ENVIRONMENTAL ASSESSMENT WORKSHEET

HENTGES INDUSTRIAL PARK

Shakopee, MN 55379

December 14, 2020

Proposer:
WBT Industrial REIT
150 South 5th Street, Ste 2675
Minneapolis, MN 55402

RGU:
City of Shakopee
485 Gorman Street
Shakopee, MN 55379

WSB PROJECT NO. 017214-000

July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title: Hentges Industrial Park**

2. **Proposer: WBT INDUSTRIAL REIT**
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3. **RGU: City of Shakopee**
   Contact person: Mark Noble
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4. **Reason for EAW Preparation:** (check one)

Required:	Discretionary:
☐ EIS Scoping	☐ Citizen petition
■ Mandatory EAW	☐ RGU discretion
	☐ Proposer initiated

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

   Subpart 14(B): Industrial, commercial, and institutional facilities: For construction of a new or expansion of an existing industrial, commercial, or institutional facility, other than a warehousing or light industrial facility in a second class city.

5. **Project Location:**
   County: Scott
   City/Township: Shakopee
   PLS Location (¼, ¼, Section, Township, Range): SE 1/4, Section 2, Township 115N, Range 22W
   Watershed (81 major watershed scale):
   GPS Coordinates: 44.792765, -93.425000

Tax Parcel Number: 270730040, 270730070, and 270730050

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

- County map showing the general location of the project (**Figure 1**, **Appendix A**);
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable) (**Figure 2, Appendix A**); and
- Site plans showing all significant project and natural features. Pre-construction site plan (**Figure 3, Appendix A)** and post-construction site plan. (**Figure 4, Appendix A**)

6. Project Description:

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

The proposed Hentges Industrial Park development will include development of five parcels within the existing approximately 61-acre site. This will include construction of an approximately 505,000 square foot industrial building on the western 29 acres of the project area. On the eastern 27 acres of the project area, two industrial developments, approximately 70,000 square feet and 175,000 square feet in size will be constructed north and south, respectively, of the proposed Hentges Way. Associated features such as parking areas, stormwater management basins, and utilities are also proposed. A new roadway, Hentges Way, will be extended southwest from Stagecoach Road via a round-a-bout and be terminated at a cul-de-sac. The remaining two parcels, totaling approximately 6 acres on the southeast side, will be acquired by an adjacent landowner and Shakopee Public Utilities Commission (SPUC) to support their existing operations.

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

The proposed Hentges Industrial Park development will involve the development of five parcels within the approximately 61-acre project area. The individual development areas are summarized below and shown on **Figure 4** (**Appendix A**):

- 505,000 square foot industrial building – This portion of the industrial park will be constructed on the western 29 acres of the project area. The ultimate development will be an approximately 505,000 square foot warehouse and distribution facility. In addition to the building itself, the development area will also include approximately 440 parking stalls, approximately 100 loading docks, and parking for approximately 126 semi tractor-trailers. Two stormwater management basins will be constructed to manage the runoff from the site. Access to the site will be provided via two entrances off 70th Street West and one entrance off the proposed Hentges Way. The 70th Street West access will be emergency access only.

- 70,000 square foot industrial development – This development area consists of an approximately 5-acre parcel located east of the pipeline easement and north of the proposed Hentges Way. Though a detailed development plan is not available at this time, this site will include an approximately 70,000 square foot industrial building, associated parking, a stormwater management basin, and utilities. Impervious surfaces will cover up to 85% of the site, as allowed by the zoning. Access will be provided from Hentges Way.

- 175,000 square foot industrial development – This development area consists of an approximately 16-acre parcel located east of the pipeline easement and south of the proposed Hentges Way. Though a detailed development plan is not available at this time,

this site will include an industrial building, associated parking, a stormwater management basin, and utilities. Impervious surfaces will cover up to 85% of the site, as allowed by the zoning. Access will be provided from Hentges Way.

- 50,000 square foot building – This development area consists of approximately 2 acres in the southeastern-most area corner of the project area. Though no detailed development plans are available at this time, the site will include an approximately 50,000 square foot warehouse. Access to this site would be from the parcel to the east. No traffic will be generated by this development because it is expected to be a warehouse facility.

- Future substation - Shakopee Public Utilities Commission (SPUC) will acquire the remaining four acres located in the southeastern portion of the project area. Although no detailed plans are available at this time, the intent is to construct a future substation, which will replace the existing substation on Xcel Energy's property to the south. Access to this parcel will be from Hentges Way via a maintenance drive. Negligible traffic will be generated by this development.

- To accommodate the increase in traffic from the approximately 750,000 square feet of new industrial use a new roadway, Hentges Way, is proposed which will connect to Stagecoach Road via a round-a-bout. The roadway will be approximately 300 feet in length and 38feet wide.

Much of the site is currently disturbed given its use as concrete product storage facility. Development of the area will result in grading, excavation, and removal of existing vegetation. Existing buildings on the site will be demolished.

c. Project magnitude:

Total Project Acreage	61.26
Linear project length	300 feet
Number and type of residential units	N/A
Commercial building area (in square feet)	50,000
Industrial building area (in square feet)	750,000
Institutional building area (in square feet)	0
Other uses – specify (in square feet)	0
Structure height(s)	55 feet

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

The site has long history of heavy industrial use as a concrete products company operated there for many years before closing. The current owner purchased the property in 2019 and began operating under a Conditional Use Permit to crush and remove the unused concrete product. The purpose of the project is to redevelop the existing site to allow for additional industrial uses.

Are future stages of this development including development on any other property planned or likely to happen? □ Yes ■ No

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

e. Is this project a subsequent stage of an earlier project? □ Yes ■ No
If yes, briefly describe the past development, timeline and any past environmental review.

7. **Cover types:** Estimate the acreage of the site with each of the following cover types before and after development:

	Before	**After**		**Before**	**After**
Wetlands	0	0	Lawn/landscaping	0.95	4.64
Deep water/streams	0	0	Impervious surface	35.39	52.07
Wooded/forest	13.45	0	Stormwater Pond	0.23	4.55
Brush/Grassland	11.24	0	Other (describe)	0	0
Cropland	0	0			
			TOTAL	**61.26**	**61.26**

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

Unit of Government	**Type of Application**	**Status**
State		
Department of Natural Resources	Water Appropriation Permit	To Be Obtained, if needed
Pollution Control Agency	NPDES Construction Permit	To Be Obtained
	Sanitary Sewer Extension permit	To Be Obtained
	10-Day Notice of Demolition of a Structure	To Be Obtained
	Asbestos/Abatement	To Be Obtained
Department of Health	Watermain Extension/Plan Review	To Be Obtained
Local		
City of Shakopee	Development Application/Land Disturbance Permit	To Be Obtained
	Building Permits	To Be Obtained
	Preliminary and Final Plat Approval	To Be Obtained
	Demolition Permit/disconnect of utility	To Be Obtained
	Grading permit	To Be Obtained, if needed

Unit of Government	Type of Application	Status
	Right-of-way permit	To be Obtained, if needed
Lower Minnesota River Watershed District	Development Plan Review (LMRWD Rules)	To Be Obtained
Shakopee Public Utilities Commission	Drinking Water Supply Connection	To be Obtained
Scott County Department of Transportation	Highway 101/Traffic Analysis	To Be Obtained, if needed
Metropolitan Council	Sanitary Sewer Extension Regional Review	To be Obtained
	Industrial Discharge Permit	To be Obtained, if needed

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

9. Land use:

a. Describe:

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

Existing land use of the project site is industrial. Aside from the railroad tracks (immediately south of the project site) and two undeveloped parcels immediately north of the project, land use surrounding the proposed project site is predominantly industrial and occupied by utility facilities. There are two lakes, Blue Lake and Fisher Lake, north of the project area and Couth Highway (CSAH) 101. Two quarry ponds are located south of the project area: Quarry Lake which is associated with a City park and an unnamed pond.

The closest existing trails and parks/open space identified by the City in its 2040 Comprehensive Plan include:

- Quarry Lake Park southwest of the project area
- James W. Wilkie Regional Park north of the project area, across CSAH 101
- Minnesota Valley State Trail along CSAH 101.

Metropolitan Council has also designated alignments along CSAH 101 just north of the proposed project site as Regional Bicycle Trail Network (RBTN) Tier 1 and 2 Alignments. The James W. Wilkie Regional Park also has a multiuse trail that connects the City of Shakopee to the City of Bloomington and City of Chaska.

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

Based on the 2040 Comprehensive Plan the planned land use for the project area is Industrial. Land use for the two undeveloped parcels just north of the development site is also Industrial.

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

Currently, zoning for the entire project area is I2— Heavy Industrial (**Figure 5, Appendix A**). The area immediately south of the project area are zoned as AG— Agricultural Preservation; however, this is the right-of-way for the railroad. No agricultural activities take place within this area. North of the project area is zoned I2 and B1 – Highway Business. Impacts to parcels outside of the project area are not anticipated.

The northwestern and northeastern portions of the project area are within a Federal Emergency Management Agency (FEMA) 500-year floodplain (**Figure 8**). The project does not contain nor is adjacent to any designated Wild and Scenic Rivers or the Mississippi River Corridor Critical Area. The project is also not within a High Value Resource Area as identified by the Lower Minnesota River Watershed District.

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

The project is compatible with surrounding land uses and zoning, which is mostly for industrial and utility purposes. The three most common zones within the project area are: I1 – Light Industry, I2 – Heavy Industry, and B1 – Highway Business. Development at the current site will not alter or change the land use nature or the environment of the project area.

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

The project site is zoned as I2 – Heavy Industrial and it is planned to remain I2 – Heavy Industrial according to the 2040 Comprehensive Plan. The project is in conformance with the Comprehensive Plan and there is no need to amend any existing or planned land use or zoning for the project area.

10. 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.

Surface geology at the project area consists of terrace deposits of the Holocene and Pleistocene Epcoh. These terrace deposits are remnants of the former channels and floodplains above the present floodplains, but below the levels of adjacent moraine or outwash surfaces. The primarily deposits consist of sand and gravel.

According to the Minnesota Geologic Survey, bedrock at the project area is less than 50 feet below grade and consists of finely crystalline dolostone, sandstone, and shale with thin beds of quartzose sandstone of the Prairie du Chien Group. Penetration test boring advanced in 2020 at the project area encountered weathered limestone bedrock in three of the six borings advanced at the site at depths of seven feet below grade at the southwest corner of the site and 13 feet below grade in the north end of the site. According to the Minnesota Department of Health (MDH) Minnesota Well Index adjacent wells also encountered limestone bedrock between 10 and 20 feet below grade.

The Minnesota DNR Aggregate Resource Web Map did not identify any gravel pits at the project area and the sand/gravel potential is blank with no potential. It should be noted that a quarry is located at the western adjacent property.

According to the Minnesota Karst Land Map, the project area is located in a region that is prone to surface karst feature development. Due to the shallow and soluble bedrock (limestone) identified at the project area, there is a potential for karst conditions to be problematic for future development of the site. Stormwater basins overlying karst features have the potential of creating sinkholes as a result of the additional weight of water. The use of infiltration stormwater basins in combination with soluble bedrock conditions can lead to erosion of bedrock and may allow pollutants to rapidly pass through the subsurface into the groundwater creating a greater risk of ground water contamination. Additionally, the inconsistent depth of the limestone bedrock at the site can lead to differential settling and pose a potential risk to the structure redevelopment.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey depicts three soil types within the site (**Figure 6**). The soils within the site are listed within Table 10-1.

Table 10-1. NRCS Web Soil Survey – Soil Units

Map Unit Symbol	Map Unit Name
Dg	Dune land
ZaB	Sartell fine sand, 2 to 6 percent slopes
ZaC2	Sartell fine sand, 6 to 12 percent slopes, moderately eroded

The site topography includes elevations ranging between approximately 752 feet above mean sea level (AMSL) at the east-central portion of the site, to 730 feet AMSL at the northwest corner. This is a vertical difference of 22 feet. Site soil conditions should be suitable for the project, as fine sand is generally suitable for compaction, and there are no organic/hydric soil types to

correct. A rough grading estimate includes movement of the top three feet of soil within the site, which totals approximately 272,105 cubic yards of soil.

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

11. Water resources:

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

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

Public Waters

Table 11-1 lists the Public Waters within one mile of the project.

Table 11-1. Public Waters

Name	DNR ID	Type	Distance/Direction from Site
Prior Lake Outlet Channel	M-055-012-001	watercourse	0.5 mile west
Blue Lake	70008800	basin	0.4 mile northwest
Fisher Lake	70008700	basin	0.4 mile northeast
Minnesota River	M-055	watercourse	0.9 mile north
Dean Lake	70007400	basin	0.9 mile southwest

Impaired Waters

Table 11-2 lists the impaired waters within one mile of the project.

Table 11-2. Impaired Waters

Name	DNR ID	AUID	Reach	Impairment(s)	TMDL Approved for:
Prior Lake Outlet Channel	M-055-012-001	07020012-728	Dean Lake to Blue Lake	Aquatic Life - Fishes/Invertebrates Bio	N/A
Minnesota River	M-055	07020012-505	RM 22 to Mississippi River	Aquatic Consumption, Aquatic Life, Nutrients, PCB-F;T	Dissolved oxygen, Mercury-F, Mercury-W

The project is located within one mile, and ultimately drains to the Minnesota River, an impaired water. Additional erosion control BMPs will be required, including stabilizing exposed soil areas within seven calendar days after the construction activity in that portion of

the site temporarily or permanently ceases and providing a temporary sediment basin for common drainage locations that serve an area with five or more acres disturbed at one time.

Wetlands
An onsite wetland delineation was completed for the site and has been approved by the Local Government Unit (City of Shakopee). The report dated June 2020 concluded no wetlands exist within the site. The project will not impact wetlands. In addition, all desktop data sources reviewed, including the DNR National Wetland Inventory, NRCS Web Soil Survey, and topographic setting indicate wetlands do not exist at the site.

Other Surface Waters
One stormwater management basin exists within the south-central portion of the site. This basin was created and is not considered a wetland. The basin receives surface stormwater runoff from the surrounding areas, including the casting products storage yard to the west and north. No physical alterations are planned to any naturally-occurring surface waters nearby the site, and the project will not change the number or type of watercraft on any waterbody.

Stormwater will be directed to stormwater BMPs on site prior to discharging to existing surface waters, which is ultimately to the Minnesota River. Site drainage is not anticipated to have any effects on the existing water resources as described in stormwater section of this document.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Based on the soil boring logs prepared by Braun Intertec, groundwater was not observed while drilling to depths of 11.5 ft to 14.5 ft, nor at cave-in depths of 5 ft to 10 ft immediately after auger withdrawal. Per the Minnesota Department of Health (MDH) Source Water Protection Web Map Viewer, the project is not within a MDH wellhead protection area. Per the Minnesota Well Index, there are no wells on site or within 150 feet.

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

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.
   1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.
   2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

Wastewater generated within the site will discharge to an existing Shakopee sanitary sewer in 70th Street (**Figure 7**). **Table 11-3** shows the projected wastewater flow from the site. This flow can be accommodated by the 24-inch diameter sewer on the west side of 70th Street. It may also be accommodated by the eight-inch diameter sewer that crosses 70th Street at the vacated Cretex Avenue, depending on the discharge rate of the pressurized main at that location and the broader future sanitary sewer district area that will need to be served.

Table 11-3. Wastewater Flow Projection

Land Use	Acres	Flow per Acre (gpd/acre)	Average Flow (gpd)	Peak Factor	Peak Hourly Flow (gpd)
Heavy Industrial	61	800	48,800	4.0	195,200

gpd = gallons per day

Wastewater will be conveyed through the City sanitary sewer system to the Metropolitan Council Environmental Services (MCES) Blue Lake Wastewater Treatment Plant (WWTP) just north of the site. The Blue Lake WWTP has a treatment capacity of 42 million gallons per day (MGD) and an existing flow of 27 MGD. The Blue Lake WWTP has ample residual capacity for the additional wastewater flow projected in the table above.

Depending on the type of heavy industrial development and its wastewater characteristics, the site will likely require a MCES Industrial Discharge Permit which may include pretreatment requirements.

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

In existing conditions, runoff from the site drains to the north and into a landlocked ditch on the south side of CSAH 101. Based on preliminary site documents, it is assumed that runoff patterns will remain the same in proposed conditions. A preliminary stormwater management report for the site prepared in September 2020 discussed the possibility of providing an outlet to the landlocked ditch on the south side of CSAH 101. A potential outlet configuration for the ditch could be to route runoff from the ditch to the north and/or east underneath CSAH 101. The preliminary stormwater management report from

September 2020 noted that providing this outlet to the north/east would reestablish existing drainage patterns and may be a desirable course of action. If an outlet is proposed as part of this project, coordination with Scott County Highway Department and LMRWD will be required to confirm acceptability of all stormwater routing.

