

HEARING OFFICER'S REPORT

TO: The Honorable Shawn M. Garvin
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Theresa L. Newman
Regulatory Specialist, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: Distribution and Marketing Permit Application of NaturaLawn of America Inc.,
for the distribution and marketing of Class A/Exceptional Quality biosolids
fertilizer products throughout the State of Delaware.

DATE: February 13, 2020

I. BACKGROUND AND PROCEDURAL HISTORY:

A public hearing was held on Wednesday, November 13, 2019, at 6:00 p.m. at the Department of Natural Resources and Environmental Control (“DNREC,” “Department”) located at 89 Kings Highway, Dover, Delaware, to receive comment on the application of NaturaLawn of America, Inc. (“Applicant,” “NaturaLawn”), for a Distribution and Marketing Permit to distribute and market Class A/Exceptional Quality (“EQ”) biosolids throughout the State of Delaware (“Application”). The Department regulates the distribution and marketing of sludge or sludge products pursuant to the requirements in Part III of 7 DE Admin. Code 7103, *Guidance and Regulations Governing the Land Treatment of Wastes* (“Biosolids Regulations”).

NaturaLawn is an outdoor service company that has provided lawn care services to its residential and commercial customers throughout the State of Delaware since 1990. As set forth in its Application, NaturaLawn seeks approval from the Department for the distribution and marketing of biosolids that have been treated to meet “exceptional quality” or “EQ” standards. The biosolids the Applicant wishes to utilize originate from an out-of-state wastewater treatment plant located in Cicero, Illinois. NaturaLawn proposes to receive the biosolids from the Illinois

supplier at its Delaware facilities located in Wilmington and Georgetown. Employees of the Applicant would then transport the fertilizer product from the NaturaLawn facility to the customer's property, where the product would be applied at an agronomic rate by Delaware Certified Nutrient Handlers to improve the health and growth of turf grass.

It should be noted that NaturaLawn has requested to utilize biosolids generated outside of the State of Delaware because there are presently no sources of Class A/EQ biosolids in the State of Delaware that meet their specification requirements (low dust, uniform shape, free of lime). While there are three wastewater treatment plants within Delaware that produce EQ biosolids, the end product is either compost or lime stabilized, resulting in a product which is not uniform in nature and does not serve the Applicant's needs.

The biosolids product NaturaLawn proposes to use in its lawn care services is a treated byproduct of the wastewater reclamation process at the Metropolitan Water Reclamation District of Greater Chicago's Stickney Water Reclamation Plant located at Cicero, Illinois (MWRD). Metropolitan Biosolids Management, LLC (MBM) takes dewatered sludge from MWRD and treats the material to further reduce pathogens with a process known as heat drying. During the heat drying process, the sewage sludge is heated to at least 176°F and the solids content is increased to at least 90% solids, thus creating a "Class A" biosolids product. After analytical testing is completed and the applicable pollutant concentration standards are met (as required in the Biosolids Regulations), the biosolids product is designated as "EQ."

The United States Environment Protection Agency ("EPA") is required by the *Clean Water Act*, Section 405(d)(2)(C), to refine its risk assessments that the federal biosolids regulations are based upon, as set forth in 40 CFR Part 503 – "*Standards for the Use of Disposal of Sewage Sludge*" ("EPA's 503 Regulations Governing Biosolids"), and to continually look at

contaminants that are present in biosolids. The EPA is also required to establish numeric limits and management practices that protect public health and the environment from reasonably anticipated adverse effects of chemical and microbial pollutants during the use or disposal of biosolids.

It is important to note that the presence of a pollutant in biosolids alone does not equate to scientific risk. Prior to new biosolids standards being developed, the EPA must have sufficient scientific evidence that the pollutants may harm (i.e., there is risk to) human health and the environment. Risk assessments determine whether new or revised numeric standards are warranted under federal biosolids regulations. According to the EPA, addressing the uncertainty around potential risk of pollutants identified in biosolids is the top priority for the EPA's Biosolids Program.

The Department's Biosolids Regulations are required to at least as stringent as the federal requirements established in EPA's 503 *Regulations Governing Biosolids*. Upon the EPA identifying the need for new or revised risk-based standards for biosolids, the Department will adopt and enforce Delaware's new standards as appropriate.

It should be noted that the Application submitted by NaturaLawn also included data from 2017 through 2019 that demonstrated all EQ standards were met. Along with the test results, Class A/EQ certification was provided for each month the biosolids met the qualification (see Department Exh. 1).

The aforementioned Application was received on August 6, 2019 by the Department's Division of Water, Surface Water Discharges Section ("SWDS"). The SWDS provided legal notice of the Application on August 18, 2019. A request for a public hearing was received by the Department from Maria Payan on August 25, 2019. Accordingly, on October 20, 2019, the

Department gave legal notice for both a public meeting and a public hearing to be held regarding NaturaLawn's pending permit application. Additionally, the Department notified Ms. Payan on October 21, 2019 of the hearing date, time, and location.

