

Crook County Planning Commission
Prineville, Oregon
Attn: Planning Director and all Commissioners



CROOK COUNTY
SEP 01 2021
PLANNING DEPT

Response to Knife River, August 25, 2021 hearing

Following is a brief rebuttal that is important to clarify some of the statements made by Knife River.

The Zimmerlees have been assured that the Vanier property will be mined in small cells (5 acres) allowing continued farming of the rest of the property in accordance with the terms of their long term lease. It has been suggested that mining should be done in "quadrants" equaling the service area of one wheel line, about 18-20 acres. A small berm would be placed around each quadrant while being mined and once finished would be returned to usable farm land with an irrigation system in place. Berms around the entire property will render the irrigation system and land totally useless. Water and other resources will be wasted just trying to keep the berms wet and the dust controlled. The land being farmed keeps the dust controlled and uses the resources to grow crops.

Knife River has stated repeatedly how they may only use 15-20 acres annually. Why not confine the mining to those acres and provide for each phase as needed? It should be similar to a housing development which does a master plan with phases to meet market needs. The balance of the land then remains productive and aesthetically pleasing while those things offensive to the neighbors are contained in a much smaller, less noticeable area. A phased approach would minimize the public opposition while allowing Knife River to mine for their projected market needs. In the event the market collapses, the farm land continues to be utilized. Common sense says there should be large portions of the existing mined area totally completed before opening up any new. Any new land opened up to mine should be confined to no more than 20 acre blocks with small berms around each block for visual barriers. Any internal haul roads will be at least a quarter mile from public view.

The Knife River proposal basically allows for approximately 200 acres of land to be in some sort of disruption for many years.

A phased development would contain the mining to no more than 20 acres of the EFU land and complete restoration and/or use of all the other acres, both pre-mined and post-mined.

There were grid soil samples taken on the Woodward, Vanier, and Porfily properties as follows:

21 samples---Vanier 79 acres

19 samples---Woodward 30 acres

16 samples---Porfily 55 acres and Woodward reclaimed 13 acres

All samples were analyzed by a soils lab here in the Northwest for all major and minor elements and organic matter and Ph. Woodward reclaimed 13 acres planted to grass has basically the same nutrient levels as the Woodward 30 acres. The organic matter on both is "little to none" and both have severe compaction problems. See attached minimum recommendations from agronomist Mike Knepp.

Zimmerlee has worked with some of the best agronomists in the Pacific Northwest since the early 1970's and not one agrees with the Knife River "experts" that the reclaimed ground will not require any fertilizer. That is totally bogus.

Knife River continues to tell everyone the land will be as good or better than it was before mining. That is simply just not true. DOGAMI rules require land to be returned to equal or better.

Knife River repeatedly says that the reclaimed ground is finished but then says that the top soil is in the berms. If the top soil is still in the berms, then how can the reclaimed ground be finished? Further, when the berms are leveled, where does that material end up going? Doesn't it need to be placed back on the reclaimed ground now?

The natural drainage system (sand and gravel layer) is being removed and then replaced with overburden that water does not move through. For the soil to percolate moisture a drainage system has to exist. In simple gardening terms, if you plug the hole in the bottom of a flower pot, then the plant is easily over watered and will most likely die. Knife River has plugged the hole in the flower pot.

Zimmerlee did rent the 30 acres from Woodward at a discounted rate but for the fact that the fertility levels of the ground were extremely low and there was no irrigation system for the parcel. Zimmerlee spent more than \$2500 per acre on labor and equipment to repair and replace the equipment rendered useless by Knife River. In addition, Zimmerlee determined it was better to let the small amount of weeds that did grow to remain for the summer to keep the dust controlled until irrigation water from OID became available in 2022.

Regards,

Richard Zimmerlee



Greetings.

Regarding the question of managing the property to the North of the [Woodward Reclaimed] and the [Woodward Reclaimed] and would they be managed differently? As per our conversation and the need to have an understanding how to manage the new ground we have taken multiple soil samples, grid samples, in a uniform manner that shows the drastic differences.

A simple answer would be yes.

The [Woodward Reclaimed] does not contain the organic matter (OM) the fields to the North have. Organic matter is an important ingredient for nutrient release. The standard fertilizer program for Winter Wheat would be higher, you will not get the same crop response without the (OM) being about 1.5 % or higher.

Organic matter releases/mineralized and is made available to plants as Nitrogen (Plant food).

Here are the two recommendations-

[Woodward Reclaimed]- Build the organic matter to above 1.5 using compost- approximately 5 tons of steer manure per acre incorporated- Manure on top of the ground does not count as soil organic carbon (SOC). Manure along with incorporating the straw will build your levels, over time, back to satisfactory

- 3rd party prices for steer manure plus incorporation- \$75/tons
- Each bushel of wheat takes 2-2.5# of Nitrogen
- Accepted county average of winter wheat- 100 bushels
- Each wheat field needs 200-250# of Nitrogen
- Each field can substitute applied Nitrogen for ORGANIC MATTER RELEASE or Estimated Nitrogen Release (ERN)

FIELD AVERAGE ORGANIC MATTER- 2.9%

[Woodward Reclaimed] ORGANIC MATTER- 0.9%

ORGANIC MATTER COUNTS for 50# of nitrogen per % OM up to 2% ORGANIC MATTER and then lessen the amount to 50# of Nitrogen for every OM % over 2

Examples

1%=50#

1.1%=55#

1.2%=60#

1.5%=75#

2% = 100#

2.1% =105#

2.5%=125#

Winter wheat recommendation

(NITROGEN NEEDED) – minus- (ENR)

FIELD AVERAGE- Nitrogen and Sulfur recommendation- DOES NOT INCLUDE Potash, Phosphorus, Zinc or Boron.

NITROGEN NEEDED 250# - ORGANIC MATTER NITROGEN (2.9%) 145# nitrogen = **105 # of Nitrogen and 21# of Sulfur**

[Woodward Reclaimed]

Nitrogen and Sulfur recommendation- DOES NOT INCLUDE Potash, Phosphorus, Zinc or Boron.

NITROGEN NEEDED 250# - ORGANIC MATTER NITROGEN (0.9%) 90# nitrogen = **145 # of Nitrogen and 29# of Sulfur**

Difference in cost not including the addition of manure or any other source of organic matter.

Field Average- COST PER ACRE- Nitrogen and Sulfur- \$125/acre

[Woodward Reclaimed] COST PER ACRE- Nitrogen and Sulfur- \$91/acre

27% higher Nitrogen costs for the same yield expectations. This will remain true for grass hay and forages until/unless we can build some Soil organic carbon (SOC).

On a final note. The drainage problem could amplify the problem and cause denitrification (The lack of nitrogen in an anerobic state).

Thank you,

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