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## Western Environmental Law Center

August 31, 2015

*Via Electronic Mail*

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Re: Comments on Wind Mill Estates CUP Application (CUP-2015-036; SEP-2015-015)

Dear Ms. Madera and Mr. Gumz,

These comments are being submitted on behalf of the Center for Environmental Law & Policy (CELP) and Friends of Toppenish Creek (“Commenters”). Both organizations work to protect water quality, water quantity and the people, fish and wildlife who depend upon cold, clean water in Yakima County and other areas throughout Washington state. Commenters are concerned about the environmental impacts of Wind Mill Estates’ proposal to construct a new bovine cattle feedlot in an area where there is simply no water to be had. We respectfully request that you deny Wind Mill Estates’ permit application as it is within your legal authority to do so.

### Water Use

The permit application states that “[t]he intended site is currently undeveloped agricultural land *without irrigation water rights*. Consequently, this feed lot is judged a good use for land not valuable as an agricultural resource.” Narrative at 1 (emphasis added). We agree with the applicant that a CAFO feedlot is not an agricultural resource, but rather an industrial operation. Since it has no valid legal water rights, the application makes it very clear how the project intends to obtain water to sustain the operation:

Water for livestock watering and the onsite residence will be provided by two wells to be located near the maintenance shop. Livestock watering and residential use are exempt water right use per Washington State law. Water withdrawal are estimated near 50,000 gallons per day.

Narrative at 5. There is no way to verify this estimate of water use because the applicant has neglected to include information as to how many animal units will be contained at the feed lot. Given the bits of information about how many cows will be at the feedlot (e.g. 6000 calf hutches), this appears to be a significant under-estimate of the amount of water that will be drawn out of the aquifer to operate the feedlot.

Commenters' concern is quite simple. In the Yakima basin, there is no water available for this feedlot to operate. The Yakima basin is effectively closed to all new appropriations of groundwater because the water is simply not there to be allocated. In fact, "Ecology has not issued surface water rights within the Yakima Basin since the beginning of the adjudication over 30 years ago. Groundwater rights haven't been issued for almost 20 years. Before a new water right permit is issued, Ecology must determine water is available and that the new permitted use will not have a negative impact on existing water rights."<sup>1</sup> Water is not available and the feedlot *will* negatively impact existing water users.

The science is clear that all water pumped out of these two wells is water that would otherwise flow to the already over-allocated Yakima River. The hydrologic connection between surface and groundwater in the Yakima basin is well-documented and has been known for years. *See, e.g.,* Vaccaro, J., *River-Aquifer Exchanges in the Yakima River Basin, Washington*, U.S. Geological Survey Scientific Investigations Report 2011-5026 (2011).<sup>2</sup> In a comprehensive study, USGS found that virtually all groundwater in the basin ultimately flows to the Yakima River. *Id.* Therefore, because the Yakima River is already over-appropriated, no groundwater in this area is available to satisfy new proposed uses, such as Windmill Estates' proposed feedlot.<sup>3</sup> There is no question that the Yakima River is fully appropriated by out-of-stream water rights that are quite senior to Wind Mill Estates and by the Yakama Nation's rights to instream flows that date back to time immemorial. Because this proposed feedlot does not have, nor can it secure, a legitimate water right, the permit application must be denied.

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<sup>1</sup> Ecology, Pending Water Right Applications in Subbasins of the Yakima River Basin, available at <http://www.ecy.wa.gov/programs/wr/cro/yakima-sb31.html> (last visited Aug. 31, 2015).

<sup>2</sup> For a comprehensive list of studies documenting the hydrologic connection between surface and groundwater in the Yakima Basin, including the Vaccaro study cited herein, see USGS Washington Water Science Center, Yakima River Basin, Publications and Products, available at <http://wa.water.usgs.gov/projects/yakimagw/publications.htm> (last visited Aug. 31, 2015).

<sup>3</sup> Ecology, Pending Water Right Applications in Subbasins of the Yakima River Basin, available at <http://www.ecy.wa.gov/programs/wr/cro/yakima-sb31.html> (last visited Aug. 31, 2015) ("The adjudication and other applicable state and federal court decisions have determined that the Yakima River Basin is 'over-appropriated,' meaning more surface water rights have been confirmed in the adjudication than there is actual water flowing in the streams.").

