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November 2, 2026

BY EMAIL ONLY
Morrighan O'Connell
IDEM, Office of Land Quality
100 North Senate Avenue, IGCN 1154
Indianapolis, Indiana 46204-2251
moconnel@idem.IN.gov

Re: Comments Concerning City of Crown Point Land Application of Biosolids
Draft Permit Modification No. IN LA 000272

Dear Ms. O'Connell:

The Conservation Law Center, Environmental Law & Policy Center, Hoosier Environmental Council, and Indiana Conservation Voters (collectively "Commenters") submit the following comments regarding Crown Point's application to modify its Land Application of Biosolids permit, No. INLA000272 ("Permit"), to allow for the application of biosolids on frozen and snow-covered ground. Commenters are non-profit organizations dedicated to improving Indiana's environment, with community partners and members who live and recreate in Lake and Porter Counties.

Commenters urge Crown Point to seek alternatives to the land application of biosolids on frozen or snow-covered ground, given the risks and limited agronomic value of the practice. Applying fertilizer or manure to frozen or snow-covered ground results in nutrient loss to surrounding water via snowmelt and runoff.[1] Scientific and governmental authorities widely discourage the practice.[2] The Eagle Creek site described in this application abuts Bryant Ditch,

[1] *See* Jason Smith, Rachelle Crow, and Steven Safferman, *Winter Manure Application: Management Practices and Environmental Impact*, North Central Region Soil Health Nexus 3-5 (Sept. 2017), https://soilhealthnexus.org/wp-content/uploads/sites/455/2026/04/Accessible-ncrwn-winter-manure-app-mngmt-practices-enviro-impact-report-FINAL.pdf (citing studies identifying significant phosphorous and nitrogen loads in surface waters from winter-applied manure).

[2] *See id.*; B. Hindmarsh, Ontario Ministry of Agriculture, Food and Rural Affairs, *Winter Application of Manure and Other Agricultural Source Materials* OMAFRA Fact Sheet 21-0745 (Aug. 2021), https://files.ontario.ca/omafra-winter-application-of-manure-and-other-asm-21-045-en-2023-05-16.pdf ("Winter is not an appropriate time for manure application."); Greg Brenneman, Winter Manure Application, *Iowa Manure Manager Series* 3, https://crops.extension.iastate.edu/files/inline-files/vol3.pdf ("Based on potential nutrient losses

which flows directly into Singleton Ditch, a tributary of the Kankakee River. IDEM has determined that these ditches are already impaired by E. coli and cannot support their designated uses, which include full body contact and warm water aquatic life.[3]

If Crown Point does apply biosolids to frozen or snow-covered ground, the following five additions to the management plan and permit would mitigate risk and go further toward ensuring that "the biosolid or industrial waste product does not enter surface waters or ground water[,]" as the law requires.[4]

1. **Test for PFAS before any land application.** The potential for per- and polyfluoroalkyl substances("PFAS") in biosolids adds to the risks associated with land application. PFAS have been identified even in residential wastewater and tend to concentrate in biosolids.[5] If land-applied, PFAS may accumulate and persist in soils or contaminate neighboring waters.[6] Increasingly, states are limiting or prohibiting land application to avoid contaminating land and water with "forever chemicals."[7] Crown Point already must test for total solids, 5 nutrients, and 9 heavy metals in biosolids applied to land. The management plan should include PFAS among the tested contaminants to allow for informed decision-making about biosolids application at a time when the risks of runoff are greater.

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and water quality degradation, winter manure application is not recommended."); Illinois EPA, Illinois DOA, and University of Illinois Extension, *Illinois Nutrient Loss Reduction Strategy* 6-17 (2015), https://epa.illinois.gov/content/dam/soi/en/web/epa/documents/water-quality/watershed-management/nlrs/nlrs-final-revised-083115.pdf ("There are a number of appropriate manure application management practices available to producers, including … [a]voiding or minimizing manure applications to snow-covered or frozen areas.").

[3] U.S. EPA, Waterbody Report, *How's My Waterway?* https://mywaterway.epa.gov/community (search for Assessment Unit IDs "INK01D5_03", "INK01D5_T1006") (accessed Oct. 2026).

[4] 327 IAC 6.1-5-7(l).

