



July 20, 2018

*Via Electronic and Regular Mail*

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***Re: New England Waste Services of Vermont, Inc. (Casella) application to recertify and expand the landfill at 21 Landfill Lane, Coventry, Vermont, (Coventry Landfill), Solid Waste I.D. No. OL510, DEC Project I.D. No. SJ91-0001.***

Dear Mr. Bourdeau:

Conservation Law Foundation (CLF), Toxics Action Center, Vermont Conservation Voters (VCV), Vermont Natural Resources Council (VNRC), Vermont Public Interest Research Group (VPIRG), and Clean Water Action strongly oppose the recertification and expansion of the Coventry Landfill (Landfill) as proposed by Casella in its Certification Application: Phase VI Landfill Expansion, originally submitted March 31, 2017, final revisions dated May 31, 2018 (the Permit Application). Casella has not demonstrated that the recertification and proposed addition of 51.2 acres and approximately 11 million tons of capacity to its current facility is in compliance with the Vermont Solid Waste Management Rules (Rules) and that emissions or discharges from the facility will not unduly harm the public health and have the least possible reasonable impact on the environment.<sup>1</sup> In addition, this expansion will undermine the need to responsibly manage waste through source reduction, recycling, and composting. For the reasons set forth below, the Permit Application should be denied. At a minimum, the Agency should delay approving any expansion until Casella demonstrates that it is in compliance with the Rules and Groundwater Protection Rule by conducting a thorough investigation of releases of pollution from the Landfill and remediating any groundwater contamination, and the Agency determines the actual waste disposal capacity needs of Vermont after full implementation of the Universal Recycling Law.

CLF is a nonprofit, member-supported, environmental organization working to conserve natural resources, protect public health, and promote thriving communities for all in the New England region, including Vermont. CLF has a long history of advocating for clean air, clean water, and healthy communities, including addressing the environmental and community impacts of solid waste disposal and advocating for waste management strategies focused on waste reduction and recycling as opposed to landfilling and incineration.

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<sup>1</sup> Vt. Admin. Code 16-3-200:5 § 6-503(a).

Founded in 1987, Toxics Action Center works side-by-side with communities in New Hampshire and across New England to clean up and prevent pollution at the local level.

Through research, education, collaboration and advocacy, VNRC protects and enhances Vermont's natural environments, vibrant communities, productive working landscapes, rural character and unique sense of place, and prepares the state for future challenges and opportunities.

Founded in 1982, VCV works to elect environmentally-friendly candidates to public office, and then holds elected officials accountable for the decisions they make affecting our air, water, communities, land, and wildlife.

VPIRG is the largest nonprofit consumer and environmental advocacy organization in Vermont, with over 50,000 members and supporters. For over 45 years, VPIRG has brought the voice of average Vermont citizens to public policy debates concerning the environment, health care, consumer protection and democracy.

Clean Water Action is a member organization of diverse people and groups joined together to protect our environment, health, economic well-being and community quality of life. Our staff works to secure clean, safe and affordable water; prevention of health threatening pollution; creation of environmentally safe jobs and businesses; and empowerment of people to make democracy work.

## **I. Background**

### **A. Proposed Expansion**

Coventry Landfill is owned and operated by New England Waste Services of Vermont, Inc., a subsidiary of Casella Waste, Inc. The Landfill is on a 627-acre parcel of land,<sup>2</sup> located approximately 1.2 miles south of the junction of Airport Road and U.S. Route 5, with access from Airport Road.<sup>3</sup> The Landfill is generally bounded by Airport Road to the east, the Black River to the west, forested land to the north, and the Northeast Kingdom International Airport to the south.<sup>4</sup> The existing airport runways is approximately 2300 feet from the proposed edge of Phase VI.<sup>5</sup>

In the northern part of the property, the Landfill has existing closed, unlined cells totaling 11 acres, also known as the "Nadeau" landfill,<sup>6</sup> and identified as Unlined Areas A & B in the Permit Application, that were closed in the early 1990s.<sup>7</sup> In 1993 Casella began operating the lined phases of

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<sup>2</sup> NEWSVT, Inc., Phase VI Application – Fact Sheet, 1 (May 31, 2018), <https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510.2018.05.31%20Fact%20Sheet.pdf>.

<sup>3</sup> NEWSVT Certification Application Design Report, 1-2 (May 2018).

<sup>4</sup> *Id.*

<sup>5</sup> NEWSVT Certification Application Phase VI Landfill Expansion, 17 (May 31, 2018), [https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510.2018.05.31%20APPLICATION\\_%20NEWSVT%20Phase%20VI%20.pdf](https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510.2018.05.31%20APPLICATION_%20NEWSVT%20Phase%20VI%20.pdf). See Attachment A (Phase VI Location Map) and B (Air Permitting Locus Plan).

<sup>6</sup> AP News, Landfill Expansion in Vermont Moves Forward, <https://www.apnews.com/ad244ca6777b4f12a06c859f4f7bc7d0> (last visited July 20, 2018).

<sup>7</sup> *Id.*

the Landfill. Landfill Phases I, II, and III total about 34 acres, are in the central and southern portions of the property,<sup>8</sup> and were filled between 1993 and 2006. Phase IV is currently open, is also in the central and southern portion of the property, and encompasses about 45 acres. The lined, operating portion of the Landfill is almost 79 acres.

Phase V, described in the Permit Application as being “in the permitting process” would total 13.8 acres and partially overlay Unlined Areas A & B. Casella has proposed remediating the unlined 11 acres of the Landfill by building a new cell to the northeast of the existing landfill, moving the waste from the Unlined Areas A & B there, and then developing the rest of the parcel (including what was Unlined Areas A & B)<sup>9</sup> for a total of 13.8 acres of cells. In 2005 Casella applied for a permit to build Phase V after Casella was required to investigate its unlined landfill cells,<sup>10</sup> but that Phase seems to have been shelved because according to Casella, Phase VI is “easier and less costly.”<sup>11</sup> According to the Permit Application Phase V is scheduled to operate between 2032-2035.<sup>12</sup>

Phase VI, the expansion that is the subject of the application at hand, is south of Phases I, II, III, and IV, is proposed to be two cells totaling 51.2 acres,<sup>13</sup> and would contain 13,068,000 cubic yards, or 11 million tons, of capacity.<sup>14</sup> The existing land uses and vegetation on the proposed Phase VI are primarily actively cropped agricultural fields, as well as a Class 2 wetland along Airport Road.<sup>15</sup>

Casella accepted 506,000 tons of waste last year, though they are permitted to accept 600,000 tons a year. About 70%, or 350,000 tons, of the 506,000 tons they buried in 2016, was from the State of

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<sup>8</sup> Design Report, *supra* note 3, 1-2.

