



Date: March 28, 2024  
To: Mikel Currier, PS – SAM  
From: Nick LaCroix, PE PTOE  
Re: Culver’s Restaurant Trip Generation – Plainfield, Indiana

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## **INTRODUCTION**

SAM is working with Culver’s restaurant to develop a new site located on the north side of Perry Road just east of SR 267 (Quaker Boulevard) in Plainfield, Indiana. The proposed site was previously used for an 8,212 square-foot Golden Corral restaurant. The proposed site plan calls for a 4,611 square-foot Culver’s restaurant building with a drive-thru window and 52 parking spaces. The proposed site plan is attached to this memo for reference. Culver’s is open for lunch and dinner, 7 days a week, from 10:00 a.m. to 12:00 midnight. Approximately 60% of sales are from dine-in customers while 40% utilize the drive-thru window.

Access to the site will be via internal shared private access drives to Cambridge Way and Perry Road. Based on discussions with the Town of Plainfield, the two proposed driveways on the north side of the site will be exit only and the proposed driveway on the east side of the site will be full access. In addition, the Town plans to eliminate the existing eastbound left-turn movement from Perry Road to Cambridge Way in the future.

As part of the project approval process, the Town has requested a trip generation letter be prepared to quantify the number of vehicle trips the previous land use generated compared to the proposed Culver’s restaurant site.

## **TRIP GENERATION**

The Trip Generation Manual, 11th Edition, by the Institute of Transportation Engineers (ITE) was used to calculate the anticipated traffic that may be generated by the proposed site. Trips are measured individually for inbound and outbound movements; therefore, a visit to the site by an employee or visitor, for instance, generates two trips – one inbound and one outbound. Based on the land use descriptions provided within the ITE Trip Generation Manual, the most applicable land use for the proposed Culver’s restaurant site would be Fast-Food Restaurant with Drive-Thru (Land Use Code 934). The most applicable land use for the former Golden Corral restaurant would be High-Turnover Sit-Down Restaurant (Land Use Code 932).

The proposed site will capitalize on the high traffic volumes along Perry Road by “capturing” customers passing by the location to/from work or other destinations. These trips are classified as “pass-by” trips since they are already on the roadway network and enter the site as they drive past. While these trips do not add new trips to the roadway network, they add turning movements at the site driveways.

Trips for the site were calculated for the typical weekday morning and afternoon peak hour. As Culver’s does not open until 10:00 a.m., the site will generate a minimal number of trips during the morning peak hour, most likely from employees and/or deliveries. Table 1 shows the peak hour trips anticipated to be generated. After accounting for pass-by trip reductions, the site is expected to generate approximately 10 new weekday morning peak hour trips (5 inbound, 5 outbound) and 69 new weekday afternoon peak hour trips (36 inbound, 33 outbound) onto the street system.

**Table 1. Weekday Morning and Afternoon Peak-Hour Trip Generation Summary**

Land Use	ITE Code	Size	Weekday A.M.			Weekday P.M.		
			Total	Enter	Exit	Total	Enter	Exit
Fast-Food Restaurant w/ Drive-Thru	934	4,611 sft	10	5	5	152	79	73
<b>Subtotal:</b>			<b>10</b>	<b>5</b>	<b>5</b>	<b>152</b>	<b>79</b>	<b>73</b>
Less pass-by trips <sup>1</sup> :			0	0	0	83	43	40
<b>Total new trips:</b>			<b>10</b>	<b>5</b>	<b>5</b>	<b>69</b>	<b>36</b>	<b>33</b>

<sup>1</sup>ITE pass-by reduction percentages applied to fast-food restaurant land use: 55% for afternoon peak hour.  
Source: ITE Trip Generation Manual, 11<sup>th</sup> Edition

The above trip generation estimates were used to compare to the previous 8,212 square-foot Golden Corral restaurant site. Table 2 shows a comparison of the anticipated trips generated by the previous Golden Corral restaurant compared to the proposed Culver’s restaurant site.

**Table 2. Trip Generation Comparison**

Land Use	ITE Code	Size	Weekday A.M.			Weekday P.M.		
			Total	Enter	Exit	Total	Enter	Exit
High-Turnover Sit-Down Restaurant	932	8,212 sft	78	43	35	74	45	29
Fast-Food Restaurant w/ Drive-Thru	934	4,611 sft	10	5	5	152	79	73
<b>Net Difference</b>			<b>-68</b>	<b>-38</b>	<b>-30</b>	<b>+78</b>	<b>+34</b>	<b>+44</b>

Source: ITE Trip Generation Manual, 11<sup>th</sup> Edition

As shown in Table 2, the proposed Culver’s restaurant is anticipated to generate less trips during the morning peak hour and more trips during the afternoon peak hour compared to the previous Golden Corral restaurant. The proposed site is anticipated to generate 68 fewer total trips during the weekday morning peak hour and 78 more total trips during the weekday afternoon peak hour.