On November 13, 2019, both the public meeting and the public hearing were held by the Department at the DNREC Richardson & Robbins Building located at 89 Kings Highway, Dover, Delaware, with the public hearing immediately following the conclusion of the public meeting. Several members of the public attended the hearing, along with representatives of the Applicant and SWDS staff. Comment was received from the public at that hearing and will be discussed in further detail below. Proper notice of the hearing was provided as required by law.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The public hearing record ("Record") consists of the following documents: (1) a verbatim transcript; (2) nine documents introduced by responsible Department staff at the public hearing held on November 13, 2019, and marked by this Hearing Officer accordingly as "Department Exhibits 1-9"; (3) three documents identified by Maria Payan, public attendee, and marked as "Payan Exhibit 1"; and (4) Technical Response Memorandum from Brian Churchill, Environmental Scientist IV, Division of Water, dated January 15, 2020. The Department's person primarily responsible for reviewing this Distribution and Marketing permit Application, Brian Mr. Churchill, developed the Record with the relevant documents in the Department's files.

Representing the Applicant at the hearing was Chuck Paulson, Independent Consultant with Professional Turf Industry. Following opening remarks from Mr. Churchill on behalf of the Department (and the introduction of the Department's exhibits to be entered into the Record),

Mr. Paulson proceeded to offer a brief background of his experience researching biosolids. He attested as to the difficulty of finding a locally sourced biosolids product, or any other organic fertilizer, to blend with the commercial fertilizers that has the particle size, density, and nutrient content that meets NaturaLawn's product specifications. Mr. Paulson also noted that, while the Applicant continues to search for local organic fertilizers that meet their product specifications, the biosolids product proposes to use is one that is being re-purposed, thus creating beneficial uses for a product that would otherwise go into a landfill.

At the conclusion of the Applicant's presentation, the floor was then opened for the Department to receive public comment on the Record regarding this proposed project. There were five (5) members of the public in attendance at the hearing, all of whom offered comment. Concerns expressed at the time of the public hearing included possible PFA toxins contained in the biosolids, the toxicity of cyanide to fish and children, and the possibility of Class A Pathogens reactivating after field application. Other comments voiced at the hearing concerned odors caused by the biosolids product, potential impacts to Delaware's water supply, and complaints directed towards the Department's overall permit application process. The Record closed with regard to public comment at the conclusion of the November 13, 2019 public hearing.

Subsequent to the close of the Record as noted above, this Hearing Officer requested a Technical Response Memorandum ("TRM") from the SWDS technical experts in the Department's Division of Water to: (1) address the concerns associated with this pending Application, as set forth in the public comment received by the Department; (2) provide a formal regulatory review of the Applicant's proposed project; and (3) offer the Division of Water's

conclusions and recommendations with regard to NaturaLawn's pending Application for the benefit of the Record generated in this matter.

I find that the Division of Water's TRM offers a detailed regulatory review of all aspects of the Applicant's proposed biosolids product, identifies all of the concerns raised at the public hearing on November 13, 2019, and responds to them in a balanced manner, accurately reflecting the information contained in the Record. Thus, the aforementioned TRM is attached hereto as Appendix "A" and expressly incorporated herein as such.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

The Applicant, NaturaLawn, has applied for a Distribution and Marketing permit, seeking permission to distribute and market Class A/EQ biosolids throughout the State of Delaware. I find that the Applicant's proposed project is subject to various state and federal regulatory requirements, including, but not limited to, Delaware's *Guidance and Regulations Governing the Land of Treatment Waste*, as set forth under Part III of 7 DE Admin. Code 7103, and as provided for under Delaware law in 7 *Del. C. Ch. 60*.

In reviewing the applicable statutes and regulations, as well as weighing public benefits of this project against potential detriments, the Department's experts in the SWDS have concluded that the aforementioned project complies with all applicable federal and state laws and regulations. Should this Application be approved, the SWDS Distribution and Marketing permit that would be issued by the Department would be reflective of the Application submitted and would include all necessary requirements intended to protect public health and the environment. I find and conclude that the Applicant has adequately demonstrated its compliance with all

requirements of the statutes and regulations, as noted herein, and that the record supports approval of the Application submitted by NaturaLawn of America, Inc.

