

## HEARING OFFICER'S REPORT

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

**FROM:** Lisa A. Vest  
Public Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

**RE:** Permit Modification Application of Waste Management, Inc., to allow Delaware Recyclable Products, Inc. ("DRPI") a Design Elevation Revision and permit the vertical expansion of the DRPI Landfill from 130 feet Mean Sea Level ("MSL") to 140 feet MSL at 246 Marsh Lane, New Castle, Delaware, 19720.

**DATE:** March 9, 2020

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### **I. BACKGROUND AND PROCEDURAL HISTORY:**

A public hearing was held on Wednesday, May 29, 2019, at 6:00 p.m. by the Department of Natural Resources and Environmental Control ("DNREC," "Department") at the Minquadale Fire Department, 129 E. Hazeldell Avenue, New Castle, Delaware, to receive comment on an permit modification application submitted to the Department's Division of Waste and Hazardous Substances ("DWHS"), Compliance and Permitting Section ("CAPS"), by Waste Management, Inc. ("WM," "Applicant") currently pending before the Department. The Applicant seeks permission to modify its current permit (SW-15/02) for the Delaware Recyclable Products, Inc. ("DRPI") Landfill at 246 Marsh Lane, New Castle, Delaware, and allow the vertical expansion of the landfill from a design elevation of 130 Mean Sea Level ("MSL") to 140 feet MSL, while maintaining protection of the State of Delaware's environment and public health. The Applicant's permit modification request is subject to various statutory and regulatory requirements, including, but not limited to, 7 *Del.C.* Ch. 60 and Delaware's *Regulations Governing Solid Waste*, as set forth in 7 DE Admin. Code 1301.

Between 1954 and 1982, the DRPI Landfill property was operated as a sand and gravel pit in the general area of present-day Cells 1, 2, and 3. Sand and gravel of the Columbia Formation were partially excavated to approximately the top of the clay of the Potomac Formation. Cells 1 through 3 of the landfill were owned by Mr. Joseph J. Corrado when the first solid waste permit was issued in 1983. Disposal of construction demolition debris waste started at that time in 1983 in the unlined Cells 1 through 3. All subsequent Cells constructed at the facility, Cells 4 through 6-2B, have a composite liner system meeting the requirements of Delaware's *Regulations Governing Solid Waste*.

Cells 6-1B, 6-2A, and 6-2B are partially constructed over the unlined Petrillo Dry Waste Landfill. The Petrillo Landfill began operations in the late 1970s to early 1980s. The entire Petrillo site consisted of 43 acres. Waste was placed in approximately 21 acres of the 43-acre site. The Petrillo Dry Waste Landfill was closed in 1989. In 1991, Sanifill acquired ownership of the landfill property. Cell 4 was constructed north of Cell 3, and waste placement began in 1994.

In 1997, USA Waste Services, Inc. (Waste Management) became the new parent company of DRPI. Cell 5 was constructed to the west of Cells 1 through 4 in 1998, and waste placement began in 1999. During 2008, Cell 6-1A was constructed, and waste placement began in the same year. Cell 6-2B was constructed during 2018 and 2019, and waste placement began in 2019.

During July of 2015, work began to construct a composite liner system on top of Cells 1 through 3 (overlay), with a leachate collection system and an under-liner gas collection system. Construction of the final phase of the overlay is complete and is currently undergoing CAPS certification with the Department before waste can be placed on the new phase of the overlay.

The Applicant submitted its original *Permit Modification Application (Volumes 1 – 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware* on July 20, 2018, which originally requested a vertical expansion of the DRPI Landfill from a design elevation of 130 MSL to 190 MSL (“Original Application”). The Department’s CAPS deemed the Original Application to be administratively complete on April 1, 2019. Subsequently, New Castle Councilman Jea Street requested a public hearing on April 11, 2019.

The Department held its public hearing concerning this matter on May 29, 2019, as noted above. The hearing was attended not only by Department staff and representatives of the Applicant, but also by over 100 members of the public, with a voluminous amount of comment received by the Department at that time. Given the public interest in this matter, the public comment period was held open for an additional thirty (30) days, to ensure that everyone who wished to offer comment for inclusion into the hearing record (“Record”) was enabled to do so. Subsequent to the close of the public comment period on June 28, 2019, the Department’s DWHS began its review of the comment that had been received concerning WM’s Application. Accordingly, the Department’s DWHS submitted to this Hearing Officer a TRM dated August 27, 2019, which identified and responded to the concerns voiced by the public about the Applicant’s original permit modification request.

On August 28, 2019, New Castle County Ordinance No. 19-046 (“Ordinance”) became effective. The Ordinance formally amended New Castle County Code, Chapter 40, stating in pertinent part:

*Landfills shall not exceed 140 feet in height, as determined pursuant to industry standards...*

With the effective date of the Ordinance as referenced above, WM’s Original Application was no longer administratively complete, as Section 4.2.1.8 of Delaware’s *Regulations Governing Solid Waste* mandates that the Applicant have “...proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.” Accordingly, on December 4, 2019, WM submitted a *revised* permit application to the Department, reducing the proposed design elevation from 190 feet MSL to 140 feet MSL (“Revised Application”). This Revised Application was deemed administratively complete by CAPS on January 6, 2020. A supplemental TRM dated January 8, 2020 from the Department’s CAPS, along with additional documentation provided to the Department from both New Castle County and the Applicant, was provided to this Hearing Officer on February 17, 2020. This documentation 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 Record consists of the following documents:

(1) The official verbatim Transcript of Proceedings from Wilcox & Fetzer, Ltd., generated from the public hearing of May 29, 2019;

(2) Ten folders containing the Department's Exhibits in this matter, introduced by responsible Department staff at the aforementioned hearing, and marked accordingly by this Hearing Officer as "Dept. Exh. 1-10";

(3) Two letters, one from Tammy Keresty, President, Kleen-Tek, LLC (dated May 1, 2019), and one from Jonathan Wybar of Revolution Recovery (dated May 29, 2019), offered at the aforementioned public hearing and marked accordingly as "Applicant Exh. #1";

(4) Letter (May 29, 2019) from Jea P. Street, Councilman, New Castle County ("NCC") Council, 10<sup>th</sup> District, offered at said hearing and marked accordingly as "Street Exh. #1";

(5) Photocopies of two maps (labeled, "Delaware Geological Survey – Geohydrology of the Wilmington Area, Hydrologic Map Series, No. 3, Sheet 3 – Structural Geology [by Kenneth D. Woodruff, 1984], and Sheet 4 – Structural Geology [Woodruff, 1985]), offered along with Artesian's comments at said hearing, marked as "Artesian Exh. #1";

(6) Letter (May 29, 2019) from Lee Jarmon, President, Overview Gardens Garfield Park Civic Association, Inc., provided by Mr. Jarmon as a supplement to his verbal comment offered at said hearing, marked as "Jarmon Exh. #1";

(7) Letter/E-mail (May 29, 2019) from Jill and Bradford Williams, offered at said hearing on behalf of Senator David McBride by Caitlin Delcollo, marked as "McBride Exh. #1";

(8) Written statement from Penny Dryden offered at said hearing and marked accordingly as "Dryden Exh. #1";

(9) Written statement from David Trincia offered at said hearing and marked accordingly as "Trincia Exh. #1";

(10) Written statement from Willie Scott offered at said hearing and marked accordingly as "Scott Exh. #1";

(11) Handout entitled, *Environmental Justice for Delaware – Mitigating Toxic Pollution in New Castle County Communities*, offered by Stephanie Herron, Environmental Justice Health Alliance for Chemical Policy Reform, in support of her comments at said hearing and marked accordingly as “Herron Exh. #1”;

(12) Correspondence w/attachments from Rafael Carrasco, President, DRPI (dated June 11, 2019);

(13) Correspondence w/attachments from Michael J. Brennan, Sr. Env. Counsel, WM (dated June 19, 2019);

(14) Cover email from Aundrea Almond, Chief of Staff, NCC, providing correspondence w/attachments from Michael Meyer, NCC Executive, Vaughn Bond, NCC Police Chief, Lawrence Tan, NCC Emergency Medical Services Chief, and Jeff Miller, NCC Emergency Communications Chief (dated June 27, 2019);

(15) Email from Michael P. Migliore, Esq., Counsel to NCC Council, providing Supplemental comment for the Record (dated June 28, 2019);

(16) Correspondence w/attachments from Karl G. Randall, General Counsel, Artesian Water Company, Inc. (dated June 28, 2019);

(17) Complete Technical Response Memorandum (“TRM”) package from the Department’s experts in the DWHS, CAPS, Waste Management and Reduction Program, received by this Hearing Officer on February 17, 2020, comprised of the following: (a) Supplemental TRM dated January 8, 2020; (b) Draft Industrial Waste Landfill Permit; (c) TRM dated August 27, 2019; (d) NCC Department of Land Use Letter; and (e) Hydrogeological Assessment Summary Update Report from Taylor Geoservices Earth and Water Consultants on behalf of the Applicant, dated January 2020.

The Department's persons primarily responsible for reviewing this application, Michael Melito, Environmental Scientist III, CAPS, Adam Schlacter, Program Manager II, CAPS, and Jason Sunde, Environmental Program Administrator, CAPS, developed the Record with the relevant documents in the Department's files. As set forth previously herein, the Record generated in this matter indicates that numerous members of the public offered comments regarding the Applicant's permit modification request at the time of the May 29, 2019 public hearing. Additional written comments were received by the Department from members of the public, both prior to and subsequent to the aforementioned hearing, during the time period in which the Record was open to receive public comment.

At the request of this Hearing Officer, the technical experts in the Department's CAPS prepared the aforementioned TRMs to (1) specifically address the concerns associated with the Applicant's permit modification request, as set forth in the public comment received by the Department; and (2) offer conclusions and recommendations with regard to the pending Revised Application for the benefit of the Record generated in this matter. The August 27, 2019 TRM provides a summary of the public comment received in this matter and provides specific responses to the same. The supplemental TRM, dated January 8, 2020, serves to capture the activity surrounding the amendment of the Ordinance by New Castle County on August 28, 2019, the submission of a Revised Application by the Applicant, the additional documentation received by the Department by both New Castle County and the Applicant, and inclusion into the Record of the Department's experts' final conclusions regarding this matter for the Secretary's consideration.

It should be noted that many of the comments contained in the Record were reiterated by more than one commenter. Those repeated concerns were consolidated by the CAPS during its review of the Record, and then summarized within the August 27, 2019 TRM for both clarity and brevity. Additional comments received by the Department voiced concerns about various aspects of the Applicant's business operations, some of which fell outside of the CAPS' specific permitting authority as it relates to this permit modification request. Further comments voiced personal opinions regarding the Applicant's business in general, which are also beyond the scope of the Department's authority in permitting matters such as this.

The August 27, 2019 TRM provides the CAPS' formal responses to the public comment received by the Department regarding matters specifically associated with the Revised Application currently pending before the Secretary at this time. This TRM does not, however, address comments that pertain to matters outside the permitting authority of the CAPS, nor is it responsive to any comments that are not specifically related to the Applicant's Original Application, which was the subject matter of the public hearing held by the Department on May 29, 2019.

I find that the Department's TRM package offers a detailed review of all aspects of the Applicant's pending Revised Application, addresses those concerns germane to the subject matter of the aforementioned public hearing, and responds to them in a balanced manner, accurately reflecting the information contained in the formal hearing record. Thus, the aforementioned TRM package, complete with all attachments, is attached hereto as Appendix "A" and expressly incorporated herein as such.

### **III. RECOMMENDED FINDINGS AND CONCLUSIONS:**

The Revised Application submitted to the Department's DWHS by the Applicant in this matter requests a modification of DRPI's existing permit (SW-15/02) to allow the vertical expansion of the landfill from a design elevation of 130 feet MSL to 140 MSL, as set forth above. I find that this proposed project requires the Applicant to obtain a modification of its existing DRPI permit for the aforementioned design elevation to 140 MSL. I further find that the Applicant's proposed project is subject to various statutory and regulatory requirements, including, but not limited to, Delaware's *Regulations Governing Solid Waste*, as set forth in 7 DE Admin. Code 1301.

In reviewing the applicable statutes and regulations, as well as weighing public benefits of this project against potential detriments, the Department's experts in CAPS have concluded that the Applicant's Revised Application complies with all statutory and regulatory requirements. The Revised Application has reduced the proposed design elevation from the previously requested 190 feet MSL to 140 feet MSL. The Revised Application package also included a letter from the NCC Department of Land Use dated November 27, 2019, verifying that DRPI's request to extend the vertical limit of the landfill from 130 feet MSL to a final elevation of 140 feet MSL complies with local land use plans and zoning regulations.

It should also be noted that, on February 7, 2020, the Applicant submitted its *Hydrogeological Assessment Summary Update* to CAPS to address concerns that had been raised by the public, both at the time of the public hearing held on May 29, 2019 and during the time period when the Record was open to receive written comment. In response to the public concerns voiced over the possibility that landfill operations were potentially impacting public water supply wells located south and east of the landfill, the Applicant took the following actions during the time period of July through October of 2019:

- Installed three (3) new monitoring wells;
- Installed two (2) new piezometers;
- Completed geophysical logging of seven (7) existing wells; and
- Sampled the three (3) new wells in conjunction with the required quarterly sampling, completed in October 2019.