<sup>9</sup> Agency of Natural Resources, Dep’t of Env’tl. Conservation, Technical Analysis of an Air Contaminant Source for a Title V Permit to Construct and Operate, Coventry Municipal Solid Waste Facility (DRAFT) (May 4, 2018), [http://dec.vermont.gov/sites/dec/files/aqc/permitting/documents/title-v-permits/draft\\_combined\\_taop17018%20and%20taop18019.pdf](http://dec.vermont.gov/sites/dec/files/aqc/permitting/documents/title-v-permits/draft_combined_taop17018%20and%20taop18019.pdf).

<sup>10</sup> NEWSVT, Title V Air Pollution Control Permit Minor Modification Application, 6-7 (June 2017).

<sup>11</sup> AP News, Landfill Expansion Moves Forward in Vermont, <https://www.apnews.com/ad244ca6777b4f12a06c859f4f7bc7d0> (last visited July 20, 2018).

<sup>12</sup> There is some confusion about the status of Phase V. While Waste Today magazine reported in March, 2018, “The requirement to investigate its unlined landfills caused Casella to launch phase five. In 2005, the company applied for phase five, which required building a lined landfill at the northeast end of the site. Crews built one cell, moved all waste from the unlined landfill to the new cell and cleaned up any contaminated soil in the unlined portion,” according to other documents, it was not approved or constructed. VTANR stated in a draft Technical Analysis of an Air Contaminant Sources for a Title V Permit to Construct that “The proposed Phase V landfill expansion would be located in the 11-acre footprint of the former Areas A&B and would have a capacity of approximately 1,854,738 Mg of refuse. Approval to relocate the refuse in Areas A B and the Phase V expansion is contingent on NEWSVT obtaining all necessary permits. . . .” Waste Today, Permission Granted, <http://magazine.wastetodaymagazine.com/article/march-2018/permission-granted.aspx> (last visited July 20, 2018); Agency of Natural Resources, Dep’t of Env’tl. Conservation, Technical Analysis of an Air Contaminant Source for a Title V Permit to Construct and Operate, Coventry Municipal Solid Waste Facility (DRAFT) (May 4, 2018), [http://dec.vermont.gov/sites/dec/files/aqc/permitting/documents/title-v-permits/draft\\_combined\\_taop17018%20and%20taop18019.pdf](http://dec.vermont.gov/sites/dec/files/aqc/permitting/documents/title-v-permits/draft_combined_taop17018%20and%20taop18019.pdf).

<sup>13</sup> The proposed Phase VI includes 2.2 acres of previously permitted landfill capacity. Design Report, *supra* note 3.

<sup>14</sup> *Id.*

<sup>15</sup> NEWSVT, Hydrogeologic Site Characterization Lined Landfill, Phase VI, 2 (May 31, 2018).

Vermont. Currently, the Coventry Landfill has about four years, or two million tons, of capacity remaining. Coventry Landfill accepts municipal solid waste (“MSW”) exclusively from Vermont, but accepts construction and demolition debris (“C&D”), non-friable asbestos, wastewater treatment plant sludge, and “special” solid wastes which include ash and contaminated soil from Vermont and out of state.<sup>16</sup> The Landfill’s out of state tonnage for 2016 was about 70,000 tons.<sup>17</sup> The Landfill also accepts many of these same materials as Landfill Alternative Daily Cover, but then it is not counted as part of the waste buried at the Landfill. For instance, in 2016, the Landfill accepted more than 10,000 tons of sewer sludge and almost 18,000 tons of Contaminated Soils as Daily Cover.<sup>18</sup>

The leachate, or garbage coffee, created when precipitation runs into the landfill cells, is pumped to on-site storage tanks prior to being loaded into tanker trucks and hauled off-site for disposal at wastewater treatment plants.<sup>19</sup> According to Casella’s application, Casella estimated the number of gallons of leachate that would be generated in the proposed expansion by averaging the leachate from the existing disposal cells for two years, and then dividing it by the number of acres of the Landfill. There was no discussion of whether 2015 and 2016 (the years used) reflect average precipitation conditions, account for increased precipitation due to climate change,<sup>20</sup> or how many acres of the Landfill were open during those two years. In fact, there was a more than four-million-gallon difference in leachate generation between 2015 and 2016. Regardless, if we accept this deeply flawed method, the Landfill will generate almost seven million gallons more a year if the expansion is allowed.<sup>21</sup>

The Landfill has two flares. There is also a Landfill Gas to Energy Operation (LFGTE) at the Landfill and it, is permitted under a separate Title V Permit.<sup>22</sup>

The Agency granted a variance from the 300-foot wetland setback isolation distance required by Section 6-503(b)(4) of the Rules. This means that the waste boundary is only about 160 feet from the wetland boundary.<sup>23</sup>

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<sup>16</sup> NEWSVT, Facility Management Plan (May 31, 2018).

<sup>17</sup> Dep’t of Env’tl. Conservation, Waste Mgtm. & Prevention Div., 2016 Diversion and Disposal Report 5 (Oct. 2017), available at <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/2016-Diversion-and-Disposal-Report.pdf>.

<sup>18</sup> *Id.* at 7.

<sup>19</sup> NEWSVT, Title V Air Pollution Control Permit Minor Modification Application 6-7 (June 2017).

<sup>20</sup> State of Vermont, Climate Change in Vermont, <http://climatechange.vermont.gov/our-changing-climate/dashboard/more-annual-precipitation> (last visited July 19, 2018) (noting that “[a]verage annual precipitation, whether as rain or snow, has increased by 1.5 inches per decade since 1960.”).

<sup>21</sup> Certification Application, *supra* note 5, C-2.5B Leachate Storage Evaluation, Attachment C Leachate Generation Summary, 1234.

<sup>22</sup> NEWSVT, Title V Air Pollution Control Permit Minor Modification Application 4-5 (June 2017).

<sup>23</sup> Permission to fill this area of wetlands was granted by the U.S. Army Corps of Engineers and Vermont Wetlands Program on April 11, 2016 and June 30, 2016, respectively. The Variance was approved by the WMPD on November 1, 2016. Design Report, *supra* note 3, 2.

## B. Leachate Characteristics

Landfill leachate contains many dangerous chemicals, including heavy metals, polybrominated diphenyl ethers (PBDEs), perfluorinated alkyl substances (PFASs), and other chemicals of emerging concern.<sup>24</sup> Landfills contain a heterogeneous mixture of liquid and solid waste from residential, commercial, institutional, and municipal sources. Landfill leachate, the liquid pollutant resulting from water moving through the waste pile, reflects this heterogeneity in its chemical composition. The exact characteristics of leachate will depend on the type of waste stored and the hydrologic and chemical conditions of the landfill. A landfill site will produce leachate throughout its working life and for several hundred years, if not thousands of years, after it is decommissioned.<sup>25</sup>

In 2013, the Department of Environmental Conservation found that waste streams containing toxic materials were disposed of in Vermont, including electronics, special wastes, plastics and household hazardous waste.<sup>26</sup> It is therefore certain that the leachate collected at the Coventry Landfill will also contain the hazardous contaminants found in these wastes.

