TECHNICAL MEMORANDUM

DATE: January 14, 2021

TO: Dom Ferrante, AIA, LEED, AP, BD+C
Briohn Design Group, LLC

FROM: Don Lee, P.E.
John A. Bieberitz, P.E., PTOE
Traffic Analysis & Design, Inc.

SUBJECT: **Lincoln Avenue Warehouse Development - Supplemental**
New Berlin, WI

INTRODUCTION

The Briohn industrial development site is located along the north side of W. Lincoln Avenue, about 950-feet west of S. 179th Street in the City of New Berlin, Waukesha County, Wisconsin. A traffic impact analysis (TIA) dated August 24, 2020 for the development, which included a single 301,320 square foot warehouse building was previously prepared for and approved by the City of New Berlin. The TIA analyzed the W. Lincoln Road intersections at S. Calhoun Road, W. Jacobs Drive and the proposed development driveway. Subsequent to the approval of the August 24, 2020 TIA; the perspective tenant dropped out and the site plan changed to two separate spec buildings with one potential user occupying half of the north building. Exhibit 1 shows the project overview and Exhibit 2 includes the most current site plan showing two smaller buildings to replace the single larger building from the previous study.

This technical memorandum is prepared to provide a comparison of the traffic generation and potential impacts with the change in site plan.

PROPOSED DEVELOPMENT

Site Description

An updated conceptual site plan for the proposed development is shown on Exhibit 2. The updated site plan shows that two spec buildings are being proposed to replace the single 301,320-square foot warehouse building and are proposed to be constructed on the south end of the site near W. Lincoln Avenue. The northern building is expected to be approximately 117,000-sqaure feet and the south building is expected to be 117,000-square feet for a total area of 234,000-square feet. Based on the updated operations plan for the site, the two buildings are expected to accommodate about 95 full-time employees between the two sites (45-50 in each building).

As shown on the current site plan, parking for the employees and visitors is located on the east side of the buildings (98 spaces at each building) with additional visitor parking located along the south side of the south building (30 spaces). Truck loading bays and truck parking stalls are located on the west side of the buildings (24 docks at each building). A single access drive to be utilized to access both the employee (autos) and truck parking areas is proposed along W. Lincoln Avenue.

Trip Generation

The previous TIA calculated the expected new trips and determined all analysis results based on a single 301,320-square foot warehouse building. As described above, the new site plan includes two buildings with a total square footage of 234,000-square feet.

The trip generation table developed for the proposed warehouse, showing a comparison between the new and previously approved site plans, is shown on Exhibit 3. In the previous study to provide for a more conservative/higher estimate of traffic volumes for the site, the expected trip generation was evaluated using the building size as the independent variable instead of employees. Using this data point, the total number of employee and truck trips expected for the proposed development was about 520 trips per weekday, with 60 trips (45 in/15 out) during the weekday AM peak hour and 65 trips (20 in/45 out) during the weekday PM peak hour.

Using the smaller footprint of the two buildings with a total square footage of 234,000-square feet, the overall number of trips are expected to be less. The updated total number of employee and truck trips expected for the proposed development is about 415 trips per weekday, with 55 trips (40 in/15 out) during the weekday AM peak hour and 55 trips (15 in/40 out) during the weekday PM peak hour. This equates to a ***reduction*** of approximately 105 weekday trips, 5 weekday AM peak hour trips and 10 weekday PM peak hour trips.

However, since the number of employees at the site could be higher (based on the proposed operations plan), the trip generation was also prepared based on employees as the independent variable. Using 95 employees as the independent variable, the updated total number of employee and truck trips expected for the proposed development is about 430 trips per weekday, with 55 trips (40 in/15 out) during the weekday AM peak hour and 60 trips (20 in/40 out) during the weekday PM peak hour. This equates to a ***reduction*** of approximately 90 weekday trips, 5 weekday AM peak hour trips and 5 weekday PM peak hour trips.

Since the two buildings are spec buildings, the specific truck traffic is unknown at this time. However, according to the potential tenant for the southern half of the north building, the tenant would expect to generate about 2 to 3 semi-truck deliveries per day and approximately 42 smaller delivery (SU vehicle) trucks per day, with the majority of the deliveries during the weekday morning hours prior to 11:00 am. The semi-truck and smaller SU delivery vehicle traffic is included in the overall trip generation volumes as listed above.

Regardless, with approximately 48 truck docks, total truck traffic for the overall site would expect to be similar to the previous study assumptions; specifically, under full build out, truck traffic of approximately 100 weekday daily trips (50 trucks) with eight peak hour trips (four trucks) expected per hour generated by the site.

RECOMMENDATIONS

Assuming that the new building footprints are the same or less than a 301,320-square foot building with less than 95 total employees between the two sites and the land use for the two new buildings is a warehouse land use, the results of the previously approved August 24, 2020 TIA are not expected to change. Therefore, with two buildings totaling 234,000-square feet, the recommendations in the previously approved TIA are still expected to be valid.

As stated in the previously approved August 24, 2020 TIA and as required by the City of New Berlin, it is recommended that acceleration and deceleration lanes be provided on westbound W. Lincoln Avenue at the proposed site driveway. The acceleration and deceleration lanes should be designed and constructed per City guidelines for those types of lanes.