The lack of any legitimate water right cannot be overcome by Windmill Estates' stated intent to utilize the stockwater exemption. Narrative at 5 ("Livestock watering and residential use are exempt water right use per Washington State law."). The Washington Supreme Court has interpreted RCW 90.44.050 as meaning that "groundwater withdrawn without a permit for stock-watering purposes is not limited to 5,000 gallons per day."<sup>4</sup> However, the Supreme Court did not, nor can it, authorize permit-exempt withdrawals when there is no water available.

Interception of groundwater that would normally flow to the Yakima River also has substantial environmental consequences. Groundwater contributes to unique and important ecosystem characteristics in the Yakima River and its tributaries. Groundwater discharge into surface waters provides thermal refugia for salmonids as well as contributing toward the productivity and diversity of groundwater-dependent and riparian ecosystems. See Vaccaro, *River-Aquifer Exchanges*, (cited above) at p. 11. The impacts of the proposed project on these environmental values are not discussed in the application or elsewhere.

### Drinking Water Contamination

The application makes it clear that the feedlot will be located within close proximity to people's homes: "To the east within ½ mile are four residences, and to the northwest about 1/3 mile is another residence. There are about 14 other residences within 1 mile to the north." Narrative at 2. There is no information in the application about the source of water for these residences, but these residences presumably get their water from individual wells. If that is the case, then siting this feedlot in this location has the potential to cause further contamination to these residents' drinking water wells with pollutants such as nitrates and is illegal.

It is well documented in the scientific literature that CAFO operations have the potential to contaminate ground water with nitrates. In a September 2012 study, EPA concluded that "[e]ach of these [CAFO] case study sites exhibited ground water contamination by nitrate and/or ammonium. For most sites, this resulted directly from the operation, either through leaking infrastructure piping, *leaking lagoons*, or land application of CAFO waste, as supported through the monitoring of stable nitrogen isotopes."<sup>5</sup> Similarly, "[m]anure stored on gravelly soil or shallow, cracked bedrock can pollute groundwater."<sup>6</sup> In fact, the application states that the parcels on which the feedlot will be located "slope downward to the north," towards the fifteen local residences. Narrative at 2. There is no information in the application regarding how this

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<sup>4</sup> *Five Corners Family Farmers v. State*, 173 Wn.2d 296, 313, 268 P.3d 892 (2011).

<sup>5</sup> EPA, Office of Research & Development, National Risk Management Research Laboratory, Ada, Oklahoma, EPA 600/R-12/052, Case Studies on the Impact of Concentrated Animal Feeding Operations (CAFOs) on Ground Water Quality (September 2012) (emphasis added).

<sup>6</sup> Ron Fleming, Jennica Johnston, Heather Fraser, *Leaking of Liquid Manure Storages – Literature Review* (July 1999).

proposed feedlot will ensure that its operation will not contaminate the groundwater of these adjacent residences. That is a fatal flaw.

The Washington legislature has explicitly directed the Washington State Board of Health to regulate the storage of animal waste to protect human health:

In order to protect public health, the state board of health shall: Adopt rules and standards for prevention, control, and abatement of health hazards and nuisances related to the disposal of human and animal excreta and animal remains.

RCW § 43.20.050(2)(c) (2013). The Board’s statutory obligation to protect public health from pollutants caused by the keeping of animals is an affirmative delegation of state police power to protect the public health to the Board of Health. The legislature has directed all local boards of health and health officers, among other state and local officials, to enforce the regulations promulgated by the Board of Health to carry out this duty. RCW§ 43.20.050(5). Under WAC 246-203-130(1) and (3), “[a]ny person, firm or corporation is prohibited from keeping or sheltering animals in such a manner that a condition resulting from same shall constitute a nuisance” and “[m]anure shall not be allowed to accumulate in any place where it can prejudicially affect any source of drinking water.” Because the map demonstrates that the manure generated at the feedlot will be stored and applied in close proximity to several drinking wells, it should not be permitted.

### Water Pollution

The application states that “[t]he location of the actual feed lot and the support facilities were selected to avoid altering these natural drainage paths [of Type V streams],” but there is no information in the application as to how that will be done. Moreover, “[t]opography and some aerial views would indicate potential other drainage paths through the site.” Narrative at 2. If that is the case, then these drainage paths need to be affirmatively identified and protected now as it is not a “potential concern,” but a legal obligation that needs to be followed. It is also illegal under state and federal law for an access road to cross a stream bed as the applicant proposes.

