

# GROUP MACKENZIE

February 15, 2013

Oregon City Planning Division  
Attention: Laura Terway  
221 Molalla Avenue, Suite 200  
Oregon City, OR 97045

Re: **Kinslie Heights Residential Subdivision – Oregon City, Oregon**  
*Transportation Analysis Letter*  
Project Number 2130088.00

Dear Ms. Terway:

This Transportation Analysis Letter has been prepared to support the land use application for the proposed Kinslie Heights residential subdivision in Oregon City. This letter addresses transportation impacts discussed at the pre-application conference with the City of Oregon City staff, specifically regarding intersection spacing and anticipated development traffic and safety impacts.

## EXISTING CONDITIONS

The existing 2.0-acre site, located at 14270 SE Canyon Ridge Drive, is zoned R-10 with one single-family dwelling and a detached garage occupying the lot. The site is bordered by Canyon Ridge Road to the north and is generally surrounded by single-family residential neighborhoods with the exception of some commercial businesses abutting S. Molalla Ave (OR-213) to the east. A vicinity map is attached for reference.

## TRANSPORTATION FACILITIES

The following summarizes the area roadway classifications and descriptions as identified in the City of Oregon City's *Transportation System Plan*:

TABLE 1 – ROADWAY CHARACTERISTICS						
Roadway	Functional Classification	Posted Speed	Travel Lanes	Bike Lanes	On-Street Parking	Sidewalks
S Molalla Road	Major Arterial	45	2/3	Yes	No	Yes
Canyon Ridge Drive	Local	25	2	No	Yes	Yes
Candice Lane	Local	Not Posted	2	No	Yes	Yes

## PROPOSED CONDITIONS

The proposed zoning designation is R-6 which allows the site to be subdivided into 10 single-family residential lots with an average size of 6,000 square feet each. The subdivision will be served by one public street which will cul-de-sac approximately 270 feet from its intersection with Canyon Ridge Drive. This road is necessary to provide access to the 10 residential lots, and its optimum location bisects the existing site. Further, the limited site frontage to Canyon Ridge Drive does not allow for a roadway alignment significantly different than the proposed. The proposed site plan is attached for reference.

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As such, this road will be located approximately 275 feet (measured curb-to-curb) from Molalla Avenue and 90 feet from Candice Lane. Sight distance is sufficient along this approximately 600-foot stretch of Canyon Ridge Drive, allowing for clear sight lines from the new road through Canyon Ridge Drive’s intersections with Molalla Avenue, Candice Lane and Canyon Ridge Circle and conforming to AASHTO’s *A Policy on Geometric Design of Highways and Streets* sight distance guidelines for a 25 MPH design speed. However, this new alignment does not meet new development intersection spacing standards identified in Oregon City Code of Ordinances Section 12.04.195. Based on this ordinance, 300 feet and 150 feet, respectively, are the minimum intersection spacing distances as measured along Canyon Ridge Drive.

This same ordinance also provides an exception to the standards stating, “*A lesser distance between intersections may be allowed, provided appropriate mitigation, in the judgment of the city engineer, is provided to ensure that the reduction in intersection spacing will not pose a safety hazard.*”

#### INTERSECTION SPACING SAFETY ANALYSIS

The primary safety hazard associated with the proposed intersection spacing is the potential for left-turning development traffic to cause traffic to queue onto Molalla Avenue. To evaluate this potential, the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 9<sup>th</sup> Edition, was used to estimate travel demand on Canyon Ridge Drive. ITE Land Use Codes 210 – Single-Family Detached Housing was used for the existing and proposed residential development.

The following table presents reasonable trip generation characteristics for the residential area based on average ITE trip rates for weekday and AM and PM peak hours of adjacent street traffic.

TABLE 1 – PROPOSED SITE TRIP GENERATION				
Single-Family Development (ITE Code 210)	Size	Weekday		
		Daily	AM Peak Hour	PM Peak Hour
Kinslie Heights	10 DU	95	8	10
Candice Lane Residential	7 DU	67	5	7
Canyon Ridge Residential	29 DU	276	22	29
<b>Total Trips</b>		<b>438</b>	<b>35</b>	<b>46</b>

Using ITE trip distribution rates, the PM peak hour (63% entering/37% exiting) represents the typical worst-case scenario for Kinslie Heights traffic to generate inbound left-turning movements. As such, 6 vehicles turning left from Canyon Ridge Drive into the Kinslie Heights subdivision will oppose 11 vehicles coming eastbound on Canyon Ridge Drive during the PM peak hour. This poses no operational concerns contributing to a queue long enough to spill back onto Molalla Avenue.

Even if eastbound Canyon Ridge Drive traffic is unduly delayed and begins to queue back to Molalla Avenue, it would take 11 vehicles to queue the entire distance between the proposed intersection and Molalla Avenue. Similarly, the 7 vehicles going to and from Candice Lane will not be significantly affected by the 10 vehicles going to and from Kinslie Heights in the PM peak hour.