The new wells are located south and east of the landfill, were installed rotosonically, and are screened in the uppermost Potomac sands. In the supplemental TRM dated January 8, 2020, CAPS describes the methodology associated in the analysis of the data received from the new wells, and concludes that any potential impacts to groundwater in the sand units underlying the landfill pose no threat to groundwater supplying the well fields east of the site. The supplemental TRM further states that the enhanced potentiometric data obtained from the existing wells, new wells, and piezometers further confirm that the groundwater in both the shallow and intermediate water bearing zones underlying the landfill is moving generally to the northeast, away from the water supply wells.

Based upon the review of the documentation in the Record, the Department's experts concur with the conclusions presented in the aforementioned *Hydrogeological Assessment Summary Update*, specifically, that DRPI's landfill operations are not significantly impacting groundwater beneath the site, and that a release from the landfill poses no threat to water supply wells in the area.

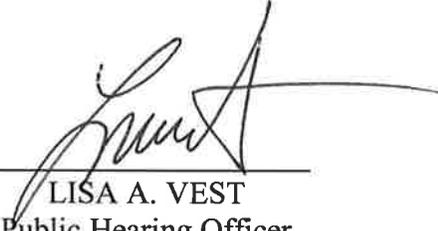
Should the Secretary approve the Applicant's Revised Application, DRPI's existing permit SW-15/02 would be renewed with a modification of the final maximum landfill elevation from 130 feet MSL to 140 feet MSL. The modified permit would be reflective of the Revised Application received from WM, and would contain requirements that include, but are not limited to, updates to the Operations and Maintenance Plan and the Engineering Report as part of the vertical expansion of the landfill. Operational cover placement frequency would also be increased from once every two weeks to once per week, and sampling procedures for leachate seeps would be added to the Surface Water Management and Monitoring section of the modified permit.

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 Revised Application submitted in this matter. In conclusion, I recommend that DRPI's existing permit (SW-15/02) be modified to allow for the vertical expansion of the landfill from a design elevation of 130 feet MSL to 140 feet MSL, consistent with the record developed in this matter, 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), Delaware's *Regulations Governing Solid Waste* (7 DE Admin. Code 1301), and all other relevant statutory authority, to make a final determination on the Revised 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 Original Application submitted by this Applicant, and of the public hearing regarding the same held on May 29, 2019, and held said hearing in a manner required by the law and regulations;
  3. The Department considered all timely and relevant public comments in the Record, as established in the Department's February 17, 2020 TRM package, which has now been expressly incorporated into the Record generated in this matter;
  4. The Department has carefully considered the factors required to be weighed in issuing the permit modification required by the Applicant's proposed vertical expansion of the DRPI Landfill from a design elevation of 130 feet MSL to 140 feet MSL, and finds that the Record supports approval of the Revised Application, and the modification of the DRPI Landfill permit SW-15/02 associated with same;
  5. The Department shall issue the aforementioned modification to the Applicant's existing permit SW-15/02, as required for the proposed vertical expansion of the DRPI Landfill from a design elevation of 130 feet MSL to 140 feet MSL.
- Furthermore, said permit issuance shall include all conditions as set forth in the Department's Draft Permit, to ensure that Delaware's environment and public health will be protected from harm;

6. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
7. 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 Original Application.



LISA A. VEST  
Public Hearing Officer



**APPENDIX "A"**





DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
COMPLIANCE AND PERMITTING SECTION  
WASTE MANAGEMENT AND REDUCTION PROGRAM  
MEMORANDUM



**TO:** Lisa Vest, Hearing Officer, Office of the Secretary

**THRU:** Tim Ratsep, Director, WHS *TRM 2-17-2020*  
 Jason Sunde, Environmental Program Administrator, CAPS *JS 2-17-2020*  
 Adam Schlachter, Environmental Program Manager II, CAPS  
 Chad Dolt, Environmental Program Manager I, CAPS *CD 2-17-2020*

**FROM:** Francis Gavas, Hydrologist III, WHS  
 Michael Melito, Environmental Scientist III, CAPS *MM 2-14-2020*

**DATE:** January 8, 2020 *AM 2/14/2020*

**SUBJECT:** Technical Response Memorandum: Response to Waste Management's Permit Modification Application for Delaware Recyclable Products, Inc., Design Elevation Revision, Received December 4, 2019, Revised January 3, 2020.

**REFERENCE:** Waste Management, DRPI Landfill Permit Modification Application

The Division of Waste and Hazardous Substances (WHS), Compliance and Permitting Section (CAPS) has determined that the application for permit modification at the Delaware Recyclable Products, Inc. (DRPI) Landfill is complete and provides the level of detail needed by the Department of Natural Resources and Environmental Control (DNREC) to modify the current permit and allow the vertical expansion of the landfill from a design elevation of 130 feet mean sea level (MSL) to 140 feet MSL, while protecting the environment and public health. The CAPS has attached (Attachment 1) a proposed draft permit for consideration.

Waste Management, Inc. (WM) submitted *Permit Modification Application, (Volume 1 of 3, Volume 2 of 3 and Volume 3 of 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware* (Permit Application) on July 20, 2018, requesting a vertical expansion of the landfill from a design elevation of 130 MSL to 190 MSL. The CAPS (formerly the Solid and Hazardous Waste Management Section) deemed the Permit Application administratively complete on April 1, 2019. A Public Hearing was requested by New Castle County (NCC) Councilman Jea Street on April 11, 2019.

A Public Hearing concerning the Permit Application was held on May 29, 2019. The Public Comment Period for the Permit Application ended on June 28, 2019. The CAPS submitted a Technical Response Memorandum (TRM) on August 28, 2019, to address issues raised by the public regarding WM's Permit Application. The August 2019 TRM is attached (Attachment 2) to this memorandum.

On August 28, 2019, NCC Ordinance 19-046 (the Ordinance) became effective. The Ordinance amended NCC Code Chapter 40 (Unified Development Code), and partially stated:

*“Landfills shall not exceed 140 feet in height, as determined pursuant to industry standards, and all requests to increase the landfill height up to and including this maximum shall be subject, first to an assessment of...”*

As of the effective date of the Ordinance, DRPI Landfill’s Permit Application was not administratively complete. Delaware’s *Regulations Governing Solid Waste* (DRGSW) Section 4.2.1.8 states:

*“Proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.”*

On December 4, 2019, WM submitted a revised Permit Application. The revised application reduced the proposed design elevation from 190 feet MSL to 140 feet MSL. The revised application also included a letter dated November 27, 2019, from NCC Department of Land Use that partially stated:

*“DRPI’s request to extend the vertical limit of the Landfill from a final elevation of 130 feet MSL, as permitted by Permit SW-15/02, to a final elevation of 140 feet MSL as requested in the Permit Modification Application, complies with local land use plans and zoning regulations.”*

The NCC Department of Land Use’s letter is attached (Attachment 3) to this TRM. The CAPS considered DRPI Landfill’s revised Permit Application administratively complete on January 6, 2020.

On February 7, 2020, WM submitted a *Hydrogeological Assessment Summary Update* (Attachment 4) to the CAPS, to address concerns that were raised during the public hearing and the public comment period for DRPI’s permit application for a vertical expansion of the landfill. To address concerns over the possibility that landfill operations were potentially impacting public water supply wells located south and east of the landfill, WM’s consultant:

- Installed 3 new monitoring wells
- Installed 2 new piezometers
- Completed geophysical logging of 7 existing wells
- Sampled the 3 new wells in conjunction with the 2019 October sampling event

The new wells were located south and east of the landfill, installed rotosonically, and screened in the uppermost Potomac sands. The new wells were gauged and sampled, the new piezometers gauged, and the new data integrated into the site monitoring network. Utilizing a more definitive methodology of stratigraphic interpretation based on palynological sediment analysis to determine stratigraphic boundaries within the Potomac Formation, the upper Potomac sands with subcrop beneath the landfill correlate with sands of the B timeline and are stratigraphically lower than the sands supplying Artesian’s well fields. Consequently, any potential impacts to groundwater in the sand units underlying the landfill pose no threat to groundwater supplying the well fields east of the site.

Additionally, the enhanced potentiometric data with the existing wells, new wells, and piezometers further confirms that groundwater in both the shallow and intermediate water bearing zones underlying the landfill is moving generally north east, away from the water supply wells. Laboratory results, including samples from the newly installed wells, are consistent with historic data with no exceedances above established regulatory limits except for arsenic. The elevated arsenic concentrations have been attributed to historic dry waste material that is known to be present in the vicinity of the wells and has been previously addressed. Arsenic continues to be monitored and additional actions may be required should conditions change.

Based upon review of the data and interpretation in the report, the Department concurs with the conclusions presented which further bolster the argument that the landfill operations are not significantly impacting groundwater beneath the site and that a release from the landfill poses no threat to water supply wells in the area.

**ATTACHMENTS:**

1. Draft Industrial Waste Landfill Permit
2. August 2019 TRM
3. NCC Department of Land Use Letter
4. Hydrogeological Assessment Summary Update



1. Draft Industrial Waste Landfill Permit





STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**  
 DIVISION OF WASTE AND HAZARDOUS SUBSTANCE  
 89 KINGS HIGHWAY  
 DOVER, DE 19901

COMPLIANCE &  
 PERMITTING

PHONE: (302) 739-9403  
 FAX: (302) 739-5060

**Permit SW-15/02**  
**Permit Type: Industrial Waste Landfill**

Effective Date: **December 30, 2020**

Date Issued: **December 30, 2020**

Expiration Date: **December 30, 2030**

Permittee: Delaware Recyclable Products, Inc.  
 246 Marsh Lane  
 New Castle, Delaware 19720

Pursuant to 7 Del. C., Chapter 60, Section 6003 and Delaware's *Regulations Governing Solid Waste*, Waste Management Corporation is hereby granted approval to operate the Delaware Recyclable Products, Inc. industrial waste landfill located near Marsh Lane in New Castle, Delaware, subject to the terms and conditions of this permit. All terms and conditions of this permit are enforceable by the Department of Natural Resources and Environmental Control.

**DRAFT**

\_\_\_\_\_  
 Michael A. Melito  
 Environmental Scientist III  
 Division of Waste and Hazardous Substances  
 Compliance and Permitting Section  
 (302) 739-9403

\_\_\_\_\_

Date

**DRAFT**

\_\_\_\_\_  
 Jason W. Sunde  
 Environmental Program Administrator  
 Division of Waste and Hazardous Substances  
 Compliance and Permitting Section  
 (302) 739-9403

\_\_\_\_\_

Date

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## I. GENERAL CONDITIONS

- A. Pursuant to Sections 4.2 and 6.0 of Delaware's *Regulations Governing Solid Waste* (DRGSW), the Department of Natural Resources and Environmental Control (DNREC, the Department) hereby issues Permit SW-15/02 to Delaware Recyclable Products, Inc. (DRPI), for the continued operation and construction of the industrial waste landfill located near Marsh Lane in New Castle, Delaware. This permit incorporates the requirements of, and replaces permit SW-05/01.
- B. This permit applies to:
1. Vertical expansion of the landfill and all ancillary features outlined in the Engineering Report, Volume 2 of 3 of the *Permit Modification Application (Volumes 1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants, dated July 2018 and last revised December 2019.
  2. Construction required to extend the vertical limits of the DRPI landfill from the previous design elevation of 130 feet mean sea level (MSL) to 140 feet MSL.
  3. Geomembrane capping including:
    - a. Final geomembrane cap construction over Cells 1, 2, 3, 4, 5, and 6.
  4. Operation and maintenance of the DRPI landfill, including Cells 1, 2, 3, 4, 5, and 6.
  5. Environmental monitoring, recordkeeping, and reporting for DRPI.
  6. The final cover system.
- C. This permit was issued in accordance with the following documents submitted by DRPI:
1. Secretary's Order No. 2020-WHS-0048 issued by the Department on December 29, 2020.
  2. DRPI letter of intent dated July 20, 2018, revised December 30, 2019.
  3. The Solid Waste Management Facility Application for the Delaware Recyclable Products Landfill (DRPI), dated July 16, 2018, revised January 3, 2020.
  4. The *Permit Modification Application (Volumes 1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated July 2018 and last revised December 2019.
  5. All previously approved and applicable documents, applications or correspondence.
  6. Other plans, letters, procedures and policies specifically referenced in this permit.
- D. This permit is issued subject to the following general conditions:
1. Construction and operations at DRPI shall be conducted in compliance with all federal, state, county, and municipal environmental statutes, ordinances, and regulations, including, but not limited to: Delaware's *Regulations Governing Solid Waste*, Delaware's *Regulations Governing Hazardous Waste*, Delaware's *Regulations Governing the Control of Water Pollution*, Delaware's *Surface Water Quality Standards*, and Delaware's *Regulations Governing the Control of Air Pollution*.
  2. Access to the DRPI site by unauthorized persons shall be prevented by barriers, fences, and gates, or other suitable means (DRGSW, Section 6.9.2.4). Access for the purpose

of disposal of solid waste shall be limited to those times when an attendant is on duty and to those persons authorized to use the site for the disposal of solid waste. The Department may, at any reasonable time, enter the DRPI landfill to verify compliance with the permit and DRGSW (7 Del. C., Chapter 60, Section 6024).

