EXHIBIT E



H&B Solutions, LLC

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INITIAL ASSESSMENT OF DNREC'S DRAFT SPRAY IRRIGATION OPERATION PERMIT FOR MOUNTAIRE FARMS OF DELAWARE, INC.

PROJECT NO. 18001.00

MAY 21, 2020

PREPARED BY:

Janer e 1.

MR. DANE BAUER – MEMBER

At the request of Baird Mandalas Brockstedt, LLC, H&B Solutions, LLC (H&B) has reviewed the Delaware Department of Natural Resources and Environmental Control (DNREC) proposed Spray Irrigation Operation Permit. This Permit is part of hearing docket #2020-P-W-0014. The evaluations associated with the Permit as summarized below relate to my expertise in the area of environmental/regulatory requirements associated with land application of treated wastewater effluent at the Mountaire poultry operations in Millsboro, Delaware. All opinions expressed herein are based on the information and documents currently made available by DNREC in relationship to this proposed Permit renewal. Since the public comment period remains open until June 22, 2020, I reserve the right to supplement these opinions as more information obtained during the public comment process becomes available.

This summary is based on a review of how this proposed Permit relates to the existing Spray Irrigation Operations Permit (DEN Number: 359191-04), DNREC Code and Regulations, US Environmental Protection Agency (EPA) Guidelines, previous EPA actions in regards to Mountaire, Maryland Department of Agriculture (MDA) land application storage requirements, Virginia land application storage requirements, DNREC's permit for Artesian (DEN Number: 359288-02), and industry accepted standards and practices in combination with other references and subject matter materials provided to Baird Mandalas Brockstedt, LLC related to Mountaire operations.

By education and experience, I have unique knowledge and qualifications associated with the science, public health impacts, environmental regulation, monitoring, and compliance of the application of treated effluents to land application spray irrigation facilities. I attended the University of Maryland and received a Bachelor of Science with a major in Microbiology and later receiving a master's degree from Johns Hopkins University in Environmental Health Sciences with a focus on Environmental/Public Health Engineering. As a result, I developed a strong background in water quality management. Amongst other unique areas of special knowledge and experience, my expertise includes design, permitting, construction, and operation of water and wastewater treatment systems. My Master's Thesis was dedicated to the development of Maryland's first guidelines for land application of treated wastewater effluents.

I was a previous Director of Engineering and Operations for the Maryland Environmental Service and oversaw the daily operation and maintenance of over 200 water and wastewater treatment facilities. Approximately ten (10) to twelve (12) of these facilities utilized spray irrigation of treated effluents. At the same time, I served by gubernatorial appointment as Chairman of the Maryland Water/Wastewater Certification Board where I became expert on treatment works and waste disposal systems in certifying operators. Later I became the Deputy Director of the Maryland Department of Environment (MDE) Water Management Administration. In this capacity I functioned as a Chief of Staff and oversaw the day-to-day implementation of the Maryland National Pollutant Discharge Elimination System (NPDES) and the State's Groundwater Discharge Permit Program. In these capacities I became expert in the understanding and application of the detailed requirements of the EPA drinking water and water quality programs.

Among other duties at MDE, I oversaw the development of the land application discharge permits for the poultry industry in Maryland and guided the issuance of permits, monitoring, and compliance of the treatment works and land applications that served dozens of State-permitted poultry facilities.

Following retirement from Maryland State Government, I served as an Associate and Director of Operations at George, Miles & Buhr, LLC (GMB), an engineering firm in Salisbury, Maryland where several of my clients included Showell Poultry, Perdue Farms, and Tyson Foods. My role was to

keep these poultry operations compliant with applicable State and Federal laws with respect to their active permits for land applying treated effluents (including spray irrigation) from their various poultry plant operations.

