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Date: July 23, 2021

City of Steamboat Springs Planning Department  
137 10<sup>th</sup> Street  
Steamboat Springs, CO

RE: Lot 3 Eagle's Vista Duplex, 1859 River Queen Lane, Final Drainage Letter

Dear Engineering Department:

### **Introduction**

This drainage letter presents an analysis of storm water runoff and stormwater management for the proposed duplex on Lot 3 Eagle's Vista Subdivision. Lot 3 parcel is 0.47 acres in size. The primary areas of focus is drainage into an existing designated receiving pervious area or RPA and maintaining drainage patterns per the Eagle's Vista Final Drainage Study.

Referenced Drainage Reports:

- Final Drainage Study and Stormwater Quality Plan for Eagle's Vista, Landmark Consultants, June 21, 2018.

### **Existing Conditions**

Lot 3 is vacant/undeveloped land with native vegetation. The existing conditions of the lot is considered to be 2% impervious. Topography is variable, with moderate (10%-30%) to steep (30+%) grades on the majority of the site and transitioning to steep 2:1 and greater slopes to the northwest within the RPA. In general, all runoff from Lot 3 sheet flows into the designated RPA. There is no stormwater infrastructure currently present on the lot. A 12" HDPE culvert is located just in front of Lot 3 that manages ditch flow around the cul-de-sac. A defined outfall point was not identified from field surveying. Flows are tributary to the Yampa River.

### **Proposed Conditions**

The proposed use of Lot 3 is a residential duplex with a detached garage and paved parking, paved access, and landscaping features. The disturbed area will be approximately 0.25 acres and proposed imperviousness will be approximately 35%. Grass lined swales are proposed along the east and west property lines within the 10-foot wide drainage/utility easements. These swales will convey runoff from Lot 3 northerly into the RPA. The swale outlets shall be tapered to a level grade approximately 8-10 feet wide at the outfall point into the RPA in order to disperse concentrated flows. Decorative cobble or rip-rap shall be utilized to reduce flow velocity and disperse runoff. A driveway trench drain will collect driveway sheet flows and outfall into the westerly swale. Swale flows are not anticipated to be significant given the relatively small drainage area so no drainage basin peak flows or swale capacity calcs were performed.

### **Proposed Conditions (Continued)**

The driveway entrance off the Queen Lane cul-de-sac was designed to meet the intent of the Eagle's Vista Drainage Study and Eagle's Vista Civil Construction Drawings in order to capture and convey runoff within the right-of-way in front of Lot 3 to the permanent treatment facility located just southwest of Lot 3.

### **Conclusions**

In conclusion:

- Drainage from Lot 3 will be conveyed and dispersed into the RPA on site.
- The driveway entrance was designed to conform with the Final Drainage Study and Civil Construction Drawings for the Eagle's Vista Subdivision.
- The site complies with City of Steamboat Springs engineering drainage criteria.

### **References**

City of Steamboat Springs Engineering Standards, Section 5.0 Drainage Criteria. Prepared for City of Steamboat Springs, Department of Public Works, September 2007, updated July 2019.

Final Drainage Study and Stormwater Quality Plan for Eagle's Vista, Landmark Consultants, June 21, 2018.

### **Note**

City of Steamboat Springs plan review and approval is only for general conformance with City design criteria and City code. The City is not responsible for the accuracy and adequacy of the design, dimensions, and elevations that shall be confirmed and correlated at this job site. The City of Steamboat Springs assumes no responsibility for the completeness or accuracy of this document.

### **Certification Statement**

I, hereby affirm that this drainage letter and plan for Lot 2 Airport Meadows Subdivision was prepared by me (or under my direct supervision) for the owners thereof and is, the best of my knowledge, in accordance with the provisions of the City of Steamboat Springs Drainage Criteria and approved variances. I understand that the City of Steamboat Springs does not and will not assume liability for drainage facilities designed by others.



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Four Points Surveying and Engineering

### **Attachments**

- Standard Form No. 1 Checklist
- Proposed Conditions Grading and Drainage Plan