

Mr. Brad Cooley
City of Lee's Summit, MO
Public Works

Re: Colton's Crossing Traffic Memo
Hg Consult Project Number: 21.018

Mr. Cooley,
The purpose of this memo is to document the amount of traffic generated by the Colton's Crossing development, located within Lee's Summit. The development is located on Hamblen Road and shown below in **Figure 1**.



Figure 1: Project Vicinity Map

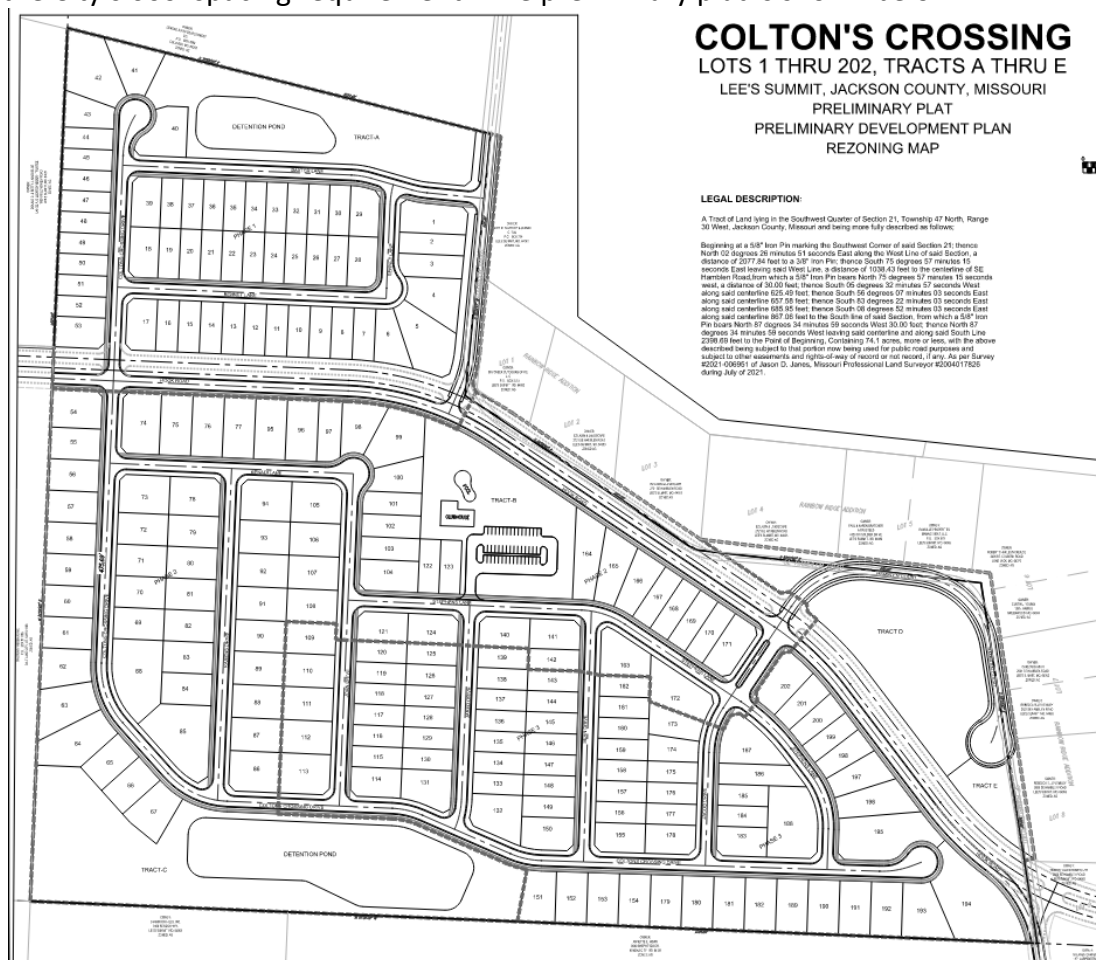
Existing Conditions

Currently, Hamblen Road is classified as a minor arterial according to Lee's Summit Functional Classification map. It is a two-lane, paved roadway with open ditches and a posted speed limit of 35mph. The existing pavement width is approximately 20-feet wide and will need to be