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Given the small size of the residential area served by Canyon Ridge Drive and the limited Kinslie Heights trip generation potential, no mitigation is necessary to demonstrate the reduced intersection spacing will not pose a safety hazard.

## CONCLUSIONS

Given the limited nature of the residential area served by Canyon Ridge Drive and the limited Kinslie Heights trip generation potential, the proposed intersection spacing is not anticipated to pose a safety hazard. Further, the 10 trips generated during the PM peak hour are not anticipated to significantly affect the roadway network.

If you have any questions about the traffic information presented in this letter, please do not hesitate to contact me.

Sincerely,



Brent T. Ahrend  
Transportation Engineer | Senior Associate



Justin Belk, P.E.  
Transportation Engineer

Enclosures: Vicinity Map  
Site Plan





NOT TO SCALE



**GROUP**  
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DATE: 02.15.13

DRAWN BY: JRB

CHECKED BY: CMC

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2130088.00

VICINITY MAP

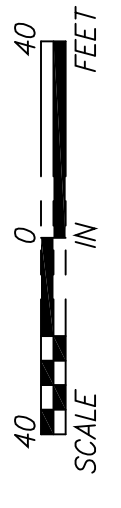
KINSLIE HEIGHTS SUBDIVISION  
OREGON CITY, OREGON

