

Memo

TO: Becky Klein, PE, LEED AP BD+C
FROM: Jill Bauer, PE, PTOE
DATE: July 13, 2023
RE: Primrose School Trip Generation Comparison

PROJECT NO.: 231298

Introduction

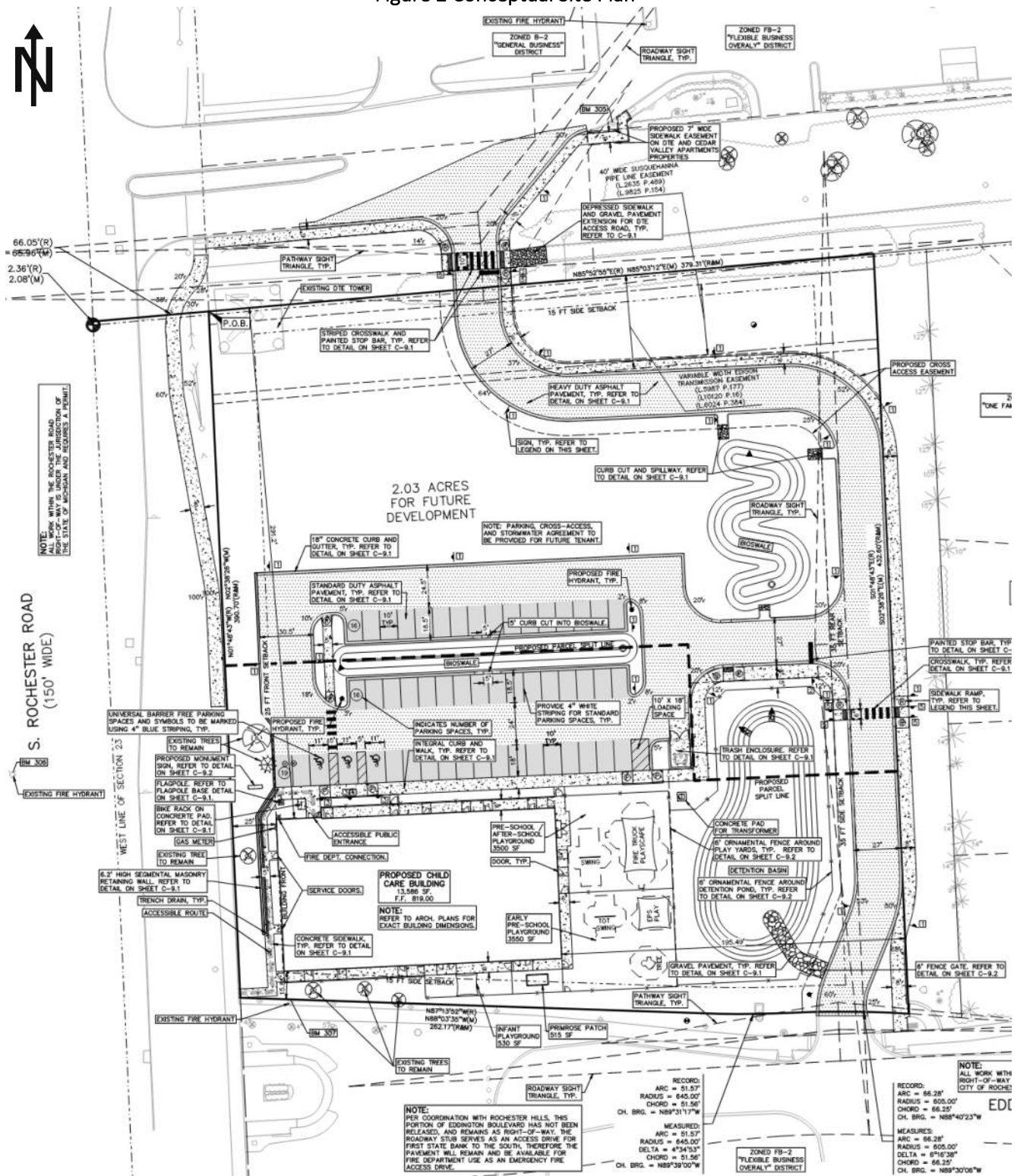
On behalf of PEA Group, Fishbeck has completed a trip generation forecast for the proposed development of the parcel located approximately 2,550 feet south of Avon Road on the east side of Rochester Road in the City of Rochester Hills, Oakland County, Michigan. The site is currently vacant and is proposed to be a Primrose School Day Care. The day care will be open from 6 a.m. to 6 p.m. Monday through Friday. The morning peak traffic occurs from 6 to a.m. and the afternoon peak traffic occurs from 3 to 6 p.m. Parents are required to park their vehicles, accompany their child into the school, and sign the child in during morning drop off. Parents must do the same in the afternoon and sign their child out for the day.