improved as a part of this project. Hook Road is also classified as a minor arterial roadway that will be constructed as a part of this project, while planning future Hook Road to the west by coordinating with adjacent land owners for that future roadway right-of-way. Currently, Hook Road terminates just east of Route 291. SE Thompson Drive is classified as a commercial/industrial collector roadway that has a posted speed limit of 35mph. The parcel for the proposed development is currently zoned as agricultural. The existing traffic volumes on Hamblen Road are very low and are estimated to be less than 1,000 vehicles per day.

Proposed Development and Trip Generation

The proposed site consists of 135 single family detached homes, and 60 single-family duplex homes. The project will improve Hamblen Road to the north to Thompson Drive, as well as construct new Hook Drive through the development. The preliminary plat also shows the intersection spacing between Hamblen Road and Hamblen Court is over 900', which is greater than the City's 660' spacing requirement. The preliminary plat is shown below.



In addition to the improvements to the roadway network shown above on the preliminary plat, the project will also include sidewalks throughout the public roadway system in accordance with City regulations. The project also includes the installation of over 5,000 feet of water line to provide the site with water. Additionally, the project has coordinated with the adjacent landowner to the west and preserved 100' of right-of-way for the future extension of Hook Road from Route 291.

The amount of traffic generated by the proposed development has been calculated by the *Institute of Transportation Engineer's, Trip Generation Manual, 11th Edition*. The amount of traffic expected to be generated by the proposed site for the typical weekday, am peak hour and pm peak hour is summarized in the table shown below.

Table 1 - Colton's Crossing Trip Generation						
Land Use	Number of Units	Weekday	AM Peak Hour		PM Peak Hour	
			Entering	Exiting	Entering	Exiting
Single Family Detached	135	1330	25	73	83	49
Single Family Attached (Duplex)	60	432	9	20	19	15
	TOTAL	1762	34	93	102	64

The table above shows that there will be approximately 127 trips generated in the am peak hour, and 166 trips generated in the pm peak hour. Considering the existing traffic volumes on Hamblen Road are minimal, the impacts to Hamblen Road, Hook Drive and the other surrounding roadways will be negligible.

Future Traffic Considerations

Most of the adjacent land parcels to this development are currently undeveloped. Knowing that they may develop in the future means that the roadway network will need to accommodate this future traffic. This development improves Hamblen Road from the intersection with Hook Road to Thompson Drive by adding four additional feet of pavement, which will provide two, 12-foot wide driving lanes, as well as a four-foot wide shoulder. Hook Drive will also be constructed to the minor arterial standards of the City.

The improvements made to the adjacent roadway network will As land is developed in the area, the roadway network constructed and improved by this project will be able to meet the needs of the future traffic demand.

Conclusions and Recommendations

The following conclusions and recommendations are made regarding the Colton's Crossing Development and the impacts to the local roadway system.

- Existing Hamblen Road experiences approximately 1,000 vehicles per day.
- The development will improve Hamblen Road from the intersection of Hook Drive north to the intersection of Thompson Drive, a distance of approximately 2,800 feet.
- The development will construct Hook Drive, which will provide a ½-roadway section for a future arterial roadway, and intersections will exceed the City's spacing requirement of 660'. This construction of Hook Drive also conforms to the City's Unimproved Road Policy.
- The development will construct new sidewalk along Hook Drive and throughout the development which will provide facilities for a walkable environment.
- The proposed development will generate 127 AM peak hour trips, and 186 PM peak hour trips.
- Given the low volume of existing roadway traffic and the trips generated by this development, stop controlled intersections will operate adequately after the development is constructed and into the foreseeable future.

Please let me know if you have any questions regarding this memo.

Sincerely,

Nathan Hladky

Nathan Hladky, PE, PTOE, ENV SP
Hg Consult, Inc.