In addition, PBDEs and PFAS are both classes of persistent organic pollutants with potential major health consequences that are found in virtually all landfills.<sup>27</sup> PBDEs are flame retardants found in electronics like cell phones and computers, mattresses, couches, vehicle interiors, and clothing.<sup>28</sup>

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<sup>24</sup> See, e.g., W. J. Andrews, J.R. Masoner, & I. M. Cozzarelli. *Emerging contaminants at a closed and an operating landfill in Oklahoma*, 32 Ground Water Monitoring Report 120-130 (2012); A. Sengupta, J. M. Lyons, D. J. Smith, J. E. Drewes, S. A. Snyder, A. Heil, K. A. Maruya, *The occurrence and fate of chemicals of emerging concern in coastal urban rivers receiving discharge of treated municipal wastewater effluent*, 2 Environ Toxicology and Chemistry 350–358 (2014); Debra R. Reinhart, *Review of Recent Studies on the Sources of Hazardous Compounds Emitted from Solid Waste Landfills: A U.S. Experience*, 11 Waste Management & Research 257-268 (1993); Peter Kjeldsen, Morton A. Barlaz, Alix P. Rooker, Anders Baun, Anna Ledin, & Thomas H. Christensen, *Present and Long-Term Composition of MSW Landfill Leachate: A Review*, *Critical Reviews in Environmental Science and Technology*, 32 Environmental Science and Technology 297-336 (2002); A. H. Huset, M. A. Barlaz, D. F. Barofsky, & J. A. Field. *Quantitative determination of fluorochemicals in municipal landfill leachates*, 82 Chemosphere 1380–1386 (2011); F. Oliaei, *Flame Retardants: Polybrominated Diphenyl Ethers (PBDEs) Background Paper*, Minnesota Pollution Control Agency, 31 (2005); International Joint Commission, *Background on Polybrominated Diphenyl Ethers (PBEs) Final Report* (Aug. 10, 2015), [http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20\\_Background\\_PBDEs.pdf](http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20_Background_PBDEs.pdf).

<sup>25</sup> See, e.g., G. Fred Lee and Anne Jones-Lee, *Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste 7* (2015), available at <http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>.

<sup>26</sup> DEC, *State of Vermont Waste Composition Study, Final Report* (May 2013), available at <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/finalreportvermontwastecomposition13may2013.pdf>.

<sup>27</sup> A. H. Huset, M. A. Barlaz, D. F. Barofsky, & J. A. Field. *Quantitative determination of fluorochemicals in municipal landfill leachates*, 82 Chemosphere 1380–1386 (2011); F. Oliaei, *Flame Retardants: Polybrominated Diphenyl Ethers (PBDEs) Background Paper*, Minnesota Pollution Control Agency, 31 (2005); International Joint Commission, *Background on Polybrominated Diphenyl Ethers (PBEs) Final Report* (Aug. 10, 2015), [http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20\\_Background\\_PBDEs.pdf](http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20_Background_PBDEs.pdf).

<sup>28</sup> F. Oliaei, *Flame Retardants: Polybrominated Diphenyl Ethers (PBDEs) Background Paper*, Minnesota Pollution Control Agency, 31 (2005); International Joint Commission, *Background on Polybrominated Diphenyl Ethers (PBEs) Final Report* (Aug. 10, 2015), [http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20\\_Background\\_PBDEs.pdf](http://www.ijc.org/files/tinymce/uploaded/WQB/Appendix-B%20_Background_PBDEs.pdf).

Some of the health consequences of exposure to PBDEs are neurological, reproductive, and cancer-related.<sup>29</sup>

PFAS have been going to landfills for over sixty years.<sup>30</sup> They are used in many consumer products including electronics, microwave popcorn bags, carpet, upholstery, nonstick cookware (Teflon), dental floss, and textiles.<sup>31</sup>

Finally, research by the United States Geological Service (USGS) has shown a variety of other chemicals of emerging concern (CECs) in landfill leachate, including, among others personal care products, nanoparticles, pharmaceuticals, and estrogen-like compounds.<sup>32</sup>

## II. Groundwater

The applicant has failed to demonstrate that the proposed expansion of the Landfill will not result in an exceedance of groundwater enforcement standards (GES) at compliance points. In order to recertify landfill operations and certify the proposed expansion of the Landfill, the Agency must make a determination that the activity is in compliance with the Groundwater Protection Rule & Strategy (Groundwater Protection Rule).<sup>33</sup> The Groundwater Protection Rule prohibits activities that will result in an exceedance of a groundwater enforcement standard at compliance points.<sup>34</sup> The applicant has failed to demonstrate that the proposed expansion of the Landfill will not violate the Groundwater Protection Rule because (1) the Landfill is already leaking pollution into groundwater; (2) the applicant has not evaluated the potential impact of perfluoroalkyl and polyfluoroalkyl substances (PFAS) on groundwater; (3) the applicant has failed to demonstrate that the new disposal cells will not interfere with an investigation and remediation of any existing, leaking cells; and (4) the applicant has failed to demonstrate that the new disposal cells will not leak. Thus, the Agency should deny the proposed expansion of the Landfill.

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<sup>29</sup> Thomas A. McDonald, *A Perspective on the Potential Health Risks of PBDEs*, 46 *Chemosphere* 745-755 (Feb. 2002).

<sup>30</sup> A. H. Huset, M. A. Barlaz, D. F. Barofsky, & J. A. Field. *Quantitative determination of fluorochemicals in municipal landfill leachates*, 82 *Chemosphere* 1380–1386 (2011).

<sup>31</sup> National Center for Environmental Health, *An Overview of Perfluoroalkyl and Polyfluoroalkyl Substances and Interim Guidance for Clinicians Responding to Patient Exposure Concerns*, Center for Disease Control (June 7, 2017), [https://www.atsdr.cdc.gov/pfc/docs/pfas\\_clinician\\_fact\\_sheet\\_508.pdf](https://www.atsdr.cdc.gov/pfc/docs/pfas_clinician_fact_sheet_508.pdf); Johnsie R. Lang, B. McKay Allred, Jennifer A. Field, James W. Levis, and Morton A. Barlaz, *National Estimate of Per- and Polyfluoroalkyl Substance (PFAS)*

*Release to U.S. Municipal Landfill Leachate*, 51 *Environmental Science & Technology* 2197-2205 (2017).

<sup>32</sup> J. R. Masoner, D. W. Kolpin, E. T. Furlong, I. M. Cozzarelli, J. L. Gray, & E. A. Schwab, 2014, *Contaminants of emerging concern in fresh leachate from landfills in the conterminous United States*, 16 *Environmental Science--Processes and Impacts*, 2335-2354 (2014).

<sup>33</sup> Vt. Admin. Code 16-3-200:5 § 6-303(d); Vt. Admin. Code 16-3-502:12-801.

<sup>34</sup> Vt. Admin. Code 16-3-502:12-801.