As a Principal with my partner (Mrs. Melissa Hall) in the firm of H&B, I have continued to share my expertise on spray irrigation of treated wastewater effluents by consulting with numerous commercial property owners, subdivisions, and local governments. Services for Worcester County, River Run Golf Course, Glenn Riddle Golf Course, and many others involve the permitting of these facilities to meet spray irrigation requirements prior to land application.

The opinions and conclusions contained herein are made with a reasonable degree of environmental and scientific probability and pertain to poultry processing industry spray irrigation of treated wastewater as it relates to environmental regulation, public health requirements, and compliance with applicable water quality and drinking water standards.

2020 SPRAY IRRIGATION OPERATIONS PERMIT DEFICIENCIES:

Overall, the proposed Permit has deficiencies, missing requirements/conditions, and is not protective of public health or the environment. In general:

- The proposed Permit does not include compliance with DNREC Regulations by incorporating them by reference in the Permit.
- The proposed Permit does not include the nitrogen loading limit table identified in the 2017 Permit which establishes fertilization loading rates for nitrogen on a pound per acre per year basis. The proposed Permit should either include loading limitations referenced in the DNREC and Industry Accepted Standards and Guidelines for Spray Irrigation of Treated (https://dnrec.alpha.delaware.gov/water/groundwater/spray-Effluent Crops on irrigation/resources/), Mountaire's 2003 Vegetative Management Plan prepared by George, Miles & Buhr, LLC, or the Keen Consulting Monthly Crop Nitrogen Uptake Values as noted in their June 30, 2016 letter. Application of total nitrogen in the spray effluent should not exceed one hundred seventy-three (173) pounds per acre per year (lbs/ac/yr) if applied to corn crop, two hundred (200) lbs/ac/yr if applied to soybean crop, or two hundred ninetyone (291) lbs/ac/yr if applied to double crop of soybean and wheat; unless soil analysis by certified nutrient management professional confirms more or less plant available nitrogen should be applied to ensure full uptake by crop.
- Without explanation, the proposed Permit omits reference to protections for nearby residential wells provided in the current permit: *"if downgradient water supply wells are contaminated by wastewater spray irrigation process, the permittee shall provide a free, alternative potable water supply to the affected parties."*
- Attachment A includes EPA's December 22, 2000 recommendation for deleting certain fields from spray irrigation during wet weather conditions and DNREC accepted EPA's recommendation in prior and the current permit. These fields have not been identified for "no winter irrigation" in the proposed Permit and no explanation has been provided even though there is substantial evidence of ponding and runoff from these fields. See *Figures* 2-8, 10, 11-17, and 21 below.
- The proposed Permit is not consistent with DNREC Regulations or other recent DNREC permit actions such as the Artesian Northern Sussex Regional Water Recharge Facility (DEN Number: 359288-02) which includes a sixty-one (61) day storage requirement as

noted in the Hearing Officers Report (Hearing Docket No. 2019-P-W-0016), March 12, 2020. The proposed Permit should include a specific storage requirement. Records show that Mountaire is over-fertilizing by applying treated effluent to the spray fields when there is no appreciable crop uptake of nitrogen. To account for winter conditions, saturated fields, lack of crops, planting/harvesting, crop disease, WWTP operational upsets, and other factors specified in DNREC regulations ninety (90) day storage is warranted.