## DRIVE-THRU QUEUING

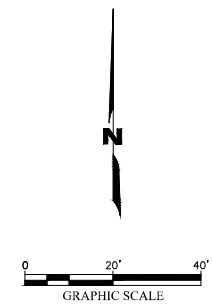
The proposed Culver’s includes a drive-thru window with two order kiosks. Customers order food at the kiosks, pay at the window, and then park along the exiting drive-thru lane to wait for their food to be brought out. The proposed site plan shows queueing space for approximately eight (8) vehicles between the order kiosk and the window. An additional eight (8) spaces are available from the order kiosks before any vehicle would spill-back into the parking lot drive aisle.

As part of another Culver's study, drive-thru queuing data was collected at an existing Culver's restaurant site located in Holland, MI. As the drive-thru develops queues at both the order kiosk and window, queues at each location were collected separately. The maximum number of vehicles queued at the window was seven vehicles. The maximum number of vehicles queued at the order kiosk was five vehicles. There was a combined maximum number of ten vehicles queued between both the window and order kiosk, with seven vehicles queued at the window and three vehicles queued at the order kiosk.

## CONCLUSIONS

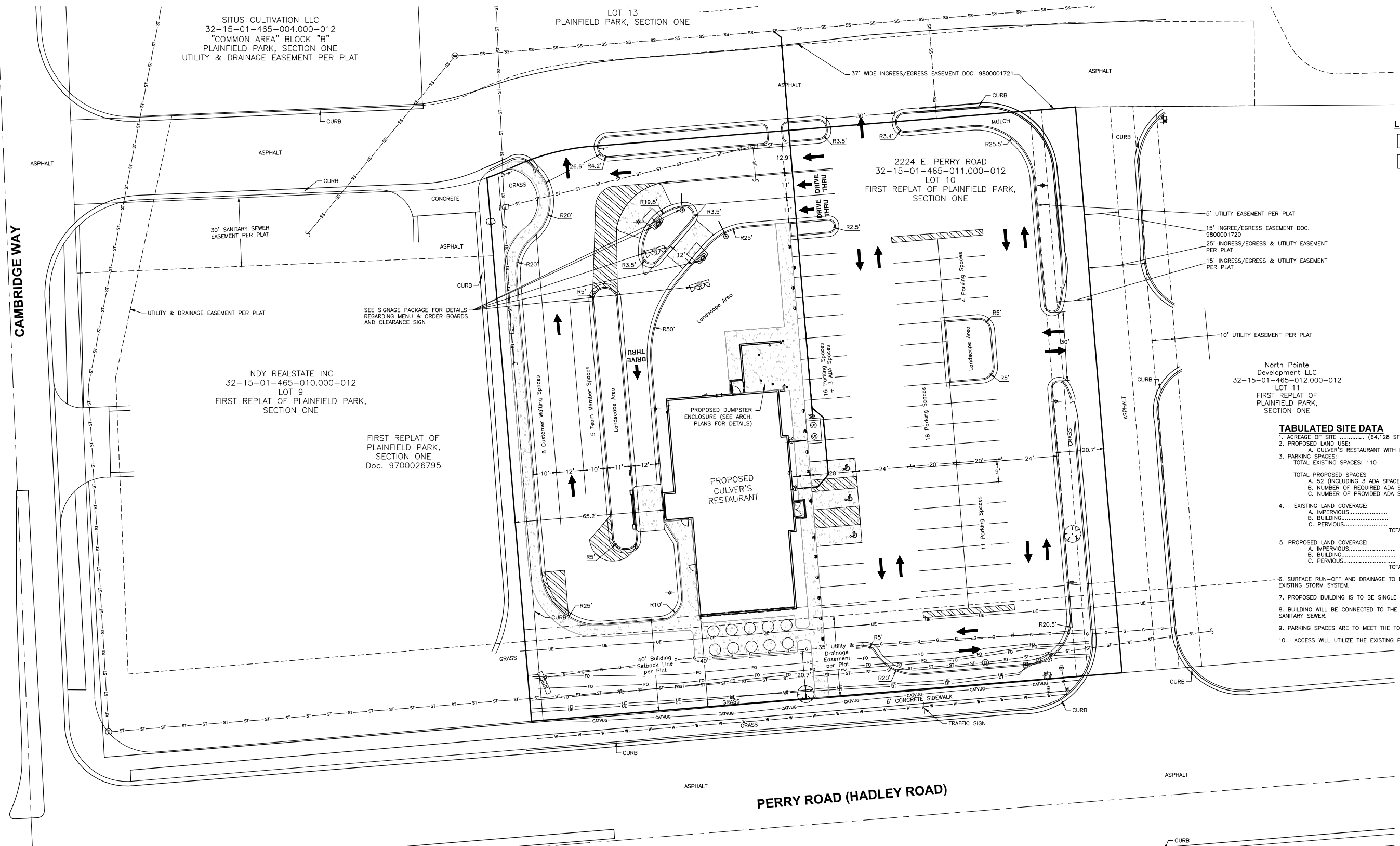
Typical traffic impact study thresholds that many communities and the Indiana Department of Transportation (INDOT) use state that the minimum threshold for requiring a traffic impact study is 100 new peak-hour trips during either the morning or afternoon peak hour. The proposed Culver's restaurant is anticipated to generate minimal morning peak hour trips and 69 new trips during the afternoon peak hour after accounting for pass-by trip reductions. In addition, the net new trips along the adjacent roadways would be even less when accounting for trips to/from the previous Golden Corral restaurant.