**A. The Landfill is already leaking pollution into groundwater.**

*Unlined Landfill Areas A & B*

Casella has acknowledged that the unlined disposal cells, identified as Unlined Landfill Areas A & B, are likely leaking arsenic, iron, lead, and manganese into groundwater at levels that statistically exceed GES.<sup>35</sup> In January of 2018, the Agency directed Casella to develop an approach to monitor compliance at the property boundary near Unlined Landfill Areas A & B given significant increases in arsenic concentrations:

Arsenic within MW-D2 has increased significantly within the last several sampling rounds, and it has also been increasing steadily at MW-BRW-3D since its installation in 2013. Given that there is only approximately 500 feet between MW-BRW-3D and the property boundary, we need to discuss development of an approach that will provide monitoring along this compliance point. Although the presumed groundwater flow direction is to the northwest and not directly towards this property boundary, side-gradient flow is a possibility that needs attention.<sup>36</sup>

Although Casella has agreed to evaluate shallow groundwater flow direction in the area by adding additional shallow groundwater wells and monitoring water levels between March and October this year, Casella has not submitted a formal scope for investigating whether pollution from Unlined Landfill Areas A & B is migrating towards or has reached this property boundary.<sup>37</sup> It is not clear whether Casella intends to conduct water quality sampling in the new wells at this time.<sup>38</sup> While the Agency has noted that the installation of the new wells is a “good start”, the Agency has raised questions as to whether Casella’s current proposal to install new shallow wells and monitor water levels is “representative of all groundwater conditions” in the area given that the two wells with rising arsenic concentrations are “deeper installations.”<sup>39</sup> Without a thorough investigation of releases from Unlined Landfill Areas A & B, Casella is not able to demonstrate that pollution from Unlined Landfill Areas A & B is not causing, or will not cause, an exceedance of the groundwater enforcement standards at compliance points.

*Lined Landfill Areas*

At least some of the lined disposal cells also appear to be leaking pollution into groundwater. According to Casella, compliance groundwater monitoring wells MW-E1, MW-P6, MW-103, MW-703, MW-805-S, and MW-805M are downgradient from lined disposal cells and are not impacted by

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<sup>35</sup> Waite-Heindel Environmental Management Water Quality Report at 30 (July 13, 2017) (“The statistical exceedances of groundwater standards for organic compounds in MW-A1, MW-D2 and MW-F1 are likely the result of migration of leachate from the Unlined Landfill Areas A & B.”).

<sup>36</sup> Letter from Kasey Kathan, DEC, to Joe Gay, New England Waste Services of Vermont, Inc. (Jan. 9, 2018).

<sup>37</sup> Email from Craig Heindel to Kasey Kathan Re NEWSVT New Northeast Wetland Wells (Mar. 1, 2018).

<sup>38</sup> *Id.*

<sup>39</sup> Email from Kasey Kathan to Wendy Shellito Re NEWSVT New Northeast Wetland Wells (Mar. 1, 2018).

Unlined Landfill Areas A & B.<sup>40</sup> Casella has acknowledged that “GES exceedances [of inorganic contaminants] in these wells are greater than the concentrations in up-gradient monitoring wells.”<sup>41</sup> The Agency has noted “concern [over] the continued inorganic contaminant exceedances down-gradient of the lined portion of the facility and without direct influence by the unlined portion of the landfill” given that the concentrations of these contaminants in the down-gradient wells “are above the concentrations in the up-gradient monitoring wells that are available.”<sup>42</sup>

In 2016, in response to the Agency’s request for additional analysis, Casella suggested that GES exceedances in MW-E1, MW-P6, MW-103, and MW-703 could be expected due to the fact the wells are located in “shallow groundwater in wetlands” and recommended no further action beyond continued observation.<sup>43</sup>

In the same 2016 memo, Casella documented significant exceedances of several parameters in MW-805-S:

<b>Parameter</b>	<b>Concentration</b>	<b>GES</b>
Total Arsenic	49 ppb	10 ppb
Total Chromium	150 ppb	100 ppb
Total Lead	57 ppb	15 ppb
Total Nickel	230 ppb	100 ppb

Casella noted that the well was difficult to sample due to the characteristics of the well and proposed to discontinue sampling at the location and install a deeper well nearby.<sup>44</sup>

The most recent monitoring report continues to document statistical exceedances of primary or secondary GES for at least one inorganic contaminant in each of these wells.<sup>45</sup> In addition, in May of 2017, benzene appeared in concentrations above the Preventative Action Level in MW-805-M, the well installed to replace MW-805-S. It is not clear whether a thorough investigation has been conducted to evaluate Casella’s conclusions that the GES exceedances in these wells are not caused by landfill activities. Without a thorough investigation of potential releases from the lined disposal areas, Casella is not able to demonstrate that pollution from the lined disposal cells is not causing, or will not cause, an exceedance of the groundwater enforcement standards at compliance points.

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<sup>40</sup> Waite-Heindel Environmental Management, NEWSVT October 2017 Semi-Annual Water Quality Report, 7 (Dec. 15, 2017); Memorandum from Waite-Heindel Environmental Management, to Kasey Kathan, DEC, and Joe Gay, NEWSVT (Mar. 28, 2018) (addressing GES exceedances downgradient of lined solid waste cells).

<sup>41</sup> Memorandum from Waite-Heindel Environmental Management, to Kasey Kathan, DEC, and Joe Gay, NEWSVT (Mar. 28, 2018) (addressing GES exceedances downgradient of lined solid waste cells).

<sup>42</sup> Letter from Kasey Kathan to Joe Gay (Feb 26, 2016).

<sup>43</sup> Memo from Waite-Heindel to Kasey Kathan and Joe Gay Re GES Exceedances Down-gradient of Lined Solid Waste Cells (Mar. 28, 2018).

<sup>44</sup> *Id.*

<sup>45</sup> Waite-Hendel Environmental Management Water Quality Report at 13 (Dec. 15, 2017).

**B. The applicant has not evaluated the potential impact of PFAS from the Landfill on groundwater.**

PFAS is present in leachate generated by the Landfill.<sup>46</sup> According to the Vermont Department of Health (VDH), “some studies in people have shown that certain PFAS may: [a]ffect growth, learning and behavior of babies and older children; [l]ower a woman’s chance of getting pregnant; [i]nterfere with the body’s natural hormones; [i]ncrease cholesterol levels; [a]ffect the immune system; [and i]ncrease the risk of cancer.”<sup>47</sup> In light of the discovery of three new PFAS compounds in Vermont, VDH has recently issued a more stringent Health Advisory for PFAS, which is 20 ppt total for perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorononanoic acid (PFNA).<sup>48</sup> The Agency has revised the Groundwater Protection Rule to adopt the new Health Advisory as a groundwater enforcement standard.<sup>49</sup> As part of a statewide effort to evaluate the presence of PFAS in landfill leachate, leachate from the Landfill was sampled in January of 2018.<sup>50</sup> The sampling results documented “elevated concentrations” of PFAS in landfill leachate, “with the highest concentrations at the NEWSVT landfill.”<sup>51</sup>

In April of 2018, the Agency directed the applicant to assess the presence of PFAS in groundwater downgradient of the Landfill.<sup>52</sup> Casella has submitted a plan to test for the presence of PFAS in just one monitoring well near the Unlined Landfill Areas A & B. The sampling plan does not document how testing from just one well—with no testing of groundwater monitoring wells downgradient of lined disposal cells—is representative of conditions at the Landfill. In addition, the sampling is not expected to occur until the Fall. Without a thorough investigation of potential PFAS releases from the Landfill, Casella is not able to demonstrate that groundwater enforcement standards for PFAS are not exceeded at compliance points.

