



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

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OFFICE OF THE
SECRETARY

Secretary's Order No. 2015-WHS-0048

Re: Delaware Recyclable Products, Inc.'s Application to Renew and Amend the Solid Waste Facility Permit for Its Industrial Waste Landfill at 246 Marsh Lane, New Castle, New Castle County.

Date of Issuance: December 30, 2015

Effective Date: December 30, 2015

BACKGROUND

Pursuant to 7 *Del. C.* §§6003, 6004(b), 6006(4) and other relevant authority, the Secretary of the Department of Natural Resources and Environmental Control ("Department") issues this Order after a public hearing on Delaware Recyclable Products, Inc.'s¹ ("Applicant") solid waste facility permit application ("Application").

On October 27, 2014, the Applicant applied to renew Solid Waste Facility Permit SW-05/01, as modified, for its industrial waste landfill on approximately 155 acres at 246 Marsh Lane, New Castle, New Castle County ("Facility"). The Department's Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section ("SHWMS") reviewed the Application, which also includes a proposed six acre reduction in Cell 6-2's disposal area in order that this land may be used for a future community park.

On April 3, 2015, SHWMS sent the Applicant a letter that requested additional information, including changes to the Application. On April 23, 2015, the Applicant responded to the SHWMS' letter with a revised Application, which the SHWMS' April 24,

¹ The Applicant is a wholly owned subsidiary of Waste Management of Delaware, Inc.

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2015 letter determined was complete under *7 Del. C. Section 6003(c)(4)* and *Delaware's Regulations Governing Solid Waste ("DRGSW")*, *7 DE Admin. Code 1301*.

On June 7, 2015, SHWMS published public notices of the Application in two newspapers, which began the public comment period. SHWMS received written public comments that opposed the Facility's permit renewal and requested a public hearing. Consequently, the Department scheduled to hold a public hearing and published public notices in two newspapers of a September 9, 2015 public hearing to be held at the Minquadale Fire Company, 129 East Hazeldell Avenue, New Castle.

The Department's hearing officer, Robert P. Haynes, presided over the public hearing, which was attended by approximately one hundred persons, including elected officials, community leaders, and SHWMS and Applicant representatives. Some public comments supported the Application, but the majority opposed it claiming that the Facility's landfill operations adversely impacted the local neighborhoods of West Minquadale and other nearby residential areas because of the Facility's noise, dust, litter, truck traffic congestion, and groundwater contamination.

Following the public hearing, Mr. Haynes requested technical assistance from the SHWMS. On December 2, 2015, the SHWMS provided its Technical Response Memorandum ("TRM"), which addressed the public comments' issues and found no technical reason to deny the Application. Consequently, the SHWMS' experts prepared a draft permit that they recommend be issued should the Department's final decision be to issue a permit. The draft permit reflected the Applicant's proposed amendments and the SHWMS' amendments, including a permit condition on dust in response to the public comments.

Mr. Haynes prepared the attached Hearing Officer's Report ("Report"), which reviews the procedural history, establishes the record ("Record") of decision, discusses the public comments, and makes findings of fact and reasons to support SHWMS' issuance of the permit renewal and amendment based upon the draft permit.

Findings of Fact

The Department finds that the Record supports adopting the Report's findings of fact to the extent they are consistent with this Order. The Department finds that the Application complies with DRGSW. The Application fully sets forth the required extensive engineering and technical information for the previously approved Cell 6 construction and the Facility's operation and maintenance plan. In addition, the Application sets forth the operations and maintenance plans for the Facility's pollution control systems, including leachate pretreatment, landfill gas odor control, and stormwater management. The Application sets forth the Department required monitoring and reporting to the SHWMS.

The Record shows that the Facility is located in an area zoned by New Castle County for "heavy industry" uses, and that it is near residential areas, particularly the West Minquadale neighborhood. The County's heavy industry zoning allows the siting and operation of a landfill. The Applicant stated at the hearing that in a typical year the Facility provides economic benefits to the local community by paying \$90,000 in school taxes, \$320,000 for wages and salaries, and almost \$1 million for other operating and capital purchases, such as heavy equipment purchases. The Applicant also described at the public hearing its community outreach efforts, which includes attending meetings with local community groups and supporting them with donations. The Applicant stated that it also

provides local residents free construction demolition waste disposal service. Since 2012, the Applicant states that these goodwill efforts provided local residents with approximately \$178,000 in economic value benefits. The Department also recognizes that the Applicant's removal of the six acres from future landfill use in order to allow a possible future use as a community park, also will provide a future local community benefit. Thus, the Record reflects that the Applicant has made a considerable effort to offset the potential impacts caused by a landfill located near a residential community.

The Department finds, based upon the SWHMS' TRM, that the Facility previously was used as a sand and gravel pit from 1954 to 1982. In 1983, the Department first issued the Facility a solid waste facility permit for landfill disposal of construction and demolition debris in Cells 1 through 3, which used a natural clay liner with an underground leachate collection system that allows collection, treatment, and monitoring of the leachate in order to detect any contamination. This area will be covered with a composite liner to reduce leachate levels. The Department's review of the groundwater monitoring finds no contamination problems with Cells 1 through 3. Also, there was no additional data entered into the Record indicating problems with the groundwater's quality based upon the Department's required groundwater monitoring and testing. The SHWMS is aware that New Castle County may have drilled wells on its adjoining property and at other locations near the Facility for the purposes of monitoring groundwater, but no test results from such wells were provided for the Record.

The Facility's remaining waste disposal areas have an engineered composite liner and leachate collection system. The Department finds that the proposed six acre reduction to Cell 6-2's size is reasonable and will provide environmental benefits to the local

community as a wider buffer area and for use as a future community park. The Department finds that the proposed changes to the adjoining active landfill area's slope are reasonable and well supported by expert engineering judgment.

The Department finds that the Facility's current permit limit of 2,400 tons of waste per day is reasonable and well-supported by the Application. The Facility averages receiving 1,120 tons per day over its 255 days of annual operation, which is based upon 6:30 am to 4:00 pm Monday through Friday operating hours, excluding holidays. The Department finds the permit's operating limits and hours of operation are reasonable and well-supported based upon past experience and within the Facility's operational capabilities.

The Department finds that the Facility's previously approved construction of Cell 6 should continue. The changes to Cell 6-2 approved by this Order and permit will not change the Facility's prior approved maximum allowed height. The changes approved by this Order also will not impact the Facility's remaining landfill space.

The Application provided the Operation and Maintenance Plan and proposed changes to allow recycling of specified salvageable waste. The Department finds the proposed changes reasonable and consistent with the Department's and the State's efforts to promote recycling of solid waste. Delaware has adopted recycling goals through state law including diverting 85 percent of solid waste from disposal by January 1, 2020.

The Department has a full-time employee at the Facility, who provides constant oversight of the Facility's operations and permit compliance. The Department finds that the Record supports renewing the Facility's permit based upon its past operating history, and finds there is no support for the drastic action requested by some public comments to

deny a permit renewal because of past and ongoing operating problems. The Department recently denied a permit renewal for Peninsula Composting based upon past and ongoing problems, but the Department finds that the Facility's operations comply with DRGSW and the Facility also responds promptly when notified of a problem to resolve it quickly. Thus, the Facility's operating history and ongoing operations support renewal of the permit consistent with the SHWMS' draft permit and changes to the operations and maintenance plans which will improve the Facility's dust control in response to the public comments. The public comments opposed to the permit renewal will be addressed in the next section.

Conclusions and Reasons

The Department adopts the Report's conclusions and recommendations and the SHWMS' recommendations in its TRM and draft permit after consideration of all public comments. Based upon the above findings of fact, the Department concludes that the SHWMS should issue the Applicant the permit renewal based upon the SHWMS' draft permit. The Report considers the public comments and concludes that they do not support denial of the Application, but the permit approved by this Order has been amended to better address the dust complaints.