In conclusion, I recommend that the Distribution and Marketing permit necessary for the proposed activities as set forth in the Application submitted by NaturaLawn, consistent with the Record developed in this matter, be issued by the Department in the customary form, and with appropriate conditions.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under 7 *Del.C.* §§6003, 6004, 6006(4) and all other relevant statutory authority, to make a final determination of the Application after holding a public hearing, considering the public comments, and reviewing all information contained in the Record generated in this matter;
2. The Department provided proper public notice of the Application submitted by NaturaLawn of America, Inc., and of the public hearing held on November 13, 2019, and held said hearing to consider all public comment that may be offered on the Application, in a manner required by the law and regulations;
3. The Department has carefully considered the factors required to be weighed in issuing the permit required by this Application, and finds that the Record supports approval of the Application and the issuance of the Distribution and Marketing permit associated with the same;
4. The Department shall issue the Distribution and Marketing permit to the Applicant, NaturaLawn of America, Inc., for distribution and marketing of Class A/EQ biosolids throughout the State of Delaware, consistent with the Record developed in this matter. Furthermore, said permit shall include all conditions as set forth in the

Department's draft permits, to ensure that Delaware's environment and public health will be protected from harm;

5. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
- ~~6.~~ The Department shall serve and publish its Order on its internet site and shall provide legal notice of the Order in the same manner that the Department provided legal notice of the Application.



Theresa L. Newman
Public Hearing Officer

APPENDIX “A”



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL**
DIVISION OF WATER
RICHARDSON & ROBBINS BUILDING
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

**SURFACE WATER
DISCHARGES**

PHONE
(302) 739-9946

MEMORANDUM

TO: Theresa Newman, Hearing Officer, Office of the Secretary

THROUGH: Virgil Holmes, Director, Division of Water *1/15/2020*
Jennifer S. Roushey, Environmental Program Administrator, Division of Water *JSR*
Bryan A. Ashby, Program Manager II, Surface Water Discharges Section *SAA*

FROM: Brian Churchill, Environmental Scientist IV, Surface Water Discharges Section *BC 1/15/20*

RE: Technical Response Memorandum Regarding the November 13, 2019 Public Hearing on the Permit Application for NaturaLawn of America for a Distribution and Marketing Permit of Class A/EQ Biosolids

DATE: January 15, 2020

This Technical Response Memorandum (TRM) was prepared at the request of the presiding hearing officer to assist in the completion of the Hearing Officer's Report to the Secretary of the Department of Natural Resources and Environmental Control (Department) and the final decision on the issuance of a distribution and marketing (DM) permit for NaturaLawn of America.

On August 6, 2019, the Department's Division of Water, Surface Water Discharges Section (SWDS), received a request for a distribution and marketing permit from NaturaLawn of America pursuant to requirements in Part III of 7 DE Admin. Code 7103, *The Guidance and Regulations Governing the Land Treatment of Waste* (the Biosolids Regulations) for the distribution and marketing of biosolids that have been treated to meet "exceptional quality" or "EQ" standards.

On August 18, 2019 the Department placed a legal notice for the proposed NaturaLawn of America permit application in the News Journal, the Delaware State News, and on the Department's website.

On August 25, 2019, the Department received a request for a public hearing from Ms. Maria Payan.

On October 20, 2019, the Department placed a legal notice for a public meeting and a public hearing on NaturaLawn of America's permit application in the News Journal, the Delaware State News, and on the Department's website. Additionally, the Department notified Ms. Payan on October 21, 2019 of the hearing date, time, and location.

On November 13, 2019 a public meeting and a public hearing were held at the DNREC Richardson & Robbins Building located at 89 Kings Hwy Dover, DE 19901. During the public hearing, four individuals provided comment in opposition of NaturaLawn's permit application. Additionally, prior to the public hearing, the Department received written comment from two individuals.

This TRM will focus on addressing public comments and questions received from the public that are directly related to NaturaLawn of America's distribution and marketing permit application.

1. Ms. Cohen (beginning on transcript page 26) submitted several comments. Comments include:

Comment 1.a: According to Ms. Cohen, a letter from Elizabeth Rezek of the Environmental Protection Agency (EPA) to a farmer who had inquired if it is safe to apply biosolids onto his field, indicated that "Right now the EPA cannot say the pollutants found in biosolids will not cause harmful effects to you, your crops, or your livestock. We will know more when we assess these chemicals, something we are actively working on." and "You are asking important questions. Your decision to use or not use biosolids will have to be based on how comfortable you are with not knowing what harm these pollutants and biosolids might cause." and "Pollutants present in biosolids don't automatically mean they will pose harm." Additionally, Ms. Cohen (beginning on transcript page 27) indicates that according to another document that she had in her possession, "forever chemicals" known as PFOS are found in biosolids and may be found in the biosolids generated in Chicago, which would ultimately be distributed into the State of Delaware by NaturaLawn of America. Ms. Cohen continued her testimony and indicated that "you don't really know what's in there or what people are exposed to".