It is assumed that the site will be developed with an impervious coverage of 85%. This is consistent with the City's "Heavy Industrial Zoning" impervious limits. When the site design is finalized, this impervious number will be updated. The total proposed impervious surface is assumed to be 52.07 acres.

Volume Reduction

Lower Minnesota River Watershed District Rules require volume abstraction equal to 1.1 inches of runoff over new and reconstructed impervious surfaces. For the anticipated 52.07 acres of proposed impervious surface, the required volume reduction is 4.78 acre-feet (~208,000 cubic feet). Infiltration is typically the best way to meet the volume reduction requirements. If site conditions preclude the use of infiltration, such as high groundwater, contamination, poorly draining soils, or potential for karst conditions then alternative volume reduction methods, such as irrigation reuse must be considered. If other alternative volume reduction methods are not feasible, then filtration is the next required BMP. This site has a high potential for contamination, thus alternative volume reduction methods should be considered.

Rate Control

The LMRWD requires that peak discharge rates leaving the site must be maintained at existing levels for the 1 or 2-year, 10-year, and 100-year 24-hour events using Atlas 14 nested distribution.

In a preliminary stormwater management report created by the developer's engineer in September 2020, it was noted that the proposed project may alter drainage patterns by sending runoff to Fisher Lake, where it historically flowed. Coordination with LMRWD will be required to confirm acceptability of any proposed drainage changes.

Water Quality

The LMRWD requires that there is no increase in Total Phosphorus (TP) or Total Suspended Solids (TSS) leaving the site. If the full volume reduction requirement is met for the project, then it can be assumed that the water quality requirements are also met. Modeling may need to be provided to demonstrate no net increase of pollutants leaving the site, if ponding or filtration is utilized to meet requirements.
Discuss any environmental effects from stormwater discharges.

Generally, the primary environmental concerns from stormwater discharges from a site like this one include TP, TSS, and the potential for erosion. Meeting the volume control, water quality, and rate control requirements reduces the potential for detrimental impacts downstream from the site due to stormwater discharges.

To reduce the potential for erosion, a Stormwater Pollution Prevention Plan (SWPPP) will need to be prepared in accordance with NPDES guidelines and the City of Shakopee's Stormwater Management criteria and will be required to be submitted and approved prior to construction.

Prior to any site disturbance, temporary sediment control practices must be installed on all down-gradient perimeters. The SWPPP must include information regarding project phasing. This site will develop in phases. When one phase of the site grading is complete all exposed soils will need to be stabilized.

To reduce the potential for impacts to off-site surface waters, erosion control BMPs such as silt fence and erosion control blanket will be used throughout construction. The BMPs will be in place prior to the start of construction. Because the site is located within one mile of, and drains to, and impaired water the following additional BMP measures will be required:

- exposed soils must be stabilized within seven calendar days following temporary or permanent completion of work.
- a temporary sediment basin must be provided for common drainage locations that serve an area with five or more acres and are disturbed at one time.

If any portion of common development disturbs 50 or more acres at one time, the complete SWPPP and NPDES permit application must be submitted to the MPCA at least 30 days before the start of construction activity.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

The site will connect to the Shakopee water system under its existing DNR permit. The Shakopee water system includes 20 active wells, seven storage facilities, and approximately 200 miles of watermain. There is an existing 12-inch diameter trunk watermain under the vacated Cretex Avenue right-of-way. The system is independently operated by SPUC. **Table 11-4** shows the projected water demands from the site.

Table 11-4. Water Demand Projection

Land Use	Acres	Demand per Acre (gpd/acre)	Average Day Demand (gpd)	Max Day Demand Factor	Max Day Demand (gpd)
Heavy Industrial	61	1,000	61,000	2.75*	167,750

gpd = gallons per day
**Per Shakopee Public Utilities 2018 Water Supply Plan.*

From 2011 to 2016, the average annual volume of water pumped by Shakopee's wells was 1,795 million gallons (MG). The existing DNR permitted annual withdrawal is 2,159 MG. This site is projected to demand 20.4 MG annually, so an amendment to the permitted volume will not be required.

iv. Surface Waters

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

   A wetland delineation was completed for the site and no wetlands exist. No wetland impacts will occur as a result of the proposed development.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

   One stormwater management basin exists within the project area. This stormwater management basin will be expanded during development to treat runoff from additional impervious surfaces. To reduce the potential for impacts to off-site surface waters, erosion control BMPs such as silt fence and erosion control blanket will be used throughout construction. In addition, additional BMP measures such as stabilization of exposed soil areas within seven calendar days following temporary or permanent completion of work and providing a temporary sediment basin for

common drainage locations that serve an area with five or more acres disturbed at one time will also be required at this site. If any portion of development disturbs 50 or more acres at one time, the complete SWPPP and NPDES permit application must be submitted to the MPCA at least 30 days before the start of construction activity.

The project will not affect the number or types of watercrafts on neighboring waterbodies.

12. Contamination/Hazardous Materials/Wastes:

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

A Phase I Environmental Site Assessment (ESA) dated December 21, 2015 was reviewed as part of this assessment. The Phase I ESA identified the following environmental concerns associated with the Property:

- Two HRECs were identified at the Property
    - An Underground storage tank (UST) and a leaking UST (LUST) database listing were identified at the Property. The Property historically maintained three USTs onsite and reported a release of unleaded gasoline during the removal of the UST's. According to available information, a 2,000-gallon diesel fuel UST, a 2,000-gallon gasoline UST, and a 10,000-gallon fuel oil UST were reportedly removed from the Property in 1992 by Rollies Sales and Services. The soil under each tank was reportedly screened per MPCA requirements and residual petroleum impacts were identified under the 10,000-gallon UST. Following the identified release, a site investigation including soil boring advancement for the collection of soil and groundwater samples was completed at the site. No detectable concentrations of petroleum contaminants were reported in the analyzed samples and the site received regulatory closure from the MPCA on July 12, 1994.

    - Two SPILLs were identified at the Property. An estimated 50-gallons of hydraulic fluid was release on April 26, 2007 when a line blew on a truck. The impacted soil and hydraulic fluid were reportedly removed, and regulatory closure was granted on the same date as the release. Additionally, a release of diesel fuel was discovered onsite on November 30, 2005. According to available information, two sample points were collected for analysis and one compound slightly exceeded action levels. No details on a cleanup were obtained, however, regulator closure was granted on January 30, 2007.

In addition to the Phase I ESA review, the Minnesota Pollution Control Agency and Minnesota Department of Agriculture (MDA) databases were reviewed to identify verified and potentially contaminated sites that may be encountered during the proposed project reconstruction.

Tables 12-1 and **12-2** summarize the search results within 1,000 feet of the project area. **Figure 9** (**Appendix A**) shows the locations of each site.

Based on the MPCA's "What's in My Neighborhood?" database, one site ID (Site 4) is listed within the project area. The site listing is depicted as multiple activities that includes an inactive Air Quality listing, two inactive leak listings (LS0005978 and LS0016281), an active toxic reduction listing, a toxic reduction generator listing, an active aboveground tank listing, and an active underground tank listing. Within 1,000 feet of the site there are an additional 16 records (**Table 12-1**).

Table 12-1. MPCA Database Search Results Summary

Site ID	Site or Case File Name	Listing Category or Investigation Type	Status	Listing IDs
Site 1	MicroSource LLC	Multiple Activities – Air Quality and Construction Stormwater	Air Quality (Active) Construction Stormwater (Active)	Air Quality (13900130) Construction Stormwater (C0041179)
Site 2	Body Works & Paint Co	Hazardous Waste	Inactive	MNS005326061
Site 3	Blue Lake units 7 and 8 Simple Cycle	Construction Stormwater	Inactive	C00012505
Site 5	Shiely Co/Shakopee Plant/camas	Multiple Activities - Petroleum Remediation, Aboveground Tanks (three listings), Underground Tanks	Petroleum Remediation (Inactive), Aboveground Tanks (one inactive, two active), Underground Tanks (Inactive)	Petroleum Remediation (LS0003216), Aboveground Tanks (TS0004401, TS0051559, and TS0052475), Underground Tanks (TS0004401)
Site 6	MicroSource LLC	Multiple Activities – Hazardous Waste, Toxics Reduction, Toxics Reduction	Hazardous Waste (Active), Toxics Reduction (Active),	Hazardous Waste (MND980822605) , Toxics Reduction (13900126),

Site ID	Site or Case File Name	Listing Category or Investigation Type	Status	Listing IDs
		TR-gen, Industrial Stormwater, Industrial Stormwater	Toxics Reduction - TR-gen (Unknown), Industrial Stormwater (Inactive), Industrial Stormwater (Active)	Toxics Reduction – TR gen (NA), Industrial Stormwater (MNR0534FP and MNR0538KG)
Site 7	Mortenson MA CO	Aboveground Tanks	Inactive	TS0051450
Site 8	LaFebvre and Sons Inc	Industrial Stormwater	Inactive	MNR0534WM
Site 9	Gavilon Fertilizer	Construction Stormwater	Inactive	C00036859
Site 10	Conagra Fertilizer Co	Aboveground Tanks	Active	TS0050812
Site 11	Quarry Lake	Brownfields	Inactive	VP28870
Site 12	Mapco Sand & Gravel Co	Multiple Activities - Hazardous Waste, Petroleum Remediation, Industrial Stormwater, Aboveground Tanks	Hazardous Waste (Inactive), Petroleum Remediation (Inactive), Industrial Stormwater (Inactive), Aboveground Tanks (Active)	Hazardous Waste (MND009770983) , Petroleum Remediation (LS0018647), Industrial Stormwater (009770983), Aboveground Tanks (TS0051405)
Site 13	National Oil Processing LLC	Aboveground Tanks	Inactive	TS0055447
Site 14	BP Industries	Hazardous Waste	Inactive	MNR000028027
Site 15	Marsh's Auto Body	Hazardous Waste	Active	MNS000158725
Site 16	Bituminous Roadways Inc – Shakopee Plant	Construction Stormwater	Active	C00034375
Site 17	Pollution Control Inc (PCI)	Multiple Activities – CERCLIS Site, Site Assessment, and Superfund Site	CERCLIS Site (Inactive), Site Assessment (inactive), and Superfund Site (Active)	CERCLIS Site (Inactive), Site Assessment (inactive), and Superfund Site (Active)

A review of the MDA's "What's in My Neighborhood?" map revealed no site listings within the project site. However, nine records were identified within 1,000 feet of the project area (**Table 12-2**).

Table 12-2: MDA Database Search Results Summary

Site ID	Site or Case File Name	Listing Category or Investigation Type	Status	Listing IDs
Site 18	Gavilon Fertilizer	Small Spills & Investigations	Closed	PLK101054296
Site 19	Gavilon	Voluntary	Closed	GSE101062272
Site 20	Microsource	Small Spills & Investigations	Closed	PLK101090850
Site 21	United Agri Products	Emergency	Closed	CF-8792
Site 22	Microsource	Voluntary	Active	GSE 101091502
Site 23	Gavilon	Voluntary	Closed	GSE101048787
Site 24	Gavilon	Voluntary	Closed	GSE101050630
Site 25	Conagra Fertilizer Co	Emergency	Closed	CF-8788
Site 26	Microsource	Voluntary	Closed	GSE 101064176
Site 27	Gavilon	Voluntary	Closed	GSE101050629

Based on review of the MPCA and MDA listings and the Phase I ESA findings, the potential to encounter contaminated soil and/or groundwater at the proposed project area is high. Additionally, multiple rail lines are located just south of the project area and an active petroleum pipeline was located within the project area. Commonly identified soil and groundwater impacts associated with railroad properties include heavy metals, PAHs, and petroleum/DRO associated with transport of industrial products.

Prior to project area redevelopment, the following MPCA and MDA regulatory file reviews should be reviewed and/or investigated for environmental planning purposes:

- Site 4 (Leak Sites LS0016281 and LS0005978)
- Site 5 (Leak Site LS0003216)
- Site 11 (Voluntary Investigation and Cleanup VP22870)
- Site 12 (Leak Site LS0018647)
- Sites 18-27 (total of 9 adjacent MDA files)
- Pipeline inspection records

A Construction Contingency Plan (CCP) could also be developed for the proper management of contamination and/or regulated materials encountered during construction. If contaminated materials are encountered during excavation, construction activities will cease and the CCP must be implemented.

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.

Prior to development, the removal/demolition of site structures will occur. State and Federal law requires a pre-demolition inspection consisting of but not limited to, an asbestos survey, lead paint sampling, and a regulated materials inventory. Regulated materials will be handled appropriately and remaining general demolition debris will need to be hauled to a licensed demolition landfill. Beneficial reuse and recycling of materials should be considered to minimize demolition waste and any petroleum tanks or other chemical tanks that may exist on the site should be accounted for and properly handled.

Project activities will generate wastes and debris typical of construction operations. All waste and unused materials will be properly contained and disposed of off-site and not allowed to be carried by runoff to receiving waters.

Following construction, municipal solid waste will be hauled away by local, licensed garbage haulers and the operations will be encouraged to recycle.

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

Products, materials, or wastes typical of construction sites will be present during the construction of this project (e.g. gasoline, diesel fuel, oil, hydraulic fluid, portable toilets, etc.). In compliance with the NPDES Construction Stormwater permit, products that have the potential to leach pollutants will be stored under cover; hazardous materials will be stored in sealed containers and will have secondary containment to prevent spills, solid wastes will be collected and disposed of properly, and vehicle and equipment washing will not be allowed on site.

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

The proposed project is not expected to generate any hazardous wastes during construction or operation. If hazardous wastes are generated by the contractor or the future operator, it will be the responsibility of the contractor/operator to recycle and/or dispose of the waste in accordance with State and Federal regulations.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

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

The project site consists of approximately 20 acres of woodland with openings of short grass and annuals. Most of the site has sandy soils which may provide habitat for reptile species that have been identified in the vicinity of the site. All land adjacent to the wooded area is highly disturbed for industrial uses. The site has minimal desirable wildlife habitat resources. Several areas south of the site are listed as DNR native plant communities and are also listed as a Minnesota County Biological Survey site with high biodiversity significance, referred to as the Dean's Lake site. These areas consist of Dry Barrens Oak Savanna subtype. There are also several large, constructed stormwater ponds and a large open water wetland with a bulrush-spikerush marsh fringe located south of the project area. These areas are disconnected from the site by railroad tracks. The Minnesota River is located 900 feet to the north, across CSAH 101.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-1003) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The DNR Natural Heritage Information System database was queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project. Based on this query, features have been documented within the search area and the following rare features may be adversely affected by the proposed project:

- Regal Fritillary (*Speyeria idalia*), a state special concern species butterfly, has been documented in the vicinity of the project area. This species is strongly associated with native prairie habitat, and more specifically, their principal larval host plant is the prairie bird's-foot violet (*Viola palmata* and var. p*edatifida).* According to the DNR, adults are rarely encountered away from native prairie landscapes. The project area lacks preferred habitat of this species and it is unlikely that the project would impact this species.

- Lark sparrow (*Chondestes grammacus*), a state listed bird species of special concern, has been documented within one mile of the project. Lark sparrows prefer dry grassland habitat with areas of sand or gravel, bare ground, and scattered or patchy trees. Favored trees of this species are oak. This species can sometimes be found in disturbed habitats such as pastures, gravel pits, restored prairie, or brushy fence lines. Lark sparrows typically nest on the ground. Given the presence of scattered trees, short grass, and open sand and gravel areas at the site, there is potential that this species may use the site for breeding. To minimize impacts to this species it is recommended that tree and shrub removal be avoided during the breeding season, typically April through July.

- Gopher snake (*Pituophis melanoleucus)* and plains hognose snake (*Heterodon platirhinos*), both state special concern species, have been documented within one mile of the project. These species prefer areas of well-drained, loose sandy and gravely soils. Hibernation of the gopher snake is typically in rodent burrows or rock fissures in bluffs and rock outcrops. Plains hognose snakes tend to be found near open woodlands or forest edges. The project site

contains areas of sand and gravel open ground as well as open woodlands which may provide habitat for these species. If these species are encountered, they should remain undisturbed or moved out of harm way. It is unlikely that this project will directly impact these species.

- Several rare features associated with the habitat of the Minnesota River are also located within one mile of the project area including colonial waterbird nesting sites and rare mussel species. These rare features will not be impacted by this project.

The following federally listed species are located within Scott County according to the US Fish and Wildlife Service's (FWS) Information for Planning and Consultation database (IPaC):

- Northern long-eared bat (*Myotis septentrionalis*), a federal threatened species, locate their summer roosting and foraging sites within forested habitats near water. In winter months, they hibernate in natural caves, sand mines, and iron mines. According to the DNR, there are no known hibernacula or roost trees located within the township and range of the project area. The project area contains tree species such as oak, pine, cherry, or elm which may be used by this species. To prevent impacts to the northern long-eared bat, tree clearing, and grubbing should be limited to outside of the maternity roost season.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

This project will remove most of the trees onsite. Several of the oak trees on site have a diameter at breast height greater than 15 inches which is consistent with the oak savanna DNR native plant communities listed nearby the site. Some trees in the southeast corner of the site may remain. The lark sparrow and northern long-eared bat have the potential to be using the trees within the project area for reproduction. Timed clearing and grubbing of trees to avoid the lark sparrow nesting season and the northern long-eared bat maternity season will avoid impacts to these species. Sandy soils of the site may be used by the gopher snake and the plains hognose snake; however, similar habitats are available on lands adjacent to this project area and habitat loss from the development of this site will not likely have adverse effects on these species.