As noted above, the public comments in opposition complained about the Facility's noise, dust, litter, truck traffic, and groundwater contamination. The Report and the SHWMS' TRM fully review and discuss the public comments, and this Order adopts the discussion and reasons for not complying with the requests from the public comments that ask the Department to deny any permit renewal.

The first issue concerned complaints with the Facility's noise, but the actual source was not specified. The Facility's area where trucks unload their waste is not near

residential areas. The closest source of noise to residential areas would be the Marsh Lane access road. As noted in the SHWMS' TRM, the amended footprint for Cell 6-2 will provide more distance between the active landfill area and the nearby residential and commercial areas along Route 13. The Department concludes that the Facility should be able to comply with all local and county noise regulations, ordinances and rules based on the design of the Facility and through operational requirements. Of note, the SHWMS' TRM indicates that the Department's Environmental Crime Unit ("ECU") has not received any noise complaints from area residents. In addition, there was no information entered into the record quantifying any noise complaints to New Castle County. Nevertheless, heavy industrial noise is expected from a landfill operation, which is problematic near a residential area, but it is allowed so long as it complies with all local and county noise regulations.

Generally, the Department considers noise complaints to be a permit enforcement issue which the Department defers to local law enforcement to determine compliance with applicable local or County noise laws, regulations, and ordinances. The permit includes provisions requiring the Applicant to abide by all other applicable laws, regulations, and ordinances, therefore, if other enforcement agencies take action based upon noise complaints, then the Department also can take appropriate enforcement action under its permit authority. The Department concludes that truck traffic and the noise from the trucks on Marsh Lane does not present a reason to deny the permit renewal.

The second complaint raised by the public comments was air quality from dust. The SHWMS investigated this complaint and concluded that it was likely from trucks depositing dirt and mud on Marsh Lane, which could be carried by the wind to nearby

residential areas, primarily West Minquadale. Accordingly, the SHWMS recommended changes to the permit in order to improve the control of dust. The SHWMS' TRM describes its recommended changes to the Facility's permit:

The following language in the permit shall be added 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."

The Department concludes that the permit issued by this Order provides sufficient protection of the air quality from the risk of dust pollution from truck traffic on Marsh Lane. Moreover, the Department notes that dust also is regulated by the Department's Division of Air Quality pursuant to *7 DE Admin. Code 1106*. The Department's Division of Air Quality also regulates air quality from the landfill gas control system, which uses a flare to destroy odors from landfill gas, as authorized by Permit APC 2013-0106. Thus the Department concludes that the air quality concerns have been addressed and the permit changes should improve the control of dust.

The third complaint raised by the public comments was truck traffic, which the Applicant estimates is 110 waste hauling trucks a day. The SHWMS' TRM notes the lack of any Department jurisdiction over the volume of truck² traffic to and from the Facility, other than to change the Facility's daily waste limit. The Department finds no support in

² The SHWMS notes that it regulates all waste haulers.

the Record for reducing the Facility daily waste limit of 2,400 tons as an indirect method to reduce the volume of truck traffic.

The fourth complaint raised by the public comments was the concern that the Facility has or will contaminate groundwater. First, the Department concludes that there is no nearby local source of drinking water that could be contaminated. Second, the Department review of the groundwater testing at the Facility does not show any groundwater contamination. The Department's comprehensive regulation of the Facility's design, control and operation ensures a low risk of any future contamination of the groundwater. The SHWMS' TRM highlights the groundwater monitoring wells installed as an existing permit requirement:

Waste Management conducts semi-annual monitoring at the DRPI Landfill. Ground water samples are collected from 8 shallow wells and 6 deep monitoring wells for lab analysis. Leachate samples are collected from four sumps and stormwater samples collected at two outfalls. In general, analytical data has remained consistent over the long term and detected analyte concentrations do not appear to pose a threat to human health or the environment. In addition to the facility monitoring program, WM operates a ground water control system beneath the landfill which prevents ground water from intersecting waste.

The permit includes all appropriate safeguards to reduce the risk of any contamination, thus, the Department concludes that the fear of groundwater contamination does not present a reason to deny the permit renewal.

The fifth complaint raised by the public comments was the litter from the Facility. The Department's ECU has not received any litter complaints and the Department's on-site employee also has not observed any significant litter problem. The Department acknowledges that solid waste may contain paper and plastic items that may be blown by

wind when unloaded at the Facility. The Department's approval of the Facility's operation and maintenance manual, as cited by the SHWMS' TRM, requires certain action to be taken to minimize the litter that is carried off the Facility's grounds and the Department concludes that the Facility has taken all reasonable and appropriate measures to ensure compliance with the Department's regulation of litter, as set forth in the permit and the operation and maintenance plan. The Facility uses a portable 20' high fence to capture litter that otherwise may leave the Facility's footprint near the Route 13 entrance that is near where trucks unload. The Facility regularly undertakes litter pick up patrols and picks up litter when spotted. The Department concludes that such efforts are reasonable and consistent with the permit and that the public comments provide no reason to deny the permit renewal or to impose any additional permit terms for litter control.

The sixth complaint issue was odor and the Department's regulation of odor is by Air Quality Regulations. As noted above, the Facility operates a flare for burning landfill gas. The Division of Air Quality approved this flare to reduce landfill gas emissions and to reduce landfill gas odors. As noted in the SHWMS' TRM, there have been occasional odor complaints from the nearby communities to DNREC's Environmental Hotline assuming that the source of the odor is the landfill, however, it is difficult to determine the source of odor. The Department acknowledges that one local source of odor was eliminated last year with the closure of Peninsula Composting's operations, which may have contributed to bad odors near the Facility. The Department concludes that there is no support for denying the permit renewal because of odor issues when the Department's investigation finds no odor problems at the Facility.

The final complaint with the permit renewal was that the Facility does not have a composite liner under Cells 1 through 3. While this is correct, the lack of a composite liner does not preclude the permit renewal because the Department did not require a composite liner for those cells when the Department approved the initial permit in 1983. These cells were used until 1994 for the disposal of construction and demolition waste. The Applicant installed drains underneath the cells and a groundwater collection system that gathers groundwater from beneath Cells 1 through 3. The Applicant also will install a composite cover on top of these cells to eliminate water infiltration and thereby reduce leachate. The Department approved the cells for solid waste disposal of construction and demolition debris, and concludes that they do not now present any undue risk of contaminating the groundwater or otherwise pose a risk to the environment or public health. Thus, the Department concludes that the public comments regarding Cells 1 through 3 do not provide a basis for denying the permit renewal.

Based upon the above, the Department enters the following conclusions:

1. The Department has jurisdiction pursuant to *7 Del. C. Section 6001 and 6006*, and DRGSW to make a determination on the Application;
2. The Department provided adequate public notice of the Application and the public hearing, and held the public hearing in a manner required by the law and its regulations pursuant to *Sections 6003, 6004, and 6006 of Title 7*;
3. The Department considered all timely and relevant public comments in making this determination and this Order and attached Report establishes the Record to support this decision;

4. The SHWMS shall issue the Applicant the permit based upon the SHWMS' draft permit that is in the Record;

5. The conditions and terms in the renewal permit shall allow the Facility to continue to operate as an industrial landfill for the final disposal of construction and dry demolition waste and protect the environment and public health from undue risks from the Facility's operations; and

6. The Department shall publish this Order on its web site and provide such public notice of the Order as required by the law, applicable regulations, and as the Department determines is appropriate.



David S. Small
Secretary

HEARING OFFICER'S REPORT

To: The Honorable David S. Small
Secretary, Department of Natural Resources and Environmental Control

From: Robert P. Haynes, Esquire
Senior Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

Re: Delaware Recyclable Products, Inc.'s Application to Renew and Amend its Solid Waste Facility Permit for Its Industrial Waste Landfill at 246 Marsh Lane, New Castle, New Castle County

Date: December 29, 2015

I. PROCEDURAL HISTORY

On October 27, 2014, Delaware Recyclable Products, Inc.¹ ("Applicant") applied with the Delaware Department of Natural Resources and Environmental Control's ("Department") Division of Waste and Hazardous Substances, Solid and Hazardous Waste Management Section ("SHWMS") to renew Solid Waste Facility permit SW-05/01 in order to continue operating its Industrial Waste Landfill at 246 Marsh Lane, New Castle, New Castle County ("Facility").

