

**WHITE LAKE TOWNSHIP
INTER-OFFICE MEMORANDUM
COMMUNITY DEVELOPMENT DEPARTMENT**

DATE: May 10, 2024

TO: Rik Kowall, Supervisor
Township Board of Trustees

FROM: Sean O'Neil, AICP
Community Development Director

SUBJECT: 9101 Highland Rezoning Request
Property described as 9101 Highland Road, identified as parcel number 12-23- 227-003, located south of Highland Road, west of Sunnybeach Boulevard, consisting of approximately 5.02 acres.
Request: Applicant requests to rezone the parcel from R1-C (Single Family Residential) to RB (Restricted Business) or any other appropriate zoning district.
Applicant: Affinity 10 Investments, LLC

The rezoning request will be considered by the Planning Commission at their regular meeting of May 16th, 2024. Draft minutes will be sent to you under separate cover. Please find enclosed the following related documents:

- Review letters prepared by the Township Staff Planner, Justin Quagliata, dated May 6, 2024.
- Rezoning application submitted by the applicant.
- Traffic impact study
- ALTA survey
- Site plan
- Public hearing notice.

Please place this matter on the next available Township Board agenda. Do not hesitate to contact me should you require additional information.

WHITE LAKE TOWNSHIP PLANNING COMMISSION

REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Planning Commission

FROM: Sean O'Neil, AICP, Community Development Director
Justin Quagliata, Staff Planner

DATE: May 6, 2024

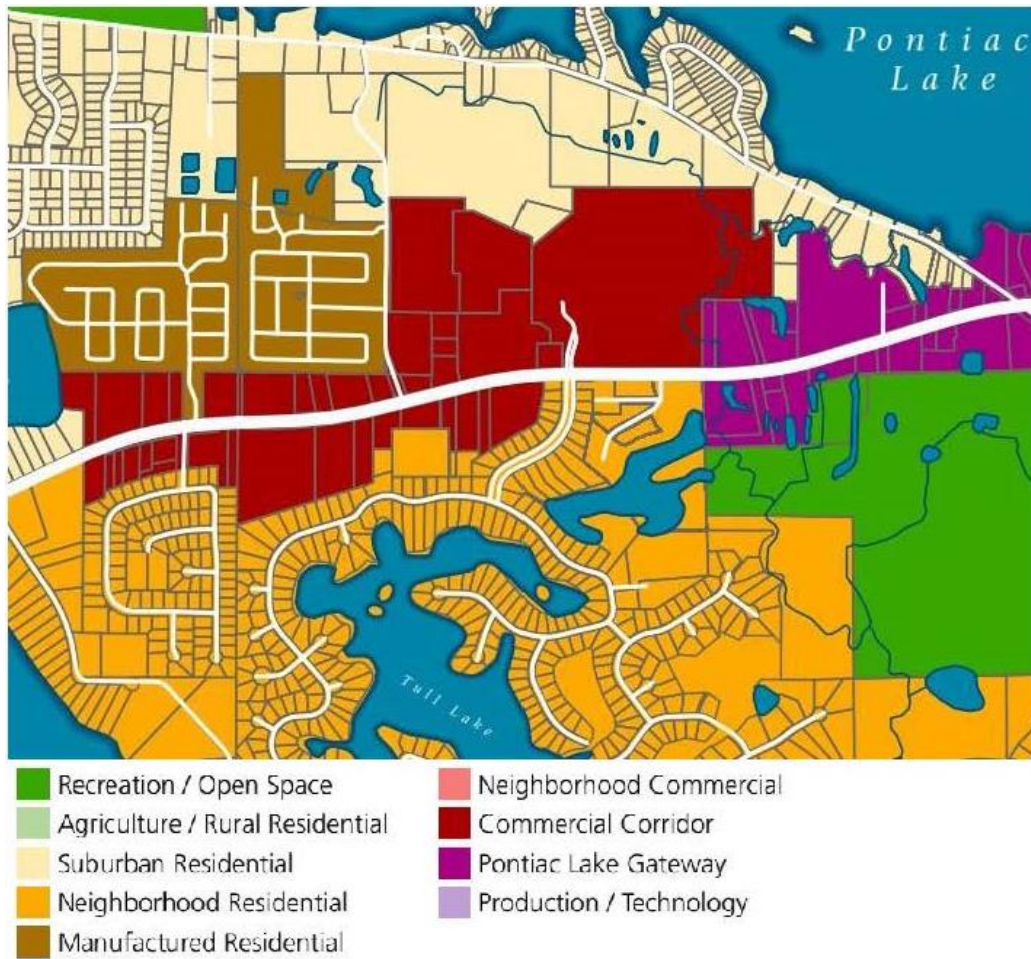
RE: 9101 Highland Road (Parcel Number 12-23-227-003)
Rezoning – Review #2

Affinity 10 Investments, LLC (Tom Hannawa) has requested the rezoning of approximately five acres located at 9101 Highland Road from R1-C (Single-Family Residential) to RB (Restricted Business). The site is located on the south side of Highland Road, west of Sunnybeach Boulevard and contains approximately 458.4 feet of frontage on Highland Road.

At its meeting on March 7, 2024 the Planning Commission recommended denial of a request by the Applicant to rezone the property from R1-C to GB (General Business). The Applicant has submitted a new rezoning application in response to Planning Commissioner and resident feedback received both at the previous public hearing, and at a community meeting the Applicant and development team held with residents last month.

The Future Land Use Map from the 2024 Master Plan designates the subject site in the Commercial Corridor category, which is intended to provide regional goods and services (such as large box-stores and drive-thrus) to residents and non-residents.

FUTURE LAND USE MAP

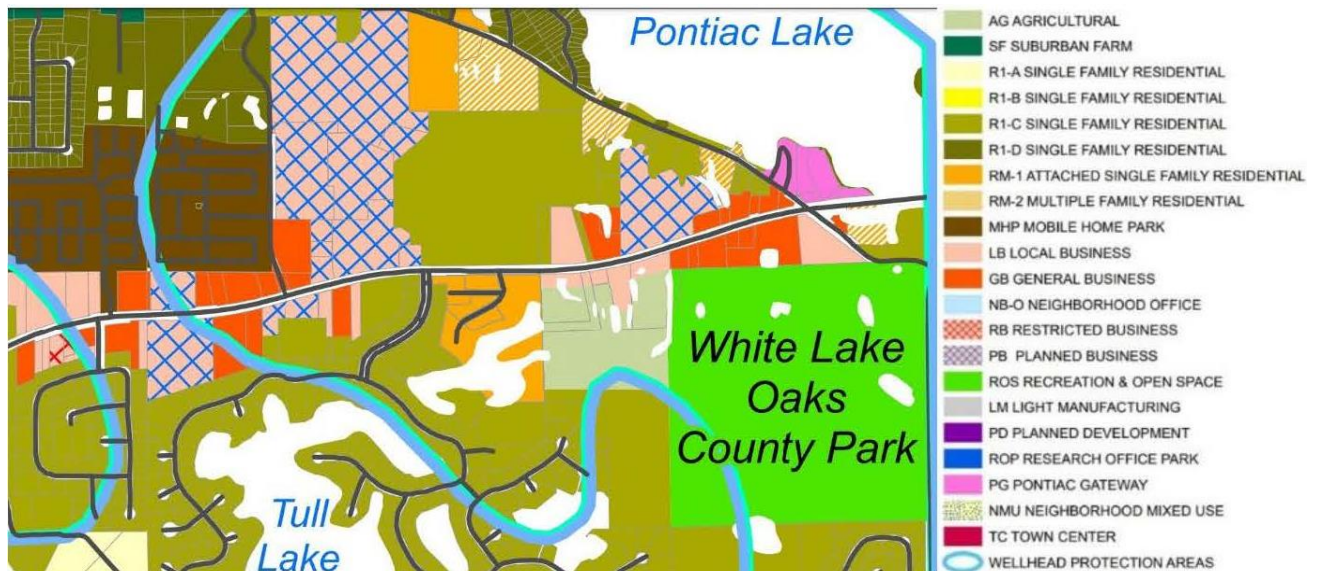


Zoning

The subject site is currently zoned R1-C, which requires a minimum of 100 feet of lot width and 16,000 square feet of lot area. The requested RB zoning district requires a minimum of 120 feet of lot width and one (1) acre of lot area. With approximately 458.4 feet of lot width on Highland Road and five acres of lot area, the site meets the minimum standards for both lot area and lot width of the existing and proposed zoning districts. The following table illustrates the lot width and lot area standards for the existing R1-C and proposed RB zoning districts:

ZONING DISTRICT	LOT WIDTH	LOT AREA
R1-C	100 feet	16,000 square feet
RB	120 feet	1 acre

ZONING MAP



Physical Features

The former Calvary Lutheran Church building and its associated parking lot occupy the property, as well as a community garden. Topography of the site is generally level. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site.

Access

The site fronts on Highland Road, which along the property is a five-lane road (two lanes in each direction and a center turn lane).

Utilities

Municipal water and sanitary sewer are available to serve the site. The location and capacity of utilities for any proposed development will be reviewed in detail by the Township Engineering Consultant at the time of a development submittal.

Staff Analysis

In considering any petition for an amendment to the zoning map, the Planning Commission and Township Board must consider the following criteria from Article 7, Section 13 of the Zoning Ordinance in making its findings, recommendations, and decision:

- A. *Consistency with the goals, policies and future land use map of the White Lake Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area.* The Future Land Use Map from the 2024 Master Plan designates the subject site in the Commercial Corridor category, which aligns with the proposed RB zoning district.
- B. *Compatibility of the site's physical, geological, hydrological and other environmental features with the host of uses permitted in the proposed zoning district. If the property is rezoned to RB, it would not directly or indirectly have a substantial adverse impact on the natural resources of the Township.*
- C. *Evidence the Applicant cannot receive a reasonable return on investment through developing the property with one (1) of the uses permitted under the current zoning. While no such evidence has been submitted, the property is five acres in size and located in a commercial corridor on Highland Road (M-59) with access to municipal water and sanitary sewer. It is reasonable to request commercial zoning on this type of property.*
- D. *The compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential influence on property values. The majority of the permitted and special land uses in the RB district are compatible with the surrounding uses and the nature of the uses anticipated in the Township Master Plan. Only the Township Assessor may provide comment on property values.*
- E. *The capacity of Township utilities and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township. The site is in an area intended to be serviced by public water and sanitary sewer. The Community Development Department defers to the Director of Public Services and Township Engineering Consultant on this matter.*
- F. *The capability of the street system to safely and efficiently accommodate the expected traffic generated by uses permitted in the requested zoning district. Per staff comments on the previous rezoning application, a revised traffic impact study (TIS) has been submitted and now includes Sunnybeach Boulevard in the evaluation. For the purpose of this rezoning application, the information provided is sufficient. The TIS describes existing traffic conditions and compares the potential trip generation of the site's use under the existing and proposed zoning classifications.*
- G. *The apparent demand for the types of uses permitted in the requested zoning district in relation to the amount of land in the Township currently zoned and available to accommodate the demand. Evidence of the demand in the Township for additional retail commercial uses has not been submitted. However, the location is appropriate for property zoned RB, given the traffic, residential units, and general density in the area.*

- H. The boundaries of the requested rezoning district are reasonable in relationship to its surroundings, and construction on the site will be able to meet the dimensional regulations for the zoning district listed in the Schedule of Regulations.* The subject site is located in a commercial corridor on Highland Road (M-59). The Applicant provided a revised concept plan showing two multi-tenant buildings on the site: the west building is 7,201 square feet in size and the east building is 6,409 square feet in size. The easterly unit in each building contains a drive-thru restaurant and each building has a patio in front; drive-thru restaurants and outdoor dining require special land use approval from the Planning Commission. Parking is shown on all sides of the buildings, with one driveway accessing Highland Road near the center of the site. The Applicant did not volunteer conditions on the rezoning related to the concept plan. Site plan review and approval would be required from the Planning Commission and Township Board to construct the buildings. The concept plan is not under consideration by the Township, and it has not been reviewed for compliance with applicable Zoning Ordinance requirements. Other factors that may impact future development of the site, such as, but not limited to, soils, topography, site layout, landscape and screening, stormwater/drainage, and utilities would be considered at the time of a development proposal. Note the revised concept plan shows a 30-foot greenbelt (previously 20 feet) along the east property line. Also, the proposed fence height along the east property line is now eight feet (previously six feet).
- I. The requested zoning district is considered to be more appropriate from the Township's perspective than another zoning district.* The uses allowed in the RB district are appropriate for the site.
- J. If the request is for a specific use, is rezoning the land more appropriate than amending the list of permitted or special land uses in the current zoning district to allow the use?* Rezoning would be the most appropriate way to allow for the proposed use. Amending the R1-C zoning district to allow retail commercial uses and drive-thru restaurants would not be advised.
- K. The requested rezoning will not create an isolated and unplanned spot zone.* The site is surrounded by R1-C (Single-Family Residential) zoning to the east and south, LB (Local Business) zoning to the west, and PB (Planned Business) zoning to the north.
- L. The request has not previously been submitted within the past one (1) year, unless conditions have changed or new information has been provided.* This request (to rezone the property to RB) is a new application.
- M. An offer of conditions submitted as part of a conditional rezoning request shall bear a reasonable and rational relationship to the property for which rezoning is requested.* This standard is not applicable.
- N. Other factors deemed appropriate by the Planning Commission and Township Board.* The Planning Commission and Township Board could also consider other factors which may be relevant to the rezoning request.