The applicant claims that the “[u]rine from cattle will usually be evaporated from dry soil.” Narrative at 3. The applicant does not prognosticate what will happen to the solid manure that the cattle will deposit onto the ground of the cattle pens. However, studies show that significant amount of contaminants from cow manure leach into the groundwater from cattle pens. In fact, as part of the Lower Yakima Valley Groundwater Management Area, the Washington Department of Agriculture (WSDA) is looking at different studies and is currently estimating nitrate contributions from livestock corrals and pens at dairies in the Lower Yakima Valley. The WSDA has identified the following relevant factors to consider when estimating the nitrate contribution from livestock corrals and pens, none of which is addressed in the land use application: livestock density, area, number of cleanings/scrapings per year, moisture application

(rainfall/manure/urine), permeability of underlying soil, depth to groundwater, maintenance of compacted manure layer.<sup>7</sup> The work of WSDA makes it very clear that it is possible to estimate the amount of nitrogen loading from corrals and pens and that cows confined in pens are a significant contributor to groundwater contamination that must be addressed and prevented by Wind Mill Estates.

The applicant states that the wastewater pond “will be lined with minimum 40 mil synthetic liner and designed to conform with requirements of US Soil conservation Service.” Narrative at 4. But this does not comply with relevant legal requirements designed to protect water quality. Ecology has concluded “if the CAFO has a lagoon that does not have a double *geomembrane liner* with a leak detection system between the liner layers that it is discharging to groundwater.”<sup>8</sup> The waste pond will also be used to store feed leachate that is collected from the feed lay down area. Narrative at 4. Therefore, the applicant is proposing to construct an illegal waste storage lagoon.

#### Insufficient Waste Management Activities

The applicant states that “[m]anure waste will be scraped from the corrals using tractors and loaders. Solid manure waste will be transported for manure waste processing on the adjacent parcel 230818-11002.” Narrative at 4. The feedlot will use about nine acres of this parcel to stack and compost manure waste from the corrals. *Id.* “A berm will be built to prevent storm water falling on the solid waste from entering the Class V stream path mentioned above.” *Id.* Finally, “[t]he west side of this parcel can also be used for dispersion of waste water following unusual wet weather.” *Id.* The applicant has not indicated that it will manage its compost operation using best management practices, including but not limited to a comprehensive controlled aeration system that measurably accelerates the reduction of moisture, increases oxygen levels, and provides temperature control, and ensure that compost operations are conducted on an impermeable surface with a slope that leads to an asphalt apron for collection of any leachate or runoff. The applicant must ensure that all applications of liquid and solid manure on all fields owned, leased, or otherwise controlled or used by the applicant are based upon an Ecology-approved nutrient management budget that is designed to protect surface and ground water quality. There is nothing in the application to indicate that

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<sup>7</sup> Preliminary Evaluation of Livestock Facility Contribution to Nitrate Levels in Groundwater – Yakima GWMA, presented by Kirk V. Cook, LG LHG, WSDA & Jaclyn Hancock, WSDA (June 2015) (Attachment A).

<sup>8</sup> Ecology, Preliminary Draft, Concentrated Animal Feeding Operation General Permit (Aug. 13, 2015) (emphasis in original) (Attachment B) at 5 (“The Water Quality Program has determined that a lagoon with two layers of synthetic geomembrane liner with a leak detection and capture system between the layers (if installed, maintained, and operated properly) does not have a discharge that requires a permit. Other lagoon designs are known to leak, which in certain areas is a discharge. In areas where there are known groundwater impacts from nitrate, or where the groundwater is susceptible to impacts from nitrate, Ecology has determined that the leakage from lagoons that are not double lined with leak detection requires a permit.”).

manure will be managed and applied in a manner that protects human health and the environment.