On April 3, 2015, SHWMS sent the Applicant a letter that requested additional information, including changes to the Application's Operations and Maintenance Plan. On April 23, 2015, the Applicant responded to SHWMS' letter with a revised Application, which SHWMS' April 24, 2015 letter determined was complete under the Department's *Delaware Regulations Governing Solid Waste* ("DRGSW"), 7 DE Admin. Code 1301.

On June 7, 2015, SHWMS published in two newspapers public notices of the Application, which began the public comment period. SHWMS received written public

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public comments that opposed the Facility's permit renewal and requested a public hearing. The Department decided to hold a public hearing and published public notices in two newspapers of a September 9, 2015 public hearing to be held at the Minquadale Fire Company, 129 East Hazeldell Avenue, New Castle.

The Department's hearing officer, Robert P. Haynes, presided over the public hearing, which was attended by approximately one hundred persons, including elected officials, community leaders, and SHWMS and Applicant representatives.

The Department received additional public comments during a one week extension of the public comment period. The SHWMS provided its Technical Response Memorandum ("TRM"), which recommends issuance of the SHWMS' draft permit.

II. SUMMARY OF THE RECORD²

This Report establishes the following Record: 1) the verbatim transcript of the public hearing; 2) the documents identified as hearing exhibits; 3) this Report and the attached TRM; and 4) any documents and information referenced in this Report.

The SHWMS' representatives at the public hearing were Ting Guo, Engineer, Brad Richardson, Environmental Scientist, Jason Sunde, Environmental Program Manager, and Nancy Marker, Environmental Program Administrator. Ms. Guo made a slide presentation that described the Application and the Department's review process. The SHWMS also provided the following exhibits:³

DNREC Ex. 1- a March 27, 2015 letter from Jill Williams;
DNREC Ex. 2-the Application;
DNREC Ex. 3-letter acknowledging receipt of a completed Application;

² This summary does not determine any factual accuracy.

³ The Department provides certain documents for the record at the public hearing to assist the public in making their comments.

DNREC Ex. 4-public notice of the Application published in *The News Journal* and the *Delaware State News*;
DNREC Ex. 5-a June 17, 2015 letter from New Castle County Executive Tom Gordon. New Castle Councilman Jea Street and State Representative James (“JJ”) Johnson providing comments in opposition to the Application and requesting a public hearing;
DNREC Ex. 6- the public notice of the public hearing published in the *The News Journal* and in the *Delaware State News*;
DNREC Ex. 7-an August 24, 2015 letter from New Castle County Executive Tom Gordon. New Castle Councilman Jea Street and State Representative James (“JJ”) Johnson providing comments in opposition to the Application;
DNREC Ex. 8- an August 20, 2015 letter from Helen Whitlow supporting the permit renewal;
DNREC Ex. 9-a postcard from various residents supporting the Application;
DNREC Ex. 10-SHWMS’ hearing slide presentation.

The Applicant’s District Manager, Christian Salamone, spoke next. He noted that about ten employees worked at the Facility. He described the Facility using photos and maps and highlighted the area that could be used as a community park. He indicated that many wildlife, such as deer, eagles, and foxes, could be seen at the Facility.

He explained the proposed changes included using a 25% thicker liner, which will allow employees to work on the liner to recycle cardboard, metals, plastics, tree debris, and concrete from the waste. He indicated that glass and plastic also is pulverized and used to stabilize the landfill’s working face. He described the proposed amended load inspection practices that will use cameras to improve visual inspection of trucks to monitor that they contain only allowed wastes. He explained the change that will allow storage of shredded and chipped tires from Magnus Tires. His presentation included photos of the liner installation, the protective cover, the leachate system, and the truck scale. He explained that household waste, liquid, hazardous, chemical, chemical,

medical/infectious, asbestos, electronics, appliances, sludge, whole tires, and creosote-treated wood are wastes prohibited for disposal at the Facility. He showed photos of the compactors that are used to crush the waste. He showed a picture of the water truck that is used to control dust. He noted that the water truck uses water collected by the stormwater pond. He showed a photo of the pretreatment system for leachate before it is discharged into New Castle County's sewer system. He displayed a chart showing the Facility's payment for local taxes, payroll, and operating and capital expenditures. He also described the work with local community groups and the donations and services that the Applicant provides. His presentation was marked as Applicant Ex. 1.

The first public speaker was New Castle County Councilman Jea Street, who stated that he was adamantly opposed to the permit renewal. He described the zoning decision made forty years ago that allowed a farm to be used for what is now the Facility. He said that forty years was a long time and that now it was time to stop the Facility from operating because of its adverse impact on the quality of life, including dust and noise. He noted the adjoining property was New Castle County's Public Safety Building, which was built at a \$50 million cost. He claimed the Facility produced a \$20 million annual profit and noted that it provided only \$7,500 in annual donations to community groups. He complained about the lack of liners on some cells and that these cells should be shut down. Finally, he noted that the community had been promised a community park years ago, but that promise did not explain that the park could only be built thirty years after the Facility's closure.

The second public speaker was State Representative J.J. Johnson, who asked about the time period for the community park. Applicant's Director of Disposal

Operations for the greater Mid-Atlantic area, Barry Such, answered his question by stating that the past promise probably was a miscommunication. He noted that the Application included reducing the landfill's footprint to provide land that could be used for a community park when the Facility closed in about six to ten years, and would not require waiting until the end of the Facility's post closure period 30 years after the Facility closes.

Representative Johnson also asked about the use of unlined areas. Mr. Such explained that the Applicant had installed in the unlined cells a groundwater collection system, and would install a liner over the waste to prevent rainwater infiltration with the waste that produces leachate. He said these measures would minimize the potential issues from the unlined areas.

Mr. Johnson also asked about whether the community dumpster program caused the Facility to receive household waste. Mr. Salamone explained that the local dumpster waste was construction and demolition waste and that the Facility monitored dumpsters for any household waste, which the Facility would not accept. Mr. Johnson noted that dumpsters have become a source of complaints within the community. Mr. Salamone explained that the Applicant was working with the community groups on dumpster use policies in order to reduce these complaints.

Finally, Representative Johnson asked about litter control. Mr. Salamone answered by explaining how the Facility manages litter control, including the placement of fencing to control windblown litter.

The third public speaker was State Senator David McBride, who stated he wanted to listen to his constituents' concerns.

The fourth public speaker was New Castle County Executive Thomas Gordon, who also stated that the Facility's 40 years of operation was enough. He described the Facility as a mountain of trash.

The fifth public speaker was Steve Berg, who works in the County Executive's office. He said that in February 2015 he sent letters out to nearby residents asking about the Facility. He said he received complaints about dust, odor and vibrations that adversely impacted the quality of life and health. He said that 99% of the people told him that they want the Facility closed. He mentioned the fear of a possible lawsuit, which he viewed as a scare tactic to reduce complaints. He noted how the Applicant had supplied residents with postcards so that they could send in positive comments.

The sixth public speaker was Tammy Keresev, who spoke in support of the Facility's permit renewal. She said she provides janitorial services to the Applicant. She said the closure of the Facility would have a big impact to her business and other vendors.

The seventh public speaker was Kurt Pilarki, who is the District Manager for Waste Management's hauling business. He spoke in support of the permit renewal.

The eighth public speaker was Lee Jarmon from Overview Gardens, which is next to Minguadale. He said the neighborhood was tired of environmental injustice. He said the Facility's air pollution from landfill gas, dust, odors and other forms of pollution common to industrial operations posed a risk to the community that was not offset by any economic benefits from its continued operation. He noted the health risk and the cancer cluster in the area. His written statement was identified for the Record as Jarmon Ex. 1.

