



October 17, 2022

City of Columbia
Development Services
700 North Garden St
Columbia, TN 38401

Based upon the Traffic Impact Study as prepared by Fischbach Transportation Group, LLC in December of 2021 for Heritage Green on Baker Road in Columbia, TN, we commit to constructing the improvements as they are detailed in the Traffic Study.

Attached to this letter is a copy of the Conclusions and Recommendations from the Traffic Impact Study for reference.

Please feel free to contact us if you have any questions, comments, or need additional information at this time.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Ealey', is written over a horizontal line.

Lynn Ealey, PE
Land Solutions Company

6. CONCLUSIONS AND RECOMMENDATIONS

The analyses conducted for the purposes of this study indicate that the following considerations should be made in order to accommodate the traffic volumes that will be generated by the proposed project.

1. The total projected traffic volumes at the intersection of Bear Creek Road and Baker Road warrant the following improvements at this location:
 - An eastbound left turn should be provided on Bear Creek Pike. This turn lane should include at least 75 feet of storage and should be designed and constructed according to AASHTO standards. Ideally, this improvement would be provided by extending the existing three-lane cross-section that is provided east of Baker Road.
 - A westbound right turn should be provided on Bear Creek Pike. This turn lane should include at least 75 feet of storage and should be designed and constructed according to AASHTO standards.
 - The southbound approach of Baker Road should be reconstructed to remove the existing angled alignment and provide separate left and right turn lanes. The southbound left turn lane should include at least 200 feet of storage and the southbound right turn lane should include at least 75 feet of storage. Also, these turn lanes should be designed and constructed according to AASHTO standards.
 - A traffic signal should be installed at the intersection of Bear Creek Pike and Baker Road.

These improvements are shown schematically in [Figure 9](#). The recommended turn lanes should be completed before 25% of the proposed project is completed. Also, updated traffic counts should be collected and traffic signal warrant analyses should be performed when 50% of the proposed project is completed in order to confirm that the traffic signal warrants will be met before the project is built-out.

2. Currently, the speed limit on Bear Creek Pike varies from 45 mph to 55 mph between Columbia Pike and I-65. With additional homes and peak hour turning movement volumes within the study area, it would be appropriate to post a consistent 45 mph speed limit along this corridor.
3. The analyses conducted for the proposed project indicate that, at the intersection of Nashville Highway and Baker Road, the westbound turning movements operate poorly with existing, background, and total projected traffic volumes. However, the proposed project is not expected to add significantly high peak hour traffic volumes to this intersection. Therefore, no improvements to this intersection are recommended in conjunction with the proposed project.

4. Currently, a 25 mph speed limit is posted on northbound Baker Road immediately north of Bear Creek Pike. Also, a 35 mph speed limit is posted on eastbound Baker Road, west of the curve to travel southbound toward Bear Creek Pike. It would be appropriate to sign both directions of Baker Road consistently at 30 mph from Bear Creek Pike to west of the northern project access.
5. It would be appropriate to widen Baker Road along the frontage of the project site in order to provide two 11-foot travel lanes with fresh pavement.
6. Each of the project accesses on Baker Road should be constructed to include one entering lane and one exiting lane.
7. The intersection of Baker Road and the North Project Access / North Ridge Road should be reconstructed as a conventional four-legged intersection that includes a one-lane approach on each leg. Also, consideration should be given to providing an all-way stop installation at this intersection because the highest-volume turning movements will be the northbound left turn movement and the eastbound right turn movement. Also, there is existing vertical curvature on North Ridge Road, north of Baker Road, that limits the available sight distance on this roadway segment. A future traffic circle at this intersection is shown schematically in [Figure 10A](#).

It would be appropriate to conduct field survey on Baker Road in advance of the new four-legged intersection in order to identify sight distance limitations and any necessary signage.

As shown within this study, the projected traffic volumes at the intersection of Baker Road and North Project Access / North Ridge Road are expected to be relatively low. However, it would be an appropriate location for a future traffic circle installation. Therefore, it is recommended that the City of Columbia consider acquiring additional right-of-way as it becomes available in the vicinity of this location. A future traffic circle at this intersection is shown schematically in [Figure 10B](#).