- Consistent with the Artesian Northern Sussex Regional Water Recharge Facility (DEN Number: 359288-02), monthly samples for lysimeter readings/measurements should be required in the proposed Permit, not quarterly as stipulated in DNREC's 7101 Regulation # 6.8.4.1.
- The proposed Permit limitations include ten (10) milligrams per liter (mg/L) total nitrogen (TN) in the effluent and ten (10) mg/L nitrate in the percolate beneath the spray fields. These limits are not protective of the groundwater which is already contaminated and exceeds the Drinking Water Standard below the spray fields, nor are they protective of adjacent surface waters, including the L & T Tax Ditch, Swan Creek and Indian River.
- The proposed Permit does not include a winter seasonal effluent limitation to account for no crop uptake of nitrogen. Absent adequate effluent storage of at least seventy-five (75) to ninety (90) days, the proposed Permit should include an effluent limit of five (5) mg/L or less to ensure the percolate levels as measured at the lysimeters do not exacerbate the existing groundwater contamination issue and contribute to remediation efforts. Treatment to achieve five (5) mg/L is defined as Enhanced Nutrient Removal (ENR) which can achieve limits of technology at three (3) mg/L. This level should be required to further limit nitrogen levels which may reach onsite ditches and runoff locations ensuring that receiving surface waters do not violate the DNREC's Surface Water Quality Standards of 0.14 mg/L Dissolved Inorganic Nitrogen (DIN) for tidal waters and a upper threshold limit of three (3) mg/L TN for nontidal waters. For the above reasons the proposed Permit should have effluent limits of five (5) mg/L maximum with a three (3) mg/L average TN.
- The proposed Permit makes no reference to a temporary prohibition on land application of wastewater treatment plant (WWTP) sludges onsite until the fate of nitrogen analysis demonstrates that the applied effluent can be safely applied in compliance with groundwater and surface water standards. Application of sludges onsite at this time would exacerbate the cleanup effort and delay the remediation process.
- The proposed Permit does not include a provision for establishing spray irrigation reserve areas. There are various conditions that could occur which would have a cumulative impact where limited storage and fixed acreage of spray areas would not accommodate the circumstances. Specifically, excessive rainfall, frozen ground conditions, coupled with WWTP upsets and crop disease, would render the current operating system inadequate. It is standard in the industry for land application systems to establish a reserve area typically twenty-five percent (25%) of the primary permitted land application area. Adequate storage and reserve area is essential to ensure the continuous, effective, and efficient operation of any permitted land application facility.

The proposed Permit is not consistent with DNREC's own Ground Water Discharges Section, 7101 Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems. Specifically, the proposed Permit does not conform with requirements outlined in Section 6 of these Regulations.

• The proposed Permit does not include all of the specific documents required to support an application such as: Surface Water Assessment Report (SWAR) (Section 6.2.4),

Groundwater Mounding Analysis (Section 6.2.3.6), fate of nitrogen modeling (Section 6.2.4.5.2), depth to water monitoring reports (Section 6.3.2.3.13.21), and overall analysis demonstrating that applied effluent will not violate or contribute to contamination/pollution of groundwater and surface waters.

- The proposed Permit provides reductions in buffers which are not justified (Section 6.3.2.3.10). It also fails to require buffers from all internal ditches and language to prevent channelization of runoff, which by this same regulation, would require reducing application rates (Section 6.3.2.3.13.8.3).
- The proposed Permit reissuance does not include an analysis of the land treatment system to demonstrate it will meet the Drinking Water Standard year-round (Section 6.2.4.5.1).
- The proposed Permit allows fertilization via land application with treated effluents outside of the crop growing seasons when no appreciable uptake of nitrogen is occurring (Section 6.2.4.5.2).
- The proposed Permit lacks required storage requirements and conditions (Section 6.3.2.3.12 / 6.3.2.3.4). The regulations also prohibit spraying when saturated or frozen soil conditions exist (Section 6.5.3.2.2.2.7). Based on historic evidence, Mountaire should not be spraying during much of the wet season when ponding continuously occurs (Section 6.5.3.2.2.2.2). This would justify the inclusion of significant storage requirements.
- The proposed Permit does not include any provision that specifies days of resting between irrigation of spray fields (Section 6.3.2.3.13.8.2). EPA and industry standards typically include a six (6) day resting period between weekly applications.
- The proposed Permit does not assess the abilities of the soils and vegetative covers to treat the wastewater without undue hazard to the environment or to the public health (Section 6.5.3.2.3.6). The proposed Permit violates this provision. In the winter, when there is no crop uptake and the nitrogen is not removed, the nitrate levels are excessive which causes an undue hazard to the environment and public health. The proposed Permit does not appropriately consider that the groundwater beneath the spray fields in most cases is already at nitrate levels which exceed the Drinking Water Standard. Without crop uptake during the winter nitrates in the percolate will be excessive and further contribute to the existing groundwater contamination issue.

