

July 2, 2018

JN: 18004

Catherine E. Trotter, AICP
Town Planner, Town of Fraser
153 Fraser Avenue, P.O. Box 370
Fraser, CO 80442

RE: This letter is in response to comments by: Bowman Engineering, Tim Gagnon, P.E., City Engineer, Letter, Dated May 4, 2018, RE: Elk Creek Condos – Preliminary Plat Submittal – Review Comments.

General

1. A geotechnical investigation specific to this property needs to be completed, as required in Section 14-2-20 of the Town Design Standards.
TKE: The geotechnical investigation is currently being obtained and will be submitted as soon as it is completed.
2. An Engineer's Opinion of Probable Cost needs to be completed.
TKE: Cost Estimate is now included.
3. A Signage & Striping Plan needs to be submitted.
TKE: A Signage and striping has been included in the construction set.
4. A Lighting Plan needs to be submitted.
TKE: A lighting plan is currently being created and will be submitted for review once complete.
5. An updated Traffic Study needs to be completed, the Traffic Impact Analysis dated January 2013 is not relevant to this project site.
TKE: A traffic study will be provided by Owner.
6. The traffic generated from this project site will likely use the Old Victory Road intersection with US40. Prior to recording of the final plat the Applicant must provide the Town with an updated CDOT Access Permit, or confirmation from CDOT that a Permit is not required.
TKE: The Owner is coordinating with CDOT regarding the access permit.
7. Indicate ADA routes within the site, and add sufficient detailed spot elevations and grades at ramps, walks, parking areas to show that ADA access requirements are met (including access from ADA parking spot in garage to Bldgs A/B).
TKE: ADA routes have been shown on the plans and additional spot elevations have been added to clarify ADA access requirements are being met. An ADA has been shown from Building B to the handicap garage south of Building B.
8. Sewer and water services design needs to be finalized including: size, material, grades, cover, and profiles (where necessary to indicate critical elevations at road, utility and pond crossings).
TKE: The sewer and water services designs have been finalized. Profiles have been provided to clarify proper depth and utility clearances.
9. The plans should be signed/stamped by a Colorado Licensed Engineer.
TKE: The plans have been signed/stamped by a Colorado Licensed Engineer.

10. It appears the proposed detention pond for Elk Creek Filing No. 1 (in Elk Creek Condos, north side of Elk Creek Drive) is no longer indicated in its designed location. Please clarify.
TKE: The contributing basin for that pond is now handled and included in the drainage report for this project.
11. The Town water model will be updated to incorporate this new development and determine if any deficiencies are identified in the existing and proposed system. This analysis will be completed by the Town Engineer with fees passed onto Applicant.
TKE: Noted
12. Additional investigation into the impacts this development will have on the Town's existing sanitary system will need to be explored prior to final plat approval.
TKE: Noted

Final Plat

1. The plat is missing from the electronic files.
TKE: An electronic version of the plat will be provided.

Final Planned Development Plan

1. Sheet 1 of 8: The cover states all roads are to be made public, but there are streets labeled as private within the plans. Please clarify.
TKE: All roads are private. Any labels as public have been removed.

Preliminary Construction Plans

1. Sheet 3 of 13: Include proposed contours and existing infrastructure as basins cannot be reviewed.
TKE: Sheet 3 is the Historic drainage map. Proposed contours have been shown on Sheet 4, the Developed Drainage Map.
2. Sheet 6 of 13: Indicate how are flows conveyed with a swale wrapping around Bldg G and confirm how these flows get to pond #4.
TKE: The drainage swale around Building G has been rerouted toward the north to drain to pond #4
3. Sheet 7 of 13: Add a typical road section showing widths and depths of proposed asphalt, curb, gutter and sidewalk.
TKE: While the road sections vary continuously throughout the project, three road cross sections have been added to Sheet 2 of the Construction Plans.
4. Sheet 7 of 13: Indicate final surfacing (and typical section if necessary) of proposed paths between streets and buildings.
TKE: The typical surface for paths is concrete and has been noted on the Sheet 6.
5. Sheet 8 of 13: Street cross slopes vary significantly as an example, near the trash enclosure in the northwest corner of the site the cross slopes go from 4.1% to 1.3% back to 4.3% in a short distance, and due to construction constraints will actually not be built like this. Suggest revising to a constant street cross slope through the project.

TKE: The grades vary to provide drivable entrances into the garages. The grade difference between the steps in the garage is 6" this grade will be transitioned with the paving.

6. Sheet 8 of 13: Confirm sanitary service for Bldg B has sufficient cover under pond.
TKE: A profile of the sanitary service for Bldg B has been provided to show sufficient cover under the pond.
7. Sheet 8 of 13: Add concrete pan at swale in south asphalt parking lot.
TKE: A concrete pan has been added at the swale in the south asphalt parking lot.
8. Sheet 8 of 13: Update note and hatched area for "10' x 10' Sand Filters."
TKE: The note and hatched area for the Sand Filters has been updated.
9. Sheet 8 of 13: Add open curb cut for access to existing gravel driveway, south of Bldg B parking.
TKE: A Curb opening for the existing gravel driveway has been provided.
10. Sheet 10 of 13: Include profiles for all sanitary and water main lines.
TKE: Profiles have been provided for the sanitary sewer and water lines.
11. Sheet 10 of 13: Need to create a loop of the water main extension near Building G or consider connecting building water services to looped water main and eliminating proposed dead-end main.
TKE: As discussed in the meeting with the Town, the dead end main will be serving 24 units that will minimize the possibility of water quality issues.

Drainage

1. The culvert designs need to be finalized including: hydraulic calculations (where necessary), size, material (RCP is required in roads), grades, cover, inverts, etc.
TKE: Design of culverts is finalized and is now included in these plans.
2. More detailed information is needed for the ponds including: cross-section and proposed material layers, outlet structure design, berm and overflow weir cross-sections, dimensions and/or horizontal control, etc.
TKE: Pond design is finalized and details are now included.
3. Address potential issues with groundwater elevations and performance of sand filter basins.
TKE: Refer to perc tests provided. Performance of existing Elk Creek ponds have shown that water has not been held for any significant length of time.
4. Percolation tests will be required for the design engineer to confirm that sand filter basins are a viable water quality treatment option for this site.
TKE: The geotechnical investigation is currently being obtained and will be submitted as soon as it is completed.
5. The design engineer shall recommend inspection, maintenance and filter replacement schedule to ensure that the proposed sand filter basins continue to perform as designed.
TKE: response
6. The proposed Sand Filter Basin north of Building B cannot be located in the 10' utility and snow storage easement adjacent to Elk Creek Road.
TKE: The proposed sand filter basin north of Building B has been relocated to outside of the 10' utility and snow storage easement.

7. There is a 10cfs increase between historic and developed stormwater runoff during a 100-year storm event from this site without detention proposed, which does not meet Town Standards. A formal variance request shall be submitted, per Town Code Section 14-6-20.

TKE: With the proximity to natural creeks and drainage paths to the Fraser River, a variance request for no detention will be submitted.

Please call with any questions or comments. Thank you.

Sincerely,
TopKnot Engineering, LLC


Anthony E. (Tony) Krempin, PE
Principal