3. This Permit may be revoked upon violation of any condition of the permit or any requirement of DRGSW, after notice and opportunity for hearing in accordance with 7 Del. C., Chapter 60.
4. Permit SW-15/02 incorporates the requirements of, and replaces Permit SW-05/01.
5. Permit SW-15/02 shall expire no later than December 30, 2030.
6. A copy of the most current version of this permit shall be maintained in both the scalehouse and the on-site office at DRPI.

## II. CONSTRUCTION

### A. Planning, design, and construction

1. The planning and design of the DRPI landfill construction shall be consistent with DRGSW.
2. The landfill shall be constructed in accordance with the application package and the following engineering plans:
  - The *Permit Modification Application (Part VI – Engineering Report) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware* prepared by Geosyntec Consultants dated July 2018 and last revised December 2019.
3. Construction Quality Assurance activities for the vertical expansion of the landfill and all constructed components shall be in accordance with the most recent *Construction Quality Assurance Plan (CQA)* approved by the Department. DRPI shall report any deviation from the CQA to the Department's Division of Waste and Hazardous Substances, Compliance and Permitting Section no later than the next business day following discovery.
4. Prior to the installation of any geotextile or geomembrane at each sub-cell, DRPI shall provide the qualifications of the Geosynthetic Installer's Superintendent and Master Seamer to the Department.
5. DRPI shall submit final certification documentation to the Department in accordance with the approved *Construction Quality Assurance Plan*.

### B. Surface water management system

1. Sediment and stormwater control must comply with Delaware's *Sediment and Stormwater Regulations*.
2. The run-off control system from the active portion of the landfill shall be designed to collect and control at least the water volume from a 25-year, 24-hour storm event.
3. Run-off from the areas receiving waste shall be channeled to the leachate collection system.
4. Run-off from closed cells shall be directed to stormwater detention basins or other sedimentation control devices approved by the Department.

5. Discharge from the detention basin shall be in compliance with all applicable federal, state, county, and local regulations.
6. Stormwater basins shall be cleaned as needed in order to maintain design capacity.

C. Final cover phased capping

1. A report for each phase or area capped shall be provided to the Department within 60 days of completion. The report shall certify that the phase was capped in accordance with the Design Specifications, Technical Specifications and the CQA plan contained in the Engineering Report (Volume 2 of 3), of the *Permit Modification Application (Volumes 1, 2 and 3) for Vertical Expansion, DRPI Industrial Landfill, New Castle, Delaware* prepared by Geosyntec Consultants dated July 2018 and last revised December 2019.
2. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the post-closure care period.
3. The capping system shall be designed in accordance with DRGSW.
4. At the conclusion of all phases of capping on the DRPI landfill Cells 1 through 6, DRPI shall provide the Department a Certification Final Report. The Certification Final Report shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after all phases of capping on the DRPI landfill Cells 1 through 6 have been completed.

**III. OPERATIONS**

- A. Operations at DRPI shall be conducted in accordance with this permit and the *Operation and Maintenance Plan* (the Operations and Maintenance Plan) revised December 2019.
- B. DRPI shall be operated in a manner that will preclude degradation of adjacent land, air, surface water, or groundwater.
- C. Waste capacity. Consistent with the Solid Waste Management Facility Application (1/3/2020), DRPI shall accept no more than 2,400 tons of waste for disposal at the landfill each day.
- D. Staffing. Sufficient numbers and types of personnel, as specified in the Operations and Maintenance Plan, shall be available at the site to ensure capability for operation in accordance with DRGSW and the Operations and Maintenance Plan.
- E. Equipment. Equipment necessary to ensure the operations of the landfill in accordance with the Operations and Maintenance Plan and the requirements of DRGSW shall be maintained at the site by DRPI. This shall include at least one (1) backup leachate collection system pump for each cell. Backup pumps must be compatible with the existing control and alarm systems and capable of withdrawing leachate from the leachate collection system. DRPI shall use appropriate measures to manage leachate during power

outages. These measures may include vacuum trucks, electrical generators, pumps with alternative power supplies, or other effective means. DRPI may rely on the capacity of the landfill collection system for short-term power outages. Generators shall be used in accordance with Delaware's *Regulations Governing the Control of Air Pollution*.

F. Acceptable wastes. DRPI is permitted to accept an industrial waste stream consisting of the following materials:

1. Construction/demolition debris including roofing materials, wood, metal, drywall, carpeting, upholstery, foam rubber, conduit, laminated wood products, rock, brick, concrete, ceramics, glass, asphalt paving, and incidental asphalt products.
2. Dry waste as defined by DRGSW. This includes plastic, rubber, lumber, trees, and vegetative matter.
3. Non-hazardous industrial waste solids if approved by the Department. Waste characterization representative of the waste stream shall be required.

G. Unacceptable wastes. DRPI shall not accept for disposal the following prohibited wastes:

1. Hazardous waste.
2. Asbestos.
3. Creosote treated materials.
4. Regulated infectious waste.
5. Licensed radioactive material (as described in the Delaware Radiation Control Regulations), and any radioactive material considered source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954.
6. Electrical transformers.
7. Putrescible wastes.
8. Municipal solid waste.
9. Municipal solid waste ash.
10. Whole tires.
11. Liquid waste as restricted by 40 CFR Part 258.28.

H. Inspection procedures.

1. DRPI shall inspect each incoming load at the scale house and again at the working face of the landfill. Before the load leaves the scale house for the landfill, the scale house operators will ensure all paperwork and manifests are properly reviewed. All site employees at the working face will be trained to identify and immediately report the disposal of any questionable materials. When the driver returns to the scale house and before the driver leaves the facility, all paperwork and manifests will be double checked. Loads shall be rejected based upon the following criteria:
  - a. Otherwise acceptable loads containing small amounts of municipal solid waste, creosote treated materials, or sealed containers holding non-hazardous liquids may either be rejected or hand-sorted by DRPI to remove the unacceptable waste. If the load is rejected, a rejection notice shall be issued to the hauler and generator. If DRPI

- chooses to hand-sort, then the unacceptable waste recovered shall be given to the hauler for proper disposal and no rejection notice issued.
- b. Loads containing small amounts of suspected, regulated asbestos-containing material (less than the National Emission Standards for Hazardous Air Pollutants (NESHAP) threshold limit of one cubic yard) shall be rejected and a rejection notice issued to the hauler and generator. The load shall be adequately wetted prior to departure. In the event that the hauler accumulates 7 rejections for asbestos during one month or the generator accumulates 2 rejections for asbestos during one week, they shall be temporarily suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.
  - c. Loads containing excessive amounts of suspected, regulated asbestos containing material (more than the NESHAP threshold limit of one cubic yard) shall be adequately wetted, isolated, and the Department notified (1-800-662-8802) immediately. DRPI shall issue a rejection notice to the hauler and to the generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with the clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude asbestos.
  - d. Loads containing infectious waste, regulated hazardous waste, radioactive waste, or electrical transformers shall be isolated and the Department notified immediately (1-800-662-8802). DRPI shall issue a rejection notice to the hauler and generator and both shall be suspended from using the facility. In order to regain dumping privileges at DRPI, the suspended hauler or generator shall resolve all fines, penalties, and costs associated with any clean-up of the material, as well as submit a written plan for Department approval detailing how their waste handling procedures will be modified to exclude these materials.
2. All materials accepted by DRPI for disposal shall be subject to inspection by the Department's on-site Environmental Compliance Specialist, who shall be present during the operating hours of the landfill. The Department has the right to modify this requirement temporarily if needed to avoid disrupting operations at the landfill. DRPI shall reimburse the Department (within 30 days of the date of an itemized statement submitted by the Department) for its reasonable costs incurred in hiring or retaining the Department's Environmental Compliance Specialist (Consent Order dated 1/30/1990).
- I. Scavenging. Scavenging on the landfill is prohibited.
  - J. Salvaging operations. Salvaging operations for materials including cardboard, metal, wood, plastics, tree debris, stumps, and concrete is allowed.
    1. Salvaging shall be conducted in accordance with the Operations and Maintenance Plan and in a manner protective of human health and the environment.
    2. Facility salvaging operations shall not interfere with the proper disposal of wastes.

3. Stockpile areas shall be inspected at least once each operating day to ensure that unwanted materials (such as trash) have not been deposited. Such materials shall be removed for proper disposal no later than the next business day.
  4. DRPI may salvage other materials as approved by the Department.
- K. Operational cover. DRPI shall cover the working face a minimum of once a week. On windy days, or when strong wind is forecast for the area, DRPI shall immediately cover the working face. Cover shall consist of a minimum of six inches of clean fill or other material acceptable to the Department. The Department may require that certain loads be covered immediately if needed to prevent nuisance conditions.
- L. Intermediate cover. Any area that receives operational cover and is not expected to receive either additional solid waste or a capping system within six months shall be covered with intermediate cover. Intermediate cover shall consist of at least 12 inches of compacted soil (total), or an alternative material approved by the Department.
- M. Waste transportation and scale requirements:
1. Waste transportation permit. DRPI shall not accept waste from solid waste transporters hauling waste in vehicles having a gross vehicle weight of 26,000 pounds or more, unless the hauler has a valid Transporter's Permit issued by the Department's Division of Waste and Hazardous Substances, Compliance and Permitting Section (DRGSW, Section 7.0).
  2. Overweight vehicles. DRPI shall notify the Department's on-site Environmental Compliance Specialist immediately once a vehicle is determined to be overweight (reference 21 Del. C., Section 4502) at the scale. DRPI shall provide a copy of the weigh ticket for the overweight vehicle and the following information to the Department:
    - a. Waste hauler.
    - b. Transporter permit number.
    - c. Driver's name.
    - d. Manufacturer's Gross Vehicle Weight Rating.
  3. Scale certification. DRPI shall ensure that the Delaware Department of Agriculture has inspected and certified the scale and that the certification is maintained.
- N. Litter control. Litter shall be controlled and collected in accordance with the Operations and Maintenance Plan. Controls shall include daily inspections for litter, compaction of waste upon receipt, use of fences and other barriers, and routine litter collection. Scattered and wind-blown litter shall be collected as frequently as necessary to maintain an aesthetically desirable environment. DRPI shall prevent litter from migrating off-site. The DRPI personnel shall collect any off-site litter which has migrated from the landfill site immediately.
- O. Dust and mud control. Dust control measures shall be provided to minimize potential nuisance dust to adjacent landowners. Site access and entrance roads shall be cleaned with water and swept as needed to minimize the potential for mud being tracked onto public roads.

Fugitive dust emissions shall not be emitted in such quantities as to cause or create a condition of air pollution (injurious to human, plant, or animal life or unreasonably interfering with the enjoyment of life and property) from material-handling operations, the stockpiling of materials, or vehicular traffic entering or leaving the facility. This includes along Marsh Lane adjacent to the New Castle County Public Safety Building and along the commercial/industrial properties which in turn are adjacent to the West Minquadale community. The paved surface of Marsh Lane shall be kept clean of dust-causing dirt and mud by employing methods such as water tanker/sprinkler trucks. These methods will also be employed on non-paved roads to control fugitive dust emissions.

P. Health and safety.

1. Employees at the site shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration (OSHA).
2. Use of personal protective equipment shall be in accordance with 29 CFR Part 1910.132, as a minimum.
3. First aid equipment shall be maintained and available in the scale house, in the pre-treatment building, and in the maintenance building.
4. Emergency telephone numbers of nearby ambulance, hospital, police and fire services shall be prominently displayed by at least one telephone in each of the following on-site locations: the maintenance office/shop, the leachate pre-treatment building, the scale house and the administrative office.
5. Any confined space entry done by employees or contractors shall be done in accordance with 29 CFR Part 1910.146.

Q. Contingency. DRPI shall maintain a current emergency response plan (reference, *Operation and Maintenance Plan*, revised December 2019). That plan shall include emergency contacts, reaction to spills, fires and other emergencies.

R. Training. All employees (except the Operations Specialist) assigned duties at DRPI shall receive, as a minimum, the training listed below. Unless otherwise specified by a nationally recognized training provider (for example, the American Red Cross as a training provider for First Aid), training shall be required initially and annually thereafter. Initial training for waste screening shall be completed within 60 days of hiring, and all other initial training shall be completed within 180 days of hiring.

1. Operational and contingency procedures.
2. Waste screening.
3. Health and safety procedures.
4. Fire prevention and protection.
5. Emergency first aid.
6. CPR training.
7. Temporary employees shall receive, as a minimum, training in operational and contingency procedures, health and safety procedures, and fire prevention and protection. Additional training for temporary employees may be required, dependent

on position responsibilities. For example, a temporary weighmaster must receive waste screening training within 60 days of hiring.