Response: Ms. Cohen did not submit a copy of the aforementioned documents for the hearing record. As a result, the Department is unable review the entire letter nor put the above quotes into context. However, in agreement with Ms. Cohen's statements, the EPA recognizes that there are pollutants in biosolids and the fact that ongoing research is necessary to continually evaluate and regulate contaminants in biosolids that may pose a risk to human health and the environment. State and Federal regulators are unable to make all-encompassing statements related to potential risk associated with the utilization of biosolids as there is continually new research data available to analyze and assess. It should be emphasized, as stated in the quote Ms. Cohen read from the EPA's letter, that "Pollutants present in biosolids don't (doesn't) automatically mean they will pose harm". The EPA reiterated this position in their May 30, 2019 memorandum entitled "Response to November 15, 2018, Office of Inspector General's Final Report, "EPA Unable to Assess the impact of

Hundreds of Unregulated Pollutants in the Land-Applied Biosolids on Human Health and the Environment””, which states, “The presence of a pollutant in biosolids alone does not equate to scientific risk”. According to the EPA’s May 30, 2019 memorandum, “Prior to standards being developed, the EPA must have sufficient scientific evidence that the pollutants present in biosolids may harm (i.e., there is risk to) human health and the environment”.

As stated during the Department’s presentation during the November 13, 2019 public meeting, EPA is required by the Clean Water Act (CWA) Section 405(d)(2)(C) to refine the risk assessments that the federal biosolids regulations are based upon and continually look at contaminants that are present in biosolids. The EPA is required to establish numeric limits and management practices that protect public health and the environment from reasonably anticipated adverse effects of chemical and microbial pollutants during the use or disposal of biosolids. Risk assessments determine whether new or revised numeric standards are warranted under federal biosolids regulations. According to the EPA, addressing the uncertainty around potential risk of pollutants identified in biosolids is the top priority for the EPA’s Biosolids Program. The Department’s state biosolids regulations are required to be at least as stringent as the federal regulations and upon the EPA identifying the need for new or revised risk based standards for biosolids, the Department will adopt and enforce the new standards as appropriate.

Comment 1.b: Ms. Cohen indicated that “forever chemicals” known as “PFAS, perfluoroalkyl, and polyfluoroalkyl” chemicals are manmade, flame retardant chemicals that are bioaccumulative and toxic in low concentration levels. According to Ms. Cohen they are likely found in biosolids generated in Chicago which would ultimately be distributed into the State of Delaware by NaturaLawn of America upon the issuance of a distribution and marketing permit.

Response: *While biosolids may generally contain detectable concentrations of PFAS (perfluoroalkyl and polyfluoroalkyl substances), the Department does not currently have a risk based standard for PFAS. As stated in the Department’s PowerPoint presentation during the public information meeting, which was included in the public record, EPA’s 503 Regulations Governing Biosolids is based upon a robust risk assessment of fourteen different pathways biosolids application could affect human health and the environment. The Clean Water Act (CWA) Section 405(d)(2)(C) requires the EPA to review federal biosolids (sewage sludge) standards every two years to identify additional toxic pollutants that occur in biosolids. Based on those findings, EPA sets regulations for those pollutants, if sufficient scientific evidence shows from reasonably anticipated adverse effects of chemical and microbial pollutants during the use or disposal of biosolids, that they may harm human health or the environment. Additionally, according to EPA, addressing the uncertainty around potential risk for pollutants identified in biosolids is the top priority for the EPA’s Biosolids Program.*

Should EPA determine that pollutants in biosolids, including but not limited to PFAS, pose a risk and thus development of new standards is warranted, the Department will adopt standards at least as stringent as the EPA's risk based limits. As stated in 1.a above, it should be emphasized that the presence of a pollutant in biosolids alone does not equate to scientific risk. Prior to new biosolids standards being developed, the EPA must have "sufficient scientific evidence that the pollutants may harm (i.e., there is risk to) human health and the environment".

Comment 1.c: Ms. Cohen asked a question stating that if the biosolids are coming from Chicago, how is Delaware going to have oversight of the biosolids as we do not have oversight (jurisdiction) in Chicago. Ms. Cohen also stated that there would only be "one test" of biosolids product that would be regulated under a distribution and marketing permit thus "you don't really don't know what is in there or what people are exposed to".

Response: *One of the primary functions of a biosolids distribution and marketing permit is, to ensure that biosolids generated outside of the State of Delaware that are distributed into the State meet the Department's regulatory requirements. While the Department does not have jurisdiction in Chicago, Illinois, the State of Delaware's biosolids regulations require the Department to monitor any biosolids that are distributed into our State for certain pollutants. As stated during the Department's PowerPoint presentation during the public hearing, the Department requires the monitoring of many parameters in biosolids that are distributed in the State of Delaware, consistent with Federal and State requirements. Sampling of most of the applicable parameters would be required monthly (annually for PCBs and priority pollutant scan every 3 years) as specified in the draft NaturaLawn of America distribution and marketing permit. Should the biosolids not meet the appropriate pollutant standards, the product would not be permitted for distribution and marketing into the State of Delaware.*

2. **Mr. and Ms. Haynes (beginning on transcript page 29) made many remarks that consisted of statements and opinions which are not relevant to the NaturaLawn of America distribution and marketing permit application.**