The ninth public speaker was David Trincia, who said that the Applicant had been a good neighbor but also a burden to the community. He spoke of the Applicant's donations to the community and free dumpsters were a ploy to keep the community satisfied and to ignore the health concerns. He spoke of the community's fights with the Applicant when it proposed allowing the Facility to receive power plant ash and refinery coke as allowable wastes, and how the community's opposition stopped these proposals. He also described the Applicant's recent proposal to increase the Facility's height by 62 feet from its current height of 130 feet above sea level, which he said was defeated because of community opposition. He recounted that in 2007 the Applicant promised a community park, but in 2014 that the community learned that the park would only be possible 30 years after the Facility's closure. He stated that the current proposed park would be much smaller than originally promised and that it would not be able to support the activities originally promised. He said the community considered that the proposed location of the land for a possible park would not be good given the health risks posed by the Facility's operation.

The tenth public speaker was Sherry Gartland, who works at the Facility. Her comments were about the wildlife that flourishes at the Facility, including deer, coyotes, and hawks and American eagles. She said the Applicant cares about the environment and that the permit should be renewed. Her statement was marked as Gartland Ex. 1.

The eleventh public speaker was Joe Kunitsky, who said he did some work on the Facility's equipment and he supported the permit renewal. He said the Facility was one of the nicest landfills he has visited in his 26 years in business. He noted that the Facility was a big part of the local community.

The twelfth public speaker was Alan Wingrove, who lives near the landfill at 29 Crescent, which was the property he described as nearest to what he described as the big mound. He commented on the dust blowing into his property and how his son's illness requires him to wear a breathing device in the evening and to have an air filtering system for his son's room. He also complained about the rotten egg smell. He also stated the economic benefits are not worth the cost to his health.

The thirteenth public speaker was Anthony Wells, who has lived 13 years in West Minquadale the property nearest the Facility and across from Mr. Wingrove. He opposed the permit renewal. He complained of cracks in his house and about noise, including diesel engines at 4 am.

The fourteenth public speaker was Craig Graham, who is the project manager for Furness Electric that provides electrical work for Waste Management and he stated his support for the permit renewal.

The fifteenth public speaker was Kathy Neamand, who complained about the decline in the area's quality of life. She noted that Waste Management has been a good company and keeps the dust watered down except on weekends when, if it is dry and the wind blows, dust blows because no one is there to apply water to control dust. She opposed the permit renewal and provided a written statement as Neamand Ex. 1.

The sixteenth public speaker was Chris Rosi, who supported the permit renewal based upon his work for the heavy equipment dealer Ransom, Inc.

The seventeenth public speaker was Joseph Day, who is chief of the Minquadale Fire Company. He said the Fire Company decided not to take any position on the permit renewal, but he expressed his concern with a public safety hazard caused by the Facility's

truck traffic using the Marsh Lane to access DuPont Highway. He suggested that the access road to the Facility be moved to Fairview Avenue. He also was concerned about the adequacy of the water supply for any fire at the Facility. Finally, he wanted landscaping to screen the Facility's sides nearest DuPont Highway and Interstate 495.

The eighteenth public speaker was Alonzo Brinson, who complained about the water that was staining his plumbing fixtures. He complained about those who received money from the Facility supporting the permit renewal. He also does not drink the water from his public water supplier.

The nineteenth public speaker was Chas Levan, who lives at 123 Minquadale Avenue. He complained about the \$30,000 loss of his house's value since he bought it in 2008. He mentioned the smells and the litter.

The twentieth public speaker was Raymond Smith, who lives nearby. He complained about his house's walls cracking, odor and dust and wants the Facility shutdown.

The twenty first public speaker was Sandra Smithers, who lives in the Dunlee neighborhood and she is opposed the permit renewal. She commented on the Facility's supporters based their support on money issues while the opponents of the permit renewal based their comments on quality of life issues.

Ms. Neamand spoke again about her calls to DNREC to complain about odor, dust and noise.

The twenty second public speaker was Joanne Tulowitzki, who has lived at 710 Liberty in West Minquadale since 1955. She opposed the permit renewal on behalf of the approximately 300 neighborhood residents.

The twenty third public speaker was George Haggerty, who is the general manager of New Castle County's Department of Land Use. He explained his involvement with meetings with DNREC, local residents and the Applicant. He commented on the public's complaints about the Facility and that while the Facility may meet regulatory standards, it does not meet the local community's expectations for their quality of life.

Finally, State Representative Johnson requested a one week extension of the public comment period. This request was not opposed and accordingly I granted it.

The record includes the written public comments timely received during the extended public comment period, including prepared postcards that support the permit renewal. In addition, I allowed the Applicant to respond to the public comments, and the Applicant submitted responses. In addition, the Applicant responded to my request for certain information on groundwater monitoring in the area. This Report also contains information from my discussions with the SHWMS. I also toured the Facility and nearby neighborhoods.

Following the public hearing, the SHWMS provided me with their expert advice and opinion on the Applications, as set forth in the attached Technical Response Memorandum ("TRM"). The SHWMS also provided a draft permit should the Secretary decide to renew the Facility's permit to allow operations to continue beyond December 31, 2015, the current permit's expiration date.

III. FINDINGS OF FACT

I find that the Record supports finding that the Application complies with DRGSW and fully sets forth the required extensive engineering and technical information and operations and maintenance plans for the Facility, including pollution control

systems such as its leachate pretreatment system, its landfill gas odor control, and its stormwater management. The Application also sets forth the Department required monitoring and reporting test result to SHWMS. Of note is that SHWMS staff also periodical inspects the Facility and has a fulltime employee on-site to monitor daily operations. The Record does not support any finding that the Facility is operating in violation of DRGSW or has committed any ongoing and serious permit violations in the past that would warrant the Department denying its permit renewal.

The Record shows that many of the problems raised by the public comment may be attributable to the Facility's location near residential areas. The Facility's location near residential areas is a historical fact that cannot be changed, but the Department's experts consider that the Facility operates in accordance with the Department's regulatory requirements and such operations do not pose any environmental harm or public health risk based upon operating in accordance with the approved plans and permit. New Castle County's zoning has allowed a "heavy industry" use to be near residential areas, and the Department is without authority to change this decision.

Of note, I find that the area has other heavy industrial uses that are closer to the West Minquadale neighborhood, such as Corrado Construction Company that has numerous large diesel powered equipment that could be the source of some of the noise complaints. The Department also recently approved an air pollution control permit for concrete crushing operations on the Corrado Construction property and concrete crushing previously was conducted at the same location for many years. Indeed, the complaints about the large mounds and dust may be from this location, and the air pollution control permit should provide increased regulation over dust.

I find that the Record supports finding that the Applicant has made considerable effort to offset the Facility's location near residential areas. I find that the Facility does provide considerable economic benefits, including the typical annual payments of \$90,000 in school taxes, \$320,000 for wages and salaries, and almost \$1 million for other operating and capital purchases, such as heavy equipment purchases, and paying for community outreach efforts.

I find that the Applicant has made an effort to keep the community informed and aware of the Facility's operations. The Applicant participates at meetings with local community associations and provides monetary support for local groups. The Applicant also provides local residents free construction demolition waste disposal service. Since 2012, the Record supports finding that the Applicant's goodwill efforts has provided local residents with approximately \$178,000 in economic value benefits.

I find that the Applicant's proposed removal of the six acres from future landfill use also is an example of its community outreach effort because this land will allow a possible future use as a community park. Thus, the Record reflects that the Applicant has made a considerable effort to offset the potential impacts caused by its location in an area that New Castle County has approved for heavy industry zoning despite being adjacent to areas zoned residential.

I find that SWHMS' TRM sets forth the Facility history, which began as an industrial use as in 1954 as a sand and gravel pit that closed in 1982 and became a Department regulated landfill in 1983 when the Department first issued the Facility a solid waste facility permit for landfill disposal of construction and demolition debris in Cells 1 through 3. The Department approved the use of a natural clay liner based upon

the regulatory requirements at the time. The Applicant installed an underground groundwater collection system, which collects the groundwater for testing to detect any groundwater contamination. The SHWMS review of the test results finds no groundwater contamination from the Facility, including from the unlined Cells 1 through 3.