**C. The applicant has failed to demonstrate that the new disposal cells will not interfere with an investigation and remediation of any existing, leaking cells.**

As discussed above, the Agency has directed Casella to investigate groundwater contamination near Unlined Landfill Areas A & B, and the investigation is not complete.<sup>53</sup> Similarly, in regard to the lined portions of the Landfill, it is also not clear whether a thorough investigation has been conducted to evaluate Casella’s statements that the groundwater enforcement standard exceedances in these wells are not caused by landfill activities. Finally, Casella has not conducted an investigation to

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<sup>46</sup> Report from Steven Shaw and Steven LaRose to John Schmeltzer Re Wastewater Treatment and Landfill Leachate PFAS Sampling (May 3, 2018).

<sup>47</sup> Vt. Dep’t of Health, Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) in Drinking Water, available at [http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV\\_DW\\_PFAS.pdf](http://www.healthvermont.gov/sites/default/files/documents/pdf/ENV_DW_PFAS.pdf).

<sup>48</sup> Agency of Natural Resources, Dep’t of Envtl. Conservation, ANR Adopting Emergency PFAS Rules, <http://dec.vermont.gov/news/PFAS-emergency-rule> (last visited on July 20, 2018).

<sup>49</sup> *Id.*

<sup>50</sup> Report from Steven Shaw and Steven LaRose to John Schmeltzer Re Wastewater Treatment and Landfill Leachate PFAS Sampling (May 3, 2018).

<sup>51</sup> *Id.*

<sup>52</sup> Letter from John Gay to Kasey Kathan, Dep’t of Envtl. Conservation (May 4, 2018).

<sup>53</sup> Email from Kasey Kathan to Wendy Shellito Re NEWSVT New Northeast Wetland Wells (Mar. 1, 2018).

evaluate whether PFAS is leaking from unlined or lined disposal cells. Without a thorough investigation of releases from the Landfill, Casella is not able to demonstrate that pollution from the Landfill is not causing, or will not cause, an exceedance of the groundwater enforcement standards at compliance points.

If Casella has not thoroughly investigated how and where the Landfill is leaking or have an approved remediation plan to halt and clean up the releases, Casella cannot demonstrate that the proposed expansion will not interfere with the investigation and remediation activities or exacerbate existing releases of harmful pollution.

**D. The applicant has failed to demonstrate that the new cells will not leak pollution into groundwater.**

Casella has proposed a double geocomposite liner system, groundwater underdrain collection, and a leachate collection and removal system to prevent pollution from entering ground and surface waters.<sup>54</sup> Unfortunately, the failure of these double composite liner systems is inevitable: “the basic problem with a double composite lined landfill protecting public health and the environment for as long as the wastes in the landfill will be a threat is that some of the waste components in the landfill will be a threat forever, and eventually the plastic sheeting layers will deteriorate, thereby allowing leachate to migrate through the clay layers, ultimately polluting underlying groundwaters.”<sup>55</sup> Leachate generation potential will continue for long after waste disposal has stopped.<sup>56</sup> However, plastic liners, or plastic sheeting flexible membrane liners, inevitably fail and cannot be repaired because they are buried under waste.<sup>57</sup> They can develop holes during installation, or develop holes and stress cracks over time.<sup>58</sup> Free-radicals, permeability to low molecular weights, and their inherent diffusion based qualities will also cause plastic liners to ultimately become non-functional.<sup>59</sup> As a former EPA official noted

The problem with the dry-tomb approach to landfill design is that it leaves the waste in an active state for a very long period of time. If in the future there is a breach in the cap or a break in the liner and liquids enter the landfill, degradation would start and leachate and gas would be generated. Therefore, dry-tomb landfills need to be monitored and maintained for very long periods of time (some say perpetually), and someone needs to be responsible for stepping in and taking corrective action when a problem is detected.<sup>60</sup>

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<sup>54</sup> NEWSVT, Inc., Phase VI Application – Fact Sheet, 4 (May 31, 2018), <https://anrweb.vt.gov/PubDocs/DEC/SolidWaste/OL510/OL510.2018.05.31%20Fact%20Sheet.pdf>.

<sup>55</sup> G. Fred Lee, Evaluation of the Potential Impacts of the Proposed Expansion of the Casella Waste Management Landfill in Coventry, Vermont 2-3 (Apr. 6, 2004); G. Fred Lee and Anne Jones-Lee, Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste (Jan. 2015), available at <http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>.

<sup>56</sup> See, e.g., G. Fred Lee, Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste, 8 (January 2015), available at <http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>.

<sup>57</sup> *Id.* at 10-19.

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 8.

Casella’s own experts have acknowledged that all liner systems will inevitably break down.<sup>61</sup> David Bonnett, a landfill engineer retained by Casella to testify at a hearing in Southbridge, Massachusetts, speaking about the same technology being deployed in Coventry said that “All liners leak.”<sup>62</sup> In short, while one or two composite liners may *delay* the release of leachate into the environment, they do not *prevent* it.

As discussed above, the existing lined disposal cells already appear to be leaking pollution into groundwater. The applicant has failed to demonstrate that the proposed disposal cells—similar technology as the existing lined disposal cells that are leaking—will not leak pollutants into the groundwater.

In conclusion, the Agency is simply not able to make a determination that there will be no exceedance of a groundwater enforcement standard at compliance points because the Landfill is already leaking pollution into groundwater, the Agency has not received the most recent results from sampling conducted at the property boundary, the applicant has not yet evaluated the potential impact of PFCs from the Landfill on groundwater, and the applicant has failed to demonstrate that the new cells will not leak pollutants into groundwater. Thus, the Agency may not certify the proposed expansion of the Landfill.

### **III. Leachate Disposal**

As discussed above, leachate generated by the Coventry Landfill likely contains heavy metals, PBDEs, PFAS, and other chemicals of emerging concern. Some of the landfill leachate inevitably escapes the landfill through unlined cells, or through leaks in liners or the pipe collections system. The landfill leachate that is collected and discharged via wastewater treatment facilities also poses risks to public health and the environment.