Planning Commission Options

The Planning Commission may recommend approval or denial of the rezoning request, or it may recommend a different zoning designation than proposed by the Applicant to the Township Board. **The proposed rezoning is compatible with the 2024 Master Plan and surrounding land uses. Staff recommends approval of the rezoning from R1-C to RB.**

CHARTER TOWNSHIP OF WHITE LAKE
COMMUNITY DEVELOPMENT DEPARTMENT
7525 Highland Road, White Lake, Michigan 48383-2900
248-698-3300, Ext. 163

APPLICATION TO REZONE PROPERTY

Date: 04/22/2024

Applicant: Affinity 10 Investment LLC

Address: 4512 South Shore Street, Waterford MI 48328

Phone No.: 248-361-1666 Fax No.: N/A

E-mail: Thomashannawa@gmail.com

Applicant's Interest in Property: Owner

Property Owner: Affinity 10 Investment LLC

Owner's Address: 4512 South Shore Street, Waterford MI 48328

Phone No.: 248-361-1666 Fax No.: N/A

Location of Property: 9101 Highland Road

Sidwell No(s): 12-23-227-003

Total area of change: 5.02 acres

I, the undersigned (owner, attorney, or option holder) hereby request that this property now classified as R1-C (Single Family Residential) District, be reclassified as RB (Restricted Business) District.

Applicant's Signature: 

(If owner does not sign application, attach letter signed by owner, requesting zoning change.)

Please Print Name: Tom Hannawa

Required Attachments:

- 1. Legal description of the property proposed to be rezoned.
- 2. Location map
- 3. Rezoning sign location map
- 4. Statement indicating why change is requested
- 5. Review fee (check payable to the Charter Township of White Lake)

MEMO

VIA EMAIL: ewilliams@stonefieldeng.com

To: **Stonefield Engineering**

From: **Jacob Swanson, PE, PTOE**
Paul Bonner, EIT
Fleis & VandenBrink

Date: **March 22, 2024**

Re: **9101 Highland Road (M-59) – Commercial Development**
White Lake Township, Michigan
Traffic Impact Study

1 INTRODUCTION

This memorandum presents the results of the Traffic Impact Study (TIS) for the proposed commercial development in White Lake Township, Michigan. The project site is generally located on the south side of Highland Road (M-59), approximately 1,000-feet east of Fisk Road, as shown on the attached **Figure 1**. The proposed commercial development includes the construction of retail and restaurant land uses. The project site is currently vacant and was previously occupied by the Calvary Lutheran Church, which will be razed with the construction of the proposed development. Site access is proposed via one (1) full access driveway on Highland Road (M-59). The study section of Highland Road (M-59) is under the jurisdiction of the Michigan Department of Transportation (MDOT). The purpose of this TIS is to evaluate the impact of the proposed development on the adjacent roadway network, as part of the site plan approval and driveway permitting processes.

Scope of work for this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, understanding of the development program, accepted traffic engineering practices, and information published by the Institute of Transportation Engineers (ITE). Study analyses were completed using Synchro/SimTraffic (Version 11) traffic analysis software. Sources of data for this study include F&V subconsultant Quality Counts (QC), MDOT, the Road Commission for Oakland County (RCOC), White Lake Township, the Southeast Michigan Council of Governments (SEMCOG), and ITE.

2 BACKGROUND

2.1 EXISTING ROAD NETWORK

Lane use and traffic control at the study intersections are shown on the attached **Figure 2** and study roadways are further described below. For purposes of this study, all minor streets and driveways were assumed to have an operating speed of 25 miles per hour (mph), unless otherwise noted.

Highland Road (M-59) generally runs in the east / west directions, adjacent to the north side of the project site. The study section of roadway is classified as an *Other Principal Arterial*, is under the jurisdiction of MDOT, has a posted speed limit of 50-mph, and has an Average Annual Daily Traffic (AADT) volume of approximately 33,400 (MDOT 2022) vehicles per day (vpd). The study section of roadway provides a typical five-lane cross-section, with two (2) lanes of travel in each direction and a center two-way left-turn lane (TWLTL). At the signalized intersection with Fisk Road, Highland Road (M-59) widens to provide an exclusive eastbound right-turn lane. Additionally, Highland Road (M-59) widens to provide an exclusive westbound right-turn lane at the intersection with the JOANN Fabric driveway.

Fisk Road generally runs in the north / south directions, west of the project site, terminating at Highland Road (M-59). The study section of roadway is classified as a *Local Road*, is under the jurisdiction of RCOC, has an assumed prima facie speed limit of 55-mph, and has an AADT volume of approximately 1,256 vpd (MDOT 2022). The study section of Fisk Road provides typical three-lane cross-section, with one (1) lane of travel in each direction and a center TWLTL.

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334

P: 248.536.0080

F: 248.536.0079

www.fveng.com

Sunny Beach Boulevard generally runs in the north / south directions, east of the project site. The study section of roadway is classified as a *Local Road*, is under the jurisdiction of RCOC, has an assumed residential prima facie speed limit of 25-mph, and has an AADT volume of approximately 1,840 vpd (MDOT 2012). The study section of Sunny Beach Boulevard services a residential neighborhood to the south of Highland Road (M-59) and services commercial uses to the north of Highland Road (M-59).

2.2 EXISTING TRAFFIC VOLUMES

F&V subconsultant QC collected existing Turning Movement Count (TMC) data on Wednesday, December 13, 2023, during the AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak periods at the following study intersections:

- Highland Road (M-59) & Fisk Road
- Highland Road (M-59) & JOANN Fabric Driveway

Additional TMC data was collected on Wednesday, March 13, 2024, at the following study intersection:

- Highland Road (M-59) & Sunny Beach Boulevard

During collection of the turning movement counts, Peak Hour Factors (PHFs), pedestrian and bicycle volumes, and commercial truck percentages were recorded and used in the traffic analysis. The peak hours of each of the study intersections were utilized and the through volumes were carried through the roadway network and balanced upwards at the proposed site driveways. Therefore, traffic volumes used in the analysis and shown on the attached traffic volume figures may not match the raw traffic volumes shown in the data collection.

The weekday AM and PM peak hours for the adjacent roadway network were observed to generally occur between 7:30 AM to 8:30 AM and 4:15 PM to 5:15 PM, respectively. F&V collected an inventory of existing lane use and traffic controls, as shown on the attached **Figure 2**. F&V also obtained the current signal timing permit for the study intersection of Highland Road (M-59) & Fisk Road from MDOT. The existing 2023 peak hour traffic volumes used in the analysis are shown on the attached **Figure 3**. All applicable background data referenced in this memorandum are attached.

3 EXISTING CONDITIONS

Existing peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersections using Synchro/SimTraffic (Version 11) traffic analysis software. This analysis was based on the existing lane use and traffic control shown on the attached **Figure 2**, the exiting peak hour traffic volumes shown on the attached **Figure 3**, and methodologies presented in the *Highway Capacity Manual, 6th Edition* (HCM6).

Descriptions of LOS “A” through “F” as defined in the HCM6, are attached. Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. Additionally, SimTraffic network simulations were reviewed to evaluate network operations and vehicle queues. The results for the exiting conditions analysis are attached and shown in **Table 1**.

Table 1: Existing Intersection Operations

Intersection	Control	Approach	Existing Conditions			
			AM Peak		PM Peak	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS
1 Highland Road (M-59) & Fisk Road	Signalized	EBL	14.0	B	53.1	D
		EBT	27.7	C	18.2	B
		EBR	14.7	B	11.0	B
		WBL	15.9	C	11.6	B
		WBTR	22.7	C	25.3	C
		NBL	25.1	C	47.9	D
		NBTR	22.3	C	38.0	D
		SBL	27.3	C	67.0	E
		SBTR	24.7	C	47.1	D
		Overall	25.3	C	28.6	C

	Intersection	Control	Approach	Existing Conditions			
				AM Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS
2	Highland Road (M-59) & JOANN Fabric Drive	Stop (Minor)	EBL	11.1	B	17.2	C
			WB	Free			
			SB	12.2	B	40.6	E
3	Highland Road (M-59) & Sunny Beach Boulevard	Stop (Minor)	EBL	10.8	B	17.0	C
			WBL	9.5	A	15.8	C
			NBL	75.9	F	\$	F
			NBTR	12.1	B	17.6	C
			SB	50.3	F	\$	F

Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.

The results of the existing conditions analysis indicates that all approaches and movements at the study intersections are currently operating acceptably, at LOS D or better during both the AM and PM peak hours, with the following exceptions:

Highland Road (M-59) & Fisk Road

- During the PM peak hour: the southbound left-turn movement currently operates at LOS E.

Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed for this movement; however, the majority of vehicle queues were observed to be processed within each cycle length, leaving minimal residual vehicle queueing. Additionally, any remaining vehicle queues were observed to dissipate and were not present throughout the PM peak hour.

Highland Road (M-59) & JOANN Fabric Drive

- During the PM peak hour: the southbound approach currently operates at LOS E.

The southbound approach was designed to prohibit egress left-turns; however, the left-turn traffic from this approach is causing the reported delay. The total volume of southbound egress traffic during the PM peak hour is very low (3 vehicles), which includes two (2) vehicles making an egress left-turn movement. Additionally, although the delay experienced by these vehicles causes the approach to operate at LOS E, review of SimTraffic microsimulations indicates acceptable operations; the 95th percentile queue length reported for this approach was approximately 11-feet (~1 vehicle), which is not significant.

Highland Road (M-59) & Sunny Beach Boulevard

- During both the AM and PM peak periods: The northbound left-turn movement and the southbound approach are both currently operate at LOS F.

Review of SimTraffic network simulations indicates generally acceptable operations during the AM peak hour. Occasional periods of vehicle queues were observed along the stop-controlled minor-street approaches; however, these queues were able to find adequate gaps within the through traffic along Highland Road (M-59), without experiencing significant delays or excessive queueing. Review of SimTraffic microsimulations during the PM peak hour indicates that vehicles along Sunny Beach Boulevard experience difficulty in finding gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues along the minor street; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.

4 BACKGROUND CONDITIONS (2025)

Historical population and economic profile data was obtained for White Lake Township from the Southeast Michigan Council of Governments (SEMCOG) database, in order to calculate a background growth rate to project the existing 2023 peak hour traffic volumes to the site buildout year of 2025. Population and employment projections from 2020 to 2050 were reviewed and show average annual growth rates of 0.41% and 0.28%, respectively. Therefore, a conservative background growth rate of **0.5%** per year was applied to the existing peak hour traffic volumes to forecast the background 2025 peak hour traffic volume *without the proposed development*, as shown on the attached **Figure 4**.

In addition to background growth, it is important to account for traffic that will be generated by approved developments within the study area that have yet to be constructed or are currently under construction. At the time of this study, no background developments were identified within the vicinity of the project site.

Background peak hour vehicle delays and LOS **without the proposed development** were calculated at the study intersections based on the existing lane use and traffic control shown on the attached **Figure 2**, the background peak hour traffic volumes shown on the attached **Figure 4**, and methodologies presented in the HCM6. The results of the background conditions analysis are attached and summarized in **Table 2**.