In comparison, the proposed Permit omits certain provisions that were included in the existing Spray Irrigation Operations Permit (DEN Number: 359191-04) and modifies other provisions which make the proposed Permit less protective of public health or the environment.

- Section I.A identified eight hundred ninety-three (893) acres for spray irrigation which is
 less than the nine hundred twenty-eight (928.12) acres identified in the current permit. As
 discussed further below, even with the nine hundred twenty-eight (928.12) acres and the
 history of ponding, runoff, and over-fertilization the number of permitted acres should be
 increased, not decreased.
- Section I.B the statement from the 2017 permit incorporated by reference a number of documents, including DNREC's Regulations governing the Design, Installation, and Operation of On-site Wastewater Treatment and Disposal Systems. The proposed Permit does not include the documents, including DNREC's Regulations, that are referenced in the 2017 permit.
- Section I.B the statement from the 2017 permit "The slow rate land treatment operation shall be conducted in accordance with the following documents:" has been excluded in the proposed Permit. This list should be updated to reflect all current and appropriate documents to ensure efficient operations and compliance.

- Section I.D.1 the proposed Permit includes the ten (10) mg/L TN limit which replaces the fifteen (15.6) mg/L TN limit from the 2017 permit; but it does not indicate if this is a daily average or a monthly maximum limitation.
- Section I.D.5 the proposed Permit does not include resting periods between weekly applications. EPA Guidance and industry accepted standards and practices recommend a six (6) day resting period between applications.
- Section I.D chloride concentration is missing from the proposed Permit but is included in the 2017 permit. There should be an effluent limitation for chloride. The two hundred fifty (250) mg/L on an average annual basis as outlined in the 2017 permit would be appropriate.
- Section I.D as indicated above, the proposed Permit does not include the nitrogen loading limit table or any narrative reference to loading limits (Item #9 in the 2017 permit). As discussed above, there should be maximum loading rates provided consistent with the types of crops grown to ensure over-fertilization does not occur.
- Section I.F although the 2017 permit and proposed Permit are consistent for buffer setbacks, these are unjustified variances. Based on Mountaire's previous and ongoing impacts to adjacent properties relating to drinking water violations, noxious odors, and impairments to residential property use, no variances should be granted to the buffers specified in the regulations.
- Section I.H does not include the 2017 permit language (Section I.I.1, I.I.2, I.I.6 of the 2017 permit) which identifies when spray irrigation is prohibited, if down-gradient water supply wells are contaminated the permittee shall provide a free, alternative potable water supply to the affected parties, or when commercial phosphorus fertilizer can be applied.

ADDITIONAL JUSTIFICATION FOR 2020 SPRAY IRRIGATION OPERATIONS PERMIT COMMENTS:

1. The EPA has developed numerous guidelines on land application of treated wastewater and included certain criteria related to minimum storage requirements which the permit fails to address. EPA published guidelines which indicate that in mid-Atlantic region, designs should consider forty (40) days minimum storage (see *Figure 1* below) to accommodate operational issues such as ponding, runoff, saturated soils, high winds, WWTP upsets, frozen ground, etc. In my opinion, an additional fifty (50) days should be required to account for winter storage needs when no fertilizer should be applied outside the crop growing season. These storage requirements have been embraced by the States of Virginia and Maryland to include consideration for climate conditions, nutrient uptake rates associated with crop growing seasons, wastewater treatment plant (WWTP) operational upsets, saturated soil conditions, planting and harvesting periods, etc.; which in the Mid-Atlantic region typically results in minimum storage requirements of seventy-five (75) to ninety (90) days.



