

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

September 5, 2017

Ms. Christina Robertson-Gardiner
City of Oregon City
PO Box 3040
Oregon City, OR 97045

**SUBJECT: REVIEW OF TRANSPORTATION IMPACT STUDY – WHEELER FARMS
SUBDIVISION – TP17-03 & ZC17-03**

Dear Ms. Robertson-Gardiner:

In response to your request, I have reviewed the materials submitted in support of the proposed Wheeler Farms Subdivision. The relevant materials included the project narrative, site plan and the Transportation Impact Study (TIS). The TIS is dated June 15, 2017 and was prepared under the direction of Todd E. Mobley, PE of Lancaster Engineering.

The proposed subdivision with 77 lots is located south east of S Central Point Road between S White Lane and S Hazeldell Avenue. The proposed subdivision also intersects with Skellenger Way and with Blanchet Drive. The site totals approximately 22.56 acres. Most of the site is utilized for agricultural purposes with only one single-family dwelling on the property. Several new local street segments would be constructed to serve the subdivision and create extensions to adjacent parcels. The principal new street, identified as Orchard Grove Drive, would run roughly parallel with S Central Point Road and connect from S White Lane to Hazeldell Avenue. The proposal involves rezoning of the parcel from R10 to R8, which slightly increases the total number of lots to be developed on the property.

The TIS provides a basis upon which the subdivision proposal can be evaluated for transportation impacts.

Comments

1. Study Area. The study addresses the appropriate intersections. The engineer evaluated traffic patterns and traffic volumes and evaluated five locations. The key intersections were:

- S Central Point Road at Blanchet Drive
- S Central Point Road at Skellenger Way
- S Central Point Road at Hazeldell Avenue
- S Central Point Road at Warner Parrott Road

- Warner Milne Road at Linn Avenue/Leland Road

The study area is appropriate.

- 2. Traffic Counts.** The traffic counts were conducted in April 2017 at the intersections identified in #1, above. Traffic counts were conducted during the AM and PM peak periods. The base year traffic volumes appear reasonable.
- 3. Trip Generation.** The TIS presents information on trip generation from the construction of 77 single-family dwellings. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual*. The subdivision is predicted to produce 57 new AM peak hour trips, 76 new PM peak hour trips, and 724 new weekday trips.
- 4. Trip Distribution.** The engineer's trip distribution shows 25 percent of traffic going to and from the west on S Partlow Road; 20 percent to and from the north on Linn Avenue; 25 percent to and from the east on Warner Parrott Avenue; 15 percent to and from the east on McCord Road; and lesser percentages spread among other streets.

For access to and from the subdivision, the engineer predicts that the primary access to S Central Point Road will be spread among Skellenger Way, Blanchet Drive, and Hazeldell Avenue.

The distribution of trips at the various site access points and the general distribution to major streets appear reasonable.

- 5. Traffic Growth.** To account for background traffic growth, the traffic counts for the study area intersections were adjusted by 2 percent per year. This was done for the two-year period prior to completion of the subdivision and for the 2035 analysis done in connection with the proposed zone change. The traffic growth assumptions and methodology appear reasonable.
- 6. Analysis.** Traffic volumes were calculated for the intersections described in #1, above. At each location, the level of service (LOS) and delay calculations and the volume-to-capacity (v/c) ratios were provided to assess traffic operations relative to the city's and ODOT's operational standards. The analysis was undertaken for the AM and PM peak hours and included year 2017 existing conditions, 2019 background conditions, 2019 total traffic conditions with build out of the subdivision, 2035 background conditions, and 2035 conditions with the proposed zone change.

According to the engineer, the all of the study area intersections are calculated to meet the city's operational standard in 2019 with or without the proposed subdivision. The

intersections of S Central Point Road with Blanchet Drive, Skellenger Way, and Hazeldell Avenue are predicted to operate at level of service (LOS) C or better and a volume-to-capacity ratio (v/c) of 0.10 or better during all analysis years.

The left turns from Warner Parrott Road to S Central Point Road are predicted to meet operational standards even in 2035 with the development. The predicted v/c is 0.60 during the PM peak hour. Left turns from Central Point Road to Warner Parrott Road are not subject to the city's operational standard.

The intersection of Warner Parrott/Warner Milne Road with Leland Road/Linn Avenue is expected to meet operational standards in 2019 with or without the development. By 2035, however, the intersection is predicted to exceed capacity either with or without the development. The impact of the development is very small. As noted in the TIS, the city's adopted Transportation System Plan includes a roundabout as a solution to address capacity issues at this location.

The engineer concluded no mitigation measures are necessary to address the impact of the proposed development. I concur with his conclusions.

- 7. Turn Lanes at Site Entrance(s).** The proposed subdivision does not result in any new intersections involving collector or arterial streets. No analysis of left turns at site access points is required.
- 8. Crash Information.** The TIS provides crash information for the most recent five-year period for the locations identified in #1, above. There were no reported crashes at the intersection of S Central Point Road with Blanchet Drive, Skellenger Way, or Hazeldell Avenue. There were seven reported crashes at Warner Parrott/S Central Point Road, which results in a modest crash rate. There were two reported crashes at the intersection of Warner Parrot with Leland Road/Linn Avenue, which results in a very low crash rate. The engineer concludes there are no apparent crash patterns or safety deficiencies associated with design and no need for safety mitigation at the study area intersections. I concur.
- 9. Pedestrian and Bicycle Facilities.** The narrative and site plan indicate pedestrian facilities would be provided within the development.
- 10. Site Plan and Access.** The subdivision proposes access to S Central Point Road via White Lane, Blanchet Drive, Skellenger Way, and Hazeldell Avenue. Due to the configuration of the subdivision and its location, minimal traffic can be expected to use White Lane. The subdivision proposes a new street, identified as Orchard Grove Drive, which would run roughly parallel with S Central Point Road and connect from S White Lane to Hazeldell Avenue. The subdivision plat shows stub streets that would connect

with adjacent parcels inside the urban growth boundary (ugb). No stub streets are shown to the southeast since the property borders the ugb.

11. Intersection Spacing. Five new intersections would be created along Orchard Grove Drive and two others involving lesser streets. The intersection spacing is appropriate given the existing local street layout and the constraints including the power line easement.

12. Sight Distance. There is no reason to expect that adequate sight distance will not be provided at any of the new local street intersections.

13. Consistency with the Transportation System Plan (TSP). The project narrative indicates frontage improvements would be made to city standards. The subdivision will also contribute to increased connectivity in the area.

14. Transportation Planning Rule (TPR) Analysis. As noted above, the proposal involves rezoning from R-10 to R-8. The TIS notes that in a worst case development scenario this would increase the number of dwellings by a maximum of 11. The proposed rezoning of the property from R-10 to R-8 would have negligible impacts on the operations of any study area intersections and does not change the functional classification of any existing or planned transportation facility.

15. Conclusions and Recommendations. The engineer concludes that traffic operations would be adequate at all analyzed intersections. He concludes no mitigation is needed for traffic operations. He concludes no safety mitigation is necessary. I concur with the conclusions of the applicant's engineer.

Conclusion and Recommendations

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed subdivision. I agree that off-site mitigation for traffic impacts is not required.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,



John Replinger, PE
Principal