#### **IV. ENVIRONMENTAL MONITORING AND GROUNDWATER CONTROL SYSTEM MANAGEMENT**

##### **A. Stormwater and Surface water management and monitoring**

1. DRPI shall maintain a surface water management system to prevent erosion of the waste and cover, prevent the collection of standing water, minimize surface water run-off into the waste, and minimize run-off from the waste. DRPI shall maintain coverage under the National Pollutant Discharge Elimination System (NPDES) for stormwater discharge.
2. DRPI shall maintain a stormwater management system on the landfill to prevent erosion of the waste and cover, prevent the accumulation of standing water, and minimize stormwater runoff into the waste. The stormwater conveyance and discharge system (SCDS) shall be kept free of leachate (including condensate from the gas collection system), debris, waste, and sediment buildup.
  - a. DRPI shall ensure that contaminated stormwater from operation on the landfill is directed to the leachate collection system.
  - b. DRPI shall inspect the stormwater management system on the landfill monthly and immediately after any rainfall capable of causing erosion or surface run-off or on the next operating day if rainfall occurs while the facility is not operating. DRPI shall record the results of the inspections, maintain records of these inspections and of their findings, and the actions taken to correct observed deficiencies. Inspections shall, at a minimum, include:
    - (1) Berms and swales shall be inspected for erosion, sedimentation, and debris.
    - (2) Silt fences shall be inspected for damage, accumulated debris, and to ensure that fencing is firmly anchored.
    - (3) Culverts and pipes shall be inspected for siltation, blockage, and debris.
    - (4) Control structures and outfalls shall be inspected for siltation, debris, and damage. If stormwater is flowing at the time of the inspection, DRPI shall visually inspect the discharge for color, sheen, floating debris, and sediment laden stormwater. DRPI shall record their observations from the visual inspection, describing any odor noted as well.
  - c. DRPI shall coordinate stormwater pond cleanout or maintenance involving structural repair of the ponds with the DNREC Sediment and Stormwater Program or DNREC Division of Water, as applicable.
3. Stormwater management. DRPI shall properly operate, manage and maintain all structures and basins designed to manage stormwater and shall take all reasonable steps to minimize or prevent any discharge of pollutants into surface waters.

4. DRPI shall take all necessary steps to identify and prevent the discharge of pollutants from the waste into surface water and shall initiate corrective actions to confirm, quantify, and remediate such discharges. For the purposes of this permit, contaminated stormwater means stormwater which comes in direct contact with landfill wastes or landfill wastewater. Landfill wastewater means all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, and groundwater from monitoring or production wells on-site. Landfill wastewater includes leachate, gas collection condensate, laboratory derived wastewater, contaminated stormwater, and contact washwater used to wash solid wastes from equipment.
5. In the event a leachate seep is found to be contaminating surface water, DRPI shall sample the impacted surface water and the downstream stormwater pond at both the inlet and the outfall (if discharging). DRPI shall record their visual observations and sample in accordance with the *Updated Groundwater, Leachate, and Stormwater Monitoring and Reporting Program Plan* (June 2009).
6. Semi-annually, during April and October, water quality samples shall be collected from Outfall 001 and Outfall 002. These samples shall be analyzed in the field for:

Temperature	pH
Specific Conductance	Turbidity

In addition, these samples shall be analyzed in the laboratory for the following indicator parameters:

pH	Ammonia-Nitrogen
Total Suspended Solids	Total Petroleum Hydrocarbons
Chemical Oxygen Demand	Biological Oxygen Demand
Iron	Lead
Copper	Zinc
Arsenic	Manganese
Barium	Vanadium
Selenium	m,p-Xylene
Toluene	Benzene
Ethylbenzene	Total Xylene
o-Xylene	Gasoline Range Organics
Diesel Range Organics	

Monitoring parameters may be removed at the Department's discretion if detectable parameters are below the levels of concern.

## B. Groundwater monitoring

### 1. General requirements

- a. All monitoring wells shall be maintained and protected in accordance with the Delaware "Regulations Governing the Construction and Use of Wells".
- b. Installation or abandonment of any well shall be performed in accordance with the

Delaware “Regulations Governing the Construction and Use of Wells”. The Department must be notified, and appropriate documentation submitted upon the installation or abandonment of any wells.

- c. Groundwater monitoring shall be done in accordance with the approved Updated *Groundwater, Leachate and Stormwater Monitoring and Reporting Program Plan* (June 2009). The following monitoring wells are currently included in that plan:

Semi-annual Sampling	Water Level Measurements Only Semi-Annually	Annual Sampling
Shallow Zone Monitoring Wells	Shallow Monitoring Wells	Shallow and Deep Zone Monitoring Wells
C4-E1S(R)	MW-4S(R)	MW-4D(R)
C4-N1S	MW-7S	MW-7D
C5-N1S	MW-8S	MW-9D
C5-W1S(R)	P-8S	MW-101D
C5-W2S		DMW-1
MW-101S		DMW-2
		MW-102S
		MW-1S

MW – Monitoring Wells, P - Piezometer  
 C – Cell, N – North, W – West  
 D – Deep, S – Shallow, R – Replacement

2. Water level measurement

- a. Semi-annually, during April and October, DRPI shall measure water levels in all monitoring wells referenced above. Maps shall be prepared for each aquifer showing wells drilled in the aquifer and water elevations in each well and the groundwater control system. Contour lines shall be drawn showing the potentiometric surface of each aquifer and the directions of groundwater flow. Maps shall include the outline of each active and closed sub-cell on the DRPI property. This information shall be submitted as part of the annual report requirements for DRPI.

3. Groundwater monitoring

a. Frequency

- (1) Semi-Annually, during April and October, DRPI shall collect groundwater samples from shallow zone monitoring wells C4-E1S(R), C4-N1S, C5-N1S, C5-W1S(R), C5-W2(S), MW-101(S), for laboratory analysis. The resulting

data shall be reported to the Department within 60 days of the sampling date.

- (2) Annually, during April, DRPI shall collect groundwater samples from intermediate and deep zone monitoring wells MW-4D(R), MW-7D, MW-9D, MW-101D, DMW-1, DMW-2, MW-102S, and MW-1S in addition to the wells noted in Condition 3.a.(1) above for laboratory analysis. The resulting data shall be reported to the Department within 60 days of the sampling date.

b. Analytical requirements

- (1) DRPI Shall measure for the following field parameters in all groundwater samples at the time of collection:

Specific Conductance	Temperature	pH
Dissolved Oxygen	REDOX	Turbidity

- (2) All groundwater samples shall be laboratory analyzed for the following parameters:

Magnesium	Sodium	Calcium
Potassium	Chloride	Sulfate
pH	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Ammonia-Nitrogen	Nitrate-Nitrogen	Dissolved Iron
Dissolved Manganese	Barium	Lead
Arsenic	Vanadium	

- (3) All samples shall be collected in a manner that minimizes sample turbidity. Any sample collected to be analyzed for metals with turbidity of greater than ten NTU shall be field filtered.

C. Groundwater control system management and performance monitoring

1. Groundwater control system management

- a. Weekly inspection shall be conducted and documented by DRPI to verify proper functioning of all groundwater control system components.
- b. The system shall be cleaned and maintained in accordance with the Operations and Maintenance Plan or more frequently if required to maintain proper functioning.
- c. The system shall be designed and operated to maintain five feet of separation distance between the liner and the groundwater table.

2. Groundwater control system performance monitoring

- a. The groundwater control system shall be capable of measuring the rate and quantity of flow from each cell on a daily basis and shall be capable of sampling the water collected.

- b. The performance standard of the groundwater control system shall be that the groundwater elevation is maintained at least five feet below the liner.
- c. Groundwater control system monitoring shall be done in accordance with the approved *Updated Groundwater, Leachate, and Stormwater Monitoring and Reporting Program Plan* (June 2009).
- d. DRPI shall measure and record the depth of water and the quantity of water pumped from each groundwater control system sump where a pump is installed each operating day.
- e. Semi-annually, in April and October, DRPI shall measure the water level in every groundwater sump.
- f. Semi-annually, in April and October, DRPI or DRPI's contractor shall collect a water sample from the groundwater control system (GWCS), to be analyzed for field parameters and laboratory parameters, for Cell 4A GWCS (GU-1), Cell 5A GWCS (GU-2) and Cell 6 Groundwater Control Drain (Cell 6 GWCD), and shall collect a water sample from the GWCS, to be analyzed for field parameters only, for Cell 4C GWCS and Cell 5D GWCS. The resulting data shall be reported to the Department within 60 days of the sampling date.
- g. DRPI or DRPI's contractor shall collect water samples from each of the cell sumps listed above. At the time of the collection, DRPI shall measure the following field parameters of the samples:

Specific Conductance	Temperature	pH
Dissolved Oxygen	REDOX	Turbidity

Additionally, DRPI or DRPI's contractor shall analyze these samples in the laboratory for the following parameters:

Magnesium	Sodium	Calcium
Potassium	Chloride	Sulfate
pH	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Ammonia-Nitrogen	Nitrate-Nitrogen	Dissolved Iron
Dissolved Manganese	Barium	Lead
Arsenic	Vanadium	

D. Leachate collection, treatment, disposal & monitoring

1. Operational procedure

- a. DRPI shall operate and maintain the leachate collection, transmission, and storage system, including all alarm systems in accordance with this permit and the Operations and Maintenance Plan approved by the Department. DRPI shall clean-up all leachate spills immediately or within a time frame approved by the Department, on a case-by-case basis.
- b. The leachate pretreatment facility shall be operated and maintained in accordance with the Department approved Operations and Maintenance Plan.

- c. Daily (each operating day) inspections shall be conducted and documented by DRPI to verify proper functioning of the leachate collection system, leachate force main, and leachate pretreatment facility components. To ensure proper functioning, the pumps shall also be inspected every operating day. The results of the inspection shall be recorded in the facility log and shall be submitted with the semi-annual monitoring report.
- d. The system shall be cleaned and maintained in accordance with the Operations and Maintenance Plan approved by the Department or more frequently if required to maintain proper functioning.
- e. The system shall be designed, operated, and maintained so that there is no more than one foot of head on the liner outside of the sump.
- f. DRPI shall prevent leachate seeps from side slopes.
- g. DRPI shall maintain all necessary permits and approvals for leachate management. Disposal must be done in a manner which does not cause adverse environmental impact.

2. Leachate monitoring

- a. The leachate monitoring system shall be capable of measuring the rate and quantity of leachate flow through each leachate pump, and shall be capable of sampling the leachate at each leachate riser vault.
- b. Leachate monitoring shall be done in accordance with the approved *Updated Groundwater, Leachate, and Stormwater Monitoring and Reporting Program Plan* (June 2009).
- c. DRPI shall measure and record the depth of leachate and the quantity of leachate pumped from each leachate sump each operating day.
- d. Semi-annually, in April and October, DRPI shall measure and record the leachate level in every leachate collection system sump.
- e. Semi-annually, in April and October, a leachate sample shall be collected from cells 3, 4A, 5A, and 6. The data shall be submitted to the Department within 60 days of the sampling date. DRPI or DRPI's contractor shall collect leachate samples from each of the cells listed above. At the time of the collection, DRPI shall measure the following field parameters of the samples:

Specific Conductance	Temperature	pH
Dissolved Oxygen	REDOX	Turbidity

Additionally, DRPI or DRPI's contractor shall analyze these samples in the laboratory for the following parameters:

Magnesium	Sodium	Calcium
Potassium	Chloride	Sulfate
pH	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Ammonia-Nitrogen	Nitrate-Nitrogen	Dissolved Iron
Dissolved Manganese	Barium	Lead

Arsenic

Vanadium

3. Spill contingency

- a. DRPI shall immediately notify the Department regarding any incident of a leachate spill and the action taken to mitigate any impact and remediate any contamination caused by the spill.
  - b. DRPI shall monitor all leachate collection system flowmeters, pumps, controls, recording devices and storage tanks each operating day to ensure proper functioning and to record flows. DRPI shall inspect for leakage from valves, flowmeters, connections at riser locations, and storage tanks each operating day. The results of the monitoring and inspections shall be recorded and made available to the Department within a reasonable time upon request.
4. Cleaning and assessment of the system. DRPI shall ensure that collection pipes are cleaned annually with a self-propelled, high pressure jetting system. DRPI shall be responsible for the identification, assessment, and reporting of all blockages encountered as well as identification of any areas found to be inaccessible during the cleanings.
5. Safety. On-site personnel shall not enter any confined space without taking the appropriate confined space entry precautions.

**V. ANALYTICAL METHODS**

A. Test methods

Test methods used for groundwater, surface water, leak detection system, and leachate samples shall be those described in the most current legal edition of the Environmental Protection Agency (EPA) Publication Number SW-846. If SW-846 does not contain a test method for a required parameter, that parameter shall be tested according to methods described in the most recent edition of the EPA Publication "Methods of Chemical Analysis for Water and Wastes" or Standard Methods for Examination of Water and Wastewater. All samples shall be taken using quality assurance and quality control procedures that ensure samples are representative of actual field conditions.

**VI. GAS CONTROL**

- A. The control and management of landfill gas must be in conformance with Delaware's *Regulations Governing the Control of Air Pollution* as well as DRGSW. The operation, maintenance, and monitoring of the gas extraction and flare systems shall be done in accordance with the current permit(s) issued pursuant to Delaware's *Regulations Governing the Control of Air Pollution*.
- B. DRPI shall operate and maintain the gas extraction system and flares to control odors. Malodorous gaseous emissions from the landfill shall be controlled to the extent that there is no perceivable landfill odor beyond the property boundary. DRPI shall maintain a permit

for the operation of the extraction system and flares in accordance with Delaware's *Regulations Governing the Control of Air Pollution* and DRGSW.