Response: *The presiding Hearing Officer and Department staff made it clear that only comment directly related to the permit application would be accepted as part of the hearing record. Mr. and Ms. Haynes did not provide any comments germane to the permit application; therefore, the Department is not addressing their comments in this Technical Response Memorandum.*

3. **Ms. Payan (beginning on transcript page 31) indicated that she was "submitting comments based on the citizens groups from Sussex Health and Environmental Network, as well as from myself as a resident, and on behalf of SRAP". Comments also included a document entitled "the PFAs toxins transfer sheet, and also my September 17th comments in which I requested a hearing to Brian". Additionally, Ms. Payan submitted copy of the Grobbel Environmental report (see #6 below).**

Comment 3.a: Ms. Payan stated that “Cyanide was not mentioned on the sampling requirements, although it is in there.” She expanded her comment indicating that cyanide is toxic to fish and harmful to children.

Response: *The Department’s biosolids regulations and distribution and marketing permit application requirements require, at minimum, three samples for cyanide. The results from five cyanide samples from the City of Chicago’s biosolids were submitted to the Department. Federal and State biosolids regulations do not have cyanide limits as during EPA’s risk assessment that the Federal and State biosolids regulations were based upon, cyanide was not determined to be a risk at the levels typically found in sewage sludge. See 1.b for additional information on the EPA’s risk assessment process and the review of new scientific data for pollutants found in biosolids.*

Comment 3.b: Ms. Payan stated that biosolids have a horrible odor and Class A pathogens can reactivate after field application.

Response: *Prior to acceptance by NaturaLawn of America, all City of Chicago biosolids will have undergone extensive treatment which will result in significant odor reduction as compared to untreated sewage sludge. While the strength of odors is subjective, Class A biosolids treated at the level of the City of Chicago are generally considered to have a very low odor which may not even be detectable when it is applied to lawns in accordance with NaturaLawn’s distribution and marketing permit. While untreated sewage sludge may have a strong and objectionable odor, because the biosolids product NaturaLawn will be applying has been highly treated it should not exhibit an odor that would be a nuisance to its customers or neighboring residents.*

While the regrowth of pathogens in biosolids under certain conditions is possible, Federal and State regulations contain many safeguards to minimize the potential of the regrowth of pathogens. To receive the Class A biosolids designation, biosolids are required undergo what is known as an EPA approved Process to Further Reduce Pathogens (PFRP). The PFRP utilized achieve Class A pathogen reduction for NaturaLawn’s biosolids is known as heat drying. Heat dried biosolids are considered to be virtually pathogen free as the pathogens are essentially eliminated by heating the biosolids to a minimum of 80 degrees Celsius (176 degrees Fahrenheit), thus their biosolids are considered safe for public use. Heat dried biosolids area also required to contain less than 10% moisture by weight and thus regrowth of pathogens is extremely unlikely. Once application occurs, conditions in soils are generally aggressive for any pathogens that could have been potentially reactivated, due to conditions such as heat, sunlight, desiccation, and competition from other microorganisms. Any pathogens that could potentially regrow should be quickly destroyed. Federal and State regulations contain safeguards that were developed as a result of extensive testing and studies on biosolids related to potential regrowth and the regulations

are designed to minimize this potential. The PFRP methods listed in Federal and State regulations were developed over 30 years ago and have withstood the test of time. It should be noted that Ms. Payan did not include any scientific studies to support her statements related to the regrowth of pathogens related to NaturaLawn of America's permit application.

- 4. Ms. Payan also submitted written comments. Ms. Payan, in her September 17, 2019 email to the Department, entitled "Comments to Request Hearing permit app D&M permit – NaturaLawn of America, Inc., Maryland" stated:**

Comment 4.a: "Firstly the questions and answers on the permit application form is extremely vague and mostly empty, from answers. The permit application has very little that is answered-mostly a lot of blank spaces."

***Response:** The permit application is a multiuse form and many sections do not apply to NaturaLawn's request for a DM permit. Many sections were not completed as they are not applicable for the completion of a permit application for a DM permit. The permit application is complete.*

Comment 4.b: "After reading reports, etc-there really is no knowledge of where the application sites will be."

***Response:** Because of the high level of treatment received by Class A/EQ biosolids, Class A/EQ biosolids are not regulated in this manner and permittees are not required to indicate where the "application sites" will be located. Upon permit issuance, the material can be applied anywhere in the State of Delaware in accordance with a DM permit which is consistent with Federal and State requirements for the land application of Class A/EQ biosolids. In the case of the NaturaLawn of America permit, the material would be applied onto turf grass (residential and commercial). The biosolids product would only be applied onto land where property owners have a contract with NaturaLawn of America.*

Comment 4.c: "There are no flood maps, NMP's or even where the 2 locations of the operation will be."