Figure 1 - EPA Estimated Storage Days Based on Climatic Factors Alone

- 2. A fifty foot (50') vegetative buffer should be required from internal drainage ditches. Ponding and runoff into ditches or spray irrigating effluent into the ditch is the functional equivalent to a piped discharge to surface waters which, under the Clean Water Act, should require a National Pollution Discharge Elimination System (NPDES) Permit. Such discharges should not be permissible in a groundwater discharge permit based on land application. The proposed Permit should include specific language requiring fifty foot (50') vegetative buffers to all internal ditches/channels which outflow to surface waters.
- 3. Permit renewals associated with facilities that are currently not in compliance typically include a section which defines upgrades and remediation efforts along with specific actions, interim milestones, and compliance deadlines. The proposed Permit does not include a timeline discussion or establish interim effluent limits that must be met within certain timeframes until the complete WWTP upgrades and other improvements can be fully implemented. Such interim measures should include temporary storage, development of a groundwater remediation plan, and immediate action to protect ditches from receiving sprayed effluent.
- 4. As mentioned above, the proposed effluent limit of ten (10) mg/L TN, and the proposed limit after land application of ten (10) mg/L nitrate in the percolate, is not protective of the Drinking Water Standard. To protect the groundwater beneath the spray fields, which travels offsite and impacts residential wells, the percolate must be established at a level lower than the standard of ten (10) mg/L nitrate as measured at the lysimeters. Discharge permits must be protective of the designated use, and in this case the groundwater beneath the spray fields is already contaminated with nitrates, posing a significant health risk to nearby residential wells.

Modeling the fate of nitrogen in groundwater will show that discharging ten (10) mg/L TN into water already exceeding the Drinking Water Standard of ten (10) mg/L nitrate, would only exacerbate the current groundwater contamination issues. The proposed Permit limits should be based on water quality modeling and assessments which trace the fate of nitrates from the land application system to the property lines. It should not be set based alone on the proposed WWTP upgrades per the Applicant's request.

For the upgraded WWTP to have a meaningful impact on the receiving groundwater and surface waters, ENR treatment levels should be required. As noted above, the proposed Permit should have effluent limits of five (5) mg/L maximum with a three (3) mg/L average TN. This will ensure the TN level in the percolate will never exceed five (5) mg/L and surface runoff to streams will never exceed a threshold limit of three (3) mg/L Requiring ENR treatment levels is not uncommon in the Delmarva area. Maryland and Virginia both have numerous facilities discharging to the Chesapeake Bay and its tributaries which require ENR treatment levels. Specifically, Virginia Department of Environmental Quality has four (4) active permits that are considered "significant dischargers" in the Chesapeake Bay watershed. They all have waste-load allocations based on six (6) mg/L TN and 0.3 mg/L (or less in the case of one local TMDL) Total Phosphorus.

At the effluent treatment levels proposed by the Applicant, and the effluent limits proposed by DNREC of ten (10) mg/L TN, land application would need to be fully functional with crops up-taking nitrogen three hundred sixty-five (365) days per year to meet a percolate of five (5) mg/L nitrate. Since the permit does not require storage for the winter months when there is no appreciable nitrogen uptake by crops, DNREC should set the effluent limit for TN at an average of three 3 mg/l and a maximum of five (5) mg/L to insure that a percolate limit of five (5) mg/L. TN can be met year-round. If DNREC were to keep the effluent limit at ten (10) mg/L, the alternative would be to provide ninety (90) days storage, add twenty-five percent (25%) more land for spray irrigation, not spray in the winter, and make sure that loading rates to the fields and crop management provide a year-round percolate limit of five (5) mg/L.