C. Landfill gas migration

1. Semi-annually, during April and October, DRPI shall monitor for gas, percentage of lower explosive limit (LEL), outside the perimeter of the waste, along the site boundary, as well as in all on-site structures that are routinely occupied. Sampling shall be conducted in accordance with the Department approved Operations and Maintenance Plan. The concentration of landfill gas in facility structures (except gas recovery systems) and at the facility boundary shall not exceed 25 percent of the LEL.
2. Semi-annually, during April and October, DRPI shall test each gas probe for the presence of groundwater. If groundwater is encountered, then the water elevation in that probe shall be measured and recorded.

D. Landfill gas odor control system. The landfill gas control system shall be monitored in accordance with the Department approved Operations and Maintenance Plan, the *DRPI LFG Odor Control System* (appendix V-D of the permit application), and the current permit issued by the Department's Division of Air Quality. Monitoring of the system shall include the following:

1. Monthly monitoring of the extraction system. Monitoring parameters shall include:
  - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
  - b. Pressure (vacuum).
  - c. Gas flow.
  - d. Gas temperature.
  - e. Liquid levels in the condensate handling system.
2. Weekly monitoring of the blower/flare system. Monitoring parameters shall include:
  - a. Gas composition, including methane, carbon dioxide, oxygen, and balance gas.
  - b. Inlet pressure.
  - c. Outlet pressure.
  - d. Gas flow.
  - e. Flare temperature.
  - f. Pressure drops across water knockouts and flame arresters.
  - g. Liquid level in condensate knockout.
3. Accelerated monitoring, in accordance with the Operations and Maintenance Plan, shall be implemented if significant odors are noted or if conditions require significant changes or repairs to the extraction system or blower/flare system.

## VII. REPORTING

A. Financial assurance.

1. No later than February 28<sup>th</sup> of each year, DRPI must demonstrate adequate financial

assurance for closure and post-closure care of the landfill in accordance with the requirements of DRGSW.

2. DRPI shall submit with a proof of financial assurance, an updated and accurate cost estimate adjusted for inflation, facility expansions, and any other applicable requirements which impact the cost of closure and post-closure care.
  3. Financial Assurance Mechanism: DRPI shall maintain a financial assurance mechanism for closure and post-closure care and for corrective action, if required, in accordance with DRGSW. The Department may draw upon DRPI financial assurance funds to effect closure in accordance with DRGSW. In the event that DRPI transfers ownership of the facility, and prior to the transfer, the new owner does not establish an approved, valid financial assurance mechanism for closure and post-closure care of the facility, the Department may draw upon the DRPI financial assurance funds to affect closure and post-closure care of the landfill.
  4. DRPI shall provide the Financial Assurance document in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a Portable Document Format (pdf) file.
- B. Annual reporting. Annually, no later than February 28<sup>th</sup>, DRPI shall submit to the DNREC, an Annual DRPI Operations Report summarizing facility operations for the preceding calendar year. DRPI shall provide the Annual DRPI Operations Report in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a pdf file. The report shall describe and summarize all solid waste disposal, environmental monitoring, and construction activities conducted for that period (DRGSW, section 6.9.4). The report shall include:
1. The weight and types of wastes landfilled. Industrial wastes shall be reported by type, approval number, generator, and weight.
  2. The weight of materials recovered and/or salvaged for reuse/recycling.
  3. The estimated remaining landfill capacity.
  4. An updated estimate of closure and post-closure care costs for the facility.
  5. Verification that the mechanism used for financial assurance is still valid (in accordance with section VII of this permit).
  6. Any intentional or accidental deviations from the approved Operations and Maintenance Plan or this permit.
  7. All construction or corrective work conducted on the site in accordance with approved plans or to achieve compliance with these regulations.
  8. A list of all haulers and generators that had been suspended from DRPI during the calendar year, to include the dates and category of violations.
  9. A list of haulers and generators that had received any rejections for transporting small amounts of asbestos or other unacceptable wastes and the dates of those rejections.
  10. A narrative of DRPI's outreach efforts to notify customers of acceptable wastes and prohibited wastes at the facility. Written documents including letters and handouts used to provide this notification to customers shall be included.
  11. A combined groundwater monitoring, gas monitoring, groundwater control system

performance monitoring, and leachate collection system monitoring report signed by a Professional Geologist registered in Delaware. This report shall include at least the following information:

- a. Tabulation of all data listed below from the past and all preceding years since the issuance of this permit. All data should be submitted on machine readable media in a format acceptable to the Department. Data for at least the last three years shall also be submitted on paper (unless otherwise noted below). Data submitted shall include:
  - (1) Leachate volumes collected and liquid levels each week from each operating sump (digital media only).
  - (2) Monthly totals for leachate volumes from each cell (i.e., Cells, 3, 4, 5, and 6).
  - (3) Leachate analytical results including field parameters.
  - (4) Groundwater control volumes collected and liquid levels each week from each operating sump as well as all other groundwater control system liquid measurements made during the past year (machine readable media only).
  - (5) Monthly totals for groundwater control system volumes from each system.
  - (6) Groundwater control system liquid analytical results including field parameters.
  - (7) Groundwater elevation and quality data including field parameters.
  - (8) Monthly rainfall totals.
  - (9) Monitoring data from landfill gas odor control system.
  - (10) Monitoring data from landfill gas migration monitoring.
- b. Graphical presentations (quality versus time plots) of leachate, groundwater, and groundwater control system quality parameters pH, TDS, COD, TOC, chloride, sulfate, ammonia-nitrogen, and iron.
- c. Graphical presentations (volume versus time plots) of total monthly flow from each sump of the leachate collection system and the groundwater control system. Rainfall data shall also be plotted on each graph.
- d. Potentiometric maps for each aquifer for each groundwater monitoring event for the past year as per Section IV.B.2. of this permit.
- e. A discussion of landfilling activities during the past year relevant to operation of the groundwater control system, the leachate collection system and the gas collection system, including at least the following information:
  - (1) Extent of the groundwater control system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the previous year.
  - (2) Extent of the leachate collection system at the start of the previous year and a description and the date of any additions to the system and a description and the date of any significant maintenance or cleaning of the system during the previous year.
  - (3) Extent of final cover at the start of the previous year and a description and the date of any additions during the previous year, and a description and the date of

- any significant maintenance or repairs conducted during the previous year.
- (4) Extent of the gas collection system at the start of the previous year and a description and the date of any additions to the system during the previous year, and a description and the date of any significant maintenance or repairs conducted during the previous year.
  - (5) The active sub-cell at the start of the previous year and the date on which landfilling began in any additional sub-cells.
  - (6) A description of any major construction activities during the previous year that could have potentially affected groundwater levels such as construction of a new sub-cell.
- f. A discussion of the groundwater monitoring results, including whether the results indicate a contaminant release from the landfill to groundwater or surface water.
  - g. A discussion of the groundwater control system performance results, including whether the results indicate that the system is maintaining the water table five feet below the base of the liner and whether the results indicate that the liner is performing within design specifications.
  - h. A discussion of the leachate collection system results, including whether the results indicate that the system is performing within design specifications.
  - i. A discussion of the landfill gas odor control system (i.e., extraction system, flares, and blower) monitoring results including DRPI's appraisal of whether or not the system is performing within design specifications.
  - j. A discussion of the landfill gas monitoring results (for migration).
  - k. A discussion of sampling and laboratory QA/QC results.
  - l. Recommendations for future monitoring and for maintenance or modifications needed in the monitor wells, groundwater control collection system, gas collection system and/or the leachate collection system as necessary.

C. Additional reports

1. The results of weekly monitoring of the blower/flare system as well as monthly monitoring of the extraction system (wellfield) shall be submitted to the Department semi-annually.
2. DRPI shall inform the Department in writing if it is unable to comply with any of the monitoring or reporting requirements.
3. Upon discovery, DRPI shall report to the Department any intentional or accidental deviation from any approved plan.
4. DRPI shall provide copies of each rejection notice to the Department as well as any notification of suspension issued to a generator or hauler.
5. Semi-Annual DRPI Environmental Monitoring Report for groundwater, groundwater control system performance monitoring, leachate monitoring, and landfill gas migration monitoring done in accordance with the requirements of Section IV of this permit shall be submitted to DNREC. DRPI shall provide the Semi-Annual DRPI Environmental Monitoring Report in two paper copies plus one copy by way of electronic media acceptable to both DRPI and the Department. The electronic copy shall be provided as a single electronic document such as a pdf file. The data and image files shall be provided

in a format acceptable to the Department.

D. Emergency reporting

1. DRPI shall immediately notify the Department in the event of any of the following occurrences. Written notification (to include narrative, response and follow-up required) shall be submitted to the Department within five business days.
  - a. A leachate spill exceeding ten (10) gallons.
  - b. A fire or explosion involving the landfill or its control systems.
  - c. Loads containing excessive amounts of category II asbestos (more than the NESHAP threshold limit of one cubic yard).
  - d. Loads containing regulated hazardous waste, infectious waste, radioactive waste, or electrical transformers.
  - e. Gas levels of 25 percent LEL or greater detected at the facility boundary or within any structure which is routinely occupied.
  - f. Any violation of the Wastewater Discharge Permit issued by New Castle County.
  - g. Any violation of the permit issued pursuant to the Delaware's *Regulations Governing the Control of Air Pollution*.
  - h. Damage to the landfill liner system.
2. If any event listed in Section VII.D.1 of this permit occurs during business hours, DRPI should report to the Department's Compliance and Permitting Section by telephone to 302-739-9403. At all other times report is to be made to the Department's TOLL-FREE 24-HOUR LINE 1-800-662-8802.
3. DRPI shall submit a written notification to the Department no later than: (i) five business days following any event requiring "Emergency Reporting"; or (ii) on a date mutually agreed upon between DNREC and DRPI at the time of the event. The notification shall include the following:
  - a. Date and time of occurrence/discovery.
  - b. Date and time of reporting.
  - c. Agencies notified.
  - d. Materials and quantities involved.
  - e. Narrative describing how the incident occurred and the actions taken by DRPI and other response personnel.
  - f. Report of injuries/damage.
  - g. Proposal for follow-up or remedial actions required and schedule.

E. Assessment of corrective measures

1. DRPI shall notify DNREC within seven (7) days after verified analytical data has confirmed that a release has taken place. Confirmation samples shall be collected from the appropriate monitoring points within 14 days of receipt of written approval by the Department. These samples shall be analyzed under a priority schedule for the indicator parameters and any other parameters deemed appropriate by DRPI and

DNREC. DRPI shall notify DNREC of the results of the confirmation sampling within seven (7) days of receipt of the results.

2. If confirmation sampling does not indicate that a release has taken place, another round of sampling shall take place to determine whether the results of the analysis from the first or second sampling events were anomalous. This re-sampling sampling event shall take place within two (2) weeks of DRPI sending written notification to the Department of their intent to re-sample. The samples shall be analyzed under a priority schedule. DRPI shall notify DNREC of the results of the re-sampling within seven (7) days of receipt of the results.
3. If the re-sampling indicates that no release has taken place, no further action shall be taken by the Department, and monitoring of the sampling location(s) shall be returned to a normal monitoring schedule. If the confirmation or re-sampling round of sampling does indicate that a release has taken place, DRPI shall perform an assessment of corrective measures within 90 days of confirmation of the release. This assessment shall include:
  - a. Identification of the nature and extent of the release (which may require construction and sampling of additional wells, geophysical surveys or other measures).
  - b. Re-assessment of contaminant fate and potential contaminant receptors (wells and/or receiving streams).
  - c. Evaluation of feasible corrective measures to:
    - (1) Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards).
    - (2) Reduce, minimize or prevent further contaminant releases.
    - (3) Reduce, minimize or prevent the off-site migration of contaminants.

## **VIII. RECORDKEEPING**

### **A. Recordkeeping**

1. Records concerning design and construction of the landfill and its components; monitoring, testing, or analytical data specified by the Department; as well as weight of wastes received shall be maintained by DRPI until the end of the post-closure period (DRGSW, section 6.9.3).
2. Records of all rejections, including copies of rejection notices, shall be maintained by DRPI for a minimum of three years.
3. Copies of field notes for each sample analyzed as well as laboratory data sheets for each sample analyzed shall be kept on file by DRPI and shall be available for inspection by representatives of the Department, with reasonable notice.
4. DRPI shall maintain copies of all inspections required by the Operations and Maintenance Plan and this permit and those documents shall be available for review by the Department.

## **IX. LANDFILL CAPPING SYSTEM**

A. Capping requirements

1. Upon closure of the landfill or landfill cell, a capping system shall be installed that will control emissions of gas, promote vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste through-out the post-closure care period.
2. The capping system shall be designed in accordance with Section 6.8 of DRGSW and shall consist of at least the following components.
  - a. A final grading layer on the waste, consisting of at least six inches of soil, to attain the final slope and provide a stable base for subsequent system components. Operational and intermediate cover material may be used for this purpose.
  - b. An impermeable layer, consisting of at least:
    - (1) a 30-mil geomembrane underlain by an optional geotextile, or
    - (2) 24 inches of clay with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or thickness of equivalent material having hydraulic conductivity less than  $1 \times 10^{-7}$  cm/sec, such thickness shall be determined based on the hydraulic conductivity of 24 inches of clay with a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec.An alternative may be used for the impermeable layer with prior approval of the Department.
  - c. A final cover consisting of:
    - (1) 18 inches of soil to provide rooting depth and moisture for plant growth, and
    - (2) Six (6) inches of topsoil or other material approved by the Department to support the proposed vegetation; or
    - (3) A suitable layer of alternative material to assure adequate rooting depth and moisture retention to support the proposed vegetation.
3. The capping system shall be in place 180 days following final waste disposal activity.
4. The capping system shall extend beyond the edge of the lined area.