No official invasive plant survey has been completed within the site. Invasive plant species can be transported between construction sites if seed becomes lodged within the tracks or treads of large equipment. Use of equipment that is contaminated with invasive species can easily spread these plants to new locations. Equipment should be power washed prior to being transported to the site. If invasive species are already present on site, they should be controlled through mechanical methods or by spot spraying with an appropriate herbicide. Soils that contain invasive species should be stockpiled separate from other soils and not used throughout the site. The US Department of Agriculture's National Invasive Species Information Center provides information regarding Best Management Practices to prevent or mitigate invasive species establishment or movement. The Minnesota DNR also provides guidance on prevention of aquatic and terrestrial invasive species. Guidance for implementation can be referenced on the US Department of Agriculture's website or the Minnesota DNR's website.

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

The project area has the potential to contain habitat for the lark sparrow, a state listed bird species of special concern. Measures should be taken to clear and grub trees outside of the breeding season which is typically April through July. Precautions should be taken to avoid the transport of invasive species to the site and within the site during construction. Overall, there is minimal habitat available within the project area and the development of the site will not likely impact wildlife and plant communities or sensitive ecological resources.

14. Historic properties:

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

A database search request was submitted to SHPO on November 20, 2020. The SHPO response indicated the database has no historic/archaeologic records for the project area (**Appendix B**).

15. Visual:

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

There are no scenic views or vistas located on the project site. The development is similar to existing developments in the area and is not anticipated to create vapor plumes or glare from intense lights when completed. The proposed development will be predominantly used for material storage and distribution.

There are two parks located within the project's vicinity: James W. Wilkie Regional Park and Quarry Lake Park. However, both parks are well-separated from the proposed development. James W. Wilkie Park is separated from the project area by CSAH 101. Quarry Lake Park is approximately half a mile away from the project area's western boundary. Given that these two open spaces are separated by existing barriers, no impacts are anticipated due to the project.

16. Air:

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

Up to 750,000 square feet of new industrial facilities will be built within the project area. Over half (505,000 square feet) will be used as a warehouse and distribution facility. The buildings are expected to included heating and cooling systems operated by natural gas and electricity, which will result in direct or indirect sources of stationary greenhouse (GHG) emissions. Emissions from heating and cooling units are expected to be similar to other buildings in the area used for heavy industrial purposes.

The Minnesota EQB is working on a framework for integrating GHG quantification and assessment requirements into the Environmental Review Program, but methods and requirements are not yet complete. In light of this constraint and in the absence of official guidance, the GHG assessment presented here is qualitative.

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

GHG emissions are expected to result from:

- Natural gas and other fossil fuels used for heating buildings.
- Fossil fuels burned to generate electricity consumed at the project during construction and operation.
- Vehicle and air transportation related to project construction and operation.
- Transport, treatment, and storage of solid waste and wastewater produced onsite.
- Loss of carbon sequestration due to conversion of natural vegetation to developed and paved surfaces.
- Refrigeration, air conditioning, and the related manufacturing, service, and leakage of equipment.

GHG emissions from this project, while unquantified, are not expected to cause potential for significant environmental effects as the proposed project conforms with the existing land use and zone of the site. There are no readily available GHG emission estimates that show a comparably sized Minnesota project with potential to exceed the mandatory EAW threshold of 100,000 tons of CO2e per year (Minnesota Rules Part 4410.4300, Subp. 15.B.). Heavy trucks accessing this proposed development site may help reduce transportation GHG due to better access to Tier 1 and Tier 2 truck routes. These major truck corridors can help improve vehicle mileage as trucks make fewer stops at traffic control points and there are fewer posted speed variations which can decrease fuel efficiency.

Opportunities for climate change and GHG mitigation and adaptation exist. Potential GHG and climate change mitigation measures that may be considered include:

- Use energy efficient building materials that reduce needs for home heating and cooling.
- Install energy star appliances and programable thermostats.
- Install smart irrigation, or no irrigation at all, to reduce outdoor water use.
- Install high-albedo (reflective) roofing materials that reflect solar energy and save energy.

- Plant lawns to a no-mow fine fescue mix or prairie gardens to decrease mowing and increase carbon sequestration.
- Participate in a compost program for organic solid waste to reduce the burden on and future methane emissions from local solid waste landfills.
- Install ground-source or air-source geothermal heat pumps during initial construction when these features are most cost-effective.
- Encourage property owners to sign up for utility-sponsored renewable energy programs, such as renewable connect, wind source, or solar energy source.

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

The proposed developments will generate more traffic in comparison to the no build scenario. This project will generate air pollutants as a result of increase vehicle usage and emissions in the area. Motor vehicles emit a variety of air pollutants including carbon monoxide (CO), hydrocarbons, nitrogen oxides, and particulates. The primary pollutant of concern is CO, which is a byproduct of the combustion process of motor vehicles. CO concentrations are highest where vehicles idle for extended periods of time. For this reason, CO concentrations are generally highest in vicinity of signalized intersections where vehicles are delayed and emitting CO.

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

In addition, U.S. Environmental Protection Agency (EPA) rule requires controls that will dramatically decrease Mobile Source Air Toxins (MSAT) emissions through cleaner fuels and cleaner engines. According to a Federal Highway Association (FHWA) analysis using EPA's MOBILE6.2 model, even if vehicle activity increases as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050.

For this EAW, the amount of MSAT emitted would be proportional to the average daily traffic (ADT). The ADT estimated for the proposed project is higher than that for the existing condition, because the project involves new development that produces additional trips. This increase in ADT means MSAT for the proposed project would probably be higher than the existing condition in the project area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks. Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

For the scenario, emissions are virtually certain to be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT

emissions by 72 percent from 1999 to 2050. The magnitude of the EPA-projected reductions is so great (even after accounting for ADT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

The EPA has designated part of Scott County as a maintenance area for carbon monoxide. The City of Shakopee is one of the designated areas and therefore, the proposed project falls within the carbon monoxide maintenance area.

In summary, it is expected there will be slightly higher MSAT emissions in the project area with the project due to increased ADT. There also could be increases in MSAT levels in a few localized areas where ADT increases. However, the EPA's vehicle and fuel regulations will bring about significantly lower MSAT levels for the area in the future when compared to today.

Vehicles transporting materials to the storage facility can help minimize or mitigate vehicle-related emissions by committing to good-practices such as turning off engines when loading and unloading materials.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

The project is not expected to generate dust or odors at levels considered unusual for heavy industrial development construction practices. Dust and odors produced during project construction are expected to be consistent with applicable regulations of the MPCA and the City of Shakopee. Dust, odors, and noise levels are expected to be slightly higher during project construction than during project operations.

The construction process is expected to generate fugitive dust, but dust is not expected to be generated in significant quantities. Dust receptors near the project area include other heavy industrial facilities and a railroad track surrounding the proposed project site. Most of the surrounding areas of the proposed project area already generate dust as they are facilities that deal with construction-related materials such as gravel, sand, cement, rocks, stones, etc. Odors routinely generated during construction will be typical of those associated with construction activity, such as exhaust from diesel and gasoline powered construction equipment.

If fugitive dust is generated during construction at levels that exceed those typically expected for construction practices dust suppression measures such as water application will be used.

17. Noise

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

The construction activities associated with the proposed project will result in increased noise levels relative to existing conditions. Noise impacts will be primarily associated with construction equipment and occasional heavy trucks transporting construction materials. Construction noise levels is anticipated to be typical. **Table 17-1** summarizes the peak noise levels of common types of construction equipment.

Table 17-1. Typical Roadway Construction Equipment Noise Levels at 50 Feet

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level	
			Range	Average
Backhoe	5	6	74-92	83
Front Loader	5	30	75-96	85
Dozer	8	41	65-95	85
Grader	3	15	72-92	84
Scraper	2	27	76-98	87
Pile Driver	N/A	N/A	95-105	101

Source: United States Environmental Protection Agency and Federal Highway Administration

Noise generated during construction, to a degree, is unavoidable for this type of project. Construction noise will be limited to daytime hours consistent with the City of Shakopee's construction and noise ordinances; contractors will be required to comply with applicable local noise restrictions and ordinances to the extent that is reasonable. Construction equipment will be fitted with mufflers that would be maintained throughout the construction process. Advanced notice will be provided to affected communities of any planned abnormally loud construction activities as requested and necessary.

Noise generated after the completion of the project is not expected to exceed the noise standard set by the state. According to MPCA, there are four noise area classifications (NAC):

- NAC 1: Residential housing, religious activities, camping and picnicking areas, health services, hotels, educational services.
- NAC 2: Retail, business and government services, recreational activities, transit passenger terminals.
- NAC 3: Manufacturing, fairgrounds and amusement parks, agricultural and forestry activities.
- NAC 4: Undeveloped and unused land.

Given that the proposed project is zoned as I2 – Heavy Industrial, it is subject to the NAC 3 standards. Because NACs are based on the land use of individuals who are susceptible to the noise, it does not always correspond with the proposed project's zoning. For example, noise from a commercial building adjacent to a residential area is held to the NAC 1 standards if residential property owners can hear the noise. Since the project area is surrounded by similar land uses – light industrial, highway businesses, utilities, agricultural preservation, etc.— only the NAC 3 standards are applicable to this EAW project. Existing receptors in the project area are not anticipated to be affected by the noise generated by the proposed project as they are also industrial facilities.

With no anticipated changes to the existing land use or zoning of the development site or its surrounding areas in the 2040 Comprehensive Plan, noise generated during operations is not expected to exceed the state noise limits displayed in **Table 17-2**.

Table 17-2. Noise Standard for Noise Area Classification 3

Noise Area Classification	Daytime* and Nighttime** (L_{10})***	Daytime* and Nighttime** (L_{50})***
3	80 decibels	75 decibels

Source: A Guide to Noise Control in Minnesota November 2015 (MPCA)
*7am – 10pm
**10pm-7am
***The subscripts –10 and 50— represent the percentage of the time the noise level at that receptor cannot exceed the NAC 3 standards.

18. Transportation

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

The existing project area has approximately 40 parking spaces available for the small office buildings on site, though fewer than that are typically occupied. Following construction, between 450 – 550 parking spaces will be available. **Figures 1** and **4** shows the project location and existing site plan.

The developer has prepared a development plan to include approximately 61.26 acres of industrial uses. The Hentges Industrial Park conceptual site plan has been prepared that includes a 505,000-sf building on approximately 29 acres, west of the Great Lakes Pipeline Easement and east of 70th Street. It is assumed that the remaining 27 acres east of the pipeline easement would be developed with an additional 245,000 sf of industrial use for a total site development area up to 750,000 sf.

The estimated trip generation from the proposed Hentges Industrial Park development plan is shown in Table 18-1. The trip generation used to estimate the proposed site traffic is also based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 10th Edition*. The table shows the Daily, AM peak and PM peak hour trip generation for the proposed site for the two site development scenarios including: The current developer site plan (505,000 sf), and full site development (750,000 sf).

Table 18-1. Estimated Site Trip Generation

Land Use	Size (sf)	ADT			AM Peak			PM Peak		
		Total	In	Out	Total	In	Out	Total	In	Out
Developer site Plan										
Industrial	505,000	2506	1253	1253	354	311	42	318	41	277
Full Site Plan Development										
Industrial	750,000	3720	1860	1860	525	462	63	473	61	411

Source: Institute of Transportation Engineers Trip Generation Manual, 10th Edition

Alternative modes of transportation near the site include public transit and bicycle pathways. The Minnesota Valley Transit Authority serves Shakopee and the surrounding areas. The nearest Park and Ride to the project area is the Southbridge Crossings Park and Ride, located approximately 2.3 miles southeast of the project area. Smartlink Transit is also available within the city limits, by reservation. Metropolitan Council has also designated alignments along CSAH 101 just north of the proposed project site as RBTN Tier 1 and 2 Alignments. The James W. Wilkie Regional Park also has a multiuse trail that connects the City of Shakopee to the City of Bloomington and City of Chaska.

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

A Traffic Study was completed for the proposed Hentges Industrial Park development plan and is provided in **Appendix C**. This Study provides a comprehensive review of anticipated traffic impacts for the area, including the area surrounding the proposed development. The Traffic Study analyzes the proposed development for the existing (2020), projected 2025 and projected 2040 conditions.

The results of the existing (2020) traffic operations analysis show that all intersections are operating at overall LOS B or better during both the weekday AM and PM peak hours. All movements during the AM peak hour are operating at a LOS C or better, however, the left turn from westbound CSAH 101 to southbound Stagecoach Road would be operating at a LOS D during the PM peak hour.

The traffic operation analysis for the No-Build conditions show that all intersections will operate at overall LOS B in 2025 and LOS C in 2040 during both the AM and PM peak hours. All movements during the AM peak hour would be operating at a LOS C or better in 2025 and 2040, except the left turn from westbound CSAH 101 to southbound Stagecoach Road operating at a LOS D in 2025 and LOS E in 2040, and; the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D in 2040.

The original Traffic Study concluded that during the PM peak hour, the intersections of CSAH 101 at Checkered Flag Blvd, CSAH 101 at 70th Street and Checkered Flag Blvd at 70th Street will have movements that would be operating at LOS F without any development on the proposed site. With the proposed development and no access to 70th Street, no changes would be anticipated for these intersections and they would continue operating at the unacceptable levels of service now and in the future. However, if access to 70th Street was provided the intersections would be operating at much worse levels of service and require improvements.

The traffic operations analysis for the 2025 build condition shows that all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM peak hour would be operating at a LOS C or better, however, during the PM peak hour the left turn from westbound CSAH 101 to southbound Stagecoach Road and the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D.

The traffic operations analysis for the 2040 build condition shows that all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM and PM peak hours would be operating at a LOS C or better except:

- LOS D = NB right turn Stagecoach Rd to EB CSAH 101, AM peak hour
- LOS E = NB right turn Stagecoach Rd to EB CSAH 101, PM peak hour
- CSAHCSAHLOS E = WB left turn CSAH 101 to SB Stagecoach Rd, PM peak hour

The queuing analysis indicated that during both the weekday AM and PM peak hours for the projected 2025 and 2040 conditions CSAH found that no movements would exceed the available turn lane storage.

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

The Traffic Study provides conclusions and recommendations based on the analysis included in the study. These conclusions and recommendations include:

- All access to the site will be through the proposed roundabout on Stagecoach Road. The west legs of the roundabout will provide the access to the development area. Access from 70th Street will be for emergency access only.

Based on the study conclusions following is recommended:

1. Construct the proposed improvements as proposed including: Hentges Way connection from the site to Stagecoach Road; A single lane roundabout approximately 600 ft south of CSAH 101, with a westbound to northbound bypass right turn lane provided through the roundabout.
2. As traffic continues to grow in the area, monitor the traffic operations at the CSAH 101 and Stagecoach Road intersection to determine if any improvements are required.

The Traffic Study is included to respond to Item 18 of this EAW in **Appendix C.**

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

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

The proposed project affects approximately 61.26 acres of land. The immediate phase of development is expected to affect the western 29 acres of land with development starting in 2021. The remaining 27 acres will develop during future phases in approximately 2022, or as development needs progress. The potential for environmental effects from this project includes grading and erosion, stormwater runoff, rare species, vegetation removal, and traffic. The current

projects occurring in the area are outlined in item b below. While those projects may also impact the outlined resources, none are expected to combine with the proposed project in a manner that would result in cumulative effects.

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

Other past, current, or reasonably foreseeable developments in the surrounding area include:

- Reconstruction of Stagecoach Road from CSAH 101 to 13th Ave East, including Street, sanitary sewer, storm sewer, and watermain reconstruction. This project is expected to be completed in 2022.
- Quarry Lake and Xcel Energy Mountain Bike Trail located within Quarry Lake Park southwest of the project area. This project is expected to be completed in 2021.
- A 12,000-sf multi-tenant industrial building located immediately north of the proposed project area, north of the vacated Cretex Avenue. This project is currently under development review.
- Construction of a 7,000-sf restaurant at Old Carriage Court. This project is currently under development review.
- Bituminous overlay of approximately 0.85-mile of 11th Ave, Gateway Dr., and 12th Ave. located east of Valley Park Drive South. This project is expected to be completed in 2020.
- Construction of a bituminous trail from CSAH 83 to Gateway Drive along 12th Ave. This project will be completed in 2020.
- Bituminous overlay of approximately 0.63 miles of Crossings Boulevard located north of County Road 18. This project is expected to be completed in 2021.
- Bituminous overlay of approximately 0.74 miles of Old Carriage Court and Old Carriage Road north of Southbridge Parkway and west of County Road 21.