8. The new project accesses have not been constructed, so accurate sight distance measurements cannot be collected in the field to adequately represent the future conditions. Therefore, sight triangles should be provided for the intersections of Baker Road and the project accesses in conjunction with construction documents for the proposed project. These sight triangles should be developed based on guidelines that are included in [A Policy on Geometric Design of Highways and Streets](#), which is published by the American Association of State Highway and Transportation Officials (AASHTO) and commonly known as [The Green Book](#). Specifically, [The Green Book](#) indicates that for a speed of 30 mph, the minimum stopping sight distance is 200 feet. This is the distance that a motorist on Baker Road will need to come to a stop if a vehicle turning from the project creates a conflict. Also, based on [The Green Book](#), the minimum intersection sight distance is 335 feet. This is the distance that a motorist exiting the project site will need to safely complete a turn onto Baker Road. Preliminary measurements indicate that these minimum sight distances will be available at the intersections of Baker Road and the project accesses.

F i s c h b a c h
 Transportation Group, LLC
 Traffic Engineering and Planning

Y.W. SANDS ETUX
 91, PARCEL 12.03
 (R2414, PAGE 695)

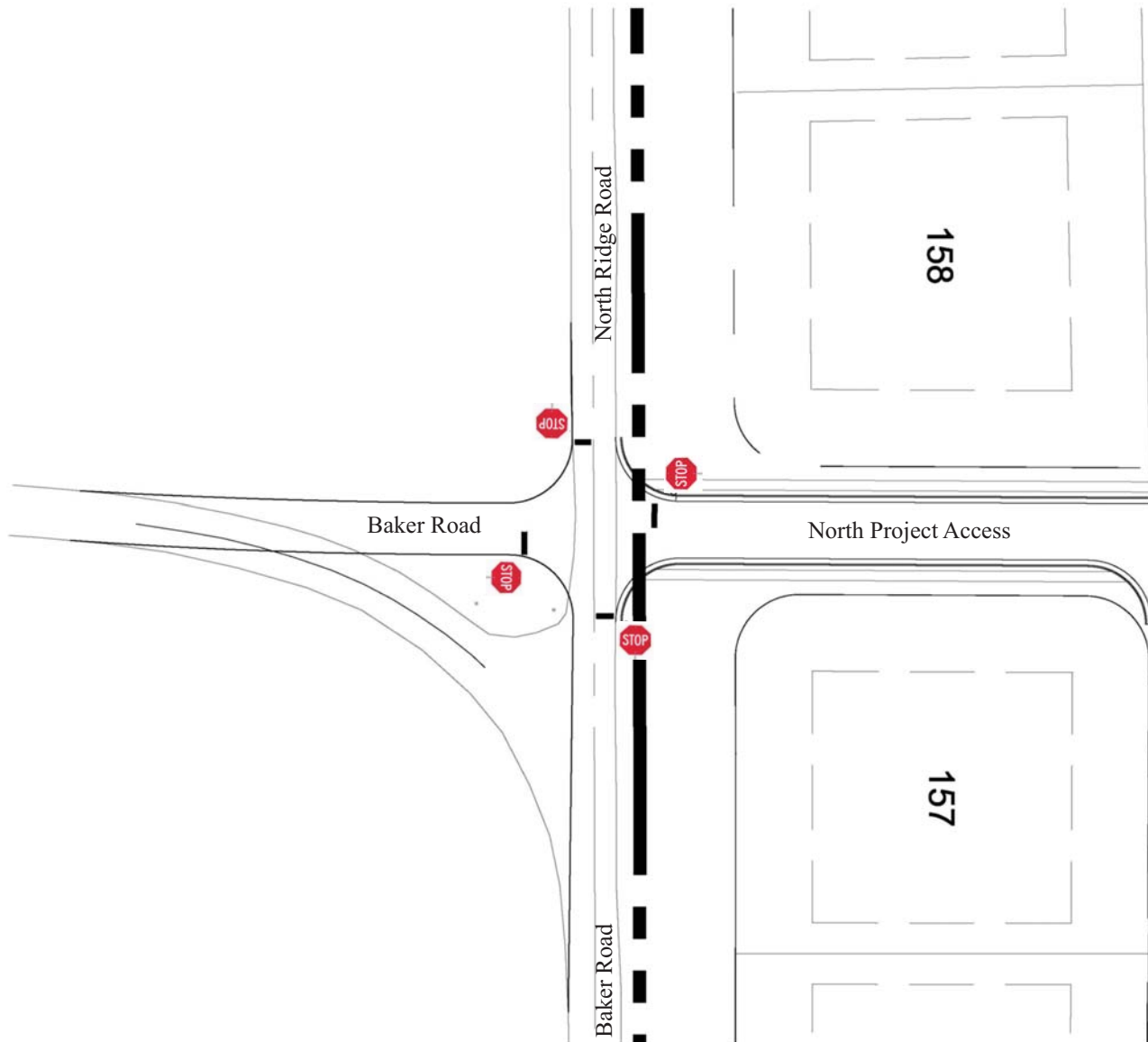


No Scale

XX - AM Peak Hour Volumes
 (XX) - PM Peak Hour Volumes

Figure 9.
 Proposed Improvements at the Intersection of Bear Creek Pike and Baker Road