The leachate generated at the Landfill is pumped to on-site storage tanks prior to being loaded into tanker trucks and hauled off-site for disposal at wastewater treatment plants.<sup>63</sup> According to Casella’s application, the Landfill will generate almost 7 million gallons more a year if the expansion is allowed.<sup>64</sup> As discussed above, it is not clear whether this estimate is representative of actual conditions because Casella did not identify the number of open acres in 2015 and 2016 and did not account for increased precipitation due to climate change. Regardless, the leachate generated at Coventry Landfill can be sent to the following wastewater treatment facilities: Montpelier, VT WWTF, Essex Junction, VT WWTF, City of Barre, VT WWTF, Burlington North, VT WWTF, Concord, NH WWTF, Plattsburgh, NY WPCP, and City of Newport, VT WWTF.<sup>65</sup>

Though a step in the right direction, WWTPs generally are not required to remove all types of leachate contaminants from wastewater prior to discharge into surface waters. Sewage treatment is

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<sup>61</sup> Town of Southbridge Site Assignment Hearings, May, 2008 Vol. 3, p. 447.

<sup>62</sup> *Id.*

<sup>63</sup> NEWSVT, Title V Air Pollution Control Permit Minor Modification Application, 6-7 (June 2017).

<sup>64</sup> Certification Application, *supra* note 5, C-2.5B Leachate Storage Evaluation, Attachment C Leachate Generation Summary.

<sup>65</sup> Facility Management Plan, *supra* note 16, at 15.

primarily focused on reducing wastewater discharges of so-called conventional pollutants: oil, grease, organics like nitrogen and phosphorous, total suspended solids, and settleable matter. Generally, a discharge permit for a municipal wastewater treatment facility does not require monitoring or set limits for the long list of contaminants in leachate—PFAS, PBDEs, and other chemicals of concern—that are not considered “conventional” pollutants. And, according to a USGS study, many leachate contaminants are still present after leachate is processed by a municipal wastewater treatment plant.<sup>66</sup>

In this case, leachate from the Coventry Landfill is sent to a wastewater treatment plant in Newport, which discharges into Lake Memphremagog, a drinking water source for thousands of Canadians. A member of the Canadian Parliament has recently called on Governor Scott to halt the expansion of the landfill due to concerns regarding the impact of the landfill on a Canadian drinking water source.<sup>67</sup>

#### IV. Air

When food, clothes, paper and cardboard are buried in a landfill, and it rains or snows on the open landfill cells, the buried waste gets wet. Landfill cells produce methane because water and carbon are both present in the absence of air. The Landfill Gas that escapes all MSW landfills is made up of methane (about 55%), carbon dioxide (45%), and small amounts of oxygen, nitrogen, and other dangerous gases that adhere to the methane from the MSW, like volatile organic compounds and hydrogen sulfide.<sup>68</sup> Landfill Gas smells terrible, and it is also very dangerous because it is flammable and has trace amounts of toxic gases, but because it migrates through soils and accumulates in confined spaces.<sup>69</sup> As such, it can cause asthma and other health problems.<sup>70</sup>

Methane is 28 times more potent a greenhouse gas than carbon dioxide. Landfills are the largest manmade source of methane, and their methane emissions are significant. In 2014, U.S. landfills released about 163 million tons of carbon dioxide equivalent of methane.<sup>71</sup> Considering the shorter life span of methane (12-year atmospheric life<sup>72</sup>), reducing the methane released from landfills should be a priority.

Methane and other dangerous constituents of Landfill Gas always escape the landfill, even if a flare manages the methane or landfill gas to energy system. It is impossible to know how much methane is

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<sup>66</sup> J.R. Masoner, D. W. Kolpin, E. T. Furlong, I. M. Cozzarelli, I.M., & J. L. Gray, J.L., *Landfill leachate as a mirror of today's disposable society: Pharmaceuticals and other contaminants of emerging concern in final leachate from landfills in the conterminous United States*, 35 *Environmental Toxicology and Chemistry* 906-918 (2015).

<sup>67</sup> Letter from Denis Paradis, PC, Member of Parliament for Brome-Missisquoi to Governor Phil Scott (July 16, 2018).

<sup>68</sup> Standard Permit Application for Solid Waste Management Facility, Volume 2, TLR\_III South Area, dated May, 2017, Gas Monitoring Plan, TLR South Area, May 2017, Page 1.

<sup>69</sup> *Id.*

<sup>70</sup> Erica Gies, *Landfills have a huge greenhouse gas problem. Here's what we can do about it.*, *Ensia* (Oct. 25, 2016).

<sup>71</sup> *Id.*

<sup>72</sup> U.S. Env'tl. Prot. Agency, *Landfill Methane Outreach Program, Basic Information about Landfill Gas*, <https://www.epa.gov/lmop/basic-information-about-landfill-gas> (last visited on July 19, 2018).

produced by a landfill, or what percentage of it is captured in a flare or landfill gas to energy system (LFGTE). Kerry Kelly, senior director of federal affairs for Waste Management says it's simply not possible to accurately assess methane leakage. "You can measure how much gas you're collecting. You can't measure how much gas the landfill actually generates," she said.<sup>73</sup>

Estimates by U.S. EPA and scientists outside of the waste industry range from 10 to 90 percent gas capture over the life of the landfill—a large margin for error. Most landfills are certainly on the lower end of capture. Studies have shown that most methane production happens in the operational stage of the landfill, when the landfill isn't airtight.<sup>74</sup> Higher rates of capture are possible once the landfill is sealed, but sealing the landfill slows down methane production.

The only way to ensure that significant amounts of methane are not escaping the landfill is for the landfill not to produce it in the first place. The best practice is to prohibit all organics—food, textiles, paper and cardboard—from the landfill. Food, paper, and cardboard are included in Vermont's Universal Recycling Law. Properly diverting these organics would drastically reduce both the methane produced at the Coventry Landfill and the need for the landfill to expand.<sup>75</sup> For this reason, the Agency should deny the Proposed Expansion until the Universal Recycling Law is fully implemented.

#### **V. Vermont should continue to expand its waste reduction, recycling and composting programs, not expand the landfill.**

Rather than expanding the Coventry Landfill, Vermont should focus on continuing to improve recycling and composting rates. Vermont disposed of 40,000 tons less waste in 2016 than it did in 2014. If it continues on that trajectory, in ten years, Vermont's disposal needs might be half what they were in 2014. In fact, Vermont has set a goal of increasing its diversion rates to 50% within two years after it implements the comprehensive food scrap landfill ban.<sup>76</sup> While that ban has been delayed, it would be unwise to permit a 22-year expansion given the State's Zero Waste goals and the real potential to dramatically reduce waste disposal rates.<sup>77</sup>

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<sup>73</sup> Erica Gies, *supra* note 70.

<sup>74</sup> Hans Oonk, *Efficiency of landfill gas collection for methane emission reduction*, Greenhouse Gas Measurement and Management, 129-145 (2012).

<sup>75</sup> Universal Recycling Law (Act 148) (2012), 10 V.S.A. § 6601 et seq.

