



J-U-B ENGINEERS, INC.

J-U-B COMPANIES



THE  
LANGDON  
GROUP



GATEWAY  
MAPPING  
INC.

April 9, 2020

Mr. Erik Brubaker  
B-Town Planning LC  
4291 Upper Pack River  
Sandpoint, ID 83864

RE: Stormwater Review for Orchard Ridge Estates; SUB006-19

Dear Erik,

I have completed a review of the preliminary plat of the above-named subdivision for compliance with Dover City Code (DCC) and Bonner County Revised Code (BCRC) §12.7.2 for stormwater-related items, and find the following in addition to the City Planner letter:

- 1) According to USGS soil data, the infiltration rate of soil found in the location of the proposed swale (Mission silt loam) is 0.0 to 0.06 in/hour. The Orchard Ridge Estates Runoff and Erosion Control Plan indicates that through scarification, rates of 2-in/hr can be achieved in this soil layer. Scarification is not an approved means of improving infiltration because the existing soil beneath the scarified layer will remain unamended and impermeable. Please revise calculations to reflect the soil conditions or provide onsite soil infiltration testing results showing that the design rate can be achieved.
  - a. Please avoid saturating the soil at the top of the roadway cut bank. Provide a 15 foot setback from the top of cut minimum.
- 2) Per BCRC §12-724.1.B., the applicant shall include swale bottom elevations and swale dimensions.
  - a. BCRC §12-724.1.B. *“Construction quality drawings of all physical features of a proposed stormwater management system, to include a grading plan and the dimensions clearly shown for all conveyances, retention basins and swales designed for collection, treatment and infiltration of stormwater runoff.”*
- 3) Per approved encroachment permit ADMIN013-18 dated 9/10/18, a CMP culvert was required for the private road approach to Syringa Heights. Please include an 18-inch CMP culvert under the Marienau Drive approach to Syringa Heights Rd.
- 4) This application was not reviewed for compliance with DCC and BCRC for items unrelated to stormwater, but consider the comments below for future construction plan reviews and impacts to the plat and stormwater plan:

- a. Per SD-001, the maximum intersection skew is 80°, but the encroachment permit ADMIN013-18 approved with conditions on 9/10/19 allows for a 70° skew. The intersection appears to have a 55° skew currently.
- b. Per DCC and SD-001, private roads may be designed to Dover Typical Section 1, 2, 3 or 4. See TYP-001 through TYP-004 for maximum grade, asphalt width, and easement width information:
  - i. TYP-004 provides a minimum asphalt width of 20-ft for a private road in mountainous terrain. To allow for passing in winter conditions without traveling on saturated gravel shoulders, a minimum 16-ft asphalt width with 2-ft gravel shoulders will be allowed for this site.
  - ii. The proposed asphalt section (6-in asphalt, 6-in ¾" base, 8-in ballast, and geotextile) is acceptable.
  - iii. Per TYP-004, the minimum roadway drainage and utility easement width is 52-ft.
  - iv. Per TYP-004, the maximum grade allowed for Marienau Drive is 12%.

Please feel free to call or email with any questions you may have regarding this review.

Sincerely,



A. Jay Hassell, P.E.

City of Dover Contract City Engineer

C: City of Dover  
Clare Marley, AICP, Contract City Planner, Ruen Yeager and Associates