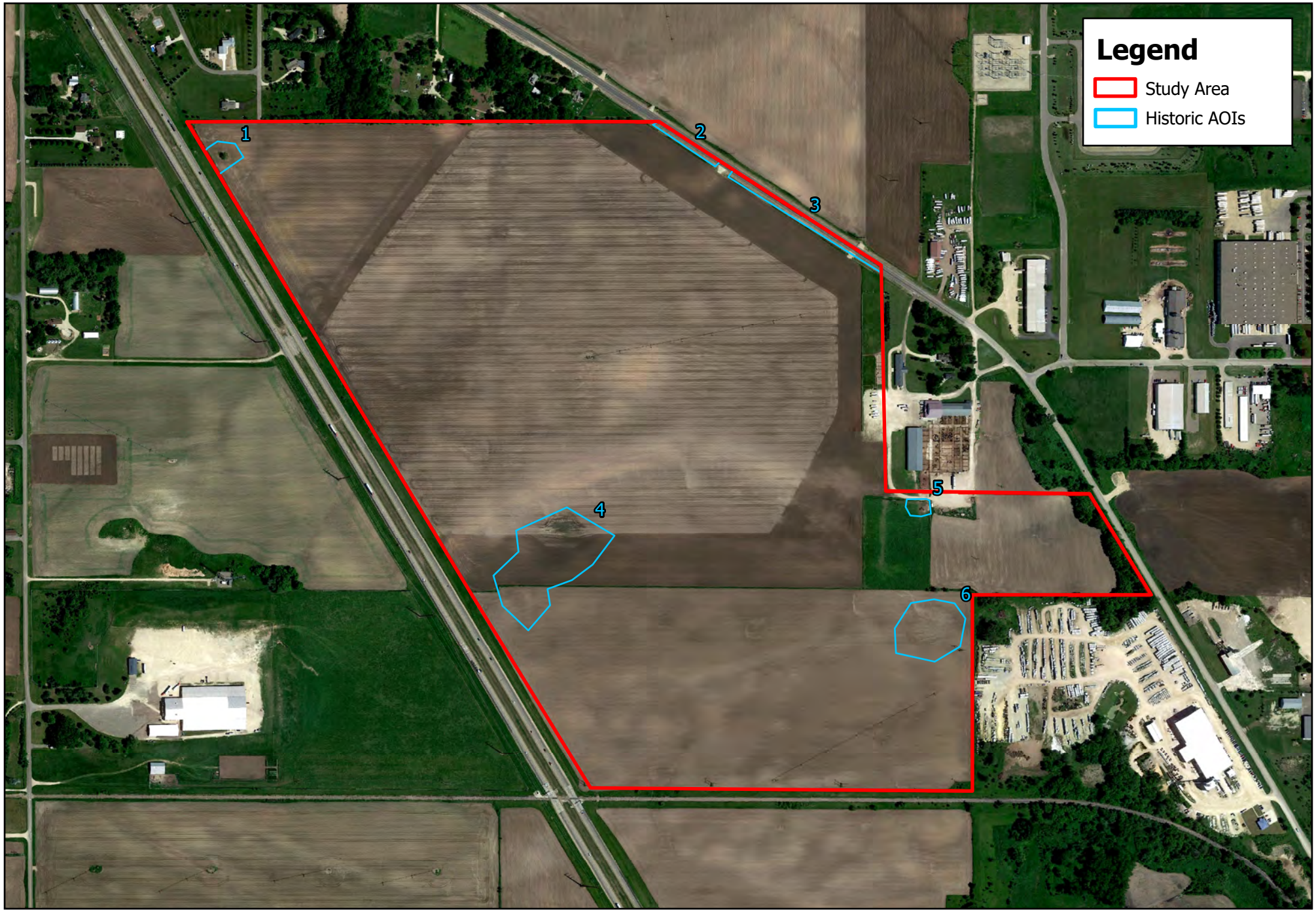
Appendix B. Historic Aerial (June 2009)
Tract Management Company, LP
Cannon Falls, MN

Kimley»Horn



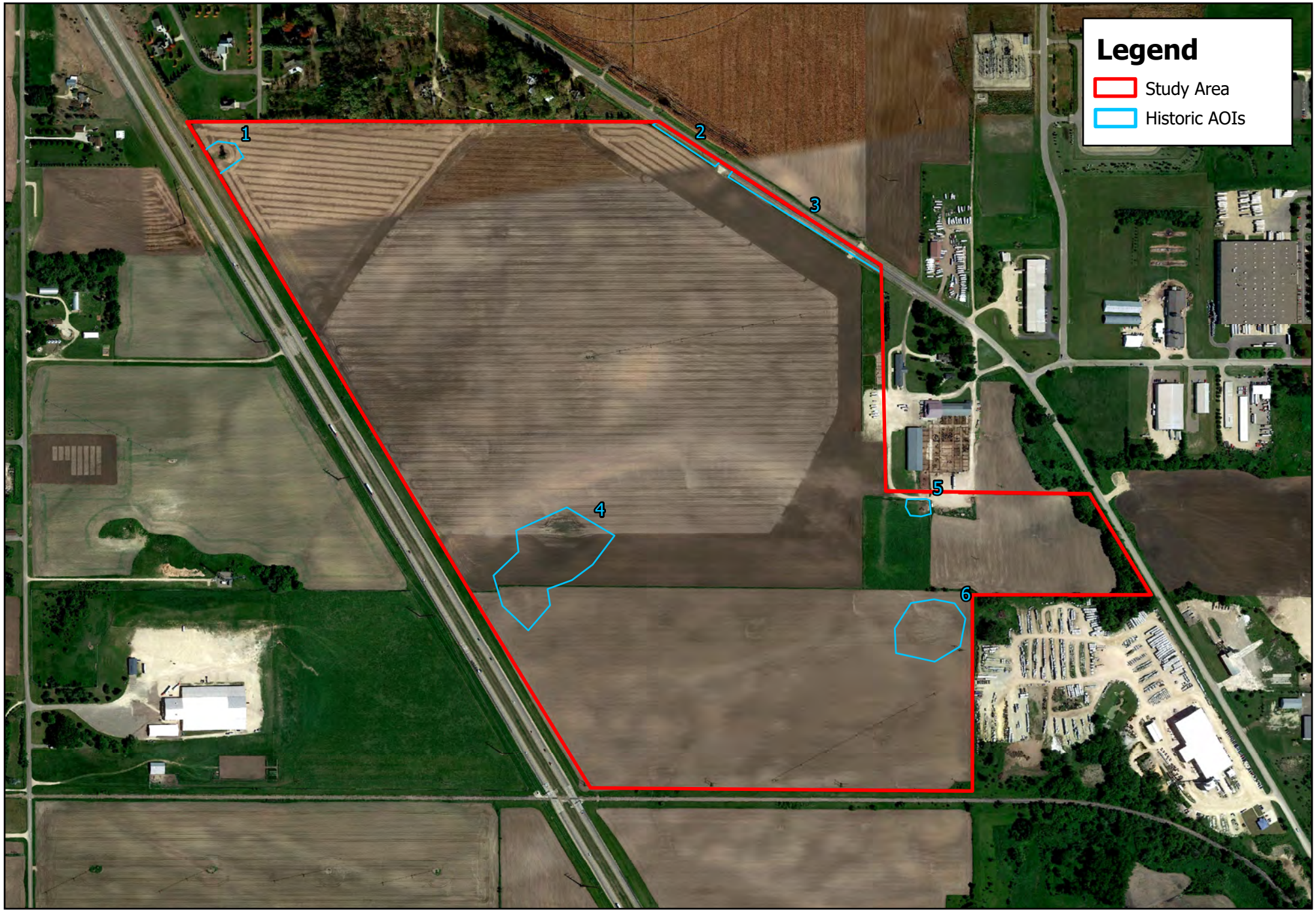
Kimley»Horn

Appendix B. Historic Aerial (April 2015)
Tract Management Company, LP
Cannon Falls, MN



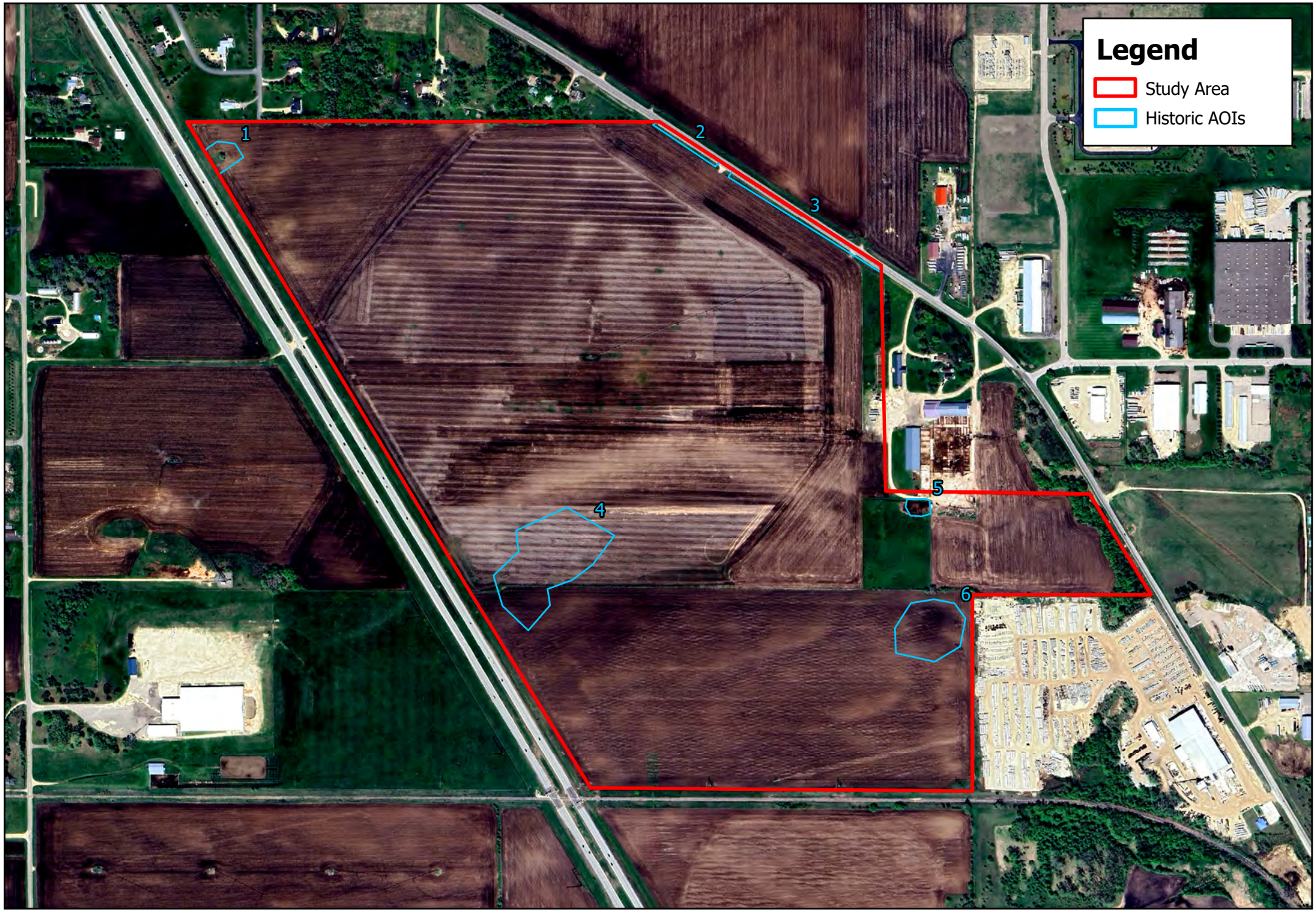
Kimley»Horn

Appendix B. Historic Aerial (May 2017)
Tract Management Company, LP
Cannon Falls, MN



Kimley»Horn

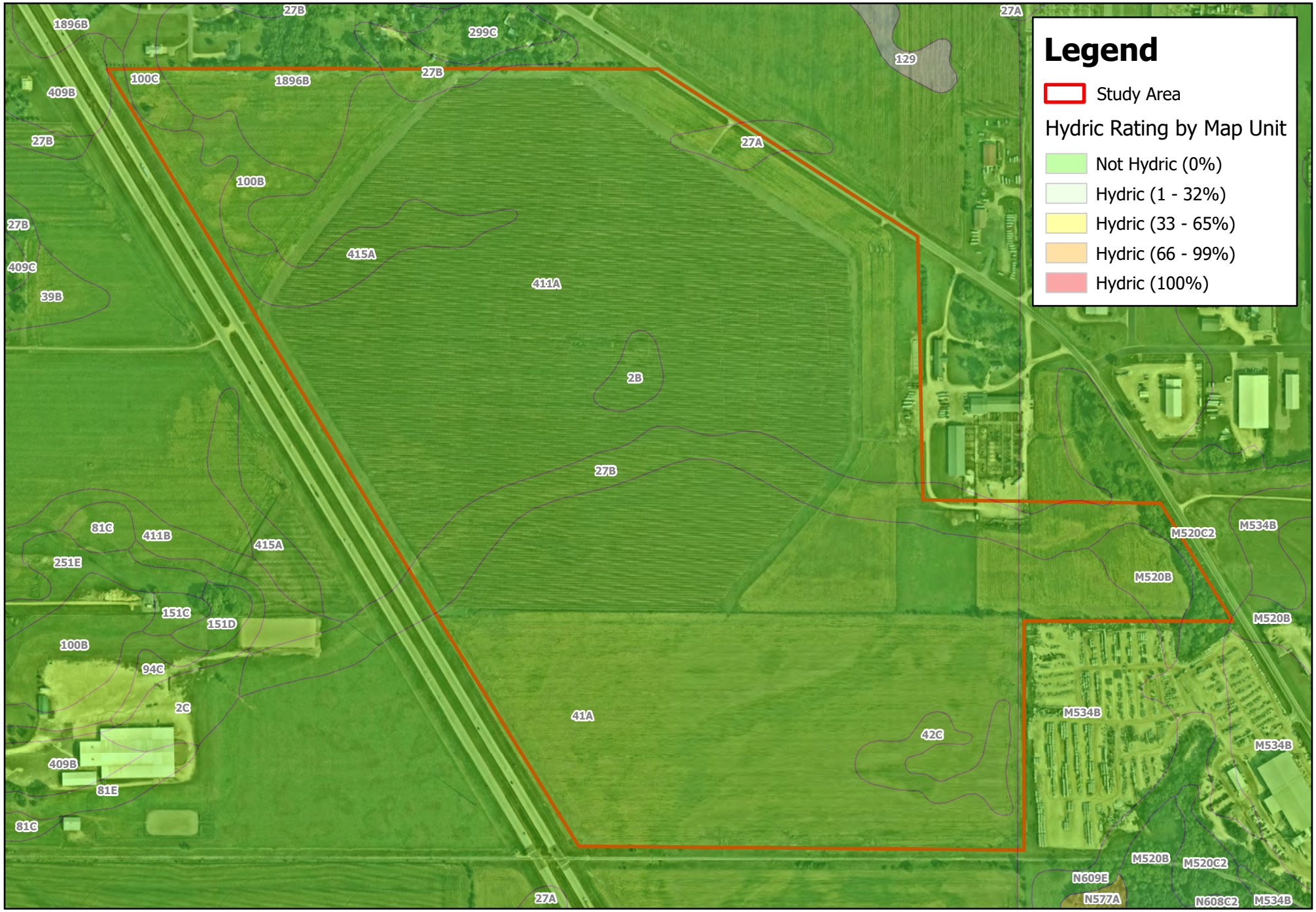
Appendix B. Historic Aerial (October 2019)
Tract Management Company, LP
Cannon Falls, MN



Kimley»Horn

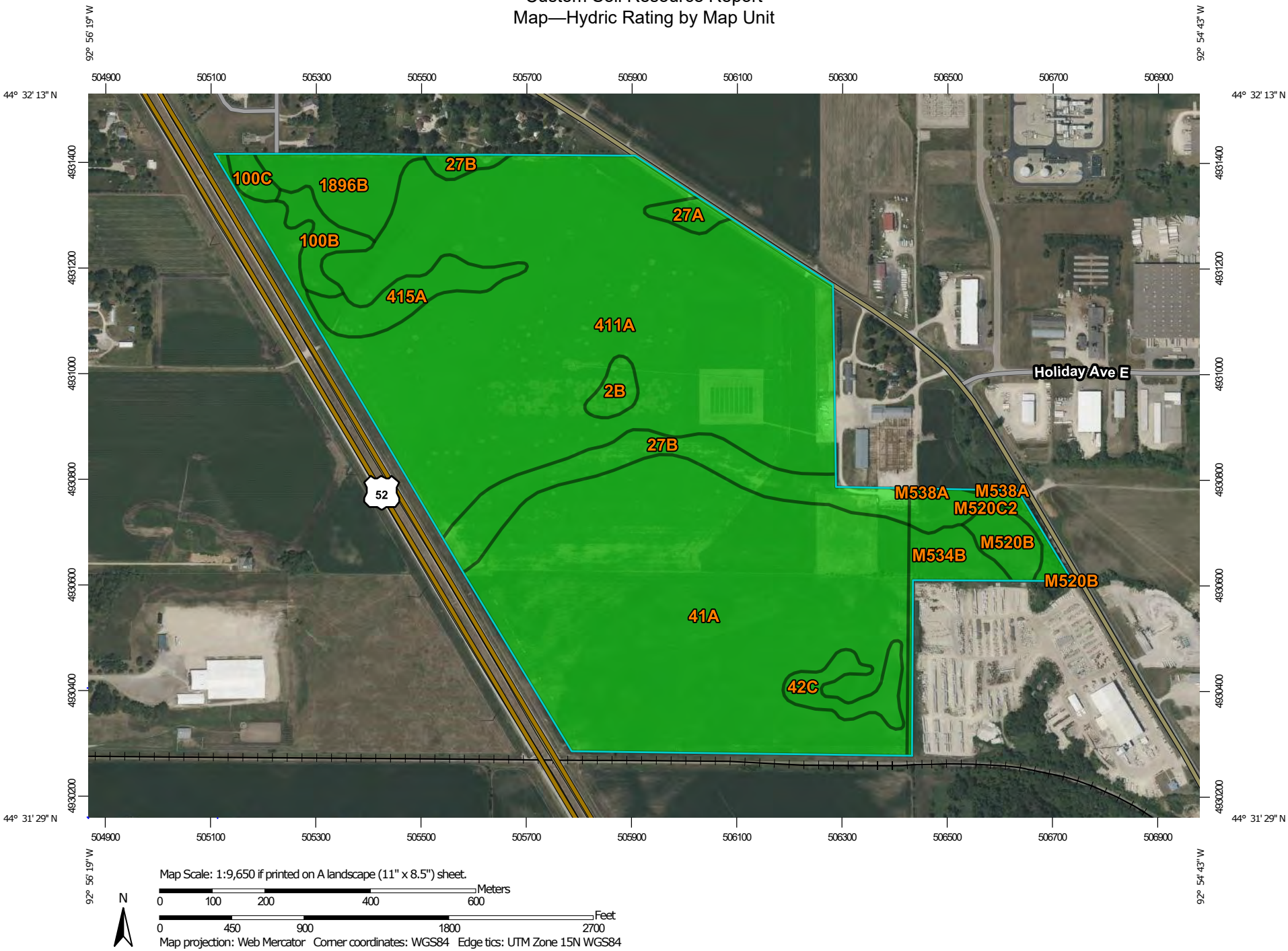
Appendix B. Historic Aerial (May 2024)
Tract Management Company, LP
Cannon Falls, MN

Appendix C: Hydric Soils Information



Kimley»Horn

Appendix C. Hydric Soils Map
Tract Management Company, LP
Cannon Falls, MN


92° 56' 19" W
92° 54' 43" W
44° 32' 13" N
44° 31' 29" N
504900
505100
505300
505500
505700
505900
506100
506300
506500
506700
506900
4931400
4931200
4931000
4930800
4930600
4930400
4930200
100C
1896B
27B
27A
100B
415A
411A
2B
27B
52
M538A
M538A
M520C2
M520B
M534B
M520B
41A
42C
Holiday Ave E
Map Scale: 1:9,650 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
450
900
1800
2700
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:12,000 to 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dakota County, Minnesota
Survey Area Data: Version 20, Sep 7, 2024

Soil Survey Area: Goodhue County, Minnesota
Survey Area Data: Version 20, Sep 7, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 29, 2023—Sep 13, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2B	Ostrander loam, 1 to 6 percent slopes	0	1.8	0.7%
27A	Dickinson sandy loam, 0 to 2 percent slopes	0	1.6	0.6%
27B	Dickinson sandy loam, 2 to 6 percent slopes	0	14.4	5.7%
41A	Estherville sandy loam, 0 to 2 percent slopes	0	89.9	35.4%
42C	Salida gravelly coarse sandy loam, 2 to 12 percent slopes	0	4.2	1.6%
100B	Copaston loam, 2 to 6 percent slopes	0	3.5	1.4%
100C	Copaston loam, 6 to 12 percent slopes	0	1.4	0.6%
411A	Waukegan silt loam, 0 to 1 percent slopes	0	112.2	44.2%
415A	Kanaranzi loam, 0 to 2 percent slopes	0	5.8	2.3%
1896B	Ostrander-Carmi loams, 2 to 6 percent slopes	0	7.1	2.8%
Subtotals for Soil Survey Area			**241.8**	**95.4%**
Totals for Area of Interest			**253.6**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
M520B	Rasset sandy loam, 0 to 6 percent slopes	0	3.3	1.3%
M520C2	Rasset sandy loam, 6 to 12 percent slopes, moderately eroded	0	3.9	1.5%
M534B	Estherville-Ridgeport complex, 0 to 6 percent slopes	0	4.4	1.7%
M538A	Waukegan silt loam, 0 to 2 percent slopes	0	0.2	0.1%
Subtotals for Soil Survey Area			**11.8**	**4.6%**
Totals for Area of Interest			**253.6**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Percent Present" returns the cumulative percent composition of all components of a map unit for which a certain condition is true. For example, attribute "Hydric Rating by Map Unit" returns the cumulative percent composition of all components of a map unit where the corresponding hydric rating is "Yes". Conditions may be simple or complex. At runtime, the user may be able to specify all, some or none of the conditions in question.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Appendix D: Precipitation Data

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Tuesday, April 16, 1991

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **March 1991**	second prior month: **February 1991**	third prior month: **January 1991**
estimated precipitation total for this location:	**2.73**	**1.01**	**0.28**
there is a 30% chance this location will have less than:	1.11	0.53	0.57
there is a 30% chance this location will have more than:	2.25	1.15	1.04
type of month: dry normal wet	**wet**	**normal**	**dry**
monthly score	**3 * 3 = 9**	**2 * 2 = 4**	**1 * 1 = 1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**14 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Saturday, May 31, 2003

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2003**	second prior month: **March 2003**	third prior month: **February 2003**
estimated precipitation total for this location:	**2.98**	**1.31**	**0.69**
there is a 30% chance this location will have less than:	1.96	1.11	0.53
there is a 30% chance this location will have more than:	3.86	2.25	1.15
type of month: dry normal wet	**normal**	**normal**	**normal**
monthly score	**3 * 2 = 6**	**2 * 2 = 4**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**12 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Tuesday, June 2, 2009

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **May 2009**	second prior month: **April 2009**	third prior month: **March 2009**
estimated precipitation total for this location:	**1.35**	**1.89**	**1.10**
there is a 30% chance this location will have less than:	3.09	1.96	1.11
there is a 30% chance this location will have more than:	5.78	3.86	2.25
type of month: dry normal wet	**dry**	**dry**	**dry**
monthly score	**3 * 1 = 3**	**2 * 1 = 2**	**1 * 1 = 1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**6 (Dry)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Sunday, April 26, 2015

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: March 2015	second prior month: February 2015	third prior month: January 2015
estimated precipitation total for this location:	1.02	0.54	0.44
there is a 30% chance this location will have less than:	1.11	0.53	0.57
there is a 30% chance this location will have more than:	2.25	1.15	1.04
type of month: dry normal wet	dry	normal	dry
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)		8 (Dry)	

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Wednesday, May 31, 2017

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2017**	second prior month: **March 2017**	third prior month: **February 2017**
estimated precipitation total for this location:	**4.05**	**0.93**	**1.17**
there is a 30% chance this location will have less than:	1.96	1.11	0.53
there is a 30% chance this location will have more than:	3.86	2.25	1.15
type of month: dry normal wet	wet	dry	wet
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**14 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Minnesota State Climatology Office

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Friday, October 25, 2019

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **September 2019**	second prior month: **August 2019**	third prior month: **July 2019**
estimated precipitation total for this location:	**5.63**	**3.55**	**7.08**
there is a 30% chance this location will have less than:	1.59	3.44	2.63
there is a 30% chance this location will have more than:	5.14	5.66	4.47
type of month: dry normal wet	**wet**	**normal**	**wet**
monthly score	**3 * 3 = 9**	**2 * 2 = 4**	**1 * 3 = 3**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**16 (Wet)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Saturday, May 4, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **April 2024**	second prior month: **March 2024**	third prior month: **February 2024**
estimated precipitation total for this location:	**2.78**	**2.41**	**0.49**
there is a 30% chance this location will have less than:	1.96	1.11	0.53
there is a 30% chance this location will have more than:	3.86	2.25	1.15
type of month: dry normal wet	**normal**	**wet**	**dry**
monthly score	**3 * 2 = 6**	**2 * 3 = 6**	**1 * 1 = 1**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**13 (Normal)**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:
county: **Dakota** township number: **112N**
township name: **Randolph** range number: **18W**
nearest community: **Cannon Falls** section number: **1**

Aerial photograph or site visit date:
Thursday, October 10, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: **September 2024**	second prior month: **August 2024**	third prior month: **July 2024**
estimated precipitation total for this location:	**missing**	**4.34**	**3.67**
there is a 30% chance this location will have less than:	1.59	3.45	2.64
there is a 30% chance this location will have more than:	5.14	5.67	4.47
type of month: dry normal wet	**missing**	**normal**	**normal**
monthly score	**missing**	**2 * 2 = 4**	**1 * 2 = 2**
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**missing**		

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- *Evaluating Antecedent Precipitation Conditions* (BWSR)

Appendix E: Field Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Dakota and Goodhue Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-1

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S25 T113N R18W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave

Slope (%): 3 Lat: 44.5354739 Long: -92.9350868 Datum: WGS 84

Soil Map Unit Name: 100C - Copaston loam, 6 to 12 percent slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

On hillslope (see pictures)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Ulmus americana	25	✔	FACW
2.			
3.			
4.			
5.			
	25 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Erigeron canadensis	40	✔	FACU
2. Bromus inermis	15	✔	FACU
3. Rudbeckia hirta	5		FACU
4. Setaria pumila	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
	65 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	5	x 3 =	15
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	90 (A)		305 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

30% dead plants appeared FACU.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Compact/rock

Depth (inches): 0

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

On hillslope (see pictures)

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Dakota and Goodhue Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-2

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S01 T112N R18W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 1 Lat: 44.5298067 Long: -92.9275177 Datum: WGS 84

Soil Map Unit Name: 41A - Estherville sandy loam, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Zea mays	20	✔	UPL
2. Amaranthus palmeri	20	✔	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	20	x 5 =	100
Column Totals:	40 (A)		180 (B)

Prevalence Index = B/A = 4.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

The rest is bare ground.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 2/1	100					Sandy Loam	
15 - 30	10YR 4/2	92	10YR 3/3	8	C	M	Sandy Clay Loam	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Corn crops stunted in depression.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Goodhue County Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-3

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S06 T112N R17W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 1 Lat: 44.5300005 Long: -92.9165411 Datum: WGS 84

Soil Map Unit Name: M520C2 - Rasset sandy loam, 6 to 12 percent slopes, moderately eroded NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Phalaris arundinacea	70	✔	FACW
2. Impatiens capensis	20	✔	FACW
3. Urtica dioica	5		FACW
4.			
5.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 2/1	100					Sandy Loam	
8 - 18	10YR 4/1	90	10YR 4/4	10	C	M	Sandy Loam	
18 - 26	10YR 6/4	80	10YR 6/2	10	C	M	Sandy Loam	
-			10YR 2/1	10	C	M	Sandy Loam	Water table at 20
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 20

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 18

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Water table at 20 inches, sampling point is on rim 1 foot above standing water.

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Goodhue County Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-4

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S06 T112N R17W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): _____

Slope (%): _____ Lat: 44.5299571 Long: -92.9165699 Datum: WGS 84

Soil Map Unit Name: M520C2 - Rasset sandy loam, 6 to 12 percent slopes, moderately eroded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juniperus virginiana	40	✔	FACU
2.			
3.			
4.			
5.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Rhamnus cathartica	15	✔	FAC
2. Fraxinus pennsylvanica	15	✔	FACW
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Ribes oxyacanthoides	15	✔	FACU
2. Rubus idaeus	15	✔	FACU
3. Leonurus cardiaca	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	105 (A)		370 (B)

Prevalence Index = B/A = 3.52

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR /	100					Sand	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Compact/Sandy

Depth (inches): 8

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

On hillslope

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Goodhue County Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-5

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S06 T112N R17W

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____

Slope (%): _____ Lat: 44.5288455 Long: -92.9155381 Datum: WGS 84

Soil Map Unit Name: M520C2 - Rasset sandy loam, 6 to 12 percent slopes, moderately eroded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	60	✔	FACW
2.			
3.			
4.			
5.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Impatiens capensis	20	✔	FACW
2. Phalaris arundinacea	20	✔	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 12	10YR 2/1	100					Sandy Loam	
12 - 20	10YR 4/1	100					Sand	
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ✔ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No _____

Remarks:

Best professional judgement.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): 4

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Saturated at 4 inches on slope off of stream. Very soft soil. Dominated by wet plants.

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Goodhue County Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-6

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S07 T112N R17W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None

Slope (%): 1 Lat: 44.5287996 Long: -92.9155517 Datum: WGS 84

Soil Map Unit Name: M520C2 - Rasset sandy loam, 6 to 12 percent slopes, moderately eroded NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Rhamnus cathartica	40	✔	FAC
2.			
3.			
4.			
5.			
	40 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Rhamnus cathartica	40	✔	FAC
2.			
3.			
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Daucus carota	15	✔	UPL
2. Ambrosia artemisiifolia	15	✔	FACU
3. Ribes oxyacanthoides	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	15	x 5 =	75
Column Totals:	115 (A)		395 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 3/2	100					Sand	
15 - 20	10YR 4/2	100					Sandy Loam	
20 - 25	10YR 5/2	100					Sandy Loam	
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

On slope. Four feet above wetland point, surrounded by upland plants. Soil is compact.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Cannon Falls City/County: Dakota County Sampling Date: 2024-10-10

Applicant/Owner: Tract Management State: Minnesota Sampling Point: SP-7

Investigator(s): Keegan Sansone and Cat Maroney Section, Township, Range: S12 T112N R18W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 1 Lat: 44.5281613 Long: -92.9197988 Datum: WGS 84

Soil Map Unit Name: 41A - Estherville sandy loam, 0 to 2 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation ✔, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)

Harvested soybean field.

SOIL

Sampling Point: SP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 18	10YR 2/2	100					Sandy Loam	
18 - 24	10YR 3/2	100					Loam	No Redox
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

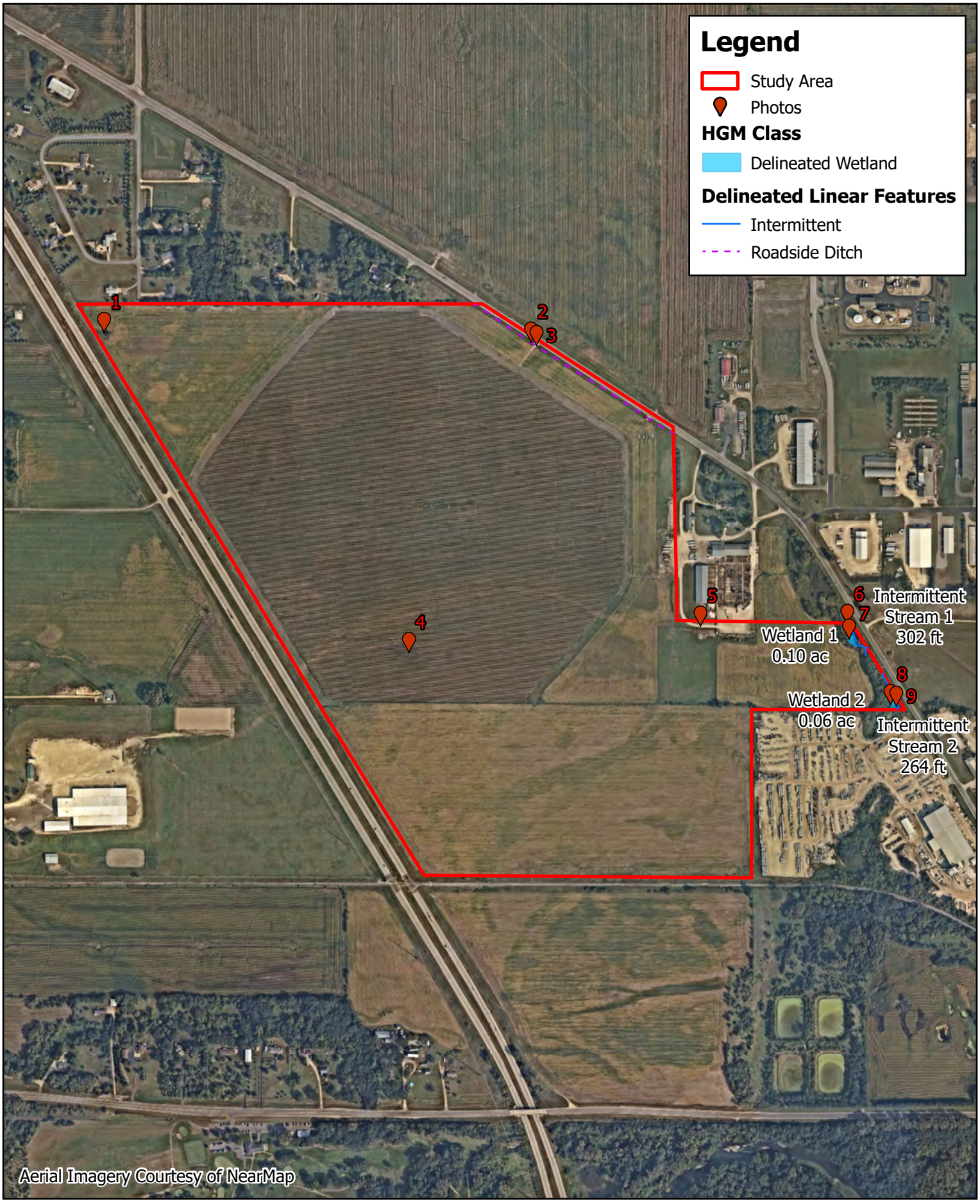
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

In a harvested agricultural field with a slight depression.

Remarks:

Problematic vegetation.

Appendix F: Photos



Kimley»Horn

0 400 800 Feet

N

Appendix F. Photo Locations Map
Tract Management Company, LP
Cannon Falls, MN

Photo 1: Upland area at SP-1 within AOI 1, facing south.

Photo 2: Roadside ditch, facing northwest towards AOI 2.

Photo 3: Roadside ditch, facing southeast towards AOI 3.

Photo 4: Upland area at SP-2 within AOI 4, facing west.

Photo 5: AOI 5, facing south.

Photo 6: Intermittent Stream 1, facing south.

Photo 7: Wetland 1 at SP-4, facing east.

Photo 8: Wetland 1 at SP-5, facing east.

Photo 9: Intermittent Stream 2, facing north.

Appendix B

TRAFFIC IMPACT ANALYSIS

CANNON FALLS TECHNOLOGY PARK

CANNON FALLS, MINNESOTA

Prepared for:

Tract Management Company

Prepared By:

Kimley-Horn and Associates, Inc.
11995 Single Tree Lane, Suite 225
Eden Prairie, MN 55344

MAY 2025

Kimley»Horn

TRAFFIC IMPACT ANALYSIS

CANNON FALLS TECHNOLOGY PARK

CANNON FALLS, MINNESOTA

REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jacob Rojer, P.E., PTOE

License No. 56767

May 16, 2025

Date

TABLE OF CONTENTS

APPENDIX

INTRODUCTION

Kimley-Horn and Associates, Inc., (Kimley-Horn) was retained to prepare a traffic impact study for the two development scenarios proposed by Tract Management Company. Tract Management Company is proposing two development scenarios at the southeast corner of the intersection of Highway 52 and Rochester Boulevard in Cannon Falls, Minnesota. Scenario 2 consists of a 1,500,000 Square Foot (SF) technology park, and Scenario 1 consists of a 1,750,000 SF industrial park. **Exhibit 1** shows the proposed project location. All exhibits are included in **Appendix A.**

As part of this study, the existing roadway network was analyzed to determine the current operations at the study intersections. In order to assess the potential impact of the development scenarios on the area roadway network, site-generated trips were established and added to the background traffic volumes. Background traffic volumes included the other major development projects in the vicinity. Future traffic conditions were evaluated for the approximate Opening Year of the proposed development (2029) and a long term "Design Year" (2044).

This report presents and documents data collection, summarizes the evaluation of existing and projected future traffic conditions on the surrounding roadways, and identifies recommendations to address the potential impact of site-generated traffic on the adjacent roadway network.

EXISTING ROADWAY CONDITIONS

The proposed development would be located at the southeast corner of the intersection of Highway 52 and Rochester Boulevard in Cannon Falls, Minnesota. The following intersections are included in the traffic analysis:

- Rochester Boulevard & Highway 52 SB Ramps/Harry Avenue
- Rochester Boulevard & Highway 52 NB Ramps
- Rochester Boulevard & Hogan Avenue
- County 29 Boulevard & Cannon Falls Boulevard (MN 20)
- County 29 Boulevard (MN 20) & County 17 Boulevard
- County State Aid Highway (CSAH) 88 & Harry Avenue

The study intersections listed above are shown in **Exhibit 1**. Note that Rochester Boulevard is assumed to have an east-west orientation throughout the study area and then transition to County 29 Boulevard with a north-south orientation at its intersection with Holiday Avenue.

EXISTING ROADWAYS

Access to the development will be provided via two access points, with one on Rochester Boulevard and one on County 29 Boulevard. The following provides a detailed description of the surrounding roadways.

Rochester Boulevard is currently a two-lane, undivided minor collector with a posted speed limit of 55 miles per hour (mph) in the vicinity of the proposed development. Rochester Boulevard carries an annual average daily traffic (AADT) volume of 2,100 vehicles per day (vpd) west of and 2,700 vpd east of Highway 52 based on 2021 MnDOT AADT data, respectively.

Highway 52 is a four-lane, divided principal roadway with a posted speed limit of 65 mph in the vicinity of the proposed development. Highway 52 carries an AADT volume of 21,800 vpd south of and 23,600 vpd north of Rochester Boulevard based on 2023 MnDOT AADT data, respectively.

Hogan Avenue is a two-lane, undivided major collector with a posted speed limit of 55 mph north of Rochester Boulevard and 30 mph south of Rochester Boulevard. Hogan Avenue carries an AADT volume 400 vpd north of Rochester Boulevard based on 2022 MnDOT AADT data, respectively. MnDOT Traffic Mapping Application has no traffic data for the roadway south of Rochester Boulevard.

County 29 Boulevard is currently a two-lane, undivided minor collector with a posted speed limit of 40 mph in the vicinity of the proposed development. County 29 Boulevard carries an AADT volume of 2,700 vpd north of and 5,600 vpd south of Cannon Falls Boulevard (MN 20) based on 2019 MnDOT AADT data, respectively.

Cannon Falls Boulevard (MN 20) is a two-lane, undivided major collector with a posted speed limit of 55 mph in the vicinity of the proposed development. Cannon Falls Boulevard (MN 20) carries an AADT volume of 2,200 vpd east of County 29 Boulevard based on 2022 MnDOT AADT data, respectively.

County 17 Boulevard is a two-lane, undivided major collector with a posted speed limit of 30 mph in the vicinity of the proposed development. County 17 Boulevard carries an AADT volume of 1,600 vpd west of County 29 Boulevard based on 2019 MnDOT AADT data, respectively.

CSAH 88 is a two-lane, undivided major collector with a posted speed limit of 30 mph in the vicinity of the proposed development. CSAH 88 carries an AADT of 1,400 vpd based on 2021 MnDOT AADT data, respectively.

Harry Avenue is a two-lane, undivided local roadway with a posted speed limit of 30 mph in the vicinity of the proposed development.

Exhibit 2 provides the existing intersection geometry and intersection control for the study intersections.

EXISTING TRAFFIC VOLUMES

To analyze the traffic operations at the study intersection, weekday peak period turning movement counts were collected at the five existing study intersections.

Peak hour turning movements counts (TMCs) were collected on Wednesday, October 30, 2024. The intersection of CSAH 88 & Harry Avenue was counted in April 2025. **Exhibit 3** provides a summary of the weekday AM and PM peak hour turning traffic volumes. The turning movement count data is provided in **Appendix B**.

The network AM peak hour was determined to be 6:45 AM to 7:45 AM and the network PM peak hour was determined to be 3:00 PM to 4:00 PM.

FUTURE BACKGROUND GROWTH

Growth rates of the surrounding roadways were calculated using the projected 2040 Traffic Volumes shown in the Dakota County 2040 Transportation Plan. The Transportation Plan projected the volumes using a travel demand model, based on the most recent AADT data available at the time (2019). The Existing AADT at the time of the report and the forecasted 2040 AADTs included in the report are shown in **Table 1**.

Table 1 – Background Growth

Roadway	Location Description	Existing Year	Existing AADT	Grown Year	Grown AADT	Growth
Rochester Blvd	West of Hwy 52	2019	1,800	2040	2,900	2.3%
Rochester Blvd	East of Hwy 52	2019	2,400	2040	2,600	0.4%
Hogan Avenue	North of Rochester Blvd	2019	600	2040	800	1.4%
County 17 Blvd	West of County 29 Blvd	2019	1,500	2040	1,600	0.3%
Average						***1.1%***

Based on the data shown in **Table 1**, growth rates are relatively consistent for the surrounding roadways and a growth rate of 1.1% was therefore selected for all roadways within the network.