While some of these projects may occur within the same timeframe as the proposed site development, none are expected to combine with the proposed project impacts in a manner that would result in cumulative potential effects.

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.

Project disturbance will be limited to the project area currently proposed for development. Grading for each phase will occur as the phase begins, minimizing the effects of impacts related to land disturbance.

Grading and erosion potential from the site will be minimized through erosion control measures. Overall, site erosion is expected to decrease given that much of the existing industrial areas will be converted to impervious and runoff directed to stormwater management basins.

Rare features have been identified near the project area. Timed clearing and grubbing of trees to avoid the lark sparrow nesting season and the northern long-eared bat maternity season will avoid impacts to these species.

The potential for decreased water quality and increased volume as a result of the proposed impervious will be reviewed and permitted through the City and LMRWD. Implementation of these rules will ensure that water quality, volume, and rate control are managed. Negative impacts to water quality are not expected.

The proposed development will generate traffic that will require improvements to the local transportation system. These improvements will be in place prior to site operation.

As a result of project phasing and additional regulatory oversight, the project will not cause any known or reasonably expected cumulative potential effects.

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

The project will not cause any additional environmental effects that have not been addressed in this assessment.

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

I hereby certify that:

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

Signature _____ Date 12/11/2020

Title SENIOR PLANNER

APPENDIX A

Figures

SHAKOPEE

Figure 1 - Project Location (Aerial)

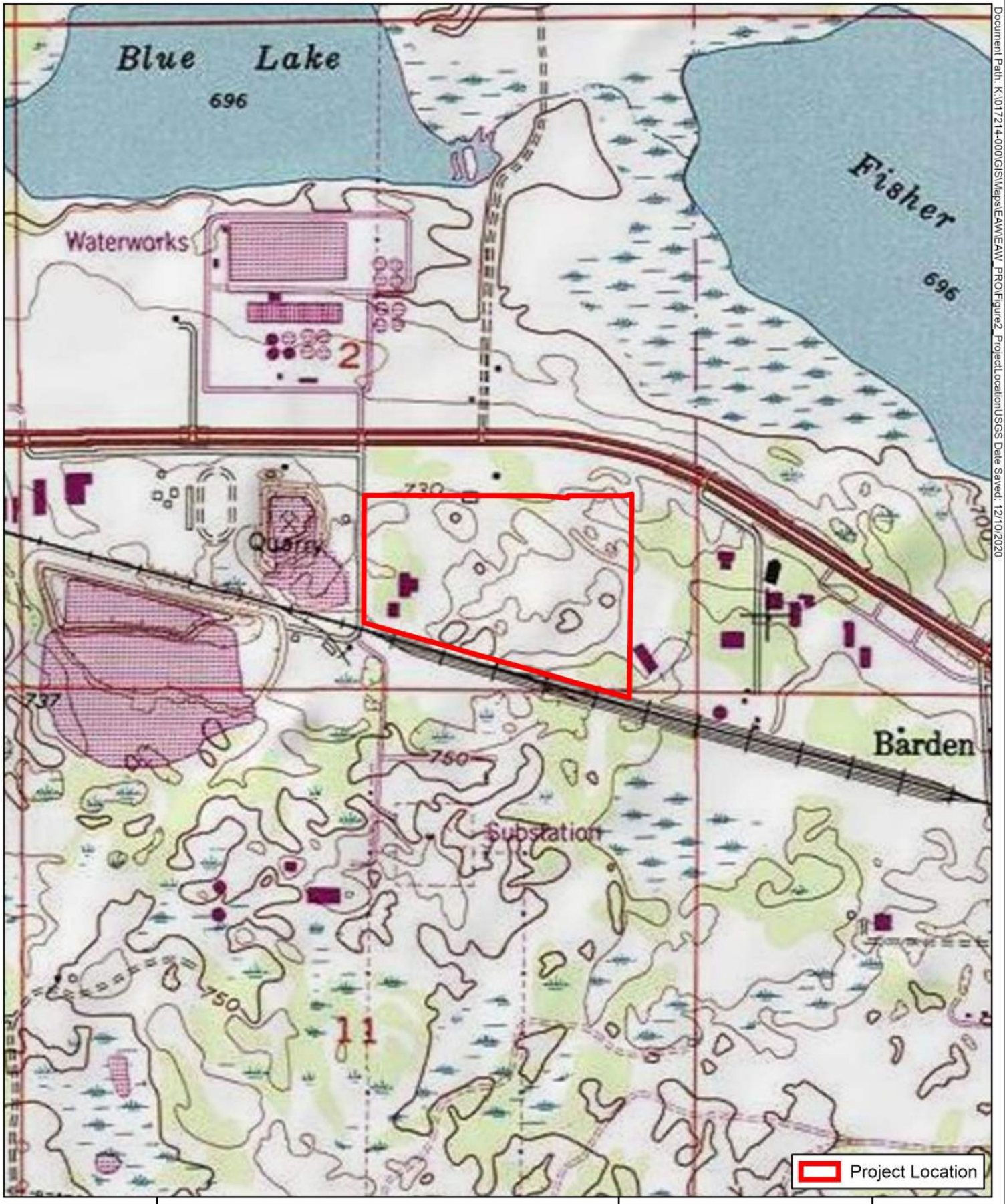
Hentges Industrial Park
Shakopee, MN

N

0 1,000 Feet

1 inch = 1,000 feet

wsb



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SHAKOPEE

Figure 2 - Project Location (USGS)

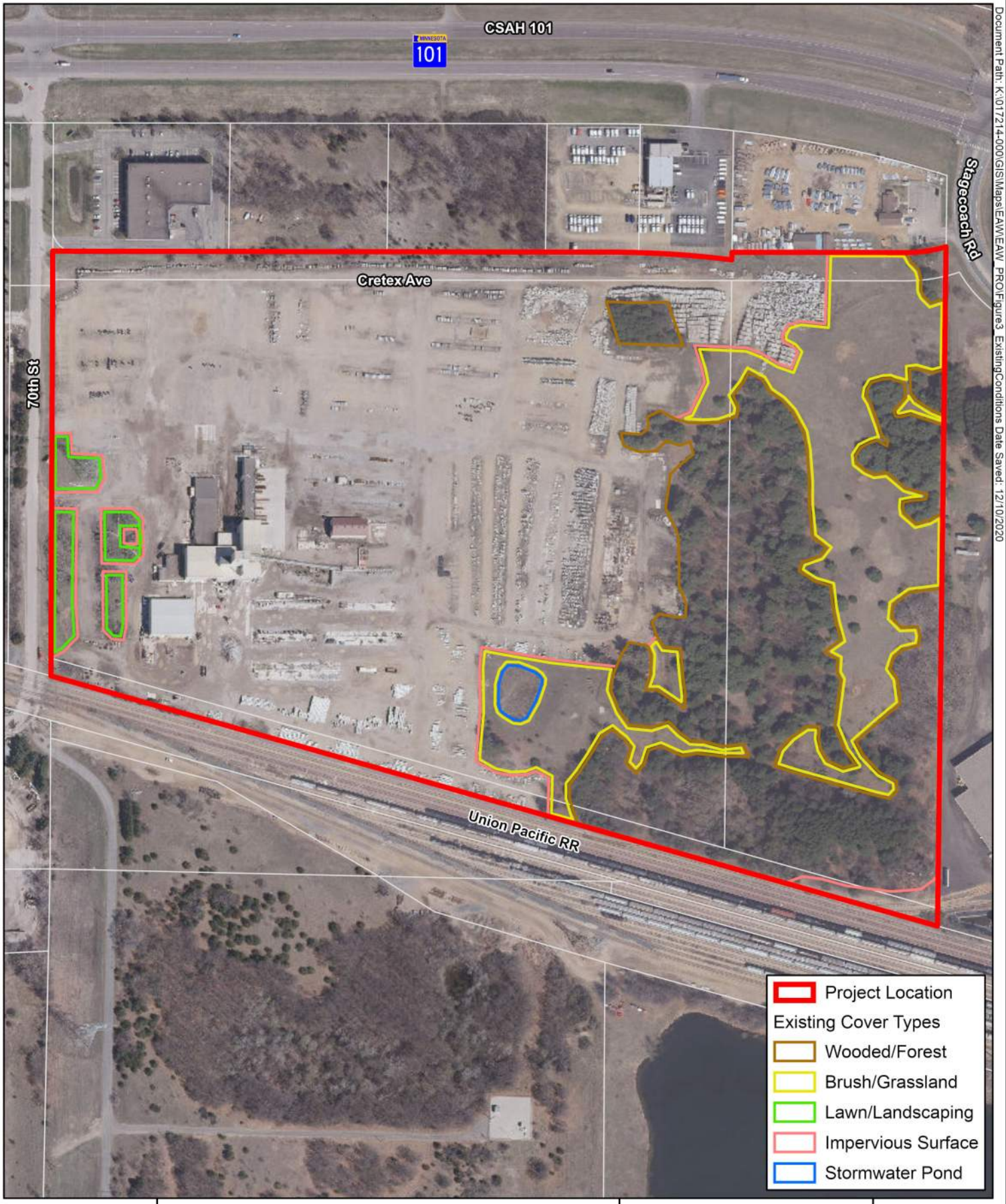
Hentges Industrial Park
Shakopee, MN

N

0 1,000 Feet

1 inch = 1,000 feet

wsb



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SHAKOPEE

Figure 3 - Existing Conditions

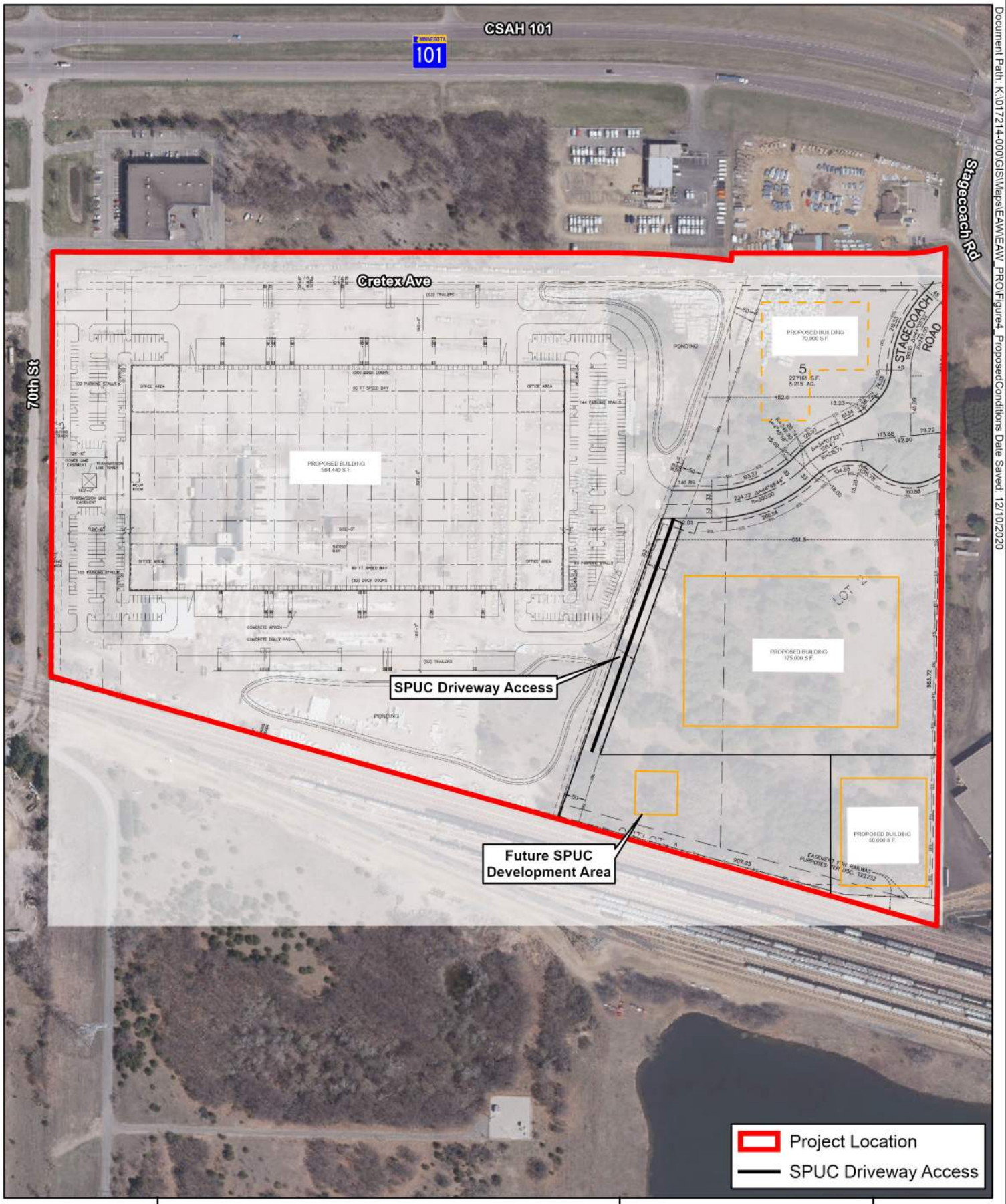
Hentges Industrial Park
Shakopee, MN

N

0 300 Feet

1 inch = 300 feet

wsb



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SHAKOPEE

Figure 4 - Proposed Conditions

Hentges Industrial Park
Shakopee, MN

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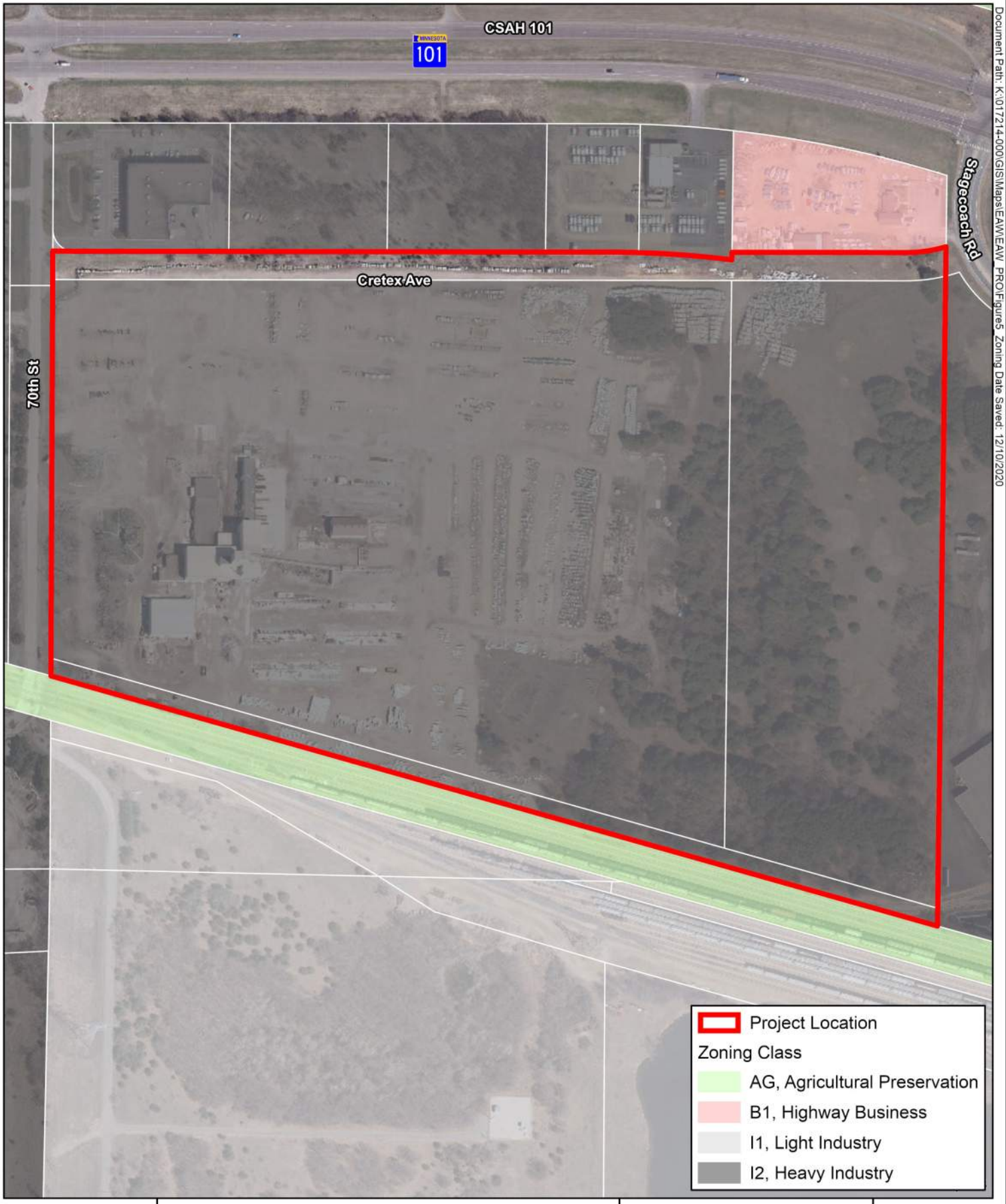
0 300 Feet