The Application also set forth the plans to cover Cells 1 through 3 with a composite liner to reduce rainwater infiltration and this area will be used for waste disposal as previously approved. SHWMS also is aware that groundwater monitoring wells were drilled on nearby properties, including owned by New Castle County, but the Department has not received any information on any groundwater testing from these wells.

I find that the Facility's remaining waste disposal areas have an engineered composite liner and leachate collection system that meets all Department regulatory requirements. I further find that the Application's proposed changes to increase the thickness of the liner and to allow for recycling efforts are reasonable and consistent with the Delaware goals to promote recycling of waste. I find that the proposed six acre reduction to Cell 6-2's size is reasonable and will provide environmental benefits to the local community as a wider buffer area and for use as a future community park. I find that the proposed changes to the adjoining active landfill area's slope are reasonable and well supported by expert engineering judgment.

I find that the Facility's current permit limit of 2,400 tons of waste per day is a reasonable and well-supported by the Application. The Facility averages receiving 1,120 tons per day over its 255 days of annual operation, which is based upon 6:30 am to 4:00 pm Monday through Friday operating hours, excluding holidays. I find the permit's

operating limits and hours of operation are reasonable and well-supported based upon past experience and within the Facility's operational capabilities.

I find that that the Facility's previously approved construction of Cell 6 should continue. The changes to Cell 6-2 in the Application that I recommend for approval will not change the Facility's prior approved maximum allowed height. The Applicant has provided a current estimate of the remaining landfill capacity that, depending on waste volume, should be sufficient for up to the ten year permit term proposed by SHWMS.

I find that the Application provided the Operation and Maintenance Plan and proposed changes to allow recycling of specified salvageable waste and that the Record supports this change as reasonable and consistent with the Department's and the State's efforts to promote recycling of solid waste. Delaware law's recycling goals include diverting 85 percent of solid waste from disposal by January 1, 2020 and so the Facility's change is consistent with meeting this goal.

I find that SHWMS full-time employee at the Facility provides the Department with ongoing oversight of the Facility's operations and permit compliance. This employee also patrols the nearby neighborhoods to observe if any litter from the Facility is blowing off the Facility. I find that the Department's overall assessment it that the Facility is operating in compliance and that the Record, despite the public comments in opposition, does not support a permit denial. A permit denial is a drastic, and last resort action that the Department may take when necessary to remedy significant permit compliance problems. Indeed, the Department recently denied a permit renewal for Peninsula Composting based upon past and ongoing problems that may have been the source of many of the odor complaints raised in this public hearing as Peninsula

Compositing is near the Facility and its operations only concluded this past year. In SHWMS assessment of the Facility the available information and the Record support finding that the Facility does not cause any noise, odor, or dust problems that exceed regulatory limits.

I find the Facility's operations comply with DRGSW and the Facility also responds promptly when notified of a problem to resolve it quickly. Thus, the Facility's operating history and ongoing operations support renewal of the permit consistent with SHWMS' draft permit and changes to the operations and maintenance plans which will improve the Facility's dust control in response to the public comments. The public comments opposed to the permit renewal will be addressed in the next section.

IV. CONCLUSIONS AND REASONS

Based upon the above findings of fact, I conclude that SHWMS should issue Applicant the permit renewal based upon SHWMS' draft permit. This conclusion is supported after considering the public comments. The public comments that oppose the permit renewal are contrary to the Department's experts' assessment of the Facility's operations, which comply with the DRGSW. SHWMS draft permit also includes provisions to improve the permit's regulation of dust control, which was a change made to respond to this concern in the public comments.

As noted above, the public comments in opposition complained about the Facility's noise, dust, litter, truck traffic, and groundwater contamination. The Record includes SHWMS' TRM, which fully reviews the public comments' issues. The TRM cites the applicable permit conditions or operating manual that regulate the areas of concern raised by the public comments, except where SHWMS concludes that the

comments' concerns are outside the Department's statutory authority. I agree with the SHWMS' assessment of all the public comments' concerns.

The first issue raised by the public comments concerned noise complaints. I conclude that the Facility's operation will be required to comply with all local and county noise regulations, ordinances and rules. The Facility's heavy equipment emits noise, and haulers' trucks use Marsh Lane to bring loads of waste. The noise levels from these sources should not exceed the applicable limits. As noted in SHWMS' TRM, the proposed amended footprint for Cell 6-2 should provide more distance between the active landfill area and the nearby residential and commercial areas along Route 13. I conclude that the permit will require the Facility to comply with all local and county noise regulations, ordinances and rules based on the design of the Facility and through operational requirements.

Of note, SHWMS' TRM indicates that the Department's Environmental Crime Unit ("ECU") has not received any noise complaints from area residents. In addition, there was no information entered into the record quantifying any noise complaints to New Castle County. Nevertheless, heavy industrial noise is expected from a landfill operation, which is problematic near a residential area, but it is allowed so long as it complies with all local and county noise regulations.

Generally, the Department considers noise complaints to be a permit enforcement issue which the Department defers to local law enforcement to determine compliance with applicable local or County noise laws, regulations and ordinances. The permit includes provisions requiring the Applicant to abide by all other applicable laws, regulations and ordinances, therefore, if other enforcement agencies take action based

upon noise complaints, then the Department also can take appropriate enforcement action under its permit authority. I conclude that truck traffic and the noise from the trucks on Marsh Lane does not present a reason to deny the permit renewal. I also consider the movement of the access road from Marsh Lane to Fairview Avenue to be outside of the Department's authority, but the Applicant may want to consider this as part of its future plans.

The second complaint raised by the public comments was air quality from dust. SHWMS investigated this complaint and concluded that it was likely from trucks depositing dirt and mud on Marsh Lane, which could be carried by the wind to nearby residential areas, primarily West Minquadale. Accordingly, SHWMS recommended changes to the permit in order to improve the control of dust. SHWMS' TRM describes its recommended changes to the Facility's permit:

The following language in the permit shall be added 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.”

I conclude that the recommended permit will provide sufficient protection of the air quality from the risk of dust pollution from truck traffic on Marsh Lane. Moreover, the Department notes that dust also is regulated by the Department's Division of Air

Quality pursuant to *7 DE Admin. Code 1106*. The Department's Division of Air Quality also regulates air quality from the landfill gas control system, which uses a flare to destroy odors from landfill gas, as authorized by Permit APC 2013-0106. Thus the Department concludes that the air quality concerns have been addressed and the permit changes should improve the control of dust.

The third complaint raised by the public comments was truck traffic, which the Applicant estimates at 110 waste hauling trucks a day. The TRM notes the lack of any Department jurisdiction over the volume of truck⁴ traffic to and from the Facility, other than to indirectly reducing truck traffic by reducing the Facility's daily waste limit. The Department finds no support in the Record for reducing the Facility daily waste limit of 2,400 tons as an indirect method to reduce the volume of truck traffic.

The fourth complaint raised by the public comments was the concern that the Facility has or will contaminate groundwater. First, I conclude that there is no nearby local source of drinking water that could be contaminated. Second, the Department review of the groundwater testing at the Facility does not show any groundwater contamination. The Department's comprehensive regulation of the Facility's design, control and operation ensures a low risk of any future contamination of the groundwater. The TRM highlights the groundwater monitoring wells installed as an existing permit requirement:

Waste Management conducts semi-annual monitoring at the DRPI Landfill. Ground water samples are collected from 8 shallow wells and 6 deep monitoring wells for lab analysis. Leachate samples are collected from four sumps and stormwater samples collected at two outfalls. In general, analytical data has remained consistent over the long term and detected analyte concentrations do not

⁴ The SHWMS notes that it regulates by permit all waste haulers.

appear to pose a threat to human health or the environment. In addition to the facility monitoring program, WM operates a ground water control system beneath the landfill which prevents ground water from intersecting waste.