Exhibit 4 shows the Opening Year No-Build (2029) turning movement volumes and **Exhibit 5** shows the Design Year No-Build (2044) turning movement volumes.

PEDESTRIANS AND BICYCLES

Currently there is no sidewalk or bike lanes along any of the roadways in the vicinity of the proposed site. However, per the Dakota County Existing Pedestrian and Bicycle Network map, there is county rural shoulder along Rochester Boulevard/County 29 Boulevard and County 17 Boulevard which supports bicycling.

PROPOSED DEVELOPMENT

SITE ACCESS POINTS

The proposed development will consist of one parcel, with one access point on Rochester Boulevard and one access point on County 29 Boulevard. The northern access point is referred to as “Access 1” while the southern access point is referred to as “Access 2”.

The site plan for the proposed Scenarios 1 and 2 is included in **Appendix C**.

SITE TRIP GENERATION

The trip-generating potential of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Eleventh Edition*. Standard ITE trip rates were used to develop the anticipated total trips generated by the site. For this analysis, it was assumed that all site trips will be vehicle trips. It was assumed that all site trips would be new trips and no mode split reductions for trips via transit, bike or walking were used.

To determine the trip generation of Scenario 2, the average rate for ITE Land Use Code (LUC) 160 (Data Center) was used to calculate the trip generation potential of the site. Average rate was applied based on guidance given in the ITE Trip Generation Handbook. **Table 3** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours. As shown, Scenario 2 is anticipated to generate 165 new trips during the AM peak hour (91 entering, 74 exiting) and 135 new trips during the PM peak hour (41 entering, 94 exiting). Scenario 2 is anticipated to generate 1,485 daily trips.

Table 3 – Scenario 2 Trip Generation

Land Use Description	Intensity / Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Data Center - LUC 160	1,500 kSF	1,485	91	74	165	41	94	135
Total Site Trips		**1,485**	**91**	**74**	**165**	**41**	**94**	**135**

To determine the trip generation of Scenario 1, the average rates for, LUC 130 (Industrial Park) was used to calculate the trip generation potential of the site. Average rate was applied for each as it results in a higher (more conservative) trip generation estimate than the fitted curve does for these land uses. **Table 2** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours. As shown, Scenario 1 is anticipated to generate 595 new trips during the AM peak hour (482 entering, 113 exiting) and 595 new trips during the PM peak hour (131 entering, 464 exiting). Scenario 1 is anticipated to generate 5,898 weekday daily trips.

Table 2 – Scenario 1 Trip Generation

Land Use Description	Intensity / Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Industrial Park - LUC 130	1,750 kSF	5,898	482	113	595	131	464	595
Total Site Trips		**5,898**	**482**	**113**	**595**	**131**	**464**	**595**

SITE TRIP DISTRIBUTION

The site trips were distributed to the adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. Given the similarities in land uses and their anticipated traffic patterns, the same distribution was utilized for both scenarios. The following global trip distribution was assumed for both Scenarios 1 and 2:

- 50% to/from the north on Highway 52
- 25% to/from the south on Highway 52
- 10% to/from the south on County 29 Boulevard
- 5% to/from the west on Rochester Boulevard
- 5% to/from the east on Cannon Falls Boulevard (MN 20)
- 5% to/from the west on County 17 Boulevard

The trip distribution for Scenario 2 is shown in **Exhibit 6** and the site traffic is shown in **Exhibit 7**.

The Opening Year (2029) Scenario 2 traffic volumes (shown in **Exhibit 8**) were developed by adding the site Traffic in **Exhibit 7** to the Opening Year (2029) No-Build Traffic volumes in **Exhibit 4**. The Design Year (2044) Scenario 2 traffic volumes (shown in **Exhibit 9**) were developed by adding the site Traffic in **Exhibit 7** to the Design Year (2044) No-Build Traffic volumes in **Exhibit 5**.

The trip distribution for Scenario 1 site is shown in **Exhibit 10** and the site traffic is shown in **Exhibit 11**. The Opening Year (2029) Scenario 1 traffic volumes (shown in **Exhibit 12**) were developed by adding the site Traffic in **Exhibit 11** to the Opening Year (2029) No-Build Traffic volumes in **Exhibit 4**. The Design Year (2044) Scenario 1 traffic volumes (shown in **Exhibit 13**) were developed by adding the site Traffic in **Exhibit 11** to the Design Year (2044) No-Build Traffic volumes in **Exhibit 5**.

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. The capacity analysis was performed using Synchro/SimTraffic.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is measured in average delay per vehicle. It is expressed in terms of level of service (LOS) which ranges from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control

and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 4**. The range of control delay for each rating (as detailed in the HCM) is also shown in **Table 4**.

Table 4 – Level of Service Information

Level of Service	Average Control Delay (seconds/vehicle)	Description
A	0-10 (Unsignalized)	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	>10-15 (Unsignalized)	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	>15-25 (Unsignalized)	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	>25-35 (Unsignalized)	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	>35-50 (Unsignalized)	High control delay; average travel speed no more than 33 percent of free flow speed.
F	>50 (Unsignalized)	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

Traffic models for each scenario were developed using Synchro/SimTraffic, and the delay and queueing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing Year (2024)
- Opening Year (2029) No-Build Conditions
- Opening Year (2029) Build Conditions
- Design Year (2044) No-Build Conditions
- Design Year (2044) Build Conditions

EXISTING YEAR (2024) CONDITIONS

A capacity analysis was performed for Existing Year (2024) conditions in order to develop baseline operating conditions for the current year. The analysis was performed using Synchro/SimTraffic. The five (5) study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The traffic volumes are provided in **Exhibit 3**.

The results of the analysis are provided in **Table 5**.

Table 5 – Existing Year (2024) Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.5	A	0.6	A	0.1	A	6.6	A
		WB	0.8	A	0.9	A	0.2	A		
		NB	3.4	A	6.3	A	1.7	A		
		SB	5.1	A	6.6	A	2.7	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.1	A	0.8	A	6.4	A
		WB	1.6	A	0.7	A	-	-		
		NB	6.4	A	-	-	2.3	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.8	A	0.4	A	0.0	A	6.0	A
		WB	0.0	A	2.0	A	1.9	A		
		NB	6.0	A	0.0	A	2.1	A		
		SB	3.6	A	0.0	A	1.3	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	5.3	A
		WB	5.3	A	-	-	4.7	A		
		NB	-	-	0.6	A	0.7	A		
		SB	0.9	A	1.7	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	9.3	A	2.3	A	5.7	A	9.3	A
		WB	0.0	A	0.0	A	0.0	A		
		NB	2.2	A	1.0	A	0.1	A		
		SB	0.0	A	1.0	A	0.6	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	3.9	A	1.0	A	0.5	A	7.5	A
		WB	2.7	A	2.0	A	2.1	A		
		NB	2.8	A	7.5	A	1.2	A		
		SB	4.2	A	5.5	A	1.6	A		

Table 5 – Existing Year (2024) Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.7	A	0.7	A	0.1	A	7.7	A
		WB	0.7	A	1.1	A	0.6	A		
		NB	4.1	A	7.7	A	2.5	A		
		SB	5.9	A	6.4	A	2.4	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.0	A	0.6	A	5.9	A
		WB	1.6	A	0.7	A	-	-		
		NB	5.9	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.4	A	0.5	A	0.4	A	7.4	A
		WB	0.2	A	1.5	A	1.4	A		
		NB	7.4	A	0.0	A	0.0	A		
		SB	3.6	A	0.0	A	1.5	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	6.6	A
		WB	6.6	A	-	-	3.6	A		
		NB	-	-	0.7	A	0.9	A		
		SB	5.6	A	2.7	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	10.9	B	3.3	A	7.1	A	11.8	B
		WB	11.8	B	6.9	A	3.5	A		
		NB	2.9	A	1.3	A	0.4	A		
		SB	3.2	A	1.2	A	0.8	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	1.9	A	0.6	A	0.1	A	6.8	A
		WB	5.6	A	2.2	A	1.5	A		
		NB	2.7	A	6.8	A	1.2	A		
		SB	6.0	A	3.3	A	3.7	A		

Based on the Existing Year (2024) capacity analysis, the study intersections and all individual movements currently operate at LOS B or better during the AM and PM peak hours.

All 95th percentile queues are anticipated to remain within their respective storage bays. The SimTraffic reports are provided in **Appendix D.**

OPENING YEAR (2029) NO-BUILD CONDITIONS

A capacity analysis was performed for Opening Year (2029) No-Build conditions in order to develop baseline operating conditions for the opening year. The analysis was performed using Synchro/SimTraffic. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The traffic volumes are provided in **Exhibit 4**. The results are provided in **Table 6**.

Table 6 – Opening Year (2029) No-Build Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.2	A	0.5	A	0.0	A	5.5	A
		WB	0.0	A	0.9	A	0.3	A		
		NB	5.5	A	0.0	A	1.8	A		
		SB	4.8	A	4.7	A	0.0	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	0.8	A	0.8	A	6.8	A
		WB	1.5	A	0.5	A	-	-		
		NB	6.8	A	-	-	2.4	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.0	A	0.3	A	0.0	A	5.5	A
		WB	0.0	A	2.1	A	0.7	A		
		NB	5.5	A	0.0	A	0.0	A		
		SB	4.2	A	0.0	A	1.6	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	5.0	A
		WB	5.0	A	-	-	4.3	A		
		NB	-	-	0.5	A	0.6	A		
		SB	0.00	A	1.5	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	10.4	B	0.0	A	5.1	A	10.4	B
		WB	0.0	A	0.0	A	0.0	A		
		NB	1.4	A	0.7	A	0.2	A		
		SB	0.0	A	1.0	A	0.9	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	7.1	A	1.3	A	0.0	A	7.1	A
		WB	0.0	A	1.4	A	0.1	A		
		NB	0.0	A	0.0	A	0.0	A		
		SB	0.0	A	0.0	A	1.0	A		

Table 6 – Opening Year (2029) No-Build Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.7	A	0.7	A	0.0	A	8.4	A
		WB	0.9	A	1.1	A	0.5	A		
		NB	5.0	A	8.4	A	2.1	A		
		SB	5.4	A	6.6	A	2.5	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	0.9	A	0.8	A	6.4	A
		WB	1.5	A	0.7	A	-	-		
		NB	6.4	A	-	-	2.5	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.8	A	0.5	A	0.3	A	6.4	A
		WB	1.5	A	1.5	A	1.0	A		
		NB	6.4	A	0.0	A	0.0	A		
		SB	4.0	A	0.0	A	1.4	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	6.8	A
		WB	6.8	A	-	-	3.2	A		
		NB	-	-	0.6	A	0.9	A		
		SB	6.1	A	2.4	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	12.0	B	13.4	B	8.3	A	13.4	B
		WB	9.1	A	8.1	A	2.5	A		
		NB	2.4	A	1.1	A	0.4	A		
		SB	3.7	A	1.1	A	0.9	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	2.2	A	0.9	A	0.6	A	9.0	A
		WB	4.0	A	2.7	A	1.8	A		
		NB	3.0	A	9.0	A	1.0	A		
		SB	4.6	A	4.4	A	2.5	A		

With the addition of background traffic growth, the study area intersections are projected to experience minimal change in delay with the majority of movements and approaches projected to operate at the same LOS as compared to existing conditions. All intersections and all individual movements are anticipated to operate at LOS B or better during the AM and PM peak hours.

All 95th percentile queues are anticipated to remain within their respective storage bays. The SimTraffic reports are provided in **Appendix D**

DESIGN YEAR (2044) NO-BUILD CONDITIONS

A capacity analysis was performed for Design Year (2044) No-Build conditions in order to develop baseline operating conditions for the design year. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The traffic volumes are provided in **Exhibit 5**. The results of the analysis are provided in **Table 7.**

Table 7 – Design Year (2044) No-Build Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.7	A	0.6	A	0.0	A	7.0	A
		WB	0.6	A	1.1	A	0.0	A		
		NB	4.3	A	7.0	A	2.6	A		
		SB	5.7	A	6.3	A	2.7	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.1	A	0.7	A	7.4	A
		WB	1.7	A	0.8	A	-	-		
		NB	7.4	A	-	-	2.2	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.7	A	0.5	A	0.0	A	6.2	A
		WB	0.0	A	2.2	A	1.7	A		
		NB	6.2	A	0.0	A	2.4	A		
		SB	3.8	A	0.0	A	2.1	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	6.6	A
		WB	6.6	A	-	-	3.2	A		
		NB	-	-	0.7	A	0.8	A		
		SB	5.7	A	1.9	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	14.1	B	2.2	A	8.9	A	14.1	B
		WB	10.3	B	0.0	A	0.0	A		
		NB	2.2	A	1.1	A	0.4	A		
		SB	0.0	A	1.1	A	0.8	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	3.3	A	1.2	A	1.4	A	7.8	A
		WB	2.3	A	2.7	A	1.6	A		
		NB	2.5	A	7.8	A	1.5	A		
		SB	4.0	A	6.2	A	1.9	A		

Table 7 – Design Year (2044) No-Build Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.7	A	0.8	A	0.1	A	8.3	A
		WB	1.1	A	1.0	A	0.5	A		
		NB	4.1	A	8.3	A	2.2	A		
		SB	6.0	A	7.1	A	2.8	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.1	A	0.7	A	8.1	A
		WB	1.9	A	0.9	A	-	-		
		NB	8.1	A	-	-	2.7	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.3	A	0.5	A	0.6	A	8.2	A
		WB	3.1	A	2.0	A	1.3	A		
		NB	8.2	A	0.0	A	0.0	A		
		SB	4.8	A	0.0	A	2.2	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	8.3	A
		WB	8.3	A	-	-	5.1	A		
		NB	-	-	0.8	A	1.1	A		
		SB	6.0	A	2.7	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	15.2	C	15.1	C	8.9	A	15.2	C
		WB	9.2	A	10.8	B	4.3	A		
		NB	2.9	A	1.4	A	0.5	A		
		SB	4.9	A	1.3	A	0.9	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	2.0	A	1.0	A	0.7	A	8.0	A
		WB	4.7	A	2.6	A	3.1	A		
		NB	3.9	A	5.7	A	1.1	A		
		SB	8.0	A	5.2	A	3.7	A		

With additional background traffic growth, the study area intersections are projected to experience minimal change in delay, with the majority of movements projected to operate at the same LOS as compared to Opening Year (2029) No-Build Conditions. All intersections and individual movements are anticipated to operate at LOS C or better during the AM and PM peak hours.

The SimTraffic reports are provided in **Appendix D**. All 95th percentile queues are anticipated to remain within their respective storage bays.

OPENING YEAR (2029) SCENARIO 2 CONDITIONS

Opening Year (2029) Scenario 2 conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The site accesses were modeled as side street stop control and no turn lanes were initially assumed for the analysis. Opening Year (2029) Scenario 2 turning movement volumes are shown in **Exhibit 8**. The results of the analysis are provided in **Table 10**.

Table 10 – Opening Year (2029) Scenario 2 Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.6	A	1.0	A	0.1	A	8.7	A
		WB	0.4	A	1.1	A	0.4	A		
		NB	4.3	A	8.7	A	2.3	A		
		SB	6.0	A	6.0	A	2.3	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.4	A	0.9	A	7.4	A
		WB	2.2	A	0.8	A	-	-		
		NB	7.2	A	-	-	2.9	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.9	A	0.7	A	0.0	A	7.4	A
		WB	0.0	A	1.3	A	0.8	A		
		NB	7.4	A	0.0	A	2.4	A		
		SB	5.0	A	0.0	A	1.5	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	6.0	A
		WB	6.0	A	-	-	3.3	A		
		NB	-	-	0.5	A	0.6	A		
		SB	3.4	A	1.4	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	10.4	B	3.2	A	8.8	A	10.4	B
		WB	5.0	A	0.0	A	0.0	A		
		NB	2.2	A	0.8	A	0.3	A		
		SB	0.0	A	0.9	A	0.5	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	1.6	A	0.9	A	5.8	A
		WB	1.5	A	0.8	A	-	-		
		NB	5.8	A	-	-	3.3	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	5.4	A	-	-	2.2	A	5.4	A
		WB	-	-	-	-	-	-		
		NB	1.9	A	0.8	A	-	-		
		SB	-	-	1.2	A	0.7	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	3.0	A	1.7	A	1.0	A	10.1	B
		WB	3.6	A	1.4	A	2.3	A		
		NB	2.3	A	8.7	A	1.3	A		
		SB	3.8	A	10.1	B	1.9	A		

Table 10 – Opening Year (2029) Scenario 2 Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.9	A	0.9	A	0.1	A	8.0	A
		WB	1.2	A	1.1	A	0.6	A		
		NB	4.2	A	8.0	A	2.2	A		
		SB	6.2	A	6.5	A	2.2	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.2	A	0.9	A	8.5	A
		WB	2.1	A	0.8	A	-	-		
		NB	8.5	A	-	-	2.5	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	1.1	A	0.5	A	0.9	A	5.9	A
		WB	2.8	A	1.6	A	1.0	A		
		NB	5.9	A	0.0	A	0.0	A		
		SB	5.8	A	0.0	A	1.8	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	6.9	A
		WB	6.9	A	-	-	4.9	A		
		NB	-	-	0.8	A	1.0	A		
		SB	4.0	A	1.6	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	11.7	B	6.5	A	6.9	A	11.7	B
		WB	8.9	A	9.3	A	4.7	A		
		NB	2.8	A	1.5	A	0.6	A		
		SB	2.4	A	1.1	A	0.9	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	10.8	B	3.7	A	10.8	B
		WB	0.0	A	0.8	A	-	-		
		NB	0.9	A	-	-	0.1	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	5.3	A	-	-	2.0	A	5.3	A
		WB	-	-	-	-	-	-		
		NB	1.8	A	0.8	A	-	-		
		SB	-	-	0.7	A	0.3	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	11.1	B	1.6	A	0.0	A	11.1	B
		WB	5.4	A	2.5	A	2.2	A		
		NB	2.9	A	8.5	A	1.1	A		
		SB	4.9	A	5.5	A	3.2	A		

With the addition of site-generated traffic, the study area intersections are projected to have minimal change in delay with the majority of movements and approaches projected to operate at the same LOS as compared to Opening Year (2029) No-Build Conditions. All intersections and individual movements are anticipated to operate at LOS B or better during the AM and PM peak hours.

The SimTraffic reports are provided in **Appendix D**. All 95th percentile queues are anticipated to remain within their respective storage bays.

DESIGN YEAR (2044) SCENARIO 2 CONDITIONS

Design Year (2044) Scenario 2 conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections in the long-term. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The site accesses were modeled as side street stop control and no turn lanes were initially assumed for the analysis.

Design Year (2044) Scenario 2 traffic volumes were developed from the addition of the Design Year (2044) No-Build volumes in **Exhibit 5** and the Scenario 2 site trips in **Exhibits 7**. The Design Year (2044) Scenario 2 turning movement volumes are shown in **Exhibit 9**. The results of the analysis are provided in **Table 11**.

Table 11 – Design Year (2044) Scenario 2 Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.6	A	1.1	A	0.0	A	8.2	A
		WB	1.9	A	1.3	A	0.7	A		
		NB	4.6	A	8.2	A	2.5	A		
		SB	6.2	A	7.1	A	2.9	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.4	A	0.9	A	9.5	A
		WB	2.6	A	1.0	A	-	-		
		NB	9.5	A	-	-	2.7	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	0.7	A	0.7	A	0.0	A	7.5	A
		WB	0.0	A	1.8	A	1.3	A		
		NB	7.0	A	0.0	A	7.5	A		
		SB	4.7	A	0.0	A	2.0	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	7.3	A
		WB	7.3	A	-	-	4.4	A		
		NB	-	-	0.6	A	0.7	A		
		SB	4.4	A	1.7	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	14.8	B	3.4	A	8.6	A	14.8	B
		WB	0.0	A	0.0	A	0.0	A		
		NB	2.2	A	1.1	A	0.2	A		
		SB	0.0	A	0.9	A	0.6	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	1.6	A	0.8	A	6.4	A
		WB	1.6	A	1.2	A	-	-		
		NB	6.4	A	-	-	3.3	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	5.1	A	-	-	2.9	A	5.1	A
		WB	-	-	-	-	-	-		
		NB	2.1	A	1.0	A	-	-		
		SB	-	-	1.1	A	0.7	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	10.7	B	7.3	A	1.0	A	10.7	B
		WB	4.4	A	8.5	A	3.3	A		
		NB	4.1	A	5.7	A	2.0	A		
		SB	6.8	A	9.8	A	2.5	A		

Table 11 – Design Year (2044) Scenario 2 Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	1.0	A	1.1	A	0.1	A	7.5	A
		WB	1.4	A	1.3	A	0.6	A		
		NB	4.7	A	7.5	A	1.8	A		
		SB	6.4	A	6.9	A	2.3	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.3	A	0.7	A	8.9	A
		WB	2.5	A	1.0	A	-	-		
		NB	8.9	B	-	-	2.8	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	1.4	A	0.6	A	0.7	A	9.6	A
		WB	0.9	A	1.7	A	1.1	A		
		NB	9.6	A	0.0	A	0.0	A		
		SB	5.3	A	0.0	A	2.2	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	9.2	A
		WB	9.2	A	-	-	5.7	A		
		NB	-	-	0.9	A	1.0	A		
		SB	4.1	A	1.9	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	14.5	B	32.5	D	8.6	A	32.5	D
		WB	8.8	A	15.0	B	3.4	A		
		NB	3.4	A	1.8	A	0.4	A		
		SB	1.9	A	1.2	A	0.9	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	11.5	B	3.5	A	11.5	B
		WB	1.3	A	1.0	A	-	-		
		NB	1.2	A	-	-	0.1	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	5.9	A	-	-	3.1	A	5.9	A
		WB	-	-	-	-	-	-		
		NB	2.6	A	0.8	A	-	-		
		SB	-	-	0.7	A	0.2	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	6.5	A	6.8	A	1.8	A	11.1	B
		WB	11.1	B	8.9	A	3.9	A		
		NB	6.0	A	3.1	A	1.8	A		
		SB	9.9	A	4.0	A	4.0	A		

With additional site traffic and background traffic growth, the study area intersections are projected to experience minimal change in delay, with most of movements projected to operate at the same LOS as the Opening Year (2029) Build Conditions. All intersections and individual movements are anticipated to operate at LOS D or better during the AM and PM peak hours.

The SimTraffic reports are provided in **Appendix D**. All 95th percentile queues are anticipated to remain within their respective storage bays.

OPENING YEAR (2029) SCENARIO 1 CONDITIONS

Opening Year (2029) Scenario 1 conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The site accesses were modeled as side street stop control with one approach lane and no turn lanes were initially assumed for the analysis.

Opening Year (2029) Scenario 1 turning movement volumes were developed by adding the site trips in **Exhibit 11** to the Opening Year (2029) No-Build turning movement volumes in **Exhibit 4**. The Opening Year (2029) Scenario 1 turning movement volumes are shown in **Exhibit 12**. The results of the analysis are provided in **Table 8**.

Table 8 – Opening Year (2029) Scenario 1 Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.5	A	1.7	A	0.1	A	8.6	A
		WB	0.3	A	1.3	A	0.6	A		
		NB	4.3	A	8.6	A	3.0	A		
		SB	8.4	A	8.4	A	2.0	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	2.6	A	1.1	A	13.3	B
		WB	4.3	A	1.0	A	-	-		
		NB	13.3	B	-	-	4.9	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	1.6	A	1.5	A	2.0	A	15.2	C
		WB	0.0	A	2.0	A	1.4	A		
		NB	15.2	C	0.0	A	4.5	A		
		SB	9.3	A	0.0	A	5.5	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	7.5	A
		WB	7.5	A	-	-	4.5	A		
		NB	-	-	0.8	A	0.8	A		
		SB	5.1	A	1.8	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	15.7	C	2.6	A	9.7	A	15.7	C
		WB	3.9	A	0.0	A	0.0	A		
		NB	2.2	A	1.1	A	0.2	A		
		SB	0.0	A	0.8	A	0.5	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	4.7	A	2.1	A	8.7	A
		WB	3.9	A	1.8	A	-	-		
		NB	8.7	A	-	-	4.6	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	9.9	A	-	-	3.4	A	9.9	A
		WB	-	-	-	-	-	-		
		NB	5.7	A	2.8	A	-	-		
		SB	-	-	2.9	A	1.7	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	3.1	A	0.7	A	0.0	A	8.1	A
		WB	2.0	A	2.6	A	2.8	A		
		NB	3.7	A	8.1	A	1.1	A		
		SB	4.7	A	6.4	A	1.8	A		

Table 8 – Opening Year (2029) Scenario 1 Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	1.3	A	0.9	A	0.0	A	8.0	A
		WB	1.6	A	1.3	A	0.8	A		
		NB	3.6	A	8.0	A	2.0	A		
		SB	6.6	A	7.0	A	3.4	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.8	A	0.9	A	24.2	D
		WB	4.8	A	1.6	A	-	-		
		NB	24.2	D	-	-	2.9	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	1.7	A	0.8	A	0.4	A	17.8	C
		WB	2.4	A	2.7	A	1.8	A		
		NB	17.8	C	0.0	A	0.0	A		
		SB	10.9	B	0.0	A	4.7	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	9.8	A
		WB	9.8	A	-	-	5.4	A		
		NB	-	-	0.9	A	1.0	A		
		SB	4.4	A	2.1	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	13.1	B	15.5	C	9.1	A	15.5	C
		WB	10.1	B	12.4	B	0.0	A		
		NB	3.1	A	1.3	A	0.2	A		
		SB	3.1	A	1.2	A	0.9	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	15.8	B	6.4	A	15.8	C
		WB	0.8	A	1.9	A	-	-		
		NB	3.0	A	-	-	1.1	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	10.0	A	-	-	6.9	A	10.0	A
		WB	-	-	-	-	-	-		
		NB	2.6	A	1.5	A	-	-		
		SB	-	-	1.4	A	0.5	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	2.9	A	0.6	A	0.0	A	7.6	A
		WB	4.7	A	3.6	A	3.4	A		
		NB	4.4	A	7.6	A	1.4	A		
		SB	6.1	A	3.7	A	2.7	A		

With the addition of Scenario 1 traffic, the study area intersections are projected to have some change in delay. All intersections and movements are anticipated to operate at LOS D or better during the AM and PM peak hours.

The 95th percentile queueing results were reviewed at the intersections and all queues are anticipated to remain within their respective storage bays. The SimTraffic reports are provided in **Appendix D**.

DESIGN YEAR (2044) SCENARIO 1 CONDITIONS

Design Year (2044) Scenario 1 conditions were analyzed to determine any traffic impacts from the addition of the site traffic to the study intersections in the long-term. The five study intersections were modeled with the existing geometry and intersection control as summarized in **Exhibit 2**. The site accesses were modeled as side street stop control with one approach lane and no turn lanes were initially assumed for the analysis.

The Design Year (2044) Scenario 1 traffic volumes were developed from the addition of the Design Year (2044) No-Build volumes in **Exhibit 5** and the Scenario 1 Site Trips in **Exhibit 11**. The Design Year (2044) Scenario 1 turning movement volumes are shown in **Exhibit 13**. The site accesses were modeled as side street stop control. The results of the analysis are provided in **Table 9**.

Table 9 – Design Year (2044) Scenario 1 Intersection Analysis

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
AM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	0.7	A	2.0	A	0.2	A	9.7	A
		WB	0.9	A	1.4	A	0.7	A		
		NB	5.0	A	8.2	A	3.4	A		
		SB	9.7	A	7.3	A	2.7	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	2.6	A	1.2	A	16.2	C
		WB	4.7	A	1.0	A	-	-		
		NB	16.2	C	-	-	5.4	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	2.0	A	1.5	A	0.0	A	13.4	B
		WB	0.0	A	2.0	A	1.3	A		
		NB	8.8	A	0.0	A	4.5	A		
		SB	13.4	B	0.0	A	2.3	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	8.6	A
		WB	8.6	A	-	-	5.4	A		
		NB	-	-	0.8	A	0.8	A		
		SB	5.2	A	2.2	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	13.7	B	3.6	A	9.4	A	13.7	B
		WB	8.5	A	0.0	A	0.0	A		
		NB	2.9	A	1.2	A	0.6	A		
		SB	0.0	A	1.0	A	0.6	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	4.6	A	2.4	A	10.3	B
		WB	4.1	A	1.7	A	-	-		
		NB	10.3	B	-	-	5.6	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	10.1	B	-	-	4.0	A	10.1	B
		WB	-	-	-	-	-	-		
		NB	5.4	A	3.0	A	-	-		
		SB	-	-	3.0	A	1.7	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	2.6	A	1.1	A	2.6	A	8.4	A
		WB	6.4	A	3.1	A	2.7	A		
		NB	3.0	A	8.4	A	1.4	A		
		SB	4.4	A	7.3	A	2.0	A		

Table 9 – Design Year (2044) Scenario 1 Intersection Analysis (Continued)

Intersection	Control	Approach	Operations by Movement						Overall Intersection/ Worst Side Street Movement	
			Left		Through		Right			
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
PM Peak Hour										
Rochester Blvd & Harry Ave/Hwy 52	Side Street Stop	EB	1.1	A	1.1	A	0.1	A	8.5	A
		WB	1.3	A	1.3	A	0.7	A		
		NB	4.7	A	8.5	A	2.1	A		
		SB	6.7	A	7.2	A	2.7	A		
Rochester Blvd & Hwy 52 NB Ramp	Side Street Stop	EB	-	-	1.9	A	0.8	A	27.3	D
		WB	5.1	A	1.6	A	-	-		
		NB	27.3	D	-	-	3.0	A		
		SB	-	-	-	-	-	-		
Rochester Blvd & Hogan Avenue	Side Street Stop	EB	2.3	A	0.9	A	0.9	A	11.8	B
		WB	2.8	A	2.8	A	1.8	A		
		NB	11.8	B	0.0	A	0.0	A		
		SB	9.1	A	0.0	A	3.6	A		
County 29 Blvd & Cannon Falls Blvd	Side Street Stop	EB	-	-	-	-	-	-	12.2	B
		WB	12.2	B	-	-	9.6	A		
		NB	-	-	1.1	A	1.3	A		
		SB	4.5	A	2.2	A	-	-		
County 29 Blvd & County 17 Blvd	Side Street Stop	EB	18.3	C	0.0	A	10.0	A	25.9	D
		WB	25.9	D	14.0	B	3.3	A		
		NB	4.8	A	2.0	A	0.3	A		
		SB	5.8	A	1.3	A	0.9	A		
Rochester Blvd & Access 1	Side Street Stop	EB	-	-	15.2	C	8.1	A	15.2	C
		WB	1.2	A	2.0	A	-	-		
		NB	3.3	A	-	-	1.5	A		
		SB	-	-	-	-	-	-		
County 29 Blvd & Access 2	Side Street Stop	EB	10.6	B	-	-	7.4	A	10.6	B
		WB	-	-	-	-	-	-		
		NB	3.5	A	1.7	A	-	-		
		SB	-	-	1.5	A	0.4	A		
CSAH 88 & Harry Ave	Side Street Stop	EB	3.9	A	0.5	A	1.3	A	6.7	A
		WB	5.7	A	4.2	A	3.5	A		
		NB	3.9	A	6.7	A	1.3	A		
		SB	5.0	A	4.3	A	3.5	A		

With additional site traffic and background traffic growth, the study area intersections are projected to operate at acceptably, with all intersections and individual movements anticipated to operate at LOS D or better during the AM and PM peak hours.

The SimTraffic reports are provided in **Appendix D**. The 95th percentile queues are anticipated to remain within their respective storage bays.

TURN LANE WARRANT ANALYSIS

A turn lane warrant analysis was conducted at the site's access points for the Opening Year (2029) build conditions and the Design Year (2044) build conditions to determine the anticipated need for turn lanes in the future build conditions. The turn lane warrant analysis was conducted using the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report 457 regarding the need for major road turn lanes at side street stop-controlled intersections. Results of the analysis are summarized below in **Tables 12 and 13**.

Based on the methodologies from *NCHRP Report 457,* the results of the warrants for left and right-turn lanes under Scenario 2: Opening Year (2029) and Design Year (2044) conditions indicate that turn lanes are not warranted at the proposed site access points along Rochester Boulevard and County 29 Boulevard. Under Scenario 1 conditions, a westbound left and an eastbound right turn movement at the northern access are expected to meet the warrant for left and right turn lanes under Opening Year (2029) build conditions and Design Year (2044) build conditions. A southbound right turn movement at the southern access (Access 2) is expected to meet the warrant for a right turn lane under Opening Year (2029) build conditions and Design Year (2044) build conditions.

Table 12 – Scenario 2: Opening Year (2029) and Design Year (2044) Turn Lane Warrants

Intersection	Movement	Turn Lane Warrant Result	
		Build	
		2029	2044
Rochester Boulevard & Access 1 (northern access)	WBL	Not Met	Not Met
	EBR	Not Met	Not Met
County 29 Boulevard & Access 2 (southern access)	NBL	Not Met	Not Met
	SBR	Not Met	Not Met

Table 13 – Scenario 1: Opening Year (2029) and Design Year (2044) Turn Lane Warrants

Intersection	Movement	Turn Lane Warrant Result	
		Build	
		2029	2044
Rochester Boulevard & Access 1 (northern access)	WBL	**Met**	**Met**
	EBR	**Met**	**Met**
County 29 Boulevard & Access 2 (southern access)	NBL	Not Met	Not Met
	SBR	**Met**	**Met**

It should be noted that while a northbound left-turn lane is not warranted at the southern access under Scenario 1, both Dakota County and Goodhue County may require additional turn lanes at the access to limit the impacts of site traffic along the county roads. Likewise, though turn lanes were not found to be warranted under Scenario 2 conditions, Dakota County or Goodhue county may require turn lanes to be installed for policy or safety reasons.

CONCLUSIONS AND RECOMMENDATIONS

Tract Management Company is proposing two development scenarios at the southeast corner of the intersection of Highway 52 and Rochester Boulevard in Cannon Falls, Minnesota. Scenario 2 consists of a 1,500,000 SF technology park, and Scenario 1 consists of a 1,750,000 SF industrial park.

The proposed development will consist of one parcel, with one access point on Rochester Boulevard and one access point on County 29 Boulevard. The northern portion of the site would have its primary access located along Rochester Boulevard ("Access 1"). The southern portion of the site would have its primary access point located along County 29 Boulevard, approximately 1,300' south of Holiday Avenue ("Access 2").

The trip generation of Scenario 2 was evaluated based on data from the ITE Trip Generation Manual, 11th Edition by applying ITE Land Use Code 160 (Data Center). Scenario 2 is anticipated to generate 165 new trips during the AM peak hour (91 entering, 74 exiting) and 135 new trips during the PM peak hour (41 entering, 94 exiting). Scenario 2 is anticipated to generate 1,485 daily trips.

The trip generation of Scenario 1 was evaluated based on data from the ITE Trip Generation Manual, 11th Edition by applying LUC 130 (Industrial Park). Scenario 1 is anticipated to generate 595 new trips during the AM peak hour (482 entering, 113 exiting) and 595 new trips during the PM peak hour (131 entering, 464 exiting). Scenario 1 is anticipated to generate 5,898 weekday daily trips.

A capacity analysis was performed for Existing Year (2024), Opening Year (2029) No-Build, Opening Year (2029) Scenario 2, Opening Year (2029) Scenario 1, Design Year (2044) No-Build, Design Year (2044) Scenario 2, and Design Year (2044) Scenario 1. In all conditions the study intersections are anticipated to operate acceptably.

Turn lane warrants were analyzed at the proposed access points along Rochester Boulevard and County 29 Boulevard. It was found that no turn lanes were warranted at the proposed access points under Scenario 2: Opening Year (2029) Build and Design year (2044) Build Conditions. Under Scenario 1: Opening Year (2029) Build and Design year (2044) Build Conditions, a westbound left and an eastbound right-turn lane were warranted at the site access along Rochester Boulevard (northern access). A south bound right-turn lane was warranted at the access point along County 29 Boulevard (southern access) under Scenario 1: 2029 Opening Year (2029) Build and Design Year (2044) Build Conditions.

The recommended mitigation measures under Scenario 2 conditions (as shown in **Exhibit 14**) are:

- Install side street stop control at the site accesses.

The recommended mitigation measures under Scenario 1 conditions (as shown in **Exhibit 15**) are:

- Install side street stop control at the site accesses.
- Install a westbound left-turn lane at Access 1 (northern access) along Rochester Boulevard.
- Install an eastbound right-turn lane at Access 1 (northern access) along Rochester Boulevard.
- Install a southbound right-turn lane at Access 2 (southern access) along County 29 Boulevard.

