

MEMORANDUM

DATE: January 29, 2024

TO: Ryan Howser, PCD-Project Manager

FROM: Jeff Rice, PCD-Engineering  
719-520-7877

SUBJECT: SP-20-005 – Eagle Rising  
Sixth Submittal (2022-2024 fifth review)

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March 8, 2024 Next Level Development & MVE responses appear in brown type.

**Engineering Division**

Planning and Community Development (PCD)-Engineering reviews plans and reports to ensure general conformance with El Paso County standards and criteria. The project engineer is responsible for compliance with all applicable criteria, including other governmental regulations. Notwithstanding anything depicted in the plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code (LDC), the Engineering Criteria Manual (ECM), the Drainage Criteria Manual (DCM), and the Drainage Criteria Manual Volume 2 (DCM2). Any deviations from regulations and standards must be requested, and approved by the ECM Administrator, in writing. Any modifications necessary to meet overlooked criteria after-the-fact will be entirely the developer's responsibility to rectify.

These comments include unresolved previous comments and new comments resulting from the re-submittal in *purple bold italic*. A written response to all comments and redlines is required for review of the re-submittal. Please arrange a meeting between the developer's team and County staff to review and discuss these comments and prepared revisions/responses prior to the next submittal. If any deviation requests are submitted, a 21-day review period will be necessary with the next review.

**Additional comments may be generated on items added or revised after the original comments.**

General – Resolved.

Preliminary Plan

1. *Resolved.*
2. *Conversations and meetings were held regarding platting lots that include portions of the Cottonwood Creek channel without channel stabilization improvements. See email dated November 7, 2022 in which two options were provided:*
  - a. *Move the current filing's lots out of the 300' buffer, as to not do any creek improvements.*
  - b. *Leave the lots where they are and identify what creek improvements are needed where the lots encroach into the 300' [buffer].*

*Resolution of the option chosen is needed specifically for Lots 7-11 and Lot 17 (now showing high channel shear stress). Location of the buffer is open for discussion but needs to be based on appropriate analyses, including the previous M&S prudent line analysis. (Note that the buffer/no-build area has been updated and labeled.)* **RESPONSE: Preliminary Plan comments are addressed with the revision of Preliminary Drainage Report and Deviation Request comments according to discussions between Applicant's project team and El Paso County on February 29 and reviewed and accepted by Jeff Rice on March 7, 2024.**

Transportation / Traffic Impact Study

1. *Resolved.*

2. Provide deviation requests as needed. *Partially resolved; provide referenced cross-section exhibit with the deviation request.* Unresolved; see fire district comments. *Partially resolved; see updated deviation request redlines.* **RESPONSE:** Comment is addressed in the Cul-de-sac length Deviation Request as discussed in the February 29 meeting and reviewed and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.
  - a. *Minor redlines on cul-de-sac length request, add map.* **RESPONSE:** Comment is addressed in the Cul-de-sac length Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.
  - b. *Due to a recent change in policy regarding private roads, revise the road design deviation request to only include deviations for the public road segment and cul-de-sac. This deviation request can then be resubmitted with the final plat if desired.* **RESPONSE:** This comment was rescinded by county staff. Comments to the Roadway Cross Section Deviation were addressed in the revised document as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.

#### Preliminary Drainage Report / Drainage Plans

1. Resolved.
2. See PDR redlines. *Partially resolved; see updated/remaining redlines.*
  - a. *Some of the redlines can be addressed with statements that these issues will be addressed in detail at the FDR and final plat stage, including the spillway above DP126:*



**RESPONSE:** Comment is addressed in the Preliminary Drainage Report as discussed in the February 29 meeting and accepted by Jeff Rice in the March 7, 2024 meeting.

- b. *The high shear stresses identified in the revised model need to be addressed specifically in this report. These are not in accordance with the additional information provided regarding allowable velocities and shear stresses.* **RESPONSE:** Comment is addressed in the Preliminary Drainage Report and Vegetative Protection Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.