B. Final slopes.

1. The grades of the final slope shall be constructed in accordance with the following minimum standards:
  - a. The final grades of the top slope, after allowing for settlement and subsidence, shall be designed to promote run-off.
  - b. The final grades of the side slopes shall be a maximum three horizontal to one vertical (3H: 1V).
2. The top and side slopes shall be maintained to prevent erosion of the capping system, and to ensure complete vegetative cover.

**X. CLOSURE AND POST-CLOSURE CARE**

- A. Sub-cells shall be developed in sequence as described in the phasing development drawings of the application.
- B. DRPI shall notify the Department at least 30 days prior to the date on which each sub-cell receives its last load of waste.
- C. DRPI shall notify the Department at least 30 days prior to commencing closure activities.
- D. Long-term intermediate cover (cover exposed for greater than 30 days) used on the sub-cells prior to final capping shall be stabilized with vegetation or other erosion control material approved by the Department.
- E. All components of the cap, including the gas control system shall be constructed in accordance with the CQA, closure plan, and closure schedule approved by the Department. Final certification documentation shall be completed by a third party CQA Consultant and submitted for Department review within 60 days after the capping has been completed.
- F. The capping system shall be in place no later than 180 days following final waste disposal activity.
- G. Post-closure care shall be in accordance with DRGSW. Post-closure care shall be in accordance with the post-closure care permit and the approved post-closure care plan approved by the Department.
- H. Post-closure land use. DRPI shall implement the post-closure land use identified in Volume 3, Part XI of the permit application, only after the Department has approved all final plans for compatibility with landfill system components and cap system integrity prior to construction.
- I. Notice in the deed to the property. DRPI shall record a notation on either the deed to the facility property or some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a solid waste disposal site, and the use of the land is restricted under DRGSW.

**Permit Modification Synopsis:**

April 26, 2005: Permit SW-05/01 was issued.

October 31, 2006: The permit was modified to require DRPI to suspend any transporter which accumulates seven (7) rejections for asbestos in one month and any generator which accumulates two (2) rejections for asbestos in one week. The modification also included a change in an annual reporting requirement, so that DRPI shall report a list of any haulers and generators that had received any rejections for asbestos during the past year. The modification was considered minor in accordance with Section 4.1.7 of DRGSW.

August 30, 2007: Section II.A.2 of the permit was modified to include a provision to approve of a plan to construct a groundwater interceptor trench and barrier wall in the vicinity of the DRPI landfill. The installation of the groundwater management system is to control groundwater mainly around the Cell 6 area. The modification was considered minor in accordance with Section 4.1.7 of DRGSW.

October 20, 2009: Environmental monitoring requirements in Section IV of the permit were modified to reflect changes in the facility's *Groundwater, Leachate, and Stormwater Monitoring and Reporting Program Plan* corresponding to the new cell construction. The modification included addition of some extra monitoring parameters to the requirements as DRPI was approved to accept petroleum coke gasifier slag from the Delaware City Refinery. The modification also included correction of the old numbering of DRGSW Conditions cited in the permit to address the new numbering system of DRGSW.

February 18, 2011: Section VII.A of the permit was modified to address changes in the financial assurance requirements. The modification also included the permittee's address change, and was considered minor in accordance with Section 4.1.7 of the DRGSW.

April 24, 2015: A Permit Extension until November 25, 2015, was granted in accordance with Section 4.1.6 of the DRGSW, to allow sufficient time for the review and public comment period. This permit extension was considered a minor modification.

November 23, 2015: A Permit Extension until December 31, 2015, was granted in accordance with Section 4.1.6 of the DRGSW, to allow sufficient time for the review and public comment period. This permit extension was considered a minor modification.

December 30, 2015: DRPI Permit SW-05/01 was renewed as SW-15/02, which included modifications to the Operation & Maintenance Plan (dated April 2015). The changes to the Operations and Maintenance Plan related to the reduction of the landfill's overall footprint to Cell 6-2, which provided space for the construction of a park for the surrounding Minquadale community as well as buffering the adjacent neighborhood from landfill operations. Also, the Operations and Maintenance Plan included modifications to the grading of the Cells 1 through 3 overlay liner area to address existing conditions and constructability concerns of the facility, as well as updates to the facility management structure, issues related to salvaging, new scrap tire requirements, and requested updates by DNREC. The Permit Renewal included new language

Permit SW-15/02

pertaining to mitigating fugitive dust emissions, particularly on Marsh Lane adjacent to the NCC Public Safety Building and along the commercial/industrial properties which in turn are adjacent to the West Minquadale community. Also, additional attention to addressing litter and odor problems in the area surrounding the DRPI landfill was initiated by increased focus of the On-Site DNREC Environmental Compliance Specialist and the Environmental Crimes Unit (ECU). There were no changes to the final maximum landfill elevation, the groundwater control plan, or the overall facility airspace.

February 14, 2020: DRPI permit SW-15/02 was renewed as SW-15/02, which included modifications of the final maximum landfill elevation from 130 feet MSL to 140 MSL. The Operations and Maintenance Plan and the Engineering Report were updated as part of the vertical expansion of the landfill. Operational cover placement frequency was increased from once every two weeks to once a week. Sampling procedures for leachate seeps were added to the surface water management and monitoring section.

JWS: MAM jmp  
MM20002

2. August 2019 TRM



DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
COMPLIANCE AND PERMITTING SECTION  
MEMORANDUM



**TO:** Lisa Vest, Hearing Officer, Office of the Secretary

**THRU:** Tim Ratsep, Director, DWHS *TRM 8/27/19*  
Jason Sunde, Environmental Program Administrator, CAPS *JS 8/27-19*  
Adam Schlachter, Environmental Program Manager II, CAPS *AS 8/27/19*  
Chad Dolt, Environmental Program Manager I, CAPS *CD 8/27/19*

**FROM:** Frank Gavas, Hydrologist III, DWHS *(FM) 8/27/19*  
Michael Melito, Environmental Scientist III, CAPS *MM 8-27-19*

**DATE:** August 27, 2019

**SUBJECT:** **Technical Response Memorandum:** Response to Public Hearing Comments for Waste Management's Permit Modification Application for Delaware Recyclable Products, Inc.

**REFERENCE:** Waste Management DRPI Landfill Permit Modification Application, Public Hearing held May 29, 2019

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The Divisions of Waste and Hazardous Substances (DWHS), Compliance and Permitting Section (CAPS) has determined that the application for permit modification at the Delaware Recyclable Products, Inc. (DRPI) Landfill is complete and provides the level of detail needed by the Department of Natural Resources and Environmental Control (DNREC) to modify the current permit and allow the vertical expansion of the landfill from a design elevation of 130 feet mean sea level (MSL) to 190 feet MSL, while protecting the environment and public health. The CAPS has attached a proposed draft permit for consideration.

The purpose of this Technical Response Memorandum (TRM) is to address issues raised by the public regarding Waste Management's (WM) permit modification application. The TRM will focus on comments raised by the public regarding possible impacts to human health and the environment.

**HISTORICAL BACKGROUND:**

Between 1954 and 1982, the DRPI Landfill property was operated as a sand and gravel pit in the general area of present day Cells 1, 2, and 3. Sand and gravel of the Columbia Formation were partially excavated to approximately the top of the clay of the Potomac Formation.

Cells 1 through 3 of the landfill were owned by Mr. Joseph J. Corrado when the first solid waste permit was issued in 1983. Disposal of construction demolition debris (CDD) waste started at that time in 1983 in the unlined Cells 1 through 3. All subsequent cells constructed at the facility, Cell 4 through Cell 6-2B, have a composite liner system meeting the requirements of Delaware's *Regulations Governing Solid Waste* (DRGSW).

Cells 6-1B, 6-2A and 6-2B are partially constructed over the unlined Petrillo Dry Waste Landfill. The Petrillo Landfill began operations in the late 1970s or early 1980s. The entire Petrillo Site consisted of 43 acres. Waste was placed in approximately 21 acres of the 43 acre site. The Petrillo Dry Waste Landfill was closed in 1989.

In 1991, Sanifill acquired ownership of the landfill property. Cell 4 was constructed north of Cell 3 and waste placement began in 1994.

In 1997, USA Waste Services, Inc. (Waste Management) became the new parent company of DRPI. Cell 5 was constructed to the west of Cells 1 through 4 in 1998, and waste placement began in 1999. During 2008 Cell 6-1A was constructed and waste placement began in the same year. Cell 6-1B was constructed in 2011, and waste placement began in the same year. During 2013 Cell 6-2A was constructed and waste placement began in the same year. Cell 6-2B was constructed during 2018 and 2019, and waste placement began in 2019.

During July of 2015, work began to construct a composite liner system on top of Cells 1 through 3 (overlay) with a leachate collection system and an under-liner gas collection system. Construction of the final phase of the overlay is complete, and is currently undergoing CAPS certification before waste can be placed on the new phase of the overlay.

#### **NOISE:**

There were 21 comments regarding noise from the DRPI Landfill. These comments were generally nonspecific and referred to noise issues as it relates to quality of life in the surrounding communities (e.g., noise from truck traffic). Regarding excessive noise, DNREC has always and continues to defer to New Castle County's (NCC) regulations and enforcement. The fact that the existing landfill hours are between 6:30 am and 4:00 pm, Monday through Friday indicates that the landfills working hours have been in compliance with NCC regulations and their current operating permit. Since that is the case, DRPI's hours of operations will stay the same. The Department has not received any specific noise complaints through the Environmental Crime Unit (ECU) about DRPI within the past 3 years. Nor has the DNREC on-site Environmental Compliance Specialist noticed any excessive noise from DRPI's operations.

Although the Department has not received any formal noise complaints through the ECU, residents of Minquadale voiced their displeasure with noise generated by construction activities at the landfill on the weekends during fall of 2018. Through the Minquadale Civic Association, the residents complained about the noise on the weekends directly to DRPI staff. DRPI immediately reduced the amount of weekend construction work, which satisfied the residents of Minquadale.

Additionally, the 2015 permit renewal application included a design modification that provided the nearest neighbors with an additional buffer from the landfill operations. This buffer is made

by pulling the southeastern edge of Cell 6-2B away from Fernwood Avenue and Littleworth Lane.

**DUST:**

There were approximately 30 comments on dust problems as they relate to quality of life. Some related to general quality of life issues and others were specific dust complaints from people who live in the surrounding communities and people who work in the NCC Public Safety building. Possibly some of the dust problems in these locations are due to Interstate 495 and Route 13 traffic, or truck traffic on Marsh Lane not associated with DRPI. However, it is likely that a large percentage of the trucks on Marsh Lane are customers of DRPI. These trucks will invariably deposit soil and mud from on and off of the landfill onto Marsh Lane, which will be kicked up as dust and carried on the wind to surrounding areas. CAPS recognizes this is an intermittent yet ongoing problem.

The DRPI March 2019 *Operation and Maintenance Plan* addresses Dust Control:

*Dust Control: Over paved surfaces, dust will be controlled by periodic sweeping and/or cleaning of the pavement. The site entrance, entrance road, access roads, and parking areas can be cleaned with typical street cleaning equipment. Other paved areas adjacent to the scalehouse and scales will be cleaned by hand, if necessary. On gravel and unpaved roads, dust will be controlled by the use of water applied by a water truck. The water truck shall also apply water as needed to the working face in order to control dust from this area.*

*On-site personnel shall regularly review compliance with regulations regarding dust control. If any problem should arise regarding compliance with these regulations, proper mitigation will be implemented to correct the issue. Any issue for which corrective action is necessary shall be documented using Form F (Appendix V-B).*

The DRPI March 2019 *Operation and Maintenance Plan* addresses Mud Control:

*Mud Control: During wet weather, mud could potentially be tracked onto public roads from the landfill. To prevent this, the entrance road to the DRPI Landfill has been designed to be sufficiently long and straight to allow mud to fall off the trucks' tires before they enter the public roadway. In addition, DRPI will employ a water truck to wash mud off access roads as needed.*

The following language was added to the permit during the 2015 permit renewal, in an effort to control fugitive dust emissions on Marsh Lane from the NCC Public Safety Building and along the Corrado property which is adjacent to the West Minquadale community:

*Fugitive dust emissions shall not be emitted in such quantities as to cause or create a condition of air pollution from material-handling operations, the stockpiling of materials or vehicular traffic entering or leaving the facility. This includes along Marsh Lane adjacent to the NCC Public Safety Building and along the commercial/industrial properties which in turn are adjacent to the West Minquadale*

*community. The paved surface of Marsh Lane shall be kept clean of dust-causing dirt and mud by employing methods such as water tanker/sprinkler trucks. These methods will also be employed on non-paved roads to control fugitive dust emissions.*

During the past three (3) years, the Department has not received any specific dust complaints through the ECU about DRPI. The Division of Air Quality (DAQ) received a dust complaint during December of 2016, regarding dust generated by truck traffic from the landfill. The complaint was resolved by increasing the use of a street sweeper and a water truck, as well as patching the asphalt on Marsh Lane.