APPENDIX

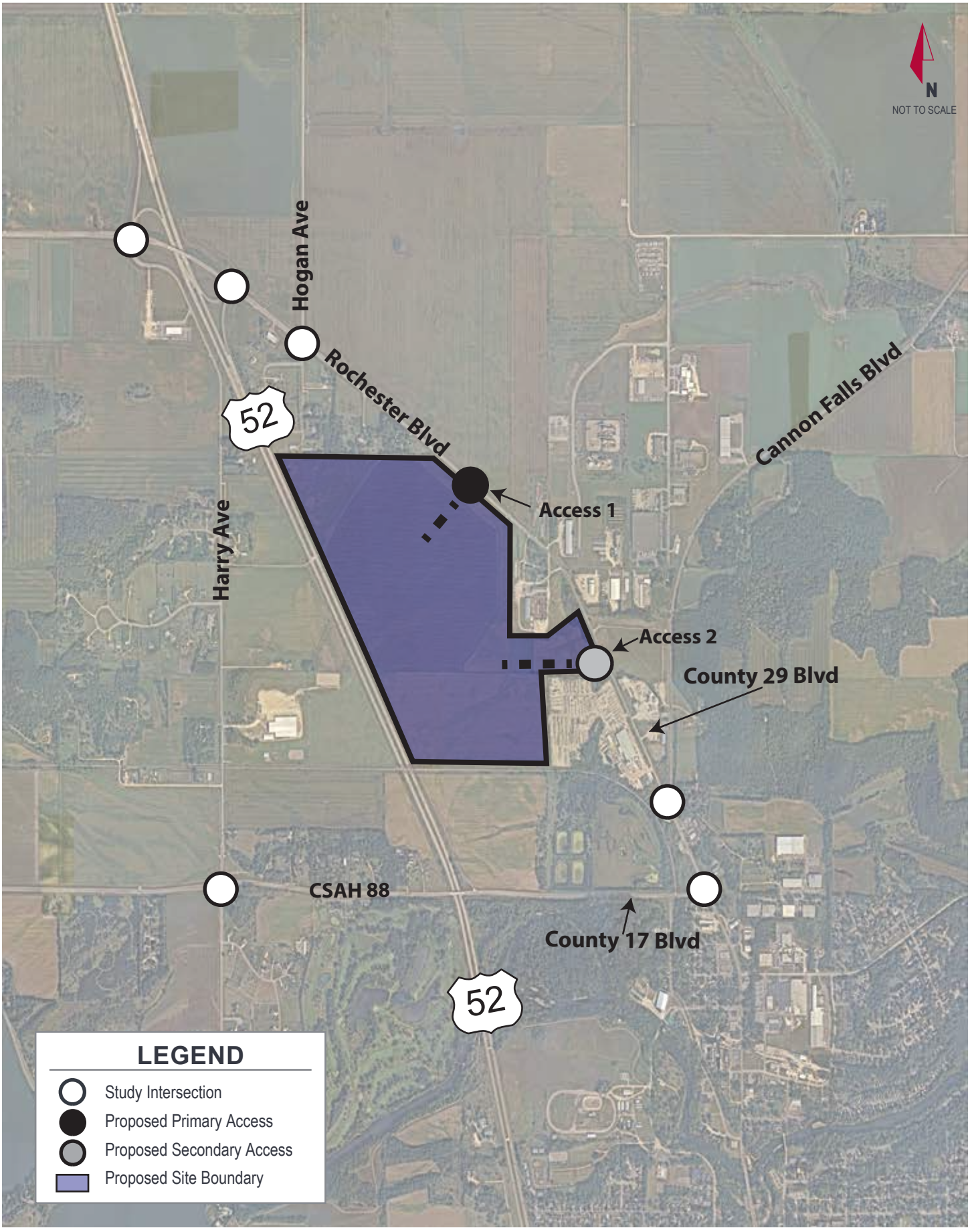
A. Exhibits

B. Turning Movement Counts

C. Site Layout Exhibit

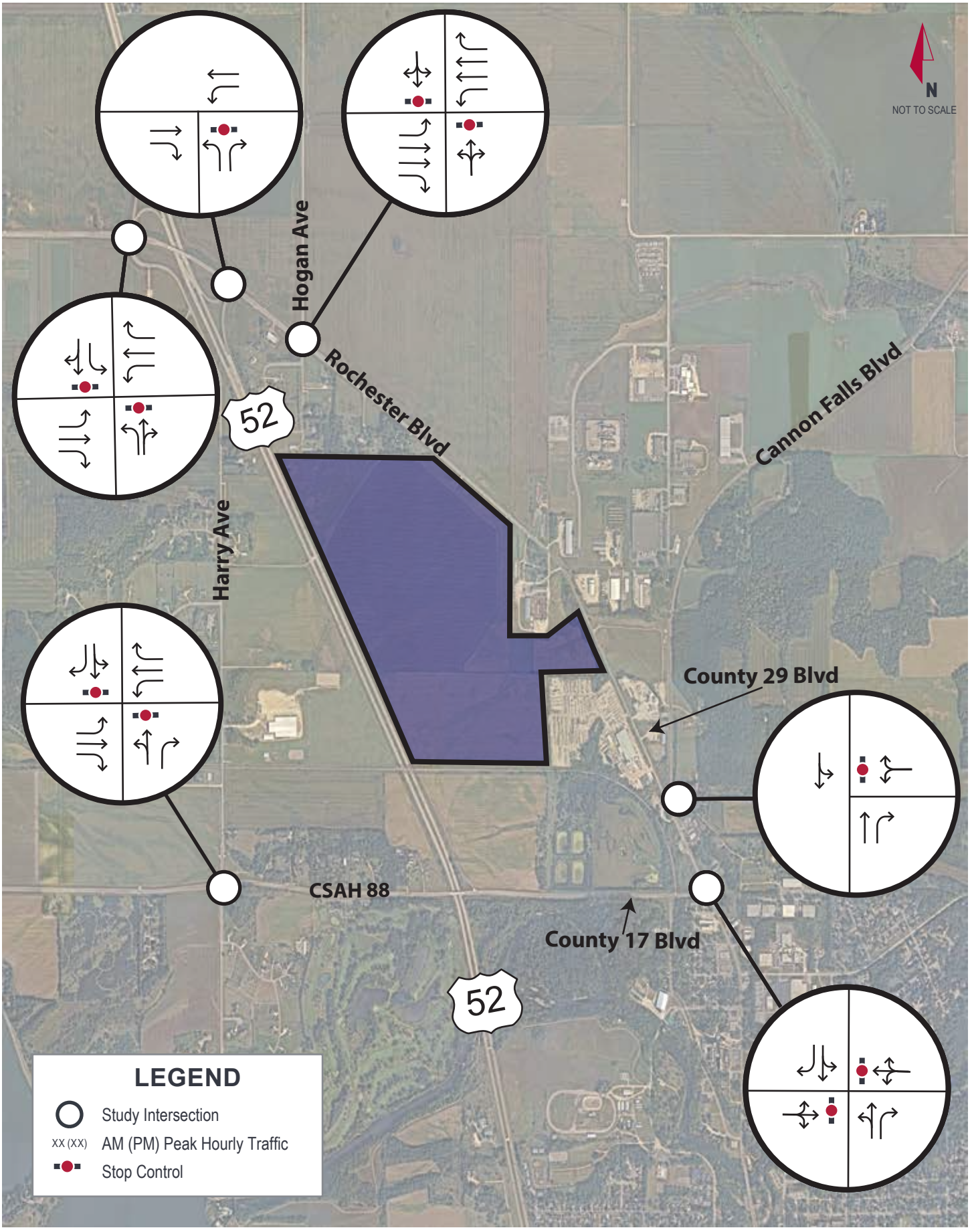
D. SimTraffic Analysis Results

A. Exhibits



Kimley»Horn

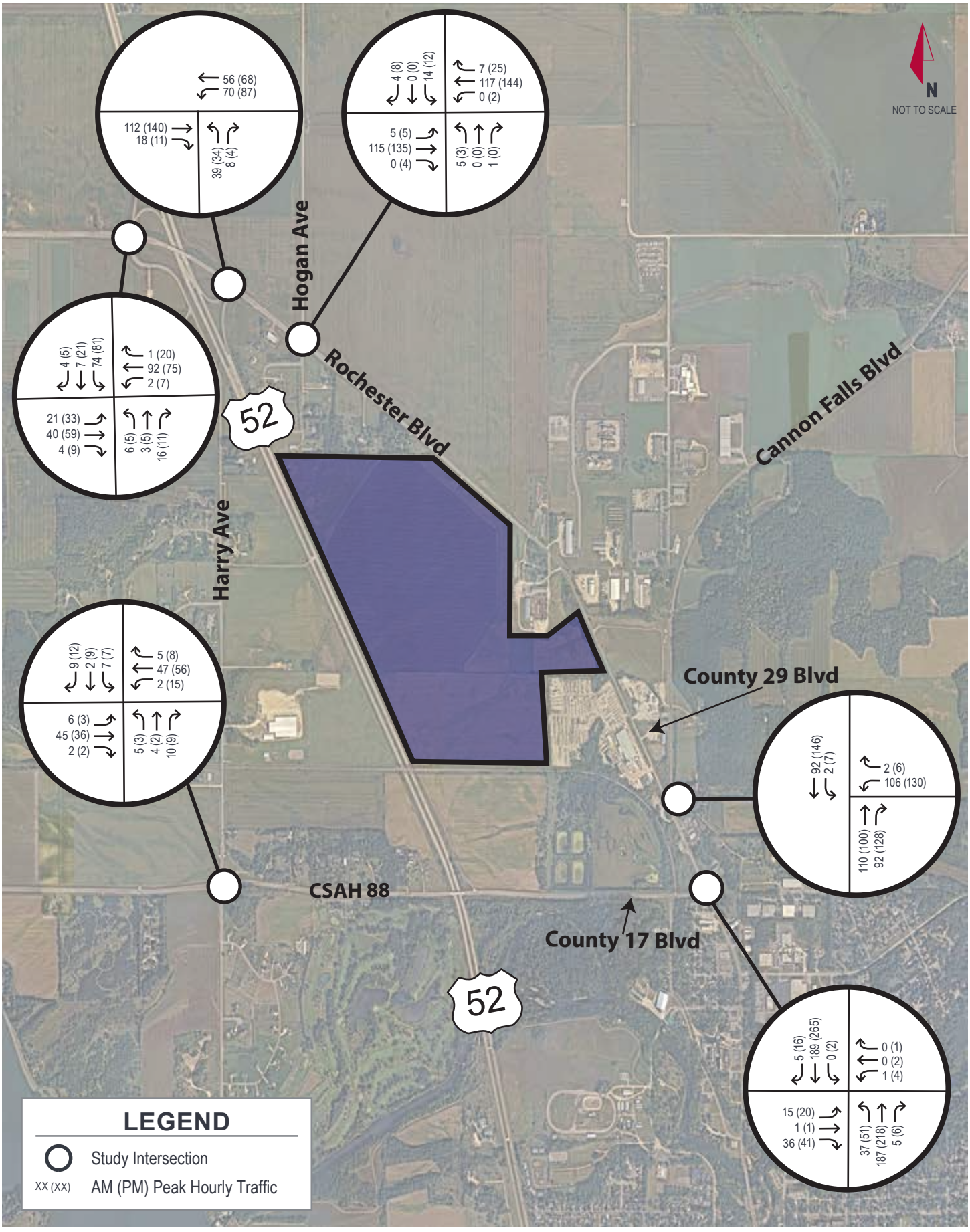
EXHIBIT 1
PROJECT LOCATION MAP



Kimley»Horn

EXHIBIT 2

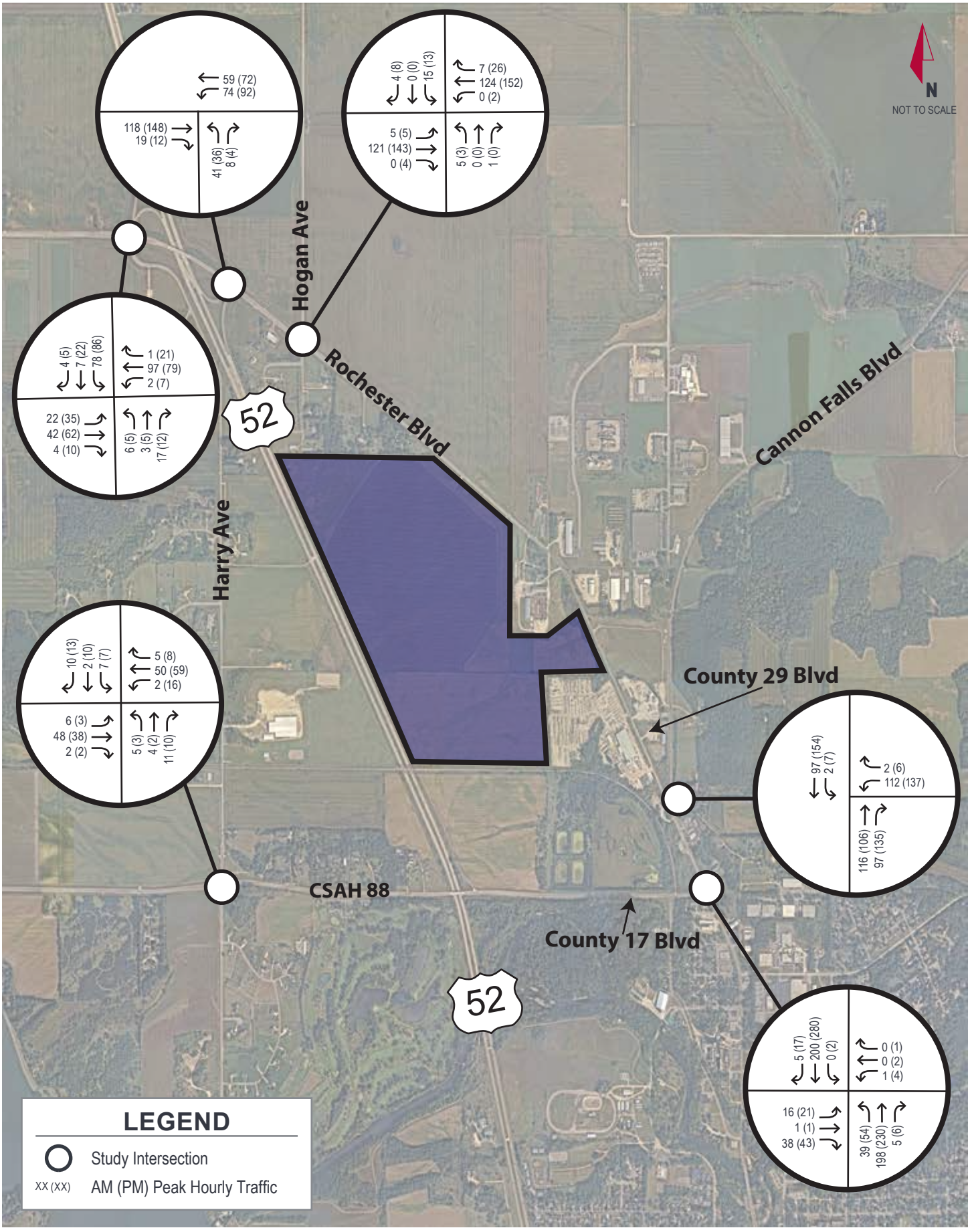
EXISTING GEOMETRY AND INTERSECTION CONTROL



Kimley»Horn

EXHIBIT 3

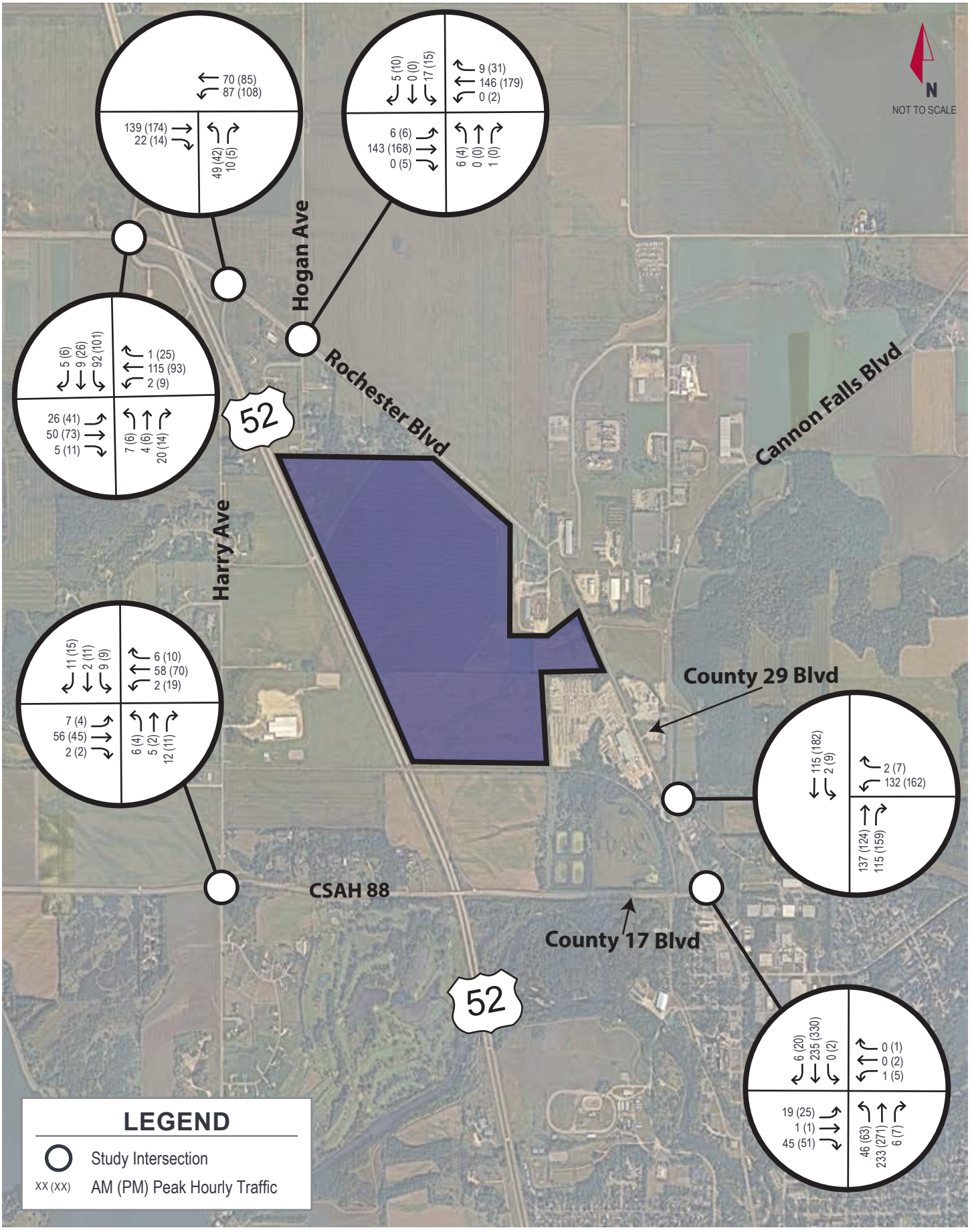
EXISTING (2024) TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 4

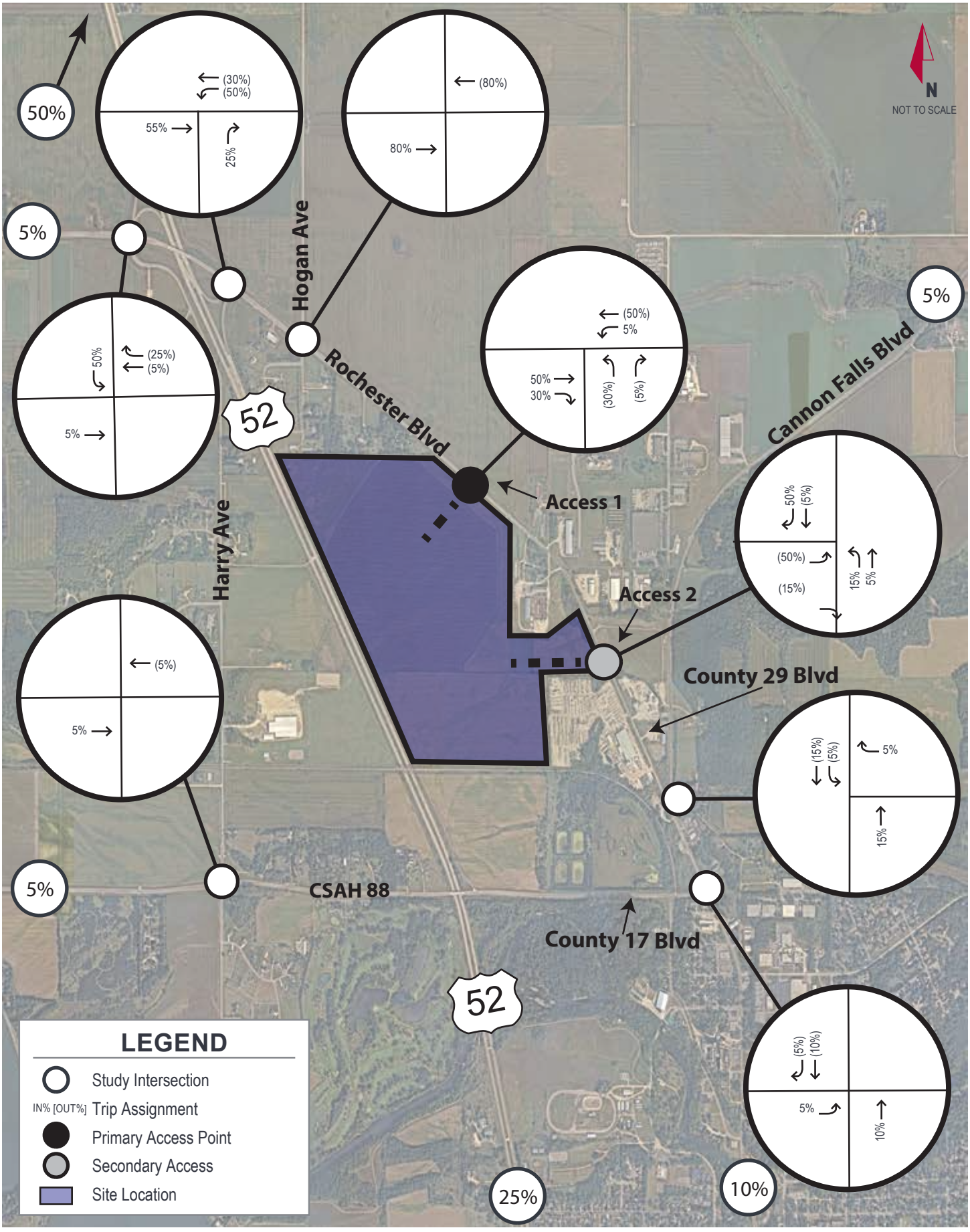
OPENING YEAR (2029) NO BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 5

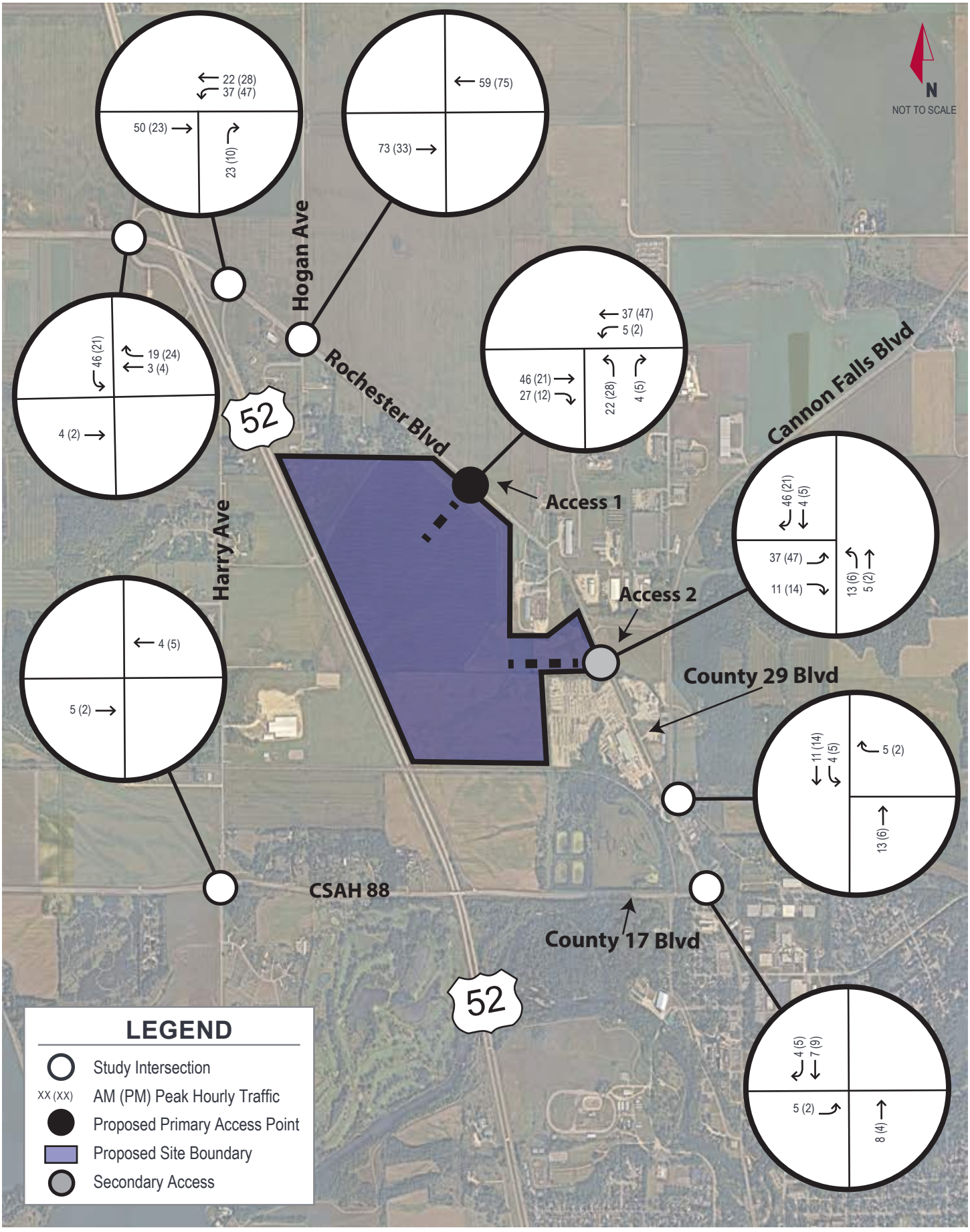
DESIGN YEAR (2044) NO-BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 6

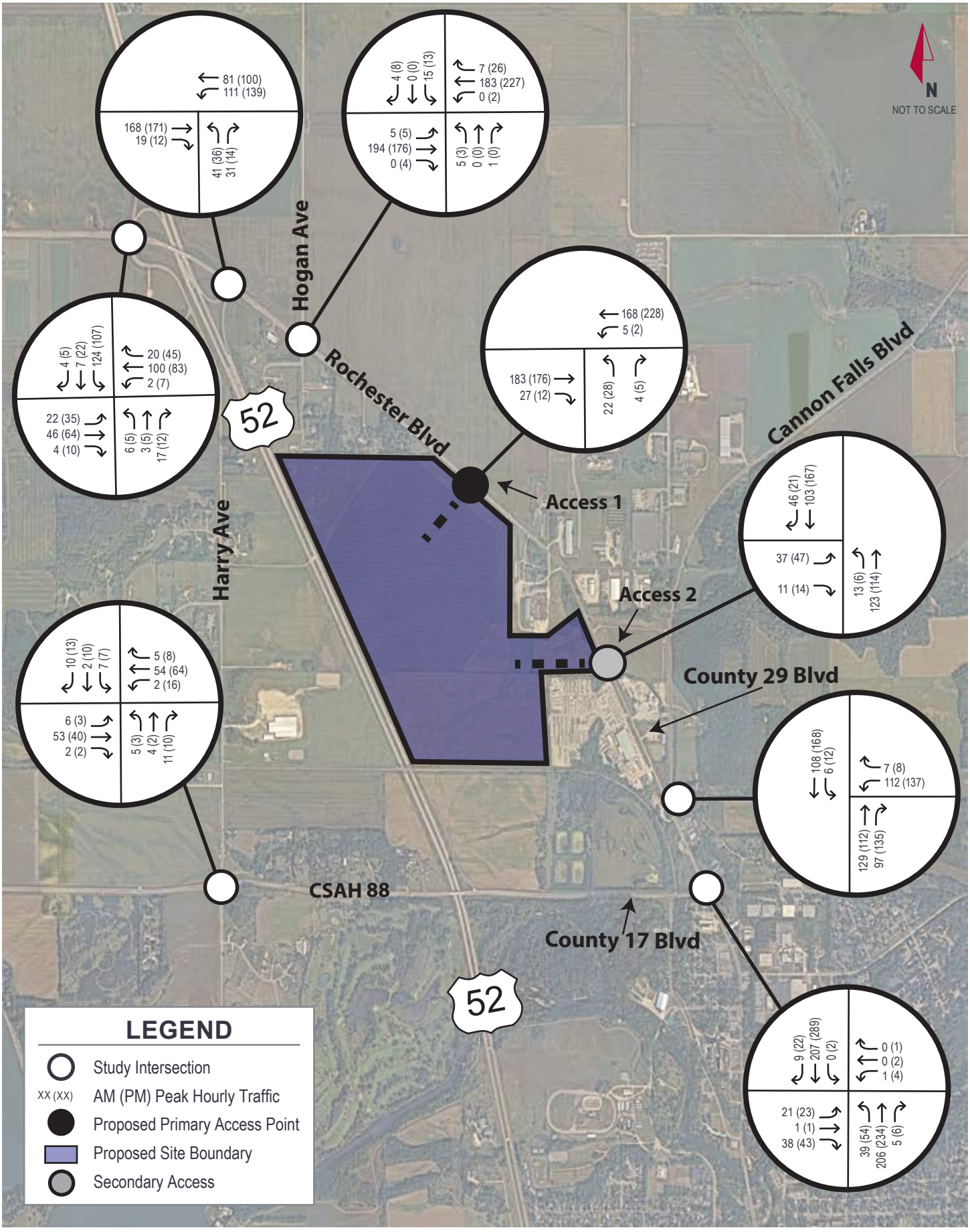
SCENARIO 2 - SITE TRAFFIC DISTRIBUTION



Kimley»Horn

EXHIBIT 7

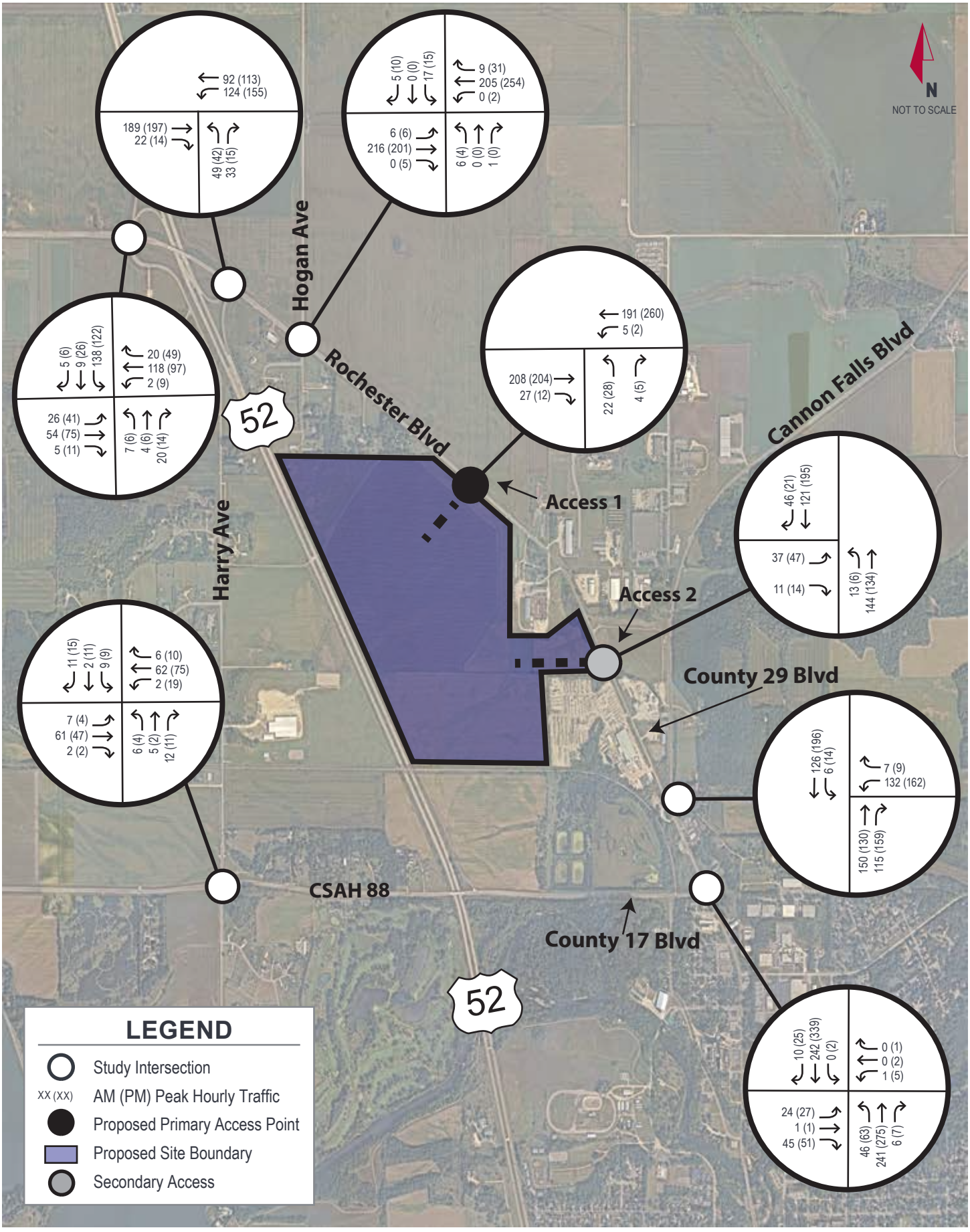
SCENARIO 2 - SITE TRIPS



Kimley»Horn

EXHIBIT 8

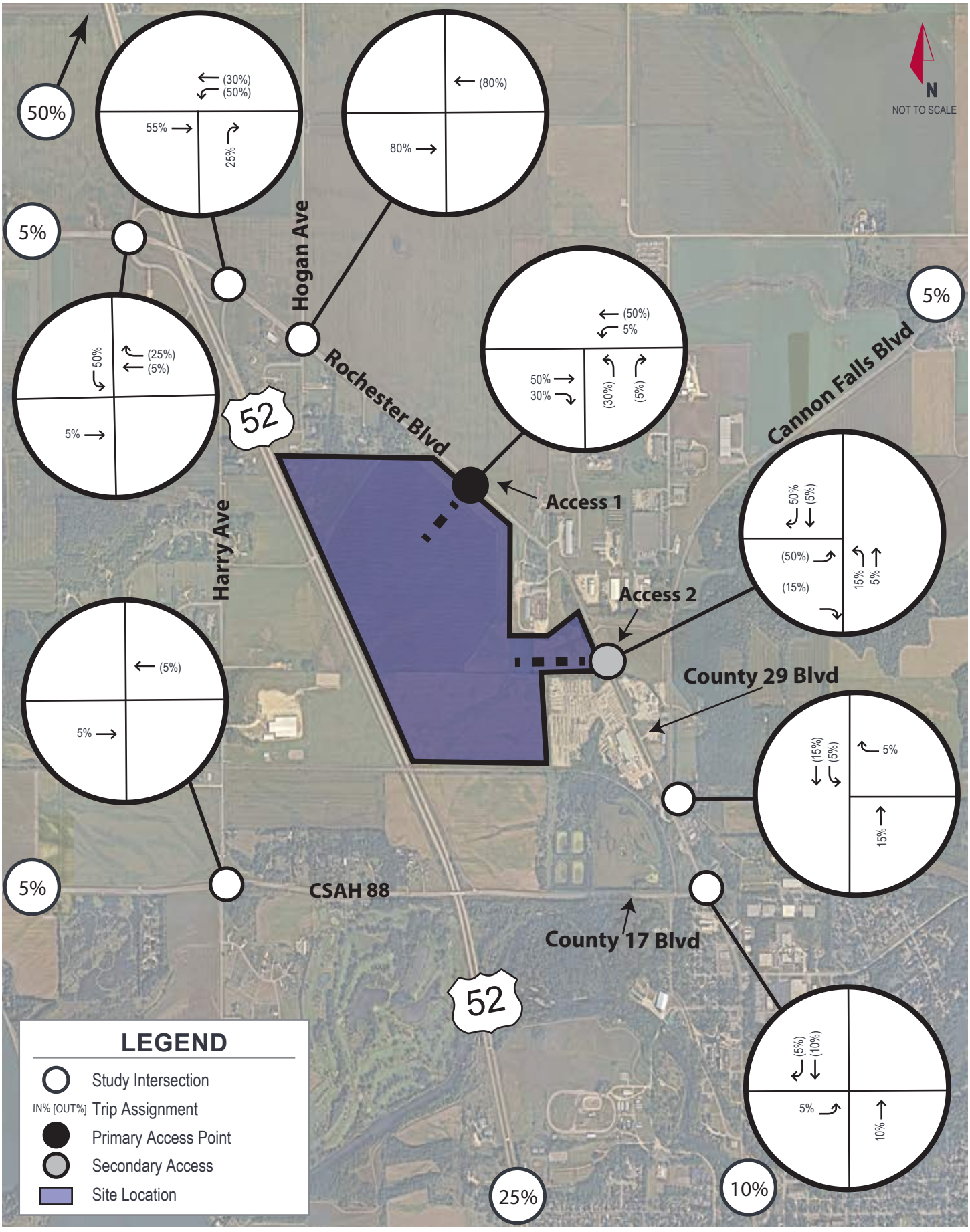
OPENING YEAR (2029) SCENARIO 2 BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 9

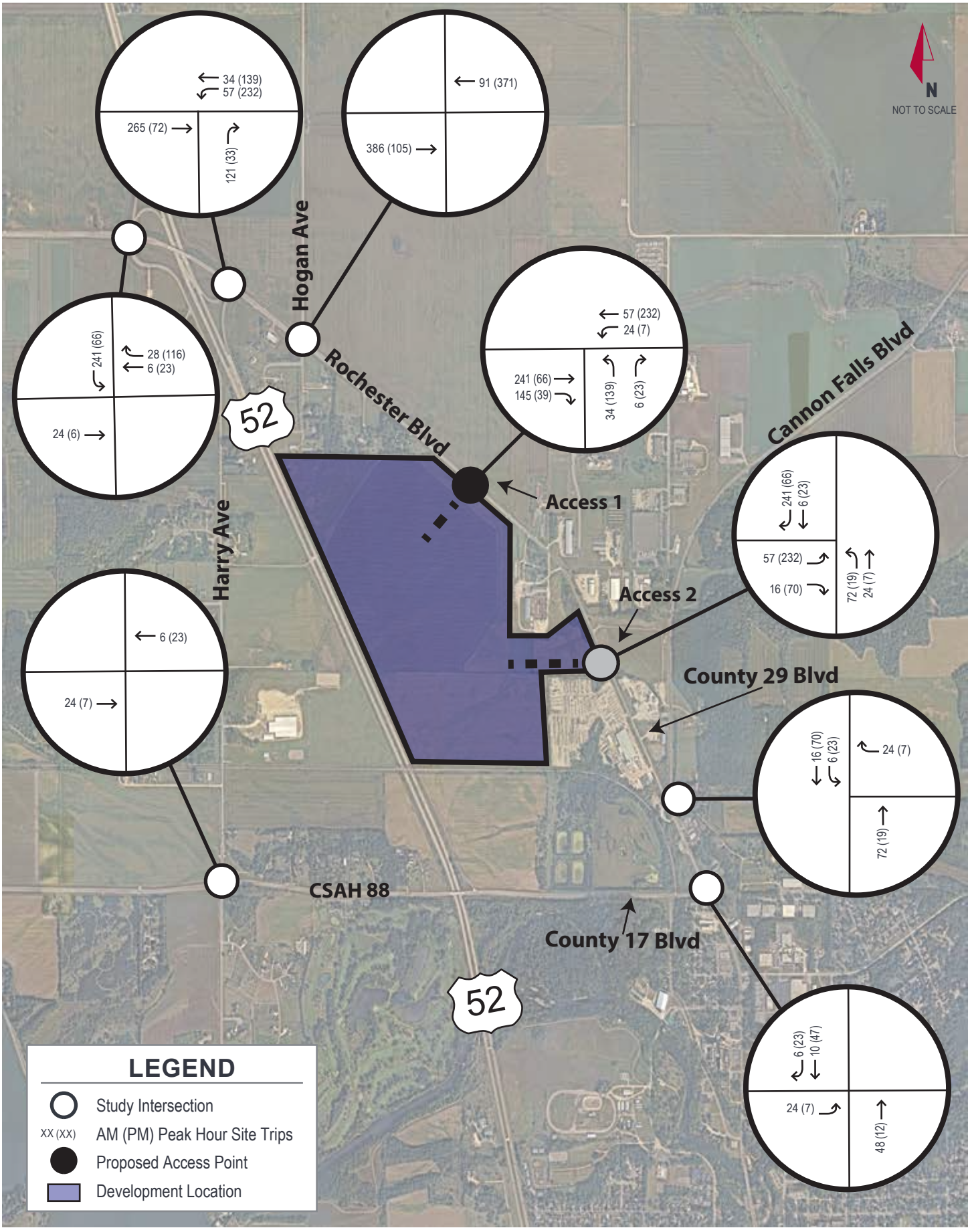
DESIGN YEAR (2044) SCENARIO 2 BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 10

