Kathy Grotto

From: Jeff Loomis
Sent: Wednesday, October 12, 2016 5:06 PM
To: Kathy Grotto
Subject: Three Creek Subdivision - County Engineer Review (REVISED per updated preliminary plat)

Kathy –

Per you request, I have reviewed the proposed Three Creeks Crossing Subdivision application with the revised preliminary plat provided on 10/12/2016, and offer the follow comments for your consideration:

A. Project Summary

General: This application indicates the existing, approximately 300 acres tract of land, 187.07 acres in A-40 zoning and 112.73 acres in A-20 zoning, will be subdivided into 9 developable lots, plus four other parcels. The four other parcels will be the responsibility of the Homeowners' Association. For the developable lots, the smallest lot is 21.53 acres, the largest lot is 43.85 acres. The subdivision tract of land is bordered by Croy Creek Road (county maintained, gravel) on the north, Rock Creek Road (county maintained, gravel) on the east, Rancho Cielo Road (privately maintained, gravel), and two subdivisions, Ranch Cielo PUD Subdivision and Croy Creek Meadows Subdivision, on the west.

Irrigation Water: The draft "Rules and Regulations Governing the Diversion, Distribution and Use of Water Within the Three Creeks Crossing Subdivision," ("Water Rules") submitted with the application, indicates total irrigation acreage available per existing water rights is 319.0 acres. However, this document also indicates a "reasonably reliable water supply" for all irrigation requirements, including peak demand, is 119 acres. The "Water Rules" indicate existing irrigation water will be allocated to the 9 developable lots, plus common areas with the Three Creeks Crossing Subdivision, plus Lots 1 and 2 of the Camp Creek Subdivision, Lots 3A, 5A, and 5B of Croy Creek Ranch. The Homeowners' Association will develop, operate, and maintain a water system to divert, store, and deliver the irrigation water to the subdivided lots and parcels. The Homeowners' Association will retain 9 acres of water to irrigate the Three Creeks Crossing Subdivision common areas. Additionally, the "Water Rules" indicate the existing water rights authorize the storage of water for irrigation purposes, and these rights will be located solely within Storage Pond #1 and/or Storage Pond #2. The preliminary plat provided with the application indicates a "conceptual irrigation pond" in Parcel D. No portion of the Association's storage rights will be made available for use on the individual lots. This proposed irrigation water system is not intended for human consumption.

Fire protection: Fire flow and fire flow storage requirements are not addressed in the "Water Rules." However, fire flow storage requirements apparently can be met with the proposed irrigation storage pond(s) identified above. The application does not provide information regarding supplying fire flow requirements to individual lots, but the application, as noted above, does indicate the Homeowners' Association's irrigation system will provide irrigation water to each lot. So assumedly, fire flows can be delivered to individual lots via this system, as well. Fire protection requirements, and approval of the subdivision's fire protection system, or individual lot fire protection if a subdivision system is not proposed, will need to be reviewed and approved by Wood River Rural Fire and Rescue.

Domestic/In-home water: Domestic will be the responsibility of each lot owner, that is, an individual domestic well for each lot. The diversion, distribution, and use rights associated with these individual wells are per the State's domestic exemption (maximum diversion of 0.02 cfs and 13,000 gallons per day, irrigation of no more than ½ acre). The draft "Water Rules" indicate a pond may be constructed in association with an individual residence using the State's domestic exemption, and such a pond could be

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filled in 24 hours or less, using the authorized diversion rate of the associated water right (i.e. 0.02 cfs for the domestic exemption).

Sewer: According to the application documents, sewage treatment for the subdivision will be individual sub-surface disposal systems, consisting of fixed-film aerobic treatment units and individual sub-surface drainfields. The soils information provided indicates individual sub-surface disposal systems are suitable systems for the soils found. Excerpts of a previous water study of this site indicate this project is not likely to adversely impact the groundwater or surface water quality down-gradient of the project.

Floodplain/floodway: Brockway Engineering completed a study in 2004 delineating a 100-year floodplain and floodway associated with Croy Creek. This delineation is was never reviewed and accepted by FEMA. However, I do believe this delineation is acceptable for defining areas of likely inundation associated with a large flood event, and identifies areas where flood protection may be needed, and floodplain restoration/management is beneficial. I understand this delineation is considered "regulatory" for the County, if accepted with this application, per County Code 9-17-1(D)(2), and 9-17-5(A). This application does not include information regarding streambank re-grading, or Croy Creek riparian restoration planning, as indicated in the excerpts from the 2004 Brockway Engineering study. However, this application does indicate a proposed non-motorized stream access easement, inclusive of the area bounded by a line identified as 10-feet outside the top of each bank.

Wetlands: Wetlands delineated on application documents are per a 2004 survey completed by American Water Resources, and a 75-feet setback from these wetlands is indicated on the preliminary plat.

Access: Access to the subdivided lots is proposed from two private roads (Mary Lane and Valentine Lane) with approaches on to Croy Creek Road. With the proposal of these two private roads, I assume other accesses to individual subdivided lots will NOT be provided from existing public and private roads (i.e. Croy Creek Road, Rock Creek Road, and Rancho Cielo Road), with the exception of Lot 4 and Parcel C. The approach of Valentine Lane is located 300 feet from an existing approach on the north side of Croy Creek Road, named McAtee Lane. The proposed Mary Lane approach is located approximately 1000-feet from the proposed Valentine Lane approach. These proposed approach separation distances meet County requirements.