1 inch = 300 feet

wsb



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SHAKOPEE

Figure 5 - Zoning

Hentges Industrial Park
Shakopee, MN

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0 300 Feet

1 inch = 300 feet

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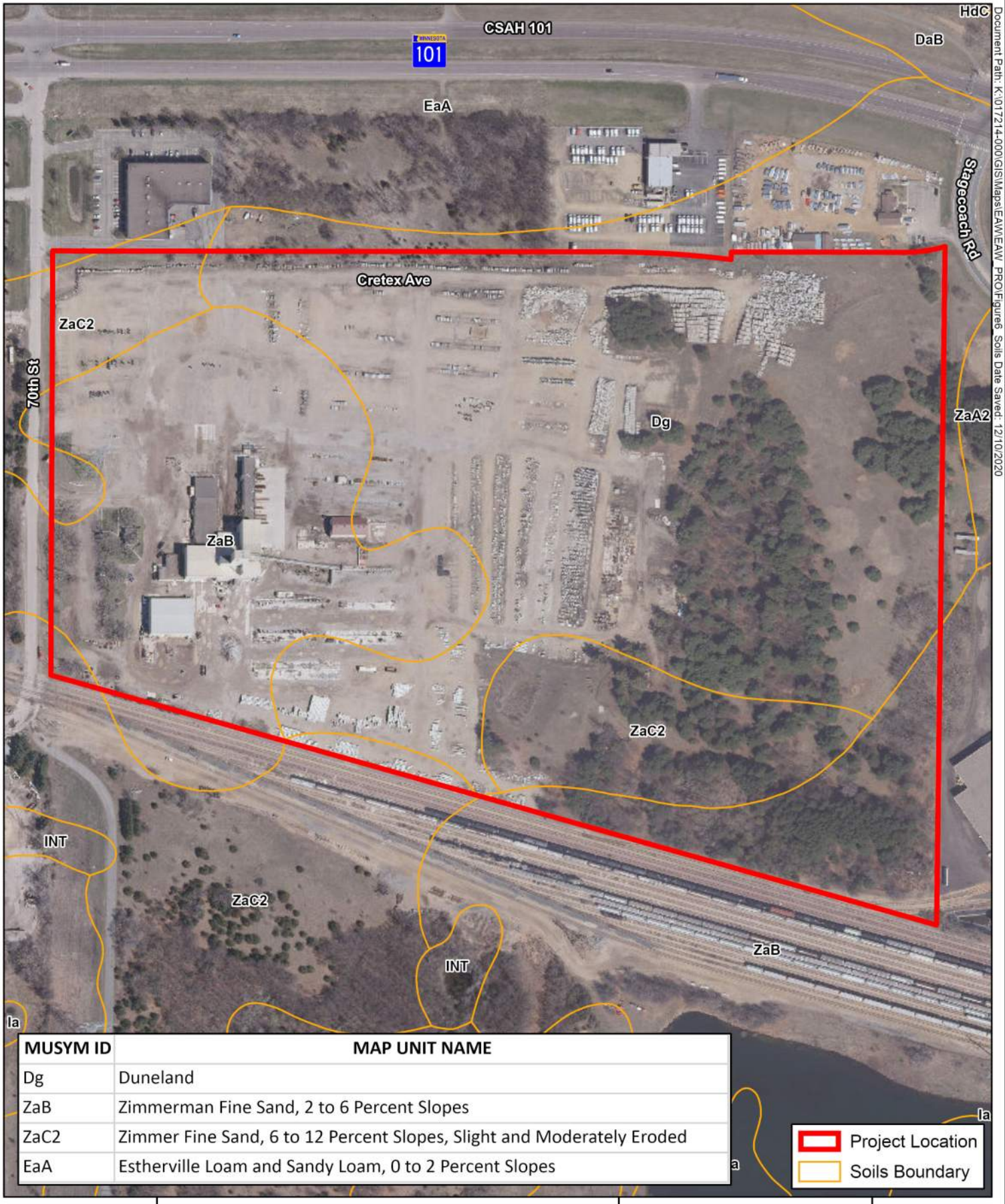

MUSYM ID	MAP UNIT NAME
Dg	Duneland
ZaB	Zimmerman Fine Sand, 2 to 6 Percent Slopes
ZaC2	Zimmer Fine Sand, 6 to 12 Percent Slopes, Slight and Moderately Eroded
EaA	Estherville Loam and Sandy Loam, 0 to 2 Percent Slopes

SHAKOPEE

Figure 6 - Soil Survey of Scott County

Hentges Industrial Park
Shakopee, MN

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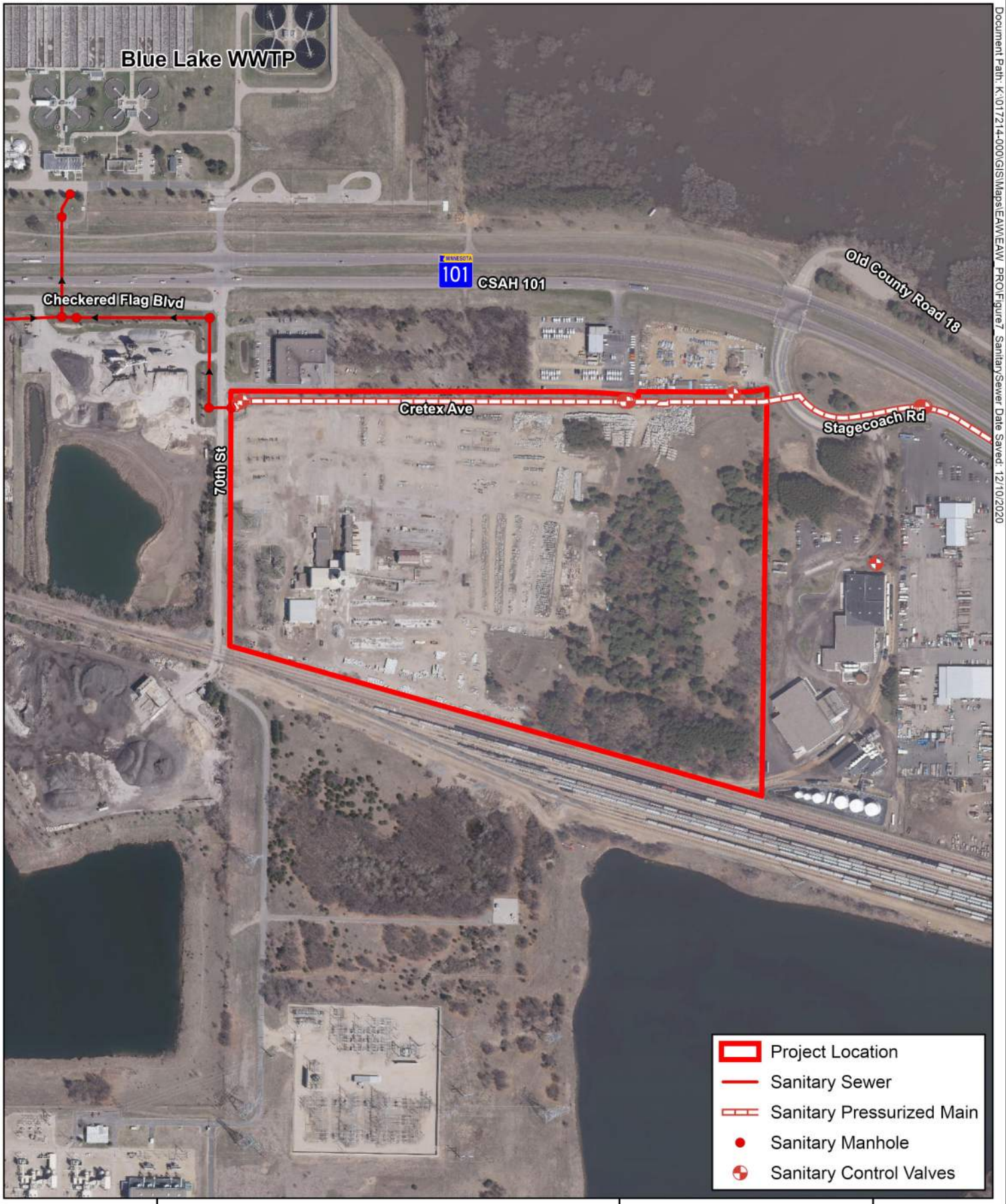
0 300 Feet

1 inch = 300 feet

wsb



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SHAKOPEE

Figure 7 - Sanitary Sewer

Hentges Industrial Park
Shakopee, MN

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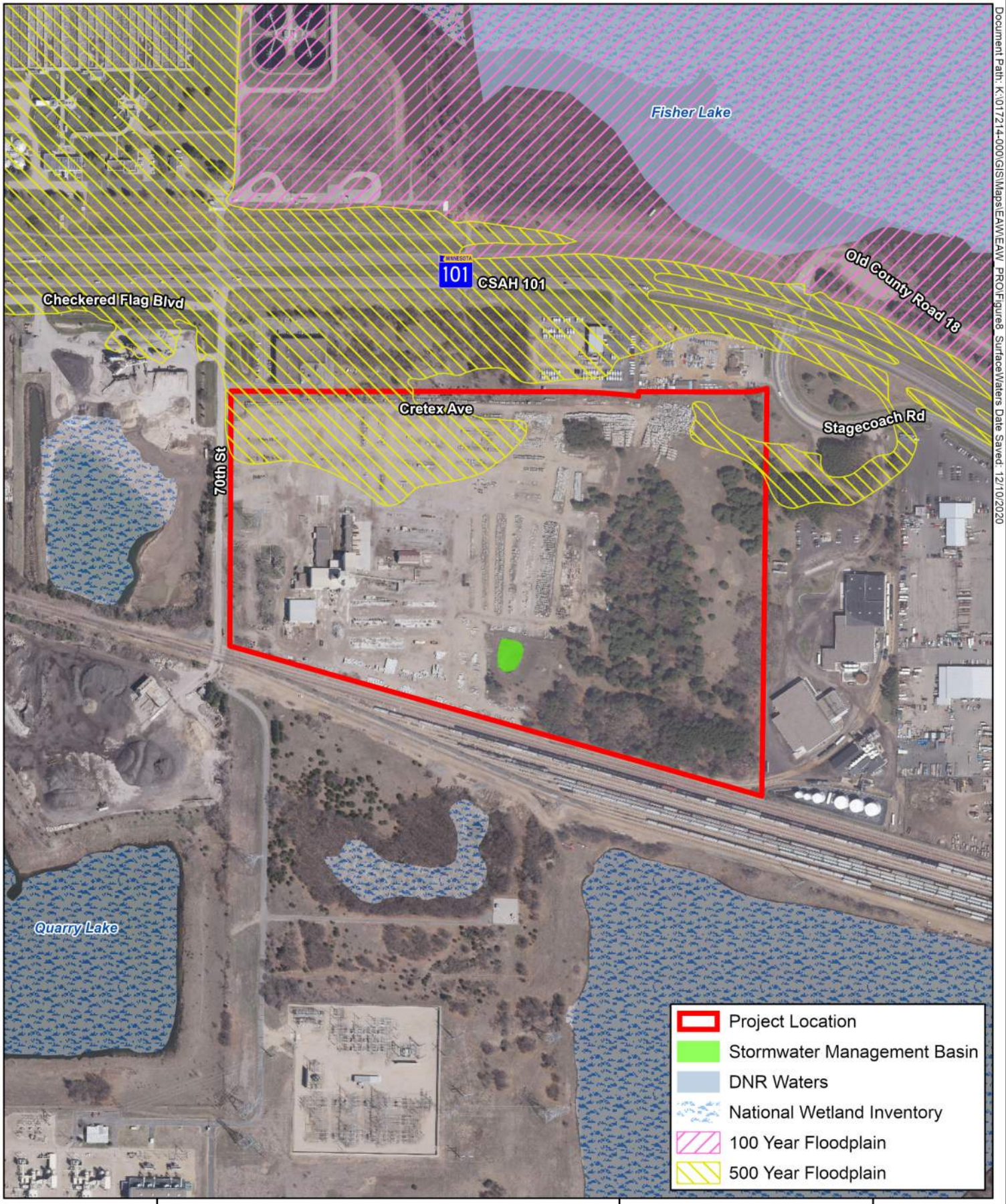
0 500 Feet

1 inch = 500 feet

wsb



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SHAKOPEE

Figure 8 - Surface Waters

Hentges Industrial Park
Shakopee, MN

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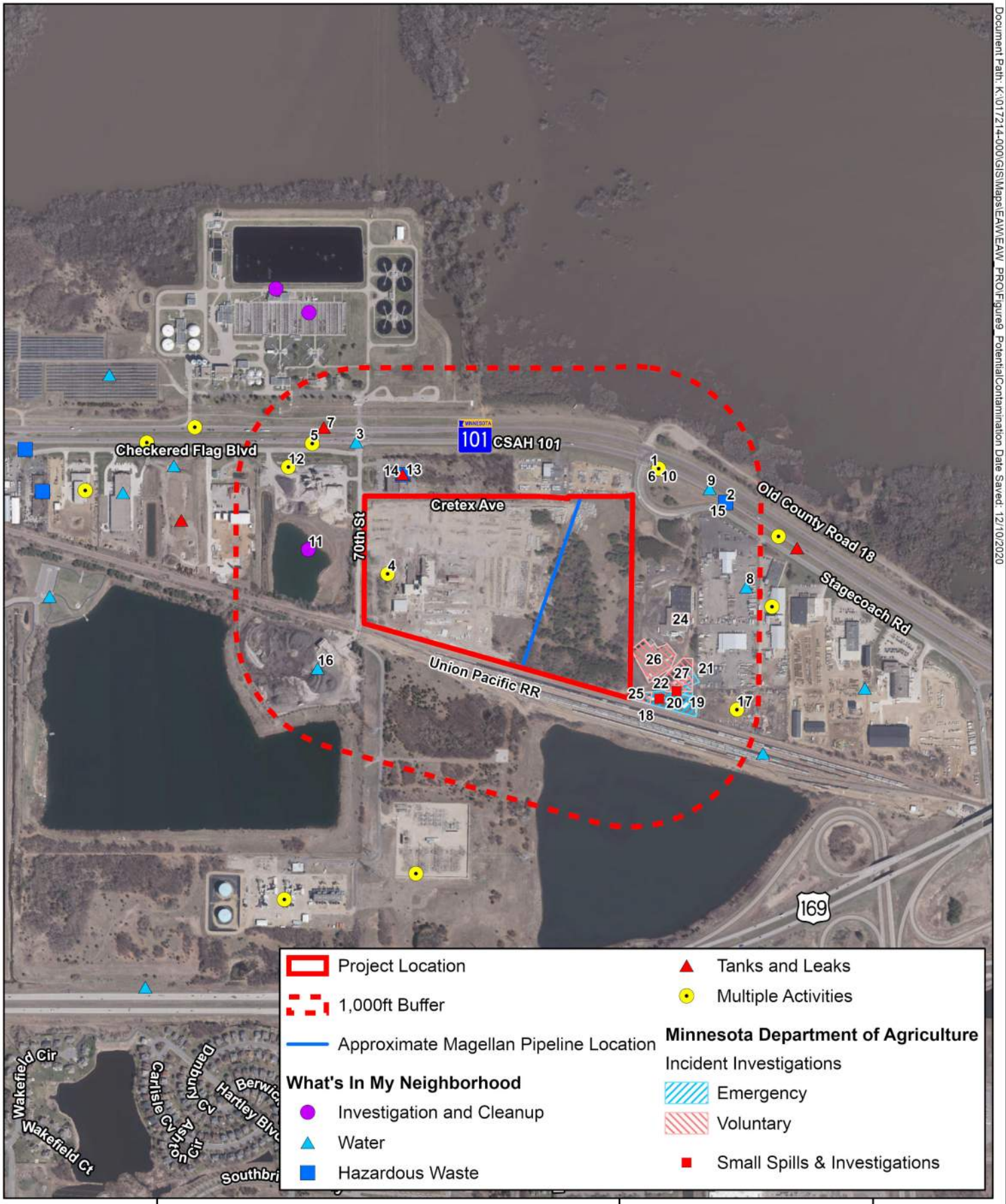
0 500 Feet

1 inch = 500 feet

wsb



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SHAKOPEE

Figure 9 - Potential Contamination

Hentges Industrial Park
Shakopee, MN

N

0 1,000 Feet

1 inch = 1,000 feet

wsb

APPENDIX B

Agency Coordination

Shawn Williams

From: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Sent: Wednesday, November 25, 2020 5:02 PM
To: Shawn Williams
Cc: Alison Harwood
Subject: RE: SHPO - Database Search Request - Hentges Industrial Park - Environmental Assessment Worksheet (EAW)
Attachments: Archaeology.xls

Hello Shawn,

Please see attached archaeological data report. Our database has no historic data for the given project area.