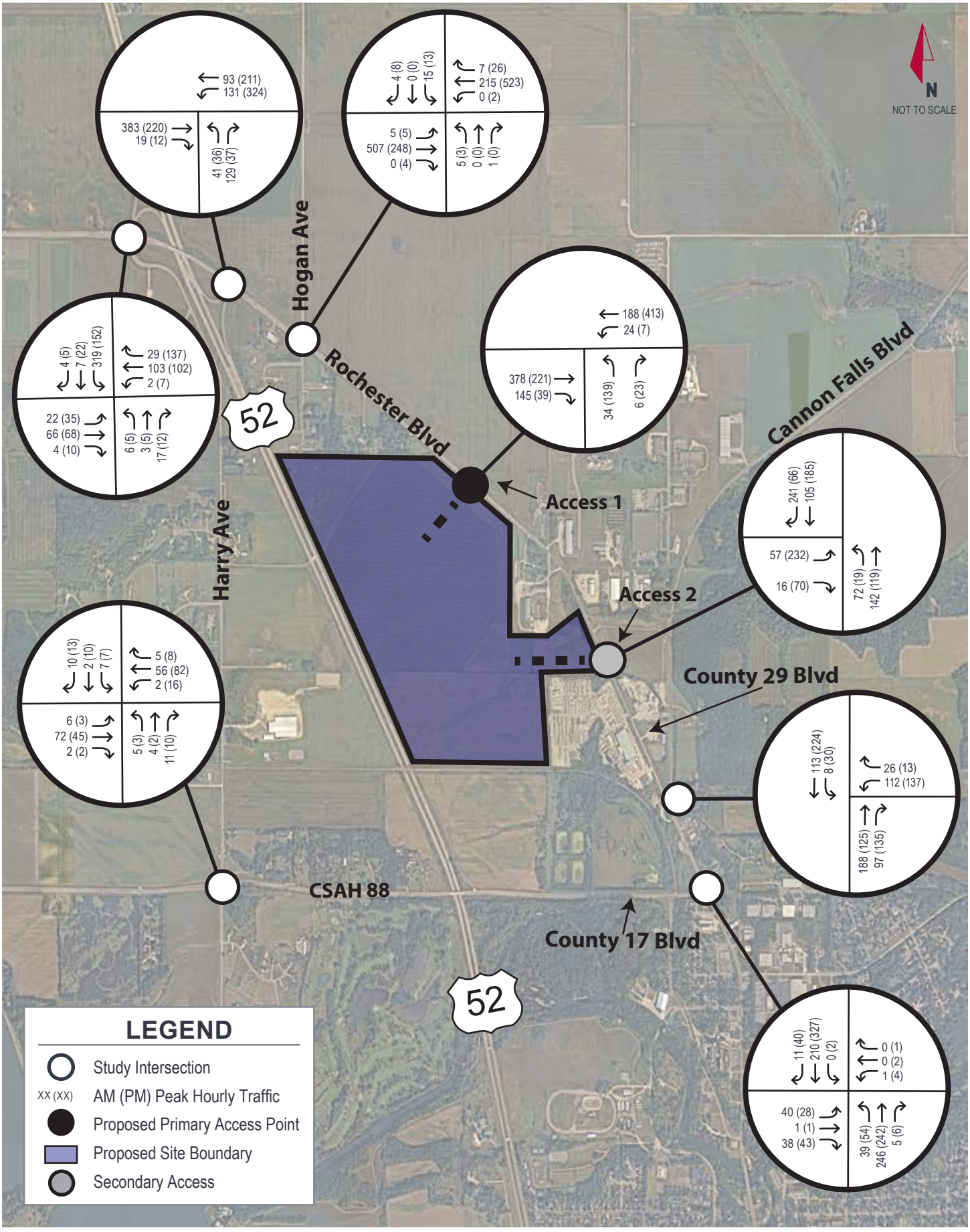
SCENARIO 1 SITE TRAFFIC DISTRBUTION



Kimley»Horn

EXHIBIT 11

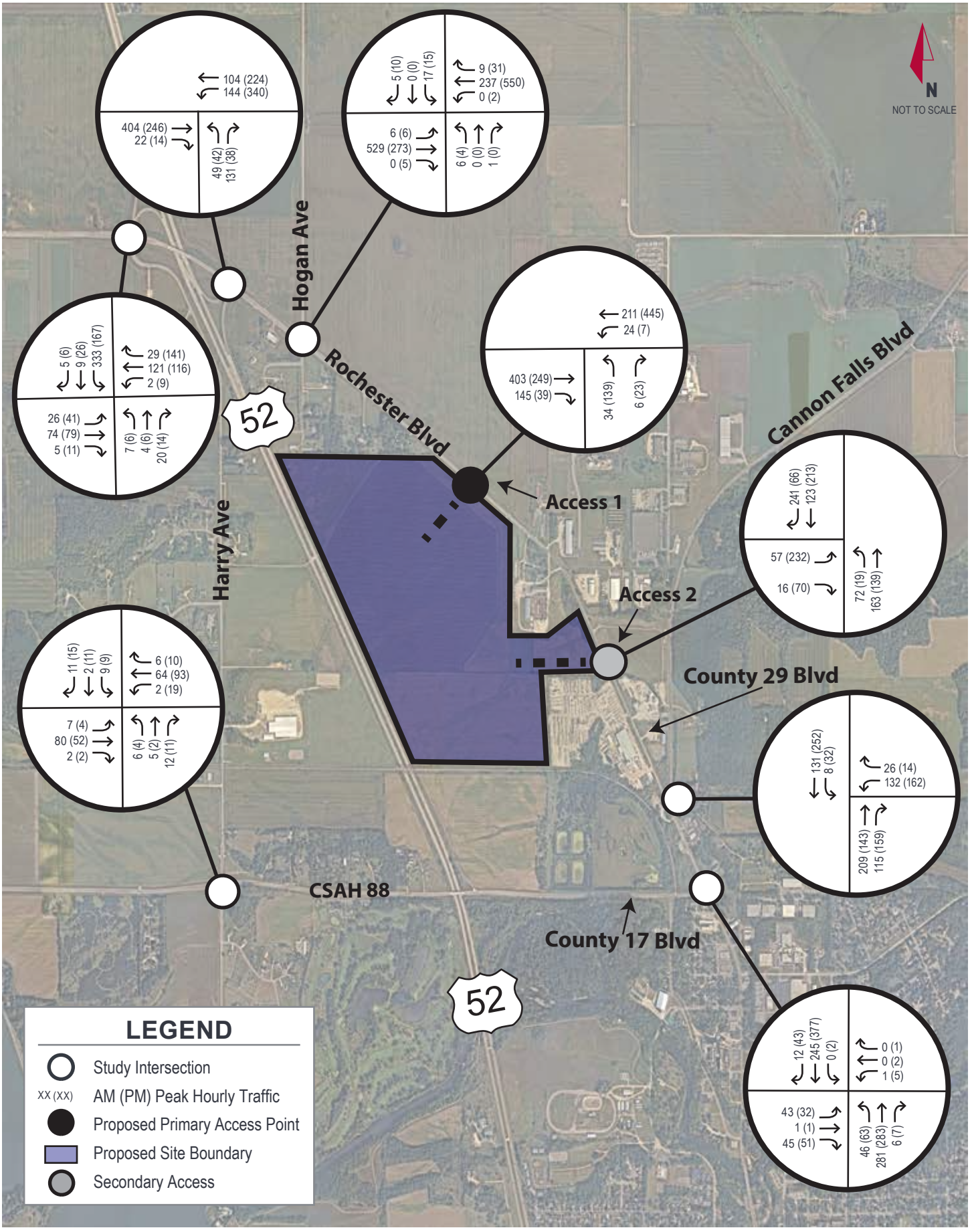
SCEANRIO 1 - SITE TRAFFIC



Kimley»Horn

EXHIBIT 12

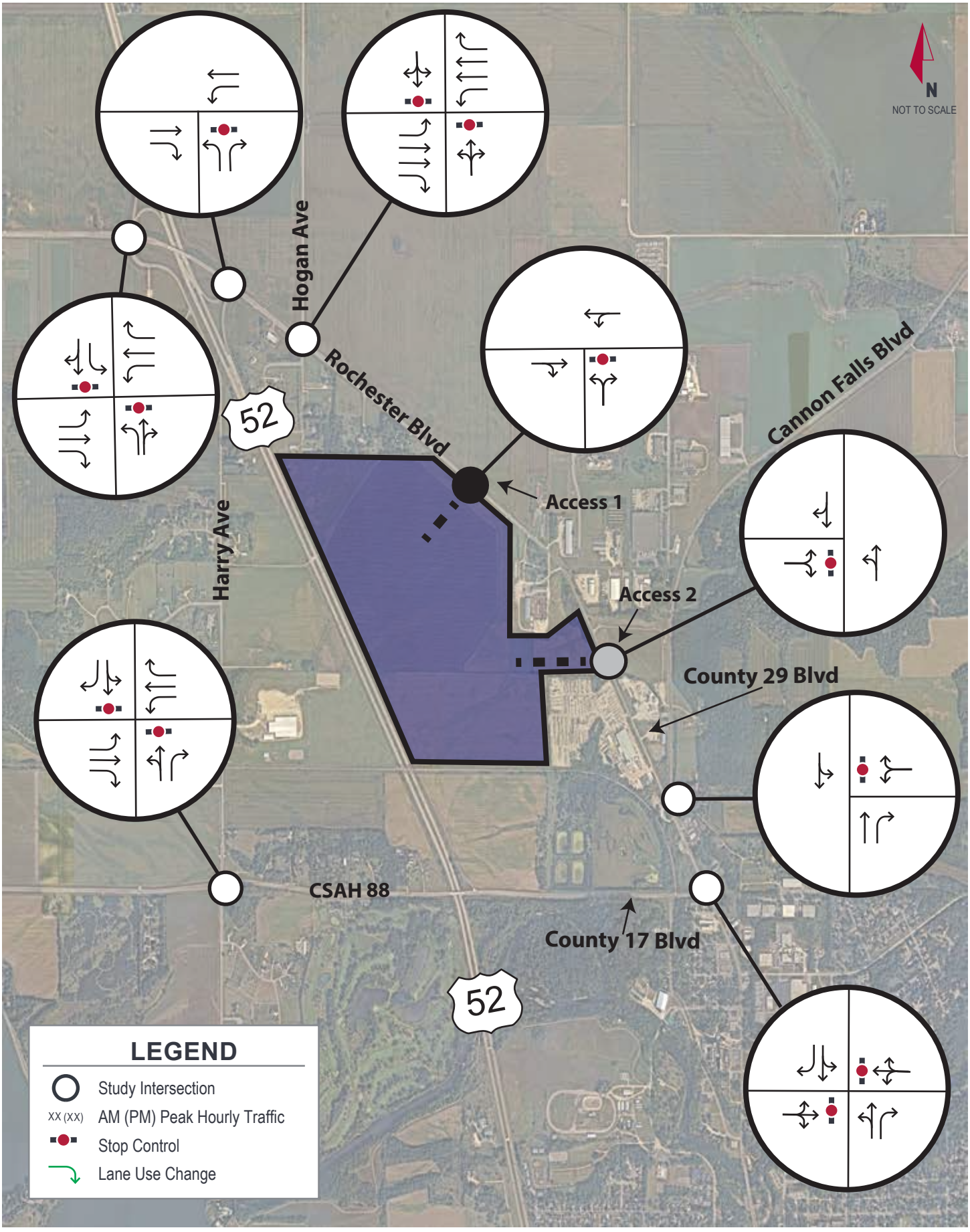
OPENING YEAR (2029) SCENARIO 1 BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 13

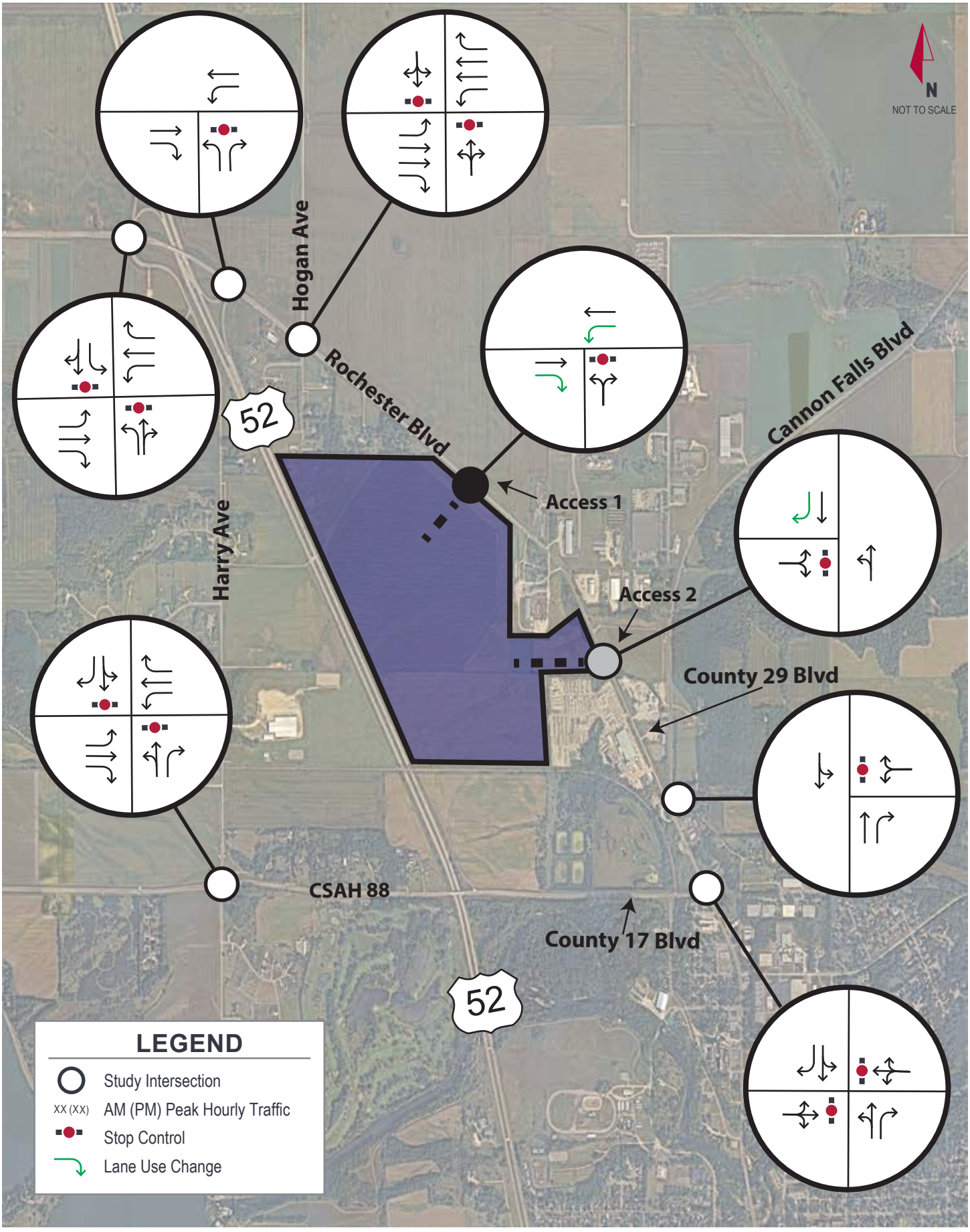
DESIGN YEAR (2044) SCENARIO 1 BUILD TRAFFIC VOLUMES



Kimley»Horn

EXHIBIT 14

PROPOSED SCENARIO 2 GEOMETRY AND INTERSECTION CONTROL



Kimley»Horn

EXHIBIT 15

PROPOSED SCENARIO 1 GEOMETRY AND INTERSECTION CONTROL

B. Turning Movement Counts

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024

Turning Movement Data

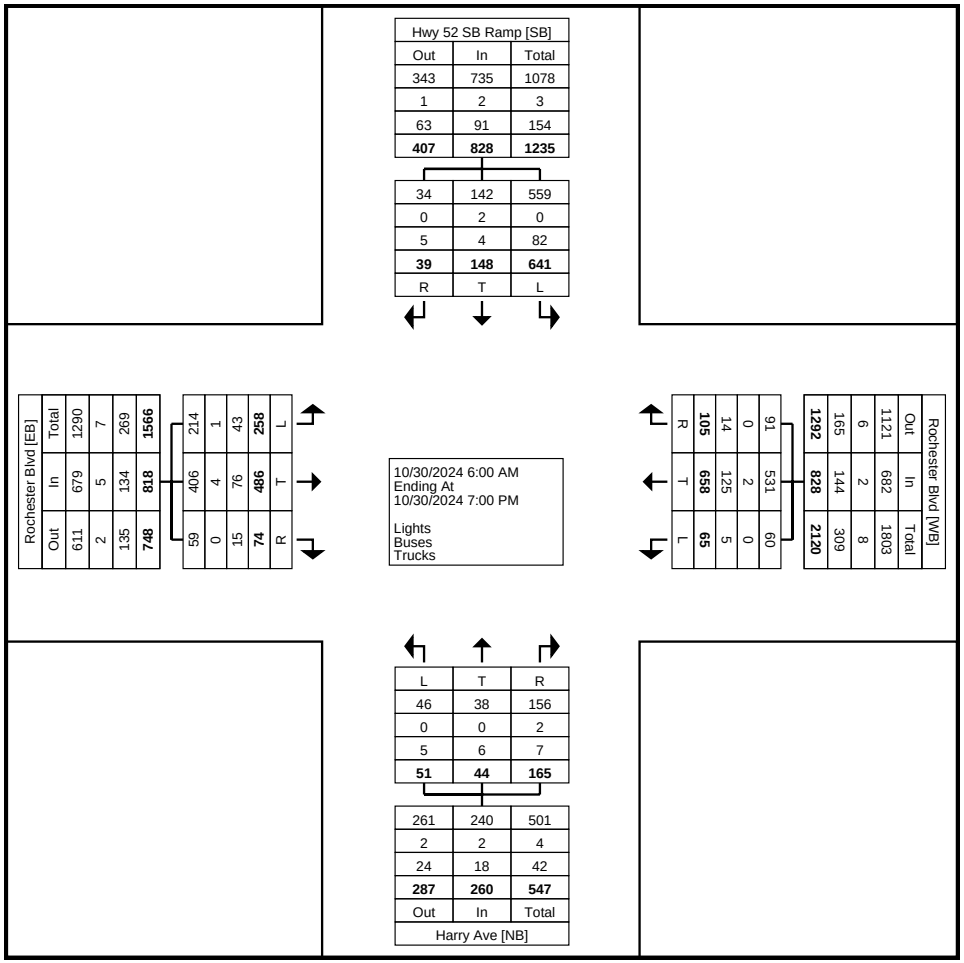
Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Harry Ave Northbound				Hwy 52 SB Ramp Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
6:00 AM	4	5	0	9	0	11	1	12	0	0	2	2	9	0	0	9	32
6:15 AM	4	8	0	12	0	12	1	13	1	0	7	8	15	0	0	15	48
6:30 AM	6	9	0	15	0	12	1	13	2	0	5	7	8	1	0	9	44
6:45 AM	4	17	0	21	1	17	0	18	0	0	3	3	34	4	0	38	80
Hourly Total	18	39	0	57	1	52	3	56	3	0	17	20	66	5	0	71	204
7:00 AM	3	9	2	14	0	21	0	21	0	1	4	5	11	0	1	12	52
7:15 AM	6	6	1	13	1	18	1	20	4	0	4	8	15	1	2	18	59
7:30 AM	8	8	1	17	0	36	0	36	2	2	5	9	14	2	1	17	79
7:45 AM	7	15	2	24	1	19	1	21	1	0	4	5	10	1	0	11	61
Hourly Total	24	38	6	68	2	94	2	98	7	3	17	27	50	4	4	58	251
8:00 AM	11	15	0	26	6	9	0	15	1	3	1	5	10	4	0	14	60
8:15 AM	5	14	1	20	1	11	3	15	0	0	3	3	9	0	0	9	47
8:30 AM	2	8	0	10	2	11	2	15	0	0	0	0	8	5	3	16	41
8:45 AM	1	7	0	8	0	12	1	13	0	0	2	2	17	3	2	22	45
Hourly Total	19	44	1	64	9	43	6	58	1	3	6	10	44	12	5	61	193
9:00 AM	4	11	1	16	1	7	2	10	1	1	2	4	9	4	1	14	44
9:15 AM	3	6	2	11	2	10	1	13	1	0	2	3	6	5	0	11	38
9:30 AM	6	5	3	14	1	9	3	13	0	1	3	4	16	1	1	18	49
9:45 AM	6	4	2	12	1	17	1	19	0	0	1	1	4	3	0	7	39
Hourly Total	19	26	8	53	5	43	7	55	2	2	8	12	35	13	2	50	170
10:00 AM	2	8	0	10	1	5	2	8	0	0	1	1	8	2	2	12	31
10:15 AM	3	5	1	9	1	7	0	8	0	0	2	2	11	0	1	12	31
10:30 AM	3	4	2	9	0	8	1	9	1	1	1	3	9	3	0	12	33
10:45 AM	3	11	5	19	2	9	4	15	1	0	3	4	8	4	0	12	50
Hourly Total	11	28	8	47	4	29	7	40	2	1	7	10	36	9	3	48	145
11:00 AM	8	6	2	16	4	9	2	15	0	0	6	6	8	4	0	12	49
11:15 AM	5	6	2	13	0	11	3	14	0	0	3	3	9	1	2	12	42
11:30 AM	5	3	1	9	3	9	2	14	1	1	2	4	7	3	4	14	41
11:45 AM	3	8	1	12	1	9	1	11	0	1	2	3	9	2	1	12	38
Hourly Total	21	23	6	50	8	38	8	54	1	2	13	16	33	10	7	50	170
12:00 PM	2	6	2	10	2	11	2	15	0	1	7	8	8	2	0	10	43
12:15 PM	1	7	2	10	0	7	1	8	0	0	4	4	7	5	2	14	36
12:30 PM	5	5	5	15	0	8	1	9	1	1	6	8	14	2	1	17	49
12:45 PM	4	8	2	14	3	9	4	16	2	0	5	7	7	6	1	14	51
Hourly Total	12	26	11	49	5	35	8	48	3	2	22	27	36	15	4	55	179
1:00 PM	6	10	2	18	1	6	1	8	3	0	4	7	12	1	0	13	46

1:15 PM	2	10	2	14	3	21	2	26	0	0	0	0	8	1	0	9	49
1:30 PM	10	9	0	19	3	11	2	16	1	1	0	2	7	4	0	11	48
1:45 PM	3	5	0	8	3	14	2	19	1	2	2	5	14	3	0	17	49
Hourly Total	21	34	4	59	10	52	7	69	5	3	6	14	41	9	0	50	192
2:00 PM	3	12	1	16	0	11	1	12	2	1	5	8	9	3	1	13	49
2:15 PM	4	6	1	11	1	13	6	20	0	1	4	5	8	3	1	12	48
2:30 PM	7	15	0	22	1	21	4	26	2	1	0	3	17	4	0	21	72
2:45 PM	3	8	0	11	2	11	4	17	0	5	3	8	19	4	0	23	59
Hourly Total	17	41	2	60	4	56	15	75	4	8	12	24	53	14	2	69	228
3:00 PM	10	29	1	40	2	13	2	17	2	2	5	9	15	2	1	18	84
3:15 PM	10	7	3	20	1	18	2	21	0	0	2	2	14	8	0	22	65
3:30 PM	4	13	6	23	1	17	3	21	0	0	4	4	16	4	1	21	69
3:45 PM	9	15	2	26	2	17	12	31	0	2	3	5	18	4	3	25	87
Hourly Total	33	64	12	109	6	65	19	90	2	4	14	20	63	18	5	86	305
4:00 PM	11	13	2	26	2	17	3	22	1	2	3	6	15	7	0	22	76
4:15 PM	10	10	4	24	3	16	3	22	3	1	3	7	19	4	2	25	78
4:30 PM	3	13	1	17	0	25	2	27	1	0	1	2	18	6	0	24	70
4:45 PM	3	16	2	21	1	15	0	16	4	1	2	7	27	2	1	30	74
Hourly Total	27	52	9	88	6	73	8	87	9	4	9	22	79	19	3	101	298
5:00 PM	8	10	1	19	2	10	5	17	1	6	7	14	24	4	0	28	78
5:15 PM	6	9	1	16	0	14	1	15	0	2	7	9	13	3	0	16	56
5:30 PM	3	8	0	11	1	17	3	21	2	0	8	10	18	3	1	22	64
5:45 PM	9	9	0	18	2	6	1	9	4	2	4	10	16	3	0	19	56
Hourly Total	26	36	2	64	5	47	10	62	7	10	26	43	71	13	1	85	254
6:00 PM	4	12	1	17	0	9	0	9	4	1	2	7	11	2	0	13	46
6:15 PM	3	13	1	17	0	11	0	11	0	1	1	2	10	3	1	14	44
6:30 PM	1	6	2	9	0	5	3	8	1	0	3	4	4	1	0	5	26
6:45 PM	2	4	1	7	0	6	2	8	0	0	2	2	9	1	2	12	29
Hourly Total	10	35	5	50	0	31	5	36	5	2	8	15	34	7	3	44	145
Grand Total	258	486	74	818	65	658	105	828	51	44	165	260	641	148	39	828	2734
Approach %	31.5	59.4	9.0	-	7.9	79.5	12.7	-	19.6	16.9	63.5	-	77.4	17.9	4.7	-	-
Total %	9.4	17.8	2.7	29.9	2.4	24.1	3.8	30.3	1.9	1.6	6.0	9.5	23.4	5.4	1.4	30.3	-
Lights	214	406	59	679	60	531	91	682	46	38	156	240	559	142	34	735	2336
% Lights	82.9	83.5	79.7	83.0	92.3	80.7	86.7	82.4	90.2	86.4	94.5	92.3	87.2	95.9	87.2	88.8	85.4
Buses	1	4	0	5	0	2	0	2	0	0	2	2	0	2	0	2	11
% Buses	0.4	0.8	0.0	0.6	0.0	0.3	0.0	0.2	0.0	0.0	1.2	0.8	0.0	1.4	0.0	0.2	0.4
Trucks	43	76	15	134	5	125	14	144	5	6	7	18	82	4	5	91	387
% Trucks	16.7	15.6	20.3	16.4	7.7	19.0	13.3	17.4	9.8	13.6	4.2	6.9	12.8	2.7	12.8	11.0	14.2

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024

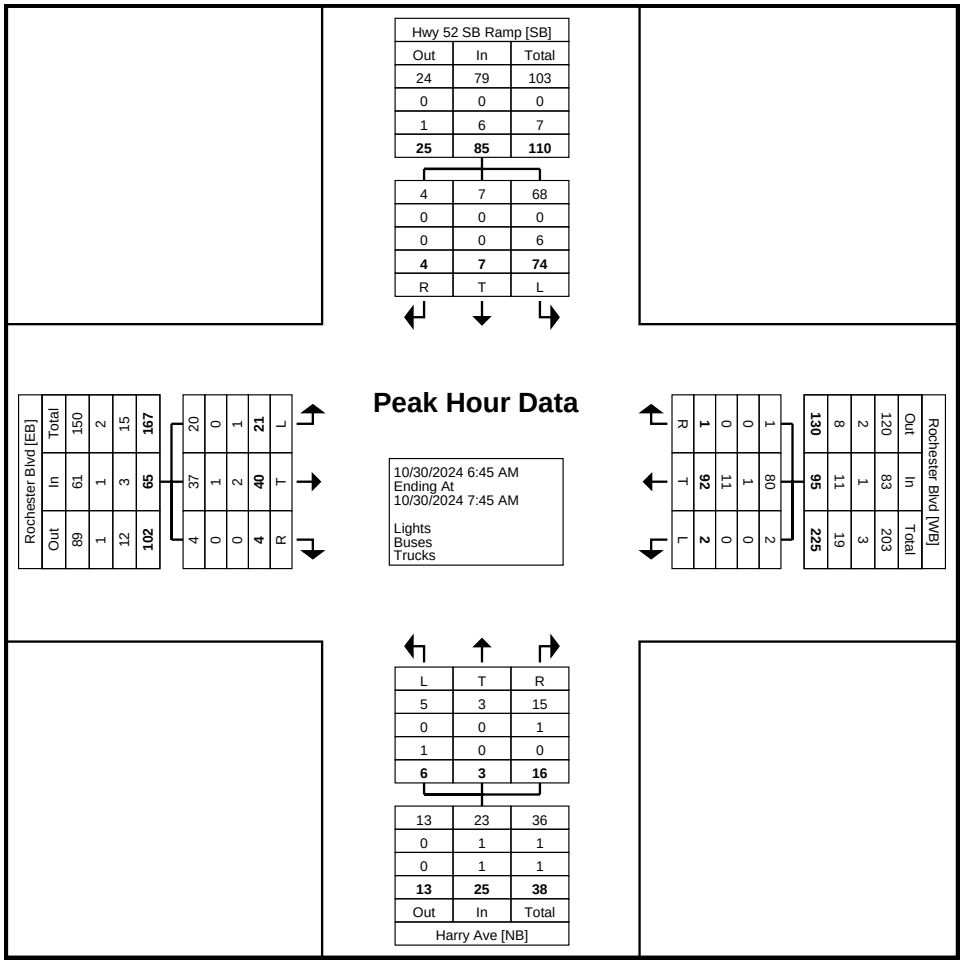
Turning Movement Peak Hour Data (6:45 AM)

Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Harry Ave Northbound				Hwy 52 SB Ramp Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
6:45 AM	4	17	0	21	1	17	0	18	0	0	3	3	34	4	0	38	80
7:00 AM	3	9	2	14	0	21	0	21	0	1	4	5	11	0	1	12	52
7:15 AM	6	6	1	13	1	18	1	20	4	0	4	8	15	1	2	18	59
7:30 AM	8	8	1	17	0	36	0	36	2	2	5	9	14	2	1	17	79
Total	21	40	4	65	2	92	1	95	6	3	16	25	74	7	4	85	270
Approach %	32.3	61.5	6.2	-	2.1	96.8	1.1	-	24.0	12.0	64.0	-	87.1	8.2	4.7	-	-
Total %	7.8	14.8	1.5	24.1	0.7	34.1	0.4	35.2	2.2	1.1	5.9	9.3	27.4	2.6	1.5	31.5	-
PHF	0.656	0.588	0.500	0.774	0.500	0.639	0.250	0.660	0.375	0.375	0.800	0.694	0.544	0.438	0.500	0.559	0.844
Lights	20	37	4	61	2	80	1	83	5	3	15	23	68	7	4	79	246
% Lights	95.2	92.5	100.0	93.8	100.0	87.0	100.0	87.4	83.3	100.0	93.8	92.0	91.9	100.0	100.0	92.9	91.1
Buses	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	3
% Buses	0.0	2.5	0.0	1.5	0.0	1.1	0.0	1.1	0.0	0.0	6.3	4.0	0.0	0.0	0.0	0.0	1.1
Trucks	1	2	0	3	0	11	0	11	1	0	0	1	6	0	0	6	21
% Trucks	4.8	5.0	0.0	4.6	0.0	12.0	0.0	11.6	16.7	0.0	0.0	4.0	8.1	0.0	0.0	7.1	7.8

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (6:45 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024

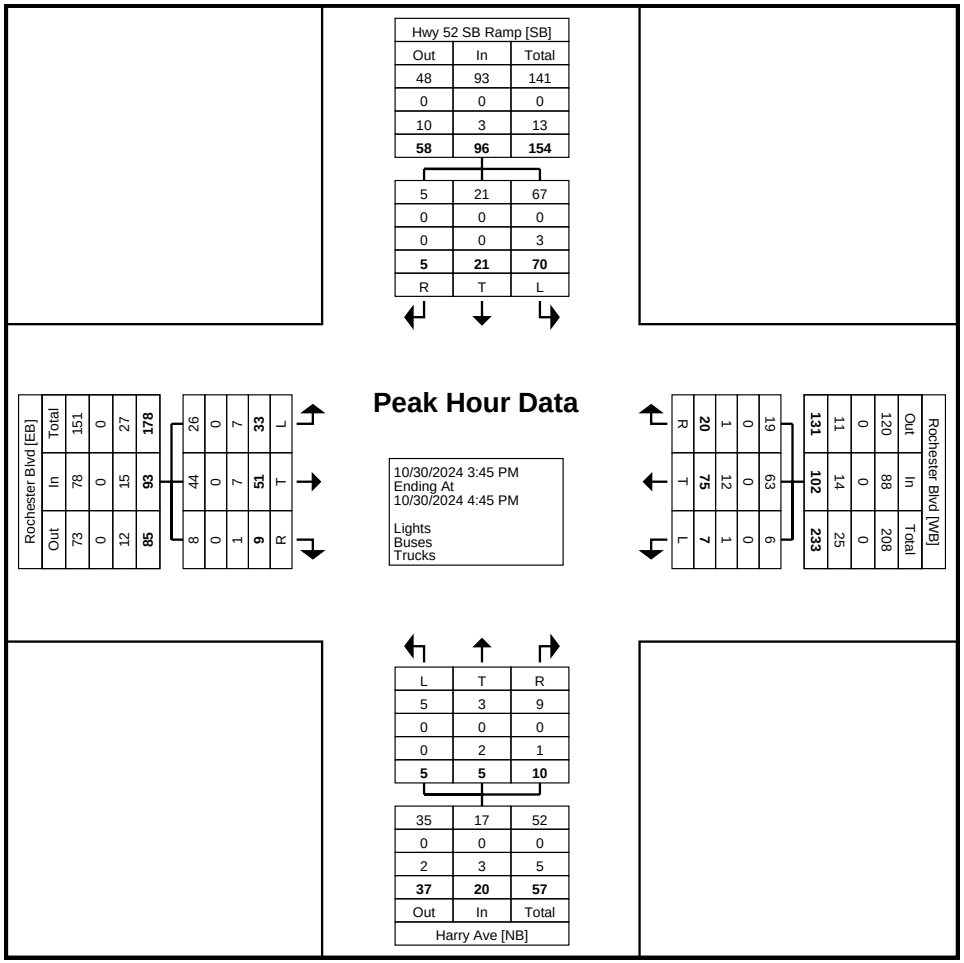
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Harry Ave Northbound				Hwy 52 SB Ramp Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
3:45 PM	9	15	2	26	2	17	12	31	0	2	3	5	18	4	3	25	87
4:00 PM	11	13	2	26	2	17	3	22	1	2	3	6	15	7	0	22	76
4:15 PM	10	10	4	24	3	16	3	22	3	1	3	7	19	4	2	25	78
4:30 PM	3	13	1	17	0	25	2	27	1	0	1	2	18	6	0	24	70
Total	33	51	9	93	7	75	20	102	5	5	10	20	70	21	5	96	311
Approach %	35.5	54.8	9.7	-	6.9	73.5	19.6	-	25.0	25.0	50.0	-	72.9	21.9	5.2	-	-
Total %	10.6	16.4	2.9	29.9	2.3	24.1	6.4	32.8	1.6	1.6	3.2	6.4	22.5	6.8	1.6	30.9	-
PHF	0.750	0.850	0.563	0.894	0.583	0.750	0.417	0.823	0.417	0.625	0.833	0.714	0.921	0.750	0.417	0.960	0.894
Lights	26	44	8	78	6	63	19	88	5	3	9	17	67	21	5	93	276
% Lights	78.8	86.3	88.9	83.9	85.7	84.0	95.0	86.3	100.0	60.0	90.0	85.0	95.7	100.0	100.0	96.9	88.7
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	7	7	1	15	1	12	1	14	0	2	1	3	3	0	0	3	35
% Trucks	21.2	13.7	11.1	16.1	14.3	16.0	5.0	13.7	0.0	40.0	10.0	15.0	4.3	0.0	0.0	3.1	11.3

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 SB & Rochester Blvd/Harry Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:45 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024

Turning Movement Data

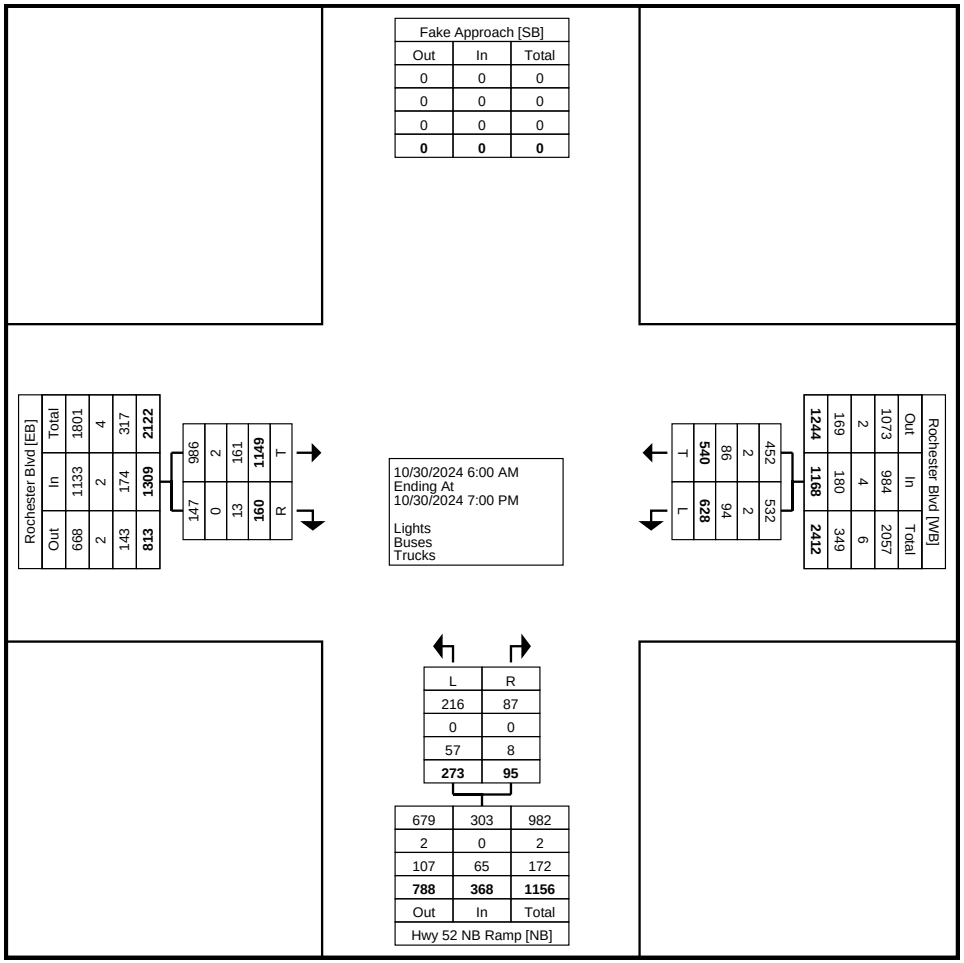
Start Time	Rochester Blvd Eastbound			Rochester Blvd Westbound			Hwy 52 NB Ramp Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
6:00 AM	16	1	17	15	8	23	6	3	9	49
6:15 AM	21	9	30	27	9	36	3	3	6	72
6:30 AM	17	7	24	22	8	30	2	3	5	59
6:45 AM	47	3	50	15	10	25	7	3	10	85
Hourly Total	101	20	121	79	35	114	18	12	30	265
7:00 AM	24	3	27	20	11	31	7	2	9	67
7:15 AM	19	4	23	19	15	34	7	1	8	65
7:30 AM	19	8	27	16	20	36	18	2	20	83
7:45 AM	26	3	29	15	10	25	10	2	12	66
Hourly Total	88	18	106	70	56	126	42	7	49	281
8:00 AM	23	3	26	16	8	24	3	1	4	54
8:15 AM	24	2	26	10	8	18	8	1	9	53
8:30 AM	17	0	17	8	8	16	7	4	11	44
8:45 AM	21	2	23	10	10	20	3	1	4	47
Hourly Total	85	7	92	44	34	78	21	7	28	198
9:00 AM	21	2	23	6	5	11	6	1	7	41
9:15 AM	15	1	16	13	7	20	3	1	4	40
9:30 AM	24	2	26	7	7	14	7	1	8	48
9:45 AM	10	2	12	5	12	17	7	0	7	36
Hourly Total	70	7	77	31	31	62	23	3	26	165
10:00 AM	16	2	18	8	5	13	1	1	2	33
10:15 AM	19	2	21	11	5	16	4	1	5	42
10:30 AM	13	1	14	7	5	12	5	3	8	34
10:45 AM	18	5	23	10	8	18	3	3	6	47
Hourly Total	66	10	76	36	23	59	13	8	21	156
11:00 AM	15	4	19	5	11	16	3	1	4	39
11:15 AM	13	4	17	14	10	24	3	2	5	46
11:30 AM	9	3	12	11	12	23	3	2	5	40
11:45 AM	18	2	20	8	7	15	5	1	6	41
Hourly Total	55	13	68	38	40	78	14	6	20	166
12:00 PM	15	5	20	11	10	21	2	1	3	44
12:15 PM	16	3	19	9	4	13	4	2	6	38
12:30 PM	19	4	23	9	9	18	3	2	5	46
12:45 PM	16	6	22	14	11	25	2	4	6	53
Hourly Total	66	18	84	43	34	77	11	9	20	181
1:00 PM	21	3	24	10	7	17	3	3	6	47

1:15 PM	19	1	20	7	16	23	8	3	11	54
1:30 PM	13	2	15	8	12	20	5	0	5	40
1:45 PM	18	2	20	7	9	16	10	1	11	47
Hourly Total	71	8	79	32	44	76	26	7	33	188
2:00 PM	23	2	25	11	9	20	5	2	7	52
2:15 PM	16	3	19	7	13	20	4	5	9	48
2:30 PM	30	2	32	15	21	36	7	1	8	76
2:45 PM	31	1	32	10	10	20	6	2	8	60
Hourly Total	100	8	108	43	53	96	22	10	32	236
3:00 PM	47	2	49	25	11	36	7	1	8	93
3:15 PM	22	1	23	19	11	30	8	0	8	61
3:30 PM	33	5	38	30	14	44	8	1	9	91
3:45 PM	30	3	33	13	25	38	8	2	10	81
Hourly Total	132	11	143	87	61	148	31	4	35	326
4:00 PM	27	4	31	11	12	23	8	1	9	63
4:15 PM	29	3	32	19	18	37	4	1	5	74
4:30 PM	33	1	34	17	15	32	10	5	15	81
4:45 PM	42	2	44	6	9	15	7	3	10	69
Hourly Total	131	10	141	53	54	107	29	10	39	287
5:00 PM	33	6	39	20	12	32	5	3	8	79
5:15 PM	24	6	30	14	11	25	4	0	4	59
5:30 PM	28	6	34	13	17	30	4	1	5	69
5:45 PM	28	3	31	4	6	10	3	3	6	47
Hourly Total	113	21	134	51	46	97	16	7	23	254
6:00 PM	25	2	27	8	7	15	3	0	3	45
6:15 PM	22	2	24	8	7	15	2	2	4	43
6:30 PM	11	3	14	3	7	10	1	1	2	26
6:45 PM	13	2	15	2	8	10	1	2	3	28
Hourly Total	71	9	80	21	29	50	7	5	12	142
Grand Total	1149	160	1309	628	540	1168	273	95	368	2845
Approach %	87.8	12.2	-	53.8	46.2	-	74.2	25.8	-	-
Total %	40.4	5.6	46.0	22.1	19.0	41.1	9.6	3.3	12.9	-
Lights	986	147	1133	532	452	984	216	87	303	2420
% Lights	85.8	91.9	86.6	84.7	83.7	84.2	79.1	91.6	82.3	85.1
Buses	2	0	2	2	2	4	0	0	0	6
% Buses	0.2	0.0	0.2	0.3	0.4	0.3	0.0	0.0	0.0	0.2
Trucks	161	13	174	94	86	180	57	8	65	419
% Trucks	14.0	8.1	13.3	15.0	15.9	15.4	20.9	8.4	17.7	14.7

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024

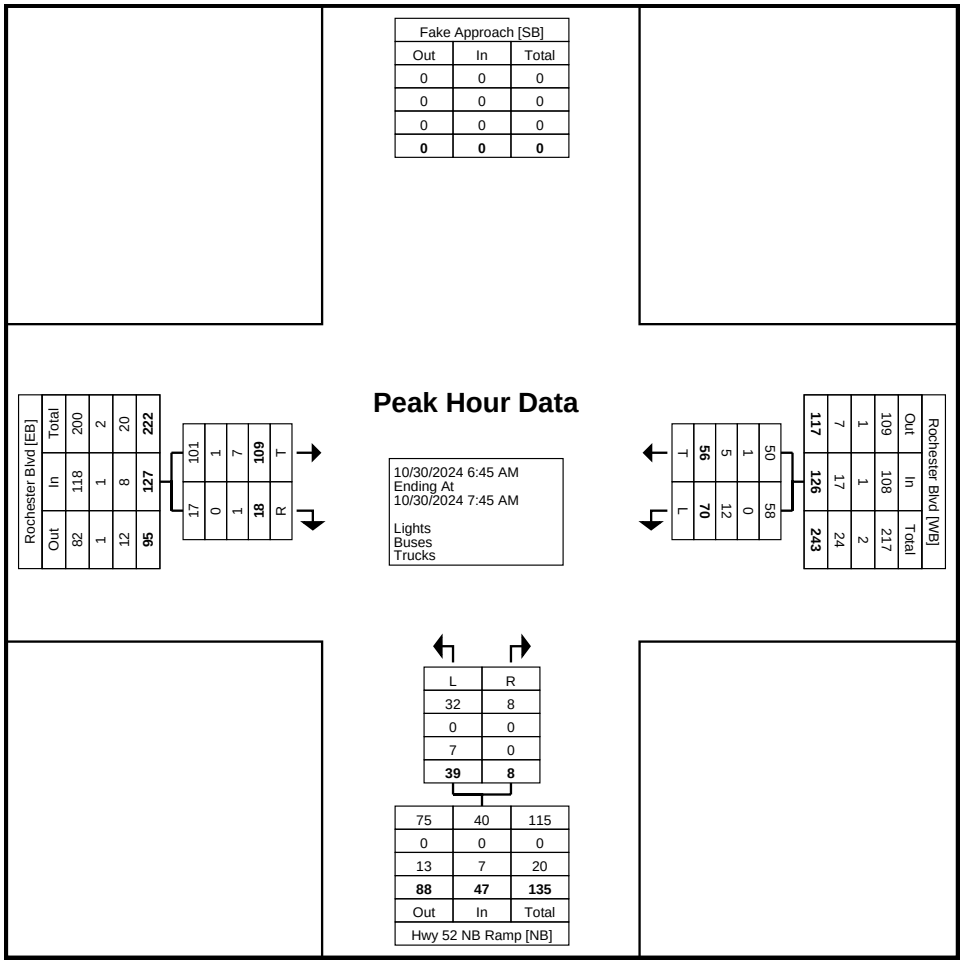
Turning Movement Peak Hour Data (6:45 AM)

Start Time	Rochester Blvd Eastbound			Rochester Blvd Westbound			Hwy 52 NB Ramp Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
6:45 AM	47	3	50	15	10	25	7	3	10	85
7:00 AM	24	3	27	20	11	31	7	2	9	67
7:15 AM	19	4	23	19	15	34	7	1	8	65
7:30 AM	19	8	27	16	20	36	18	2	20	83
Total	109	18	127	70	56	126	39	8	47	300
Approach %	85.8	14.2	-	55.6	44.4	-	83.0	17.0	-	-
Total %	36.3	6.0	42.3	23.3	18.7	42.0	13.0	2.7	15.7	-
PHF	0.580	0.563	0.635	0.875	0.700	0.875	0.542	0.667	0.588	0.882
Lights	101	17	118	58	50	108	32	8	40	266
% Lights	92.7	94.4	92.9	82.9	89.3	85.7	82.1	100.0	85.1	88.7
Buses	1	0	1	0	1	1	0	0	0	2
% Buses	0.9	0.0	0.8	0.0	1.8	0.8	0.0	0.0	0.0	0.7
Trucks	7	1	8	12	5	17	7	0	7	32
% Trucks	6.4	5.6	6.3	17.1	8.9	13.5	17.9	0.0	14.9	10.7