The permit includes all appropriate safeguards to reduce the risk of any contamination, thus, the Department concludes that the fear of groundwater contamination does not present a reason to deny the permit renewal.

The fifth complaint raised by the public comments was the litter from the Facility. The Department's ECU has not received any litter complaints and the Department's on-site employee also has not observed any significant litter problem. Solid waste may contain paper and plastic items that may be blown by wind when unloaded at the Facility, but the Facility has taken all reasonable efforts to ensure that such litter is controlled within the Facility's boundaries. The Facility uses a portable 20' high fence to capture litter that otherwise may leave the Facility's footprint near the Route 13 entrance that is near where trucks unload. The Facility regularly undertakes litter pick up patrols and picks up litter. The Department's approval of the Facility's operation and maintenance manual, as cited by SHWMS' TRM, requires certain action to be taken to minimize the litter that is carried off the Facility's grounds. I conclude that such efforts are reasonable and consistent with the permit and that the public comments provide no reason to deny the permit renewal or to impose any additional permit terms for litter control.

The sixth complaint issue was odor and the Department's regulation of odor is by Air Quality Regulations. As noted above, the Facility operates a flare for burning landfill gas. The Division of Air Quality approved this flare to reduce landfill gas emissions and to reduce landfill gas odors. As noted in SHWMS' TRM, there have been occasional

odor complaints from the nearby communities to DNREC's Environmental Hotline assuming that the source of the odor is the landfill, however it is difficult to determine the source of odor. The Department acknowledges that one local source of odor was eliminated last year with the closure of Peninsula Composting's operations, which may have contributed to bad odors near the Facility. I conclude that there is no support for denying the permit renewal because of odor issues when the Department's investigation finds no odor problems at the Facility.

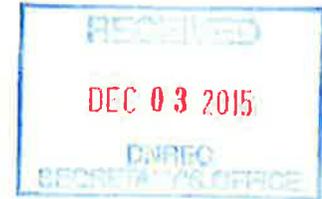
The final complaint with the permit renewal was that the Facility does not have a composite liner under Cells 1 through 3. While this is correct, the lack of a composite liner does not preclude the permit renewal because the Department did not require a composite liner for those cells when the Department approved the initial permit in 1983. These cells were used until 1994 for the disposal of construction and demolition waste. The Applicant installed drains underneath the cells and a groundwater collection system that gathers groundwater from beneath Cells 1 through 3. The Applicant also will install a composite cover on top of these cells to eliminate water infiltration and thereby reduce leachate. The Department approved the cells for solid waste disposal of construction and demolition debris, and concludes that they do not now present any undue risk of contaminating the groundwater or otherwise pose a risk to the environment or public health. Thus, I recommend that the Department conclude that the public comments regarding Cells 1 through 3 do not provide a basis for denying the permit renewal.

Based upon the above, I recommend that the Department enter the following conclusions:

1. The Department has jurisdiction pursuant to *7 Del. C. Section 6001 and 6006*, and DRGSW to make a determination on the Application;
2. The Department provided adequate public notice of the Application and the public hearing, and held the public hearing in a manner required by the law and its regulations pursuant to *Sections 6003, 6004, and 6006 of Title 7*;
3. The Department considered all timely and relevant public comments in making this determination and this Order and attached Report establishes the Record to support this decision;
4. SHWMS shall issue the Applicant the permit renewal based upon SHWMS' draft permit that is in the Record;
5. The conditions and terms in the renewal permit shall allow the Facility to continue to operate as an industrial landfill for the final disposal of construction and dry demolition waste and protect the environment and public health from undue risks from the Facility's operations; and
6. The Department shall publish this Order on its web site and provide such public notice of the Order as required by the law, applicable regulations, and as the Department determines is appropriate.



Robert P. Haynes, Esq.
Senior Hearing Officer
Office of the Secretary



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES
SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION

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**SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION
MEMORANDUM**

TO: Robert P. Haynes, Esq. Senior Hearing Officer, Office of the Secretary

THRU: Nancy Marker, Environmental Program Administrator, SHWMS *TRM 12/3/15*
Jason Sunde, Environmental Program Manager I, SHWMS *12/3/15*

FROM: Brad Richardson, Environmental Scientist, SHWMS *ABR 12/3/15*

DATE: December 2, 2015

SUBJECT: **Technical Response Memorandum (TRM):** Response to Public Hearing Comments for Waste Management's Application to Renew Permit for Operating the Delaware Recyclable Products, Inc. (DRPI)

REFERENCE: Waste Management DRPI landfill Renewal Application September 9, 2015 Public Hearing

The Solid and Hazardous Management Section (SHWMS) has determined that the application for permit renewal 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 continued operation of the landfill while protecting the environment and public health. The SHWMS 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) application to continue operating the DRPI landfill. 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 excavated to approximately the top of the silty clay Potomac Formation.

Delaware's good nature depends on you!

DRPI was 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 6-2A, have a composite liner system meeting the requirements of current Delaware Regulations Governing Solid Waste (DRGSW).

In 1991, Sanifill acquired the ownership of the facility. 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. In 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. In 2013 Cell 6-2A was constructed and waste placement began in the same year.

On July 7, 2015 work began to put a composite liner system on top of Cell 1 through Cell 3 with a leachate collection system. Construction has been completed and is currently undergoing SHWMS certification before waste can be placed on the new liner.

NOISE:

There were three (3) comments regarding noise from the DRPI landfill. These comments were nonspecific and referred to noise issues as it relates to quality of life in the Minquadale community. 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.

Additionally, the permit renewal application includes a design modification that will provide the nearest neighbors with an additional buffer from the landfill operations. This buffer is made by pulling the southern edge of Cell 6-2B away from the Fernwood Avenue and Littleworth Lane.

DUST:

There were approximately ten (10) 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 West Minquadale and people who work in the NCC Public Safety building. Possibly some of the dust problems in these locations are due to I-495 and Rt. 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 dirt and mud from the landfill onto Marsh Lane, which will be kicked up as dust and carried on the wind to surrounding areas. SHWMS recognizes this is an intermittent yet ongoing problem.

The DRPI April 2015 *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 with a water truck. 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 H (Appendix V-A).

The DRPI April 2015 *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 in the permit shall be added 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 Environmental Crime Unit (ECU) about DRPI. 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 four (4) 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 from, roughly, the entrance to the NCC Public Safety Building, south, to

its intersection with Rt. 13. The rest of Marsh Lane, from the entrance of the NCC Public Safety Building, north, to the WM scale house, is maintained by the 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. According to WM, an average of 110 trucks per operating day go through the DRPI scale house. Obviously there is other truck traffic using the WM maintained portion of Marsh Lane for the other businesses, but there is no estimate of their numbers.

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

GROUNDWATER:

Approximately five (5) comments about groundwater contamination were raised without highlighting specific criteria. Groundwater well installation, monitoring, sampling, analytical requirements, water level measuring and the groundwater control management system for the DRPI landfill is described in the DRPI Operations Permit SW-05/01, and the April 2015 *Operations and Maintenance Plan* (Ops Plan). The permit and Ops Plan are in accordance with the DRGSW and the Delaware Regulations Governing the Construction and Use of Wells.

Waste Management conducts semi-annual monitoring at the DRPI Landfill. Ground water samples are collected from 8 shallow wells and 6 deep monitoring wells for lab analysis. Leachate samples are collected from four sumps and stormwater samples collected at two outfalls. In general, analytical data has remained consistent over the long term and detected analyte concentrations do not appear to pose a threat to human health or the environment. In addition to the facility monitoring program, WM operates a ground water control system beneath the landfill which prevents ground water from intersecting waste.

LITTER:

Litter and debris concerns were mentioned approximately ten (10) times in letters, sent from employees who work at the NCC Public Safety Building, as well as voiced during the Public Hearing by the residents of Minquadale. 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 April 2015 *Operation and Maintenance Plan* is cited as an authoritative guidance, the following citation is from Section 3.5.1 (Litter Control):

The District 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 District 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 District 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 H (Appendix V-A).