***Response:** The permit is for the distribution of the Class A/EQ biosolids and not the storage of the product. The Biosolids Regulations do not regulate the storage of bagged Class A/EQ biosolids, and therefore, product storage details are not required in the permit application. The Department's focus is on ensuring that the product meets Class A/EQ requirements and all other applicable requirements of the Biosolids Regulations. It should be noted that bagged Class A/EQ biosolids produced by another company are currently stored at various Lowes, Home Depot, Walmart, Ace Hardware, Southern States, and lawn and garden stores throughout the State of Delaware. Consistent with the Department's biosolids regulations, the Department does not track the storage locations of this company's bagged Class A/EQ biosolids either.*

However, upon the Department requesting information from NaturaLawn of America as to their proposed product storage locations, they indicated that they propose to store product in 2 warehouses located at 40 Germary Dr, Wilmington, DE 19804 and 30996 Country Gardens Blvd R2, Dagsboro, DE 19939.

All employees applying NaturaLawn fertilizer to turf grass are required to have a commercial nutrient handler certification. In the State of Delaware, if any fertilizer product (biosolids included) is applied onto greater than 10 acres of land (under one owner), the product is required to be applied in accordance with a Delaware Department of Agriculture Nutrient Management Plan.

Comment 4.d: “Will there be sites in Delaware doing blending, bagging, storage, dewatering?”

Response: *NaturaLawn of America’s biosolids product is a treated byproduct of the wastewater reclamation process at the Metropolitan Water Reclamation District of Greater Chicago’s Stickney Water Reclamation Plant located in Cicero, Illinois (MWRD). MWRD’s biosolids treatment serves people living in and around Chicago, Illinois. Metropolitan Biosolids Management, LLC. of Cicero, Illinois (MBM) accepts dewatered sludge from MWRD for further processing. MBM heat dries and pelletizes the sludge, producing the “exceptional quality” biosolids product, which is then shipped to blender formulators in Wisconsin, Ohio and Pennsylvania by truck. The blending occurs in large mixers (called Roto mixers) where the product is blended into formulations for specific turf grass needs and packaged into 50 pound fertilizer bags. Upon permit issuance, the 50 pound bags from the aforementioned blenders would be transported by truck and delivered to the two NaturaLawn warehouses located in Delaware. Product from these two locations would then be transported by vans and applied to residential or commercial customer’s lawns by NaturaLawn employees who have Delaware nutrient handler certifications.*

No blending, bagging, or dewatering was proposed to be conducted in the State of Delaware. See 4.c. above for information on the proposed storage locations of NaturaLawn’s biosolids product within the State of Delaware.

Comment 4.e: “This product contains PFAs, which are forever chemicals in our soils.”

Response: *See 1.a and 1.b above.*

Comment 4.f: “We are already dealing with water contamination now, in Dover, from PFAs. The lab results clearly identify PFAs.”

Response: *No PFAS data was included in NaturaLawn’s permit application and it is not clear what data Ms. Payan is referencing.*

Comment 4.g: “Metals and fecal coliform are tested monthly and PFAs in an annual report. This is not sufficient.”

Response: Monthly testing of metals and fecal coliform is consistent with the frequency recommended by the EPA and the frequency required in Delaware’s biosolids regulations for facilities that generate more than 15,000 dry metric tons of biosolids per year. Ms. Payan’s statement that PFAS are tested in an annual report is incorrect. The testing of PFAS was not proposed in the draft permit. See number 1a. and 1.b above for additional information related to PFAS.

Comment 4.h: “Our soils are overloaded now with excess nitrogen. We are not meeting our TMDL’s and the experience I have had with D&M permitting in DE is that noone seems to be regulating or enforcing from DNREC.”

Response: The application of biosolids under a DM permit is required to be done in accordance with the State of Delaware’s Nutrient Management Law. From a nutrient management perspective, requirements for DM permittees is consistent with the application of any other fertilizer in Delaware. Additionally, NaturaLawn of America is only proposing to distribute a small quantity of biosolids in Delaware. DNREC performs compliance monitoring and enforcement for all permits issued under Chapter 60, including DM permits.

Comment 4.i: “The specific permit conditions state "The peklets will be delivered to fertilizer blenders who already meet state requirements for using bulk fertilizer products and hold state permits ..." Who and where are these facilities?”

Response: The language from the permit application referenced above is not accurate and confusing without the understanding that the language was part of a preliminary version of the permit application that was submitted to the Department. This information was kept in the permit application package as it was part of the original application (perhaps it should have been removed to avoid confusion). The blending of NaturaLawn’s biosolids product has NOT been proposed to occur in Delaware. Ultimately, the location of the blending facilities is not relevant to the Department’s permitting process; however, the proposed “storage locations” are listed in item 4.c. above. The purpose of the DM permit is to ensure that NaturaLawn’s biosolids product meets EPA/State pathogen reduction, vector attraction reduction, and pollutant concentration metal requirements. Blending of the product with other fertilizers, herbicides, etc. falls outside of the Department’s DM permit and regulatory requirements. Provided that the Department has a copy of a product label for the different blends, all blends meet any applicable regulatory requirements, and the label(s) are approved by the Delaware Department of Agriculture, the Department has no involvement in regulating any blending processes.