Jim

DEPARTMENT OF ADMINISTRATION
STATE HISTORIC PRESERVATION OFFICE

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

If you require a comprehensive assessment of a project's potential to impact archaeological sites or historic/architectural properties, you may need to hire a qualified archaeologist and/or historian. If you need assistance with a project review, please contact Kelly Gragg-Johnson, Environmental Review Specialist @ 651-201-3285 or by email at kelly.graggjohnson@state.mn.us.
The Minnesota SHPO Archaeology and Historic/Architectural Survey Manuals can be found at https://mn.gov/admin/shpo/identification-evaluation/.

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

From: Shawn Williams <SWilliams@wsbeng.com>
Sent: Friday, November 20, 2020 3:10 PM
To: MN_MNIT_Data Request SHPO <DataRequestSHPO@state.mn.us>
Cc: Alison Harwood <aharwood@wsbeng.com>
Subject: SHPO - Database Search Request - Hentges Industrial Park - Environmental Assessment Worksheet (EAW)

Good afternoon

On behalf of the City of Shakopee, we are requesting a database search for the following location:
SE ¼ of Section 2, T115N, R22W
PIDs 270730040 and 270730050
City of Shakopee, Scott County

Thank you

Shawn Williams, CMWP
Sr. Environmental Scientist
763.287.8531 (o) | 612.360.1305 (m)
WSB | wsbeng.com

COUNTY	SITENUM	SITENAME	TOW	RAN	SEC	XQUARTERS	ACR
Scott							
	21SC0025		115	22	2	N-SE	0
			115	22	2	N-SE	0
			115	22	2	N-SE	0
	21SC0078	Blue Lake #4	115	22	2	NW-SW-NW	0.1
	21SC0079	Blue Lake #5	115	22	2	S-NE-NW	5.6
		Blue Lake #5	115	22	2	N-SE-NW	5.6
		Blue Lake #5	115	22	2	NE-SW-NW	5.6
	21SC0080	Blue Lake #6	115	22	2	S-NW-NE	1.5
		Blue Lake #6	115	22	2	N-SW-NE	1.5

WORI	DESCRIPT	TRADI1	CONTE:	ReportNum	Natı	CEF	DOE
1	EW	W-1		THY-73-01			
1	EW	W-1		SC-91-01			
1	EW	W-1		MULT-93-01			
1	SA	W-1					
1	AS	W-1	EW-1				
1	AS	W-1	EW-1				
1	AS	W-1	EW-1				
1	AS	W-1					
1	AS	W-1					

APPENDIX C

Traffic Study

Memorandum

To: **Mark Noble, Senior Planner**
Steve Lillehaug, Public Works Director/City Engineer
City of Shakopee

From: **Charles Rickart PE, PTOE, Principal, Traffic Engineer**
WSB

Date: **December 11, 2020**

Re: **Hentges Industrial Park EAW Traffic Study**
Shakopee, MN
WSB Project No. R-017214-000

701 XENIA AVENUE S | SUITE 300 | MINNEAPOLIS, MN | 55416 | 763.541.4800 | WSBENG.COM

INTRODUCTION / BACKGROUND

S. M. Hentges is planning on developing the former Cretex site located south of Scott County State Aid Highway (CSAH) 101 between Stagecoach Road and 70th Street on the east side of the City of Shakopee. The project location is shown on ***Figure 1***

At the request of the City a Traffic Study be prepared for the original proposed Cretex site. The Traffic Study dated, June 26, 2020, was completed documenting the impacts the original proposed Cretex site would have on the existing roadway network and traffic operations, lane geometry/traffic control and identifying possible access and roadway connection concepts alternatives. In addition, the study identified additional improvements required, to mitigate any traffic impacts in the short term (2025) and long term (2040) conditions.

Based on the original Traffic Study it was concluded that there were significant traffic impacts at the un-signalized intersection on CSAH 101 at 70th Street and Checkered Flag Blvd. The original Traffic Study also recommended improvements to accommodate the site at full development. These improvements included a full movement access at Stagecoach Road from the Cretex site, with a single lane roundabout approximately 600ft south of CSAH 101, and; a full movement access at 70th Street from the Cretex site.

The developer has now updated their plan to include approximately 61.26 acres of General Industrial uses. The Hentges Industrial Park conceptual site plan has been prepared that includes a 505,000 square feet (sf) building on approximately 39.04 acres, west of the Great Lakes Pipeline Easement and east of 70th Street. The remaining 22.22 acres east of the Great Lakes Pipeline to Stagecoach Road would remain vacant at this time. It is assumed that this area of the site would be developed with an additional 245,000sf of industrial use for a total site development area up to 750,000sf.

All access to the site will through the proposed roundabout on Stagecoach Road that was recommended with the original Traffic Study. The west and future south legs of the roundabout will provide the access to the planned development areas. Only emergency vehicle access will be provided to 70th Street. The proposed site plan is shown on ***Figure 2***.

The purpose of this Traffic Study is to document the transportation impacts of the revised development plan, with all traffic accessing the site from Stagecoach Road, for the future 2025 and 2040 design years. The existing and no-build conditions are based on the original Cretex Site Traffic Study (06/26/20). With no access now planned to 70th Street the analysis will only evaluate the impacts to the Stagecoach Road intersections. It also was assumed that the recommended improvement of a single lane roundabout would be in place with the 2025 and 2040 build conditions.

The following sections of this memorandum document the analysis and anticipated impacts of the proposed Hentges Industrial Park development plan.

EXISTING CONDITIONS

A. Roadway Characteristics

CSAH 101: CSAH 101 is an east/west 4-lane A-Minor Arterial from TH 169 to where it turns north across the river at CSAH 69 in downtown Shakopee. The roadway is divided with a grass median from TH 169 to west of Sarazin Street where it becomes a 4-lane undivided. The roadway section includes a 10-foot paved outside shoulder with right and/or left turn lanes at the primary street and access driveway intersections throughout the corridor. The posted speed limit on the section CSAH 101 adjacent to the site is 55 mph. The speed limit transitions to 35 mph west of Sarazin Street.

Stagecoach Road: Stagecoach Road is a local, north/south 2-lane collector roadway from CSAH 101 to Preserve Trail south of TH 169. It has a rural 32-foot typical section with minimal (4ft) paved shoulders. The posted speed limit on this section of Stagecoach Road south of CSAH 101 is 45 mph.

The lane configurations at each of the study area intersection are as follows:

CSAH 101 at Stagecoach Road – Traffic Signal

- EB CSAH 101 – one right, two thru, one left
- WB CSAH 101 – one right, two thru, one left
- SB Bloomington Fairy Rd – one right, one thru/left
- NB Stagecoach Rd – one right, one thru/left

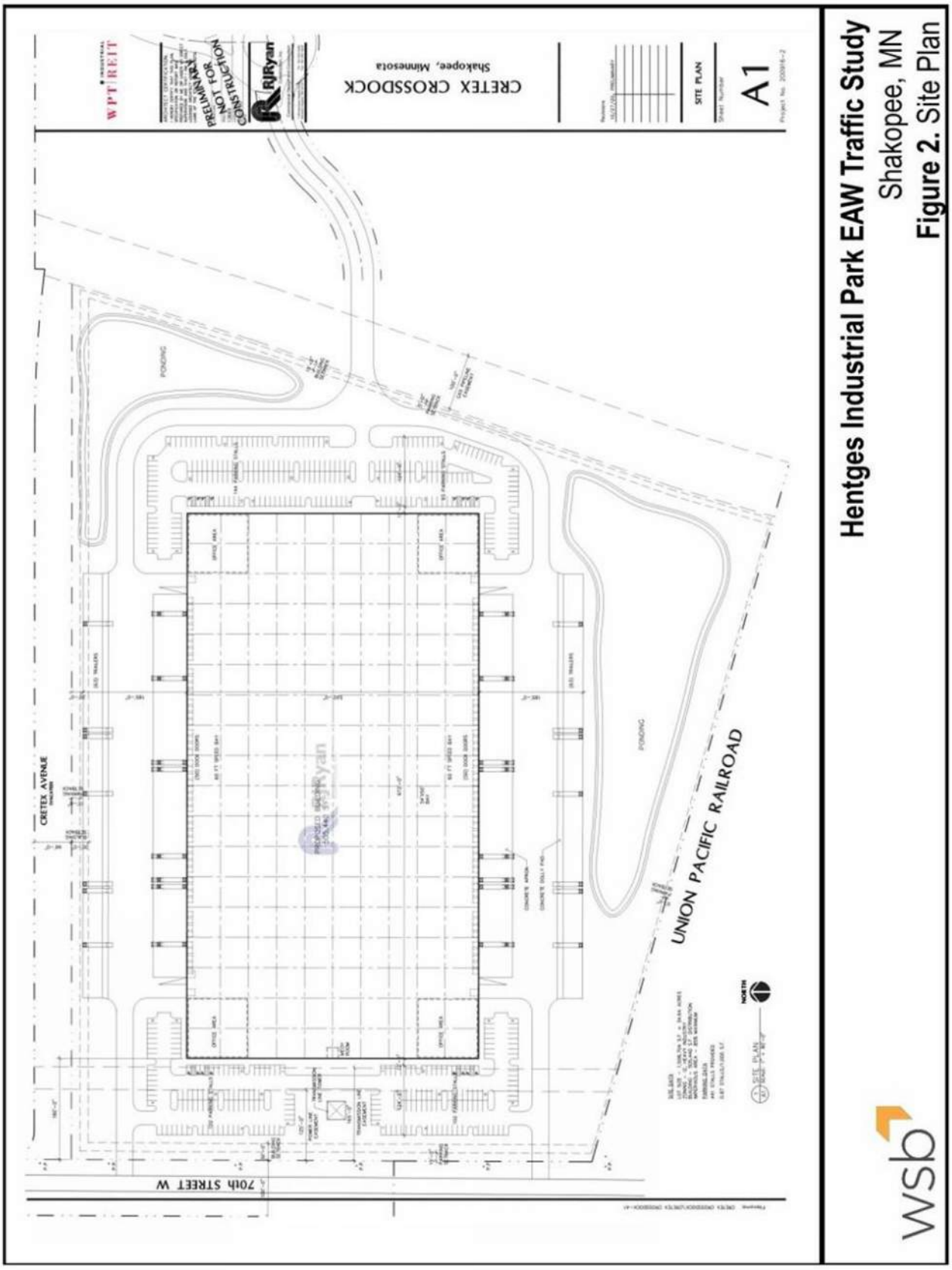
Stagecoach Rd at Trailer Sales Access Right in/Right out – Side Street Stop

- EB Driveway – one right
- SB Stagecoach Rd – one right/thru
- NB Stagecoach Rd – one thru

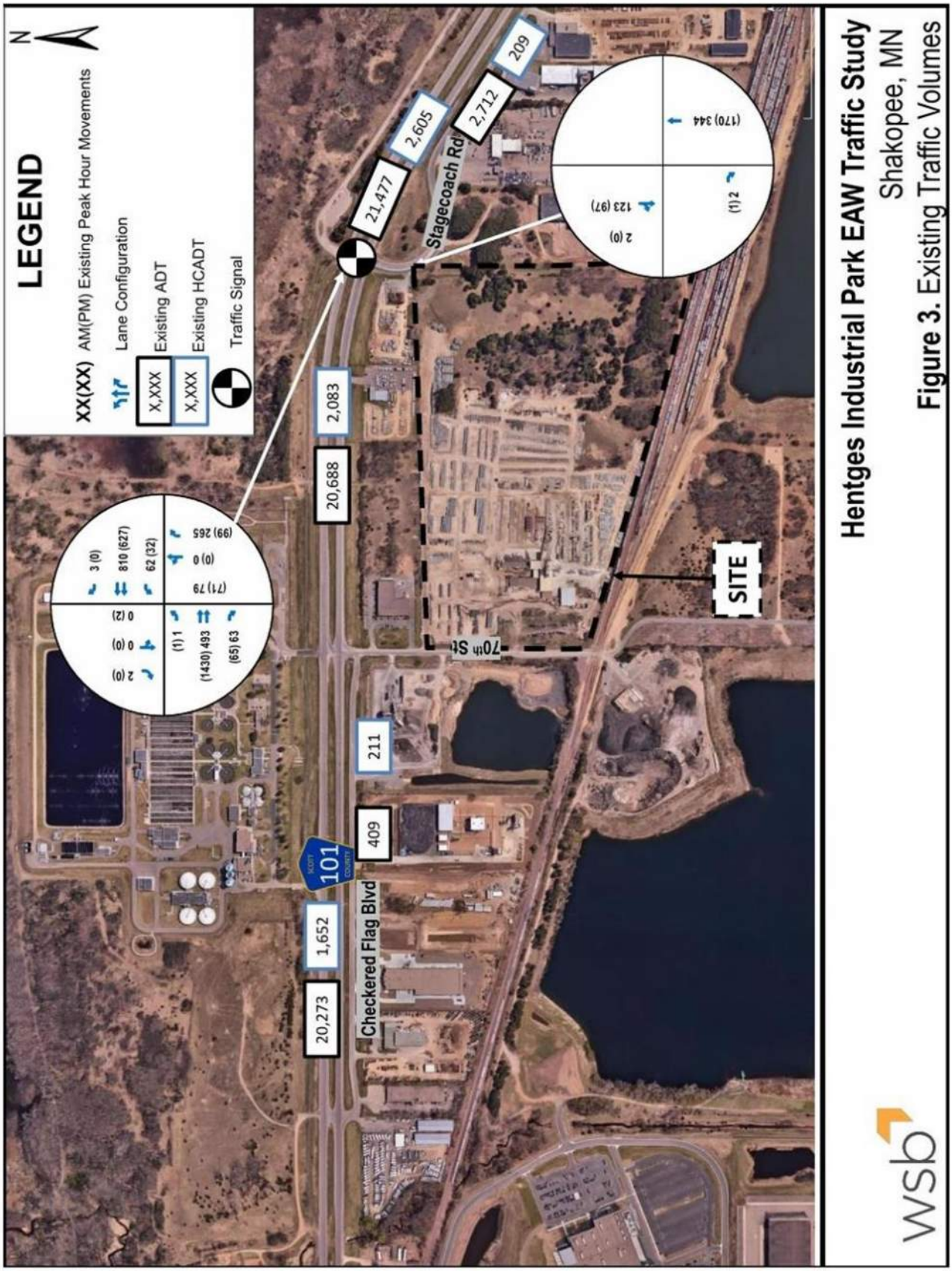
B. Traffic Volumes

AM and PM peak hour turning movement and daily counts were conducted during the week of January 6, 2020. These counts were used as the existing baseline conditions for the area. ***Figure 3*** shows the existing intersections that were analyzed as part of this, with the existing 2020 AM and PM peak hour and traffic volumes.

Hentges Industrial Park EAW Traffic Study
Shakopee, MN
Figure 1. Location Map



Hentges Industrial Park EAW Traffic Study
Shakopee, MN
Figure 2. Site Plan



Hentges Industrial Park EAW Traffic Study
Shakopee, MN

Figure 3. Existing Traffic Volumes

TRAFFIC PROJECTIONS

In order to analyze the lane configuration and traffic control needs projected traffic volumes were determined for the area. Projected 2025 and 2040 traffic volumes were determined based on proposed anticipated future development land use in the area and the City's current Transportation Plan. The following sections outline the projected background traffic growth, traffic generation from the study area, as well as the traffic distribution and projected traffic volumes.

A. Background (Non-Site) Traffic Growth

Traffic growth in the vicinity of a proposed site will occur between existing conditions (2020) and any given future year due to other development within the region. This background growth must be accounted for and included in future year traffic forecasts. Reviewing the historical traffic counts in the area, traffic has stayed somewhat constant or dropped in the past few years.

In order to account for some background traffic growth several factors were considered including the current City Transportation Plan future traffic projections compared to the existing traffic volumes, the historic traffic volumes, and the Scott County State Aid traffic growth projection factor. Based on this review and input from the City of Shakopee and Scott County a factor of 1.21 (1.6%/year) over a 20-year period was used to project traffic from 2020 to the 2025 and 2040 analysis years.

B. Proposed Site Trip Generation

The estimated trip generation from the proposed Hentges Industrial Park development is shown below in ***Table 1.*** The trip generation used to estimate the proposed site traffic is based on rates for other similar land uses as documented in the Institute of Transportation Engineers *Trip Generation Manual, 10*th Edition. The table shows the Daily, AM peak and PM peak hour trip generation for the proposed site for the two site development scenarios including: The current developer site plan (505,000sf), and; full site development (750,000sf).