FIGURE

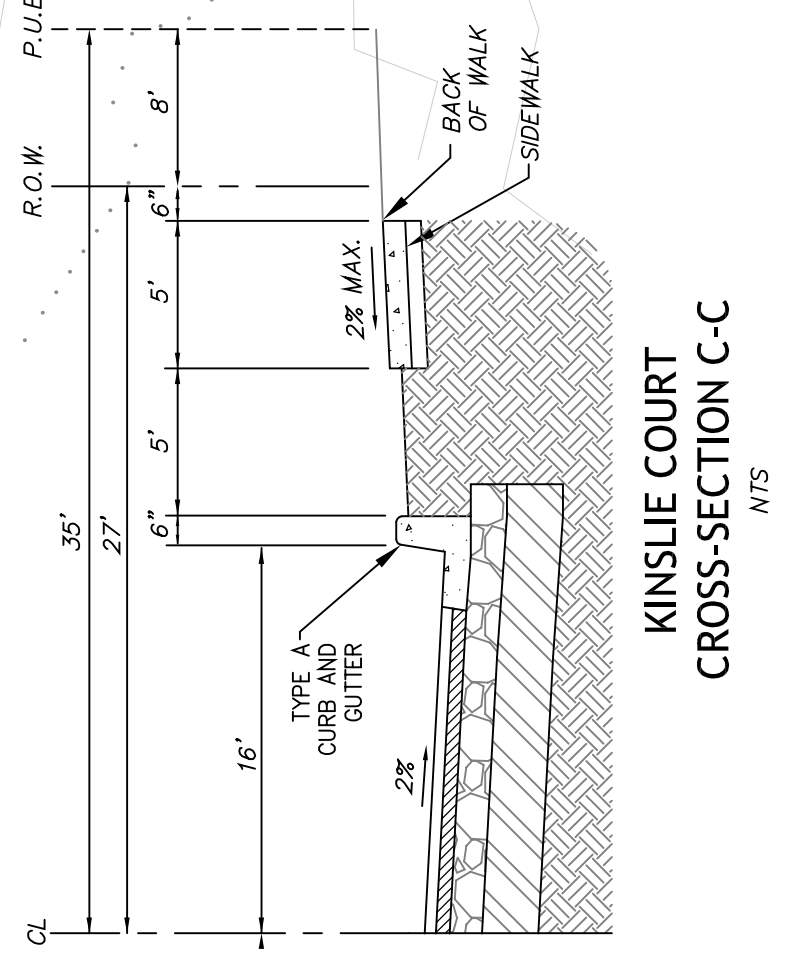
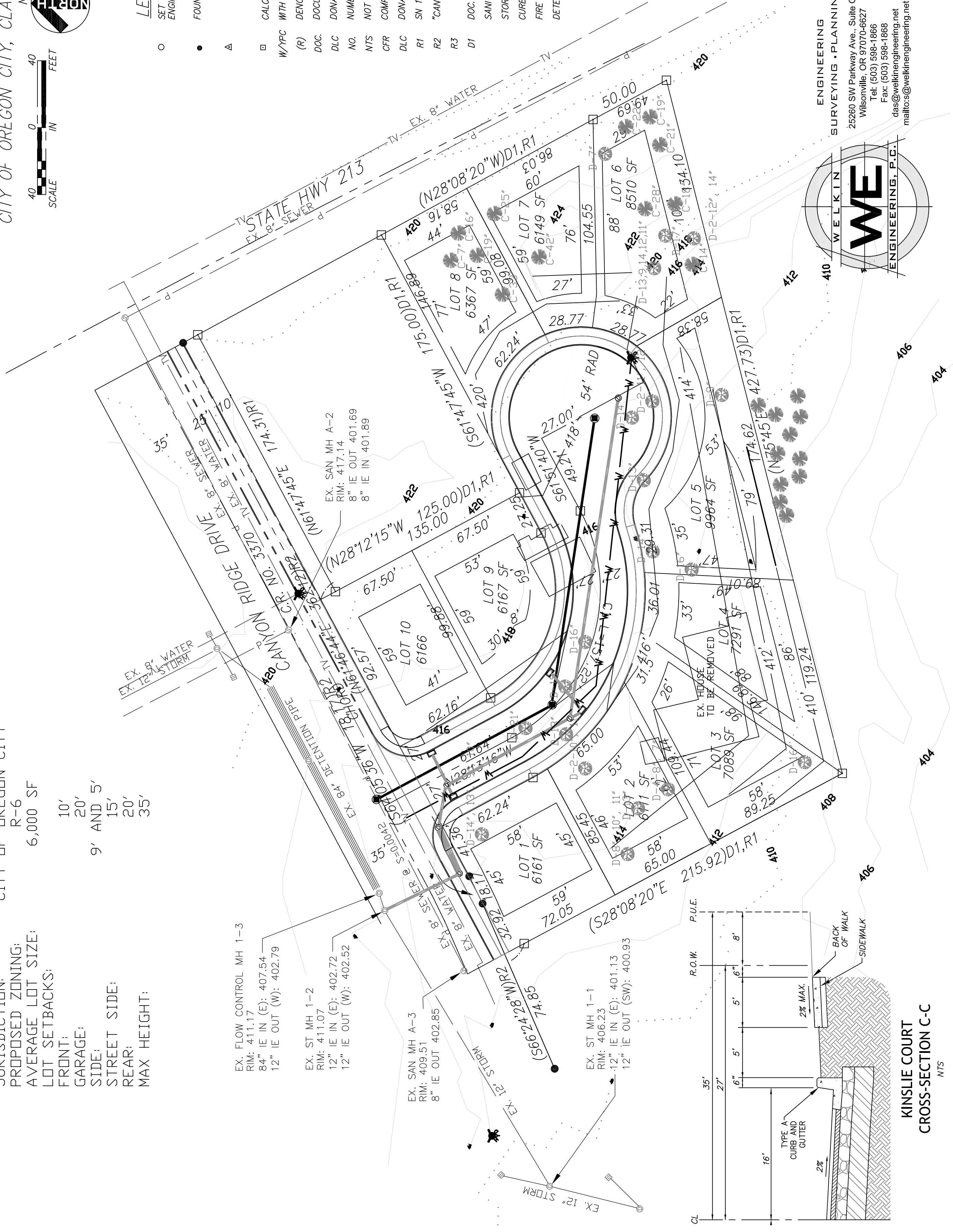
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JAMIE RIDGE  
 EXISTING ZONING: R-10  
 SIZE: 2.04 ACRES  
 JURISDICTION: CITY OF OREGON CITY  
 PROPOSED ZONING: R-6  
 AVERAGE LOT SIZE: 6,000 SF  
 LOT SETBACKS:  
 FRONT: 10'  
 GARAGE: 20'  
 SIDE: 9' AND 5'  
 STREET SIDE: 15'  
 REAR: 20'  
 MAX HEIGHT: 35'

KINSLIE HEIGHTS  
 IN THE N.W. 1/4 OF SECTION 16, T.3S., R.2E., W.M.  
 CITY OF OREGON CITY, CLACKAMAS COUNTY, OREGON  
 NOVEMBER 16, 2012



- LEGEND**
- SET 5/8" X 30" IRON ROD W/YPC INSCRIBED "WELKIN ENGINEERING, P.C.", SET ON \_\_\_\_\_
  - FOUND MONUMENT AS NOTED.
  - △
  - CALCULATED CORNER POSITION
  - W/YPC WITH YELLOW PLASTIC CAP
  - (R) DENOTES RADIAL BEARING
  - DOC. DOCUMENT
  - DLC DONATION LAND CLAIM
  - NO. NUMBER
  - NTS NOT TO SCALE
  - CFR COMPUTED FROM RECORD
  - DLC DONATION LAND CLAIM
  - R1 SN 11436
  - R2 "CANYON RIDGE"
  - R3
  - D1 DOC. NO. 2010-012643
  - SANITARY MANHOLE
  - STORM MANHOLE
  - CURB INLET
  - ✱ FIRE HYDRANT
  - DETENTION PIPE



**WELKIN ENGINEERING, P.C.**

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