Comment 4.j: “Why would we take Chicago's waste? We cannot seem to manage our own without polluting the soils or waterways.”

Response: *NaturaLawn of America requested to utilize biosolids generated by Metropolitan Water Reclamation District of Greater Chicago's Stickney Water Reclamation Plant and processed by Metropolitan Biosolids Management in Delaware as there are no biosolids products in Delaware that meet their specification requirements (low dust, uniform shape, free of lime). Also, it should be noted that NaturaLawn of America indicated in their permit application that they will only be utilizing approximately 5 tons of Chicago's Class A/EQ biosolids in Delaware. A large portion of Delaware's sludge (over 10,000 tons a year) is exported out of the State of Delaware. If the biosolids product originating in Chicago is not utilized by NaturaLawn in Delaware, NaturaLawn is going to apply the same amount of fertilizer (from another source) to meet their customer's needs for turf care management.*

Comment 4.k: **"On the Nutri-Pel, In conclusion document, it states "The Nutri-Pel product has many benefits to the environment that should allow for a complete, but less restrictive permitting process." I do not agree with this, nor do the fertilizer labels included in the application represent this."**

Response: *The Department permits all EQ biosolids products identically and does not allow for a less restrictive permitting process. As a result, the Department required that the permittee obtain a DM permit consistent with Department regulations for the distribution and marketing of Class A/EQ biosolids products in Delaware.*

Comment 4.l: **"This product will be used on golf courses and other public areas and on lawns. Labels state "Keep out of reach of children" May cause irritation to skin or eyes. And "Do Not apply near water, storm drains or drainage ditches" 18-06 and 22-0-4 have cautions about hazards to humans and domestic animals, environmental hazards and at certain levels toxic to fish. I am very concerned about this coming into contact with gardens and or any food supply this is applied to."**

Response: *The warnings above are standard on many fertilizer products and there is nothing unusual or specific about the warnings related to NaturaLawn of America's EQ biosolids product. Many of the warnings are required by law and are in place to help ensure the protection of human health and the environment. While the EPA's risk assessment determined that EQ biosolids are safe for utilization in gardens that grow vegetation for human consumption, it is the Department's understanding that NaturaLawn is not going to apply biosolids onto gardens or "any food supply". NaturaLawn of America's permit application indicates that the product would be applied onto turf grass.*

5. The League of Women Voters submitted several written comments. Comments include:

Comment 5.a: **"The results of analysis of bio-solid samples from Pace Analytical show quite high concentrations for some toxic metals and metalloids including chromium, molybdenum, mercury, arsenic and selenium. Such readings do not seem consistent**

with sewage sludge derived from purely residential sewage and suggests that this sludge includes waste from industrial and manufacturing processes. As such, it seems unwise for it to be used as a lawn fertilizer or in areas that could be used for home gardens.”

***Response:** All analytical data for metals submitted by NaturaLawn of America, in its permit application for biosolids generated at Metropolitan Water Reclamation District of Greater Chicago’s Stickney Water Reclamation Plant, were below the Department’s pollutant concentration metal limits. The pollutant concentration limits are the EPA’s and the Department’s most stringent limits for metals in biosolids. Based on EPA’s risk assessment, biosolids applied with metals under the pollutant concentration limits will not accumulate in the soil nor pose an adverse effect to human health or the environment. In addition, it should be noted that the EPA’s risk assessment evaluated the potential risk of utilizing EQ biosolids in home gardens. While NaturaLawn of America has not proposed utilizing their EQ biosolids in home gardens, EQ biosolids were deemed safe for this use.*

Comment 5.b: “The samples were also found to contain very high levels of phthalates, polychlorinated biphenyls (PCBs) and polyaromatic hydrocarbons (PAHs). Allowing deposition of these toxic and carcinogenic materials to lawns where children and house pets play could present serious health issues.”

***Response:** All analytical data in NaturaLawn of America’s permit application met Department requirements for a distribution and marketing permit. See item 1.a and 1.b above for additional information on how the presence of a pollutant in biosolids alone does not equate to scientific risk and additional information on EPA’s risk assessment, biennial revisions, and ongoing steps taken to ensuring the continued protection of human health and the environment related to the utilization of EQ biosolids.*

Comment 5.c: “It also does not make sense to us that NaturaLawn wants to import this sludge into Delaware from Chicago. The groundwater in Delaware is already suffering from contamination from a number of agricultural and industrial processes and we have our own problems with safe disposal of sewage sludge.”