Table 1 - Estimated Site Trip Generation

		ADT			AM Peak			PM Peak		
Land Use	**Size**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Developer Site Plan										
Industrial	505,000 sf	2506	1253	1253	354	311	42	318	41	277
Full Site Development Plan										
Industrial	750,000 sf	3720	1860	1860	525	462	63	473	61	411

Source: Institute of Transportation Engineers Trip Generation Manual, 10th Edition

C. Traffic Distribution

Site generated trips were distributed to the adjacent roadway system based on several factors including:

- Previous traffic and transportation studies in the area, including City's current Transportation Plan.
- Anticipated origins and destinations for the land use.
- Existing travel patterns and future roadway connections.
- All Hentges Industrial Park site traffic access from Stagecoach Road.

Based on these parameters the following general traffic distribution was used to distribute the projected traffic volumes to the CSAH 101 and Stagecoach Road area:

For the proposed Site Development Plan:
- 72% to / from the east on CSAH 101 / TH 169 North
- 22% to / from the west on CSAH 101
- 6% to / from south on Stagecoach Road

For the future General Industrial Development:
- 48% to / from the east on CSAH 101 / TH 169 North
- 46% to / from the west on CSAH 101
- 6% to / from south on Stagecoach Road

D. Projected Traffic Volumes

Traffic forecasts were prepared for the short term (year 2025) condition and the twenty -year design, long term (year 2040) condition, which would represent the full development of the area.

The traffic forecasts were prepared by adding the projected annual background traffic growth to the existing 2020 traffic counts to determine the 2025 and 2040 No-Build traffic conditions. The anticipated proposed Hentges Development site traffic generation was added to the 2025 no-build traffic condition to determine the 2025 build conditions, and; the full site development traffic generation was added to the 2040 no-build to determine the 2040 build traffic conditions.

Figures 4 - Figure 7 shows the projected 2025 and 2040 no-Build and build, AM peak hour and PM peak hour traffic volumes.

TRAFFIC IMPACT ANALYSIS

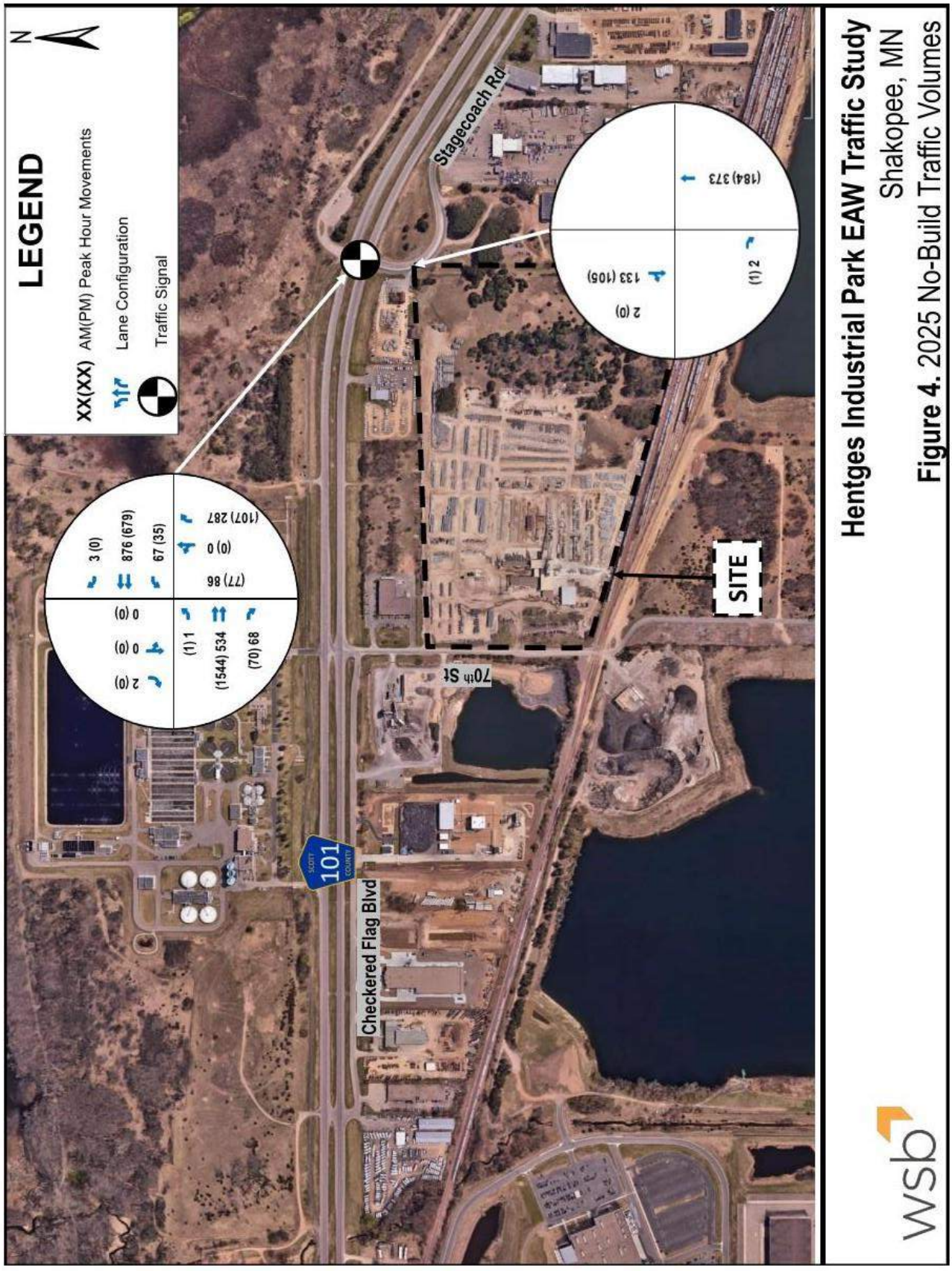
Existing and/or forecasted traffic operations were evaluated for the intersections and access in the Hentges Industrial Park study area. The analysis was conducted for the following scenarios.

1. Existing 2020
2. Projected 2025 No-Build
3. Projected 2040 No-Build
4. Projected 2025 Build with Developer Site Plan
5. Projected 2040 Full Build of Site

This section describes the methodology used to assess the operations and provides a summary of traffic operations for each scenario.

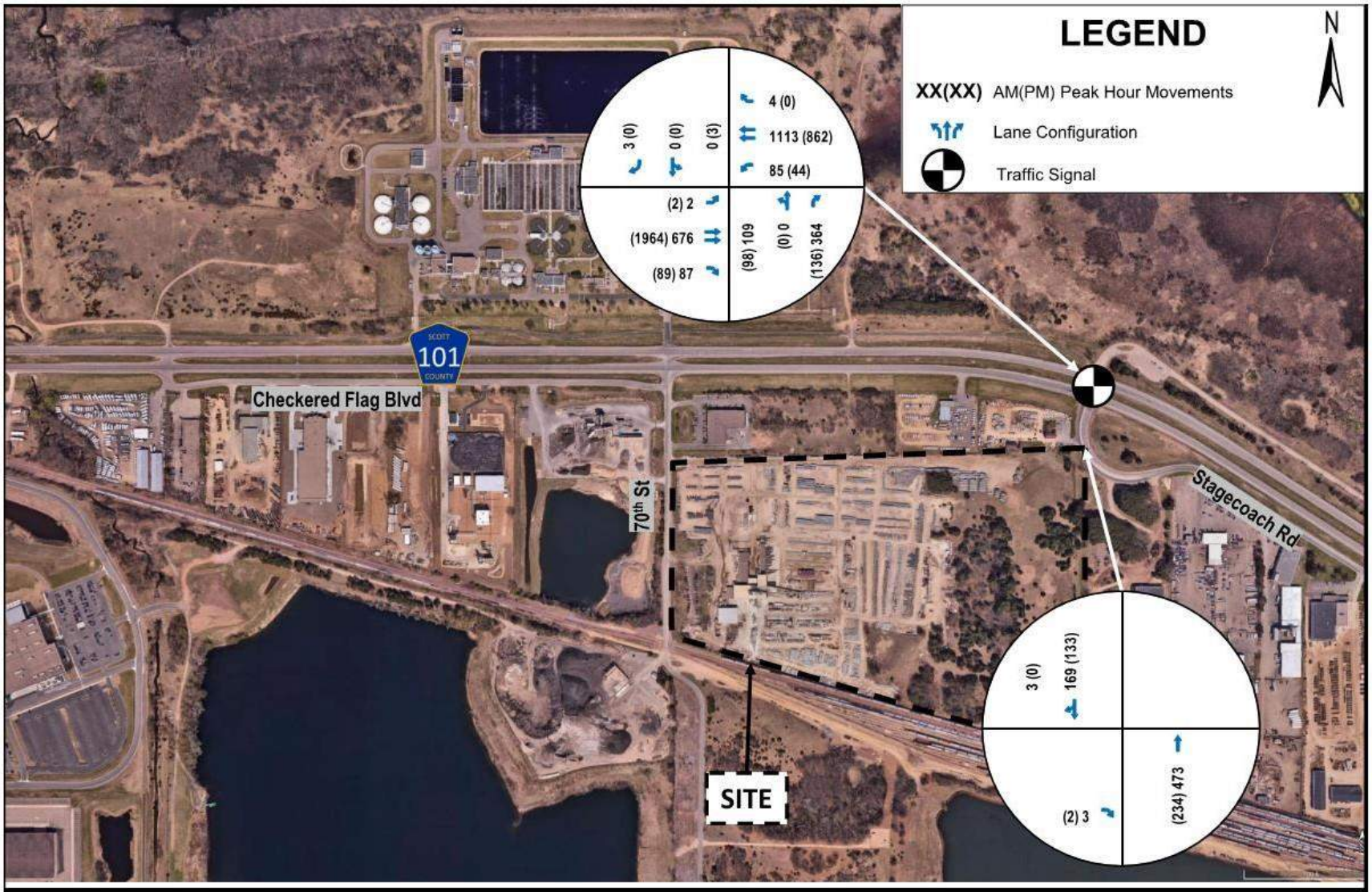
A. Methodology

The intersections in the corridor were evaluated during the AM and PM peak hours using micro simulation software, Synchro/SimTraffic for traffic signals and stop control intersections, and; VISSIM for the roundabout intersections. The results are derived from established methodologies documented in the Highway Capacity Manual (HCM) 2010. The software was used to evaluate the characteristics of the roadway network including lane geometrics, turning movement volumes, traffic control, and signal timing. In addition, the signal timing parameters for future year conditions were optimized using Synchro. This information was then transferred to SimTraffic, the traffic simulation model, to estimate average peak hour vehicle delays and queues.



Hentges Industrial Park EAW Traffic Study
Shakopee, MN

Figure 4. 2025 No-Build Traffic Volumes



Hentges Industrial Park EAW Traffic Study
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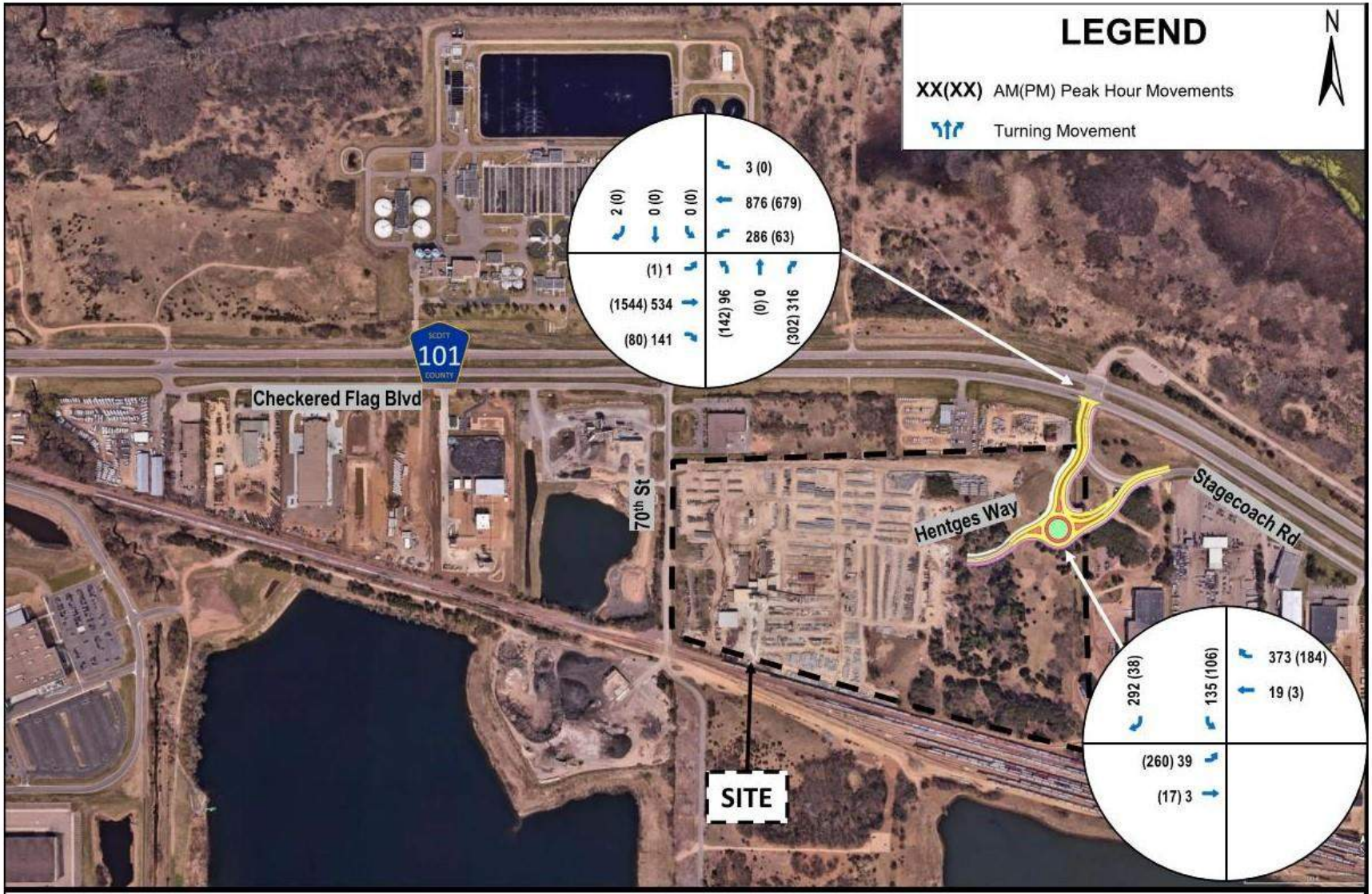
Figure 5. 2040 No-Build Traffic Volumes