LEGEND

- Study Area Intersection
- Proposed Development Area
- Proposed Driveway(s)

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2541: 1/14/21

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NOT TO SCALE

EXHIBIT 1
SITE LOCATION MAP

NEW BERLIN, WISCONSIN

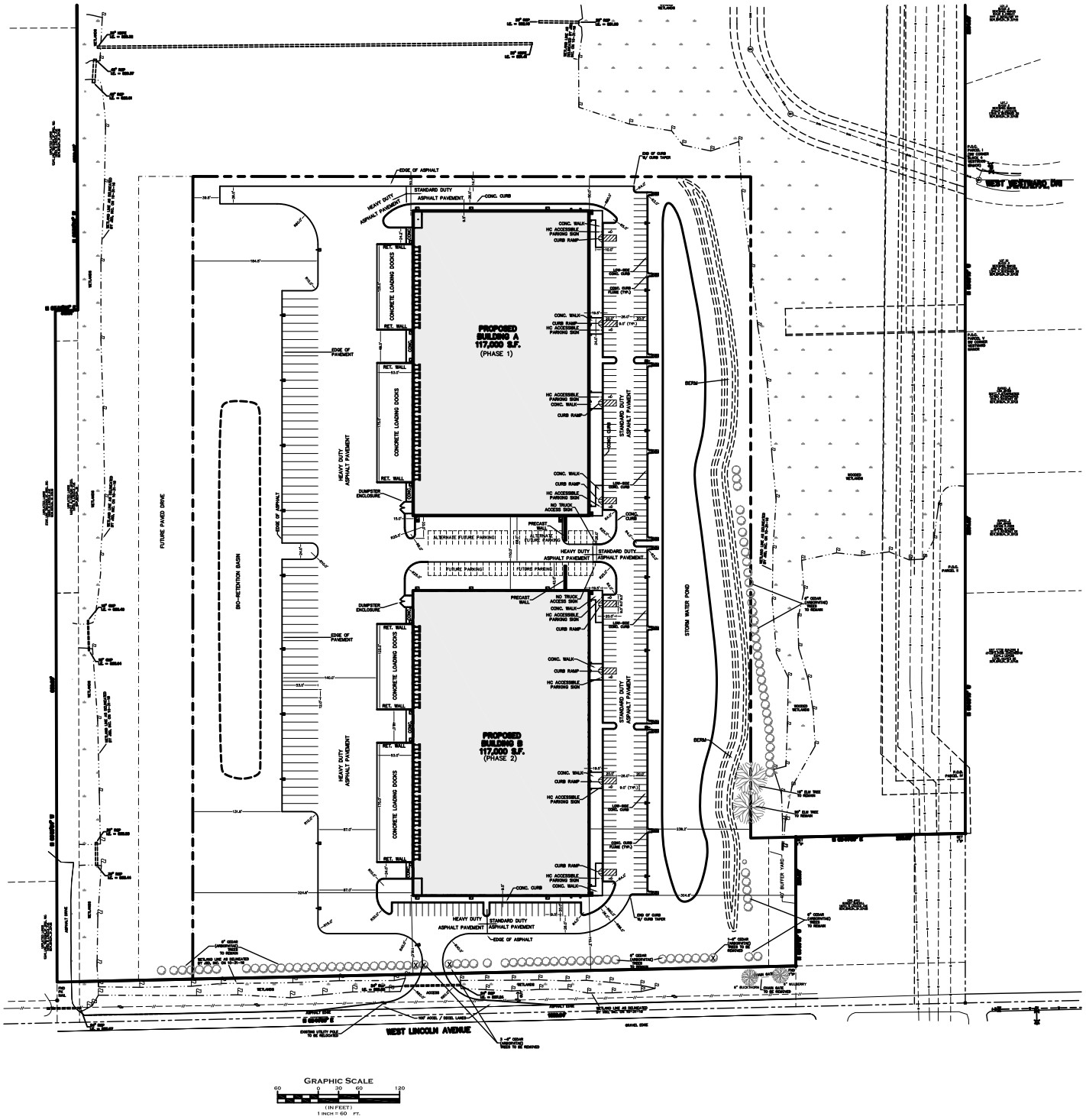

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EXHIBIT 2
CONCEPTUAL SITE PLAN

NEW BERLIN, WISCONSIN

Approved TIA

Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Warehousing (Total Trips) *80 FTE over two shifts*	110	301,320 SF	520 FCE	45 (77%)	15 (23%)	60 FCE	20 (27%)	45 (73%)	65 FCE
		Employee Trips	*420*	*41*	*11*	*52*	*16*	*41*	*57*
		WB-67 Truck Trips	*100*	*4*	*4*	*8*	*4*	*4*	*8*

[1] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 10th Edition.*

TRIP DISTRIBUTION (Employee/Truck Trips)

W. on Lincoln Avenue	30%	155	15	5		5	15
E. on Lincoln Avenue	30%	155	15	5		5	15
N. on Calhoun Road	25%	130	10	5		5	10
S. on Calhoun Road	15%	80	5	0		5	5
	100%	***520***	***45***	***15***		***20***	***45***

Trip Generation Comparison Table[2]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Warehousing (Total Trips) 80 FTE over two shifts	110	301,320 SF	520 FCE	45 (77%)	15 (23%)	60 FCE	20 (27%)	45 (73%)	65 FCE
Warehousing (Total Trips)	110	234,000 SF	415 FCE	40 (77%)	15 (23%)	55 FCE	15 (27%)	40 (73%)	55 FCE
Warehousing (Total Trips)	110	95 Employees	430 FCE	40 (72%)	15 (28%)	55 FCE	20 (36%)	40 (64%)	60 (0.66)
*Difference between approved TIA & 234,000 SF calculations **			*105*	*5*	*0*	*5*	*5*	*5*	*10*
*Difference between approved TIA & 95 employee calculations **			*90*	*5*	*0*	*5*	*0*	*5*	*5*

[2] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 10th Edition.*

* Positive number represents a reduction in trips when compared to approved TIA, negative number represents an increase in trips.