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (6:45 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024

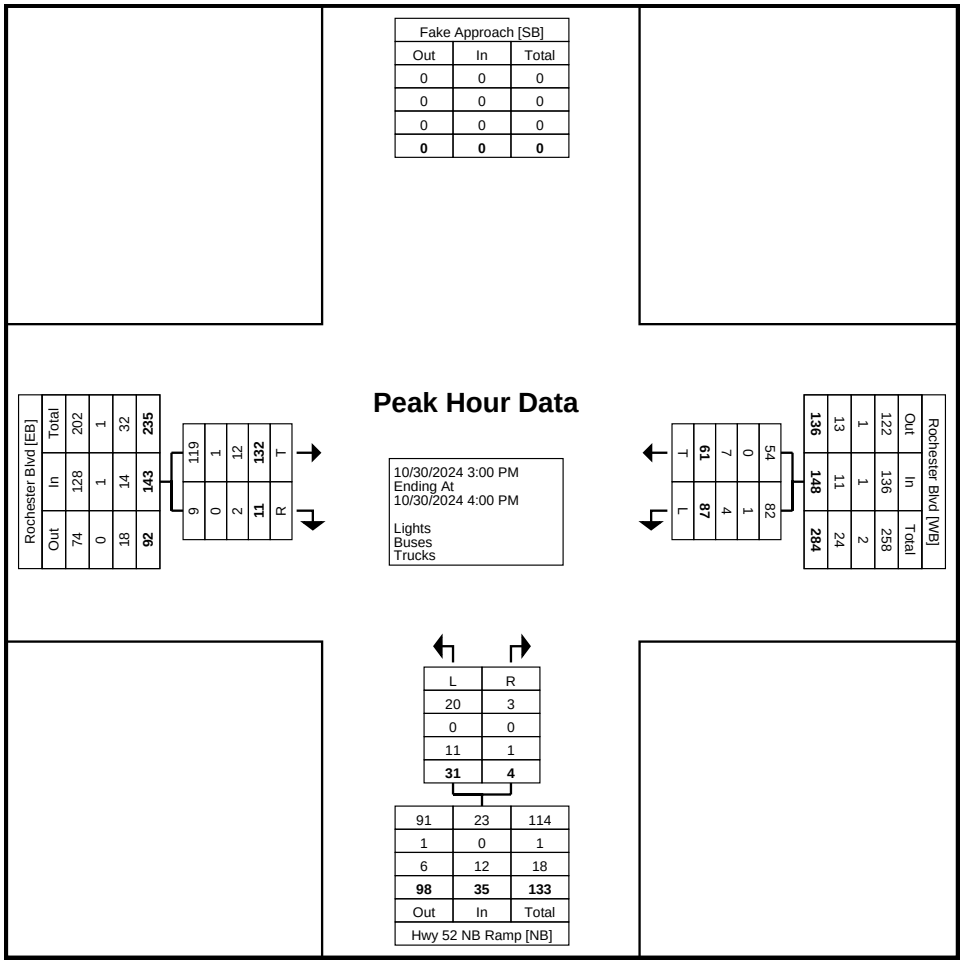
Turning Movement Peak Hour Data (3:00 PM)

Start Time	Rochester Blvd Eastbound			Rochester Blvd Westbound			Hwy 52 NB Ramp Northbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
3:00 PM	47	2	49	25	11	36	7	1	8	93
3:15 PM	22	1	23	19	11	30	8	0	8	61
3:30 PM	33	5	38	30	14	44	8	1	9	91
3:45 PM	30	3	33	13	25	38	8	2	10	81
Total	132	11	143	87	61	148	31	4	35	326
Approach %	92.3	7.7	-	58.8	41.2	-	88.6	11.4	-	-
Total %	40.5	3.4	43.9	26.7	18.7	45.4	9.5	1.2	10.7	-
PHF	0.702	0.550	0.730	0.725	0.610	0.841	0.969	0.500	0.875	0.876
Lights	119	9	128	82	54	136	20	3	23	287
% Lights	90.2	81.8	89.5	94.3	88.5	91.9	64.5	75.0	65.7	88.0
Buses	1	0	1	1	0	1	0	0	0	2
% Buses	0.8	0.0	0.7	1.1	0.0	0.7	0.0	0.0	0.0	0.6
Trucks	12	2	14	4	7	11	11	1	12	37
% Trucks	9.1	18.2	9.8	4.6	11.5	7.4	35.5	25.0	34.3	11.3

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Hwy 52 NB & Rochester Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:00 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024

Turning Movement Data

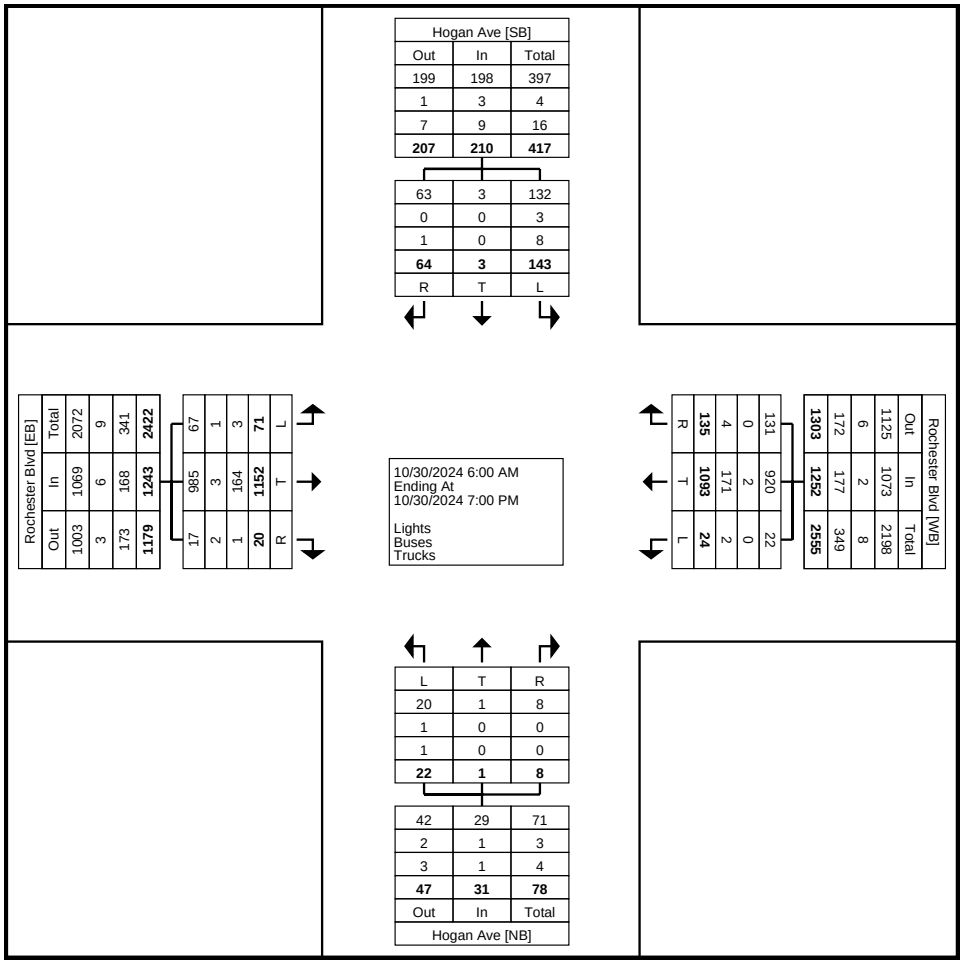
Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Hogan Ave Northbound				Hogan Ave Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
6:00 AM	1	18	0	19	0	25	1	26	0	0	0	0	1	0	0	1	46
6:15 AM	3	21	0	24	0	30	3	33	1	0	0	1	4	0	3	7	65
6:30 AM	0	18	0	18	0	32	2	34	0	0	0	0	3	0	2	5	57
6:45 AM	2	48	0	50	0	23	0	23	1	0	0	1	4	0	2	6	80
Hourly Total	6	105	0	111	0	110	6	116	2	0	0	2	12	0	7	19	248
7:00 AM	3	21	0	24	0	29	3	32	2	0	0	2	3	0	0	3	61
7:15 AM	0	22	0	22	0	33	3	36	0	0	0	0	4	0	1	5	63
7:30 AM	0	21	0	21	0	32	1	33	2	0	1	3	3	0	1	4	61
7:45 AM	2	25	0	27	0	20	1	21	1	0	0	1	4	0	5	9	58
Hourly Total	5	89	0	94	0	114	8	122	5	0	1	6	14	0	7	21	243
8:00 AM	1	23	1	25	2	24	3	29	0	0	0	0	2	0	0	2	56
8:15 AM	1	24	0	25	0	13	0	13	1	0	0	1	1	0	2	3	42
8:30 AM	0	20	1	21	0	17	1	18	1	0	0	1	0	0	0	0	40
8:45 AM	1	22	0	23	0	19	1	20	0	0	0	0	4	0	3	7	50
Hourly Total	3	89	2	94	2	73	5	80	2	0	0	2	7	0	5	12	188
9:00 AM	0	20	1	21	2	11	3	16	0	0	1	1	4	0	0	4	42
9:15 AM	0	15	0	15	0	21	2	23	0	0	0	0	0	0	1	1	39
9:30 AM	0	25	0	25	0	12	0	12	0	0	0	0	1	0	1	2	39
9:45 AM	0	10	0	10	0	15	0	15	0	0	0	0	3	0	2	5	30
Hourly Total	0	70	1	71	2	59	5	66	0	0	1	1	8	0	4	12	150
10:00 AM	3	15	0	18	4	15	1	20	0	0	0	0	1	0	0	1	39
10:15 AM	0	21	0	21	1	14	2	17	0	0	0	0	1	0	2	3	41
10:30 AM	0	18	0	18	0	13	3	16	1	0	0	1	1	0	0	1	36
10:45 AM	4	18	0	22	1	16	2	19	0	0	0	0	1	0	2	3	44
Hourly Total	7	72	0	79	6	58	8	72	1	0	0	1	4	0	4	8	160
11:00 AM	1	14	0	15	0	15	2	17	0	0	0	0	4	0	2	6	38
11:15 AM	1	14	0	15	0	22	4	26	0	0	0	0	4	0	1	5	46
11:30 AM	1	11	0	12	0	24	1	25	0	0	0	0	3	0	0	3	40
11:45 AM	1	14	0	15	1	13	1	15	0	0	0	0	0	0	4	4	34
Hourly Total	4	53	0	57	1	74	8	83	0	0	0	0	11	0	7	18	158
12:00 PM	0	14	1	15	0	19	2	21	0	1	0	1	5	0	1	6	43
12:15 PM	0	18	0	18	0	11	3	14	1	0	0	1	2	0	1	3	36
12:30 PM	0	23	0	23	0	17	2	19	0	0	0	0	2	0	0	2	44
12:45 PM	1	16	1	18	0	22	2	24	0	0	0	0	3	0	2	5	47
Hourly Total	1	71	2	74	0	69	9	78	1	1	0	2	12	0	4	16	170
1:00 PM	2	22	0	24	2	17	1	20	0	0	0	0	0	0	0	0	44

1:15 PM	4	17	1	22	0	21	3	24	0	0	0	0	5	0	2	7	53
1:30 PM	1	15	0	16	1	18	0	19	2	0	0	2	5	1	1	7	44
1:45 PM	0	18	0	18	0	17	2	19	0	0	0	0	2	0	1	3	40
Hourly Total	7	72	1	80	3	73	6	82	2	0	0	2	12	1	4	17	181
2:00 PM	2	23	0	25	1	18	4	23	0	0	1	1	0	0	1	1	50
2:15 PM	4	16	1	21	1	18	6	25	1	0	0	1	3	0	0	3	50
2:30 PM	2	29	0	31	0	36	3	39	0	0	0	0	3	0	0	3	73
2:45 PM	2	29	1	32	0	18	4	22	0	0	0	0	7	0	2	9	63
Hourly Total	10	97	2	109	2	90	17	109	1	0	1	2	13	0	3	16	236
3:00 PM	3	47	3	53	0	39	5	44	1	0	0	1	3	0	0	3	101
3:15 PM	0	23	0	23	1	24	6	31	1	0	0	1	3	0	1	4	59
3:30 PM	1	32	0	33	0	46	7	53	0	0	0	0	1	0	1	2	88
3:45 PM	1	33	1	35	1	28	7	36	1	0	0	1	5	0	6	11	83
Hourly Total	5	135	4	144	2	137	25	164	3	0	0	3	12	0	8	20	331
4:00 PM	0	26	1	27	0	24	6	30	0	0	0	0	7	0	0	7	64
4:15 PM	0	29	1	30	0	34	7	41	1	0	0	1	1	0	2	3	75
4:30 PM	4	32	0	36	0	29	2	31	1	0	0	1	3	1	0	4	72
4:45 PM	2	38	2	42	1	15	3	19	1	0	0	1	2	0	0	2	64
Hourly Total	6	125	4	135	1	102	18	121	3	0	0	3	13	1	2	16	275
5:00 PM	4	32	2	38	0	29	3	32	0	0	1	1	4	0	3	7	78
5:15 PM	1	21	1	23	1	25	2	28	0	0	0	0	8	0	0	8	59
5:30 PM	2	28	0	30	0	27	3	30	1	0	0	1	2	0	2	4	65
5:45 PM	1	27	0	28	0	10	2	12	0	0	0	0	4	1	1	6	46
Hourly Total	8	108	3	119	1	91	10	102	1	0	1	2	18	1	6	25	248
6:00 PM	4	21	0	25	1	11	2	14	0	0	2	2	2	0	2	4	45
6:15 PM	1	22	1	24	1	14	5	20	0	0	1	1	1	0	0	1	46
6:30 PM	1	10	0	11	2	11	3	16	0	0	1	1	3	0	1	4	32
6:45 PM	3	13	0	16	0	7	0	7	1	0	0	1	1	0	0	1	25
Hourly Total	9	66	1	76	4	43	10	57	1	0	4	5	7	0	3	10	148
Grand Total	71	1152	20	1243	24	1093	135	1252	22	1	8	31	143	3	64	210	2736
Approach %	5.7	92.7	1.6	-	1.9	87.3	10.8	-	71.0	3.2	25.8	-	68.1	1.4	30.5	-	-
Total %	2.6	42.1	0.7	45.4	0.9	39.9	4.9	45.8	0.8	0.0	0.3	1.1	5.2	0.1	2.3	7.7	-
Lights	67	985	17	1069	22	920	131	1073	20	1	8	29	132	3	63	198	2369
% Lights	94.4	85.5	85.0	86.0	91.7	84.2	97.0	85.7	90.9	100.0	100.0	93.5	92.3	100.0	98.4	94.3	86.6
Buses	1	3	2	6	0	2	0	2	1	0	0	1	3	0	0	3	12
% Buses	1.4	0.3	10.0	0.5	0.0	0.2	0.0	0.2	4.5	0.0	0.0	3.2	2.1	0.0	0.0	1.4	0.4
Trucks	3	164	1	168	2	171	4	177	1	0	0	1	8	0	1	9	355
% Trucks	4.2	14.2	5.0	13.5	8.3	15.6	3.0	14.1	4.5	0.0	0.0	3.2	5.6	0.0	1.6	4.3	13.0

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024

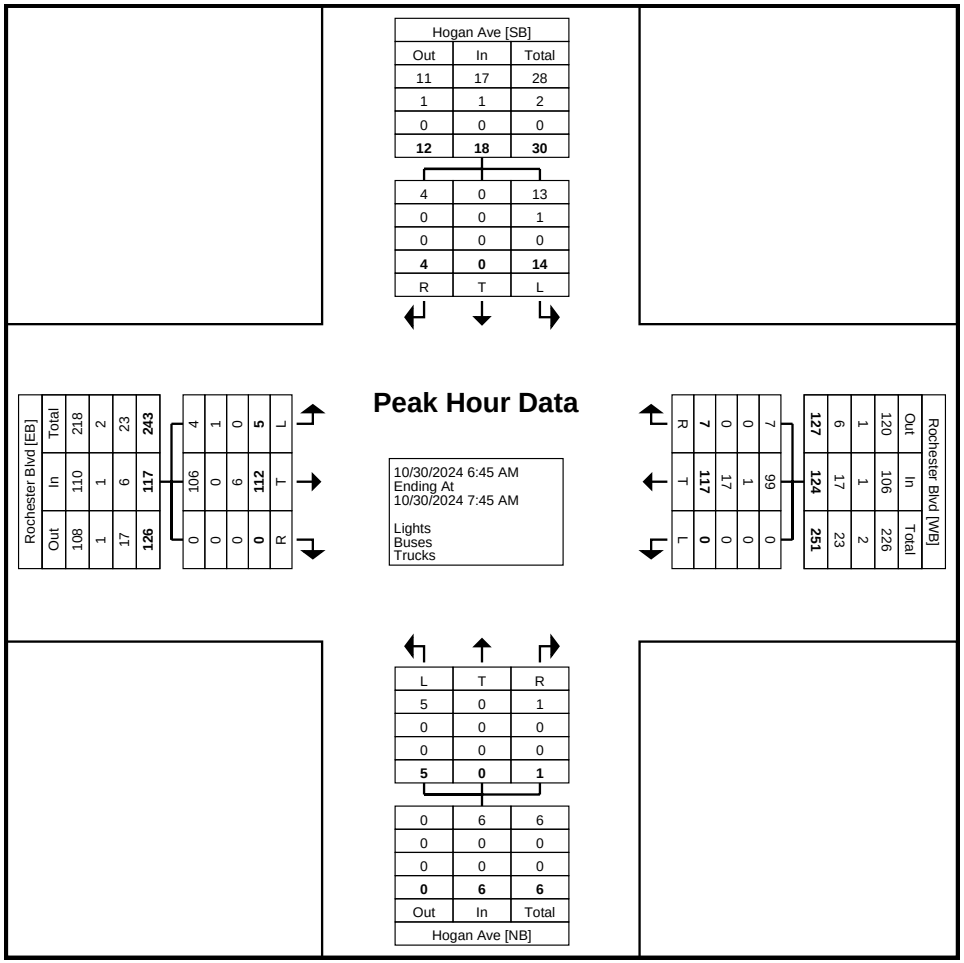
Turning Movement Peak Hour Data (6:45 AM)

Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Hogan Ave Northbound				Hogan Ave Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
6:45 AM	2	48	0	50	0	23	0	23	1	0	0	1	4	0	2	6	80
7:00 AM	3	21	0	24	0	29	3	32	2	0	0	2	3	0	0	3	61
7:15 AM	0	22	0	22	0	33	3	36	0	0	0	0	4	0	1	5	63
7:30 AM	0	21	0	21	0	32	1	33	2	0	1	3	3	0	1	4	61
Total	5	112	0	117	0	117	7	124	5	0	1	6	14	0	4	18	265
Approach %	4.3	95.7	0.0	-	0.0	94.4	5.6	-	83.3	0.0	16.7	-	77.8	0.0	22.2	-	-
Total %	1.9	42.3	0.0	44.2	0.0	44.2	2.6	46.8	1.9	0.0	0.4	2.3	5.3	0.0	1.5	6.8	-
PHF	0.417	0.583	0.000	0.585	0.000	0.886	0.583	0.861	0.625	0.000	0.250	0.500	0.875	0.000	0.500	0.750	0.828
Lights	4	106	0	110	0	99	7	106	5	0	1	6	13	0	4	17	239
% Lights	80.0	94.6	-	94.0	-	84.6	100.0	85.5	100.0	-	100.0	100.0	92.9	-	100.0	94.4	90.2
Buses	1	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
% Buses	20.0	0.0	-	0.9	-	0.9	0.0	0.8	0.0	-	0.0	0.0	7.1	-	0.0	5.6	1.1
Trucks	0	6	0	6	0	17	0	17	0	0	0	0	0	0	0	0	23
% Trucks	0.0	5.4	-	5.1	-	14.5	0.0	13.7	0.0	-	0.0	0.0	0.0	-	0.0	0.0	8.7

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (6:45 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024

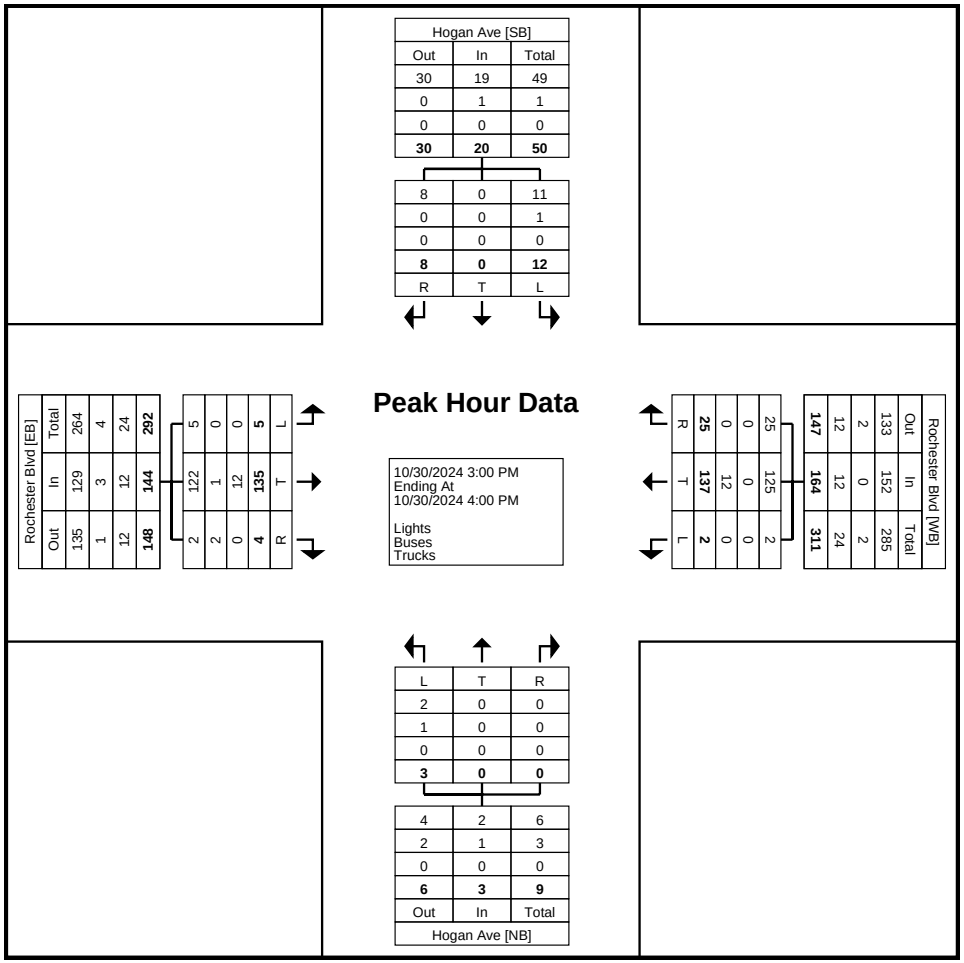
Turning Movement Peak Hour Data (3:00 PM)

Start Time	Rochester Blvd Eastbound				Rochester Blvd Westbound				Hogan Ave Northbound				Hogan Ave Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
3:00 PM	3	47	3	53	0	39	5	44	1	0	0	1	3	0	0	3	101
3:15 PM	0	23	0	23	1	24	6	31	1	0	0	1	3	0	1	4	59
3:30 PM	1	32	0	33	0	46	7	53	0	0	0	0	1	0	1	2	88
3:45 PM	1	33	1	35	1	28	7	36	1	0	0	1	5	0	6	11	83
Total	5	135	4	144	2	137	25	164	3	0	0	3	12	0	8	20	331
Approach %	3.5	93.8	2.8	-	1.2	83.5	15.2	-	100.0	0.0	0.0	-	60.0	0.0	40.0	-	-
Total %	1.5	40.8	1.2	43.5	0.6	41.4	7.6	49.5	0.9	0.0	0.0	0.9	3.6	0.0	2.4	6.0	-
PHF	0.417	0.718	0.333	0.679	0.500	0.745	0.893	0.774	0.750	0.000	0.000	0.750	0.600	0.000	0.333	0.455	0.819
Lights	5	122	2	129	2	125	25	152	2	0	0	2	11	0	8	19	302
% Lights	100.0	90.4	50.0	89.6	100.0	91.2	100.0	92.7	66.7	-	-	66.7	91.7	-	100.0	95.0	91.2
Buses	0	1	2	3	0	0	0	0	1	0	0	1	1	0	0	1	5
% Buses	0.0	0.7	50.0	2.1	0.0	0.0	0.0	0.0	33.3	-	-	33.3	8.3	-	0.0	5.0	1.5
Trucks	0	12	0	12	0	12	0	12	0	0	0	0	0	0	0	0	24
% Trucks	0.0	8.9	0.0	8.3	0.0	8.8	0.0	7.3	0.0	-	-	0.0	0.0	-	0.0	0.0	7.3

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: Rochester Blvd & Hogan Ave
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:00 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024

Turning Movement Data

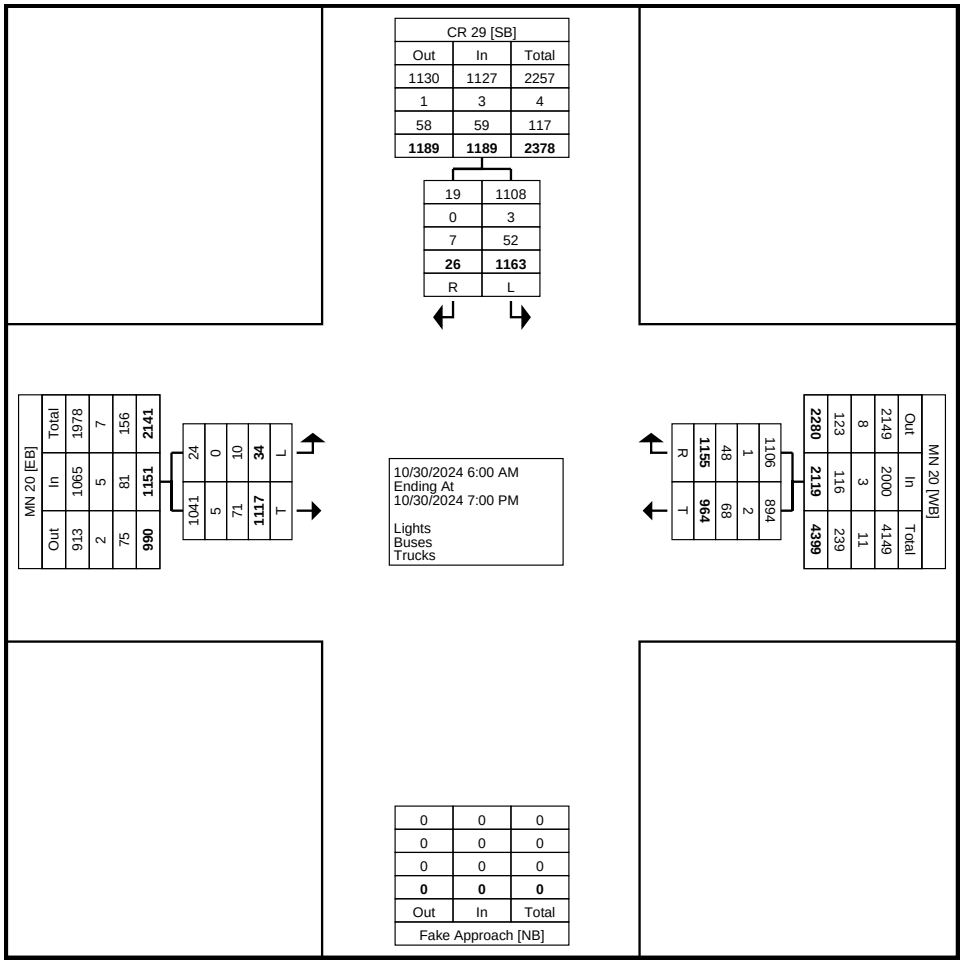
Start Time	MN 20 Eastbound			MN 20 Westbound			CR 29 Southbound			Int. Total
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	
6:00 AM	0	7	7	26	24	50	17	0	17	74
6:15 AM	1	20	21	26	35	61	15	0	15	97
6:30 AM	1	5	6	28	32	60	20	1	21	87
6:45 AM	0	23	23	25	21	46	27	1	28	97
Hourly Total	2	55	57	105	112	217	79	2	81	355
7:00 AM	1	18	19	33	23	56	19	1	20	95
7:15 AM	0	21	21	26	22	48	28	0	28	97
7:30 AM	1	30	31	26	26	52	32	0	32	115
7:45 AM	0	20	20	20	24	44	32	1	33	97
Hourly Total	2	89	91	105	95	200	111	2	113	404
8:00 AM	0	21	21	28	20	48	14	0	14	83
8:15 AM	0	20	20	10	16	26	12	0	12	58
8:30 AM	1	13	14	20	18	38	20	0	20	72
8:45 AM	0	20	20	14	15	29	25	0	25	74
Hourly Total	1	74	75	72	69	141	71	0	71	287
9:00 AM	1	24	25	17	15	32	14	0	14	71
9:15 AM	0	9	9	21	15	36	5	0	5	50
9:30 AM	1	12	13	14	10	24	14	0	14	51
9:45 AM	0	18	18	11	20	31	15	0	15	64
Hourly Total	2	63	65	63	60	123	48	0	48	236
10:00 AM	0	11	11	17	23	40	15	1	16	67
10:15 AM	2	17	19	13	12	25	12	0	12	56
10:30 AM	2	13	15	14	21	35	13	0	13	63
10:45 AM	1	11	12	10	15	25	14	0	14	51
Hourly Total	5	52	57	54	71	125	54	1	55	237
11:00 AM	0	15	15	11	21	32	15	2	17	64
11:15 AM	0	16	16	23	15	38	23	0	23	77
11:30 AM	1	13	14	10	23	33	23	0	23	70
11:45 AM	0	16	16	14	11	25	21	0	21	62
Hourly Total	1	60	61	58	70	128	82	2	84	273
12:00 PM	0	19	19	13	28	41	29	0	29	89
12:15 PM	0	15	15	19	15	34	16	1	17	66
12:30 PM	2	21	23	16	21	37	21	0	21	81
12:45 PM	1	19	20	15	17	32	29	0	29	81
Hourly Total	3	74	77	63	81	144	95	1	96	317
1:00 PM	1	21	22	16	28	44	27	0	27	93

1:15 PM	3	24	27	23	19	42	26	0	26	95
1:30 PM	2	18	20	12	19	31	21	1	22	73
1:45 PM	0	17	17	23	27	50	17	0	17	84
Hourly Total	6	80	86	74	93	167	91	1	92	345
2:00 PM	0	24	24	25	32	57	9	1	10	91
2:15 PM	1	19	20	19	16	35	23	0	23	78
2:30 PM	0	29	29	23	16	39	25	1	26	94
2:45 PM	2	29	31	13	27	40	28	1	29	100
Hourly Total	3	101	104	80	91	171	85	3	88	363
3:00 PM	2	44	46	37	35	72	34	2	36	154
3:15 PM	2	29	31	23	30	53	34	1	35	119
3:30 PM	0	33	33	22	33	55	28	1	29	117
3:45 PM	3	40	43	18	30	48	34	2	36	127
Hourly Total	7	146	153	100	128	228	130	6	136	517
4:00 PM	0	47	47	21	30	51	29	1	30	128
4:15 PM	1	24	25	26	28	54	26	2	28	107
4:30 PM	0	28	28	22	39	61	31	1	32	121
4:45 PM	1	37	38	14	32	46	25	1	26	110
Hourly Total	2	136	138	83	129	212	111	5	116	466
5:00 PM	0	37	37	21	34	55	28	0	28	120
5:15 PM	0	30	30	19	25	44	41	0	41	115
5:30 PM	0	27	27	20	24	44	30	1	31	102
5:45 PM	0	26	26	6	17	23	25	1	26	75
Hourly Total	0	120	120	66	100	166	124	2	126	412
6:00 PM	0	24	24	11	14	25	14	0	14	63
6:15 PM	0	21	21	16	12	28	29	0	29	78
6:30 PM	0	9	9	10	16	26	23	1	24	59
6:45 PM	0	13	13	4	14	18	16	0	16	47
Hourly Total	0	67	67	41	56	97	82	1	83	247
Grand Total	34	1117	1151	964	1155	2119	1163	26	1189	4459
Approach %	3.0	97.0	-	45.5	54.5	-	97.8	2.2	-	-
Total %	0.8	25.1	25.8	21.6	25.9	47.5	26.1	0.6	26.7	-
Lights	24	1041	1065	894	1106	2000	1108	19	1127	4192
% Lights	70.6	93.2	92.5	92.7	95.8	94.4	95.3	73.1	94.8	94.0
Buses	0	5	5	2	1	3	3	0	3	11
% Buses	0.0	0.4	0.4	0.2	0.1	0.1	0.3	0.0	0.3	0.2
Trucks	10	71	81	68	48	116	52	7	59	256
% Trucks	29.4	6.4	7.0	7.1	4.2	5.5	4.5	26.9	5.0	5.7

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024
Page No: 3



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024

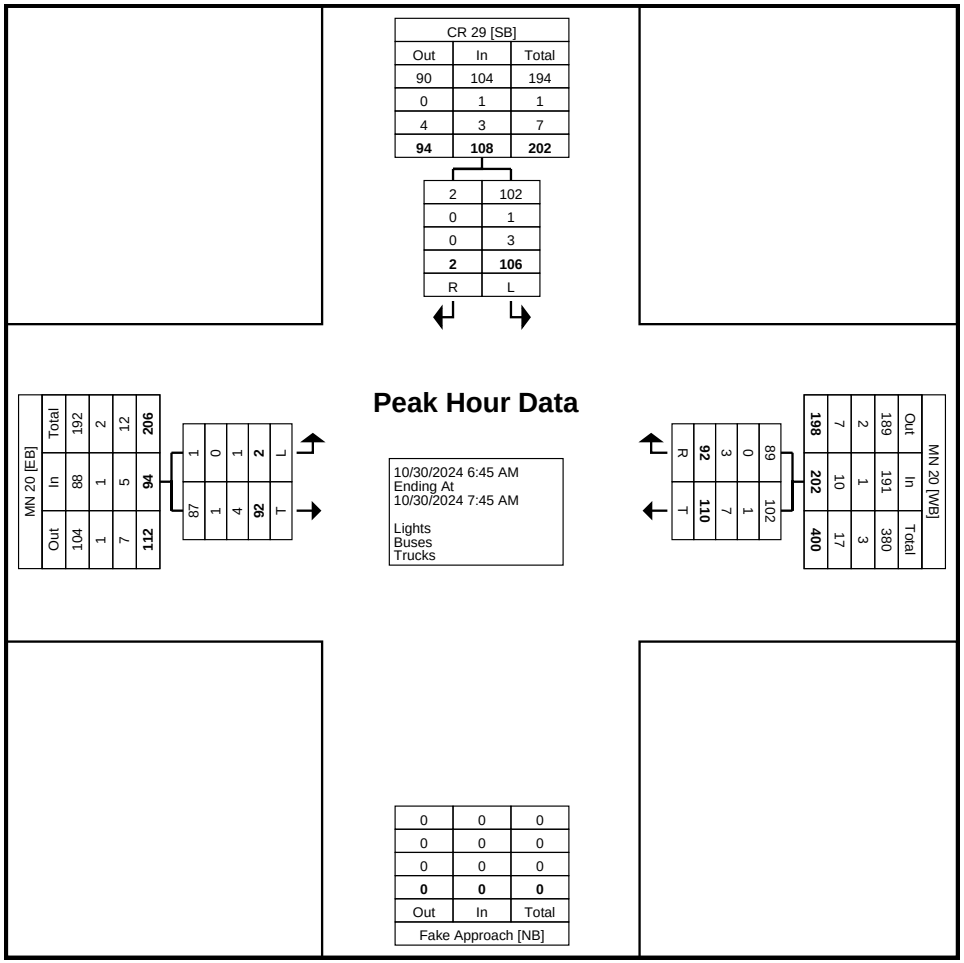
Turning Movement Peak Hour Data (6:45 AM)

Start Time	MN 20 Eastbound			MN 20 Westbound			CR 29 Southbound			
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	Int. Total
6:45 AM	0	23	23	25	21	46	27	1	28	97
7:00 AM	1	18	19	33	23	56	19	1	20	95
7:15 AM	0	21	21	26	22	48	28	0	28	97
7:30 AM	1	30	31	26	26	52	32	0	32	115
Total	2	92	94	110	92	202	106	2	108	404
Approach %	2.1	97.9	-	54.5	45.5	-	98.1	1.9	-	-
Total %	0.5	22.8	23.3	27.2	22.8	50.0	26.2	0.5	26.7	-
PHF	0.500	0.767	0.758	0.833	0.885	0.902	0.828	0.500	0.844	0.878
Lights	1	87	88	102	89	191	102	2	104	383
% Lights	50.0	94.6	93.6	92.7	96.7	94.6	96.2	100.0	96.3	94.8
Buses	0	1	1	1	0	1	1	0	1	3
% Buses	0.0	1.1	1.1	0.9	0.0	0.5	0.9	0.0	0.9	0.7
Trucks	1	4	5	7	3	10	3	0	3	18
% Trucks	50.0	4.3	5.3	6.4	3.3	5.0	2.8	0.0	2.8	4.5

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (6:45 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024

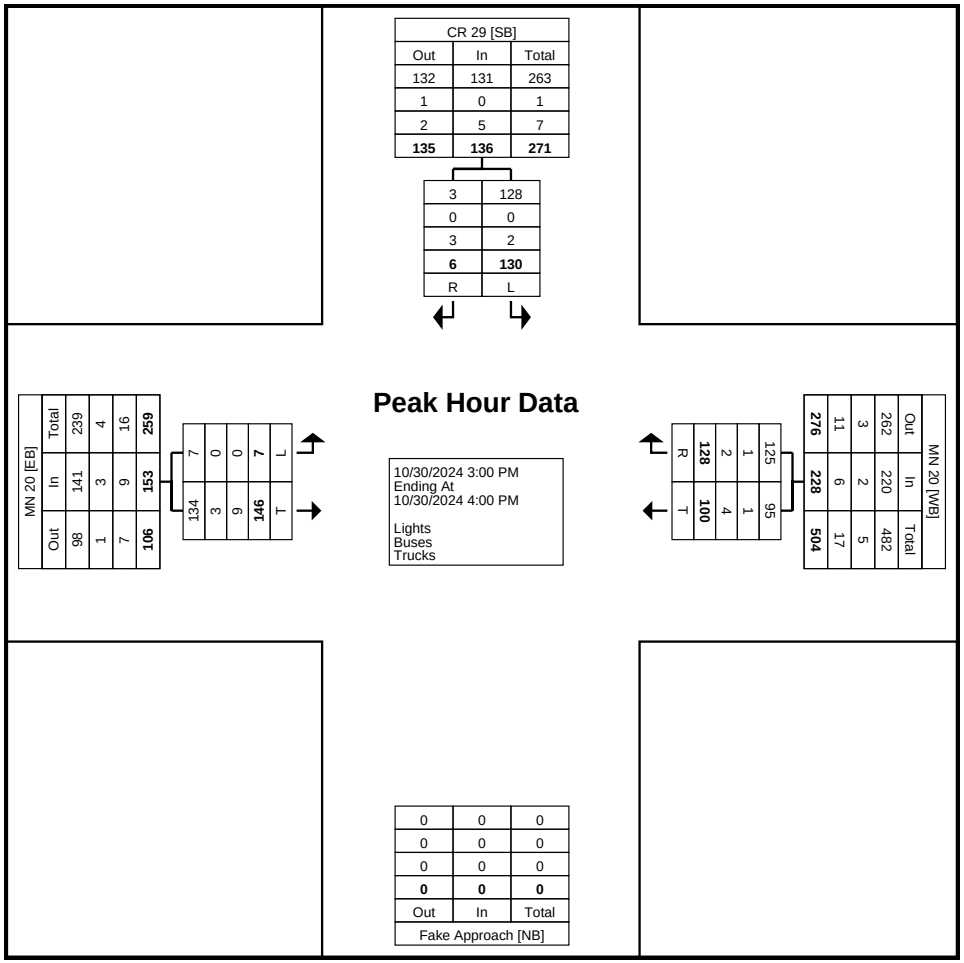
Turning Movement Peak Hour Data (3:00 PM)

Start Time	MN 20 Eastbound			MN 20 Westbound			CR 29 Southbound			
	Left	Thru	App. Total	Thru	Right	App. Total	Left	Right	App. Total	Int. Total
3:00 PM	2	44	46	37	35	72	34	2	36	154
3:15 PM	2	29	31	23	30	53	34	1	35	119
3:30 PM	0	33	33	22	33	55	28	1	29	117
3:45 PM	3	40	43	18	30	48	34	2	36	127
Total	7	146	153	100	128	228	130	6	136	517
Approach %	4.6	95.4	-	43.9	56.1	-	95.6	4.4	-	-
Total %	1.4	28.2	29.6	19.3	24.8	44.1	25.1	1.2	26.3	-
PHF	0.583	0.830	0.832	0.676	0.914	0.792	0.956	0.750	0.944	0.839
Lights	7	134	141	95	125	220	128	3	131	492
% Lights	100.0	91.8	92.2	95.0	97.7	96.5	98.5	50.0	96.3	95.2
Buses	0	3	3	1	1	2	0	0	0	5
% Buses	0.0	2.1	2.0	1.0	0.8	0.9	0.0	0.0	0.0	1.0
Trucks	0	9	9	4	2	6	2	3	5	20
% Trucks	0.0	6.2	5.9	4.0	1.6	2.6	1.5	50.0	3.7	3.9

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: CR 29 & MN 20
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:00 PM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024