Table 2: Background Intersection Operations

Intersection	Control	Approach	Existing Conditions				Background Conditions				Difference			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1 Highland Road (M-59) & Fisk Road	Signal	EBL	14.0	B	53.1	D	14.1	B	56.4	E	0.1	-	3.3	D→E
		EBT	27.7	C	18.2	B	28.1	C	18.3	B	0.4	-	0.1	-
		EBR	14.7	B	11.0	B	14.7	B	11.0	B	0.0	-	0.0	-
		WBL	15.9	C	11.6	B	16.0	C	11.8	B	0.1	-	0.2	-
		WBTR	22.7	C	25.3	C	22.9	C	25.6	C	0.2	-	0.3	-
		NBL	25.1	C	47.9	D	25.2	C	48.1	D	0.1	-	0.2	-
		NBTR	22.3	C	38.0	D	23.3	C	38.0	D	0.0	-	0.0	-
		SBL	27.3	C	67.0	E	27.3	C	67.6	E	0.0	-	0.6	-
		SBTR	24.7	C	47.1	D	24.7	C	47.4	D	0.0	-	0.3	-
Overall	25.3	C	28.6	C	25.6	C	29.0	C	0.3	-	0.4	-		
2 Highland Road (M-59) & JOANN Fabric Dr.	Stop (Minor)	EBL	11.1	B	17.2	C	11.2	B	17.4	C	0.1	-	0.2	-
		WB	Free				Free				N/A			
		SB	12.5	B	40.6	E	12.6	B	41.7	E	0.1	-	1.1	-
3 Highland Road (M-59) & Sunny Beach Boulevard	Stop (Minor)	EBL	10.8	B	17.0	C	10.9	B	17.2	C	0.1	-	0.2	-
		WBL	9.5	A	15.8	C	9.5	A	16.0	C	0.0	-	0.2	-
		NBL	75.9	F	\$	F	84.6	F	\$	F	8.7	-	-	-
		NBTR	12.1	B	17.6	C	12.2	B	17.8	C	0.1	-	0.2	-
		SB	50.3	F	\$	F	52.7	F	\$	F	2.4	-	-	-

Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.

The results of the background conditions analysis indicates that all approaches and movements at the study intersections are expected to continue operating in a manner similar to the existing conditions analysis, with minor increases in delays and the following additional impacts to LOS:

Highland Road (M-59) & Fisk Road

- During the PM peak hour: The eastbound left-turn movement is expected to operate at LOS E.

Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed for the eastbound and southbound left-turn movements during the PM peak hour; however, the majority of vehicle queues were observed to be processed within 1-2 cycle length, leaving minimal residual vehicle queueing. Additionally, any remaining vehicle queues were observed to dissipate and were not present throughout the peak hour.

5 SITE TRIP GENERATION

The number of weekday peak hour (AM and PM) and daily vehicle trips that would be generated by the proposed development were calculated using the rates and equations published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 11th Edition*. For purposes of this study the following land uses were assumed in the analysis: a coffee shop with drive-through, a fast-casual restaurant, a fast-food restaurant with drive-through, and retail space. Additionally, the proposed restaurants will not have breakfast service; however, in order to provide a conservative analysis, the AM peak hour trip generation was included for these land uses. The site trip generation forecast utilized for this study is summarized in **Table 3**.



Table 3: Site Trip Generation Summary

Land Use	ITE Code	Amount	Units	Average Daily Traffic (vpd)	AM Peak Hour (vph)			PM Peak Hour (vph)		
					In	Out	Total	In	Out	Total
Strip Retail Plaza (<40k SF)	822	6,184	SF	491	9	6	15	28	27	55
		<i>Pass-By (0% AM, 40% PM)</i>		98	0	0	0	11	11	22
		New Trips		393	9	6	15	17	15	33
Fast Casual Restaurant	930	2,502	SF	243	9	5	14	17	14	31
		<i>Pass-By (0% AM, 43% PM)</i>		104	0	0	0	6	6	12
		New Trips		139	9	5	14	11	8	19
Fast Food Restaurant w/ Drive Through	934	2,402	SF	1,123	55	52	107	41	38	79
		<i>Pass-By (50%AM, 55% PM)</i>		590	27	27	54	21	21	42
		New Trips		533	28	25	53	20	17	37
Coffee Shop with Drive-Through	937	2,522	SF	1,346	111	106	217	49	49	98
		<i>Pass-By (50% AM, 55% PM)</i>		707	54	54	108	27	27	54
		New Trips		639	57	52	109	22	22	44
		Total Trips		3,203	184	169	353	135	128	263
		<i>Total Pass-By</i>		1,499	81	81	162	65	65	130
		Total New Trips		1,704	103	88	191	70	63	133

As is typical of commercial developments, a portion of the trips generated by the proposed development are from vehicles already on the adjacent roadway network that will pass the site on their way from an origin to their ultimate destination. Therefore, not all traffic at the site driveway is necessarily new traffic added to the street system. These trips are therefore reduced from the total external trips generated by a study site. This percentage of the trips generated by the development are considered “pass-by”, which are already present of the adjacent roadway network. The percentage of pass-by used in this analysis was determined based on the rates published by ITE in the *Trip Generation Manual, 11th Edition*.

6 SITE TRIP DISTRIBUTION

The vehicular trips that would be generated by the proposed development were assigned to the study roadway network based on the proposed stie access plan and driveway configurations, the existing peak hour traffic patterns in the adjacent roadway network, and methodologies published by ITE. The ITE trip distribution methodology assumes that new trips will enter the network and access the development, then leave the development and return to their direction of origin, whereas pass-by trips will enter and exit the development in their original direction of travel. The stie trip distributions utilized in the analysis are summarized in **Table 4**.

Table 4: Site Trip Distribution

New Trips				Pass-By Trips		
AM	PM	To/From	Via	Direction	AM	PM
7%	12%	North	Fisk Road			
40%	52%	East	Highland Road (M-59)	Westbound	42%	56%
53%	36%	West	Highland Road (M-59)	Eastbound	58%	44%
100%	100%	Total			100%	100%

The vehicular traffic volumes shown in **Table 3** were distributed to the study roadway network according to the distribution shown in **Table 4**. Therefore, the site generated trips shown on the attached **Figure 5** were added to the background peak hour traffic volumes shown on the attached **Figure 4**, in order to calculate the future peak hour traffic volumes, with the addition of the proposed development. Future peak hour traffic volumes are shown on the attached **Figure 6**.

7 FUTURE CONDITIONS (2025)

Future peak hour vehicle delays and LOS **with the addition of the site-generated trips from the proposed development**, were calculated based on the proposed lane use and traffic controls shown on the attached **Figure 2**, the future peak hour traffic volumes shown on the attached **Figure 6**, and the methodologies presented in the HCM6. Results of the future conditions analysis are attached and summarized in **Table 5**.

Table 5: Future Intersection Operations

Intersection	Control	Approach	Background Conditions				Future Conditions				Difference				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Highland Road (M-59) & Fisk Road	Signal	EBL	14.1	B	56.4	E	14.5	B	60.8	E	0.4	-	4.4	-
			EBT	28.1	C	18.3	B	30.2	C	18.6	B	2.1	-	0.3	-
			EBR	14.7	B	11.0	B	14.7	B	11.0	B	0.0	-	0.0	-
			WBL	16.0	C	11.8	B	16.8	B	12.0	B	0.8	C→B	0.2	-
			WBTR	22.9	C	25.6	C	23.9	C	26.6	C	0.0	-	0.0	-
			NBL	25.2	C	48.1	D	25.2	C	48.1	D	0.0	-	0.0	-
			NBTR	23.3	C	38.0	D	22.3	C	38.0	D	0.0	-	0.0	-
			SBL	27.3	C	67.6	E	27.6	C	70.7	E	0.3	-	3.1	-
			SBTR	24.7	C	47.4	D	24.7	C	47.4	D	0.0	-	0.0	-
		Overall	25.6	C	29.0	C	27.1	C	29.9	C	1.5	-	0.9	-	
2	Highland Road (M-59) & JOANN Fabric Dr.	Stop (Minor)	EBL	11.2	B	17.4	C	11.4	B	17.9	C	0.2	-	0.5	-
			WB	Free				Free				N/A			
			SB	12.6	B	41.7	E	12.9	B	43.7	E	0.3	-	2.0	-
3	Highland Road (M-59) & Sunny Beach Boulevard	Stop (Minor)	EBL	10.9	B	17.2	C	11.1	B	17.7	C	0.2	-	0.5	-
			WBL	9.5	A	16.0	C	9.8	A	16.4	C	0.3	-	0.4	-
			NBL	84.6	F	\$	F	95.4	F	\$	F	10.8	-	-	-
			NBTR	12.2	B	17.8	C	12.7	B	18.2	C	0.5	-	0.4	-
			SB	52.7	F	\$	F	63.5	F	\$	F	10.8	-	-	-
4	Highland Road (M-59) & Site Drive	Stop (Minor)	EB	N/A				Free				N/A			
			WBL	N/A				11.1	B	10.5	B	N/A			
			NB	N/A				32.0	D	42.0	E	N/A			

Note: \$ Indicates delays exceeding 1,000 seconds / vehicle.

Results of the future conditions analysis indicate that all approaches and movements at the study intersections are expected to continue operating in a manner similar to the background conditions analysis, with minor increases in delays and no additional impacts to LOS. Additionally, the proposed site driveway is expected to operate acceptably, at LOS D or better, during both peak periods, with the exception of the following:

Highland Road (M-59) & Site Drive

- During the PM peak hour: The northbound approach is expected to operate at LOS E.

Review of SimTraffic network simulations indicates that egress vehicles were unable to find adequate gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.

Therefore, the results of the future conditions analysis indicates that the site-generated traffic volumes from the proposed development are expected to have a negligible impact to the delay (LOS) and vehicle queueing observed at the off-site study intersections of Highland Road (M-59) with Fisk Road, JOANN Fabric Drive, and Sunny Beach Boulevard.

8 ACCESS MANAGEMENT

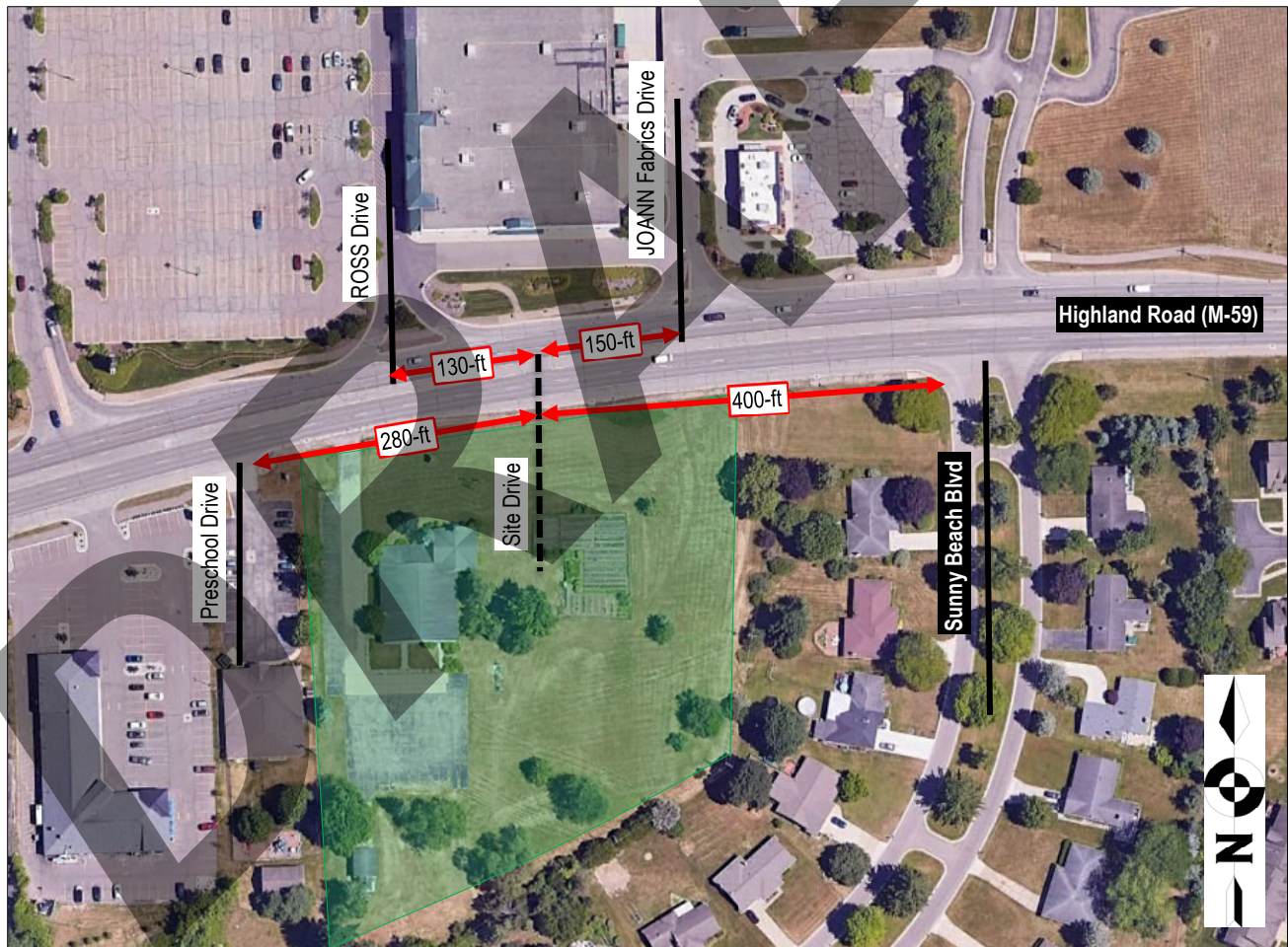
8.1 DRIVEWAY SPACING EVALUATION

The MDOT *Geometric Design Guidance* (Section 1.2.2) criteria were utilized to evaluate the location of the proposed site driveway, in relation to nearby intersections and access points within close proximity to the project site. The intersection corner clearance criteria were evaluated for the 50-mph section of Highland Road (M-59), adjacent to the project site. The distance of the proposed site driveway from nearby intersections and access points, and the warranting criteria are summarized in **Table 6** and displayed in **Exhibit 1**.