Given the anticipated trip generation for the proposed Culver's restaurant site, the site is anticipated to have minimal impacts to the adjacent roadways and/or intersections.



**LEGEND**

[Symbol]	STANDARD HMA PAVEMENT, WITHIN BOUNDARY
[Symbol]	CONCRETE, THICKNESS PER DETAILS



**TABULATED SITE DATA**

- ACREAGE OF SITE ..... (64,128 SF) ..... 1.47 ACRES
- PROPOSED LAND USE:
  - CULVER'S RESTAURANT WITH DRIVE THRU FACILITIES
- PARKING SPACES:
 

TOTAL EXISTING SPACES: 110

TOTAL PROPOSED SPACES

  - (INCLUDING 3 ADA SPACES)
  - NUMBER OF REQUIRED ADA SPACES - 3
  - NUMBER OF PROVIDED ADA SPACES - 3
- EXISTING LAND COVERAGE:
 

	SQUARE FOOTAGE	% OF SITE
A. IMPERVIOUS.....	47,237	73.66%
B. BUILDING.....	8,212	12.81%
C. PERVIOUS.....	8,679	13.53%
<b>TOTAL</b>	<b>64,128</b>	<b>100.00%</b>
- PROPOSED LAND COVERAGE:
 

	SQUARE FOOTAGE	% OF SITE
A. IMPERVIOUS.....	45,345	70.71%
B. BUILDING.....	4,611	7.19%
C. PERVIOUS.....	14,172	22.10%
<b>TOTAL</b>	<b>64,128</b>	<b>100.00%</b>
- SURFACE RUN-OFF AND DRAINAGE TO BE COLLECTED ON-SITE INTO THE EXISTING STORM SYSTEM.
- PROPOSED BUILDING IS TO BE SINGLE STORY.
- BUILDING WILL BE CONNECTED TO THE TOWN OF PLAINFIELD WATER SYSTEM & SANITARY SEWER.
- PARKING SPACES ARE TO MEET THE TOWN OF PLAINFIELD STANDARDS.
- ACCESS WILL UTILIZE THE EXISTING PRIVATE DRIVE, AS SHOWN.

Preliminary Drawing - Not for Construction

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 PRINTED: Monday, March 18, 2024 4:38:30 PM

NO.	REVISIONS	BY	DATE



2810 Dexter Drive  
 Elkhart, IN 46514  
 Phone: 574-266-1010  
 Email: info@sam.biz

DRAWING FILE: 5 - SITE PLAN.DWG  
 CERTIFICATION DATE: 3/18/2024  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: N/A  
 SURVEYOR: Mikel Currier  
 TECHNICIAN: MDC

**PROPOSED SITE PLAN**  
 S & L Properties Plainfield South LLC, 2224 Perry Road,  
 PT. SE 1/4, SEC. 1, T14N, R1E,  
 Town of Plainfield, Hendricks County, Indiana  
 JOB NUMBER: 1024085769

SHEET 1  
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