### Climate Change Impacts

Another reason that the County must deny Windmill Estate's permit application is climate change. The science confirms that the drought the Yakima Basin is currently experiencing will occur on a much more frequent basis in the future and thus authorizing an unlimited withdrawal of groundwater from the aquifer to support this project is ill advised. In their latest report summarizing the most current climate science, the University of Washington Climate Impacts Group has found that "Washington's water resources will be affected by projected declines in snowpack, increasing stream temperatures, decreasing summer minimum streamflows, and widespread changes in streamflow timing and flood risk. These changes increase the potential for more frequent summer water shortages in some basins (e.g. the Yakima basin) and for some water uses (e.g. irrigated agriculture or instream flow management), particularly in fully allocated watersheds with little management flexibility."<sup>9</sup> "In the Yakima basin, warming is projected to increase the frequency of water shortage years – i.e., years in which water delivery is curtailed due to insufficient streamflow – from 14% of years historically (1940-2005) to 43-68% of years by the 2080s (2070-2099)."<sup>10</sup>

In addition, this feedlot will generate a significant amount of greenhouse gas (GHG) emissions. Animal feeding operations, such as the proposed feedlot are major contributors of GHG in the state of Washington. "Agricultural activities such as manure management, fertilizer use, and livestock (enteric fermentation) result in methane and nitrous oxide emissions that account for 6% of State GHG emissions in 2005."<sup>11</sup> Worldwide, the livestock sector generates more GHG emissions as measured in CO<sub>2</sub> equivalent (18%) than the transportation sector.<sup>12</sup> Livestock generates 65% of human-related nitrous oxide which has 296 times the global warming potential of CO<sub>2</sub>, accounts

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<sup>9</sup> Snover, A.K, G.S. Mauer, L.C. Whitely Binder, M. Krosby, and I. Tohver. 2013. Climate Change Impacts and Adaptation in Washington State: Technical Summaries for DecisionMakers. State of Knowledge Report prepared for the Washington State Department of Ecology. Climate Impacts Group, University of Washington, Seattle at ES-4.

<sup>10</sup> *Id.* at 6-5; *see also* Vano, J.A. et al., 2010. Climate change impacts on water management and irrigated agriculture in the Yakima River Basin, Washington, USA. *Climatic Change* 102(1-2): 287-317.

<sup>11</sup> WA Department of Community, Trade & Economic Development, Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2010 (December 2007), *available at* [http://www.ecy.wa.gov/climatechange/docs/WA\\_GHGInventoryReferenceCaseProjections\\_1990-2020.pdf](http://www.ecy.wa.gov/climatechange/docs/WA_GHGInventoryReferenceCaseProjections_1990-2020.pdf) (last visited March 31, 2014).

<sup>12</sup> Livestock's Long Shadow – Environmental Issues and Options, United Nations Food & Agriculture Organization (Nov. 29, 2006).

for 37% of all human-induced methane<sup>13</sup> and is responsible for 64% of ammonia emissions: devastating health effects. *Id.* "Global greenhouse gas emissions from the agricultural sector totaled 4.69 billion tons of carbon dioxide (CO<sub>2</sub>) equivalent in 2010 (the most recent year for which data are available), an increase of 13 percent over 1990 emissions. By comparison, global CO<sub>2</sub> emissions from transport totaled 6.76 billion tons that year, and emissions from electricity and heat production reached 12.48 billion tons, according to Worldwatch Institute's Vital Signs Online service ([www.worldwatch.org](http://www.worldwatch.org))."<sup>14</sup> Manure management activities have been identified as a major contributing factor to increased GHG emissions:

Manure that is deposited and left on pastures contributes to global nitrous oxide emissions because of its high nitrogen content. When more nitrogen is added to soil than is needed, soil bacteria convert the extra nitrogen into nitrous oxide and emit it into the atmosphere—a process called nitrification. Emissions from manure on pasture were highest in Asia, Africa, and South America, accounting for a combined 81 percent of global emissions from this source.<sup>15</sup>

In Washington, "[t]he manure management category [of emissions], which shows the highest rate of growth relative to the other categories, accounted for 11% [] of total agricultural emissions in 1990 and is estimated to account for about 25% [] of total agricultural emissions in 2020."<sup>16</sup> The science is clear that livestock population is a critical component of any emissions calculation for the agricultural sector. *Id.* The GHG emissions calculations done in Washington for the agricultural sector explicitly recognize the need for more precise data because "[e]missions from enteric fermentation and manure management are dependent on the estimates of animal populations and the various factors used to estimate emissions for each animal type and manure management system (i.e., emission factors which are derived from several variables including manure production levels, volatile solids content, and CH<sub>4</sub> formation potential)." *Id.* at F-6.

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<sup>13</sup> This assumes that methane causes 23 times as warming as CO<sub>2</sub>, but as discussed below, this measure of warming is outdated. Methane is now estimated to cause 34 times the amount of warming of CO<sub>2</sub>.