Table 6: Desirable Corner Clearance Summary

Adjacent Driveways & Intersections		Distance	Criteria	Meets	
Site Drive	to	Preschool Drive	280 feet	455 feet	NO
Site Drive	to	Sunny Beach Boulevard	400 feet	170 feet	YES
Site Drive	to	JOANN Fabrics Drive	150 feet	750 feet	NO
Site Drive	to	ROSS Drive	130 feet	750 feet	NO

Exhibit 1: Proposed Driveway Spacing



The results of the driveway spacing analysis indicate that the location of the proposed site driveway on Highland Road (M-59) is not expected to meet the desirable MDOT spacing criteria, in relation to the nearby intersection and driveways. However, there is not sufficient property frontage to meet the recommended spacing criteria. Additionally, the site plan includes proposed future cross access, stubbed at the property line to the west; this would provide improved site access, permitting this cross access between the nearby developments on the south side of Highland Road (M-59), should the adjacent property ever be redeveloped. Furthermore, shared access is not available with the Sunny Beach Boulevard neighborhood to the east.

Intersection	Control	Approach	Future Conditions				Future w/ IMP				Difference			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
4 Highland Road (M-59) & Site Drive	Stop (Minor)	EB	Free				Free				N/A			
		WBL	11.1	B	10.5	B	11.1	B	10.5	B	0.0	-	0.0	-
		NBL	32.0	D	42.0	E	30.4	D	46.8	E	-1.6	-	4.8	-
		NBR					12.6	B	13.6	B	-19.4	D→B	-28.4	E→B

The results of the future conditions with improvements analysis indicate that, with the implementation of the recommended improvements, all study intersection approaches and movements are expected to continue to operate acceptably, at LOS D or better during both peak periods, with the following exception:

Highland Road (M-59) & Site Drive

- During the PM peak hour: The northbound left-turn movement is expected to operate at LOS E.

Review of SimTraffic microsimulations indicates improved operations and reduced vehicle queueing at the signalized study intersection of Highland Road (M-59) & Fisk Road and the stop-controlled intersection of Highland Road (M-59) & Site Drive during the PM peak hour.

10 QUEUEING ANALYSIS

The drive-through vehicle queueing was reviewed to determine if the proposed on-site queue lengths provide adequate storage to accommodate the projected operations. The development plan includes two (2) drive-through windows.

The coffee-shop is expected to have a peak trip generation of 111 trips during the AM peak hour. Coffee-shops with drive-through typically have an average service rate of approximately 80 vehicles per hour, with 80% of customers utilizing the drive-through. Therefore, of the total vehicles generated by the proposed coffee-shop during the peak period, it is estimated that approximately 89 vehicles will utilize the drive-through; the remaining vehicles will park and walk-in. The evaluation of the queue length included two criteria:

1. A queueing analysis was performed to determine if the projected demand of the site exceeds the service rate and calculate the projected queueing. The projected demand (89 veh/hr) is greater than the service rate (80 veh/hr) of the site; therefore, there is a potential for vehicles to queue past the pickup window, as the demand exceeds the capacity.
2. A Poisson Distribution was performed to determine the probability of random arrivals. The results indicate a maximum potential of five (5) vehicles arriving at any given time.

The results of the queueing analysis for the coffee shop are summarized in **Table 9**.

Table 9: Coffee Shop Vehicle Queuing Analysis

DRIVE-THROUGH STACKING SPACE CALCULATOR	
Number of Arrivals	86
Time per Vehicle (s)	45
Service Rate (veh/hr)	80
Drive-Through Queue (veh)	9
Peak Arrival (veh)	5
Vehicle Length	25
TOTAL QUEUE (ft)	350

The fast-food restaurant is expected to have a peak trip generation of 55 trips during the AM peak hour. Fast-food restaurants with drive-through typically have an average service rate of approximately 90 vehicles per hour and 70% of customers utilizing the drive-through. Therefore, of the total vehicles generated by the proposed fast-food restaurant during the peak period, it is estimated that approximately 39 vehicles will utilize the drive-through; the remaining vehicles will park and walk-in. The evaluation of the queue length included two criteria:

1. A queueing analysis was performed to determine if the projected demand of the site exceeds the service rate and calculate the projected queueing. The projected demand (39 veh/hr) is less than the service rate (90 veh/hr) of the site; therefore, the required queueing for the fast-food restaurant is based on the maximum potential for random arrivals.
2. A Poisson Distribution was performed to determine the probability of random arrivals. The results indicate a maximum potential of four (4) vehicles arriving at any given time.

The results of the queueing analysis for the fast-food restaurant are summarized in **Table 10**.

Table 10: Fast-Food Restaurant Vehicle Queuing Analysis

DRIVE-THROUGH STACKING SPACE CALCULATOR	
Number of Arrivals	39
Time per Vehicle (s)	40
Service Rate (veh/hr)	90
Peak Arrival (veh)	4
Vehicle Length	25
TOTAL QUEUE (ft)	100

The results of the projected vehicle queuing analysis indicates that the maximum anticipated arrivals generated by the proposed coffee-shop with drive-through can be adequately accommodated within the available queue length, without impacting internal site circulation or the operations along Highland Road (M-59).

11 CONCLUSIONS

The conclusions of this TIS are as follows:

1. Existing Conditions (2023)

- The results of the existing conditions analysis indicates that all approaches and movements at the study intersections are currently operating acceptably, at LOS D or better, during both the AM and PM peak hours, with the following exceptions:
 - Highland Road (M-59) & Fisk Road: The SB left-turn movement is currently operating at LOS E, during the PM peak hour. Review of SimTraffic network simulations indicates generally acceptable operations. Occasional periods of vehicle queues were observed; however, the majority were observed to be processed within each cycle length, leaving minimal residual vehicle queueing.
 - Highland Road (M-59) & JOANN Fabric Drive: The SB approach is currently operating at LOS E during the PM peak hour. This approach was designed to prohibit egress left-turns; however, this traffic is causing the reported delay. The total volume of southbound egress traffic is very low (3 vehicles), which includes two (2) vehicles making an egress left-turn movement.
 - Highland Road (M-59) & Sunny Beach Boulevard: The NB left-turn movement and the SB approach are both currently operating at LOS F during both peak hours. Review of SimTraffic network simulations indicates generally acceptable operations during the AM peak hour. Occasional periods of vehicle queues were observed along the minor-street approaches; however, these queues were able to find adequate gaps in the through traffic along Highland Road (M-59).

Review of SimTraffic microsimulations during the PM peak hour indicates that vehicles along Sunny Beach Boulevard experience difficulty in finding gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues along the minor street; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.

2. Background Conditions (2025 No Build)

- A conservative annual background growth rate of **0.5%** per year was utilized to project the existing peak hour traffic volumes to the buildout year of 2025.
- The results of the background conditions analysis indicates that the study intersections are expected to continue operating in a manner similar to the existing conditions analysis, with minor increases in delays due increases in background traffic volumes and the following additional impacts to LOS:
 - Highland Road (M-59) & Fisk Road: The EB left-turn movement is expected to operate at LOS E, during the PM peak hour.

3. Future Conditions (2025 Build)

- With the addition of the site-generated trips, the study intersections are expected to continue operating in a manner similar to the background conditions analysis, with no additional impacts to LOS.
- All approaches and movements at the proposed site driveway intersection with Highland Road (M-59) are expected to operate acceptably, at LOS D or better, during both the AM and PM peak hours, with the following exception:
 - Highland Road (M-59) & Site Drive: The NB approach is expected to operate at LOS E during the PM peak hour. Review of SimTraffic network simulations indicates that egress vehicles were unable to find adequate gaps within the through traffic along Highland Road (M-59), resulting in long vehicle queues; these vehicle queues do not dissipate and were typically observed to persist throughout the PM peak hour.
- Therefore, the results of the future conditions analysis indicates that the site-generated traffic volumes from the proposed development are expected to have a negligible impact to the delay (LOS) and vehicle queueing observed at the off-site study intersections of Highland Road (M-59) with Fisk Road, JOANN Fabric Drive, and Sunny Beach Boulevard.

4. Access Management

- The results of the driveway spacing analysis indicates that the location of the proposed site driveway on Highland Road (M-59) is not expected to meet the desirable MDOT spacing criteria, in relation to the nearby intersection and driveway.
 - However, there is not sufficient property frontage to meet the recommended spacing criteria. Additionally, the site plan includes proposed future cross access, stubbed at the property line to the west; this would provide improved site access, permitting this cross access between the nearby developments on the south side of Highland Road (M-59), should the adjacent property ever be redeveloped. Furthermore, shared access is not available with the Sunny Beach Boulevard neighborhood to the east.
- The MDOT auxiliary right-turn treatment criteria were evaluated at the proposed site driveway; the result of the analysis indicates that a right-turn lane is recommended along eastbound Highland Road (M-59) at the proposed Site Drive.

5. Future Conditions with Improvements

- Signal timing optimizations were reviewed and were determined to adequately improve the signalized study intersection of Highland Road (M-59) & Fisk Road to LOS D or better during the PM peak hour. Additionally, the vehicle queues at the signalized study intersection were observed to be reduced, with the implementation of the recommended mitigation measures.
- Mitigation measures were investigated at the intersection of Highland Road (M-59) & Site Drive. The results of the improvements evaluation indicates that providing exclusive egress left-turn and right-turn lanes would improve the projected operations. Additionally, the warranted eastbound right-turn lane along Highland Road (M-59) was included in the improvements analysis. The results indicate that the northbound left-turn movement is still expected to operate at LOS E during the PM peak hour; however, review of SimTraffic network simulations indicates improved operations.

6. Drive-Through Queueing Evaluation

- The results of the drive-through queueing evaluation indicates that the proposed site plan can adequately accommodate the projected vehicle queueing associated with the proposed coffee-shop and fast-food restaurants, without impacting internal site circulation or the operations along Highland Road (M-59).

12 RECOMMENDATIONS

The recommendation of this TIS are as follows:

- Provide exclusive egress left-turn and right-turn lanes at the proposed Site Drive.
- Provide an eastbound right-turn lane along Highland Road (M-59) at the proposed Site Drive.
- Optimize the PM peak hour signal timing at the Highland Road (M-59) & Fisk Road intersection.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis & VandenBrink.