<sup>76</sup> Dep't of Env'tl. Conservation, Waste Mgtm. & Prevention Div., 2016 Diversion and Disposal Report 4 (Oct. 2017), available at <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/2016-Diversion-and-Disposal-Report.pdf>.

<sup>77</sup> It is worth noting that Casella supported the delay of the statewide ban on food waste. Testimony from Casella On S. 285 (& H. 627) Changes to the Universal Recycling Law – Prepared for House Natural Resources Fish and Wildlife Committee 2 (March 21, 2018), <https://legislature.vermont.gov/assets/Documents/2018/WorkGroups/House%20Natural/Bills/S.285/Written%20Copies%20of%20Testimony/S.285~Kim%20Crosby~Copy%20of%20Testimony~3-21-2018.pdf> (“We recognize that a statewide ban on food waste will be difficult for the Agency to enforce, and it is highly likely that food scraps will continue to be disposed of at the landfill. Furthermore, encouraging additional investments and infrastructure in order to manage a waste stream that is currently being utilized to produce renewable energy for Vermonters 24 hours a day, 7 days a week, where significant investments have already been made, is not a wise sustainable approach.”).

In fact, that change could be accelerated if handled properly. According to the State of Vermont Waste Composition Study, Final Report, dated May 2013,<sup>78</sup> Vermont disposes about 100,000 tons of organics a year, all of which is compostable. Vermont also disposes about 100,000 tons of recyclable paper and cardboard. Rather than expanding a dangerous landfill so it can bury 11 million more tons of waste over the next three decades, the State of Vermont and Casella should be responsive to the real needs of Vermonters: reducing waste, composting organics, and actually recycling recyclables.

#### **IV. The Proposed expansion is unjust and inequitable.**

Vermont has prospered in recent years with low unemployment<sup>79</sup> and a relatively high median income compared to the rest of the nation.<sup>80</sup> Yet Coventry lags significantly behind the rest of the state. State-wide median household income is over \$56,000,<sup>81</sup> while in Coventry, the median household income is \$42,500.<sup>82</sup> The poverty rate in Coventry is 24.2%, more than double the state average.<sup>83</sup> The neighboring town of Albany, also significantly impacted by the facility and traffic from the facility, has a median household income of \$34,792 and a poverty rate of 20.6%.<sup>84</sup>

The Landfill is not serving the people of Coventry. It is a cash cow for Casella, who has every incentive to continue importing trash from around New England, regardless of local waste reduction efforts.

On the surface, Casella's economic contributions to the town seems significant. Casella paid Coventry about \$790,000 in 2017, or \$1.50 a ton, according to the Town's Annual Report.<sup>85</sup> In

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<sup>78</sup> DEC, State of Vermont Waste Composition Study, Final Report (May 2013), available at <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/finalreportvermontwastecomposition13may2013.pdf>.

<sup>79</sup> Bureau of Labor Statistics, Local Area Unemployment Statistics, U.S. Dep't of Labor (2018), <https://www.bls.gov/web/laus/laumstrk.htm>.

<sup>80</sup> Gloria G. Buzman, Household Income: 2016, American Community Survey Briefs, U.S. Census Bureau U.S. Dep't of Commerce (Sept. 2017), <https://www.census.gov/content/dam/Census/library/publications/2017/acs/acsbr16-02.pdf>.

<sup>81</sup> Cubit, *Mind-boggled by Vermont Demographics?*, Vermont Demographics (2017), <https://www.vermont-demographics.com/>.

<sup>82</sup> Cubit, *Is Coventry the best Vermont city for your business?*, Vermont Demographics (2017), <https://www.vermont-demographics.com/coventry-demographics>.

<sup>83</sup> Talk Poverty, Vermont 2017, Center for American Progress (2017), <https://talkpoverty.org/state-year-report/vermont-2017-report/> (Vermont's poverty rate is 11.9%); Cubit, *Is Coventry the best Vermont city for your business?*, Vermont Demographics (2017), <https://www.vermont-demographics.com/coventry-demographics>.

<sup>84</sup> Cubit, *Is Albany the best Vermont city for your business?*, Vermont Demographics (2017), <https://www.vermont-demographics.com/albany-demographics>.

<sup>85</sup> Town of Coventry, Annual Town and School Report 20-27 (2017), <http://nebula.wsimg.com/fc06fa65ab2e5148e0c323ec0f016c17?AccessKeyId=4DD01A8995AD548CC45B&disposition=0&alloworigin=1>. In 2017, Casella paid \$572,497.01 into Coventry's General Fund and \$216,965.97 into Coventry's Highway Fund.

comparison, the Town of Southbridge, MA received \$6.00 a ton, or over \$2.4 million a year, in host fees from Casella Waste, in addition to property taxes and other benefits.<sup>86</sup>

However, as in Southbridge, that is a very small fraction of the money Casella stands to make if this expansion goes through. In fact, Casella is uniquely positioned to profit as one of the few remaining landfills in a region where capacity is steadily decreasing.<sup>87</sup> Casella can charge increasingly higher tipping fees while importing waste from around New England. Casella is currently charging \$95.63 per ton to dispose of municipal solid waste from Coventry. If the waste is coming from out of the district, Casella charges \$119.88.<sup>88</sup> In 2017, the average tip fee for in the Northeast region was \$79.30<sup>89</sup>, almost \$20.00 less than what Casella is charging.

If Coventry accepts the same amount of MWS as it did in 2017, Casella will be paid approximately \$34,350,000 a year in tipping fees.<sup>90</sup> However, if any portion of the waste accepted is from another district, which it inevitably is, that number stands to be much higher. Coventry is keeping this waste permanently—Casella is only required to monitor it for 30 years.<sup>91</sup> This underscores the lack of control the Town of Coventry has over Casella and the Landfill.

There is no doubt that the Coventry Landfill has provided a boost to the local revenue stream; fees from Casella amount to approximately 90% of Coventry's annual general fund budget.<sup>92</sup> However, in the long term, the continued operation and expansion of the landfill is not an asset that will drive future investment and may put Coventry residents in harm's way. And Albany and other towns in the area appear to receive no economic benefit, despite enduring negative traffic impacts and pollution from the Landfill. The Agency must stop the expansion of the landfill to ensure that Coventry does not become a dumping ground for the rest of New England and that all Vermonters have access to a safe and healthy environment.

## **V. Proposed Expansion will increase birdstrikes, which pose a hazard to aircraft and human life.**

The Northeast Kingdom International Airport is a public airport adjacent to the Landfill on its southern border.<sup>93</sup> The proposed limit of the waste to be buried in Phase VI is 2,318 feet from the

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<sup>86</sup> Casella disposed of approximately 405, 600 tons of waste at the Southbridge Landfill each year, compared to over 506,000 tons at the Coventry Landfill in 2017. Brian Lee, Casella wants to expand landfill; Company looking at using Charlton, Southbridge parcels, *The Free Library by Farlex* (Feb. 7, 2015).