In addition to the above mentioned dust control measures, WM proposed enhanced dust monitoring. WM proposed monitoring for particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) and dust fall-out monitoring. The DAQ is aware of the proposed plan and supports the enhanced monitoring. The enhanced monitoring will require a minor modification to DRPI's DAQ permit. CAPS will modify the Industrial Waste Landfill Permit, if necessary, after DAQ approves the minor modification to DRPI's air permit. The Department's on-site Environmental Compliance Specialist will continue to complete daily inspections to document compliance with respect to dirt, dust, and mud on the roadways including Marsh Lane.

#### **TRUCK TRAFFIC:**

There were several comments related to truck traffic. Marsh Lane is a public road and serves as an entry point for several businesses including DRPI Landfill. Marsh Lane is maintained and patrolled by the NCC Police, roughly from the entrance to the NCC Public Safety Building, south, to its intersection with Route 13. The rest of Marsh Lane, from the entrance of the NCC Public Safety Building, north, to the DRPI scale house, is maintained by WM. Much of the length of the WM maintained portion of Marsh Lane is used by the other businesses located on the east side of Marsh Lane. The Permit Modification Application does not propose an increase in the daily waste tonnage (2,400 tons per day), nor does it propose changes to the operating hours of the landfill (6:30 a.m. through 4:00 p.m.).

Limiting traffic, truck or otherwise, is outside the jurisdiction of CAPS, except as it applies to the issuance of permits for waste hauling.

#### **GROUNDWATER:**

Approximately, 27 comments were raised concerning potential groundwater contamination from the landfill. Groundwater well installation, monitoring, sampling, analytical requirements, water level measuring and the groundwater control management system for the DRPI landfill are described in the DRPI Industrial Waste Landfill Permit SW-15/02, and the March 2019 *Operations and Maintenance Plan*. The permit and *Operation and Maintenance Plan* are in accordance with the DRGSW and the Delaware Regulations Governing the Construction and Use of Wells.

WM utilizes best management practices (BMPs) at this facility which assure adequate protection of human health and the environment. The Department maintains an on-site Environmental Compliance Specialist to further assure that these BMPs are maintained. On-site waste screening

means that permit prohibited wastes which include; liquids, hazardous substances, asbestos, creosote treated material, regulated infectious waste, licensed radioactive material, electrical transformers, municipal solid waste, municipal solid ash and putrescible waste do not enter the landfill. Consistency in the waste accepted mimics consistency in the leachate generated.

Leachate and groundwater are captured beneath both the lined and unlined cells via a groundwater control System (GWCS). This water is pretreated on-site and discharged to the New Castle County sewer system. This GWCS effectively minimizes leachate impacts to the groundwater underlying the landfill in both the Columbia and Potomac aquifers.

WM monitors water resources at the site through a Department approved monitoring program which meets industry standards, and is consistent with other similar landfills. WM is required semi-annually to collect samples of groundwater, leachate, and stormwater from a series of strategically placed monitoring wells, sumps and collection points located across the site. These samples are shipped to an independent laboratory for analysis for a Department approved list of chemicals of concern. Monitoring data has remained consistent over a period in excess of 20 years.

Stratigraphic cross-sections, utilizing borings completed across the site, indicate sections of Potomac clay, which vary in thickness from 10 to 50 feet, underlay the landfill. This layer acts as an aquitard separating the upper Columbia aquifer from the lower Potomac sands.

Both iron and manganese have been detected in groundwater underlying the site. Iron and manganese are prevalent in both the Columbia and Potomac Formations owing primarily to the parent rocks which formed them. Landfill operations do not appear to be contributing to iron and manganese levels in the aquifer. The landfill could be creating a geochemical condition favoring the mobilization of the naturally occurring iron and manganese.

The preponderance of the data and analysis, considered in conjunction with, the BMPs utilized, the groundwater controls, and the site stratigraphy, do not support the theory that the landfill has significantly degraded the underlying groundwater resources.

The Department, however, does recognize that groundwater monitoring sufficiency and data analysis are always dependent upon interpretation which derives from a limited data set obtained from a limited number of monitoring points. In order to relieve some of this inherent uncertainty while bolstering the Permit's approvability, the Department has recommended that WM install and sample some additional monitoring wells south and east of the landfill.

WM has agreed to install three (3) additional wells and two additional piezometers in the uppermost sand of the Potomac aquifer to more definitively preclude any current or potential impacts to groundwater resources underlying the facility. WM plans to install these wells rotosonically, which provides for the highest level of undisturbed continuous coring and exact stratigraphic interpretation. Core logs will also be correlated with geophysical logs of existing wells. These additional wells will be incorporated into the site's current monitoring program and monitored for the chemicals of concern specified for groundwater in the permit.

## **LITTER:**

Litter and debris concerns were mentioned several times in public comment letters, as well as voiced during the Public Hearing. Many of the comments had to do with litter and debris blowing onto properties other than DRPI's. In Section III.O., the current permit states:

*Litter shall be controlled and collected in accordance with the Operations Plan. Controls shall include daily inspections for litter, compaction of waste upon receipt, use of fences and other barriers, and routine litter collection. Scattered and wind blown litter shall be collected as frequently as necessary to maintain an aesthetically desirable environment. DRPI shall prevent litter from migrating off-site. The DRPI personnel shall collect any off-site litter which has migrated from the landfill site.*

As the March 2019 *Operation and Maintenance Plan* is cited as an authoritative guidance, the following citation is from Section 3.5.1 (Litter Control):

*The Facility Manager will be responsible for litter control which will be performed both on and off the landfill site. All incoming waste haulers are required to secure and/or cover their loads when delivering them to the site. DRPI personnel will verify that waste loads remain tarped until the vehicle enters the designated untarping area located just before the scale.*

*Litter at the working face will be kept to a minimum by quick compaction of waste and regular placement of cover. If necessary, portable litter fencing will be installed near the working face downwind of the working face to intercept blowing debris. The actual placement of this portable fence is best left to the judgment of the Facility Manager and may vary in its use and location.*

*Blown litter will be collected on a routine basis by laborers, both off-site and on-site, under the direction of the Facility Manager. Also, surrounding areas will be inspected several times per year. Blown litter that was not collected during weekly field reconnaissance will be collected during special collection efforts if needed.*

*On-site personnel shall regularly review compliance with regulations regarding litter control. If any problem should arise regarding compliance with these regulations, proper mitigation will be implemented to correct the issue. Any issue for which corrective action is necessary shall be documented using Form F (Appendix V-B).*

Additionally, the proposed permit increases the frequency in which DRPI has to apply operational cover over the waste. The 2015 operational cover permit condition:

*Operational cover: DRPI shall cover the working face a minimum of once every two weeks. The Department may require that certain loads be covered immediately if needed to*

*prevent nuisance conditions. Cover shall consist of a minimum of six inches of clean fill or other material acceptable to the Department.*

The proposed operational cover permit condition:

*Operational cover. DRPI shall cover the working face a minimum of once a week. On windy days, or when strong wind is forecast for the area, DRPI shall immediately cover the working face. Cover shall consist of a minimum of six inches of clean fill or other material acceptable to the Department. The Department may require that certain loads be covered immediately if needed to prevent nuisance conditions.*

The proposed changes were proposed by CAPS, to address the increased probability of litter migrating off-site as the landfill increases in elevation.

The Department has not received any specific litter complaints through the ECU about DRPI within the past three (3) years. The Department's on-site Environmental Compliance Specialist will continue to complete daily inspections to document compliance with respect to litter control at the working face of the landfill and along the perimeter of the facility.

#### **ODORS:**

Approximately four (4) odor comments were raised during the Public Comment Period. As odor complaints arise in the nearby communities, the assumption by the public often is that the source of odor is landfill gas (LFG), and the residents occasionally contact the DNREC Environmental Hotline. Often by the time the Officer arrives at the scene, the odor has dissipated. Also, people have differing sensitivities to odor which is a problem when trying to discern odor complaints. Furthermore, the proximity of the surrounding communities to other odor sources also makes pin-pointing the offending odor very difficult.

As stated in the DRPI Permit SW-15/02:

*The control and management of landfill gas must be in conformance with the Delaware Regulations Governing the Control of Air Pollution as well as the DRGSW. The operation, maintenance, and monitoring of the gas extraction and flare systems shall be done in accordance with the current permit(s) issued pursuant to the Delaware Regulations Governing the Control of Air Pollution.*

*The DRPI shall operate and maintain the gas extraction system and flare to control odors. Malodorous gaseous emissions from the landfill shall be controlled to the extent that there is no perceivable landfill odor beyond the property boundary. DRPI shall maintain a permit for the operation of the extraction system and flare in accordance with Delaware Regulations Governing the Control of Air Pollution and the DRGSW.*

The March 2019 *Operation and Maintenance Plan* states the following concerning odor control:

*...strong odors may be caused by the generation of landfill gas (LFG) within the landfill and therefore DRPI has a LFG Odor Control System in place (Appendix V-D). Regular inspection and maintenance of the LFG management system*

*(described in Section 3.9 of this O&M Plan) should minimize odors from the landfill. If odors become a problem at the landfill, then an on-site evaluation will be performed ... to identify appropriate remedial actions to be taken. Typical remedial actions include reviewing the efficiency of the existing LFG management system, installation of additional LFG extraction wells, or eliminating specific incoming waste streams that may be a source of odors.*

The Department's on-site Environmental Compliance Specialist will continue to complete daily inspections to document compliance with respect to odors on the landfill or in the adjacent neighborhoods.

#### **SURFACE WATER AND STORMWATER:**

There were nine (9) comments received regarding surface water quality in the area of the DRPI Landfill. The comments focused on the degradation of surface water, specifically the Christina River, in the area as result of landfill operations. DRPI maintains a surface water management and monitoring system, required by the following permit conditions:

*The DRPI shall maintain a surface water management system to prevent erosion of the waste and cover, prevent the collection of standing water, minimize surface water run-on into the waste, and minimize run-off from the waste. DRPI shall maintain coverage under the National Pollutant Discharge Elimination System (NPDES) for stormwater discharge.*

*Storm water management. The DRPI shall properly operate, manage and maintain all structures and basins designed to manage storm water and shall take all reasonable steps to minimize or prevent any discharge of pollutants into surface waters.*

*Semi-annually, during April and October, water quality samples shall be collected from Outfall 001 and Outfall 002...*

As stated in the above Permit Condition, DRPI must maintain coverage under NPDES for stormwater discharge. One of the coverage conditions requires DRPI to sample two (2) outfalls that discharge to surface water in the area of the landfill on a semi-annual basis. In the past three (3) years, DRPI has not violated conditions of their NPDES coverage. The Delaware Environmental Navigator (DEN) does not show any NPDES coverage violations.

During May 2018, the CAPS issued DRPI a Notice of Violation (NOV) for allowing stormwater to run-on to exposed waste and into the landfill's surface water management system. The water that was exposed to waste, flowed into a stormwater management structure that was discharging to surface water in the area. Confirmation sampling, initiated as part of a Corrective Action Plan, did not indicate that the surface water in the area was impacted. The NOV was resolved within the 30 days.

As part of the proposed vertical expansion of the landfill, DRPI proposed several changes to the surface water and stormwater management system of the landfill. They proposed

to add four (4) culverts underneath the perimeter road of the landfill, running from the perimeter swale to the settlement basins, to handle the increased surface flow as result of the vertical expansion. They also proposed a landfill closure plan with reinforced terraces and downshoots to manage the surface water and stormwater.

#### **WETLANDS:**

One (1) written comment was received from the public regarding the need for DRPI to perform a wetlands evaluation. In addition to the public comment, Artesian Resources Corporation (Artesian) commented during the Public Meeting and in their June 28, 2019 Public Comment Exhibit about the need for a wetland evaluation. A wetlands evaluation is not required as part of DRPI's Permit Modification Application because they are only proposing a vertical expansion of the landfill, thus eliminating the siting requirements in DRGSW. If DRPI proposed a lateral expansion of the landfill (e.g., a new waste cell), the siting requirements of DRGSW would apply. A wetlands evaluation was completed in 2005 as part of the Cell 6 lateral landfill expansion, and met the siting requirements of DRGSW.

#### **OUT-OF-STATE WASTE:**

Five (5) comments were received concerning the amount of out-of-state waste that is tipped at the landfill. The Department does not control the ratio of out-of-state industrial wastes that DRPI can accept, nor does the Department or DRGSW restrict DRPI from receiving out-of-state industrial wastes based on point of origin.

#### **LANDFILL LINER:**

Artesian raised concerns about areas of the DRPI landfill. Cells 1 through 3 which are unlined, legally received C&D waste from 1983 to 1994. Cells 6-1B, 6-2A and 6-2B are partially constructed over the unlined Petrillo Dry Waste Landfill. The Petrillo Landfill began operations in the late 1970s or early 1980s and was closed in 1989. All other cells constructed have a composite liner system meeting the requirements of DRGSW. Also, all waste landfilled since 1994 has gone into lined landfill cells.

