

# STONEFIELD

October 24, 2022

Keith Depp  
Project Engineer  
City of Rochester Hills  
1000 Rochester Hills Drive  
Rochester Hills, MI 48309

**RE: Traffic Impact Study Review  
Proposed Commercial Development  
Parcel IDs: 15-34-227-017, 15-34-227-039, & 15-34-227-040  
3247 Hickory Lawn Road, 3178 & 3200 South Rochester Road  
City of Rochester Hills, Oakland County, Michigan**

Keith:

The following is an itemized response to the comments contained within the HRC Traffic Impact Study Review & Site Plan Comments Dated August 9, 2022. For the sake of brevity, any comments that are statements of fact or have been previously addressed are not included in the response below: *Please note that comments 1-16 are addressed on the Flies & Vandenbrink Review Letter dated October 19, 2022.*

## **Site Development Plan Comments:**

1. Sheet C-3 shows the driveway throat between the parking lot and Rochester Road, but it is very short. Inadequate throat lengths can form queues that prevent other vehicles from entering and begin blocking the roadway (Rochester). There is also a crosswalk intersecting the driveway that vehicles may block. The driveway throat should be increased. Further guidance on driveway throats can be found in NCHRP Report 659 Guide for Geometric Design of Driveways.

a. Item #20 from HRC Traffic Review #1 dated November 12, 2021

**The driveway has been designed to avoid blocking vehicles entering the site when the 2-exit lanes are being utilized by channeling vehicles to the southeastern drive aisle. Vehicles leaving the site will also be metered by the nature of the drive thru restaurant operation where customers are serviced at regular intervals.**

2. Sheets C-3 and EX-1 show concepts of estimated stacking scenarios with and without the retail development, respectively, but they do not indicate what will occur if stacking exceeds the property limits. A traffic management plan needs to be developed to clearly indicate how traffic will be managed if stacking exceeds the assigned areas with and without the retail development.

a. Item #21 from HRC Traffic Review #1 dated November 12, 2021

**Auxiliary Stacking Plan has been included within the plan set on page EX-1.**

3. Sheet C-3 shows a dedicated right-turn lane into the site with a 75-foot taper, but the taper and storage lengths do not meet the MDOT Geometric Design Guide standards. The taper and storage lengths also do not seem adequate to handle 100+ right-turning vehicles from southbound Rochester Road (Saturday midday peak hour). MDOT GEO-650-D indicates the taper should be at least 180 feet for a 50 mile per hour roadway, and the desirable storage length is 250 feet. The applicant needs to review the design of the right-turn lane with MDOT and relocate any conflicting utilities (pushbutton, signal pole, controller cabinet, etc.) in the right-of-way.

- a. Item #6 from HRC Traffic Review #2 dated March 21, 2022

**Taper lane and right turn lane has been updated per MDOT Geometric Design Guide Standards.**

4. Sheet C-3 includes a note about the retail being conditional from periodic stacking counts at Chick-fil-A, but the time of day when the counts take place needs to be modified. The note indicates the periodic counts can occur between 12:00 PM to 6:00 PM. The note should be modified for the counts to only be allowed to take place between 4:00 PM to 6:00 PM on a weekday and 11:00 AM to 1:00 PM and 4:00 PM to 6:00 PM on a Saturday. At any time within the two-hour peak stacking exceeds 40 vehicles, the consecutive count must start over.

**Note has been added to sheet C-3 of the attached Site Development Plans.**

5. Sheets C-15 and C-16 show the fire truck turning paths exiting to the north (turning left), but neither show a path exiting to the south (turning right). The fire truck turning path should be shown exiting to the south to confirm the driveway radius is large enough to prevent encroachment with northbound oncoming traffic, including the center left-turn lane. Pavement markings should also be shown on Rochester Road at the site driveway to help verify the turning path does not encroach northbound traffic.

- a. Item #17 from HRC Traffic Review #3 dated June 7, 2022

**Fire Truck turning has been updated per above comment on Sheet C-15, C-16 & C-17 of the attached Site Development Plans.**

## **Site Plan Review Comments:**

### **Stormwater Management Plan C-5:**

1. Provide inspection manholes at the NE and NW corners of the underground detention basin.

**Inspection manholes have been added on Sheet C-5 of the attached Site Development Plans.**

### **Landscape Plan C-9:**

1. A landscape cost estimate and total landscaping cost summary, including irrigation costs, for landscape bond purposes must be provided.

**Landscape cost estimate has been included within this submission.**

### **Fire Protection Plan C-16:**

1. Verify if fire line will be installed for future A2.

**Fire suppression line is not needed from the northern building and therefore will not be installed**

2. Verify that underground detention will accommodate 75,000 LB fire apparatus.

**Calculations for fire apparatus loading have been analyzed and heavy duty asphalt or concrete will be proposed above the underground detention where needed.**

3. Sprinklered 5B construction 4,978 sq ft requires 1500 GPM and 1 hydrant within 500 feet.

**Fire hydrant added per requirement**

4. Non-sprinklered 5B construction, 5036 sq ft requires 2000 GPM and 2 hydrants spaced 450 feet.

**Fire hydrant added per requirement**

5. A flow test is required to evaluate the capabilities of the water supply. This can be obtained by contacting the Rochester Hills Engineering Department at 248-656-4640.

**Flow test will be conducted prior to the engineering review phase of this project.**

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Should you have any questions regarding the submission items or responses above please do not hesitate to contact our office.

Regards,



Mitchell Harvey, PE  
**Stonefield Engineering and Design, LLC**



Michael Gold, PE  
**Stonefield Engineering and Design, LLC**