December 17, 2018

Loyd Cureton  
DPW Director  
CITY OF NORTHVILLE  
215 W. Main Street  
Northville, MI 48167  

RE: The Downs Planned Unit Development  
Site Layout & Transportation Impact Study Review  

Dear Mr. Cureton:

We have completed the review of the Transportation Impact Study (TIS) and revised site layout in regards to the traffic circulation of both pedestrians and vehicles for the above referenced project. The site plan dated November 27, 2018, was prepared by Seiber Keast Engineering. The TIS report was prepared by Fleis & Vandenbrink, originally dated June 20, 2018, with a revision date of November 26, 2018.

A meeting was held on December 12, 2018 at City Hall to review TIS comments and recommendations. In attendance were representatives from the developer, Wayne County, the City of Northville, Carlisle Wortman and OHM Advisors.

PROJECT DESCRIPTION:
The site is bordered by E. Cady Street to the north, 7 Mile Road to the south, S. Center Street/Wing Street to the west and River Street/S. Griswold Street to the east. The applicant is proposing to construct a mixed used Planned Unit Development (PUD) on approximately 48 acres of land zoned Central Business District (CBD), Race Track District (RTD) and Second Density Residential District (R-2). The proposed site includes townhomes, single family homes, apartments, commercial use buildings and associated parking.

REVIEW COMMENTS:

INTERSECTION REVIEW:

Intersection No. 10: Sheldon Avenue/Center Street & 7 Mile Road/Hines Drive

1. The recommended treatments to improve traffic flow at this intersection were discussed at the review meeting. Wayne County representatives were supportive of a roundabout concept at this location but ask for additional considerations to be taken into account when determining the required geometry and footprint to implement a roundabout, such as increased pedestrian connectivity and enhanced future PM Level of Service (LOS). The developer representatives stated that they would be willing to remove up to ten (10) townhome units to accommodate a roundabout at Intersection #10 (I#10).
a. OHM revised the proposed geometry of the composite roundabout used in the TIS to a 130’ inscribed circle that includes larger splitter islands to accommodate offset crosswalks (“zee” pedestrian paths) and larger pedestrian refuge areas. The “zee” paths allow for storage of vehicles exiting the circle that are yielding to pedestrians in the crosswalks. Additionally, if warranted in the future, this configuration could be retrofitted with pedestrian signals such as a HAWK Beacon to provide a protected pedestrian crossing. This geometry can be viewed on the attached exhibit which is overlaid with the most recent site layout and shows that up to eight (8) townhome units would be impacted by the layout.

b. Though the evaluation of the traffic mitigation alternatives indicates that a roundabout would provide the highest LOS under future volumes, the PM LOS is still being forecasted as a LOS C. Per Wayne County’s request, it was determined that to raise the intersection to a LOS B in the PM, the roundabout would need to be a two-lane design. The current composite concept would allow for retrofitting the southern half of the circle to a two-lane design; the interior circle could remain in the same location and the northern half would remain relatively untouched. This would require a widening of the southern leg in order to accommodate the merging of two exiting lanes to one southbound lane on Sheldon. The current constraint to this widening is the bridge over the Johnson Creek, however, future planning for the replacement of the bridge once it has reached the end of its lifecycle could accommodate a widening for the merge.

The exhibit was provided to Wayne County for further comment but they were unable to provide any written documentation prior to the PC meeting on December 18th.

2. Option No. 1 for I#10 calls for adding a permissive/protective left turn signal phase. This option is unwarranted per the analysis provided in Appendix E and should not be considered. (TIS Section 3.2: Existing Improvements)

3. Statements that refer to pedestrian safety do not appear to be in line with information presented in both the TRB’s National Cooperative Highway Research Program (NCHRP) Report 672: Roundabouts: An Informational Guide the Second Edition, and the Roundabout Guidance Document from MDOT. If designed properly roundabouts can provide safe pedestrian refuge and crossing. (TIS Section 3.2: Existing Improvements)