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

Attached: Figures 1 – 6
Proposed Site Plan
Traffic Volume Data
Signal Timing Permits
Synchro / SimTraffic Results
Auxiliary Lane Warrants



FIGURE 1

SITE LOCATION

9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

 SITE LOCATION



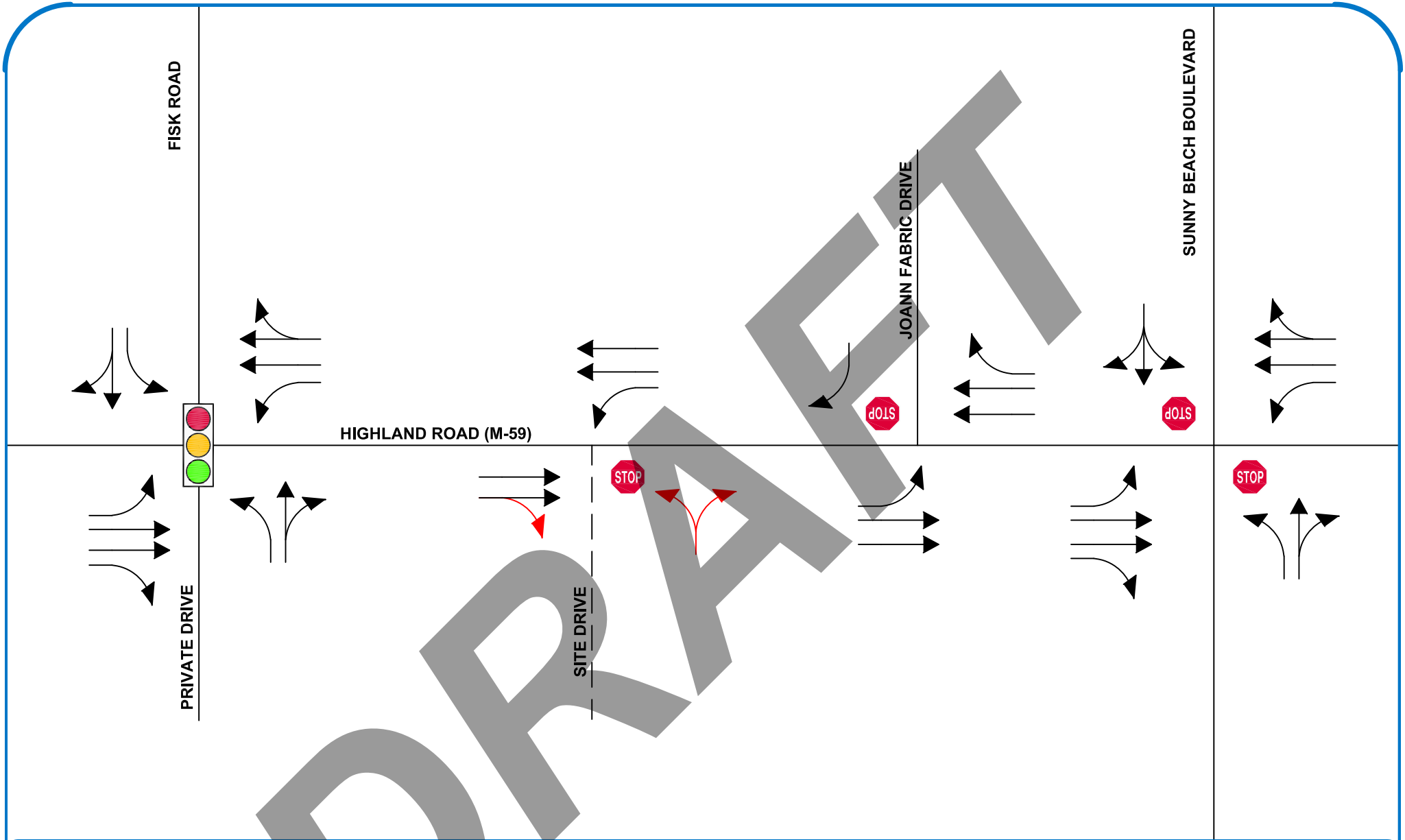








FIGURE 2

LANE USE AND TRAFFIC CONTROL

9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

-  ROADS
-  PROPOSED ROADS
-  LANE USE
-  PROPOSED LANE USE
-  SIGNALIZED INTERSECTION
-  UNSIGNALIZED INTERSECTION



NORTH
SCALE: NOT TO SCALE

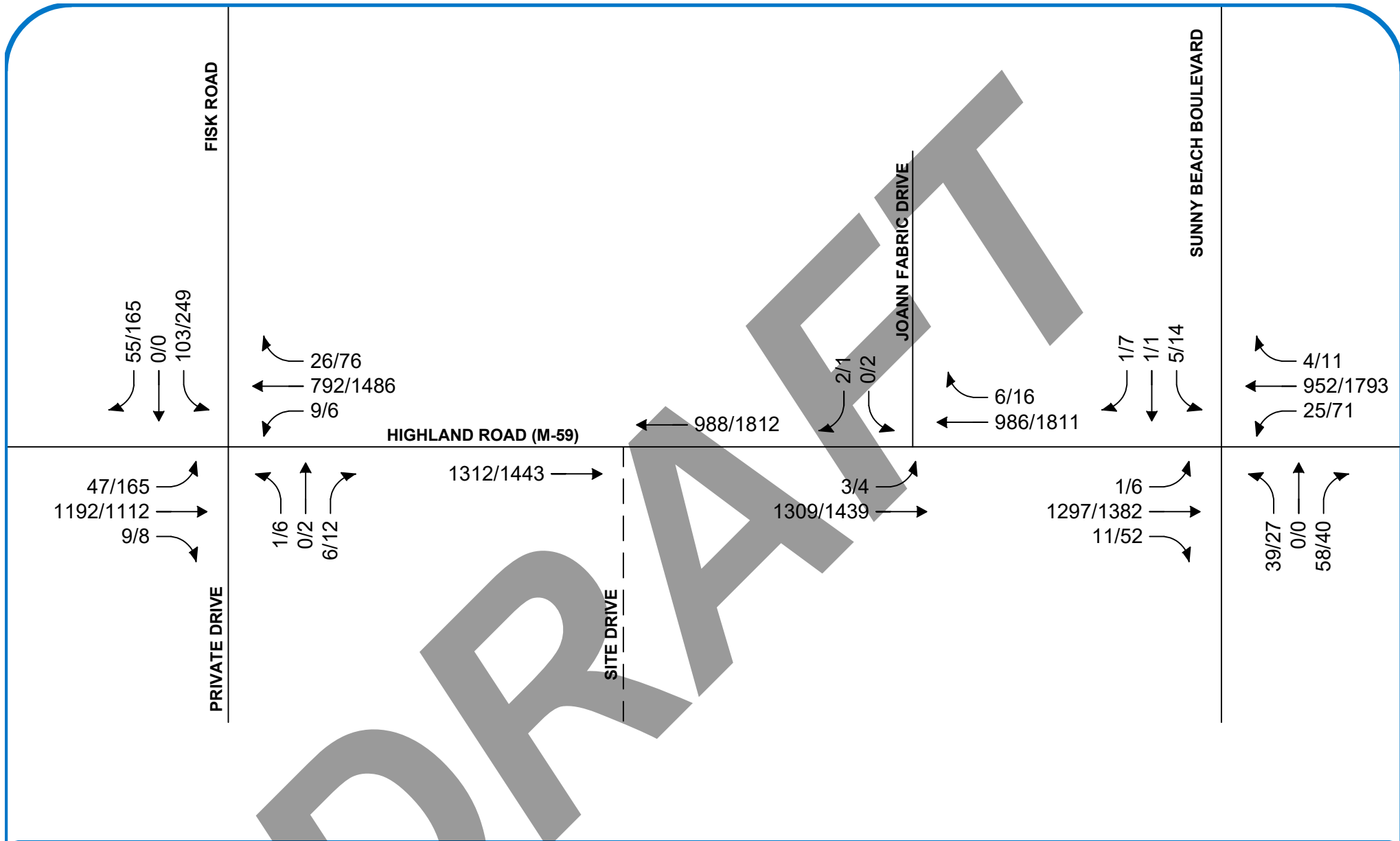


FIGURE 3

EXISTING TRAFFIC VOLUMES

9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)



NORTH
SCALE: NOT TO SCALE

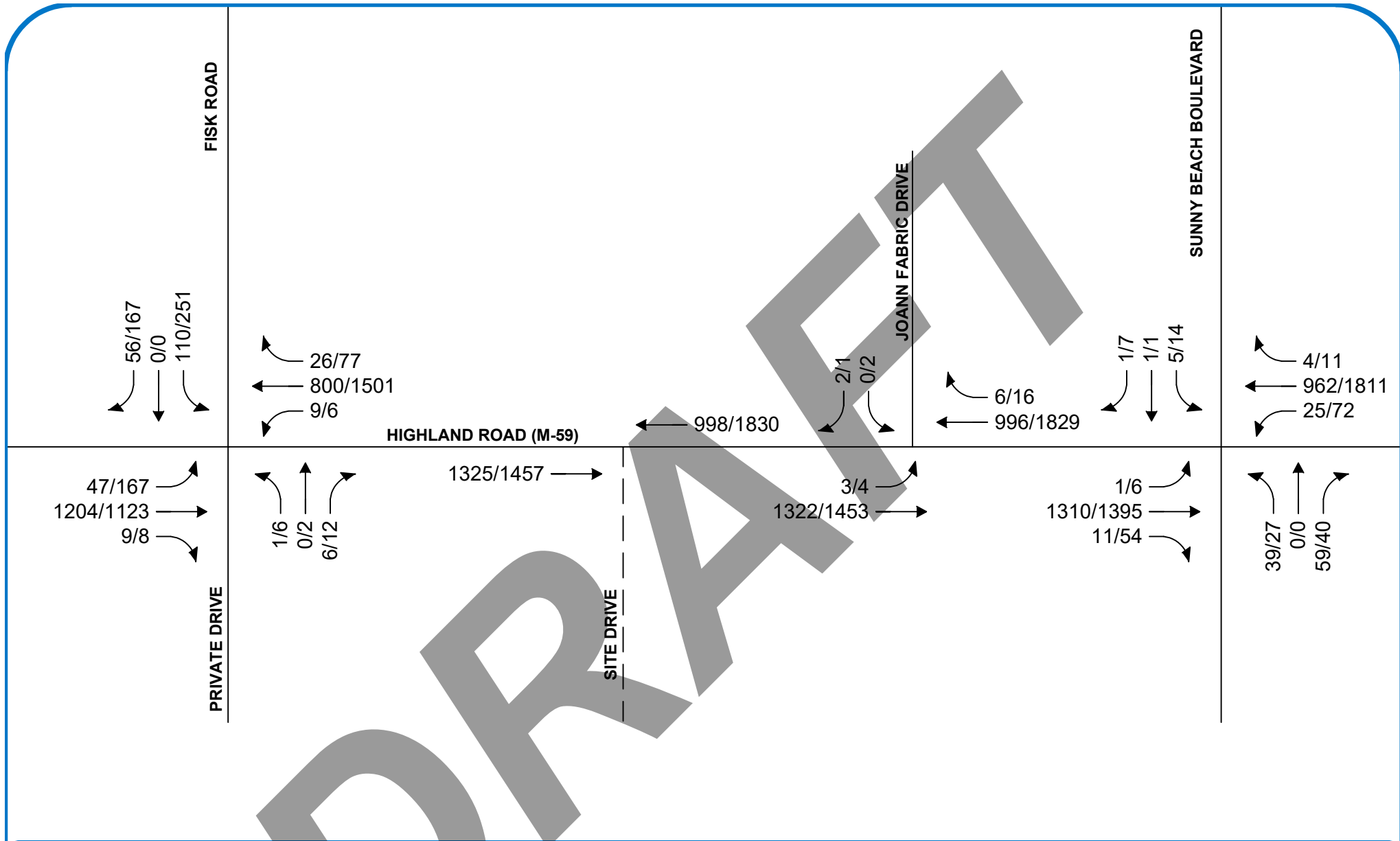


FIGURE 4

BACKGROUND TRAFFIC VOLUMES

9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

- ROADS
- - - PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)



NORTH
SCALE: NOT TO SCALE

FIK ROAD

SUNNY BEACH BOULEVARD

PRIVATE DRIVE

JOANN FABRIC DRIVE

HIGHLAND ROAD (M-59)

SITE DRIVE

0/0
0/0
7/8

6/7
47/23
0/0

0/0 [-34/-36]
41/36 [+34/+36]

0/0
0/0

0/0
41/36

0/0
0/0
0/0

0/0
41/36
0/0

0/0
55/26
0/0

0/0
0/0
0/0

0/0 [-47/-29]
62/34 [+47/+29]

53/30 [+34/+36]
35/33 [+47/+29]

0/0
35/33

0/0
35/33
0/0

0/0
0/0
0/0



FIGURE 5 SITE-GENERATED TRAFFIC VOLUMES

9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- +/-[000/000] PASS-BY [AM/PM]



