



Civiltech Engineering, Inc.
www.civiltechinc.com

Two Pierce Place, Suite 1400
Itasca, IL 60143
Phone: 630.773.3900
Fax: 630.773.3975

30 N LaSalle Street, Suite 2624
Chicago, IL 60602
Phone: 312.726.5910
Fax: 312.726.5911

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Technical Memorandum

Date: August 17, 2021
To: Mr. David C. Smith, AICP
Village of Libertyville
From: Brian R. DeSalle, P.E. PTOE
James R. Woods, P.E., PTOE
Civiltech Engineering, Inc.
Re: Proposed Liberty Junction Residential Development
Between Adler Drive and IL Route 137
Review of May 10, 2021 Traffic Impact Study

At the Village's request, we have reviewed the May 10, 2021 *Traffic Impact Study* (TIS) prepared by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed development of approximately 15 acres of vacant property located between Adler Drive and IL Route 137 to the west of IL Route 21 (Milwaukee Avenue) in the Village of Libertyville.

Per the proposed site plan dated July 27, 2021, the development would consist of 16 row-type townhome buildings with five to six units per building, for a total of 90 residential units. The site plan also includes expansion of the parking lot for an existing Wildberry Cafe restaurant located on the southwest quadrant of the IL Route 137/Milwaukee Avenue intersection. A 2.4-acre vacant lot located south of Wildberry Cafe along the Milwaukee Avenue frontage is included in the site plan but will not be developed as part of the townhome development.

The site plan includes a new north-south access roadway located about 350 feet west of Milwaukee Avenue. At its north end, the proposed roadway would connect to IL Route 137 at a right-in/right-out intersection 225 feet west of the Milwaukee Avenue intersection. At the south end, the proposed roadway connects to Adler Drive at a T-intersection about 415 feet west of Milwaukee Avenue. Access to the townhome development would be provided at a four-leg intersection located about halfway along the access roadway between IL Route 137 and Adler Drive, with the west leg serving a circulation roadway for the townhomes, and the east leg providing access to the expanded Wildberry Cafe parking lot and the vacant commercial parcel to the south and east.

The proposed circulation roadway serving the townhomes extends west from the north-south roadway and curves around to intersect itself, creating a large teardrop-shaped internal roadway. Access to individual units is proposed through driveways intersecting the internal roadway, with two buildings (10 to 12 units) served by each driveway, with rear-loading parking for each unit.

We offer the following comments on the May 10, 2021 TIS and the proposed development site plans. These should be addressed and a written disposition should be prepared as part of the Village's review and approval process.

May 10, 2021 Traffic Impact Study Comments

1. We generally concur with the concept of using 2015 traffic counts at intersections within the study area as a baseline for adjusting 2021 traffic counts to account for the impact of the COVID-19 pandemic, however, it is unclear if the 2021 counts were adjusted to 2015 levels or if the 2015 counts were adjusted to 2019 and then the 2021 counts were adjusted. Clarification of the adjustment process is needed for us to fully concur with the 2021 baseline volumes.
2. We concur that a majority of the trips generated by the proposed redevelopment will approach and depart from the east along IL Route 137 and from the south along Milwaukee Avenue, and therefore the proposed directional distribution shown on Figure 5 of the TIS is reasonable
3. We concur with the use of the ITE *Trip Generation* manual in determining the magnitude of site-generated trips for the proposed development. The A.M. and P.M. peak hour trip generation estimates as presented in Table 3 of the TIS are reasonable using the number of housing units as the input variable.
4. We concur with the background growth rate of 0.5% per year used to generate 2027 background traffic volumes per CMAP traffic projections.
5. We concur that the addition of traffic generated by the proposed development will have a negligible impact on the operations of the IL Route 137/Milwaukee Avenue intersection.
6. We concur that, while the addition of site-generated traffic decreases the performance of the eastbound left turn from Adler Drive onto Milwaukee Avenue from a LOS D to a LOS E, the gaps created by the existing signal at IL Route 137/Milwaukee Avenue will allow additional opportunities for vehicles to turn onto IL Route 21, resulting in lower delays than indicated by the capacity analysis.
7. While it is possible that traffic from Adler Drive may use the north-south access roadway to go eastbound on IL Route 137 as stated in the TIS, the neighborhood to the west has access onto IL Route 137 via Cass Avenue along its western boundary, so the reduction in left turns from Adler Drive onto Milwaukee Avenue is likely to be minimal. We concur that existing residents coming from the west on IL Route 137 (especially those on the eastern end of the current neighborhood) may find the southbound direction on the new north-south access roadway an attractive alternative to Cass Avenue. This is especially true during the morning peak hour, when southbound travel on Cass Avenue is restricted south of IL Route 137.
8. We note that while no new trips were assigned along this route, there is potential for new development residents destined to the west on IL Route 137 to use the residential street system to make a left turn onto IL Route 137 at Cass Avenue. The petitioner should be prepared to address the likelihood, magnitude, and any impacts of this possibility.
9. Consideration should be given to guide signage on Adler Drive at the north-south roadway intersection to minimize the potential for townhome residents or guests to miss the turn into the roadway and end up circulating through the residential neighborhood to the west.

July 27, 2021 Preliminary Engineering Plan Comments

10. The Village of Libertyville Comprehensive Plan shows the potential north-south public street connection as continuous, with Adler Drive forming a "T"-intersection with the proposed roadway, whereas the proposed development plan shows Adler Drive as the continuous route. From a traffic perspective, it is not anticipated that

the ultimate geometrics of the intersection between Adler Drive and the north-south connecting roadway will change anticipated travel patterns or magnitudes significantly.

11. The geometric plans for the proposed right-in/right-out access roadway entrance onto IL Route 137 as shown in the Commercial Preliminary Engineering plans show that the existing utility pole and street light pole will be located within the proposed channelizing island. It should be noted that it is generally undesirable to include utility poles and other sight obstructions within the field of view of motorists attempting to make turning movements as they can block visibility of approaching traffic. It is recommended that these be relocated if feasible.
12. The southern parking aisle for the Wildberry Café lot is slightly misaligned with respect to the south parking lot access to the proposed north-south roadway. It is recommended that this parking aisle be shifted further south to align with the north-south roadway access to improve site circulation.
13. Consideration should be given to shifting the existing Wildberry Café access onto IL Route 21 (Milwaukee Avenue) further south to align with the south parking aisle. This will not only provide better overall site circulation, but it will move the access further away from the IL Route 137 intersection, improving safety.
14. It should be noted that when Lot 2 is developed, a new traffic study for that development will be required and the development will need to proceed through the full Village development review process.