**Intersection Synchro/Sim Traffic Results**

4. A roundabout treatment cannot be adequately modelled utilizing Synchro/SimTraffic for operational analysis, nor is Synchro/SimTraffic a reliable tool for calculating queue lengths or evaluating asymmetrical roundabout geometry such as the proposed concept. The report should instead use the delay, LOS, and queue lengths from a Rodel analysis (first preference) or SIDRA. If microsimulation is to be performed, then either VISSIM or Paramics should be used. Tables within the TIS following sections include incorrectly calculated queue lengths and delay times due to Synchro/Sim usage: Section 3.2: Existing Improvements, Section 3.5: Background Improvements, and Section 3.10: Future Improvements.
Intersection Nos. 16, 17 & 18: Northville Road & N. 7 Mile Road/S. 7 Mile Road

At the meeting held last week, additional discussion was had regarding Section 3.2.5 referencing the four proposed treatment options at Northville Road and N. 7 Mile Road. The developer’s representatives stated that their engineers would further analyze the reconfiguration of the median into two unidirectional turn lanes to facilitate left turns from both sections of 7 Mile Road. This was viewed as the best option for mitigating the delays at this location. It is our understanding that the developer will provide a concept of this reconfiguration at the PC meeting.

TIS CLARIFICATION NEEDED:

1. Clarification is needed regarding operational values at some intersections. It appears there are discrepancies from the previous TIS submission in comparison to the revised TIS submission.
   a. In Table 4, at the intersection of 7 Mile Road and Hines Drive (Intersection #11), the PM Peak northbound thru movement delay decreased from 131.5 seconds to 50.4 seconds, while the existing traffic volumes at the intersection have not changed from the draft TIS submittal. (TIS Section 3.1: Existing Conditions)
   b. Table 7 outlines that with the addition of background traffic growth, the anticipated northbound queue lengths at Intersection No. 10 should provide lesser queue lengths than the existing conditions currently do. Clarification is needed as to how the existing conditions were analyzed, as this should not be true with such an increase in traffic volume. (Section 3.5: Background Improvements)
   c. The previous TIS submission specified that congestion at the intersection of Hines/Sheldon was queuing to create an upstream block up to 13% of the PM peak hour. The revised report indicates an upstream block of 1% of the PM peak. Clarification is needed regarding this change in percentage. (TIS Section 3.1: Existing Conditions)

2. The queue lengths for the following intersections should be included in Table 5, Table 9, and Table 18: Intersection No. 16 at SB Northville Road & N. 7 Mile Road, Intersection No. 17 at NB Northville Road & N. 7 Mile Road, and Intersection No. 18 at Northville Road & S. 7 Mile Road. (TIS Section 3.2: Existing Improvements, Section 3.5: Background Improvements, and Section 3.10: Future Improvements)

3. Figure 4 shows intersection control symbols in the legend, however these symbols are not shown at any intersection in the main network layout. (Section 3.4: Background Operations)

FOR FUTURE CONSIDERATION:
The following comments are to be considered during the future design of this project but do not effect the concept proposed by the developer.

1. It was discussed at the December meeting that accessible parking spaces and an accessible route will be provided in the upper lot adjacent to the proposed apartment and commercial buildings on Cady Street between Center and Hutton.

2. The proposed mid-block pedestrian crossing of Center Street, between Fairbrook and Hines
Drive was discussed at the meeting and all parties agreed that this shall be removed.

3. In general sidewalks shall be constructed a minimum of 5-foot from the back of curb. The existing sidewalk located at back of curb along the frontage of Wing Street should be relocated to provide proper separation from the road.

4. Traffic calming measures shall be implemented in future submittals to reduce the requests for unwarranted stop signs.

5. The proposed sidewalks shall be continuous through the proposed driveways that lead to the service drives for the Townhomes.

6. Pedestrian street crossings should be evaluated, particularly for the Townhome units proposed south of Fairbrook Street, with the potential elimination of some on-street parking. Crossings should be adjusted for pedestrians, as some locations propose sidewalks that cross into parking stalls.

7. Sidewalk proposed adjacent to parallel parking is recommended to be seven (7) feet wide. This is to prevent open vehicle doors overhanging the sidewalk reducing the available width to below that required for ADA pedestrian passage.

8. It is recommended that parking lot islands be one (1) to two (2) feet shorter than the parking stalls for increased maneuverability and for easier snow plow operations.

If you have any questions or are in need of any further information, please feel free to contact our office.

Sincerely,

OHM Advisors

Jessica L. Katers, P.E.

Transmitted via e-mail to Loyd Cureton

cc: file