Turning Movement Data

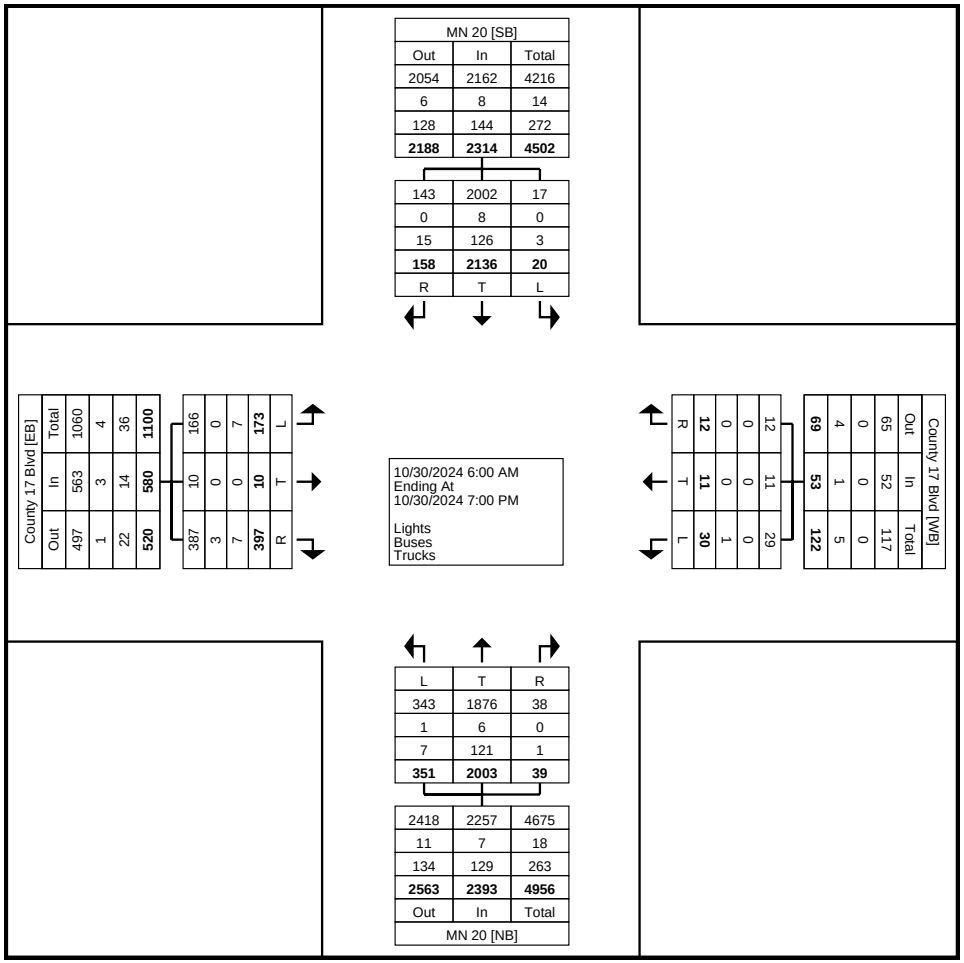
Start Time	County 17 Blvd Eastbound				County 17 Blvd Westbound				MN 20 Northbound				MN 20 Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
6:00 AM	1	0	1	2	0	0	0	0	1	52	0	53	0	22	1	23	78
6:15 AM	4	0	4	8	0	0	0	0	4	59	0	63	0	36	1	37	108
6:30 AM	6	0	6	12	0	0	0	0	4	56	0	60	0	24	1	25	97
6:45 AM	2	0	10	12	0	0	0	0	2	45	0	47	0	48	2	50	109
Hourly Total	13	0	21	34	0	0	0	0	11	212	0	223	0	130	5	135	392
7:00 AM	1	0	5	6	0	0	0	0	8	54	1	63	0	39	0	39	108
7:15 AM	8	1	13	22	0	0	0	0	11	41	1	53	0	47	1	48	123
7:30 AM	5	0	7	12	0	0	0	0	9	46	1	56	0	57	1	58	126
7:45 AM	1	0	11	12	1	0	0	1	9	46	2	57	0	46	3	49	119
Hourly Total	15	1	36	52	1	0	0	1	37	187	5	229	0	189	5	194	476
8:00 AM	5	0	11	16	0	0	0	0	4	45	0	49	2	29	2	33	98
8:15 AM	2	2	4	8	0	0	0	0	5	27	0	32	0	30	2	32	72
8:30 AM	5	0	4	9	0	0	0	0	5	34	1	40	3	30	2	35	84
8:45 AM	7	2	12	21	0	0	1	1	3	21	0	24	1	37	3	41	87
Hourly Total	19	4	31	54	0	0	1	1	17	127	1	145	6	126	9	141	341
9:00 AM	3	0	3	6	0	0	0	0	5	30	0	35	2	33	5	40	81
9:15 AM	2	0	6	8	0	0	2	2	13	34	1	48	0	14	4	18	76
9:30 AM	2	0	2	4	0	0	0	0	2	25	1	28	0	25	0	25	57
9:45 AM	1	0	6	7	0	1	1	2	3	34	0	37	2	23	7	32	78
Hourly Total	8	0	17	25	0	1	3	4	23	123	2	148	4	95	16	115	292
10:00 AM	8	0	4	12	2	0	0	2	3	30	1	34	0	24	4	28	76
10:15 AM	2	1	3	6	1	0	0	1	2	28	0	30	1	27	3	31	68
10:30 AM	2	0	4	6	1	0	0	1	6	31	1	38	1	22	2	25	70
10:45 AM	3	0	9	12	1	0	0	1	10	24	2	36	1	24	0	25	74
Hourly Total	15	1	20	36	5	0	0	5	21	113	4	138	3	97	9	109	288
11:00 AM	2	0	11	13	1	0	0	1	10	31	0	41	0	26	3	29	84
11:15 AM	2	0	9	11	2	0	1	3	3	33	0	36	0	39	3	42	92
11:30 AM	2	0	8	10	2	1	0	3	8	35	2	45	0	30	3	33	91
11:45 AM	3	0	5	8	1	0	0	1	6	22	0	28	0	34	4	38	75
Hourly Total	9	0	33	42	6	1	1	8	27	121	2	150	0	129	13	142	342
12:00 PM	3	0	12	15	1	0	0	1	7	38	0	45	0	50	2	52	113
12:15 PM	5	0	13	18	0	0	0	0	5	32	2	39	0	29	4	33	90
12:30 PM	1	0	6	7	1	0	0	1	5	42	0	47	1	34	7	42	97
12:45 PM	4	1	9	14	0	0	1	1	6	32	1	39	1	41	4	46	100
Hourly Total	13	1	40	54	2	0	1	3	23	144	3	170	2	154	17	173	400
1:00 PM	4	0	9	13	0	1	0	1	9	41	1	51	0	44	5	49	114

1:15 PM	5	0	7	12	2	2	0	4	2	34	6	42	1	47	1	49	107
1:30 PM	3	0	9	12	1	0	0	1	6	32	1	39	0	37	5	42	94
1:45 PM	7	0	11	18	0	0	0	0	5	45	2	52	0	33	2	35	105
Hourly Total	19	0	36	55	3	3	0	6	22	152	10	184	1	161	13	175	420
2:00 PM	4	0	14	18	0	0	0	0	4	52	1	57	0	25	4	29	104
2:15 PM	3	1	4	8	1	0	1	2	6	31	2	39	0	38	1	39	88
2:30 PM	2	0	3	5	2	1	0	3	10	37	0	47	1	53	2	56	111
2:45 PM	5	0	8	13	0	1	1	2	4	39	0	43	1	59	2	62	120
Hourly Total	14	1	29	44	3	2	2	7	24	159	3	186	2	175	9	186	423
3:00 PM	7	1	14	22	0	2	0	2	17	70	1	88	0	76	3	79	191
3:15 PM	3	0	8	11	1	0	0	1	17	51	3	71	1	61	6	68	151
3:30 PM	6	0	9	15	3	0	1	4	8	53	2	63	0	56	6	62	144
3:45 PM	4	0	10	14	0	0	0	0	9	44	0	53	1	72	1	74	141
Hourly Total	20	1	41	62	4	2	1	7	51	218	6	275	2	265	16	283	627
4:00 PM	2	0	9	11	0	0	1	1	11	49	0	60	0	70	5	75	147
4:15 PM	4	0	11	15	1	0	0	1	11	53	0	64	0	52	2	54	134
4:30 PM	4	0	8	12	3	0	0	3	16	58	1	75	0	60	2	62	152
4:45 PM	1	0	9	10	0	0	1	1	7	43	0	50	0	56	8	64	125
Hourly Total	11	0	37	48	4	0	2	6	45	203	1	249	0	238	17	255	558
5:00 PM	3	1	5	9	2	2	0	4	6	49	1	56	0	64	4	68	137
5:15 PM	1	0	4	5	0	0	1	1	6	43	0	49	0	63	11	74	129
5:30 PM	3	0	10	13	0	0	0	0	7	41	0	48	0	58	1	59	120
5:45 PM	2	0	4	6	0	0	0	0	2	23	1	26	0	49	7	56	88
Hourly Total	9	1	23	33	2	2	1	5	21	156	2	179	0	234	23	257	474
6:00 PM	3	0	7	10	0	0	0	0	6	22	0	28	0	38	0	38	76
6:15 PM	2	0	8	10	0	0	0	0	4	27	0	31	0	46	2	48	89
6:30 PM	2	0	11	13	0	0	0	0	9	24	0	33	0	33	3	36	82
6:45 PM	1	0	7	8	0	0	0	0	10	15	0	25	0	26	1	27	60
Hourly Total	8	0	33	41	0	0	0	0	29	88	0	117	0	143	6	149	307
Grand Total	173	10	397	580	30	11	12	53	351	2003	39	2393	20	2136	158	2314	5340
Approach %	29.8	1.7	68.4	-	56.6	20.8	22.6	-	14.7	83.7	1.6	-	0.9	92.3	6.8	-	-
Total %	3.2	0.2	7.4	10.9	0.6	0.2	0.2	1.0	6.6	37.5	0.7	44.8	0.4	40.0	3.0	43.3	-
Lights	166	10	387	563	29	11	12	52	343	1876	38	2257	17	2002	143	2162	5034
% Lights	96.0	100.0	97.5	97.1	96.7	100.0	100.0	98.1	97.7	93.7	97.4	94.3	85.0	93.7	90.5	93.4	94.3
Buses	0	0	3	3	0	0	0	0	1	6	0	7	0	8	0	8	18
% Buses	0.0	0.0	0.8	0.5	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.3	0.0	0.4	0.0	0.3	0.3
Trucks	7	0	7	14	1	0	0	1	7	121	1	129	3	126	15	144	288
% Trucks	4.0	0.0	1.8	2.4	3.3	0.0	0.0	1.9	2.0	6.0	2.6	5.4	15.0	5.9	9.5	6.2	5.4

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Data Plot

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024

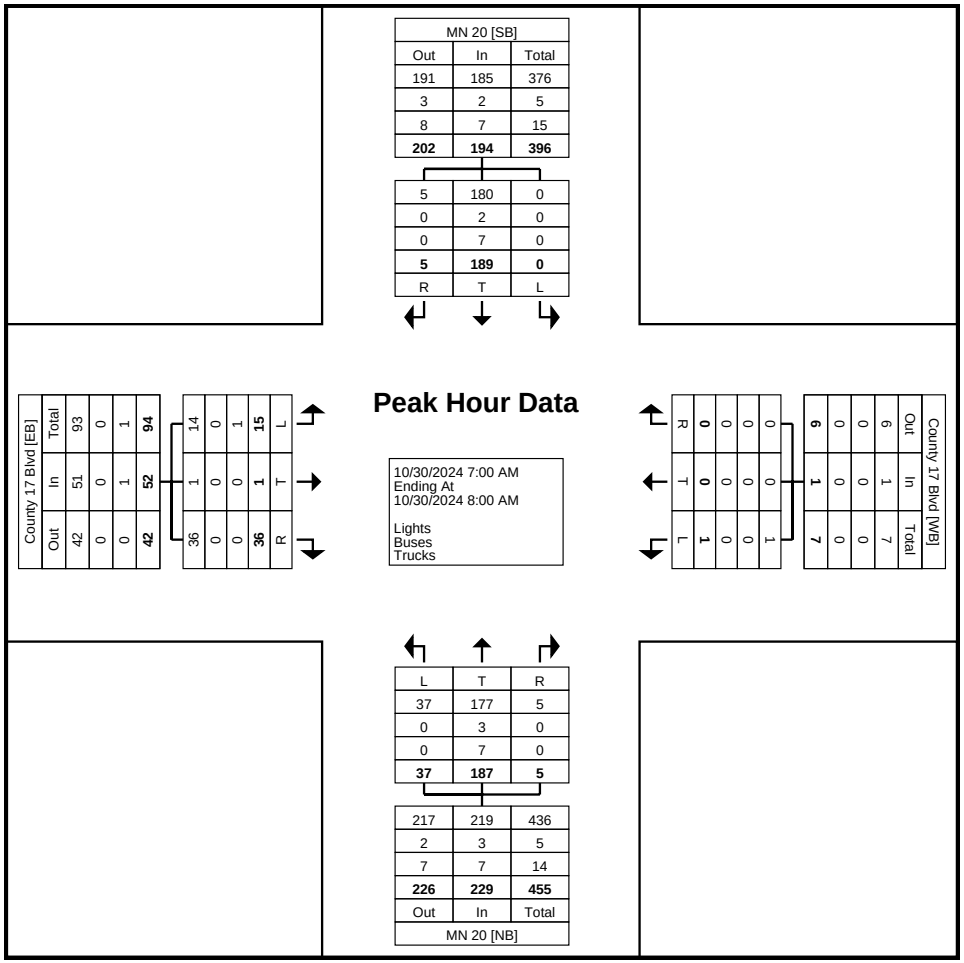
Turning Movement Peak Hour Data (7:00 AM)

Start Time	County 17 Blvd Eastbound				County 17 Blvd Westbound				MN 20 Northbound				MN 20 Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
7:00 AM	1	0	5	6	0	0	0	0	8	54	1	63	0	39	0	39	108
7:15 AM	8	1	13	22	0	0	0	0	11	41	1	53	0	47	1	48	123
7:30 AM	5	0	7	12	0	0	0	0	9	46	1	56	0	57	1	58	126
7:45 AM	1	0	11	12	1	0	0	1	9	46	2	57	0	46	3	49	119
Total	15	1	36	52	1	0	0	1	37	187	5	229	0	189	5	194	476
Approach %	28.8	1.9	69.2	-	100.0	0.0	0.0	-	16.2	81.7	2.2	-	0.0	97.4	2.6	-	-
Total %	3.2	0.2	7.6	10.9	0.2	0.0	0.0	0.2	7.8	39.3	1.1	48.1	0.0	39.7	1.1	40.8	-
PHF	0.469	0.250	0.692	0.591	0.250	0.000	0.000	0.250	0.841	0.866	0.625	0.909	0.000	0.829	0.417	0.836	0.944
Lights	14	1	36	51	1	0	0	1	37	177	5	219	0	180	5	185	456
% Lights	93.3	100.0	100.0	98.1	100.0	-	-	100.0	100.0	94.7	100.0	95.6	-	95.2	100.0	95.4	95.8
Buses	0	0	0	0	0	0	0	0	0	3	0	3	0	2	0	2	5
% Buses	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	1.6	0.0	1.3	-	1.1	0.0	1.0	1.1
Trucks	1	0	0	1	0	0	0	0	0	7	0	7	0	7	0	7	15
% Trucks	6.7	0.0	0.0	1.9	0.0	-	-	0.0	0.0	3.7	0.0	3.1	-	3.7	0.0	3.6	3.2

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (7:00 AM)

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024

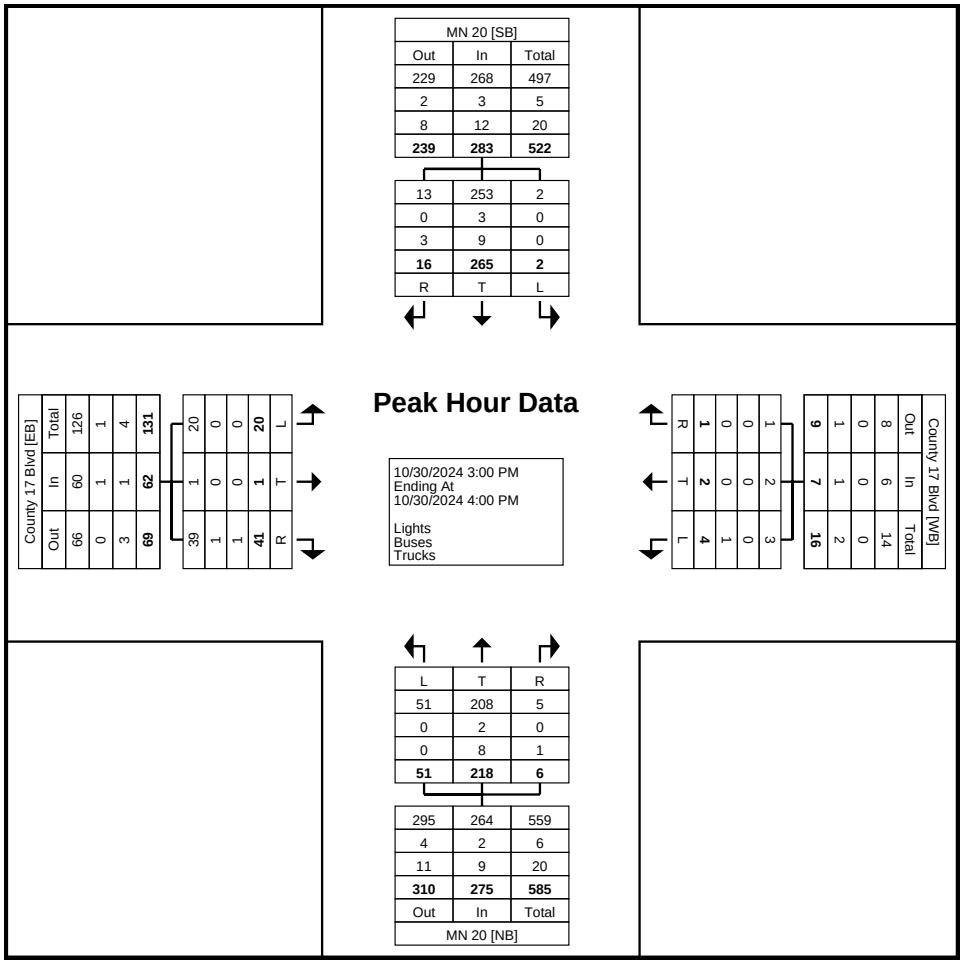
Turning Movement Peak Hour Data (3:00 PM)

Start Time	County 17 Blvd Eastbound				County 17 Blvd Westbound				MN 20 Northbound				MN 20 Southbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
3:00 PM	7	1	14	22	0	2	0	2	17	70	1	88	0	76	3	79	191
3:15 PM	3	0	8	11	1	0	0	1	17	51	3	71	1	61	6	68	151
3:30 PM	6	0	9	15	3	0	1	4	8	53	2	63	0	56	6	62	144
3:45 PM	4	0	10	14	0	0	0	0	9	44	0	53	1	72	1	74	141
Total	20	1	41	62	4	2	1	7	51	218	6	275	2	265	16	283	627
Approach %	32.3	1.6	66.1	-	57.1	28.6	14.3	-	18.5	79.3	2.2	-	0.7	93.6	5.7	-	-
Total %	3.2	0.2	6.5	9.9	0.6	0.3	0.2	1.1	8.1	34.8	1.0	43.9	0.3	42.3	2.6	45.1	-
PHF	0.714	0.250	0.732	0.705	0.333	0.250	0.250	0.438	0.750	0.779	0.500	0.781	0.500	0.872	0.667	0.896	0.821
Lights	20	1	39	60	3	2	1	6	51	208	5	264	2	253	13	268	598
% Lights	100.0	100.0	95.1	96.8	75.0	100.0	100.0	85.7	100.0	95.4	83.3	96.0	100.0	95.5	81.3	94.7	95.4
Buses	0	0	1	1	0	0	0	0	0	2	0	2	0	3	0	3	6
% Buses	0.0	0.0	2.4	1.6	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.7	0.0	1.1	0.0	1.1	1.0
Trucks	0	0	1	1	1	0	0	1	0	8	1	9	0	9	3	12	23
% Trucks	0.0	0.0	2.4	1.6	25.0	0.0	0.0	14.3	0.0	3.7	16.7	3.3	0.0	3.4	18.8	4.2	3.7

Kimley-Horn and Associates, Inc.
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 ethan.scowcroft@kimley-horn.com

Count Name: MN 20 & County 17 Blvd
Site Code:
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:00 PM)

Kimley-Horn
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025

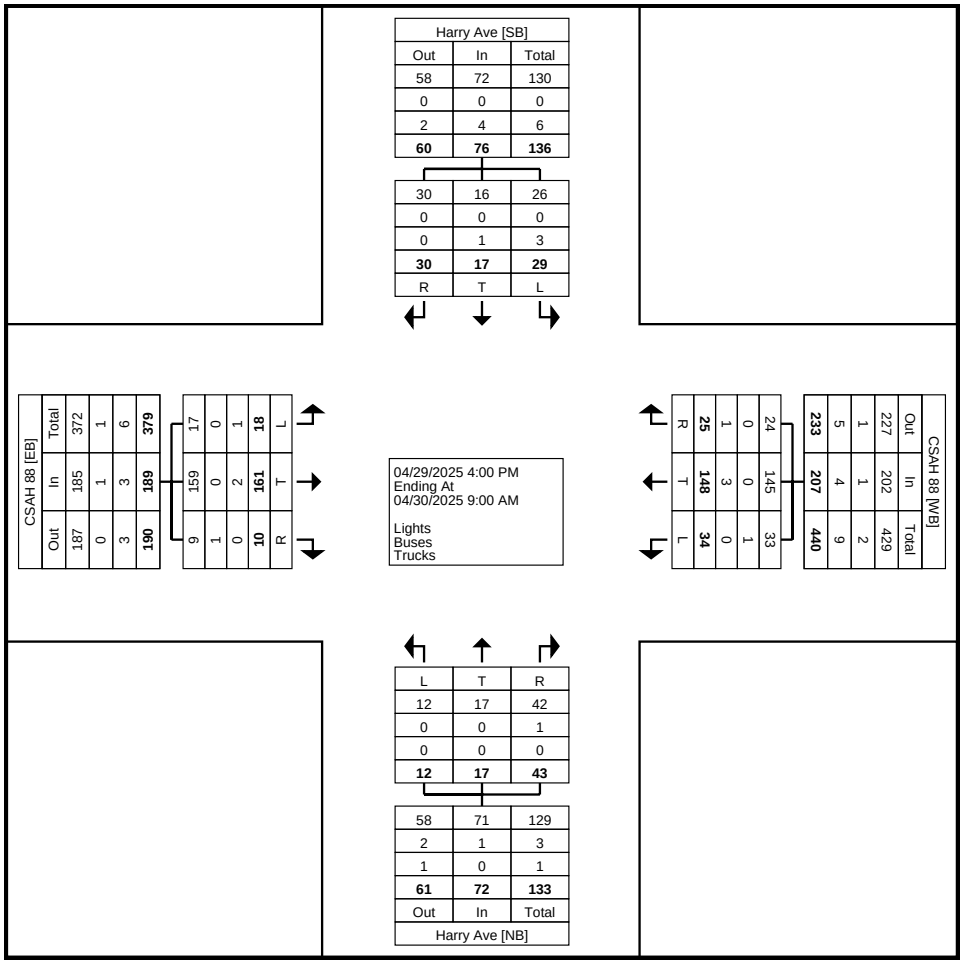
Turning Movement Data

Start Time	CSAH 88 Westbound				CSAH 88 Eastbound				Harry Ave Southbound				Harry Ave Northbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
4:00 PM	8	27	3	38	0	8	0	8	2	1	1	4	0	0	1	1	51
4:15 PM	1	15	1	17	2	6	0	8	2	3	5	10	2	1	1	4	39
4:30 PM	4	7	3	14	1	9	2	12	1	3	2	6	0	0	5	5	37
4:45 PM	2	8	1	11	1	13	0	14	2	2	4	8	1	1	2	4	37
Hourly Total	15	57	8	80	4	36	2	42	7	9	12	28	3	2	9	14	164
5:00 PM	4	9	3	16	1	6	1	8	2	1	0	3	0	5	8	13	40
5:15 PM	1	8	3	12	0	8	2	10	0	0	1	1	0	0	1	1	24
5:30 PM	4	7	1	12	1	17	0	18	4	1	0	5	0	0	3	3	38
5:45 PM	2	7	1	10	2	14	2	18	3	1	2	6	2	0	4	6	40
Hourly Total	11	31	8	50	4	45	5	54	9	3	3	15	2	5	16	23	142
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	1	8	1	10	1	11	0	12	0	0	1	1	1	0	2	3	26
7:15 AM	1	13	2	16	3	11	0	14	4	0	2	6	1	3	2	6	42
7:30 AM	0	14	1	15	2	9	0	11	4	0	4	8	2	1	1	4	38
7:45 AM	1	13	2	16	0	14	3	17	1	2	2	5	1	0	5	6	44
Hourly Total	3	48	6	57	6	45	3	54	9	2	9	20	5	4	10	19	150
8:00 AM	0	1	1	2	2	13	0	15	2	2	1	5	0	1	2	3	25
8:15 AM	2	2	0	4	0	7	0	7	1	1	3	5	0	0	2	2	18
8:30 AM	3	3	1	7	2	6	0	8	1	0	1	2	1	4	3	8	25
8:45 AM	0	6	1	7	0	9	0	9	0	0	1	1	1	1	1	3	20
Hourly Total	5	12	3	20	4	35	0	39	4	3	6	13	2	6	8	16	88
Grand Total	34	148	25	207	18	161	10	189	29	17	30	76	12	17	43	72	544
Approach %	16.4	71.5	12.1	-	9.5	85.2	5.3	-	38.2	22.4	39.5	-	16.7	23.6	59.7	-	-
Total %	6.3	27.2	4.6	38.1	3.3	29.6	1.8	34.7	5.3	3.1	5.5	14.0	2.2	3.1	7.9	13.2	-
Lights	33	145	24	202	17	159	9	185	26	16	30	72	12	17	42	71	530
% Lights	97.1	98.0	96.0	97.6	94.4	98.8	90.0	97.9	89.7	94.1	100.0	94.7	100.0	100.0	97.7	98.6	97.4
Buses	1	0	0	1	0	0	1	1	0	0	0	0	0	0	1	1	3
% Buses	2.9	0.0	0.0	0.5	0.0	0.0	10.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.3	1.4	0.6
Trucks	0	3	1	4	1	2	0	3	3	1	0	4	0	0	0	0	11
% Trucks	0.0	2.0	4.0	1.9	5.6	1.2	0.0	1.6	10.3	5.9	0.0	5.3	0.0	0.0	0.0	0.0	2.0

Kimley-Horn
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025



Turning Movement Data Plot

Kimley-Horn
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025

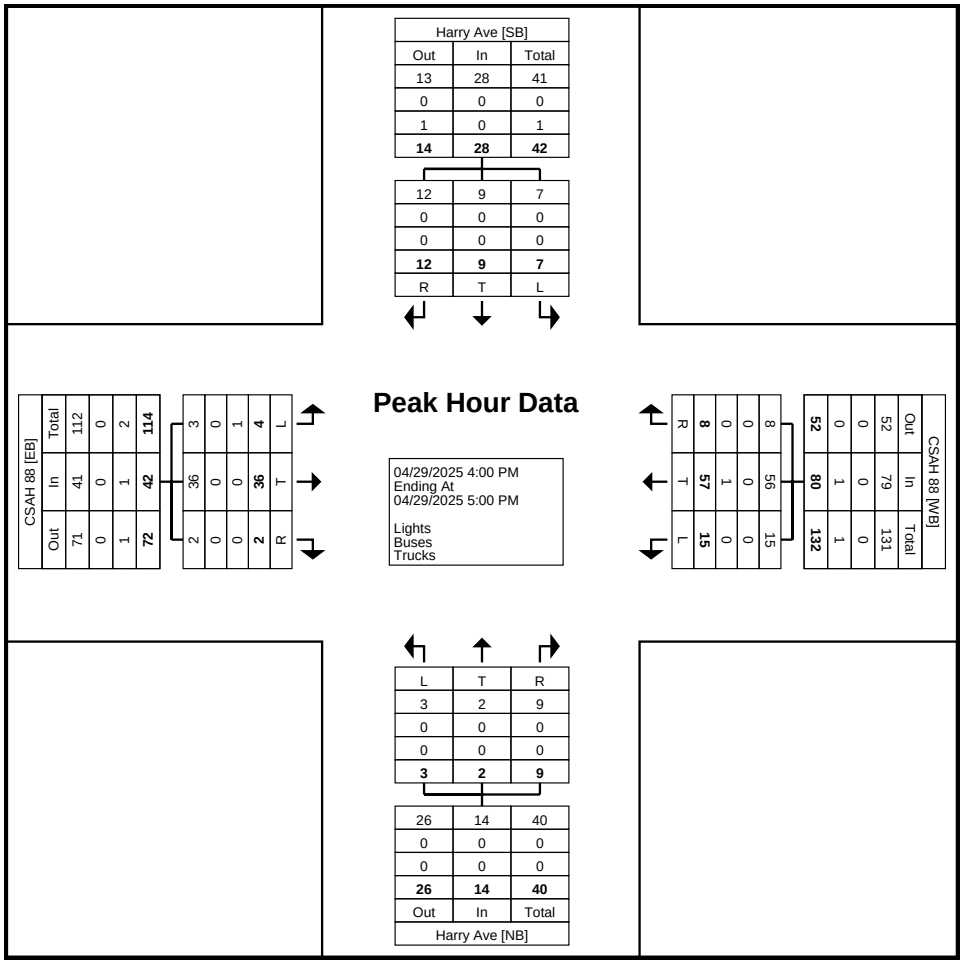
Turning Movement Peak Hour Data (4:00 PM)

Start Time	CSAH 88 Westbound				CSAH 88 Eastbound				Harry Ave Southbound				Harry Ave Northbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
4:00 PM	8	27	3	38	0	8	0	8	2	1	1	4	0	0	1	1	51
4:15 PM	1	15	1	17	2	6	0	8	2	3	5	10	2	1	1	4	39
4:30 PM	4	7	3	14	1	9	2	12	1	3	2	6	0	0	5	5	37
4:45 PM	2	8	1	11	1	13	0	14	2	2	4	8	1	1	2	4	37
Total	15	57	8	80	4	36	2	42	7	9	12	28	3	2	9	14	164
Approach %	18.8	71.3	10.0	-	9.5	85.7	4.8	-	25.0	32.1	42.9	-	21.4	14.3	64.3	-	-
Total %	9.1	34.8	4.9	48.8	2.4	22.0	1.2	25.6	4.3	5.5	7.3	17.1	1.8	1.2	5.5	8.5	-
PHF	0.469	0.528	0.667	0.526	0.500	0.692	0.250	0.750	0.875	0.750	0.600	0.700	0.375	0.500	0.450	0.700	0.804
Lights	15	56	8	79	3	36	2	41	7	9	12	28	3	2	9	14	162
% Lights	100.0	98.2	100.0	98.8	75.0	100.0	100.0	97.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trucks	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
% Trucks	0.0	1.8	0.0	1.3	25.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2

Kimley-Horn
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025



Turning Movement Peak Hour Data Plot (4:00 PM)

Kimley-Horn
4201 Winfield Road Suite 600

Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025

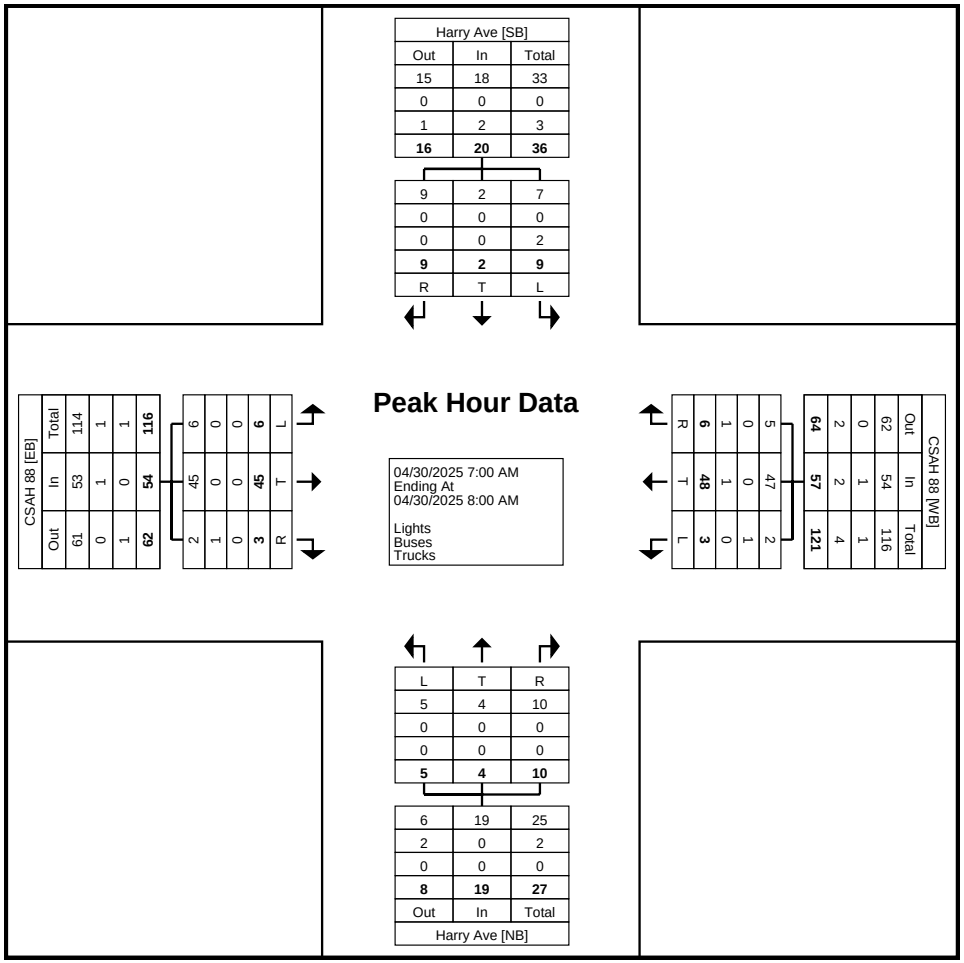
Turning Movement Peak Hour Data (7:00 AM)

Start Time	CSAH 88 Westbound				CSAH 88 Eastbound				Harry Ave Southbound				Harry Ave Northbound				
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
7:00 AM	1	8	1	10	1	11	0	12	0	0	1	1	1	0	2	3	26
7:15 AM	1	13	2	16	3	11	0	14	4	0	2	6	1	3	2	6	42
7:30 AM	0	14	1	15	2	9	0	11	4	0	4	8	2	1	1	4	38
7:45 AM	1	13	2	16	0	14	3	17	1	2	2	5	1	0	5	6	44
Total	3	48	6	57	6	45	3	54	9	2	9	20	5	4	10	19	150
Approach %	5.3	84.2	10.5	-	11.1	83.3	5.6	-	45.0	10.0	45.0	-	26.3	21.1	52.6	-	-
Total %	2.0	32.0	4.0	38.0	4.0	30.0	2.0	36.0	6.0	1.3	6.0	13.3	3.3	2.7	6.7	12.7	-
PHF	0.750	0.857	0.750	0.891	0.500	0.804	0.250	0.794	0.563	0.250	0.563	0.625	0.625	0.333	0.500	0.792	0.852
Lights	2	47	5	54	6	45	2	53	7	2	9	18	5	4	10	19	144
% Lights	66.7	97.9	83.3	94.7	100.0	100.0	66.7	98.1	77.8	100.0	100.0	90.0	100.0	100.0	100.0	100.0	96.0
Buses	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
% Buses	33.3	0.0	0.0	1.8	0.0	0.0	33.3	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Trucks	0	1	1	2	0	0	0	0	2	0	0	2	0	0	0	0	4
% Trucks	0.0	2.1	16.7	3.5	0.0	0.0	0.0	0.0	22.2	0.0	0.0	10.0	0.0	0.0	0.0	0.0	2.7

Kimley-Horn
4201 Winfield Road Suite 600

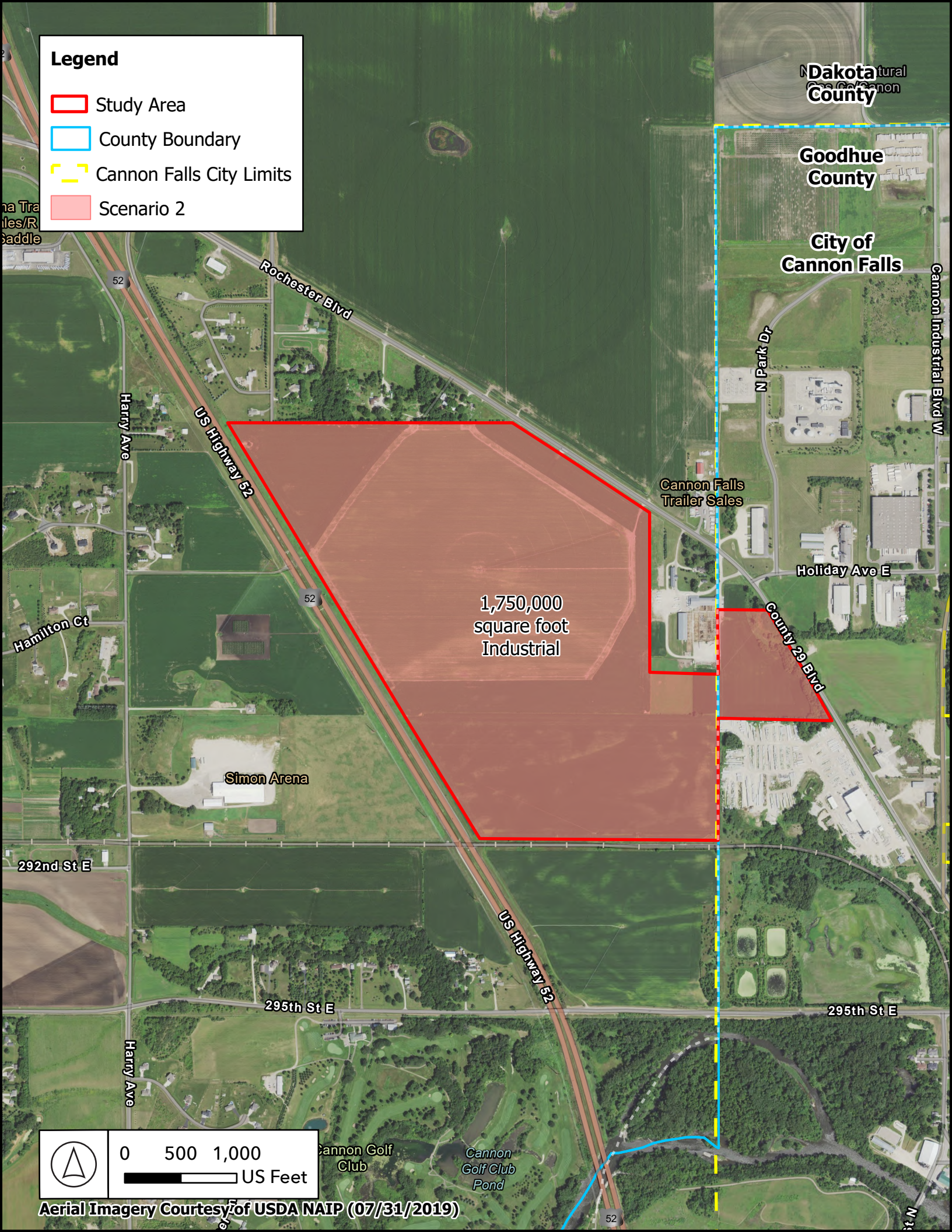
Warrenville, Illinois, United States 60555
(630) 487-5550 kaelyn.lewis@kimley-horn.com

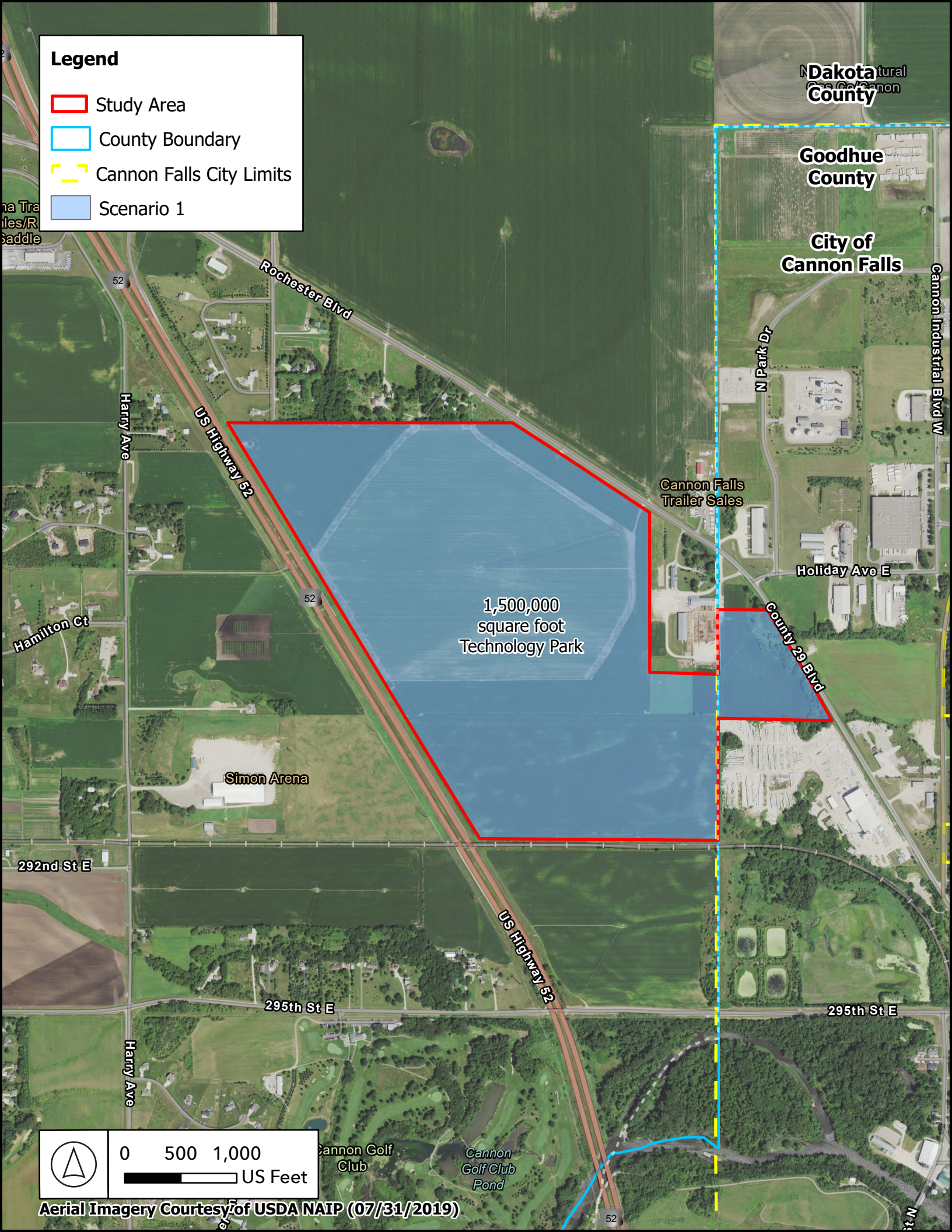
Count Name: CSAH 88 & Harry Avenue
Site Code:
Start Date: 04/29/2025