The proposed development would have two shared access points to Rochester Road from the existing driveways on the north and south sides of the property. These internal connections are currently stubbed for future development. The project location is indicated in Figure 1 – Project Location and a representation of the current conceptual site plan is provided in Figure 2 – Conceptual Site Plan.

Figure 1 Project Location



Figure 2 Conceptual Site Plan



Trip Generation

Using the information and methodologies specified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, Fishbeck forecast the weekday a.m. and p.m. peak hour trips associated with the proposed development.

A portion of the site-generated trips are anticipated to be pass-by in nature, meaning they already exist on the adjacent road network and are interrupted to visit the site. According to ITE methodology, new trips are assumed to return to their direction of origin whereas pass-by trips continue in their original direction of travel. The *Trip Generation Manual* was used to calculate what percentage of the trips would be pass-by trips, meaning they are vehicles already on the network that would access the development and are not additional trips added to the network. For the day care land use, pass-by rates are provided for the p.m. peak hour at a rate of 44%. It was assumed that the a.m. peak hour would experience a similar rate due to parents dropping off and picking up children on their way to and from work.

Table 1 – Trip Generation Forecast presents the resulting trip generation. Refer to Attachment 1 – Trip Generation for additional information regarding trip generation calculations.

Table 1 – Trip Generation Forecast

ITE Land Use	LUC ¹	Units	a.m. Peak Hour			p.m. Peak Hour			Weekday
			In	Out	Total	In	Out	Total	
Day Care Center	565	13,586 SF ²	79	70	149	71	80	151	647
Pass-by Trips (44%)			35	31	66	31	35	66	285
Total New Trips			44	39	83	40	45	85	362

Land Use Code (LUC)

Square Feet (SF)

The results of the trip generation forecast revealed the proposed development would generate 362 new weekday trips, 83 new a.m. peak hour trips (44 inbound, 39 outbound), and 85 new p.m. peak hour trips (40 inbound, 45 outbound).

Attachments

By email

Copy: Michael Labadie, PE – Fishbeck

Attachment 1

Trip Generation

Trip Generation - Weekday Summary												
ITE Code	ITE Rate Description	Unit	Amount	AM			PM			WD		
				Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress	Total
ITE 565	Day Care Center	SF	13586	79	70	149	71	80	151	323	324	647
	Pass-by			35	31	66	31	35	66	142	143	285
Total New Trips				44	39	83	40	45	85	181	181	362

ITE Trip Generation Rates - Weekday							
ITE Code	ITE Rate Description	Unit	Amount	R2	Rate	Pass-by	# Studies
ITE 565	Day Care Center	SF	13,586				
AM	N/A		149	N/A	11.00	44%	89
PM	N/A		151	N/A	11.12	44%	90
WD	N/A		647	N/A	47.62	44%	27

	AM			PM			WD		
	Ingress	Egress	Total	Ingress	Egress	Total	Ingress	Egress	Total
Directional Distribution	53%	47%	100%	47%	53%	100%	50%	50%	100%
Volume Distribution	79	70	149	71	80	151	323	324	647