

**DEVELOPMENT SERVICES**

**Date:** Friday, July 26, 2019

**To:** OLSSON ASSOCIATES  
Melissa DeGonia, P.E.  
1301 BURLINGTON, SUITE 100  
NORTH KANSAS CITY, MO 64116

**From:** Gene Williams, P.E.  
Senior Staff Engineer

**Application Number:** PL2019235

**Application Type:** Engineering Plan Review

**Application Name:** HAWTHORN RIDGE 2ND PLAT - Street, Stormwater, Master Drainage Plan, and  
Erosion and Sediment Control

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The Development Services Department received plans for this project on July 15, 2019. We have completed our review and offer the following comments listed below.

- Resubmit three (3) full size sets of plans (no larger than 24"x36") folded to 8-½"x11", one (1) comment response letter, and one (1) digital copy following the electronic plan submittal guides as stated below.
- Revised plans will be reviewed within five (5) business days of the date received.

**Engineering Review Corrections**

1. Please refer to the City Traffic Engineer's comments related to the proposed four way stop at Buckthorn St. and Arboridge Dr. This comment may change the way you are proposing to provide an ADA-accessible route across the intersection, where there is no longer a stop control (i.e., due to the fact that a four way stop is not desired by the City).
2. Sheet C116: Please see the City Traffic Engineer's comments related to the City's desire to eliminate the proposed four way stop controlled intersection.
3. Sheet C119: Please see comments from the City Traffic Engineer related to the elimination of the four way stop controlled intersection. This may affect the design across Buckthorn St. The City's desire for non-stop controlled intersections is to have a smooth driving experience across the intersection, with no abrupt change in grade.
4. Sheet C120: The maximum distance between the tactile warning strip, and the back of curb was not shown on the northeast and southeast corners of the intersection. The maximum allowed distance is 5.0 feet. Please label this dimension, and ensure it is less than or equal to 5.0 feet.

5. Sheet C121: The same comment above applies to the ADA-accessible ramps shown in the southwest and southeast corners of the intersection. Please provide a dimension, and ensure it is less than or equal to 5.0 feet.
6. General Comment Related to the ADA-Accessible Ramp Details: Section A-A, B-B, and C-C were missing from the plans. To recap the requirements contained in Section 5304.8 of the Design and Construction Manual, Section A-A is the cross-section along the long axis of the ramp, Section B-B is the cross-section along the width of the ramp, and Section C-C is the cross-section along the curb opening of the ramp. These cross-sections must be shown, along with corresponding locations of the cross-sections shown on the plan view.
7. General Note Concerning the Hydraulic Grade Line Shown on the Profile Views: The system was designed for the 25 year (i.e., 4% chance) storm event. As such, the hydraulic grade line for this event should be at or below the crown of the pipe. There are numerous instances where this is not the case.
8. Sheet C124: Geofabric is required for the rip rap shown. Please provide sufficient notes.
9. Sheet C140: A drainage swale was shown on the Preliminary Development Plan beginning at Lot 125 and Lot 147, which continued to the north. The Master Drainage Plan does not show this swale, and it appears a swale is warranted.
10. Sheet C140: Existing and proposed grades must be shown on the lot corners. As shown, only the proposed grades are shown.
11. Sheet C140: References to the "MLO" are cited throughout this sheet. The City does not recognize a "MLO", but rather, the Minimum Building Opening Elevation (MBOE). Please change all references to "MLO" to "MBOE".

### **Traffic Review**

1. Revise the noted design speed from 30 mph to 25 mph. The alignments looks okay, but there's one K value that does not meet 30 mph (it does meet 25 mph). No change to alignments (horizontal and vertical) are needed.
2. Remove the stop signs and street name signs from Buckthorn Street at the intersection of Arborridge Dr. Move the street name signs to the proposed stop signs on Arborridge Drive. The intersection does not warrant an all-way stop condition.

In order to calculate the Engineering Plan Review and Inspection Fee, a sealed Engineer's Opinion of Probable Construction Costs shall accompany your final submittal copies. The itemized estimate (material and installation) shall be sufficiently broken down and shall include the following items, as applicable.

- Public infrastructure, both onsite and offsite.

- Private street construction, including parking lots and driveways.
- Sidewalks located within the right-of-way.
- ADA accessible ramps.
- Sanitary sewer manholes and piping between manholes, including private mains.
- Connection of the building sanitary sewer stub to the public main.
- Waterlines larger than 2 inches in diameter, valves, hydrants, and backflow preventer with vault, if outside the building.
- Stormwater piping greater than 6 inches in diameter, structures, and detention / retention facilities - public or private.
- Water quality features installed to meet the 40-hour extended duration detention requirements.
- Grading for detention / retention ponds.
- Grading to establish proper site drainage.
- Utility infrastructure adjustments to finished grade (i.e. manhole lids, water valves, etc.).
- Erosion and sediment control devices required for construction.
- Re-vegetation and other post-construction erosion and sediment control activities.

### **Electronic Plans for Resubmittal**

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All Planning application and development engineering plan resubmittals shall include an electronic copy of the documents as well as the required number of paper copies.

Electronic copies shall be provided in the following formats

- Plats – All plats shall be provided in multi-page Portable Document Format (PDF).
- Engineered Civil Plans – All engineered civil plans shall be provided in multi-page Portable Document Format (PDF).
- Studies – Studies, such as stormwater and traffic, shall be provided in Portable Document Format (PDF).

Please contact me if you have any questions or comments.

Sincerely,

*Original Signed*

Gene Williams, P.E.  
Senior Staff Engineer  
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cc: Development Engineering Project File