Although the unlined cells were constructed legally per DRGSW at the time, WM has addressed the unlined portions of the landfill by installing underdrains and groundwater collection systems which intercept water that may be coming from the unlined portions. All liquids collected in this groundwater interceptor are managed as leachate. The groundwater collection system also induces inward shallow groundwater flow. The are as landfilled since 1994 and until DRPI closure are within a lined portion of the landfill, which contains a leachate collection system.

In addition to the groundwater collection systems, an under-liner gas collection system, a liner system and a leachate collection system were recently installed on top of the unlined Cells 1 through 3. The liner system will eliminate any additional snow-melt and rain-water from entering the old, unlined waste. By removing this water, the mechanism to further leach contaminants from the unlined waste is eliminated and, therefore, protects the underlying aquifers.

A portion of the Petrillo Dry Waste Landfill is below the liner system for Cell 6 of the landfill. Similar to the liner system over Cells 1 through 3, the liner will eliminate any additional snow-melt and rain-water from entering the old, unlined waste. By removing this water, the mechanism to further leach contaminants from the unlined waste is eliminated and, therefore, protects the underlying aquifers. The majority of the remaining portion of the Petrillo Landfill that does not lie below the lined Cell 6 has been encapsulated by an environmental capping system. The capping system acts similarly to the liner system, by eliminating any additional snow-melt and rain-water from entering the old, unlined waste. An environmental cap will be constructed over the surface of the Petrillo Landfill, prior to closure. A schedule for a capping system, to encapsulate the remaining Petrillo waste (approximately 4 acres on the southeast portion of the landfill) has not been confirmed by WM.

#### **LANDFILL LINER SETTLEMENT:**

Artesian raised a concern about the settlement of the liner system at DRPI landfill due to the proposed vertical expansion. The *Engineering Report for Vertical Expansion, DRPI Industrial Landfill* (Engineering Report), included as Part VI of the Permit Modification Application, indicated that a maximum of 6.13 feet of settlement will occur at point in the Cells 1 through 3 Overlay liner. This settlement is in conformance with liner settlement specifications and DRGSW. In addition, CAPS retained a 3<sup>rd</sup> Party Engineer Consultant to review the Engineering Report. The consultant's report did not identify issues with settlement methodology or input parameters.

On June 19, 2019, WM submitted a response to Artesian's concern. The response included a table showing the amount of settlement that would occur by placing waste to an elevation of 130 feet MSL, and the amount that would occur at an elevation of 190 feet MSL. The response indicated that a majority of the liner settlement will occur as result of waste being placed to an elevation of 130 feet MSL.

#### **COMPRESSION OF WASTE UNDERLYING LINER SYSTEMS:**

Artesian raised a concern about the compression of the waste below the Cell 1 through 3 Overlay and portions of Cell 6. During the Public Meeting, Artesian was concerned that leachate would escape the landfill control systems and be discharged into the groundwater. As stated in the above Landfill Liner section of this memorandum, the overlay liner and the Cell 6 liner system will eliminate snow-melt and rain-water from entering the old, unlined waste. By removing this water, the mechanism to further leach contaminants from the unlined waste is eliminated and, therefore, protects the underlying aquifers. Additionally, the groundwater interceptors below the areas of unlined waste, collect groundwater and leachate and conveys the fluid to leachate collection and pre-treatment systems of the landfill.

On June 19, 2019, WM submitted a response to Artesian's concern. In addition to the interceptors and liner system discussion, the response included a discussion and figures illustrating the relationship of waste compression, air voids, and leachate flow into the air voids.

3. NCC Department of Land Use Letter



Matthew S. Meyer  
County Executive



Richard E. Hall, AICP  
General Manager

DEPARTMENT OF LAND USE

November 27, 2019

**In reply, refer to:  
Application No. 2019-0758**

Delaware Recyclable Products, Inc.  
USA Waste Services, Inc.  
Delaware Residual Products I

c/o Wendie C. Stabler, Esq.  
Saul Ewing Arnstein & Lehr LLP  
1201 N. Market Street, Suite 2300  
Wilmington, DE 19801

Dear Ms. Stabler:

The New Castle County Department of Land Use (the "Department") is in receipt of your request for a verification of the zoning and proposed use for the following tax parcel numbers, located near Marsh Lane in New Castle, Delaware (the "Property").

<u>Tax Parcel No.</u>	<u>Owner</u>	<u>Date of Ownership</u>
1000400001	USA Waste Services, Inc.	August 20, 1997
1000400002	Delaware Residual Products I	July 1, 1986
1000400004	Delaware Residual Products I	July 10, 1986
1000400006	Delaware Recyclable Products Inc.	September 1, 1999
1000400007	Delaware Residual Products I	July 1, 1986
1000400008	Delaware Residual Products I	July 1, 1986
1000900010	Delaware Recyclable Products Inc.	April 27, 2005
1000900021	Delaware Recyclable Products Inc.	April 27, 2005
1000900022	Delaware Recyclable Products Inc.	April 27, 2005
1000900023	Delaware Recyclable Products Inc.	April 27, 2005
1000900026	Delaware Recyclable Products Inc.	April 27, 2005
1000900027	Delaware Recyclable Products Inc.	April 27, 2005

The Property is located in the Heavy Industrial (HI) zoning district and is currently being used as an industrial waste landfill ("Landfill") and related uses. The Landfill is operated by Delaware Recyclable Products, Inc. ("DRPI") pursuant to Permit SW-15/02 issued by the Delaware Department of Natural Resources and Environmental Control ("DNREC") on December 30, 2015. Prior to Permit SW-15/02, the Landfill was operated pursuant to Permit SW-05/01 issued by DNREC on April 26, 2005, as amended from time to time. Prior to Permit SW-05/01,

sections of the Landfill were operated pursuant to DNREC-issued solid waste permits (including SW-90/3, SW-95/01, SW-99/02) and pursuant to certain DNREC approvals (including SWA-84/01, SWA-85/02, SWA-86/02).

DRPI has submitted, or intends to submit, a permit modification application to DNREC (“Permit Modification Application”) seeking to amend Permit SW-15/02 to allow vertical expansion of the Landfill to a maximum final elevation of 140 feet Mean Sea Level (MSL) from the current permitted final elevation of 130 feet MSL. The Secretary of DNREC cannot grant a permit “unless the county or municipality having jurisdiction has first approved the activity by zoning procedures provided by law.” 7 *Del. C.* § 6003(c)(1). Furthermore, DNREC regulations provide that DNREC cannot approve the permit unless “the local governing body having land use planning and zoning authority certifies in writing to the Department that the applicant complies with local land use plans and zoning regulations.” See 7 DEL. ADMIN. CODE § 1370, subsection 8.1. This zoning verification is intended to provide the required County certification to DNREC.

### **County Certification**

DRPI’s operation of an industrial waste Landfill near Marsh Lane in New Castle, Delaware, as permitted by Permit SW-15/02, is an approved activity in the HI zoning district and has been approved pursuant to zoning procedures provided by law. DRPI’s request to extend the vertical limits of the Landfill from a final elevation of 130 feet MSL as permitted by Permit SW-15/02, to a final elevation of 140 feet MSL as requested in the Permit Modification Application, complies with local land use plans and zoning regulations.

### **Property History**

Prior to adoption of the Unified Development Code (“UDC”), the Property was zoned Manufacturing (M-1)/(M-2). For the most part, the Property was owned by Petrillo Brothers. The Department does not have a record establishing its use during the time it was owned by Petrillo Brothers but, upon information provided by DNREC, a portion of the Property was used as a dump (i.e. and unlicensed landfill) prior to the State’s adoption of solid waste regulations.

The following land development plans were processed to subdivide the Property:

- A Record Minor Land Development Plan for Petrillo Brothers Inc. (microfilm 6216) was recorded in the Office of the Recorder of Deeds for New Castle County on December 17, 1981. The approval and recordation of this plan indicates the plan’s compliance with the subdivision and zoning code in effect at that time.
- A Record Minor Land Development Plan for the Property of Denny A. Petrillo Estate (microfilm 7325) was recorded in the Office of the Recorder of Deeds for New Castle County on October 26, 1984. The approval and recordation of this plan indicates the plan’s compliance with the subdivision and zoning code in effect at that time.

After the transfer of ownership of several of the parcels to current ownership, the following land development plans were processed by the Department.

- A Record Minor Land Development Plan for the Property of Delaware Recyclable Products Inc. (microfilm 10878) to subdivide the Property was recorded in the Office of the Recorder of Deeds for New Castle County on May 28, 1991. The approval and recordation of this plan indicates the plan's compliance with the subdivision and zoning code in effect at that time.
- A Record Minor Land Development Plan for Petrillo Industrial Park, Lot 1 and Lot 2 (microfilm 13285) to subdivide the Property was recorded in the Office of the Recorder of Deeds for New Castle County on August 22, 1997. The approval and recordation of this plan indicates the plan's compliance with the subdivision and zoning code in effect at that time.
- A Record Minor Land Development Plan for Maintenance Building (Instrument No. 200108140066051) to establish 2,600± square feet for a maintenance building was recorded in the Office of the Recorder of Deeds for New Castle County on August 14, 2001. The approval and recordation of this plan indicates the plan's compliance with the subdivision and zoning code in effect at that time.
- A Utility Plan to relocate an easement. (Application No. 20030417).

#### Prior Zoning Verifications

In addition to the approval of the above land development plans, the Department has issued two zoning verifications, both following the transfer of ownership of the Property to the current owners.

- On July 31, 2006, regarding "tax parcel numbers 10-015.40-366, which is located at 198 Marsh Road", the Department provided "A review of the Official Zoning Map of New Castle County indicates that the subject parcels are zoned **HI (Heavy Industrial)**, which **permits heavy industrial uses and other major utilities (including the landfilling and disposal of construction and demolition debris pursuant to a recorded plan)**, pursuant to UDC section 40.33.270D. & F." (Emphasis in original). It is unclear if the tax parcel or address noted on the zoning verification is associated with the Landfill. However, the zoning verification includes a history of the above referenced plans and associated tax parcel numbers.
- On September 15, 2010, regarding tax parcel no. 10.004.00-002, the Department provided "A review of the Official Zoning Map of New Castle County indicates that the subject parcel is zoned HI (Heavy Industry), which permits *recycling or storage* uses **(including tire recycling)** as a limited use pursuant to Table 40.03.110 of the New Castle County Unified Development Code (UDC). **Please be advised that expansion of paving or structures at the subject property will result in the need to submit a new land development plan to the Department for review.**" (Emphasis in original).

**Board of Adjustment Decisions**

- No relevant variance decisions were found for the Property in a search of the County tax parcel information system.

**Property Maintenance Code Compliance**

- There are currently no open property maintenance code violations.

**Litigation**

Ordinance 19-046, as amended by Floor Amendment No. 1, effective August 28, 2019 (“Ord. No. 19-046”) classified solid waste landfills as heavy industrial uses, established a vertical height limit of 140 feet, and provided that any increase of a current height must meet certain use standards as determined by the Board of Adjustment (“BOA”) through a special use review.

DRPI contends that the terms of Ord. 19-046 do not apply to the Permit Modification Application and has filed litigation (the “Litigation”) to enjoin its application and enforcement. Pursuant to the terms of a settlement agreement between DRPI and the County intended to resolve the Litigation, the use standards and the BOA’s special use review as delineated in Ord. No. 19-046 shall not apply to the Permit Modification Application if DRPI’s solid waste permit limits the Landfill’s final elevation to 140 feet MSL.

The terms of this zoning verification are conditioned and dependent upon the dismissal of the Litigation captioned *Delaware Recyclable Products, Inc. v. New Castle County, et al.*, C.A. No. 2019-0868-JTL filed in the Delaware Court of Chancery and compliance with the terms of Settlement Agreement between DRPI and New Castle County in furtherance thereof. If for any reason, the terms of the Settlement Agreement are terminated or held invalid, DRPI fails to dismiss the Litigation as contemplated by the Settlement Agreement, the Permit Modification Application requests an increase in the final elevation above 140 feet MSL or includes terms not herein contemplated, or the Settlement Agreement is otherwise breached by DRPI or its predecessors, parents, partners, principals, shareholders, representatives, attorneys, participants, members, subsidiaries, officers, directors, managers, executives, owners, employees, agents, purchasers, successors or assigns, this zoning verification shall have no force or effect and shall be considered void *ab initio*.

**Other Conditions and Requirements**

Please be advised that this letter only verifies whether the type of use that exists or is proposed on the Property – to the extent described in your zoning verification application – is permitted, not permitted, or permitted under limited circumstances in the zoning district.

The use as proposed in the zoning verification application does not require Department permits, certificates and/or plans. However, any future expansion of the existing use, a change of use, alterations to the building or site, demolition, or new construction, not described in the zoning

verification application or shown on an approved plan or permit, may require Department permits, certificates, and/or plans.

General questions regarding the plan review process; building, demolition, and sign permits; and Certificates of Use/Occupancy, can be answered by the Department at 395-5400. Copies of documents such as certificates of occupancy or code violations may be obtained, where applicable and available, by submitting an Information Request Form (FOIA). The form is available online at [www.ncdde.org](http://www.ncdde.org). Thank you for your attention to this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Hall", written over a horizontal line.

Richard Hall,  
General Manager, Department of Land Use