Turning Movement Peak Hour Data Plot (7:00 AM)

C. Site Layout Exhibit


Legend
Study Area
County Boundary
Cannon Falls City Limits
Scenario 2
Dakota County
Goodhue County
City of Cannon Falls
Rochester Blvd
US Highway 52
Harry Ave
N Park Dr
Cannon Industrial Blvd W
Cannon Falls Trailer Sales
Holiday Ave E
County 29 Blvd
1,750,000 square foot Industrial
Hamilton Ct
Simon Arena
292nd St E
295th St E
Cannon Golf Club
Cannon Golf Club Pond
0 500 1,000
US Feet
Aerial Imagery Courtesy of USDA NAIP (07/31/2019)


Legend
Study Area
County Boundary
Cannon Falls City Limits
Scenario 1
Dakota County
Goodhue County
City of Cannon Falls
Rochester Blvd
Harry Ave
US Highway 52
N Park Dr
Cannon Industrial Blvd W
Cannon Falls Trailer Sales
Holiday Ave E
1,500,000 square foot Technology Park
County 29 Blvd
Hamilton Ct
Simon Arena
292nd St E
295th St E
Cannon Golf Club
Cannon Golf Club Pond
0 500 1,000
US Feet
Aerial Imagery Courtesy of USDA NAIP (07/31/2019)

D. SimTraffic Analysis Results

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.2	0.2	3.6	0.0	0.0	0.0	1.7	0.0	0.0	3.6	0.4	0.3
Total Del/Veh (s)	0.5	0.6	0.1	0.8	0.9	0.2	3.4	6.3	1.7	5.1	6.6	2.7

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	2.4

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.0	0.1	3.1	0.1
Total Del/Veh (s)	1.1	0.8	1.6	0.7	6.4	2.3	1.8

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	0.8	0.4	2.0	1.9	6.0	2.1	3.6	1.3	1.4

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	5.3	4.7	0.6	0.7	0.9	1.7	2.1

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0		0.2	0.2	3.4	0.0	0.0	0.1
Total Del/Veh (s)	9.3	2.3	5.7		2.2	1.0	0.1	1.0	0.6	1.6

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	3.7	0.1	0.0	0.0
Total Del/Veh (s)	3.9	1.0	0.5	2.7	2.0	2.1	2.8	7.5	1.2	4.2	5.5	1.6

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	2.0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	6.3

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	19	4	32	43	72	25
Average Queue (ft)	1	0	3	11	31	7
95th Queue (ft)	8	3	17	34	58	23
Link Distance (ft)				1223		1017
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	325	325	300		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	64	78	26
Average Queue (ft)	11	27	4
95th Queue (ft)	39	61	19
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	13	33	40
Average Queue (ft)	0	7	12
95th Queue (ft)	6	27	32
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB
Directions Served	LR
Maximum Queue (ft)	74
Average Queue (ft)	35
95th Queue (ft)	59
Link Distance (ft)	1008
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	47	9	51
Average Queue (ft)	17	0	7
95th Queue (ft)	40	3	29
Link Distance (ft)	7688	1122	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	6	24	19	48	24
Average Queue (ft)	1	4	5	8	5
95th Queue (ft)	7	19	17	31	18
Link Distance (ft)		1875		7041	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	375		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.2	0.2	4.0	0.2	0.0	0.2	1.1	0.0	0.0	3.5	0.3	0.2
Total Del/Veh (s)	0.7	0.7	0.1	0.7	1.1	0.6	4.1	7.7	2.5	5.9	6.4	2.4

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	2.7

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.0	0.1	3.0	0.1
Total Del/Veh (s)	1.0	0.6	1.6	0.7	5.9	2.2	1.5

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.9	0.1	0.7	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.4	0.4	0.4	0.2	1.5	1.4	7.4	3.6	1.5	1.1

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.6	3.6	0.7	0.9	5.6	2.7	2.8

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.3	3.7	0.0	0.0	0.1
Total Del/Veh (s)	10.9	3.3	7.1	11.8	6.9	3.5	2.9	1.3	0.4	3.2	1.2	0.8

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.3

8: Harry Avenue & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	3.2	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.6	0.1	5.6	2.2	1.5	2.7	6.8	1.2	6.0	3.3	3.7

8: Harry Avenue & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.6

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	7.0

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	35	9	26	53	63	30
Average Queue (ft)	3	0	4	13	29	14
95th Queue (ft)	18	5	19	37	52	31
Link Distance (ft)				1223		1017
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	325	325	300		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	63	78	35
Average Queue (ft)	10	26	4
95th Queue (ft)	36	64	20
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	2	50	32
Average Queue (ft)	0	3	12
95th Queue (ft)	2	23	32
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	80	75
Average Queue (ft)	38	4
95th Queue (ft)	66	37
Link Distance (ft)	1008	3164
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LT	LT	R
Maximum Queue (ft)	63	55	78	4	4
Average Queue (ft)	23	9	11	0	0
95th Queue (ft)	51	36	38	3	3
Link Distance (ft)	7688	1122	1094	972	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Intersection: 8: Harry Avenue & CSAH 88/County 17 Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	11	20	25	18	30	33
Average Queue (ft)	0	1	4	5	11	6
95th Queue (ft)	6	9	19	17	32	22
Link Distance (ft)			1875		7041	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	375	325		250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.1	0.3			0.0	0.0	0.8		0.2	3.6	0.1	
Total Del/Veh (s)	0.2	0.5			0.9	0.3	5.5		1.8	4.8	4.7	

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	2.3

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	2.3	0.1
Total Del/Veh (s)	0.8	0.8	1.5	0.5	6.8	2.4	1.8

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)		0.0	0.0	0.0	0.1		0.1	0.1	0.0
Total Del/Veh (s)		0.3	2.1	0.7	5.5		4.2	1.6	1.6

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.4	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.0	4.3	0.5	0.6	1.5	1.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0		0.0		0.2	0.3	5.4	0.0	0.0	0.2
Total Del/Veh (s)	10.4		5.1		1.4	0.7	0.2	1.0	0.9	1.4

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.2		0.0	0.0	0.1					0.0
Total Del/Veh (s)	7.1	1.3	0.0		1.4	0.1	1.6					1.0

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	1.7

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	5.4

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	5	20	21	42	12
Average Queue (ft)	1	4	10	29	5
95th Queue (ft)	9	19	27	45	19
Link Distance (ft)			1223		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	20	45	15
Average Queue (ft)	8	23	7
95th Queue (ft)	31	57	22
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	17	24
Average Queue (ft)	7	12
95th Queue (ft)	27	31
Link Distance (ft)	1030	1034
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	38
95th Queue (ft)	62
Link Distance (ft)	1008
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	33	5	15
Average Queue (ft)	17	1	4
95th Queue (ft)	42	9	18
Link Distance (ft)	7680	1122	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	5	15	7	14	14
Average Queue (ft)	1	3	1	3	3
95th Queue (ft)	10	16	9	15	13
Link Distance (ft)		2572		7067	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	375		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.9	0.2	3.9	0.1	0.0	0.3	1.3	0.0	0.0	3.6	0.2	0.3
Total Del/Veh (s)	0.7	0.7	0.0	0.9	1.1	0.5	5.0	8.4	2.1	5.4	6.6	2.5

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	2.5

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.0	0.1	3.1	0.1
Total Del/Veh (s)	0.9	0.8	1.5	0.7	6.4	2.5	1.5

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	1.3	0.1	0.9	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.8	0.5	0.3	1.5	1.5	1.0	6.4	4.0	1.4	1.2

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.8	3.2	0.6	0.9	6.1	2.4	2.8

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0		0.0	0.1	0.1	0.1	0.3	0.3	3.4	0.0	0.0	0.2
Total Del/Veh (s)	12.0	13.4	8.3	9.1	8.1	2.5	2.4	1.1	0.4	3.7	1.1	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.2

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	2.1	0.0	0.0	0.0
Total Del/Veh (s)	2.2	0.9	0.6	4.0	2.7	1.8	3.0	9.0	1.0	4.6	4.4	2.5

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.6

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	6.9

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	36	9	3	27	53	74	43
Average Queue (ft)	4	0	0	3	10	28	13
95th Queue (ft)	21	5	3	17	34	52	33
Link Distance (ft)					1223		1017
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	325	325	325	300		250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	45	73	48
Average Queue (ft)	9	25	5
95th Queue (ft)	33	62	25
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	3	5	50	41
Average Queue (ft)	0	0	6	13
95th Queue (ft)	2	3	30	36
Link Distance (ft)			1030	1034
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	400	300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	86	38
Average Queue (ft)	38	2
95th Queue (ft)	63	17
Link Distance (ft)	1008	3164
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	73	35	57	11
Average Queue (ft)	27	3	9	0
95th Queue (ft)	57	19	35	6
Link Distance (ft)	7680	1122	1094	986
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	WB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	15	25	20	48	29
Average Queue (ft)	1	3	6	13	6
95th Queue (ft)	7	17	21	36	22
Link Distance (ft)		2572		7067	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.8	0.0	0.0		2.0	0.0	0.1	3.7	0.3	0.3
Total Del/Veh (s)	0.7	0.6	0.0	0.6	1.1		4.3	7.0	2.6	5.7	6.3	2.7

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	2.7

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.0	0.2	3.4	0.1
Total Del/Veh (s)	1.1	0.7	1.7	0.8	7.4	2.2	2.0

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	0.7	0.5	2.2	1.7	6.2	2.4	3.8	2.1	1.5

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	6.6	3.2	0.7	0.8	5.7	1.9	2.5

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.3	3.4	0.0	0.0	0.1
Total Del/Veh (s)	14.1	2.2	8.9	10.3	2.2	1.1	0.4	1.1	0.8	2.1

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	2.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	1.2	1.4	2.3	2.7	1.6	2.5	7.8	1.5	4.0	6.2	1.9

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.3

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	7.4

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	34	29	50	79	26
Average Queue (ft)	3	4	14	33	8
95th Queue (ft)	18	20	37	61	25
Link Distance (ft)			1223		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	60	86	26
Average Queue (ft)	12	29	7
95th Queue (ft)	42	66	23
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	2	30	40
Average Queue (ft)	0	6	13
95th Queue (ft)	2	24	35
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	86	26
Average Queue (ft)	39	1
95th Queue (ft)	66	12
Link Distance (ft)	1008	3164
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	74	19	45
Average Queue (ft)	30	1	8
95th Queue (ft)	62	8	32
Link Distance (ft)	7686	1122	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	5	25	19	50	20
Average Queue (ft)	0	7	5	7	6
95th Queue (ft)	4	23	18	31	20
Link Distance (ft)		2632		7052	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	375		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.9	0.5	0.0	0.3	1.8	0.0	0.0	3.6	0.3	0.4
Total Del/Veh (s)	0.7	0.8	0.1	1.1	1.0	0.5	4.1	8.3	2.2	6.0	7.1	2.8

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	2.8

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.0	0.1	2.9	0.1
Total Del/Veh (s)	1.1	0.7	1.9	0.9	8.1	2.7	1.9

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.0	0.3	0.4	0.1	0.7	0.1	0.1	0.1	0.1
Total Del/Veh (s)	0.3	0.5	0.6	3.1	2.0	1.3	8.2	4.8	2.2	1.5

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.0	0.0
Total Del/Veh (s)	8.3	5.1	0.8	1.1	6.0	2.7	3.3

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	3.8	0.0	0.0	0.1
Total Del/Veh (s)	15.2	15.1	8.9	9.2	10.8	4.3	2.9	1.4	0.5	4.9	1.3	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.7

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	1.8	0.0	0.0	0.0
Total Del/Veh (s)	2.0	1.0	0.7	4.7	2.6	3.1	3.9	5.7	1.1	8.0	5.2	3.7

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	8.2

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	51	9	4	26	60	68	55
Average Queue (ft)	5	0	0	4	15	32	17
95th Queue (ft)	25	5	3	20	44	58	40
Link Distance (ft)					1223		1017
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	325	325	325	300		250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	51	74	48
Average Queue (ft)	15	27	6
95th Queue (ft)	44	63	28
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	5	2	34	47
Average Queue (ft)	0	0	3	16
95th Queue (ft)	3	2	20	39
Link Distance (ft)			1030	1034
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	400	300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	110	43
Average Queue (ft)	45	3
95th Queue (ft)	82	20
Link Distance (ft)	1008	3164
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LT	LT	R
Maximum Queue (ft)	92	60	69	10	4
Average Queue (ft)	40	9	14	0	0
95th Queue (ft)	74	34	46	5	3
Link Distance (ft)	7686	1122	1094	983	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	14	20	25	19	45	30
Average Queue (ft)	1	1	4	6	14	6
95th Queue (ft)	8	8	17	18	38	22
Link Distance (ft)			2632		7052	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	375	325		250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.1	0.1	4.1	0.0	0.0	0.1	2.5	0.1	0.0	3.6	0.3	0.2
Total Del/Veh (s)	0.6	1.0	0.1	0.4	1.1	0.4	4.3	8.7	2.3	6.0	6.0	2.3

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.6
Total Del/Veh (s)	3.0

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	3.4	0.3
Total Del/Veh (s)	1.4	0.9	2.2	0.8	7.2	2.9	2.1

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	0.9	0.7	1.3	0.8	7.4	2.4	5.0	1.5	1.2

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	6.0	3.3	0.5	0.6	3.4	1.4	2.2

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.2	4.0	0.0	0.1	0.1
Total Del/Veh (s)	10.4	3.2	8.8	5.0	2.2	0.8	0.3	0.9	0.5	1.9

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.6	0.9	1.5	0.8	5.8	3.3	1.5

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.4	2.2	1.9	0.8	1.2	0.7	1.5

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1	1.5	0.1	0.0	0.0
Total Del/Veh (s)	3.0	1.7	1.0	3.6	1.4	2.3	2.3	8.7	1.3	3.8	10.1	1.9

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.0

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	7.6

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	23	43	45	79	25
Average Queue (ft)	1	4	12	37	5
95th Queue (ft)	10	24	36	65	20
Link Distance (ft)			1235		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	14	65	72	47
Average Queue (ft)	0	17	27	15
95th Queue (ft)	8	50	61	36
Link Distance (ft)			1085	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	325	400		350
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	7	29	41
Average Queue (ft)	0	5	12
95th Queue (ft)	3	22	33
Link Distance (ft)		1029	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	78	33
Average Queue (ft)	36	2
95th Queue (ft)	63	13
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	68	19	56
Average Queue (ft)	28	1	9
95th Queue (ft)	58	7	35
Link Distance (ft)	7688	1122	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Access 1 & Rochester Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	20	41
Average Queue (ft)	1	17
95th Queue (ft)	11	41
Link Distance (ft)	2010	1116
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	39	42
Average Queue (ft)	12	2
95th Queue (ft)	25	19
Link Distance (ft)	1096	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	5	23	19	46	31
Average Queue (ft)	0	5	5	6	6
95th Queue (ft)	4	19	18	28	22
Link Distance (ft)		2712		7030	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	375		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.9	0.1	0.0	0.3	2.2	0.1	0.1	3.5	0.3	0.3
Total Del/Veh (s)	0.9	0.9	0.1	1.2	1.1	0.6	4.2	8.0	2.2	6.2	6.5	2.2

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	2.8

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.0	0.1	3.2	0.1
Total Del/Veh (s)	1.2	0.9	2.1	0.8	8.5	2.5	2.0

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.1	0.5	0.9	2.8	1.6	1.0	5.9	5.8	1.8	1.3

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.9	4.9	0.8	1.0	4.0	1.6	2.6

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0		0.0	0.1	0.1	0.1	0.2	0.3	3.8	0.0	0.0	0.1
Total Del/Veh (s)	11.7	6.5	6.9	8.9	9.3	4.7	2.8	1.5	0.6	2.4	1.1	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.2

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0		0.1	0.1	0.1	0.0
Total Del/Veh (s)	10.8	3.7		0.8	0.9	0.1	4.9

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.3	2.0	1.8	0.8	0.7	0.3	1.4

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.3	1.3	0.0	0.0	0.0
Total Del/Veh (s)	11.1	1.6	0.0	5.4	2.5	2.2	2.9	8.5	1.1	4.9	5.5	3.2

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	10.3

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	53	26	50	83	35
Average Queue (ft)	5	4	11	34	14
95th Queue (ft)	27	19	34	59	33
Link Distance (ft)			1235		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB
Directions Served	T	L	L	R
Maximum Queue (ft)	9	77	79	45
Average Queue (ft)	0	18	28	9
95th Queue (ft)	7	51	65	30
Link Distance (ft)	1657		1085	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		400		350
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	11	2	43	44
Average Queue (ft)	0	0	3	13
95th Queue (ft)	4	2	22	34
Link Distance (ft)			1029	1034
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	400	300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	80	44
Average Queue (ft)	40	4
95th Queue (ft)	66	25
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	80	37	76	21
Average Queue (ft)	34	6	14	1
95th Queue (ft)	67	27	46	11
Link Distance (ft)	7688	1122	1094	984
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	79	30
Average Queue (ft)	43	3
95th Queue (ft)	68	17
Link Distance (ft)	2993	508
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	48	27
Average Queue (ft)	14	1
95th Queue (ft)	32	10
Link Distance (ft)	1101	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	5	5	24	17	53	23
Average Queue (ft)	0	0	4	5	13	7
95th Queue (ft)	4	5	17	18	37	24
Link Distance (ft)			2712		7030	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	375	325		250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.1	0.2	4.2	0.4	0.0	0.2	1.4	0.0	0.0	3.6	0.5	0.3
Total Del/Veh (s)	0.6	1.1	0.0	1.9	1.3	0.7	4.6	8.2	2.5	6.2	7.1	2.9

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.7
Total Del/Veh (s)	3.2

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.2	0.3
Total Del/Veh (s)	1.4	0.9	2.6	1.0	9.5	2.7	2.4

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	0.7	0.7	1.8	1.3	7.0	7.5	4.7	2.0	1.4

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.1	0.0	0.0	0.1
Total Del/Veh (s)	7.3	4.4	0.6	0.7	4.4	1.7	2.6

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0		0.3	0.2	3.4	0.0	0.0	0.1
Total Del/Veh (s)	14.8	3.4	8.6		2.2	1.1	0.2	0.9	0.6	2.2

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.6	0.8	1.6	1.2	6.4	3.3	1.6

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.1	2.9	2.1	1.0	1.1	0.7	1.4

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1		0.0	0.0	0.2	0.1	2.3	0.0	0.0	0.0
Total Del/Veh (s)	10.7	7.3	1.0	4.4	8.5	3.3	4.1	5.7	2.0	6.8	9.8	2.5

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	6.9

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	9.4

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	20	9	34	39	77	26
Average Queue (ft)	2	0	5	12	37	8
95th Queue (ft)	12	6	24	34	63	25
Link Distance (ft)				1223		1017
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	325	325	300		250	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	76	102	39
Average Queue (ft)	22	31	16
95th Queue (ft)	57	72	34
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	7	29	50
Average Queue (ft)	0	6	14
95th Queue (ft)	3	26	37
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	82	45
Average Queue (ft)	41	3
95th Queue (ft)	67	19
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	72	10	40
Average Queue (ft)	30	0	10
95th Queue (ft)	62	5	33
Link Distance (ft)	7685	1122	1094
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Access 1 & Rochester Blvd

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	20	51
Average Queue (ft)	1	18
95th Queue (ft)	9	44
Link Distance (ft)	2006	509
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	41	38
Average Queue (ft)	13	3
95th Queue (ft)	30	19
Link Distance (ft)	1096	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	LT	R	LT	R
Maximum Queue (ft)	30	58	19	11	71	21	29	24	46	27
Average Queue (ft)	4	16	1	0	18	2	3	3	6	4
95th Queue (ft)	18	43	9	7	49	11	15	15	26	19
Link Distance (ft)		3406			7685		2560		7003	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	375		375	325		325		250		250
Storage Blk Time (%)										
Queuing Penalty (veh)										

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	4.0	0.1	0.0	0.2	2.0	0.0	0.0	3.5	0.3	0.4
Total Del/Veh (s)	1.0	1.1	0.1	1.4	1.3	0.6	4.7	7.5	1.8	6.4	6.9	2.3

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	3.0

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	3.6	0.1
Total Del/Veh (s)	1.3	0.7	2.5	1.0	8.9	2.8	2.2

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.4	0.6	0.7	0.9	1.7	1.1	9.6	5.3	2.2	1.4

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	9.2	5.7	0.9	1.0	4.1	1.9	3.3

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	3.5	0.0	0.0	0.2
Total Del/Veh (s)	14.5	32.5	8.6	8.8	15.0	3.4	3.4	1.8	0.4	1.9	1.2	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.6

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.1	0.1	0.1	0.1
Total Del/Veh (s)	11.5	3.5	1.3	1.0	1.2	0.1	5.1

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.9	3.1	2.6	0.8	0.7	0.2	1.3

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	2.2	0.0	0.0	0.0
Total Del/Veh (s)	6.5	6.8	1.8	11.1	8.9	3.9	6.0	3.1	1.8	9.9	4.0	4.0

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	7.1

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	12.0

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	T	L	TR	L	TR
Maximum Queue (ft)	52	10	3	26	42	82	58
Average Queue (ft)	6	0	0	4	13	35	18
95th Queue (ft)	30	5	3	18	35	63	41
Link Distance (ft)			1657		1223		1017
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	325	325		300		250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	72	82	49
Average Queue (ft)	23	34	9
95th Queue (ft)	59	72	32
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	10	2	48	42
Average Queue (ft)	1	0	4	12
95th Queue (ft)	5	2	23	33
Link Distance (ft)			1030	1034
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	400	300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	92	65
Average Queue (ft)	45	6
95th Queue (ft)	77	31
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LT	LT	R
Maximum Queue (ft)	94	41	62	11	8
Average Queue (ft)	37	8	17	0	0
95th Queue (ft)	75	30	48	5	4
Link Distance (ft)	7685	1122	1094	989	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	94	41
Average Queue (ft)	48	6
95th Queue (ft)	77	27
Link Distance (ft)	2994	1053
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	45	29
Average Queue (ft)	14	1
95th Queue (ft)	33	12
Link Distance (ft)	1101	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	LT	R	LT	R
Maximum Queue (ft)	20	59	15	34	85	20	17	17	36	32
Average Queue (ft)	1	14	1	8	20	2	2	2	8	6
95th Queue (ft)	8	41	8	28	54	11	12	12	28	23
Link Distance (ft)		3406			7685		2560		7003	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	375		375	325		325		250		250
Storage Blk Time (%)										
Queuing Penalty (veh)										

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.8	0.0	0.0	0.0	2.1	0.0	0.1	3.3	0.8	0.6
Total Del/Veh (s)	0.5	1.7	0.1	0.3	1.3	0.6	4.3	8.6	3.0	8.4	8.4	2.0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	2.1
Total Del/Veh (s)	5.4

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	3.2	0.5
Total Del/Veh (s)	2.6	1.1	4.3	1.0	13.3	4.9	3.6

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.6	1.5	2.0	1.4	15.2	4.5	9.3	5.5	1.9

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.5	4.5	0.8	0.8	5.1	1.8	2.6

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.3	3.6	0.0	0.0	0.1
Total Del/Veh (s)	15.7	2.6	9.7	3.9	2.2	1.1	0.2	0.8	0.5	2.7

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	4.7	2.1	3.9	1.8	8.7	4.6	3.7

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.9	3.4	5.7	2.8	2.9	1.7	3.3

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	1.7	0.0	0.0	0.0
Total Del/Veh (s)	3.1	0.7	0.0	2.0	2.6	2.8	3.7	8.1	1.1	4.7	6.4	1.8

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.0

Total Network Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	13.4

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	16	31	43	135	21
Average Queue (ft)	1	4	11	66	6
95th Queue (ft)	11	21	32	110	21
Link Distance (ft)			1223		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	4	4	92	92	69
Average Queue (ft)	0	0	32	29	31
95th Queue (ft)	3	3	69	69	55
Link Distance (ft)	1657			1085	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		325	400		350
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	12	42	48
Average Queue (ft)	0	7	11
95th Queue (ft)	6	31	34
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	96	37
Average Queue (ft)	39	3
95th Queue (ft)	70	18
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	95	10	48
Average Queue (ft)	40	1	8
95th Queue (ft)	75	6	31
Link Distance (ft)	7674	1122	1079
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	4	69	56
Average Queue (ft)	0	14	24
95th Queue (ft)	5	46	51
Link Distance (ft)	2994	2006	509
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	57	108	22
Average Queue (ft)	18	30	1
95th Queue (ft)	40	78	10
Link Distance (ft)	1096	1963	1132
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	WB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	9	23	16	49	21
Average Queue (ft)	0	5	4	8	5
95th Queue (ft)	7	19	15	31	19
Link Distance (ft)		2594		7073	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.9	0.1	0.0	0.1	1.4	0.1	0.0	3.6	0.5	0.7
Total Del/Veh (s)	1.3	0.9	0.0	1.6	1.3	0.8	3.6	8.0	2.0	6.6	7.0	3.4

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	2.9

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	3.3	0.2
Total Del/Veh (s)	1.8	0.9	4.8	1.6	24.2	2.9	3.9

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.0	1.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	1.7	0.8	0.4	2.4	2.7	1.8	17.8	10.9	4.7	2.3

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.8	5.4	0.9	1.0	4.4	2.1	3.3

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1		0.3	0.3	3.8	0.0	0.0	0.2
Total Del/Veh (s)	13.1	15.5	9.1	10.1	12.4		3.1	1.3	0.2	3.1	1.2	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.3

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.2	0.1
Total Del/Veh (s)	14.8	6.4	0.8	1.9	3.0	1.1	5.5

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	10.0	6.9	2.6	1.5	1.4	0.5	4.8

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	1.6	0.0	0.0	0.0
Total Del/Veh (s)	2.9	0.6	0.0	4.7	3.6	3.4	4.4	7.6	1.4	6.1	3.7	2.7

8: Harry Ave & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	14.4

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	64	19	4	26	45	104	39
Average Queue (ft)	7	1	0	4	12	39	15
95th Queue (ft)	35	11	4	19	34	75	34
Link Distance (ft)					1223		1017
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	325	325	325	300		250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	102	138	56
Average Queue (ft)	0	42	34	18
95th Queue (ft)	3	83	91	40
Link Distance (ft)			1085	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	325	400		350
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	10	48	41
Average Queue (ft)	1	4	12
95th Queue (ft)	5	25	32
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	110	98
Average Queue (ft)	45	13
95th Queue (ft)	78	51
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	88	45	61	14
Average Queue (ft)	37	7	14	1
95th Queue (ft)	73	31	45	8
Link Distance (ft)	7676	1122	1088	990
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	168	19	69
Average Queue (ft)	62	1	25
95th Queue (ft)	109	10	60
Link Distance (ft)	2994	2007	1053
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	151	43	4
Average Queue (ft)	57	5	0
95th Queue (ft)	112	26	3
Link Distance (ft)	1101	1963	1131
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Ave & CSAH 88/County 17 Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	24	21	19	18	36	27
Average Queue (ft)	1	1	3	5	12	8
95th Queue (ft)	10	8	15	16	34	25
Link Distance (ft)			2594		7073	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	375	325		250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.1	0.2	3.7	0.0	0.0	0.1	1.3	0.0	0.0	3.3	0.8	0.8
Total Del/Veh (s)	0.7	2.0	0.2	0.9	1.4	0.7	5.0	8.2	3.4	9.7	7.3	2.7

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	2.0
Total Del/Veh (s)	6.0

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.4	3.2	0.5
Total Del/Veh (s)	2.6	1.2	4.7	1.0	16.2	5.4	3.9

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)	2.0	1.5	2.0	1.3	8.8	4.5	13.4	2.3	1.9

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	8.6	5.4	0.8	0.8	5.2	2.2	2.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	NBL	NBT	NBR	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.3	3.0	0.0	0.0	0.2
Total Del/Veh (s)	13.7	3.6	9.4	8.5	2.9	1.2	0.6	1.0	0.6	2.5

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	4.6	2.4	4.1	1.7	10.3	5.6	3.6

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.1	4.0	5.4	3.0	3.0	1.7	3.4

8: Harry Blvd & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	1.7	0.1	0.0	0.0
Total Del/Veh (s)	2.6	1.1	2.6	6.4	3.1	2.7	3.0	8.4	1.4	4.4	7.3	2.0

8: Harry Blvd & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.5

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	13.9

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	L	TR	L	TR
Maximum Queue (ft)	20	35	52	180	25
Average Queue (ft)	2	5	14	70	8
95th Queue (ft)	14	23	38	128	25
Link Distance (ft)			1221		1017
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	325	300		250	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	92	97	73
Average Queue (ft)	38	32	33
95th Queue (ft)	78	70	60
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	NB	SB
Directions Served	L	LTR	LTR
Maximum Queue (ft)	12	37	61
Average Queue (ft)	1	7	15
95th Queue (ft)	6	28	42
Link Distance (ft)		1030	1034
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	90	42
Average Queue (ft)	43	4
95th Queue (ft)	75	22
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LTR
Maximum Queue (ft)	72	19	66	4
Average Queue (ft)	29	1	13	0
95th Queue (ft)	59	10	46	3
Link Distance (ft)	7671	1122	1094	975
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	12	68	56
Average Queue (ft)	0	13	21
95th Queue (ft)	5	48	47
Link Distance (ft)	2994	2006	509
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	58	112	22
Average Queue (ft)	19	29	2
95th Queue (ft)	43	76	13
Link Distance (ft)	1096	1963	1132
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Blvd & CSAH 88/County 17 Blvd

Movement	EB	NB	NB	SB	SB
Directions Served	L	LT	R	LT	R
Maximum Queue (ft)	10	26	20	52	22
Average Queue (ft)	0	9	6	10	6
95th Queue (ft)	5	27	20	37	21
Link Distance (ft)		2562		7072	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	375		250		250
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 0

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.2	3.8	0.2	0.0	0.1	1.2	0.0	0.0	3.5	0.4	0.5
Total Del/Veh (s)	1.1	1.1	0.1	1.3	1.3	0.7	4.7	8.5	2.1	6.7	7.2	2.7

1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	3.0

2: Hwy 52 NB Ramp & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.0	0.2	3.0	0.2
Total Del/Veh (s)	1.9	0.8	5.1	1.6	27.3	3.0	4.2

3: Hogan Ave & Rochester Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	2.3	0.9	0.9	2.8	2.8	1.8	11.8	9.1	3.6	2.3

4: County 29 Blvd & Cannon Falls Blvd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.3	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	12.2	9.6	1.1	1.3	4.5	2.2	4.0

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0		0.0	0.1	0.1	0.1	0.3	0.3	3.1	0.0	0.0	0.1
Total Del/Veh (s)	18.3		10.0	25.9	14.0	3.3	4.8	2.0	0.3	5.8	1.3	0.9

5: County 29 Blvd & County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	3.2

6: Access 1 & Rochester Blvd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.2	0.1
Total Del/Veh (s)	15.2	8.1	1.2	2.0	3.3	1.5	6.0

7: County 29 Blvd & Access 2 Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	10.6	7.4	3.5	1.7	1.5	0.4	4.9

8: Harry Blvd & CSAH 88/County 17 Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	1.9	0.0	0.0	0.0
Total Del/Veh (s)	3.9	0.5	1.3	5.7	4.2	3.5	3.9	6.7	1.3	5.0	4.3	3.5

8: Harry Blvd & CSAH 88/County 17 Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	3.4

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	15.5

Intersection: 1: Harry Ave/Hwy 52 SB Ramp & Rochester Blvd

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	L	R	L	TR	L	TR
Maximum Queue (ft)	52	13	7	27	52	97	46
Average Queue (ft)	8	1	0	5	14	40	16
95th Queue (ft)	34	8	4	21	40	71	36
Link Distance (ft)					1221		1017
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	325	325	325	300		250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hwy 52 NB Ramp & Rochester Blvd

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	109	121	44
Average Queue (ft)	49	37	16
95th Queue (ft)	94	91	36
Link Distance (ft)		1085	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	400		350
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hogan Ave & Rochester Blvd

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	12	2	36	48
Average Queue (ft)	1	0	3	15
95th Queue (ft)	8	2	19	36
Link Distance (ft)			1030	1034
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	400	300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: County 29 Blvd & Cannon Falls Blvd

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	129	70
Average Queue (ft)	55	14
95th Queue (ft)	102	50
Link Distance (ft)	1008	1963
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: County 29 Blvd & County 17 Blvd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	96	62	115	17
Average Queue (ft)	31	10	26	1
95th Queue (ft)	72	40	74	8
Link Distance (ft)	7658	1122	1094	971
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 6: Access 1 & Rochester Blvd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	170	15	84
Average Queue (ft)	65	1	28
95th Queue (ft)	117	10	64
Link Distance (ft)	2994	2007	1053
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: County 29 Blvd & Access 2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	137	82	4
Average Queue (ft)	55	8	0
95th Queue (ft)	100	42	3
Link Distance (ft)	1101	1963	1131
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Harry Blvd & CSAH 88/County 17 Blvd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	LT	R	LT	R
Maximum Queue (ft)	5	24	24	24	40	27
Average Queue (ft)	0	1	4	6	13	9
95th Queue (ft)	4	12	19	20	35	26
Link Distance (ft)			2562		7072	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	375	325		250		250
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 0

Appendix C

Back to Intro

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:	Tract Management Company, LP
Organization Address:	3300 E. 1st Ave, Suite 600 Denver, CO 80206
Inventory Reporting Period:	*Calendar Year 2025*
Start:	*1/20/2025*
End:	*1/24/2025*
Name of Preparer:	Max Forsman
Phone Number of Preparer:	952-905-2910
Date Prepared:	1/24/2025

Summary of Organization's Emissions:

	Scope 1 Emissions		
Go To Sheet	Stationary Combustion	1,803	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	15,500	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)
	Location-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	5,797	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Market-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	5,797	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Total organization Emissions		
	Total Scope 1 & Location-Based Scope 2	23,100	CO_2-e (metric tons)
	Total Scope 1 & Market-Based Scope 2	23,100	CO_2-e (metric tons)
	Reductions		
Go To Sheet	Offsets	0	CO_2-e (metric tons)
	Net Scope 1 and 2 Location-Based Emissions	23,100	CO_2-e (metric tons)
	Net Scope 1 and 2 Market-Based Emissions	23,100	CO_2-e (metric tons)
	Scope 3 Emissions		
Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	6,289	CO_2-e (metric tons)
	Required Supplemental Information		
Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

Back to Intro

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Operational Boundary Questions - Emissions Sources to Include

Guidance
Use the questions below to help you determine which emissions sources should be included in the inventory.

Emissions Source Questions
A typical office-based organization will likely have the following (scope 1 and scope 2) emissions sources:

- Stationary Combustion
- Refrigeration and AC
- Electricity

If you answer "yes" to a question below, that emissions source should be included in your inventory. For each facility within the defined organizational boundary, collect the necessary data for the selected time period. Use the corresponding Excel sheet to quantify these emissions.

Tip: you may need to ask your landlord about heating sources, steam purchased and refrigerants

Stationary Combustion	Yes or No?
Do you have facilities that burn fuels on-site (e.g., natural gas, propane, coal, fuel oil for heating, diesel fuel for backup generators, biomass fuels)?	N
Mobile Sources	
Do any vehicles fall within your organizational boundary? This can include cars, trucks, propane forklifts, aircraft, boats. Only vehicles owned or leased by your organization should be included here.	N
Refrigeration and Air Conditioning	
Do your facilities use refrigeration or air conditioning equipment?	N
Fire Suppression	
Do your facilities use chemical fire suppressants?	N
Purchased Gases	
Do you purchase any industrial gases for use in your business? These gases may be purchased for use in manufacturing, testing, or laboratories.	N
Waste Gases	
Are VOCs combusted in thermal oxidizers in your facilities?	N
Do you flare any gases on-site?	N
Electricity	
Does your inventory include facilities that use electricity?	Y
Steam	
Do you purchase steam for heating or cooling in your facilities?	N
Market-Based Emission Factors (entered on Electricity and or Steam tabs)	
Do you purchase renewable energy certificates (RECs) or green power products? Do you purchase electricity through a power purchase agreement (PPA)? Do you have supplier-specific emission factors?	N

The questions below refer to scope 3 emissions sources and offsets. If you answer "yes" you may choose whether or not to include these emissions sources in your inventory. Use the corresponding sheet to enter data.

Business Travel	Yes or No?
Do your employees travel for business using transportation other than owned or leased vehicles (e.g., commercial airline flights, rental cars, trains)?	N
Employee Commuting	
Do your employees commute to work in personal vehicles or use public transportation?	Y
Product Transport	
Do you hire another company to transport products or other materials to or from your facilities?	N
Waste Generated in Operations	
Do you generate waste that is disposed of in a facility owned by another organization?	N
Offsets	
Do you purchase greenhouse gas offsets?	N

Scope 1 Emissions from Stationary Combustion Sources

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Light Indust	Natural Gas Use	1,750,000	Natural Gas	33,950	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons
Lignite Coal	0	short tons
Natural Gas	33,089,669	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	1,801,401.6	34,082.4	3,309.0
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**1,801,401.6**	**34,082.4**	**3,309.0**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**1,801,401.6**	**34,082.4**	**3,309.0**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**1,803.2**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

Back to Intro | Back to Summary | Help

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 1 Emissions from Mobile Sources

Guidance

(A) Enter annual data for each vehicle or group of vehicles (grouped by vehicle type, vehicle year, and fuel type) in ORANGE cells in **Table 1**. Example entry is shown in first row (GREEN *Italics*). Only enter vehicles owned or leased by your organization on this sheet. All other vehicle use such as employee commuting or business travel is considered a scope 3 emissions source and should be reported in the corresponding scope 3 sheets.

- Select "On-Road" or "Non-Road" from drop down box to determine the Vehicle Types available.
- Select "Vehicle Type" from drop down box (closest type available).
- Enter "Fuel Usage" in appropriate units (units appear when vehicle type is selected).
- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see **Reference Table** below).
- Vehicle year and Miles traveled are not necessary for non-road equiment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent:	20	%
Ethanol Percent:	80	%

(C) Biomass CO_2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Source ID	Source Description	On-Road or Non-Road?	Vehicle Type	Vehicle Year	Fuel Usage	Units	Miles Traveled
Fleet-012	*HQ Fleet*	*NonRoad*	*Ships and Boats - Diesel*	*1990*	*500*	*gal*	*3,670*
Construction Equipment (non-road g	Construction Equipment	NonRoad	Construction/Mining Equipment - Gasoline (2 stroke)	2007	335,096	gal	0
Passenger Cars	Construction Equipment	OnRoad	Passenger Cars - Gasoline	2007	1,140	gal	4,368
Construction Equipment (non-road d	Construction Equipment	NonRoad	Construction/Mining Equipment - Diesel	2007	1,196,771	gal	0
Medium- and Heavy- Duty Trucks	Construction Equipment	OnRoad	Medium- and Heavy-Duty Vehicles - Diesel	2007	2,394	gal	1,560
Light Trucks	Construction Equipment	OnRoad	Light-Duty Trucks - Gasoline	2007	2,234	gal	1,560

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	24.1
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	17.6
Single unit 2-Axle 6-Tire or More Trucks	7.5
Combination Trucks	6.1

GHG Emissions

Total Organization-Wide Mobile Source Fuel Usage and CO_2 Emissions (On-Road and Off-Road Vehicles)

Fuel Type	Fuel Usage	Units	CO_2 (kg)	
Motor Gasoline	338,469	gallons	2,971,760.7	
Diesel Fuel	1,199,164	gallons	12,243,466.3	
Residual Fuel Oil	0	gallons	0.0	
Aviation Gasoline	0	gallons	0.0	
Kerosene-Type Jet Fuel	0	gallons	0.0	
Liquefied Petroleum Gas (LPG)	0	gallons	0.0	
Ethanol	0	gallons	0.0	*Note: emissions here are only for the gasoline portion of the fuel, biogenic CO2 emis*
Biodiesel	0	gallons	0.0	*Note: emissions here are only for the diesel portion of the fuel, biogenic CO2 emissio*
Liquefied Natural Gas (LNG)	0	gallons	0.0	
Compressed Natural Gas (CNG)	0	scf	0.0	

Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	4,368	31.4	22.7
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0

Light-Duty Trucks - Gasoline (Vans, Pickup Trucks, SUVs)	1987-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	1,560	16.1	9.5
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-present	0	0.0	0.0

Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Medium- and Heavy-Duty Vehicles -	Diesel	1960-2006	0	0.0	0.0
		2007-2018	1,560	14.8	67.2
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Buses	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH_4 (g)	N_2O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Agricultural Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Construction/Mining Equipment	Gasoline (2 stroke)	335,096	4,161,890	23,457
	Gasoline (4 stroke)	-	-	-
	Diesel	1,196,771	239,354	562,482
	LPG	-	-	-
Construction/Mining Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Lawn and Garden Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Airport Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Railroad Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-

Total CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**15,499.9**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**0.0**

Notes:

1. Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2019 (Nov 2020), Table VM-1.