F i s c h b a c h
Transportation Group, LLC
Traffic Engineering and Planning

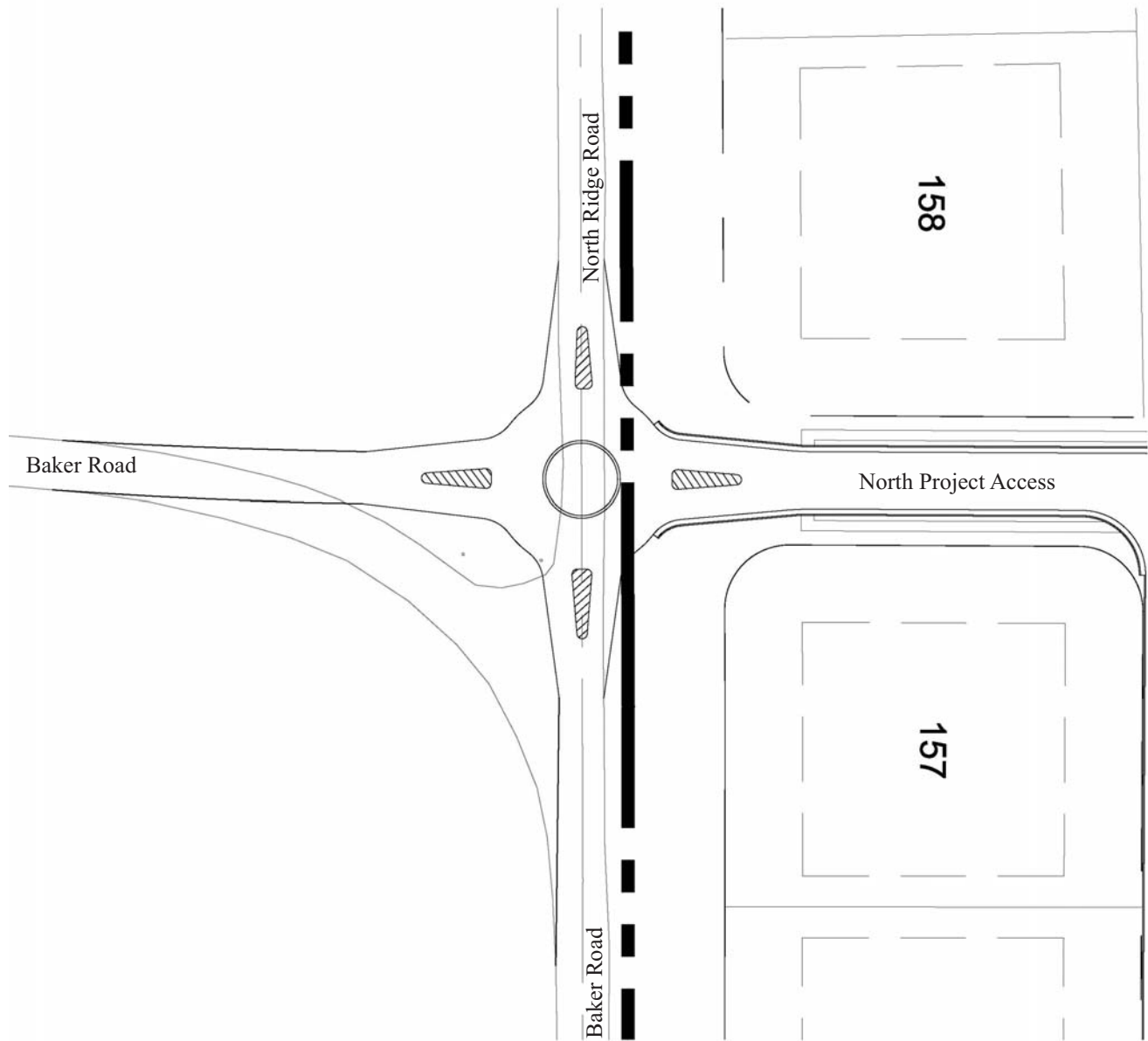


No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 10A.
Proposed Alignment of the Intersection of
Baker Road and North Ridge Road / Project Access

F i s c h b a c h
Transportation Group, LLC
Traffic Engineering and Planning



No Scale

XX - AM Peak Hour Volumes
(XX) - PM Peak Hour Volumes

Figure 10B.
Possible Future Traffic Circle at the Intersection of Baker Road and North Ridge Road / Project Access