- 5. Although the regulations have many buffer restrictions which generally apply to every land application permit including consideration for reducing these buffers, there is nothing in the public comment materials which discusses the rationale for reducing these buffers. In fact, based on the proximity of the land application sites to residences, documented ground and surface water contamination, documented ponding/runoff, and concerns for odors/aerosols, these buffers should have been increased, not decreased. These problems are evidenced by drone videos filmed over the past two (2) years and a recently as two (2) months ago (see *Figure 2 21* below). The following buffers would be recommended to address the above identified concerns.
 - a. A fifty foot (50') vegetative buffer to all internal ditches/channels which outflow to surface waters.
 - b. A two hundred foot (200') buffer to property lines with language that allows reductions if TN treatment levels achieve 5 mg/L TN or less.
 - c. A five hundred foot (500') buffer to residences.
 - d. A one hundred foot (100') buffer to any streams.



Figure 3 – Spray Irrigating When Ponding Is Visible 11/14/18 – 0:05:14 Drone Footage



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Figure 6 – Spray Irrigating When Runoff Is Evident

Figure 7 – Spray Irrigating When Runoff Is Evident 11/14/18 - 0:16:14 Drone Footage











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Figure 17 – Runoff Collected from Spray Fields Discharging Offsite March 24, 2020 Drone Footage of WHBJ-7



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Figure 20 – *Miscellaneous Repairs with No Appropriate Buffer* March 24, 2020 Drone Footage of WHBJ-5 and WHBJ-6

Figure 21 Discharge to Swan Creek WHBJ-7 Mountaire Compliance Monitoring Report December, 2015



CONCLUSIONS:

For the above reasons, I believe the proposed Permit is not protective of public health or the environment, is not consistent with DNREC's own regulations, is not consistent with other similar permits recently issued by DNREC, omits important limitations/provisions and conditions which were incorporated in the 2017 permit, omits documentation relative to the required SWAR, mounding analysis, and fate of nitrogen in the environment, is not consistent with EPA land application guidelines, is not consistent with mid-Atlantic criteria referenced in EPA Guidance which was also adopted and embraced by the State of Maryland and Commonwealth of Virginia, and is generally inconsistent with industry accepted standards and practices. As the proposed permit is written, and based on the above noted concerns and comments, appropriate revisions and modifications to the proposed Permit should be required prior to making a final permit decision.

REFERENCES:

The above comments were based in part on the following reference documents. The majority of these references relate to EPA guidance on land application of treated effluents, industry accepted standards and practices for land treatment design and operation, and related rules and regulations generally associated with land application permits that are issued in the mid-Atlantic/Delmarva region.

- 1. Commonwealth of Virginia Interim Guidance #01-2005, Spray Irrigation and Reuse of Wastewater Memo dated January 18, 2001
- 2. Delaware Center for the Inland Bays Findings of the Mountaire Pollution Committee, March 19, 2018
- Delaware Geologic Survey Report of Investigations No. 79 Simulation of Groundwater Flow Contaminant Transport in Eastern Sussex County, Delaware With Emphasis on Impacts of Spray Irrigation of Treated Wastewater, 2015
- 4. DNREC Hearing Officers Report (Hearing Docket No. 2019-P-W-0016), March 12, 2020
- 5. DNREC Spray Irrigation Program Resources 7103 Guidance and Regulations Governing the Land Treatment of Wastes (Amended, October, 1999)
- 6. DNREC Total Maximum Daily Load (TMDL) Analysis for the Chesapeake and Delaware Canal and Lums Pond Sub-Watershed, Delaware, July 2012
- 7. EPA Wastewater Treatment and Reuse By Land Application Volume I Summary (August, 1973)
- 8. EPA Process Design Manual Land Treatment of Municipal Wastewater Effluents, EPA/625/R-06/016, September 2006
- 9. EPA Wastewater Technology Fact Sheet Slow Rate Land Treatment
- 10. EPA Meat and Poultry Products Effluent Guidelines
- 11. George, Miles & Buhr, LLC Vegetative Management Plan for Spray Irrigation of Treated Wastewater, January 31, 2003
- 12. Keen Consulting, Monthly Crop Nitrogen Uptake Values Letter, June 30, 2016
- 13. MDA Title 15 Department of Agriculture, Subtitle 20 Soil and Water Conservation, 15,20.07 Agricultural Operation Nutrient Management Plan Requirements
- 14. MDE Guidelines for Land Application/Reuse of Treated Municipal Wastewaters
- 15. The Mid-Atlantic Nutrient Management Handbook MAWP 06-02, February, 2006
- 16. Various reports, technical documents, and reference materials relating to the Mountaire operations and violations, accepted industry standards and practices, and technical bulletins issued by regulatory agencies.