Traffic: No traffic data, or assessments of the existing roads servicing this proposed subdivision, are provided with this application. In general, Croy Creek Road is a local, rural collector, gravel road in the area of the proposed subdivision, and transitions to a paved surface at Pioneer View Drive, approximately a half-mile from the proposed subdivision.

Private Streets: The interior roads are proposed as private streets with a 40' right-of-way, with 2, 10-feet wide travel lanes at 2% cross-slope constructed on prepared subgrade with 6" of 2" subbase and 4" of ¾" road base. Shoulders are 10-feet wide at 3.5:1 (H:V) slopes. County private road standards recommend for a private road serving two to four lots and will never become a public road, a 40' right-of-way with 2, 10-feet wide, gravel travel lanes at 2% cross-slope, 14-feet of which may include an optional 2" asphalt surface, no shoulders, and 2-feet wide roadside ditch at 1.5:1 slope in cut areas (no ditch is indicated in fill areas). County private road standards recommend, for a private road serving more than four lots, a 60' right-of-way with 2, 10-feet wide, gravel travel lanes at 2% cross-slope, plus five-feet wide shoulders, also at 2% cross-slope. The two travel lanes may be paved with a 2.5" asphalt layer. Roadside slopes beyond the shoulders at 4:1 for 8-feet are indicated in the standards.

Both of these private streets are proposed to cross the Croy Creek stream and terminate with a cul-de-sac. Stream channel crossing information is indicated as "proposed culverts." Road drainage is assumed to be the roadside ditches, generally following existing ground slope towards the Croy Creek stream channel.

B. County Engineer Comments

1. The "Water Rules" document received for review was in draft format, and some information, such as the apportionment of water for each allocated acre, the allocated irrigated acres for each lot, and the maximum 24-hour volume for each lot, were left blank. IDWR regulates the water rights associated with this property, including construction of individual domestic wells, and should approve the diversion, storage, distribution, and monitoring of the proposed water system before final platting.
2. Wood River Rural Fire should approve the fire protection system, including fire flow storage in proposed irrigation pond(s), access to the pond(s), hookups to the proposed water system at individual lots, and maintenance and operation of the proposed water system. The fire protection system should be included in the "Water Rules" document, as appropriate.
3. Domestic water appears sufficiently available to the individual lots without adverse impacts to downstream groundwater and surface water users, according to the 2004 Brockway Engineering report.
4. Individual sewer systems appear suitable for each lot, without adverse impacts to the downstream groundwater and surface water quality, according to the 2004 Brockway Engineering report.
5. The floodplain/floodway delineation provided adequately depicts potential flood hazards and potential riparian habitat. The proposed subdivision provides adequate areas outside of floodplain boundaries for individual lot development. The proposed private road cross proposed floodplain and floodways. The requirements of associated permits as appropriate, such as the 404 Joint Application, the County Stream Alteration Permit, and the County Floodplain Conditional Use Permit, are recommended for review and approval prior to construction. I am not sure if other stream bank re-grading, or riparian restoration work is proposed. Such work is mentioned in the excerpts of the 2004 Brockway Engineering included with the application, but not mentioned specifically in this subdivision application.
6. The wetland delineation provided adequately depicts existing wetlands. The proposed subdivision indicates a 75-feet setback around these delineated wetlands. The proposed Mary Lane crosses a portion of these delineated wetlands. The requirements of associated mitigating proposed impacts to wetlands as appropriate, such as the 404 Joint Application and the County wetlands overlay, are recommended for review and approval prior to construction.
7. The proposed approaches of Mary Lane and Valentine Lane onto Croy Creek Road shall be designed and constructed in accordance with County standards and requirements. Approach permit approvals are recommended prior to construction.
8. County traffic counts indicate Croy Creek Road experiences approximately 900 average daily trips (ADT) between City of Hailey limits and Democrat Gulch Road, and less than 100 ADT between Red Elephant Road and Rock Creek Road. Unless other information is provided, this subdivision, at full development, is likely to generate somewhere between 50 to 100 ADT. Based on these counts, assumptions, and "windshield assessment" of Croy Creek Road, Croy Creek Road has adequate capacity to service this proposed subdivision. Based on these assumptions and observations, additional turn-lanes (left-turn storage lanes, and right-turn deceleration lanes) at the proposed subdivision accesses (Mary Lane and Valentine Lane) would not be warranted. The Blaine County Transportation Plan indicates an ADT of approximately 400 is a threshold for consideration of paving a gravel road, based on long-term maintenance costs. A more specific assessment of Croy Creek Road, and Rock Creek Road, and the impacts of the additional traffic from this proposed subdivision on these roads from the Road & Bridge Department, is recommended.
9. Regarding the private interior roads, the proposed typical section varies from the County Standards, but appears acceptable for the proposed use. The applicant and County may consider increasing the right-of-way to 50-feet or 60 feet to provide some snow storage and roadside drainage beyond the proposed bottom of the roadside ditch within the right-of-way...otherwise, any area outside the bottom of the ditch will be on private property. I suggest the applicant and County consider constructing the ditch/shoulders at 4:1 (H:V) slopes, instead of the proposed 3.5:1 slopes, as the 4:1 shoulder slope is generally

considered the maximum "recoverable" slope for a vehicle. In addition, I suggest the applicant and County consider a cross-slope between 3% and 4%, instead of the proposed 2% cross slope. This increased cross-slope typically provides better drainage on gravel surfaces than the proposed 2% cross-slope. Road and turnaround design approvals from the County and Wood River Rural Fire are recommended prior to the start of construction.

Please let me know if you have questions regarding this review and the comments provided.

Thank you,

JEFF LOOMIS, PE
Blaine County Engineer