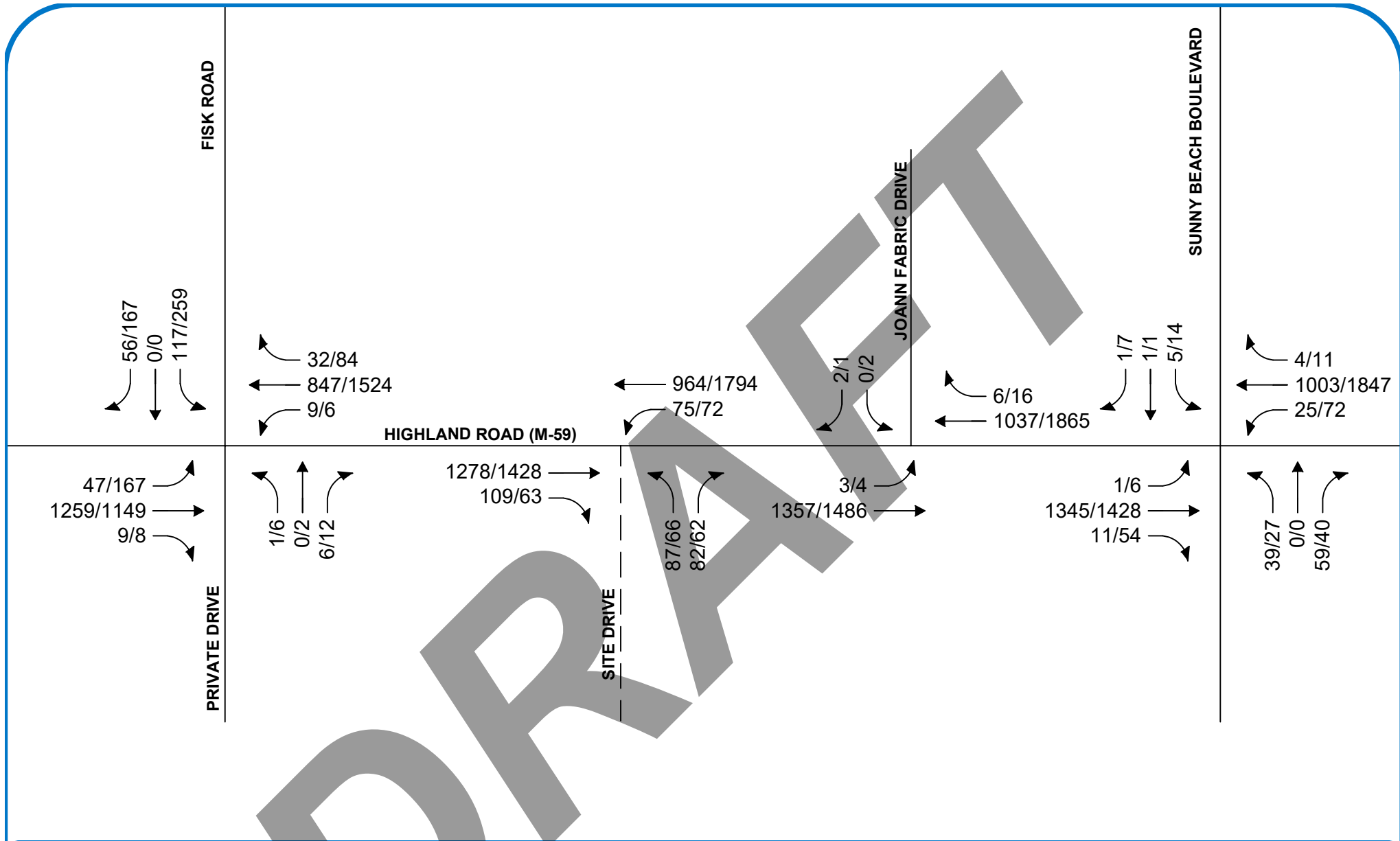


FIGURE 6

FUTURE TRAFFIC VOLUMES

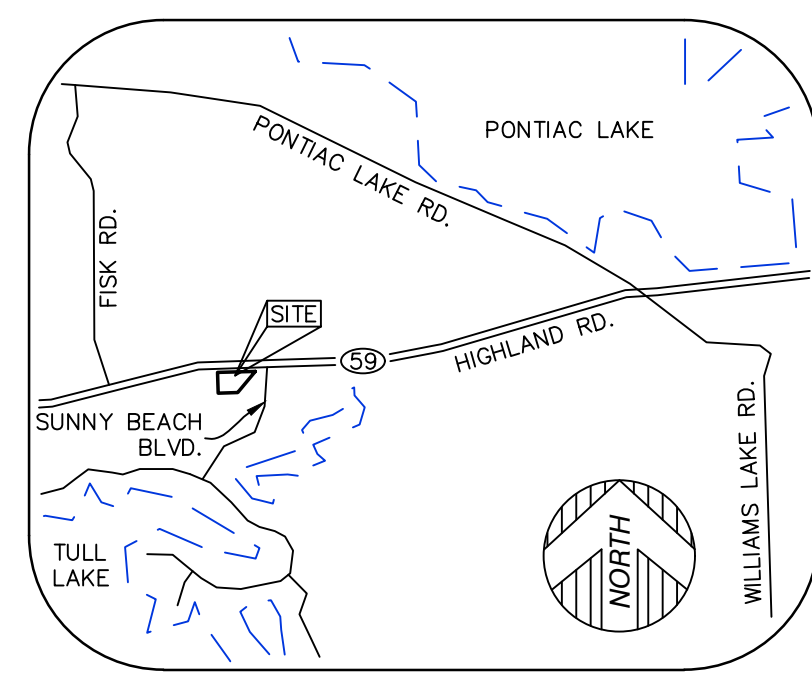
9101 HIGHLAND ROAD TIS - WHITE LAKE TOWNSHIP, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)



NORTH
SCALE: NOT TO SCALE



PARKING
 HANDICAP PARKING = 2 STALLS
 STANDARD PARKING = 50 STALLS

PARCEL AREA
 195,568± SQUARE FEET = 4.49± ACRES

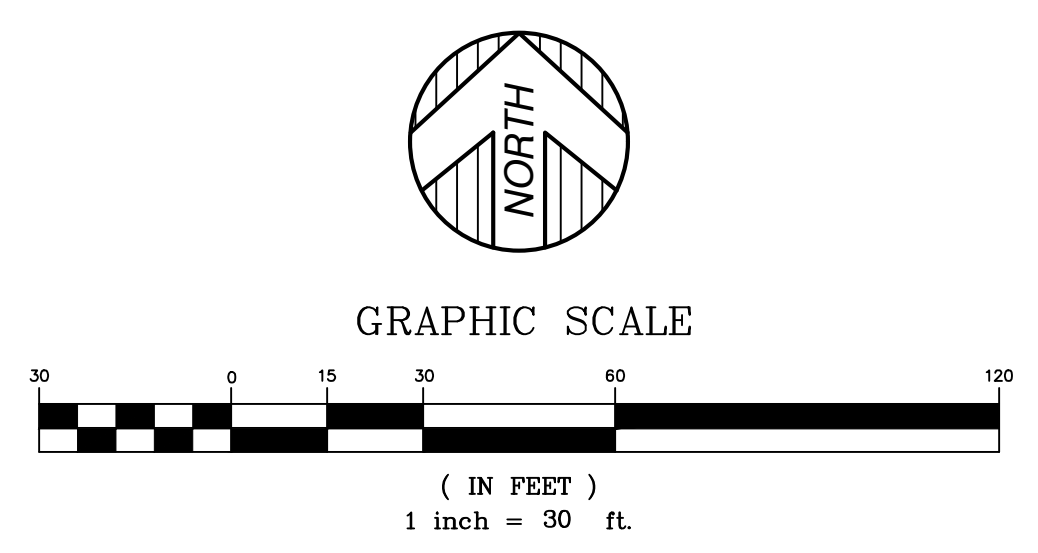
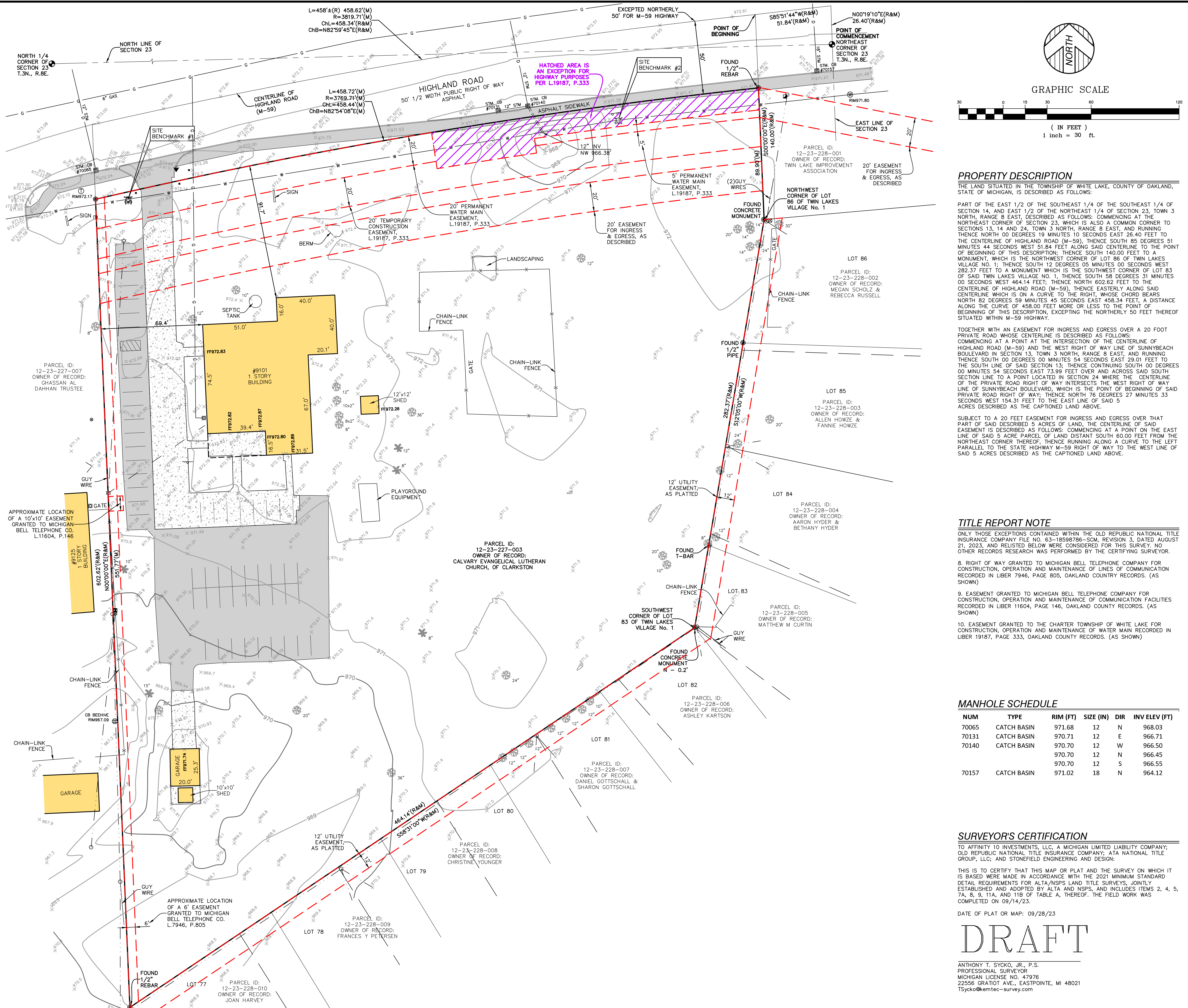
BASIS OF BEARING
 SOUTH 85°51'44" WEST, BEING THE CENTERLINE OF HIGHLAND ROAD (M-59), AS DESCRIBED.