<sup>87</sup> Cole Rosengren, CEO John Casella's disposal philosophy, *WasteDive* (May 1, 2018), <https://www.wastedive.com/news/john-casella-disposal-philosophy-CEO/522484/>.

<sup>88</sup> Call from CLF to Waste USA (July 17, 2018).

<sup>89</sup> *Waste Business Journal*, *The Cost to Landfill MSW Continues to Rise Despite Soft Demand* (July 11, 2017), <http://www.wastebusinessjournal.com/news/wbj20170711A.htm>

<sup>90</sup> NEWSVT, *Quarterly Disposal, Recycling and Composting Facility Reports* (2017). According to quarterly reports, Waste USA is accepting 359,200.69 tons of MWS a year. *Id.*

<sup>91</sup> Phase VI Application – Fact Sheet at 23, *supra* note 2.

<sup>92</sup> Town of Coventry, *Annual Town and School Report 20-21* (2017), <http://nebula.wsimg.com/fc06fa65ab2e5148e0c323ec0f016c17?AccessKeyId=4DD01A8995AD548CC45B&diposition=0&alloworigin=1>.

<sup>93</sup> Certification Application, *supra* note 5 at 1-2.

existing runway at the Airport.<sup>94</sup> Presently the Landfill has capacity to accept about 500,000 tons of waste a year for four more years. This expansion would enable the Landfill to operate for another 22 years after that and bury more than 11 million tons at the site. Given that the organic, or putrescible, waste in Vermont comprised about 100,000 tons a year or 20% of the waste stream in 2012,<sup>95</sup> it is reasonable to assume that more than 2 million tons of the 11 million tons of capacity at the site might be for putrescible waste disposal. This considerable increase in the amount of municipal solid waste deposited at the Landfill, especially the putrescible waste, would cause a danger to public health and safety due to potential bird collisions with airplanes arriving or departing from the adjacent airport.

During the past century, wildlife-aircraft strikes have resulted in the loss of hundreds of lives worldwide, as well as billions of dollars in aircraft damage.<sup>96</sup> Even small birds in groups can bring a plane down, as happened at Logan Airport in 1965, when a turbo-prop aircraft flew into a flock of starlings during take-off and crashed into the Boston harbor.<sup>97</sup> Furthermore, the danger to human life is not just to the pilot and passengers but to those on the ground as well:

. . . once an aircraft experiences a power loss, or in the case of small aviation, general aviation aircraft, one [bird] comes into the windshield (and that's possible as well), you know the pilot is incapacitated, so where it goes nobody knows. Hopefully they're able to steer away from populated areas, but at that point in time you have a hundred-mile-an-hour wind in your face, you're covered in Plexiglas and blood, and making good decisions at those air speeds and those altitudes is very difficult.<sup>98</sup>

The fact that birdstrikes pose a hazard to aircraft and human health is widely acknowledged. According to the FAA (Federal Aviation Administration), municipal solid waste facilities within 5,000 feet of airports serving piston-powered aircraft (such as the Northeast Kingdom International Airport) are considered "incompatible with safe airport operations."<sup>99</sup> The fact that laws and recommendations from the FAA delineating minimum distances between landfills and airports do specify municipal solid waste landfills, demonstrates the increased danger from birdstrikes from these facilities. For example:

For all airports, the FAA recommends a distance of 5 statute miles between the farthest edge of the airport's approach or departure airspace and a *municipal solid waste landfill*, if the municipal solid waste landfill could cause hazardous wildlife movement into or across the approach or departure airspace.<sup>100</sup>

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<sup>94</sup> *Id.* at 929.

<sup>95</sup> DEC, State of Vermont Waste Composition Study, Final Report (May 2013), available at <http://dec.vermont.gov/sites/dec/files/wmp/SolidWaste/Documents/finalreportvermontwastecomposition13may2013.pdf>.

<sup>96</sup> Hazardous Wildlife Attractants on or Near Airports, Advisory Circular No. 150/5200-33B, 8/28/2007, U.S. Department of Transportation and the Federal Aviation Administration, p. i.

<sup>97</sup> Ron Merritt, a birdstrike expert and wildlife biologist, and onetime chief of the Air Force Bird Aircraft Strike and Hazard team, Town of Southbridge Board of Health Hearing, May 20, 2008, p. 1877.

<sup>98</sup> *Id.* at 1879.

<sup>99</sup> FAA Advisory Circular 150/5200-33B, page 2.

<sup>100</sup> *Id.* at p. 1.

Section 503 of the Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century (Public Law 106-181) (AIR 21) prohibits the construction or establishment of a new *municipal solid waste landfill* within 6 statute miles of certain public-use airports.<sup>101</sup>

Finally, the FAA has acknowledged that an increase in putrescible will always result in some increase in bird activity. “In their effort to satisfy the EPA requirement, some putrescible-waste facility proponents may offer to undertake experimental measures to demonstrate that their proposed facility will not be a hazard to aircraft. To date, no such facility has been able to demonstrate an ability to reduce and sustain hazardous wildlife to levels that existed before the putrescible-waste landfill began operating.”<sup>102</sup>

Given the above, the FAA’s determinations of no hazard to air navigation due to recertification and expansion of the facility will not prevent undue harm to public health. Allowing an expansion of this magnitude presents undue risk to the public health and safety of people living and working in the area, as well as the pilots and passengers using the Airport. For this reason, the recertification and Phase VI of the Landfill should not be allowed.

## **Conclusion**

Casella has not demonstrated that the recertification and proposed addition of 51.2 acres and approximately 11 million tons of capacity to its current facility is in compliance with the Vermont Solid Waste Management Rules (Rules) and that emissions or discharges from the facility will not unduly harm the public health and have the least possible reasonable impact on the environment.<sup>103</sup> In addition, this expansion will undermine the need to responsibly manage waste through source reduction, recycling, and composting. Thus, the Agency should deny the proposed expansion of the Coventry Landfill for the reasons discussed above.

At a minimum, the Agency should delay any approval until (1) Phase V has been completed; (2) Casella demonstrates that it is in compliance with the Rules and Groundwater Protection Rule by conducting a thorough investigation of releases of pollution from the Landfill and remediating any groundwater contamination; and (3) the Universal Recycling Law is fully implemented, and the Agency determines the actual waste disposal capacity needs of Vermont after full implementation of the Law. Finally, the Agency should no longer allow Ground C&D, Paper Sludge, Contaminated Soils, or Sewer Sludge (regardless of whether it is cut with soil) to be used as Landfill Alternative Daily Cover.

Sincerely,

Kirstie L. Pecci  
Director, Zero Waste Project  
Conservation Law Foundation

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<sup>101</sup> Cited in FAA Advisory Circular 150/5200-33B, page 3.

<sup>102</sup> FAA Advisory Circular 150/5200-33B, page 4-2, c.

<sup>103</sup> Vt. Admin. Code 16-3-200:5 § 6-503(a).

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