Additionally, as was stated during the Public Hearing, DRPI installed a 20-foot litter fence in the vicinity of the front entrance and NCC Public Safety Building during the summer of 2014.

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

ODORS:

Approximately fifteen (15) odor comments were raised during the hearing and addressed in written comments. As odor complaints arise in the nearby communities the assumption by the public often is that the source of odor is the landfill gas, and the residents occasionally contact the DNREC Environmental Hotline. As was attested at the Public Hearing, 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 complains. 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-05/01, 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 Permit further states that DRPI shall operate and maintain the gas extraction system and flare to control odors and malodorous gaseous emissions from the landfill, and shall be controlled to the extent that there is no perceivable landfill odor beyond the property boundary. The landfill gas control system shall be monitored in accordance with the Department approved *Operation and Maintenance Plan*.

The April 2015 *Operation and Maintenance Plan* cites the following citation is from Section 3.5.4 (Odor Control):

...strong odors may be caused by the generation of landfill gas (LFG) within the landfill. 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.

LANDFILL LINER:

Three (3) times the public raised concerns about the unlined portion of DRPI landfill. Only Cells 1 through 3 are unlined and legally received C&D waste from 1983 to 1994. All other cells constructed have a composite liner system meeting the requirements of current DRGSW. Also, all waste landfilled since 1994 has gone into lined landfill cells.

Even though the unlined cells were constructed legally per the DRGSW at the time, Waste Management has addressed the unlined Cells 1 through 3 portions 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 areas landfilled since 1994 and until DRPI closure are within a lined portion of the landfill, which contain a leachate collection system. Also, the liner and leachate collection system recently installed on top of the unlined Cells 1 through 3 will basically 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 removed and, therefore, protects the aquifer. Furthermore, the public water supplied to all the communities surrounding DRPI comes from water sources not associated with the shallow aquifer underlying DRPI.

NCM:ABR:drb
ABR15007

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

Effective Date: December ??, 2015

Date Issued: December ??, 2015

Expiration Date: December ??, 2025

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

Pursuant to 7 Del. C., Chapter 60, Section 6003 and the *Delaware Regulations Governing Solid Waste*, approval of the Department of Natural Resources and Environmental Control is hereby granted 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.

A. Brad Richardson
Environmental Scientist
Solid & Hazardous Waste Management Section
(302) 739-9403

Date

Nancy C. Marker
Environmental Program Administrator
Solid & Hazardous Waste Management Section
(302) 739-9403

Date

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I. GENERAL CONDITIONS

- A. Pursuant to Sections 4.2 and 6.0 of the *Delaware Regulations Governing Solid Waste (DRGSW)*, the Department of Natural Resources and Environmental Control (Department) hereby issues Permit SW-15/02 to the 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. Construction of Cell 6 and all ancillary features outlined in the Engineering Report Volumes 3, 4, and 5 of the *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated October, 2004 and last revised August 2009.
 2. Construction of the amended grading changes to Cell 6-2, final development grading of Cell 6, and the Cells 1 through 3 Overlay Liner Area are provided in the *Amended Permit Application Part VI – Engineering Report for Cell 6 Expansion Delaware Recyclable Product, Inc. Solid Waste Facility Permit SW-05/01*, prepared by Golder Associates dated October 2014 and revised March 2015.
 3. Construction required to extend the vertical limits of the DRPI landfill to the previously approved final elevation of 130 feet MSL.
 4. Geomembrane capping including:
 - a. Final geomembrane cap construction over cells 1, 2, 3, 4, 5, and 6.
 - b. Interim geomembrane capping of portions of cells 1, 2, and 3 as indicated in the Engineering Report Drawing 11 of 31.
 - c. Geomembrane capping of the approximately 14 acre area of isolated waste beyond the limits of cell 6.
 5. Operation and maintenance of the DRPI, including Cells 1, 2, 3, 4, 5, and 6.
 6. Environmental monitoring, recordkeeping, and reporting for DRPI.
 7. The final cover.
- C. This permit was issued in accordance with the following documents submitted by the DRPI:
1. DRPI letter of intent dated October 27, 2014.
 2. The Solid Waste Management Facility Application for the Delaware Recyclable Products Landfill (DRPI), dated October 27, 2014.
 3. The *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated October, 2004 and last revised August 2009.
 4. The *Amended Permit Application Part VI – Engineering Report for Cell 6 Expansion Delaware Recyclable Product, Inc. Solid Waste Facility Permit SW-05/01*, prepared by Golder Associates dated October 2014 and revised March 2015.
 5. All previously approved and applicable documents, applications or correspondence.

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 Regulations Governing Solid Waste, Delaware Regulations Governing Hazardous Waste, Delaware Regulations Governing the Control of Water Pollution, the Delaware Surface Water Quality Standards, and the Delaware 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 to verify compliance with the permit and the DRGSW. (7 Del. Code, Section 6024).
3. This Permit may be revoked upon violation of any condition of the permit or any requirement of the DRGSW after notice and opportunity for hearing in accordance with 7 Del. Code, 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 ??**, 2025.
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 the DRGSW.
2. The landfill shall be constructed in accordance with the application package and the following engineering plans:
 - The *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware*, prepared by Geosyntec Consultants dated October, 2004 and last revised August 2009.
 - The *Amended Permit Application Part VI – Engineering Report for Cell 6 Expansion Delaware Recyclable Product, Inc. Solid Waste Facility Permit SW-05/01*, prepared by Golder Associates dated October 2014 and revised March 2015. The Amended Engineering Report was prepared to update the original engineering report included in the Cell 6 Plan. This Amended Engineering Report provides modifications to the proposed Cell 6-2 grading and the Cells 1 through 3 overlay Liner Area.
3. Construction Quality Assurance activities in Cell 6, Cell 1 through 3 and all constructed components shall be in accordance with the most recent *Construction Quality Assurance Plan* approved by the Department. DRPI shall report any deviation from the *Construction Quality Assurance Plan* to the Department's Solid and Hazardous Waste Management Section no later than the next business day following discovery.

4. Prior to the installation of any geotextile or geomembrane at each subcell, 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*.
6. No waste may be placed into each newly lined area (subcell) until DRPI has received written approval from the Department.
7. No waste other than the selected wastes described in Section III.F. of the permit may be placed onto the newly capped area of Cells 1, 2, and 3 until DRPI has received written approval from the Department.

B. Surface water management system

1. Sediment and stormwater control must comply with the Department's *Delaware 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 Construction Quality Assurance (CQA) plan contained in Engineering Report Volumes 3, 4, and 5, of the six volume *Application to Construct and Operate Industrial Waste landfill for Cell 6 Delaware Recyclable Products Landfill, New Castle, Delaware, October, 2004* and revised February 25, 2005, prepared by Geosyntec Consultants.
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 the 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 Plan) revised April 2015.
- B. DRPI shall be operated in a manner that will preclude degradation of adjacent land, air, surface water, or ground water.
- C. Waste capacity. Consistent with the Solid Waste Management Facility Application (11/4/04), DRPI shall accept no more than 2400 tons of waste for disposal at the landfill each day.
- D. Staffing. Sufficient numbers and types of personnel, as specified in the Operations Plan, shall be available at the site to ensure capability for operation in accordance with the DRGSW and the Operations Plan.
- E. Equipment. Equipment necessary to ensure the operations of the landfill in accordance with the Operations Plan and the requirements of the DRGSW shall be maintained at the site by DRPI.
- 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 the Delaware Regulations Governing Solid Waste. 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 waste.
 - 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 Atomic Energy Act of 1954.
 - 6. Electrical transformers
 - 7. Putrescible wastes
 - 8. Municipal solid waste
 - 9. Municipal solid waste ash
 - 10. Liquid waste as restricted by 40 CFR Part 258.28.

Furthermore, until the installation and Department approval of the capping system shown on Drawing 11 of 31 in the Engineering Report, wastes placed over cells 1, 2, and 3 shall not include metals, containers, or industrial process wastes not specifically approved for those cells. (reference application drawing C5-P010).