BENCHMARK
SITE BENCHMARK #1
 ARROW ON HYDRANT, WEST SIDE OF ASPHALT ENTRANCE.
 ELEVATION = 975.36' (NAVD 88)
SITE BENCHMARK #2
 ARROW ON TRAFFIC SIGNAL POST, EAST SIDE OF PROPERTY.
 ELEVATION = 974.20' (NAVD 88)

SURVEYOR'S NOTE
 THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

LEGEND

●	FOUND MONUMENT (AS NOTED)
⊙	FOUND SECTION CORNER (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
⊕	GROUND ELEVATION
⊖	ELECTRIC METER
⊕	ELECTRIC RISER
⊕	UTILITY POLE
⊕	TELEPHONE MANHOLE
⊕	TELEPHONE RISER
⊕	CABLE TV RISER
⊕	CLEANOUT
⊕	ROUND CATCH BASIN
⊕	SQUARE CATCH BASIN
⊕	FIRE HYDRANT
⊕	WATER GATE MANHOLE
⊕	WATER VALVE
⊕	FENCE POST
⊕	FLOOD LIGHT
⊕	SINGLE POST SIGN
⊕	DOUBLE POST SIGN
⊕	HANDICAP PARKING
⊕	DECIDUOUS TREE (AS NOTED)
⊕	CONIFEROUS TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	SECTION LINE
---	EASEMENT (AS NOTED)
---	BUILDING
---	BUILDING OVERHANG
---	CONCRETE CURB
---	RAISED CONCRETE
---	PARKING
---	EDGE OF CONCRETE (CONC.)
---	EDGE OF ASPHALT (ASPH.)
---	FENCE (AS NOTED)
---	OVERHEAD UTILITY LINE
---	GAS LINE
---	STORM LINE
---	WATER LINE
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
---	BUILDING AREA
---	ASPHALT
---	CONCRETE



PROPERTY DESCRIPTION
 THE LAND SITUATED IN THE TOWNSHIP OF WHITE LAKE, COUNTY OF OAKLAND, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
 PART OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 14, AND EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23, TOWN 3 NORTH, RANGE 8 EAST, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SECTION 23, TOWN 3 NORTH, RANGE 8 EAST, AND RUNNING THENCE NORTH 00 DEGREES 19 MINUTES 10 SECONDS EAST 26.40 FEET TO THE CENTERLINE OF HIGHLAND ROAD (M-59), THENCE SOUTH 85 DEGREES 51 MINUTES 44 SECONDS WEST 51.84 FEET ALONG SAID CENTERLINE TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 140.00 FEET TO A MONUMENT, WHICH IS THE NORTHWEST CORNER OF LOT 86 OF TWIN LAKES VILLAGE NO. 1; THENCE SOUTH 12 DEGREES 05 MINUTES 00 SECONDS WEST 282.37 FEET TO A MONUMENT WHICH IS THE SOUTHWEST CORNER OF LOT 83 OF SAID TWIN LAKES VILLAGE NO. 1; THENCE SOUTH 58 DEGREES 31 MINUTES 00 SECONDS WEST 484.14 FEET; THENCE NORTH 602.62 FEET TO THE CENTERLINE OF HIGHLAND ROAD (M-59), THENCE EASTERLY ALONG SAID CENTERLINE WHICH IS ON A CURVE TO THE RIGHT, WHOSE CHORD BEARS NORTH 82 DEGREES 59 MINUTES 45 SECONDS EAST 458.34 FEET, A DISTANCE ALONG THE CURVE OF 458.00 FEET MORE OR LESS TO THE POINT OF BEGINNING OF THIS DESCRIPTION, EXCEPTING THE NORTHERLY 50 FEET THEREOF SITUATED WITHIN M-59 HIGHWAY.

TOGETHER WITH AN EASEMENT FOR INGRESS AND EGRESS OVER A 20 FOOT PRIVATE ROAD WHOSE CENTERLINE IS DESCRIBED AS FOLLOWS: COMMENCING AT A POINT AT THE INTERSECTION OF THE CENTERLINE OF HIGHLAND ROAD (M-59) AND THE WEST RIGHT OF WAY LINE OF SUNNYBEACH BOULEVARD IN SECTION 13, TOWN 3 NORTH, RANGE 8 EAST, AND RUNNING THENCE SOUTH 00 DEGREES 00 MINUTES 54 SECONDS EAST 29.01 FEET TO THE SOUTH LINE OF SAID SECTION 13; SAID SECTION 13; THENCE CONTINUING SOUTH 00 DEGREES 00 MINUTES 54 SECONDS EAST 73.99 FEET OVER AND ACROSS SAID SOUTH SECTION LINE TO A POINT LOCATED IN SECTION 24 WHERE THE CENTERLINE OF THE PRIVATE ROAD RIGHT OF WAY INTERSECTS THE WEST RIGHT OF WAY LINE OF SUNNYBEACH BOULEVARD, WHICH IS THE POINT OF BEGINNING OF SAID PRIVATE ROAD RIGHT OF WAY; THENCE NORTH 76 DEGREES 27 MINUTES 33 SECONDS WEST 154.31 FEET TO THE EAST LINE OF SAID 5 ACRES DESCRIBED AS THE CAPTIONED LAND ABOVE.

SUBJECT TO A 20 FEET EASEMENT FOR INGRESS AND EGRESS OVER THAT PART OF SAID DESCRIBED 5 ACRES OF LAND, THE CENTERLINE OF SAID EASEMENT IS DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE EAST LINE OF SAID 5 ACRE PARCEL OF LAND DISTANT SOUTH 60.00 FEET FROM THE NORTHEAST CORNER THEREOF, THENCE RUNNING ALONG A CURVE TO THE LEFT PARALLEL TO THE STATE HIGHWAY M-59 RIGHT OF WAY TO THE WEST LINE OF SAID 5 ACRES DESCRIBED AS THE CAPTIONED LAND ABOVE.

TITLE REPORT NOTE
 ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY FILE NO. 63-18598786-SQM, REVISION 3, DATED AUGUST 21, 2023, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

- RIGHT OF WAY GRANTED TO MICHIGAN BELL TELEPHONE COMPANY FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF LINES OF COMMUNICATION RECORDED IN LIBER 7946, PAGE 805, OAKLAND COUNTY RECORDS. (AS SHOWN)
- EASEMENT GRANTED TO MICHIGAN BELL TELEPHONE COMPANY FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF COMMUNICATION FACILITIES RECORDED IN LIBER 11604, PAGE 146, OAKLAND COUNTY RECORDS. (AS SHOWN)
- EASEMENT GRANTED TO THE CHARTER TOWNSHIP OF WHITE LAKE FOR CONSTRUCTION, OPERATION AND MAINTENANCE OF WATER MAIN RECORDED IN LIBER 19187, PAGE 333, OAKLAND COUNTY RECORDS. (AS SHOWN)

MANHOLE SCHEDULE

NUM	TYPE	RIM (FT)	SIZE (IN)	DIR	INV ELEV (FT)
70065	CATCH BASIN	971.68	12	N	968.03
70131	CATCH BASIN	970.71	12	E	966.71
70140	CATCH BASIN	970.70	12	W	966.50
		970.70	12	N	966.45
		970.70	12	S	966.55
70157	CATCH BASIN	971.02	18	N	964.12

SURVEYOR'S CERTIFICATION
 TO AFFINITY 10 INVESTMENTS, LLC, A MICHIGAN LIMITED LIABILITY COMPANY;
 OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY; ATA NATIONAL TITLE GROUP, LLC, AND STONEFIELD ENGINEERING AND DESIGN:
 THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 4, 5, 7A, 8, 9, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 09/14/23.
 DATE OF PLAT OR MAP: 09/28/23

DRAFT
 ANTHONY T. SYCKO, JR., P.S.
 PROFESSIONAL SURVEYOR
 MICHIGAN LICENSE NO. 47976
 22556 GRATIOT AVE., EASTPOINTE, MI 48021
 TSycko@kemttec-survey.com

KEM-TEC
 A GROUP OF COMPANIES
 PROFESSIONAL ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
 Eastpointe, MI 48021
 Ann Arbor, MI 48106
 Detroit, MI 48226
 (800) 255-7222 (734) 954-0888 (888) 654-0001
 www.kemttecgroupofcompanies.com

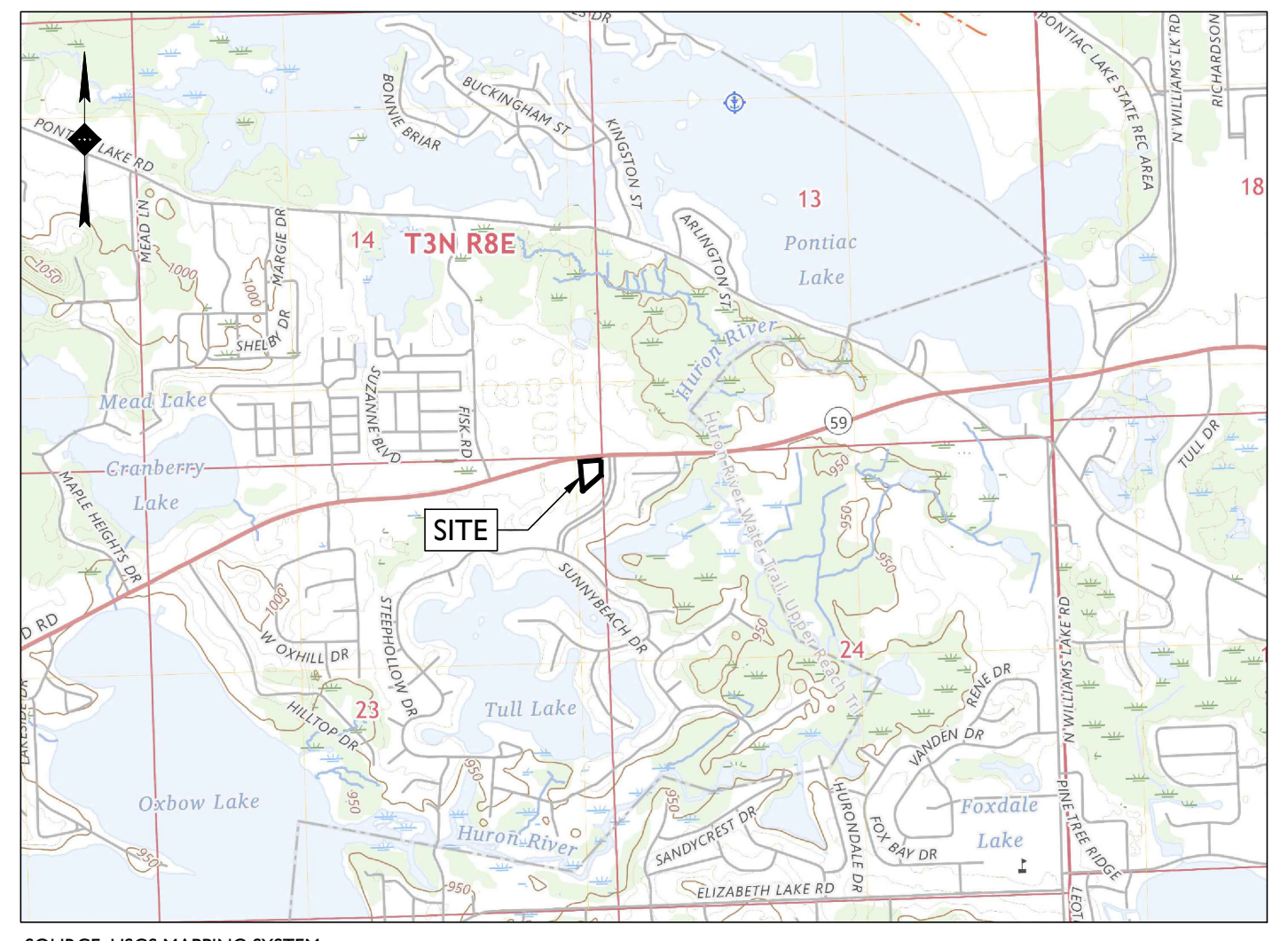
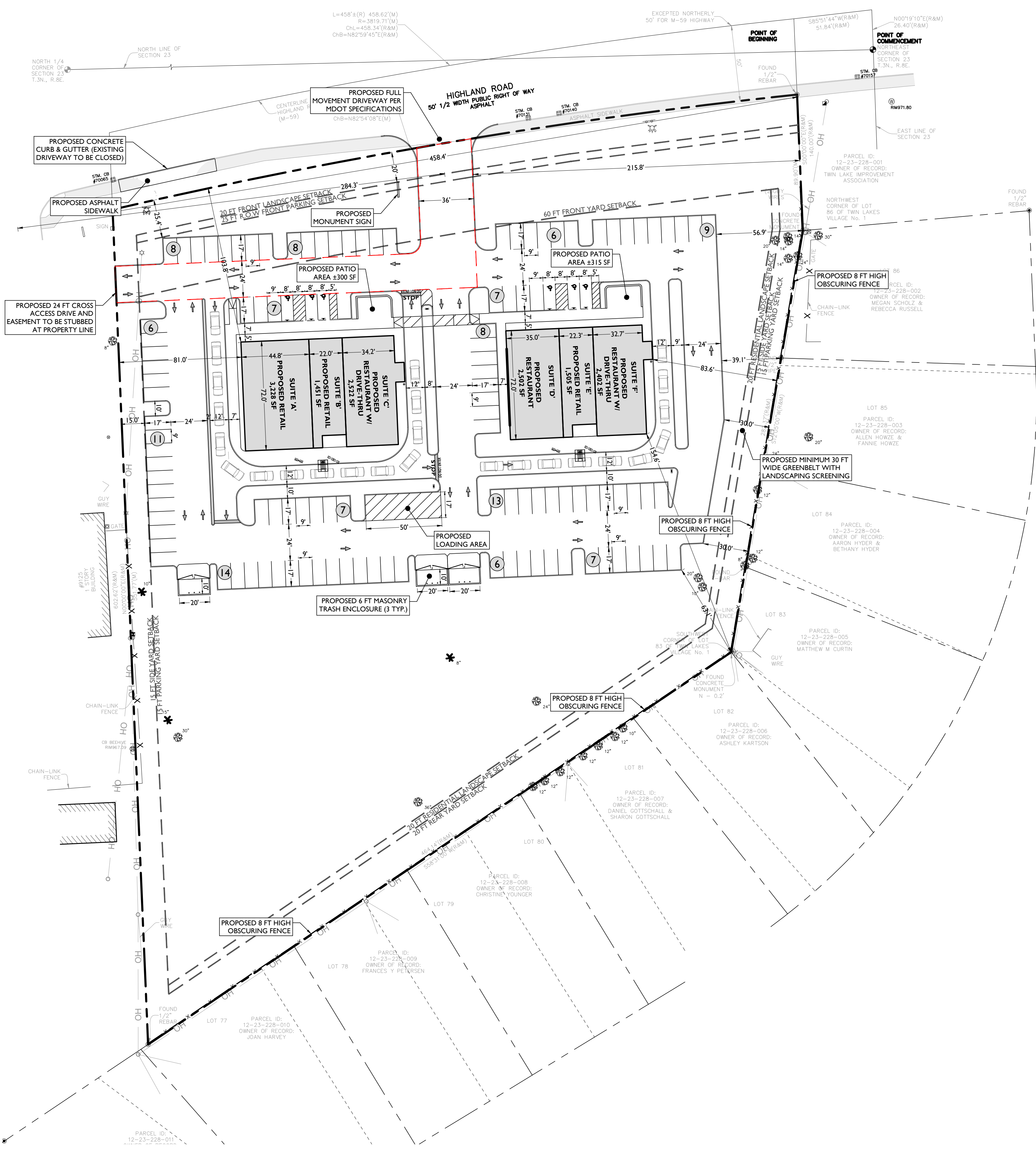
ALTA / NSPS LAND TITLE SURVEY
 PREPARED FOR: STONEFIELD ENGINEERING AND DESIGN
 9101 HIGHLAND ROAD, WHITE LAKE, MICHIGAN,
 PART OF SECTION 23,
 TOWN 3 NORTH, RANGE 8 EAST