<sup>14</sup> Worldwatch Institute, "Agriculture and Livestock Remain Major Sources of Greenhouse Gas Emissions," available at <http://www.worldwatch.org/agriculture-and-livestock-remain-major-sources-greenhouse-gas-emissions-1> (last visited March 31, 2014).

<sup>15</sup> *Id.*

<sup>16</sup> WA Department of Community, Trade & Economic Development, Washington State Greenhouse Gas Inventory and Reference Case Projections, 1990-2010 (December 2007), available at [http://www.ecy.wa.gov/climatechange/docs/WA\\_GHGInventoryReferenceCaseProjections\\_1990-2020.pdf](http://www.ecy.wa.gov/climatechange/docs/WA_GHGInventoryReferenceCaseProjections_1990-2020.pdf) (last visited March 31, 2014) at F-4.

In 2012, the leading source of methane in the United States was enteric fermentation, and manure management was the fifth largest source.<sup>17</sup> Activities associated with manure management are also the third largest source of nitrous oxide, another powerful greenhouse gas.<sup>18</sup> In Washington State, enteric fermentation was responsible for 2.0 million metric tons of CO<sub>2</sub> equivalents (“MMT CO<sub>2</sub>eq”) and manure management was responsible for 1.1 MMT CO<sub>2</sub>eq in the year 2010.<sup>19</sup>

The proposed feedlot will be a significant source of climate pollution. Methane is produced by ruminants during the digestion process. Furthermore, anaerobic conditions in manure holding areas and runoff lagoons lead to methane emissions. The EPA website estimates that one cow produces up to 110 kg of methane per year.<sup>20</sup> Nitrous oxide, a powerful greenhouse gas,<sup>21</sup> is also produced from combined manure and urine during storage. In addition, the farm equipment, generators and boilers used at the feedlot facility and heavy-duty diesel trucks transporting livestock and feed will produce carbon dioxide from fuel usage and from electricity usage. Diesel-powered engines and generators are also a significant source of black carbon.

This project will increase GHG emissions by causing a significant increase in vehicle miles traveled in this area. Transportation emissions are the largest source of GHG in the state of Washington. “Feed for the operation will be trucked in from the feed facility at the Friesland Dairy about 12 miles away. Narrative at 4. “Traffic flow to and from the feed lot is estimated at about 30-50 vehicle trips per day.” *Id.* “Other operations requiring significant energy will be done using motor vehicles running on conventional petroleum based fuels.” Narrative at 6. Given the significance of the climate crisis and the urgent need to draw down GHG emissions, it would be improper for the County to authorize the construction of this feedlot.

#### Insufficient Information

The permit application also lacks a significant amount of information. In the application, it states that “The Wind Mill Estates is not confined to the below mentioned parcels. It has multiple adjacent lots near the Grandview and Mabton operations used for growing feed, and dispersion of waste water and manure solids. For purposes of obtaining land use permits, this narrative will address the proposed Feed lot as one operation. In the interest of full disclosure all of these operations are interconnected.” Narrative at 1. However, the map does not depict the location of “all of these operations” and how each parcel will be used for purposes of the feedlot operation. Where are the “multiple adjacent lots”? For what purpose will they be used? What feed will be grown?

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<sup>17</sup> USEPA, Inventory of US Greenhouse Gases and Sinks: 1990-2012 2-4 (Apr. 15, 2014).

<sup>18</sup> *Id.* at 2-5.

<sup>19</sup> WA Dept. of Ecology, WASHINGTON STATE GREENHOUSE GAS EMISSIONS INVENTORY 1990-2010 at 4 (2012).

<sup>20</sup> See <http://www.epa.gov/rlep/faq.html>, last visited May 21, 2014.

<sup>21</sup> Myhre et al, IPCC AR5 Chapter 8 at 714.



How and where will waste water and manure solids be dispersed of? This information is critical for the county to meaningfully evaluate whether to approve the permit application and must be provided by the applicant in order to comply with SEPA and county regulations.

Notably, there is no indication in the application how many cattle will be contained at the feedlot. That information is critical for the County to evaluate the potential environmental impacts associated with this proposed project and to determine its compatibility with county land use regulations.

### Conclusion

For the reasons set forth herein, Commenters respectfully request that you deny Windmill Estate's permit application.

Sincerely,

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