ATTACHMENT A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III 1650 Arch Street Philadelphia, Pennsylvania 19103-2029

Mr. Kevin C. Donnelly, Director Division of Water Resources Delaware Department of Natural Resources and Environmental Control 89 Kings Highway Dover, DE 19901

DEC 2 2 2000

Re: NPDES Draft Permit No. DE 0000086 Mountaire Farms of Delaware, Inc. Millsboro, Delaware

Dear Mr. Donnelly:

The draft National Pollutant Discharge Elimination System (NPDES) permit renewal for the above referenced facility was received by the Environmental Protection Agency (EPA) on October 4, 2000, for review pursuant to 40 CFR Section 123.44(b). EPA issued a general objection letter on November 2, 2000.

This letter is a specific objection to the issuance of the referenced permit based on 40 CFR §123.44(b)(1), 40 CFR § 123.44(c)(8) and Section II.6 of the Memorandum of Agreement regarding the NPDES Program between the Department of Natural Resources and Environmental Control (DNREC) for the State of Delaware, and EPA Region III (MOA), we are specifically objecting to the permit.

The Inland Bays TMDL calls for a systematic elimination of point sources to the watershed and assigns a wasteload allocation (WLA) of "0" to Mountaire. The permit addresses this WLA by eliminating the discharge to surface waters of Delaware by Mountaire within 2 years. EPA objects to the permit in order to clarify that permit requirements are consistent with the approved WLA pursuant to 40 CFR § 122.44(d)(1)(vii) and 40 CFR § 122.44(c)(8).

The basis for EPA's objection to the draft NPDES permit is that the State has not demonstrated that nutrient runoff from the wet weather irrigation fields will be prevented from discharging to surface waters consistent with the WLA. The permit does not go into detail on the preventive measures the facility should take for the spray irrigation of wastewater during periods of rainfall or snowfall which may cause saturated conditions to occur or when frozen soil conditions exist. Review of the referenced NPDES permit and DNREC's Ground Water Discharges Section permit (WPCC 3012B/87) to spray irrigate, allows for the spray irrigation of wastewater during periods of rainfall or snowfall which may cause saturated conditions to occur or when frozen soil conditions exist to "wet weather irrigation fields". Under the "Special

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Conditions" section of the spray irrigation permit, spray fields are to be maintained to prevent wastewater from pooling. EPA is concerned that during saturated conditions attributed to rainfall or snowfall, that the wet weather irrigation fields may see the pooling of wastewater and thus have the potential to cause runoff to surface waters. There are no provisions in the NPDES or the Ground Water permits requiring the permittee to maintain storage capacity in their existing storage lagoon to allow for the stoppage of spray irrigation to prevent the wastewater from pooling during saturated/frozen soil conditions. Our concern is the runoff of wastewater from the spray fields entering adjacent properties, tax ditches or other water bodies. The State needs to add such a requirement to the permit, or provide other written assurances that demonstrate adequate protection.

Another concern that EPA has with the draft permit is the generic description of the thirteen storm water outfalls listed in the permit. The draft permit application does not provide site plans showing that the storm water would have no exposure to the facility processes. EPA requests that DNREC provide further clarification that these outfalls would indeed not be exposed to the facility's processes.

If you have any questions about this matter, please contact me at (215) 814-5422, or Robert Chominski of my staff at (215) 814-2162.

Joseph J. Grotundu Rebecca W. Hanmer, Director Water Protection Division

cc: R. Peder Hansen, DNREC John R. DeFriece, DNREC Mountaire Farms of Delaware, Inc.