DATE	BY	REVISION	DESCRIPTION
09/28/23	LJ/JV		
09/28/23	ATS		
SEPTEMBER 28, 2023			
23-01922			

SCALE: 1" = 30'

1
 1 OF 1 SHEETS

NOT TO SCALE. THIS DRAWING IS A PRELIMINARY DESIGN AND IS SUBJECT TO CHANGE WITHOUT NOTICE. THE CLIENT IS RESPONSIBLE FOR VERIFYING ALL INFORMATION AND CONDITIONS. STONEFIELD ENGINEERING & DESIGN, LLC IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. DATE: 04/15/2024. PROJECT ID: DET-230229.



LAND USE AND ZONING
 PID: 12-23-227-003
 EXISTING ZONE: RI-C SINGLE FAMILY RESIDENTIAL
 2024 MASTER PLAN: COMMERCIAL CORRIDOR
 PROPOSED REZONE: RESTRICTED BUSINESS DISTRICT (RB)

PROPOSED USE	PERMITTED USE	
RESTAURANT OR FAST FOOD	RESTAURANT OR FAST FOOD	
DRIVE-THRU WINDOW	SPECIAL LAND USE	
RETAIL STORE	RETAIL STORE	

ZONING REQUIREMENT	REQUIRED	PROPOSED
MINIMUM LOT AREA	1 AC	195,568 SF (4.5 AC)
MINIMUM LOT WIDTH	200 FT	458.4 FT
MAXIMUM BUILDING HEIGHT	35 FT (2 STORIES)	<35 FT (1 STORY)
MINIMUM FRONT YARD SETBACK	60 FT ⁽¹⁾	103.8 FT
MINIMUM SIDE YARD SETBACK (ONE)	15 FT	81.0 FT
MINIMUM SIDE YARD SETBACK (BOTH)	20 FT	164.6 FT
MINIMUM REAR YARD SETBACK	20 FT	154.6 FT
MINIMUM DRIVEWAY FROM RESIDENTIAL	200 FT ⁽¹⁾	215.8 FT
MINIMUM FRONT LANDSCAPE SETBACK	20 FT	25.4 FT
MINIMUM R.O.W PARKING SETBACK	25 FT ⁽²⁾	25.4 FT
INTERIOR LANDSCAPING AREA	15% (29,335 SF)	>15%
MINIMUM DRIVEWAY SPACING (HIGHLAND ROAD)	455 FT	2284.3 FT TO WEST (V)
TRASH ENCLOSURE SETBACK	103.8 FT ⁽¹⁾	COMPLIES
MINIMUM SIDE PARKING SETBACK	15 FT	15.0 FT

(V) VARIANCE
 (1) REQUIREMENT FOR RESTAURANT WITH DRIVE-THRU
 (2) NO PARKING STALL SHALL BE LOCATED ADJACENT TO R.O.W LINE, STREET EASEMENT OR SIDEWALK WHICHEVER IS CLOSER
 (3) NO ENCLOSURES SHALL BE PERMITTED CLOSER TO THE FRONT LOT LINE THAN THE PRINCIPAL BUILDING

OFF-STREET PARKING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 5.11.M	FAST FOOD PARKING: 1 SPACE PER 75 OF GFA (2,522 SF + 2,402 SF) = 4,924 SF (4,924 SF) (1 SPACE / 75 SF) = 66 SPACES RESTAURANT PARKING: 1 SPACE PER 100 SF OF GFA (2,502 SF) (1 SPACE / 100 SF) = 25 SPACES RETAIL PARKING: 1 SPACE PER 200 SF OF GFA (3,228 SF + 1,451 SF + 1,505 SF) = 6,184 SF (6,184 SF) (1 SPACE / 200 SF) = 31 SPACES TOTAL: 66 + 25 + 31 = 122 SPACES	117 SPACES
§ 5.11.M	STACKING (WEST DRIVE-THRU): 8 STACKING CARS (9 FT X 18 FT) (12 FT X 18 FT)	15 SPACES
§ 5.11.M	STACKING (EAST DRIVE-THRU): 8 STACKING CARS (9 FT X 18 FT) (12 FT X 18 FT)	10 SPACES
§ 5.11.Q	90° PARKING: 9 FT X 18 FT WITH 24 FT AISLE ⁽¹⁾ W/ 24 FT AISLE	9 FT X 17 FT
§ 5.19	LANDSCAPE REQUIREMENT: 20 FT WIDTH ALONG RESIDENTIAL 6-8 FT OBSCURING FENCE LOADING AREA:	30 FT WIDTH 8 FT FENCE
§ 5.11.P1	LOADING AREA: 10 FT X 50 FT WITH 15 FT CLEARANCE	17 FT X 50 FT

(1) PARKING SPACE LENGTH MAY BE REDUCED TO 17 FT WHERE 7 FT SIDEWALK OR LANDSCAPE IS PROVIDED

SYMBOL DESCRIPTION

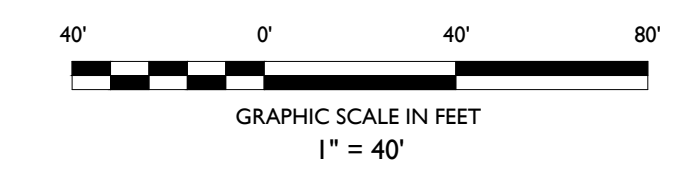
---	PROPERTY LINE
---	SETBACK LINE
---	PROPOSED CURB
○	PROPOSED SIGNS / BOLLARDS
■	PROPOSED BUILDING
□	PROPOSED CONCRETE
---	PROPOSED SCREEN WALL
X-X	PROPOSED 8 FT OBSCURING FENCE

SIGNAGE REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 5.9.1.B	MULTI-TENANT SIGN HEIGHT: 15 FT ⁽¹⁾	<15 FT
§ 5.9.1	SIGN AREA: 6 SF PER 1 FT OF SETBACK	<150 SF
§ 5.9.1	MAXIMUM SIGN AREA: 150 SF ⁽¹⁾	<150 SF
§ 5.9.1.A	SIGN SETBACK: 10 FT	20.0 FT
§ 5.9.1.A	RESIDENTIAL SETBACK: 100 FT	>200 FT

(1) MAXIMUM SIGN AREA SHALL NOT INCLUDE DECORATIVE ELEMENTS SUCH AS BASES, COLUMNS OR CAPS
 (2) MINIMUM HEIGHT OF A SIGN BASE SHALL BE 2 FT IN HEIGHT
 (3) EACH INDIVIDUAL TENANT SIGN SHALL NOT EXCEED 4 FT IN HEIGHT

- GENERAL NOTES**
- THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
 - ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC, AND ITS SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
 - THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
 - THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
 - THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
 - THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
 - THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
 - THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
 - THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
 - SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC, BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.



ISSUE	DATE	BY	DESCRIPTION
3	4/27/2024	JRC/JIP	SUBMISSION FOR REVISED REZONING REQUEST
2	04/15/2024	EM	FOR PRELIMINARY MDOT REVIEW
1	11/19/2023	JRC/JIP	SUBMISSION FOR REZONING

NOT APPROVED FOR CONSTRUCTION

STONEFIELD
 engineering & design

Detroit, MI · Rutherford, NJ · New York, NY
 Boston, MA · Princeton, NJ · Tampa, FL
 www.stonefielddesign.com

607 Shelby Suite 200, Detroit, MI 48226
 Phone 248.247.1115

9101 HIGHLAND ROAD
 PROPOSED MULTI-TENANT BUILDING

SITE PLAN EXHIBIT

PARCEL ID: 12-23-227-003
 9101 HIGHLAND ROAD
 WHITE LAKE TOWNSHIP
 OAKLAND COUNTY, MICHIGAN

J. REID COOKSEY, P.E.
 MICHIGAN LICENSE No. 6201069428
 LICENSED PROFESSIONAL ENGINEER

STONEFIELD
 engineering & design

SCALE: 1" = 40' PROJECT ID: DET-230229

TITLE:
PRELIMINARY SITE PLAN (REZONING REQUEST)

DRAWING:
EX-1

WHITE LAKE TOWNSHIP NOTICE OF PUBLIC HEARING

Notice is hereby given the Planning Commission of the Charter Township of White Lake will hold a public hearing on **Thursday, May 16th, 2024 at 6:30 P.M.** at the Township Annex, 7527 Highland Road, White Lake, Michigan 48383, to consider the following changes to the zoning map:

Property described as 9101 Highland Road, identified as parcel number 12-23-227-003, located south of Highland Road, west of Sunnybeach Boulevard, consisting of approximately 5.02 acres.

Applicant requests to rezone the parcel from R1-C (Single Family Residential) to RB (Restricted Business) or any other appropriate zoning district.

The applicant is Affinity 10 Investments, LLC.

Persons interested are requested to be present. Pertinent information relative to this rezoning request is on file at the Community Development Department and may be examined at any time during regular business hours of 8:00 a.m. to 5:00 p.m. Persons interested may visit the Community Development Department, contact the Community Development Department by telephone at 248-698-3300, ext. 5, or attend the Public Hearing on the date specified. Written comments are also welcome at 7525 Highland Road, White Lake, MI 48383. Individuals with disabilities requiring auxiliary aids or services should contact the Clerk's Office at least 5 days before the hearing.

Sean O'Neil, AICP
Community Development Director