Back to Intro | Back to Summary | Help | Help - Market-Based Method

Scope 2 Emissions from Purchase of Electricity

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

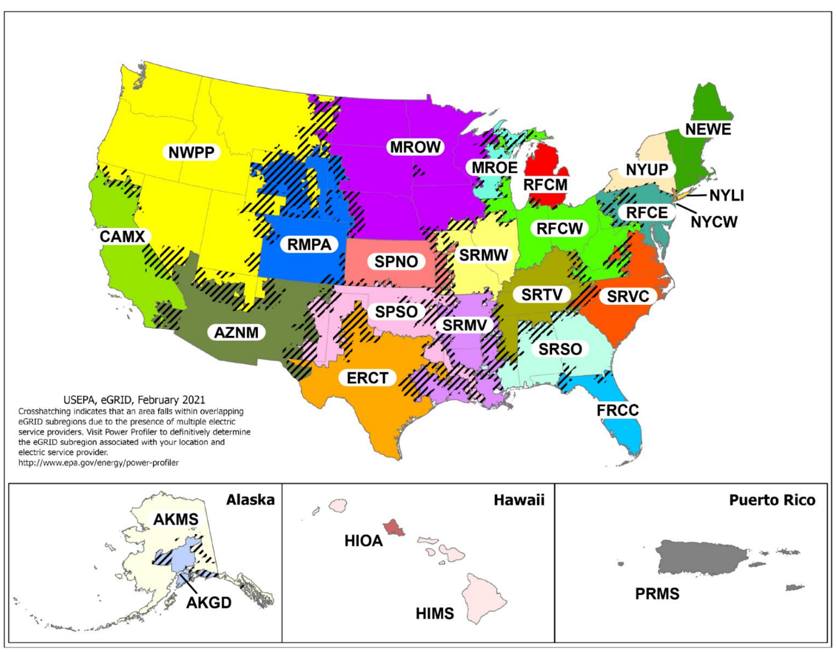
					Market-Based *Use these cells to enter applicable market-based emission factors*						Location-Based		
					Emission Factors			Emissions			Emissions		
Source ID	Source Description	Source Area (sq ft)	eGRID Subregion *where electricity is consumed*	Electricity Purchased (kWh)	CO_2 Emissions (lb/MWh)	CH_4 Emissions (lb/MWh)	N_2O Emissions (lb/MWh)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)	CO_2 Emissions (lb)	CH_4 Emissions (lb)	N_2O Emissions (lb)
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
	Electricity Use	1,750,000	MROW (MRO West)	11,550,000	<enter factor>	<enter factor>	<enter factor>	12,686,520.0	1,374.5	196.4	12,686,520.0	1,374.5	196.4
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				11,550,000				12,686,520.0	1,374.5	196.4	12,686,520.0	1,374.5	196.4

GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	**5,796.7**
Market-Based Electricity Emissions	**5,796.7**

Notes:
1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance
- Indirect Emissions from Purchased Electricity (January 2016).

Figure 1. EPA eGRID2019, February 2021.



Back to Intro | Back to Summary | Help

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	9,975	metric ton	*4,726,754*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	0	metric ton	*0*
Nonresidential Buildings	Nonresidential Recycling	Mixed Recyclables	Recycled	15,750	metric ton	*1,562,085*
Residential	Residential Recycling	Mixed Recyclables	Recycled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed Recyclables	Recycled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed MSW municipal solid waste	Landfilled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed Electronics	Landfilled	0	metric ton	*0*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	1,562,085
Landfilled	-
Combusted	4,726,754
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste **6,288.8**

EPA Simplified GHG Emissions Calculator (SGEC)

Version 7 June 2021

The EPA Simplified GHG Emissions Calculator ("the Calculator") is designed as a simplified calculation tool to help organizations estimate and inventory their annual greenhouse gas (GHG) emissions for US-based operations. All methodologies and default values provided are based on the most current Center for Corporate Climate Leadership Greenhouse *Gas Inventory Guidance Documents* and the *Emission Factors Hub*. The Calculator will quantify the direct and indirect emissions from sources at an organization when activity data are entered into the various sections of the workbook for one annual period.

Before entering data, please: 1) Enable Macros and 2) Familiarize yourself with the *Guide to Greenhouse Gas Management for Small Business & Low Emitters.*

Download the guide: https://www.epa.gov/climateleadership/center-corporate-climate-leadership-small-business-and-low-emitters-guide

There are three primary steps in completing a GHG inventory. Each emissions source also has these three steps.

(1) **DEFINE**: The first step in completing a GHG inventory is to determine the boundaries and emissions sources included within those boundaries. After you have defined your organizational and operational boundaries, you can use the questions on the "Boundary Questions" worksheet to help you determine which emissions sources are relevant to your business.

Go to Boundary Questions

(2) **COLLECT**: The second step is to collect data for the defined annual period. This step is typically the most time consuming, since the data can be difficult to gather. This Calculator has help sheets with suggestions and guidance for each emissions source and a general help sheet for data management. **Click the drop down menu boxes below to navigate to these sheets**.

Help - Data Management

(3) **QUANTIFY**: The third step is to calculate emissions. This Calculator is designed to complete the emissions quantification step for you. Once the user enters data in this MS Excel spreadsheet, the emissions will be calculated and totaled on the "Summary" sheet.

Calculator Guidance - Important Information

(A) Navigate to the data entry sheets using the drop down menu in the dark grey cell below and then clicking on the "Go To Data Entry Sheet" button. On the data entry sheets enter data in ORANGE cells only.

(B) This Calculator has several "Tool Sheets" with useful reference data such as unit conversions, heat contents, and emission factors. Click on the buttons below to go to the appropriate Tool Sheet.

(C) Data must be entered in the units specified on the data entry sheets. Use the "Unit Conversions" or "Heat Content" sheets if unit conversion is necessary prior to entering data into the Calculator.

(D) If more guidance is needed, you can reference the emission factor data sources found on the "Emission Factors" sheet.

Tool Sheets	Quick Data Entry Navigation
Unit Conversions	Fire Suppression
Heat Content	
Emission Factors	

Calculator Notes

Emission sources of all seven major GHGs are accounted for in the inventory and in this Calculator: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). The Calculator allows the user to estimate GHG emissions from scope 1 (direct), scope 2 (indirect), and some scope 3 (other indirect) sources.

The Calculator uses U.S.-specific cross-sector emission factors from the *Emission Factors Hub*. Many industrial sectors also have process-related emissions sources that are specific to their sector. EPA's Greenhouse Gas Reporting Program provides guidance and tools that can aid in the calculation and reporting of these emissions:

https://www.epa.gov/ghgreporting

The GHG Protocol also provides guidance on calculating emissions from industrial processes.

Back to Intro

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Emissions Summary

Guidance

The total GHG emissions from each source category are provided below. You may also use this summary sheet to fill out the *Annual GHG Inventory Summary and Goal Tracking Form* as this calculator only quantifies one year of emissions at a time.

https://www.epa.gov/climateleadership/center-corporate-climate-leadership-annual-ghg-inventory-summary-and-goal-tracking

By entering the data below into the appropriate cell of the *Annual GHG Inventory Summary and Goal Tracking Form,* you will be able to compare multiple years of data.

If you have multiple Calculator files covering sub-sets of your inventory for a particular reporting period, sum each of the emission categories (e.g. Stationary Combustion) to an organizational total, which then can be entered into the *Annual GHG Inventory Summary and Goal Tracking Form* .

(A) Enter organization information into the orange cells. Other cells on this sheet will be automatically calculated from the data entered in the sheets in this workbook. Blue cells indicate required emission sources if applicable. Green cells indicate scope 3 emission sources and offsets, which organizations may optionally include in their inventory.

(B) The "Go To Sheet" buttons can be used to navigate to the data entry sheets.

Organizational Information:

Organization Name:	Tract Management Company, LP
Organization Address:	3300 E. 1st Ave, Suite 600 Denver, CO 80206
Inventory Reporting Period:	*e.g., Calendar Year 2025, Fiscal Year 2025*
Start:	*1/20/2025*
End:	*1/24/2025*
Name of Preparer:	Max Forsman
Phone Number of Preparer:	952-905-2910
Date Prepared:	1/24/2025

Summary of Organization's Emissions:

	Scope 1 Emissions		
Go To Sheet	Stationary Combustion	4,557	CO_2-e (metric tons)
Go To Sheet	Mobile Sources	13,286	CO_2-e (metric tons)
Go To Sheet	Refrigeration / AC Equipment Use	0	CO_2-e (metric tons)
Go To Sheet	Fire Suppression	0	CO_2-e (metric tons)
Go To Sheet	Purchased Gases	0	CO_2-e (metric tons)
	Location-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	15,207	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Market-Based Scope 2 Emissions		
Go To Sheet	Purchased and Consumed Electricity	15,207	CO_2-e (metric tons)
Go To Sheet	Purchased and Consumed Steam	0	CO_2-e (metric tons)
	Total organization Emissions		
	Total Scope 1 & Location-Based Scope 2	33,050	CO_2-e (metric tons)
	Total Scope 1 & Market-Based Scope 2	33,050	CO_2-e (metric tons)
	Reductions		
Go To Sheet	Offsets	0	CO_2-e (metric tons)
	Net Scope 1 and 2 Location-Based Emissions	33,050	CO_2-e (metric tons)
	Net Scope 1 and 2 Market-Based Emissions	33,050	CO_2-e (metric tons)
	Scope 3 Emissions		
Go To Sheet	Employee Business Travel	0	CO_2-e (metric tons)
Go To Sheet	Employee Commuting	0	CO_2-e (metric tons)
Go To Sheet	Product Transport	0	CO_2-e (metric tons)
Go To Sheet	Waste	425	CO_2-e (metric tons)
	Required Supplemental Information		
Go To Sheet	Biomass CO_2 Emissions from Stationary Sources	0	CO_2-e (metric tons)
Go To Sheet	Biomass CO_2 Emissions from Mobile Sources	0	CO_2-e (metric tons)

Back to Intro

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Operational Boundary Questions - Emissions Sources to Include

Guidance

Use the questions below to help you determine which emissions sources should be included in the inventory.

Emissions Source Questions

A typical office-based organization will likely have the following (scope 1 and scope 2) emissions sources:

- Stationary Combustion
- Refrigeration and AC
- Electricity

If you answer "yes" to a question below, that emissions source should be included in your inventory. For each facility within the defined organizational boundary, collect the necessary data for the selected time period. Use the corresponding Excel sheet to quantify these emissions.

Tip: you may need to ask your landlord about heating sources, steam purchased and refrigerants

Stationary Combustion	Yes or No?
Do you have facilities that burn fuels on-site (e.g., natural gas, propane, coal, fuel oil for heating, diesel fuel for backup generators, biomass fuels)?	N
Mobile Sources	
Do any vehicles fall within your organizational boundary? This can include cars, trucks, propane forklifts, aircraft, boats. Only vehicles owned or leased by your organization should be included here.	N
Refrigeration and Air Conditioning	
Do your facilities use refrigeration or air conditioning equipment?	N
Fire Suppression	
Do your facilities use chemical fire suppressants?	N
Purchased Gases	
Do you purchase any industrial gases for use in your business? These gases may be purchased for use in manufacturing, testing, or laboratories.	N
Waste Gases	
Are VOCs combusted in thermal oxidizers in your facilities?	N
Do you flare any gases on-site?	N
Electricity	
Does your inventory include facilities that use electricity?	Y
Steam	
Do you purchase steam for heating or cooling in your facilities?	N
Market-Based Emission Factors (entered on Electricity and or Steam tabs)	
Do you purchase renewable energy certificates (RECs) or green power products? Do you purchase electricity through a power purchase agreement (PPA)? Do you have supplier-specific emission factors?	N

The questions below refer to scope 3 emissions sources and offsets. If you answer "yes" you may choose whether or not to include these emissions sources in your inventory. Use the corresponding sheet to enter data.

Business Travel	Yes or No?
Do your employees travel for business using transportation other than owned or leased vehicles (e.g., commercial airline flights, rental cars, trains)?	N
Employee Commuting	
Do your employees commute to work in personal vehicles or use public transportation?	Y
Product Transport	
Do you hire another company to transport products or other materials to or from your facilities?	N
Waste Generated in Operations	
Do you generate waste that is disposed of in a facility owned by another organization?	N
Offsets	
Do you purchase greenhouse gas offsets?	N

Scope 1 Emissions from Stationary Combustion Sources

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Guidance

(A) Enter annual data for each combustion unit, facility, or site (by fuel type) in ORANGE cells on **Table 1**. Example entry is shown in first row (*GREEN Italics*).

- Select "Fuel Combusted" from drop down box.
- Enter "Quantity Combusted" and choose the appropriate units from the drop down box in the unit column. If it's necessary to convert units, common heat contents can be found on the "Heat Content" sheet and unit conversions on the "Unit Conversion" sheet.

(B) If fuel is consumed in a facility but stationary fuel consumption data are not available, an estimate should be made for completeness. See the "Items to Note" section of the Help sheet for suggested estimation approaches.

(C) Biomass CO_2 emissions are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Stationary Source Fuel Combustion

Source ID	Source Description	Source Area (sq ft)	Fuel Combusted	Quantity Combusted	Units
BLR-012	*East Power Plant*	*12,517*	*Natural Gas*	*10,000*	*MMBtu*
Technology	Natural Gas Use	1,500,000	Natural Gas	85,800	MMBtu

GHG Emissions

Total Organization-Wide Stationary Source Combustion by Fuel Type

Fuel Type	Quantity Combusted	Units
Anthracite Coal	0	short tons
Bituminous Coal	0	short tons
Sub-bituminous Coal	0	short tons
Lignite Coal	0	short tons
Natural Gas	83,625,731	scf
Distillate Fuel Oil No. 2	0	gallons
Residual Fuel Oil No. 6	0	gallons
Kerosene	0	gallons
Liquefied Petroleum Gases (LPG)	0	gallons
Wood and Wood Residuals	0	short tons
Landfill Gas	0	scf

Total Organization-Wide CO_2, CH_4 and N_2O Emissions from Stationary Source Fuel Combustion

Fuel Type	CO_2 (kg)	CH_4 (g)	N_2O (g)
Anthracite Coal	0.0	0.0	0.0
Bituminous Coal	0.0	0.0	0.0
Sub-bituminous Coal	0.0	0.0	0.0
Lignite Coal	0.0	0.0	0.0
Natural Gas	4,552,584.8	86,134.5	8,362.6
Distillate Fuel Oil No. 2	0.0	0.0	0.0
Residual Fuel Oil No. 6	0.0	0.0	0.0
Kerosene	0.0	0.0	0.0
Liquefied Petroleum Gases (LPG)	0.0	0.0	0.0
Total Fossil Fuel Emissions	**4,552,584.8**	**86,134.5**	**8,362.6**
Wood and Wood Residuals	0.0	0.0	0.0
Landfill Gas	0.0	0.0	0.0
Total Non-Fossil Fuel Emissions	**0.0**	**0.0**	**0.0**
Total Emissions for all Fuels	**4,552,584.8**	**86,134.5**	**8,362.6**

Total CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**4,557.2**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Stationary Combustion	**0.0**

Back to Intro | Back to Summary | Help

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 1 Emissions from Mobile Sources

Guidance

(A) Enter annual data for each vehicle or group of vehicles (grouped by vehicle type, vehicle year, and fuel type) in ORANGE cells in **Table 1**. Example entry is shown in first row (GREEN *Italics*). Only enter vehicles owned or leased by your organization on this sheet. All other vehicle use such as employee commuting or business travel is considered a scope 3 emissions source and should be reported in the corresponding scope 3 sheets.

- Select "On-Road" or "Non-Road" from drop down box to determine the Vehicle Types available.
- Select "Vehicle Type" from drop down box (closest type available).
- Enter "Fuel Usage" in appropriate units (units appear when vehicle type is selected).
- If mileage or fuel usage is unknown, estimate using approximate fuel economy values (see **Reference Table** below).
- Vehicle year and Miles traveled are not necessary for non-road equiment.

(B) When using biofuels, typically the biofuel (biodiesel or ethanol) is mixed with a petroleum fuel (diesel or gasoline) for use in vehicles. Enter the biodiesel and ethanol percentages of the fuel if known, or leave default values.

Biodiesel Percent:	20	%
Ethanol Percent:	80	%

(C) Biomass CO_2 emissions from biodiesel and ethanol are not reported in the total emissions, but are reported separately at the bottom of the sheet.

Table 1. Mobile Source Fuel Combustion and Miles Traveled

Source ID	Source Description	On-Road or Non-Road?	Vehicle Type	Vehicle Year	Fuel Usage	Units	Miles Traveled
Fleet-012	*HQ Fleet*	*NonRoad*	*Ships and Boats - Diesel*	*1990*	*500*	*gal*	*3,670*
Construction Equipment (non-road g	Construction Equipment	NonRoad	Construction/Mining Equipment - Gasoline (2 stroke)	2007	287,225	gal	0
Passenger Cars	Construction Equipment	OnRoad	Passenger Cars - Gasoline	2007	977	gal	4,368
Construction Equipment (non-road d	Construction Equipment	NonRoad	Construction/Mining Equipment - Diesel	2007	1,025,803	gal	0
Medium- and Heavy- Duty Trucks	Construction Equipment	OnRoad	Medium- and Heavy-Duty Vehicles - Diesel	2007	2,052	gal	1,560
Light Trucks	Construction Equipment	OnRoad	Light-Duty Trucks - Gasoline	2007	1,915	gal	1,560

Reference Table: Average Fuel Economy by Vehicle Type

Vehicle Type	Average Fuel Economy (mpg)
Passenger Cars	24.1
Motorcycles	44.0
Diesel Buses (Diesel Heavy-Duty Vehicles)	7.3
Other 2-axle, 4-Tire Vehicles	17.6
Single unit 2-Axle 6-Tire or More Trucks	7.5
Combination Trucks	6.1

GHG Emissions

Total Organization-Wide Mobile Source Fuel Usage and CO_2 Emissions (On-Road and Off-Road Vehicles)

Fuel Type	Fuel Usage	Units	CO_2 (kg)
Motor Gasoline	290,117	gallons	2,547,223.4
Diesel Fuel	1,027,855	gallons	10,494,399.7
Residual Fuel Oil	0	gallons	0.0
Aviation Gasoline	0	gallons	0.0
Kerosene-Type Jet Fuel	0	gallons	0.0
Liquefied Petroleum Gas (LPG)	0	gallons	0.0
Ethanol	0	gallons	0.0
Biodiesel	0	gallons	0.0
Liquefied Natural Gas (LNG)	0	gallons	0.0
Compressed Natural Gas (CNG)	0	scf	0.0

Total Organization-Wide On-Road Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Gasoline	1984-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	4,368	31.4	22.7
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Light-Duty Trucks - Gasoline (Vans, Pickup Trucks, SUVs)	1987-93	0	0.0	0.0
	1994	0	0.0	0.0
	1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0

	2007	1,560	16.1	9.5
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Heavy-Duty Vehicles - Gasoline	1985-86	0	0.0	0.0
	1987	0	0.0	0.0
	1988-1989	0	0.0	0.0
	1990-1995	0	0.0	0.0
	1996	0	0.0	0.0
	1997	0	0.0	0.0
	1998	0	0.0	0.0
	1999	0	0.0	0.0
	2000	0	0.0	0.0
	2001	0	0.0	0.0
	2002	0	0.0	0.0
	2003	0	0.0	0.0
	2004	0	0.0	0.0
	2005	0	0.0	0.0
	2006	0	0.0	0.0
	2007	0	0.0	0.0
	2008	0	0.0	0.0
	2009	0	0.0	0.0
	2010	0	0.0	0.0
	2011	0	0.0	0.0
	2012	0	0.0	0.0
	2013	0	0.0	0.0
	2014	0	0.0	0.0
	2015	0	0.0	0.0
	2016	0	0.0	0.0
	2017	0	0.0	0.0
	2018	0	0.0	0.0
Motorcycles - Gasoline	1960-1995	0	0.0	0.0
	1996-present	0	0.0	0.0

Total Organization-Wide On-Road Non-Gasoline Mobile Source Mileage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Vehicle Year	Mileage (miles)	CH_4 (g)	N_2O (g)
Passenger Cars - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Light-Duty Trucks - Diesel	Diesel	1960-1982	0	0.0	0.0
		1983-1995	0	0.0	0.0
		1996-2006	0	0.0	0.0
		2007-2018	0	0.0	0.0
Medium- and Heavy-Duty Vehicles -	Diesel	1960-2006	0	0.0	0.0
		2007-2018	1,560	14.8	67.2
Light-Duty Cars	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Light-Duty Trucks	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Medium-Duty Trucks	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Heavy-Duty Trucks	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0
Buses	Methanol		0	0.0	0.0
	Ethanol		0	0.0	0.0
	CNG		0	0.0	0.0
	LPG		0	0.0	0.0
	LNG		0	0.0	0.0
	Biodiesel		0	0.0	0.0

Total Organization-Wide Non-Road Mobile Source Fuel Usage and CH_4/N_2O Emissions

Vehicle Type	Fuel Type	Fuel Usage (gallons)	CH_4 (g)	N_2O (g)
Ships and Boats	Residual Fuel Oil	-	-	-
	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Locomotives	Diesel	-	-	-
Aircraft	Jet Fuel	-	-	-
	Aviation Gasoline	-	-	-
Agricultural Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Agricultural Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Construction/Mining Equipment	Gasoline (2 stroke)	287,225	3,567,334	20,106
	Gasoline (4 stroke)	-	-	-
	Diesel	1,025,803	205,161	482,128
	LPG	-	-	-
Construction/Mining Offroad Trucks	Gasoline	-	-	-
	Diesel	-	-	-
Lawn and Garden Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Airport Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Industrial/Commercial Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Logging Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
Railroad Equipment	Gasoline	-	-	-
	Diesel	-	-	-
	LPG	-	-	-
Recreational Equipment	Gasoline (2 stroke)	-	-	-
	Gasoline (4 stroke)	-	-	-
	Diesel	-	-	-
	LPG	-	-	-

Total CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**13,285.6**
Total Biomass CO_2 Equivalent Emissions (metric tons) - Mobile Sources	**0.0**

Notes:

1. Average mpg values from the U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2019 (Nov 2020), Table VM-1.

Back to Intro | Back to Summary | Help | Help - Market-Based Method

Scope 2 Emissions from Purchase of Electricity

EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Guidance

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying two scope 2 emissions totals, using a **location-based method** and a **market-based method**. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

(A) Enter total annual electricity purchased in kWh and each eGRID subregion for each facility or site in ORANGE cells of **Table 1**.
(B) If electricity consumption data are not available for a facility, an estimate should be made for completeness.
See the "Items to Note" section of the Help sheet for suggested estimation approaches.
(C) Select "eGRID subregion" from drop box and enter "Electricity Purchased."
- Use map (Figure 1) at bottom of sheet to determine appropriate eGRID subregion. If subregion cannot be determined from the map, find the correct subregion by entering the location's zip code into EPA's Power Profiler:
https://www.epa.gov/egrid/power-profiler#/
(D) See the market-based emission factor hierarchy on the market-based method Help sheet. If any of the first four types of emission factors are applicable, enter the factors in the yellow cells marked as "<enter factor>". If not, leave the yellow cells as is, and eGRID subregion factors will be used for market-based emissions.
Example entry is shown in first row (*GREEN Italics*) for a facility that purchases RECs for 100% of its consumption, and therefore has a market-based emission factor of 0.

Help - Market-Based Method

Tips: Enter electricity usage by location and then look up the eGRID subregion for each location.
If you purchase renewable energy that is less than 100% of your site's electricity, see the example in the market-based method Help sheet.

Table 1. Total Amount of Electricity Purchased by eGRID Subregion

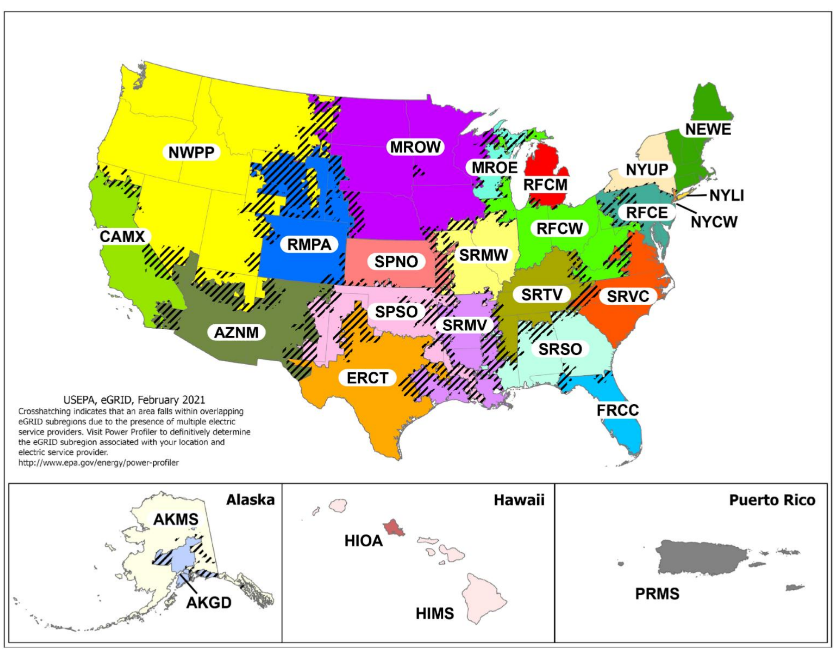
					Market-Based *Use these cells to enter applicable market-based emission factors*						**Location-Based**		
					Emission Factors			**Emissions**			**Emissions**		
Source ID	**Source Description**	**Source Area (sq ft)**	**eGRID Subregion** *where electricity is consumed*	**Electricity Purchased (kWh)**	**CO_2 Emissions (lb/MWh)**	**CH_4 Emissions (lb/MWh)**	**N_2O Emissions (lb/MWh)**	**CO_2 Emissions (lb)**	**CH_4 Emissions (lb)**	**N_2O Emissions (lb)**	**CO_2 Emissions (lb)**	**CH_4 Emissions (lb)**	**N_2O Emissions (lb)**
Bldg-012	*East Power Plant*	*12,517*	*HIMS (HICC Miscellaneous)*	*200,000*	*0*	*0*	*0*	*0.0*	*0.0*	*0.0*	*237,120.0*	*28.6*	*4.4*
	Electricity Use	1,500,000	MROW (MRO West)	30,300,000	<enter factor>	<enter factor>	<enter factor>	33,281,520.0	3,605.7	515.1	33,281,520.0	3,605.7	515.1
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
					<enter factor>	<enter factor>	<enter factor>						
Total Emissions for All Sources				30,300,000				33,281,520.0	3,605.7	515.1	33,281,520.0	3,605.7	515.1

GHG Emissions

CO_2 Equivalent Emissions (metric tons)	
Location-Based Electricity Emissions	**15,207.0**
Market-Based Electricity Emissions	**15,207.0**

Notes:
1. CO_2, CH_4 and N_2O emissions are estimated using methodology provided in EPA's Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance
- Indirect Emissions from Purchased Electricity (January 2016).

Figure 1. EPA eGRID2019, February 2021.



EPA CENTER FOR CORPORATE CLIMATE LEADERSHIP
U.S. Environmental Protection Agency

Scope 3 Emissions from Waste

Guidance

(A) Enter annual waste data in ORANGE cells. Example entry is shown in first row (*GREEN Italics*).

(B) Choose the appropriate material and disposal method from the drop down options. For the average-data method, use one of the mixed material types, such as mixed MSW. If the exact waste material is not available, consider an appropriate proxy. For example, dimensional lumber can be used as a proxy for wood furniture.

(C) Choose an appropriate disposal method. Note that not all disposal methods are available for all materials. If there is a #NA or # Value error in the emissions column, you must pick a new material type or appropriate disposal method.

Table 1. Waste Disposal Weight by Waste Material and Disposal Method (CO_2, CH_4 and N_2O)

Source ID	Source Description	Waste Material	Disposal Method	Weight	Unit	CO_2e Emissions (kg)
Bldg-012	*East Power Plant Finished Goods*	*Steel Cans*	*Landfilled*	*1,000*	*metric ton*	*22,040*
Nonresidential Buildings	Nonresidential Waste	Mixed MSW municipal solid waste	Combusted	0	metric ton	*0*
Residential	Residential Waste	Mixed MSW municipal solid waste	Combusted	0	metric ton	*0*
Nonresidential Buildings	Nonresidential Recycling	Mixed Recyclables	Recycled	0	metric ton	*0*
Residential	Residential Recycling	Mixed Recyclables	Recycled	0	metric ton	*0*
Nonresidential Buildings	Data Center Waste	Mixed Recyclables	Recycled	78	metric ton	*7,736*
Nonresidential Buildings	Data Center Waste	Mixed MSW municipal solid waste	Landfilled	728	metric ton	*417,173*
Nonresidential Buildings	Data Center Waste	Mixed Electronics	Landfilled	3	metric ton	*66*

GHG Emissions

Total Emissions by Disposal Method

Waste Material	CO_2e (kg)
Recycled	7,736
Landfilled	417,239
Combusted	-
Composted	-
Anaerobically Digested (Dry Digestate with Curing)	-
Anaerobically Digested (Wet Digestate with Curing)	-

Total CO_2 Equivalent Emissions (metric tons) - Waste	**425.0**

Appendix D

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793

In Reply Refer To: 07/10/2024 17:51:33 UTC
Project Code: 2024-0114138
Project Name: Simon and Mccoy Site

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species
The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance
Please refer to refer to our Section 7 website for guidance and technical assistance, including step-by-step instructions for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A demonstration video showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of “no effect” or “may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species’ biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a “Not Likely to Adversely Affect” (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a “May Affect” determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for “May Affect” determinations unless otherwise indicated in your output letter.

Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review. If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain Life History Information for Listed and Candidate Species on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

Northern Long-Eared Bats
Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 15 to March 31. During the active season (April 1 to November 14) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No**

Effect determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

If any of the above activities are proposed, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the range-wide northern long-eared bat D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/ Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys helps to determine if prohibited take might occur and, if not, will generate an automated verification letter. Additional information about available tools can be found on the Service's northern long-eared bat website.

Whooping Crane
Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States."

Other Trust Resources and Activities
Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. It is the responsibility of the project proponent to survey the area for any migratory bird nests. If there is an eagle nest on-site while work is on-going, eagles may be disturbed. We recommend avoiding and minimizing disturbance to eagles whenever practicable. If you cannot avoid eagle disturbance, you may seek a permit. A nest take permit is always required for removal, relocation, or obstruction of an eagle nest. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to

wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's Wind Energy Guidelines. In addition, please refer to the Service's Eagle Conservation Plan Guidance, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

State Department of Natural Resources Coordination
While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

Minnesota
Minnesota Department of Natural Resources - Endangered Resources Review Homepage
Email: Review.NHIS@state.mn.us

Wisconsin
Wisconsin Department of Natural Resources - Endangered Resources Review Homepage
Email: DNRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
(952) 858-0793

PROJECT SUMMARY

Project Code: 2024-0114138
Project Name: Simon and Mccoy Site
Project Type: Mixed-Use Construction
Project Description: Site investigation for industrial development.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.531108700000004,-92.9243770061649,14z

Counties: Dakota and Goodhue counties, Minnesota

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ This species only needs to be considered if the project includes wind turbine operations. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

BIRDS

NAME	STATUS
Whooping Crane *Grus americana* Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Minnesota Dwarf Trout Lily *Erythronium propullans* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/597	Endangered
Prairie Bush-clover *Lespedeza leptostachya* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4458	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

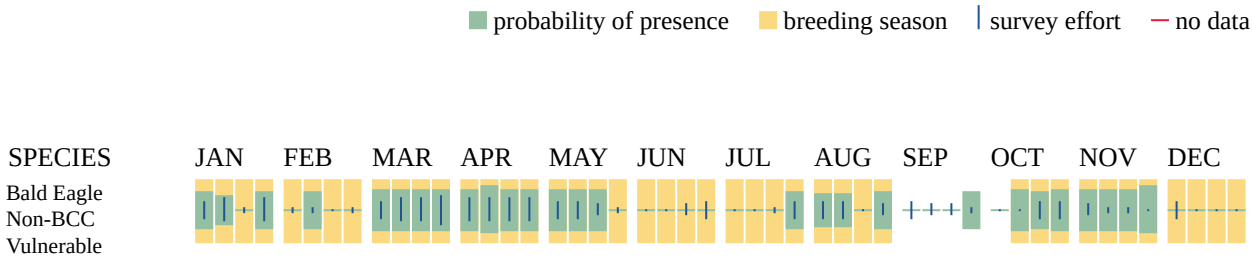
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10561	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Henslow's Sparrow *Centronyx henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482	Breeds elsewhere

NAME	BREEDING SEASON
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Loggerhead Shrike *Lanius ludovicianus excubitorides* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8833	Breeds Feb 1 to Jul 31
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

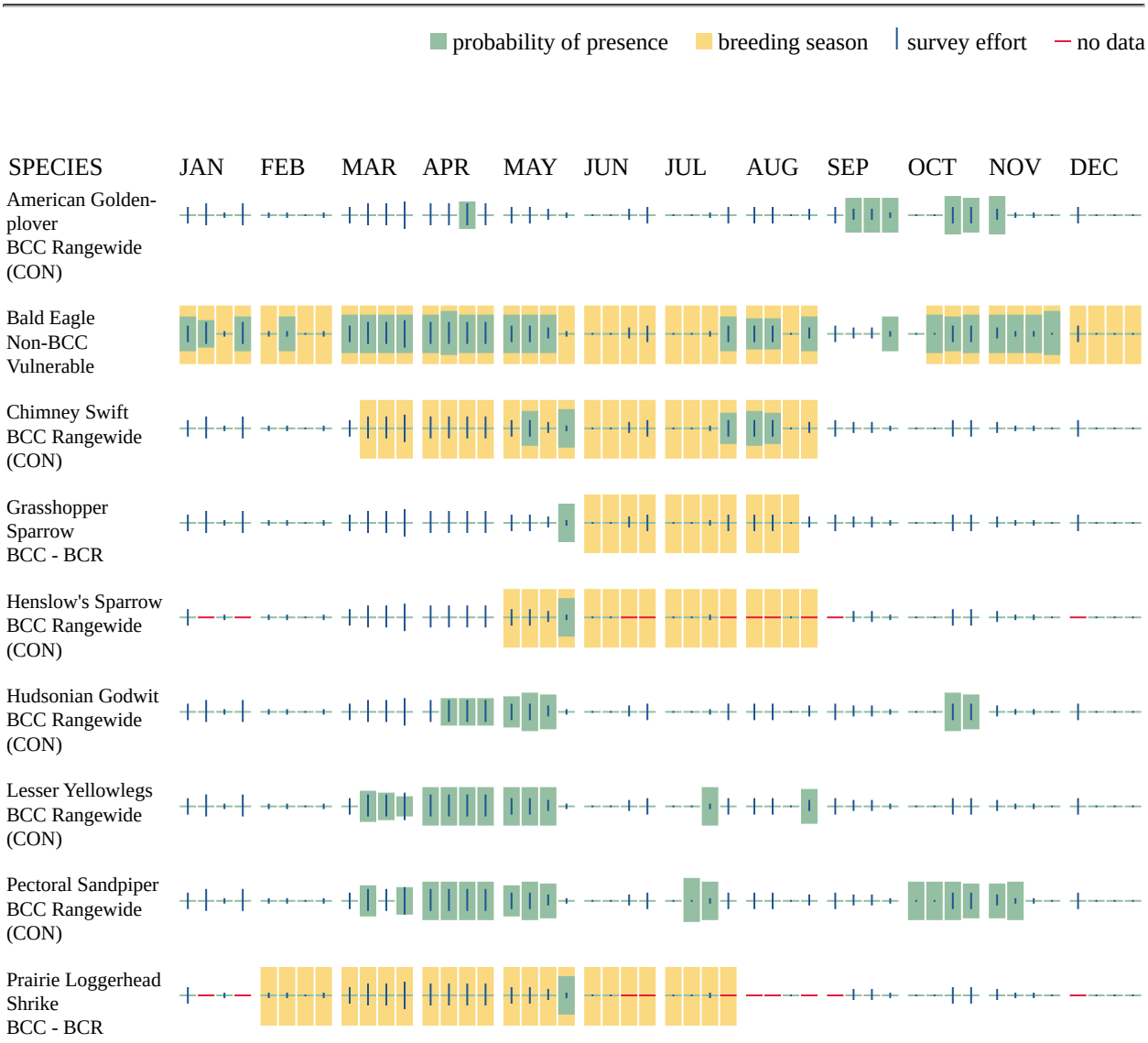
Probability of Presence (■)

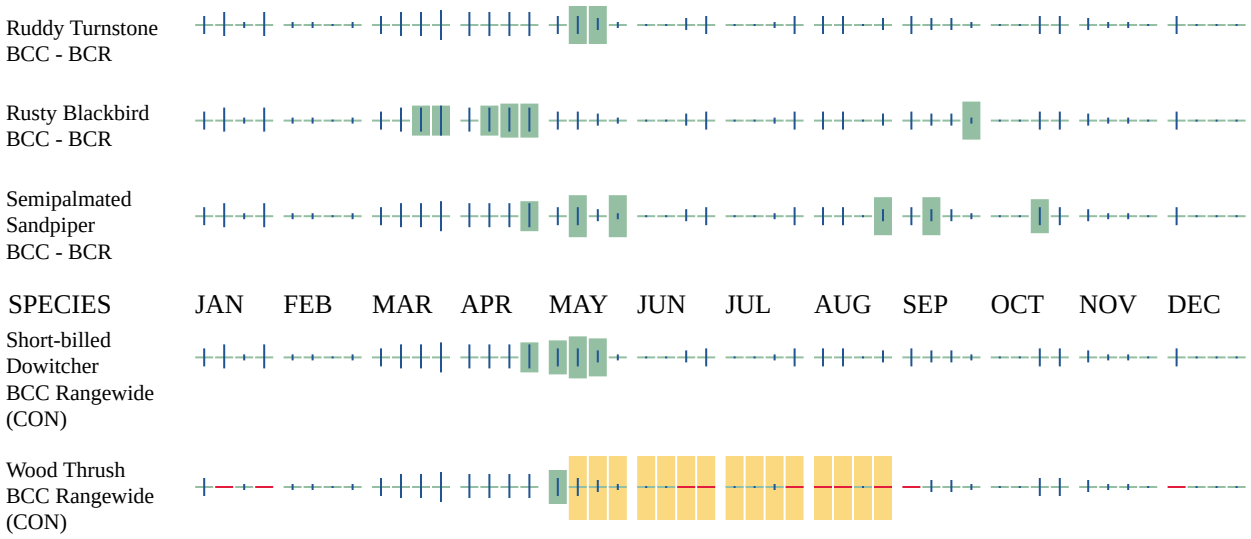
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Madeline Roess
Address:	767 Eustis Street
Address Line 2:	#100
City:	St. Paul
State:	MN
Zip:	55114
Email	madeline.roess@kimley-horn.com
Phone:	6128456789

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

July 30, 2024

Twin Cities - Environmental (Kimley-Horn)
Kimley-Horn and Associates, Inc.

RE: Natural Heritage Review of the proposed **Simon and McCoy,**
T112N R17W Sections 6 & 7, T112N R18W Sections 1 & 12; Dakota, Goodhue County

Dear Twin Cities - Environmental (Kimley-Horn),

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2024-00569** in the email subject line.

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- Loggerhead shrikes (*Lanius ludovicianus*), a state-listed endangered bird, have been documented in the vicinity of the project site. Loggerhead shrikes use grasslands that contain short grass and scattered perching sites such as hedgerows, shrubs, or small trees. They can be found in native prairie, pastures, shelterbelts, old fields or orchards, cemeteries, grassy roadsides, and farmyards. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of endangered or threatened plants or animals, including their parts or seeds, without a permit. Given the potential for this species to be found in the vicinity of the project, **tree and shrub removal is required to be avoided during the breeding season, April through July.**

  Please contact Review.NHIS@state.mn.us **to confirm that the above avoidance measure will be implemented or to inform us that avoidance is not feasible.** If avoidance is not feasible, a qualified surveyor needs to conduct a survey for active nests before any trees or shrubs will be removed. Requirements for surveys and lists of DNR certified lists of surveyors can be found at the Natural Heritage Review website.

- Lark sparrow (*Chondestes grammacus*), a state-listed bird species of special concern, has been documented in the vicinity of the project. This bird species is found in open, dry grassland areas with scattered trees and shrubs. They build their nest on the ground, in a shrub or a small tree. **If feasible, avoid initial disturbance to grassland areas and tree/shrub removal from May 15th through August 15th to avoid disturbance of nesting birds.**

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**

- North American racer (*Coluber constrictor*), a state-listed species of special concern, has been documented in the vicinity of the proposed project and may be encountered on site. These snakes occupy a variety of habitats in the deciduous forest region including forested hillsides, bluff prairies, grasslands, and open woods. Woodland margins and field edges are the preferred summer habitat. During winter months, North American racers hibernate in mammal burrows, caves, rock crevices, gravel banks, stone foundations, and old wells. North American racers have relatively large home ranges, making long-distance movements to and from their hibernacula each year. The North American racer emerges from hibernation in late April. **Given the presence of these rare snakes, the DNR recommends that the use of erosion control mesh, if any, be limited to wildlife-friendly materials.**

- Please visit the DNR Rare Species Guide for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool.

Environmental Review and Permitting

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. **If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.**

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the Natural Heritage Review website for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, you may contact your DNR Regional Environmental Assessment Ecologist.

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Molly Barrett

Natural Heritage Review Specialist
Molly.Barrett@state.mn.us

Cc: Melissa Collins, Regional Environmental Assessment Ecologist, Central (Region 3)