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 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 on-site compliance inspector 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 Compliance Inspector (Consent Order dated 1/30/90).
- 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 Plan and in a manner protective of human health and the environment.
 2. Salvaging operations shall not interfere with the proper disposal of wastes at the facility.
 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 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.
 - 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. Initial lift placement. DRPI shall take all precautions necessary to protect the landfill liner system during placement of the initial lift of waste. These precautions shall include:
 1. Protective cover over the liner system shall be a minimum of 24 inches thick.
 2. Landfill compactors and hauling equipment shall not be allowed to operate directly on the protective cover.
 3. The first lift of waste shall be no more than 5 feet thick.
 4. DRPI personnel shall be trained regarding their responsibilities for protecting the liner system.
 - N. 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 Solid and Hazardous Waste Management Section (DRGSW, Section 7).
 2. Overweight vehicles. DRPI shall notify the Department on-site Compliance Inspector immediately once a vehicle is determined to be overweight (reference 21 Del. Code 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.
- O. Litter control. 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.
- P. 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 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.
- Q. Health and safety. DRPI shall maintain and comply with the *Health and Safety Plan* approved by the Department.
 1. Employees at the site shall work under appropriate health and safety guidelines established by the Occupational Safety and Health Administration.
 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, 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.

R. Contingency. DRPI shall maintain a current emergency response plan (reference, *Operation and Maintenance Plan*, revised April 2015). That plan shall include emergency contacts, reaction to spills, fires and other emergencies.

S. Training. All employees (except the secretary) assigned duties at the 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

IV. ENVIRONMENTAL MONITORING AND GROUNDWATER CONTROL SYSTEM MANAGEMENT

A. Surface water management and monitoring

1. 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.
2. 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.
3. 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
Total Suspended Solids	Total Petroleum Hydrocarbons

Chemical Oxygen Demand
 Iron
 Copper
 Arsenic
 Barium
 Selenium

Biological Oxygen Demand
 Lead
 Zinc
 Manganese
 Vanadium

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 "Regulations Governing the Construction and Use of Wells".
- b. Installation or abandonment of any well shall be performed in accordance with the “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. Ground water 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 Zone Monitoring Wells	Deep and Shallow Zone Monitoring Wells
C4-N1S	P-8S	MW-4D(R)
C4-E1S(R)	MW-4S(R)	MW-7D
C5-N1S	MW-8S	MW-9D
C5-W1S(R)	MW-7S	MW-101D
C5-W2S		DMW-2
MW-101S		MW-102S
		DMW-1
		MW-1S

MW – Monitoring Wells
 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 ground water 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 subcell on DRPI property. This information shall be submitted as part of the annual report.

3. Groundwater monitoring

a. Frequency

- (1) Semi-Annually, during April and October, DRPI shall collect groundwater samples from shallow zone monitoring wells C4-N1S, C5-N1S, C5-W1S(R), C5-W2S, MW-101S, C4-E1S(R), 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 deep zone monitoring wells MW-4D(R), MW-7D, MW-9D, MW-101D, and DMW-2, MW-102S, MW-1S and DMW-1 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 10NTU 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 ground water control system components.
- b. The system shall be cleaned and maintained in accordance with the Operations Plan or more frequently if required to maintain proper functioning.
- c. The system shall be designed and operated to maintain a five-foot 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 *Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan*.
- 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 for Cell 4A, Cell 5A and Cell 6 Groundwater Control Drain. 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
Arsenic

Barium
Vanadium

Lead

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 operating 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 manual.
- c. Weekly 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 be inspected every operating day. The results of the inspection shall be recorded in the facility log.
- d. The system shall be cleaned and maintained in accordance with the Operations 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 on a weekly basis, and shall be capable of sampling the leachate at each leachate riser vault.
- b. Leachate monitoring shall be done in accordance with the approved *Groundwater, Surface Water, and Leachate Monitoring and Reporting Program Plan*.
- c. DRPI shall measure and record the depth of leachate and the quantity of leachate pumped from each leachate sump each operating day.
- d. Semiannually, in April and October, DRPI shall measure and record the leachate level in every leachate collection system sump.
- e. Semiannually, in April and October, a leachate sample shall be collected from cells 3, 4A, 5A, and 6-1A. 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, the 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:

pH	Alkalinity	Chemical Oxygen Demand
Total Organic Carbon	Specific Conductance	Total Dissolved Solids
Lead	Magnesium	Sodium
Calcium	Potassium	Chloride
Sulfate	Ammonia-Nitrogen	Nitrate-Nitrogen
Dissolved Iron	Dissolved Manganese	Barium
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 ground water, surface water, leak detection system, and leachate samples shall be those described in the most current legal edition of 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 of 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 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*.
- B. 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 the *Delaware Regulations Governing the Control of Air Pollution* and the DRGSW.
- C. Landfill gas migration
 - 1. Semi-annually, during April and October, DRPI shall monitor for gas (percent LEL) outside the perimeters of the waste (including cells 1, 2, and 3) 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 Plan. The concentration of landfill gas in facility structures (except gas recovery systems) and at the facility boundary shall not exceed 25% of the Lower Explosive Limit (LEL).
 - 2. Semi-annually, during April and October, DRPI shall test each gas probe for the presence of ground water. If ground water 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 Plan, the *DRPI LFG Odor Control System - Operations Plan* (appendix V-F of the application), and the current permit issued by the Department's Air Resources Section. 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 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 28th of each year, DRPI must demonstrate adequate financial assurance for closure and post-closure care of the landfill in accordance with the requirements of the 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 the DRGSW. The Department may draw upon DRPI financial assurance funds to effect closure in accordance with the 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 28th, DRPI shall submit to the DNREC, an Annual DRPI Operations Report 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 Portable Document Format (.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 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 ground water 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 (machine readable 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 ground water control system volumes from each system (i.e. Cells 4 and 5).
 - (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 ground water 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 subcell at the start of the previous year and the date on which landfilling began in any additional subcells.
 - (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 subcell.

- f. A discussion of the groundwater monitoring results, including whether the results indicate a contaminant release from the landfill to ground water 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, flare, 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 Portable Document Format (.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 5 business days.
 - a. A leachate spill exceeding 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% LEL (Lower Explosive Limit) 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 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 Solid and Hazardous Management 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. The DRPI shall submit a written notification to the Department no later than: (i) the next business day 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 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 its/their 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 ninety (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 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 the 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 1×10^{-7} cm/sec or thickness of equivalent material having hydraulic conductivity less than 1×10^{-7} cm/sec, such thickness shall be determined based on the hydraulic conductivity of 24 inches of clay with a hydraulic conductivity of 1×10^{-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) Eighteen (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. Subcells 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 subcell 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 subcells

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 *Construction Quality Assurance Plan*, 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 the 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. The DRPI shall implement the post-closure land use identified in Volume 1, Part III, Page 6, Item I, 1.C., 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 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 the *Delaware Regulations Governing Solid Waste*.

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 7 rejections for asbestos in one month and any generator which accumulates 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 the 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 the DRGSW.

October 20, 2009: Environmental monitoring requirements in Section IV of the permit were modified to reflect changes in the facility's *Groundwater, Surface Water, and Leachate 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 the DRGSW Conditions cited in the permit to address the new numbering system of the 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 is 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 is considered a minor modification.

December ??, 2015: the DRPI Permit SW-05/01 was renewed as SW-15/02, which included modifications to the Operation & Maintenance Plan (dated April 2015) (O&M Plan). The changes to the O&M Plan relate to the reduction of the landfill's overall footprint to Cell 6-2, which provides space for the construction of a park for the surrounding Minquadale community as well as buffering the adjacent neighborhood from landfill operations. Also, the O&M Plan includes 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 includes new language pertaining to mitigating

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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 has been initiated by increased focus of the On-Site DNREC Compliance Officer and the Environmental Crimes Unit (ECU). There are no changes to the final maximum landfill elevation, the groundwater control plan, or the overall facility airspace.

NCM: TG drb
DRPI/Permits/TG15006