Hentges Industrial Park EAW Traffic Study
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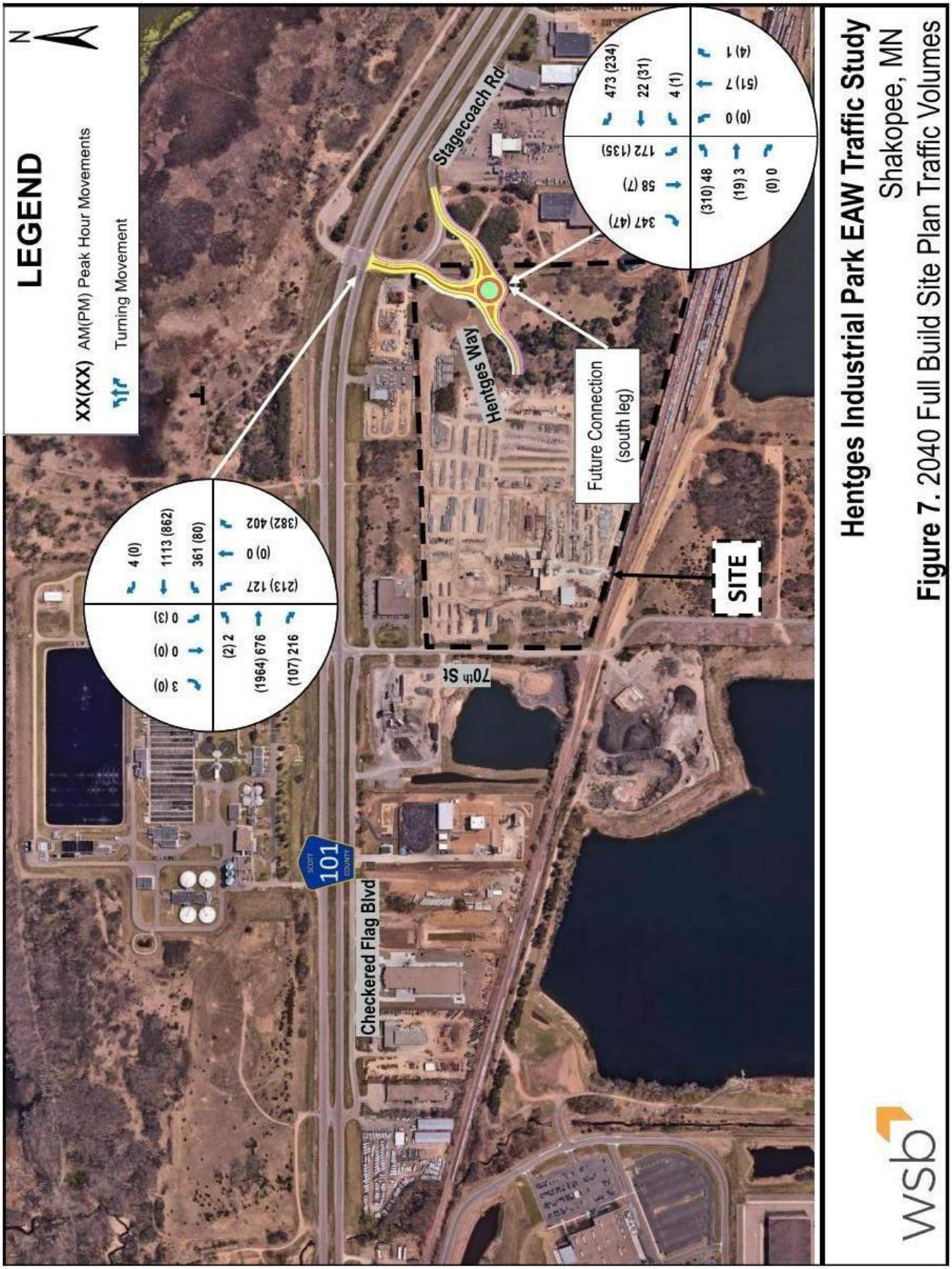
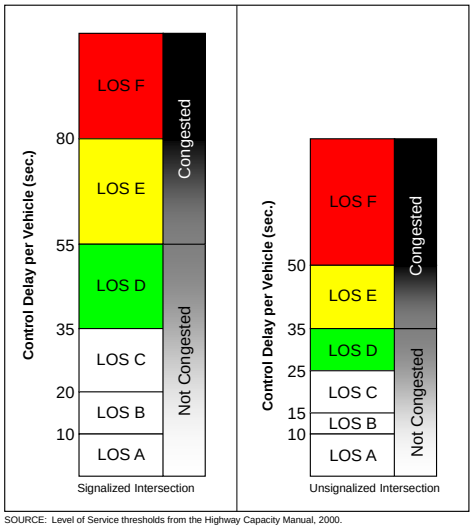
Figure 6. 2025 Build Developer Site Plan Traffic Volumes


LEGEND
XX(XX) AM(PM) Peak Hour Movements
Turning Movement
N
Stagecoach Rd
Hentges Way
Future Connection (south leg)
SITE
70th St
Checkered Flag Blvd
SCOTT COUNTY 101
4 (0)
1113 (862)
361 (80)
(213) 127
0 (0)
(382) 402
3 (0)
0 (0)
0 (3)
(2) 2
(1964) 676
(107) 216
473 (234)
22 (31)
4 (1)
172 (135)
58 (7)
347 (47)
1 (4)
7 (51)
0 (0)
(310) 48
(19) 3
(0) 0
Hentges Industrial Park EAW Traffic Study
Shakopee, MN
Figure 7. 2040 Full Build Site Plan Traffic Volumes
wsb

One of the primary measures of effectiveness used to evaluate intersection traffic operations, as defined in the HCM, is Level of Service (LOS) – a qualitative letter grade, A – F, based on seconds of vehicle delay due to a traffic control device at an intersection. By definition, LOS A conditions represent high quality operations (i.e., motorists experience very little delay or interference) and LOS F conditions represent very poor operations (i.e., extreme delay or severe congestion).

Figure 8 depicts a graphical interpretation of delay times that define level of service. The delay thresholds are lower for un-signalized intersections than signalized intersections due to the public's perception of acceptable delays for different traffic controls as indicated in the HCM. In accordance with the Minnesota Department of Transportation (MnDOT) guidelines, this analysis used the LOS D/E boundary as an indicator of acceptable traffic operations.

Figure 8 - Level of Service Ranges for Signalized and Un-signalized Intersections



SOURCE: Level of Service thresholds from the Highway Capacity Manual, 2000.

B. Existing Level of Service Summary

Existing Traffic Operations

Table 2 - 2020 Existing Conditions shown below, summarizes the existing LOS at the primary intersections in the study area based on the current lane geometry, traffic control and 2020 traffic volumes. The analysis results show that all intersections are operating at overall LOS B or better during both the weekday AM and PM peak hours. All movements during the AM peak hour are operating at a LOS C or better, however the left turn from westbound CSAH 101 to southbound Stagecoach Road would be operating at a LOS D during the PM peak hour.

Table 2 – 2020 Existing Conditions Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Signal	CSAH 101 at Stagecoach Rd	B (C)	12 (26)	B (D)	16 (46)
Thru-Stop	Stagecoach Rd at Driveway	A (A)	1 (3)	A (A)	1 (2)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay)

C. Forecasted Traffic Operations

A capacity and LOS analysis was completed for the AM and PM peak hours at the study area intersections for the year 2025 and 2040 no-build and build conditions.

The original Traffic Study concluded that during the PM peak hour, the intersections of CSAH 101 at Checkered Flag Blvd, CSAH 101 at 70th Street and Checkered Flag Blvd at 70th Street will have movements that would be operating at LOS F without any development on the proposed site. With the proposed development and no access to 70th Street, no changes would be anticipated for these intersections and they would continue operating at the unacceptable levels of service now and in the future. However, if access to 70th Street was provided the intersections would be operating at much worse levels of service and require improvements.

The build condition analysis assumes the current proposed development plan is completed by 2025 and full build of the site by 2040. For both build conditions all access to the development site will be through the proposed single lane roundabout at Stagecoach Road. The west leg of the roundabout will be a new street connection (Hentges Way) to the proposed site. The south leg of the roundabout will be a future connection to the development area. This leg of the roundabout was only assumed for the 2040 build condition.

Figure 9 shows the proposed roadway improvements. The results of the forecasted year analysis are discussed below in the following sections:

2025 No-Build Traffic Operations

Table 3 – 2025 No Build Level of Service Summary, shows that all intersections will continue to operate at overall LOS B in 2025 during both the weekday AM and PM peak hours with only the background traffic growth. Overall delays will only increase slightly from the existing conditions. All movements during the AM peak hour would be operating at a LOS C or better however, similar to the existing conditions the left turn from westbound CSAH 101 to southbound Stagecoach Road would be operating at a LOS D during the PM peak hour.

Table 3 – 2025 No-Build Conditions Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Signal	CSAH 101 at Stagecoach Rd	B (C)	12 (26)	B (D)	17 (48)
Thru-Stop	Stagecoach Rd at Driveway	A(A)	1 (3)	A (A)	1 (3)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay

2040 No-Build Traffic Operations

Table 4 – 2040 No Build Level of Service Summary, shows that all intersections would operate at overall LOS C or better in 2040 during both the weekday AM and PM peak hours with only the background traffic growth. Overall delays will only increase slightly from the 2025 no-build conditions. All movements during the AM peak hour would be operating at a LOS C or better however, during the PM peak hour the left turn from westbound CSAH 101 to southbound Stagecoach Road would operate at a LOS E and the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D.

Table 4 – 2040 No-Build Conditions Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Signal	CSAH 101 at Stagecoach Rd	B (C)	19 (34)	C (E)	27 (59)
Thru-Stop	Stagecoach Rd at Driveway	A(A)	2 (5)	A (A)	2 (4)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay

2025 Build Traffic Operations

Table 5 – 2025 Build Conditions, shows that, assuming the proposed Hentges Industrial Park development site plan with the proposed roundabout at Hentges Way and Stagecoach Road, all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM peak hour would be operating at a LOS C or better however, during the PM peak hour the left turn from westbound CSAH 101 to southbound Stagecoach Road and the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D.

Table 5 – 2025 Build Conditions Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Signal	CSAH 101 at Stagecoach Rd	B (C)	17 (32)	C (D)	26 (54)
Thru-Stop	Stagecoach Rd at Driveway	A (A)	2 (9)	A (A)	2 (6)
Round-about	Stagecoach Rd at Hentges Way	A (A)	4 (9)	A (B)	6 (12)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay

2040 Build Traffic Operations

Table 6 – 2040 Build Conditions, shows that, assuming the full build of the proposed Hentges Industrial Park site with the proposed roundabout at Hentges Way and Stagecoach Road, all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM and PM peak hours would be operating at a LOS C or better except:

- Northbound right turn Stagecoach Rd to eastbound CSAH 101, LOS D during the AM peak hour and LOS E during the PM peak hour
- Westbound left turn CSAH 101 to southbound Stagecoach Rd, LOS E during the PM peak hour

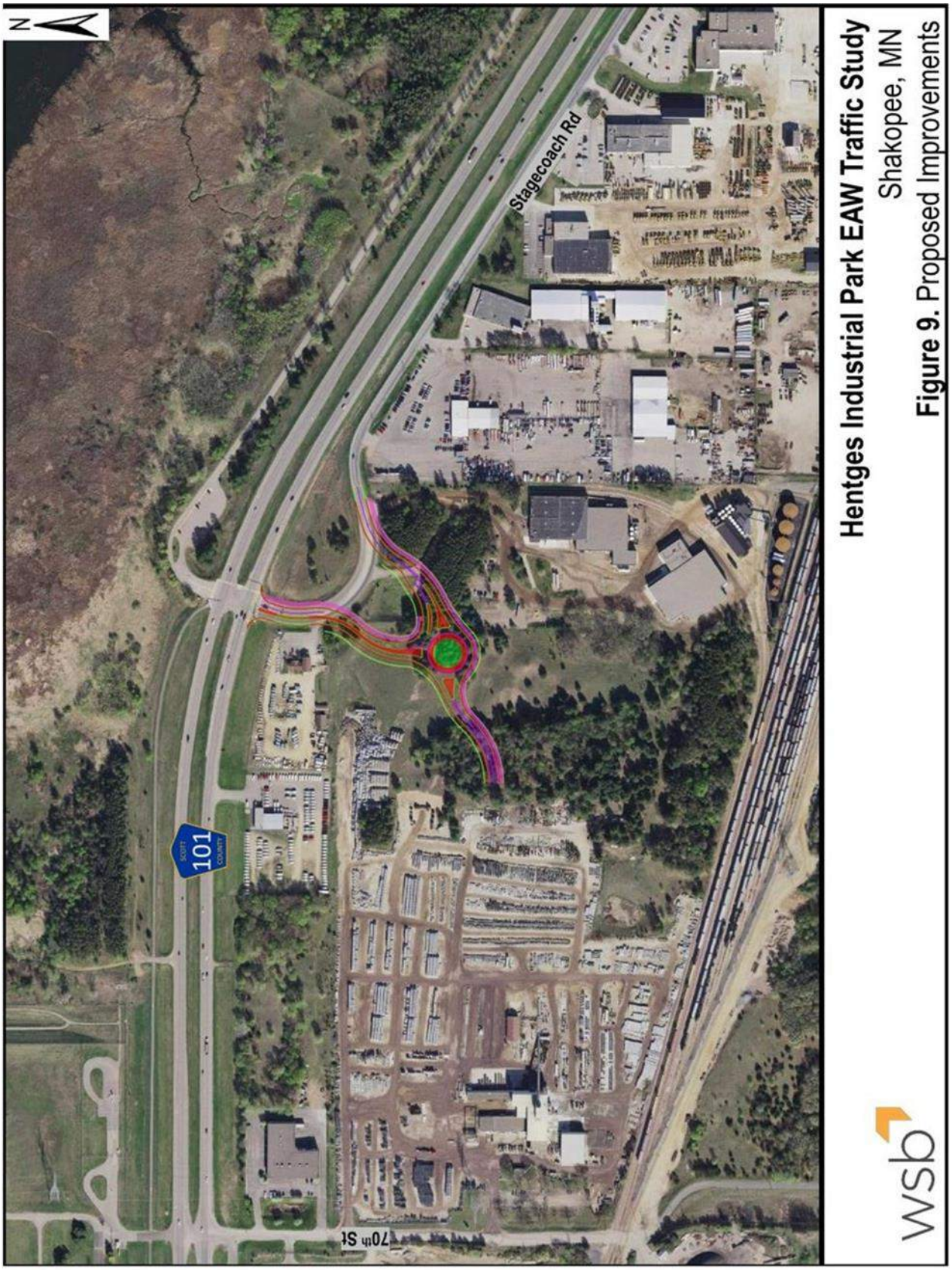

N
Stagecoach Rd
70th St
101
SCOTT COUNTY
Hentges Industrial Park EAW Traffic Study
Shakopee, MN
Figure 9. Proposed Improvements
wsb

Table 6 – 2040 Build Conditions Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Signal	CSAH 101 at Stagecoach Rd	C (D)	24 (43)	C (E)	34 (71)
Thru-Stop	Stagecoach Rd at Driveway	A (A)	3 (9)	A (A)	3 (8)
Round-about	Stagecoach Rd at Hentges Way	A (B)	7 (15)	A (B)	9 (18)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay

Vehicle Queuing Analysis

A queuing analysis for the existing and future conditions was conducted, evaluating the anticipated vehicle queues with the proposed traffic conditions. The analysis was conducted using the SimTraffic simulation software. The results found that during both the weekday AM and PM peak hours with the 2025 and 2040 conditions and with proposed Hentges Industrial Park development plan, no movements would exceed the available or proposed turn lane storage.

CONCLUSIONS / RECOMMENDATIONS

Based on the analysis documented in this report, WSB has concluded the following:

- The Hentges Industrial Park site is proposed for redevelopment. A conceptual site plan has been prepared that includes a 505,000 square feet (sf) building on approximately 39.04 acres, west of the Great Lakes Pipeline Easement and east of 70th Street. The remaining 22.22 acres east of the Great Lakes Pipeline to Stagecoach Road is assumed to be developed by 2040 to include an additional 245,000sf of industrial use for a total site development area up to 750,000sf.

- The site is anticipated to generate 2506 daily, 354 AM peak hour and 318 PM peak hour trips with the initial development plan, and up to 3720 daily, 525 AM peak hour and 473 PM peak hour trips at full development of the site.

- All access to the site will through the proposed roundabout on Stagecoach Road. The west and future south legs of the roundabout will provide the access to the development area. No access will be provided to 70th Street except emergency vehicle access.

- The results of the existing (2020) traffic operations analysis show that all intersections are operating at overall LOS B or better during both the weekday AM and PM peak hours. All movements during the AM peak hour are operating at a LOS C or better, however the left turn from westbound CSAH 101 to southbound Stagecoach Road would be operating at a LOS D during the PM peak hour.

- The traffic operation analysis for the No-Build conditions show that all intersections will operate at overall LOS B in 2025 and LOS C in 2040 during both the AM and PM peak hours. All movements during the AM peak hour would be operating at a LOS C or better in 2025 and 2040, except the left turn from westbound CSAH 101 to southbound Stagecoach Road operating at a LOS D in 2025 and LOS E in 2040, and; the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D in 2040.

- The original Traffic Study concluded that during the PM peak hour, the intersections of CSAH 101 at Checkered Flag Blvd, CSAH 101 at 70th Street and Checkered Flag Blvd at 70th Street will have movements that would be operating at LOS F without any development on the proposed site. With the proposed development and no access to 70th Street, no changes would be anticipated for these intersections and they would continue operating at the unacceptable levels of service now and in the future. However, if access to 70th Street was provided the intersections would be operating at much worse levels of service and require improvements.

- The traffic operations analysis for the 2025 build condition shows that all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM peak hour would be operating at a LOS C or better however, during the PM peak hour the left turn from westbound CSAH 101 to southbound Stagecoach Road and the right turn from northbound Stagecoach Road to eastbound CSAH 101 would operate at a LOS D.

- The traffic operations analysis for the 2040 build condition shows that all intersections would operate at overall LOS C or better in the AM and PM peak hours. All movements during the AM and PM peak hours would be operating at a LOS C or better except:

    - LOS D = NB right turn Stagecoach Rd to EB CSAH 101, AM peak hour
    - LOS E = NB right turn Stagecoach Rd to EB CSAH 101, PM peak hour
    - LOS E = WB left turn CSAH 101 to SB Stagecoach Rd, PM peak hour

- The queuing analysis indicated that during both the weekday AM and PM peak hours for the projected 2025 and 2040 conditions, found that no movements would exceed the available turn lane storage.

Recommendation

Based on the study conclusions following is recommended:

1. Construct the proposed improvements shown on ***Figure 9*** including: Hentges Way connection from the site to Stagecoach Road; A single lane roundabout approximately 600ft south of CSAH 101, with a westbound to northbound bypass right turn lane provided through the roundabout.

2. As traffic continues to grow in the area monitor the traffic operations at the CSAH 101 and Stagecoach Road intersection to determine if any improvements are required.