***Response:** As stated in the Department’s PowerPoint presentation during the public hearing, “NaturaLawn’s sources of biosolids are outside of the State of Delaware, because there are no sources of exceptional quality biosolids in the State of Delaware that meets their needs. There are three wastewater treatment plants in the State of Delaware that produce exceptional quality biosolids. However, the product is either compost or lime stabilized and a dusty product that is not uniform and does not meet their needs. And that’s why the product would be sourced from Chicago.”*

Comment 5.d: “Finally, the application appears to be incomplete in that many relevant questions have not been answers, While material relevant to these questions may be found in additional documents supplied by the applicant, it is the applicant’s duty to

properly complete the application making reference to the documents as appropriate. It is unclear to us why this application was considered administratively complete.”

Response: The permit application was administratively complete. See 4.a above for additional information.

6. Grobbel Environmental & Planning Associates submitted several comments. Ms. Payan also included the Grobbel Environmental & Planning Associates report as part of her comments. Comments include:

Comment 6.a: “Importantly, Section 9: Sewage Sludge Generation or Preparation of the DNREC application detailing sludge use, treatment and distribution has not been filled out by the Applicant (i.e., merely B.3 is provided). The application is thereby administratively incomplete and thereby the permit may not be issued as provided.”

Response: The permit application was administratively complete. There is not a Section 9 in the permit application. See 4.a above for additional information.

Comment 6.b: According to Grobbel Environmental & Planning Associates; cyanide, arsenic, chromium, molybdenum, selenium, and total mercury were all above Michigan’s standards.

Response: The State of Michigan’s standards cited in Grobbel Environmental & Planning Associates comment letter were inappropriately applied to biosolids proposed for distribution and marketing in the State of Delaware.

Additionally, it should be noted that it appears that Grobbel Environmental & Planning Associates did not appropriately apply Michigan’s standards for arsenic, chromium, molybdenum, selenium, and total mercury for the utilization of biosolids. The State of Michigan’s biosolids regulatory requirements mirrors the EPA’s standards for metals in biosolids which are equal to and in some instances less stringent than the State of Delaware’s standards. See item 3.a for information related to cyanide.

Comment 6.c: Grobbel Environmental & Planning Associates provided additional comments on, polynuclear aromatics (PNAs), polychlorinated biphenyls (PCB’s), phthalates, purgeable aromatic hydrocarbons (PAHs), and pesticides.

Response: Comments received by on PNAs do not include any information related to any Federal or State risk-based standard exceedances in the biosolids NaturaLawn proposes to distribute and market in the State of Delaware.

Comments received on PCBs indicate that PCBs were found in Chicago’s biosolids at low levels and are below Federal TSCA, Subpart D Clean Standards. Additionally, PCB levels identified in Chicago’s biosolids are also below the State of Delaware’s applicable risk-based standards for PCBs.

Comments received on phthalates indicate that Bis(2-ethylhexyl)phthalate was detected in Chicago's biosolids; however, the commenter failed to provide risk-based standard(s) that had been exceeded. The concentration of Bis(2-ethylhexyl)phthalate was below the Department's applicable risk-based standards for phthalates.

Comments received on purgeable aromatic hydrocarbons (PAH's) indicate that toluene was detected in Chicago's biosolids; however, the commenter failed to provide risk-based standard(s) that had been exceeded. The concentration of toluene was below the Department's applicable risk-based standards for PAHs.

Comments received on pesticides, specifically lindane, 4,4'-DDE, and 4,4'-DDT indicate that the pesticides were detected in Chicago's biosolids; however, the commenter failed to provide risk-based standard(s) that had been exceeded. The concentrations of lindane, 4,4'-DDE, and 4,4'-DDT were below the Department's applicable risk-based standards for pesticides.

After listing the aforementioned pollutants (none of which exceeded applicable Federal and State standards), the commenter listed the effects the various pollutants can have on human health and the environment at elevated levels. However, as cited in 1.a above and as stated by the EPA in their May 30, 2019 memorandum entitled "Response to November 15, 2018, Office of Inspector General's Final Report, "EPA Unable to Assess the impact of Hundreds of Unregulated Pollutants in the Land-Applied Biosolids on Human Health and the Environment", "The presence of a pollutant in biosolids alone does not equate to scientific risk." According to the aforementioned EPA letter, "Prior to standards being developed, the EPA must have sufficient scientific evidence that the pollutants present in biosolids may harm (i.e., there is risk to) human health and the environment". See item 1.a and 1.b above for additional information on risk-based determinations Delaware utilizes to ensure protection of human health and the environment.

Division of Water - Surface Water Discharges Section Recommendation

NaturaLawn of America's permit application and project development report are complete and applicable Department's regulatory requirements have been met. The Department's SWDS believes all public comments submitted on NaturaLawn's permit application have been satisfactorily addressed and that the draft DM permit is protective of human health and the environment while being consistent with applicable State and Federal regulations.

The SWDS recommends the issuance of NaturaLawn of America's Distribution and Marketing Permit for the utilization of exceptional quality biosolids on turfgrass in Delaware.