3. Regarding the 4-step process including channel stabilization (Step 2 – “drainageways are required to be stabilized”), for the main channel and all tributary drainageways: Provide a complete hydraulic analysis of the channel and complete information on the proposed and ultimate channel stabilization improvements, including grade control and bank stabilization. Address all drainageways and pond spillways throughout the preliminary plan area. In accordance with DCM Section 1.4.2, some level of channel stabilization improvements will be required in areas of concern and a clearly defined maintenance agreement is necessary. Partially resolved;
  - a. Provide options to address areas of potential channel instability that have been identified, including high velocities and Froude Nos. Partially resolved; see redlines. Discuss with Staff (including software that auto-calculates attributes for vegetation types). *Partially resolved; now the modeling shows areas of very high shear stress that need to be addressed as noted above. RESPONSE: Comment is addressed in the Preliminary Drainage Report and Vegetative Protection Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.*
  - b. Additional information is needed, whether by a staff site visit or additional pictures, for some reaches of the channel. *Unresolved. Unresolved. See redlines on deviation request highlighting areas that need to be included in pictures or a site visit. RESPONSE: Comment is addressed in the Preliminary Drainage Report and Vegetative Protection Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.*
  - c. Additional information is needed for some of the tributary drainageways including areas where riprap has already been placed. Partially resolved; see redlines. Final details may be addressed in the applicable FDR.
4. *Resolved.*
5. *Resolved.*
6. Provide water quality provisions for the proposed Eagle Wing View in accordance with ECM Appendix I requirements. Provide water quality analysis and design in accordance with ECM Appendix I, Section I.7. *Resolved for the PDR, final details will be required with the FDR.*
7. Discuss maintenance access provisions (for channels and BMPs), maintenance requirements and responsibility, and the Private BMP Maintenance Agreement and Easement that will be provided for the channel and any required PBMPs. Per criteria, a 15 foot wide access easement and an all-weather access road is required on each side of the main channel. *Resolved; details will be addressed with the final plat. Note that the access paths will be included in the channel maintenance agreement and easement. RESPONSE: Comment is addressed in the Preliminary Drainage Report and Vegetative Protection Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.*
8. Show all improvements including ditch erosion protection, culvert inlet and outlet protection details on the developed drainage plan and GEC Plan. *Unresolved (the GEC plan can be provided with the final plat).*
9. The report states that a maximum permissible velocity of 5 fps was assumed (as per Table 10-4 of DCM 1). The 5 fps figures in that table are for reed canarygrass, tall fescue, and Kentucky bluegrass. These types of lining are essentially lawns. As stated in the footnote below the table, “Grass lined channels are dependent upon assurance of continuous growth and maintenance of grass.” Without assured irrigation, these grass types may not be used for design; the designer must use 2.5 fps figure for design. Alternately, the designer may use Table 10-3, but as was stated earlier in the report, the soil types onsite are a sandy loam or loamy sand. The maximum mean velocity for sandy loam is also 2.5 fps, so the design value is 2.5 fps either way. The Soils and Geology Report states that flows of 3-4 fps may be allowable but vegetative linings may increase permissible velocities to 4-7 fps. Several lot line locations with

flow velocities exceeding 5 fps are identified and it is stated that no improvements are proposed; these areas need to be addressed both in terms of long-term stabilization and maintenance by an entity other than individual property owners. The velocities discussed here apply to the main channel and roadside ditches as well. Partially resolved;

a. See remaining redlines regarding channel stability. (see comment 2b, above)  
**RESPONSE: Comment is addressed in the Preliminary Drainage Report and Vegetative Protection Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.**

b. **Resolved.**

10. Resolved.

11. See **updated** deviation request redlines. Address all criteria that apply. **Redlines include areas where clarification is needed, additional information is needed regarding high shear stresses, and other remaining issues. RESPONSE: Comment is addressed in the Vegetative Protection Deviation Request, Cul-de-sac Length Deviation Request and Road Section Deviation Request as discussed in the February 29 meeting and confirmed complete/accepted by Jeff Rice in the March 7, 2024 meeting.**

#### Geotechnical Issues

1. Address specifically the CGS comments regarding groundwater depths and monitoring. (No comments on the soils and geology report itself.) **Resolved in response to comments memo.**
2. It is anticipated that high groundwater levels may require an underdrain system(s). If there is to be a single or combined system please address construction and maintenance in all applicable documents. **Resolved in response to comments memo.**
3. Update the Soils and Geology report as applicable if any revisions occur to lots, roads, or drainage design.

#### Attachments

1. Preliminary Drainage Report redlines
2. Deviation Request redlines (3)