[5] *See* Juhe Liu and Joseph Charbonnet, A Critical Review of PFAS Analysis, Occurrence, and Fate in Wastewater Treatment Plants, 59 Environ. Sci. Technol. 25492, 25497 (2025); Diana Lin et al., Residential Wastewater as a Major Source of Per- and Polyfluoroalkyl Substances to Municipal Wastewater, 4 ACS ES&T Water 4847 (2024).

[6] *See* Martin Exner & Harald Farber, Perfluorinated Surfactants in Surface and Drinking Waters 13 Environmental Science and Pollution Research 299, 304 (Sept. 2006) (attributing high PFAS concentrations in surface water to land application of contaminated organic waste); Andrew Lindstrom et al., Application of WWTP Biosolids and Resulting Perfluorinated Compound Contamination of Surface and Well Water in Decatur, Alabama USA, 45 Environ. Sci. Technol. 8015 (2011).

[7] *See* Sarah Grace Hughes and Julia Henderson, *ECOS Compendium of State PFAS Actions* (April 2025), 21-22, available at https://www.ecos.org/wp-content/uploads/2026/03/ECOS-PFAS-Compendium-FINAL.pdf);

2. **Establish appropriate, evidence-based application rates.** The management plan states, "THE BIOSOLID APPLICATION RATE WILL BE REDUCED 25% TO A MAXIMUM OF 150 TOTAL NITROGEN UNITS."[8]

    a) This statement apparently references the permit's loading rate for corn (200 pounds of Plant Available Nitrogen (PAN) per acre) but not the permit's loading rates for other crops (100 pounds of PAN per acre) or set aside/idle land (50 pounds of PAN per acre).[9] The management plan should either specify that biosolids will be used on frozen or snow-covered ground only for corn, or it should incorporate distinct limits depending on land use.

    b) Indiana's regulations recognize that application rates should vary with a site's potential to retain and take up nutrients (e.g., rates for idle land are lower than rates for land with corn). IDEM should not approve a 75%-of-normal application rate without evidence that it is a reasonable target application rate in frozen or snow-covered conditions.

    c) Application rate calculations reflect not only the instant quantity of biosolids; they incorporate the previous three years of activity.[10] However, the concern with application to frozen or snow-covered ground is not merely the soil's total nutrient load, but the possibility that nutrients will not permeate the soil at all. The management plan should also establish conservative weekly or monthly application limits when the ground is frozen or snow-covered.

3. **Strengthen weather-based limits.** The management plan would limit application before "excessive rainfall" and "above normal freezing and thawing" without defining these terms. These parameters are vague and not protective enough. The management plan should establish that biosolids will not be applied to frozen or snow-covered ground at all in advance of any anticipated rainfall, thawing, or snowmelt.[11]

4. **Develop a contingency plan.** The management plan does not address how Crown Point will respond if flooding or visible runoff occurs. It should address response measures, including mitigation and notification of neighboring property owners, downstream residents, and IDEM.

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[8] *See* Modification Application for Land Application Permit No. IN LA 000272, Crown Point Wastewater Treatment Plant (Sept. 24, 2026), VFC no. 84015978, Part IX(B).
[9] *See* Hybrid Biosolids Land Application Permit Renewal No. IN LA 000272, Crown Point Wastewater Treatment Plant (Jan. 15 2026), VFC no. 83911533, Condition E.1.
[10] *See* 327 IAC 6.1-4-10(b)(8)(F).
[11] Hindmarsh, *Winter Application of Manure and Other Agricultural Source Materials*, https://files.ontario.ca/omafra-winter-application-of-manure-and-other-asm-21-045-en-2023-05-16.pdf; Brenneman, Winter Manure Application, https://crops.extension.iastate.edu/files/inline-files/vol3.pdf.

5. **Clarify geographic limits.** Commenters could not determine whether Crown Point intends to apply biosolids only at the specified site in Eagle Creek, or also at unspecified sites in Lake and Porter Counties. A final permit should indicate that Crown Point may engage in this practice only at the specified site.

Commenters share Crown Point's interest in an alternative to landfilling biosolids, but land application absent sufficient protections or agronomic utility is effectively a less-regulated form of the surface disposal of sewage sludge. Commenters question whether land application to frozen or snow-covered ground is ever advisable. Nonetheless, where it occurs, the management strategy should arise from agronomic principles and include all provisions needed to ensure biosolids do not contaminate surface or ground water.

Commenters thank IDEM and Crown Point for their attention and would gladly discuss this further, if helpful.

Sincerely,



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