



Virginia Tech Comprehensive Waste Management Plan



DIVISION OF CAMPUS PLANNING,
INFRASTRUCTURE, AND FACILITIES
VIRGINIA TECH.

January 7, 2021

Comprehensive Waste Management Plan

Virginia Tech is committed to being a leader in campus sustainability.

Approved initially in 2009 by the Virginia Tech Board of Visitors, and revised in 2013, the Virginia Tech Climate Action Commitment serves as the university's guiding framework around sustainability and energy efficiency in campus operations, facilities, curriculum, and research. As part of that commitment, goal eight states, "Virginia Tech will minimize waste and achieve a 50 percent recycle rate by 2020." In 2019, President Sands called for renewal and revision of the commitment to ensure the most stringent climate and sustainability standards are implemented as Virginia Tech continues to grow and seeks to be a leader in environmental stewardship. Proposed revisions were presented to the Virginia Tech Board of Visitors in November 2020. A comprehensive financial review of the proposed revisions is currently underway. The seventh goal of the proposed renewal positions Virginia Tech to become a zero-waste campus by 2030. Zero-waste is defined by the waste management industry as keeping 90% of our solid waste out of the landfill.

Further, university policy 5505, Campus Energy, Water, and Waste Reduction provides that the Division of Campus Planning, Infrastructure, and Facilities has overall responsibility for recycling and trash collection on campus and is charged with developing and implementing a comprehensive waste management plan.

The comprehensive waste management plan will serve to both fulfill the aforementioned policy requirement and serve as a driving factor in helping campus operations align toward prescribed aspirations.

The Office of Sustainability spearheaded the creation of this plan and numerous campus stakeholders participated. Virginia Tech is one of four jurisdictional members of the Montgomery Regional Solid Waste Authority (MRSWA), and their Executive Director, Alan Cummins, participated in the review process. This team approach produced an outstanding document that captures current procedures and provides recommendations to enhance future operations.

The comprehensive waste management plan for Virginia Tech dated January 1, 2021 is hereby approved:



Christopher H. Kiwus, PE, PhD
Vice President for Campus Planning, Infrastructure, and Facilities

1/7/21

Date

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Executive Summary

The Comprehensive Waste Management Plan for Virginia Tech (CWMP-VT) was developed by the Division of Campus Planning, Infrastructure and Facilities (DCPIF) in order to ensure Virginia Tech maintains compliance with all regulations and that the university pursues methods and procedures to improve stewardship to the community. Input was received from relevant parties and stakeholders to develop a campus-wide waste disposal guide. This plan describes current waste management operations and responsibilities for the management of campus waste. The plan will be reviewed annually and revised when appropriate.

While the CWMP-VT provides an overall view of campus waste management processes, the ultimate goal is decreasing all waste streams for both financial and environmental benefits. It furthermore notes broad recommendations for improving all campus waste management procedures that will have the least environmental impact. Campus waste streams include: Municipal Solid Waste (MSW); Construction and Demolition Waste (C&D); Recyclable Materials; Compostable Materials; Reusable Materials; Electronic Waste; Universal Waste and Hazardous Waste.

1.0 Purpose:

Waste management practices affect all areas of campus. The purpose of this plan is to catalog the current state of waste management on campus and the responsible parties who carry out the day-to-day tasks to achieve the removal of such wastes. This plan shall serve as a guide for all waste generating units on the Blacksburg Campus outlining current procedures for various types of waste disposal. The VT-CWMP will be reviewed annually and updated as appropriate. A glossary of terms is located in Appendix 7.1.

2.0 Policies

Virginia Tech Climate Action Commitment (Presidential Policy Memorandum No. 262, Rev 1.

On June 1, 2009, the Virginia Tech Board of Visitors approved “The Virginia Tech Climate Action Commitment (VTCAC)” and it became Presidential Policy Memorandum No. 262. This VTCAC established goals and objectives guide the university in a variety of sustainability endeavors to include recycling and waste minimization. The VTCAC was revised on May 6, 2013 to reflect numerous sustainability accomplishments and lessons learned. See Presidential Policy Memorandum 262, Revision 1: <http://www.it.vpas.vt.edu/docs/sust/op18/PPM262rev1.pdf>, and Appendix 7.6. Point #8 states “Virginia Tech shall minimize waste and achieve a recycle rate of 50% by 2020.” While the university has made progress in increasing our recycling rate, much work is needed to achieve the 50% goal. The university has made progress with increasing the recycling rate from 18% in 2004, to 44% in 2012. (See Appendix 7.4) Several

factors have impacted our waste and recycling numbers which has led to our percentage leveling off to a 40% average recycling rate.

University Policy 5505, Campus Energy, Water and Waste Reduction

The purpose of this policy is to guide operations of the university to achieve the highest standards in energy and water usage and waste reduction with the consideration of the impact of environmental quality and economic performance. The university has established procedures to consider waste reduction in the design and operation of university facilities in the most economically and environmentally sensitive manner possible. The university shall strive to reduce the consumption of paper products and disposable supplies, and increase our recycling rate consistent with the VTCAC. This policy states the Facilities Department (now called the Division of Campus Planning, Infrastructure, and Facilities) has overall responsibility for recycling and trash collection and charged it to develop and implement a comprehensive waste management plan. See: <http://www.policies.vt.edu/5505.pdf>.

3.0 Waste Management Overview

In general, the Division of Campus Planning, Infrastructure and Facilities and its Virginia Tech Waste and Recycling unit have the overall responsibility for trash and recycling operations at Virginia Tech. See the DCPIF Organization Chart at Appendix 7.2. Day-to-day operations are managed by the Director of Building and Grounds and the Grounds Manager while funding is provided through a university waste management central fund. Funded separately to provide food waste composting, Dining Services contracts with Royal Oak Farm (ROF), located in Evington, Virginia. Specialized waste disposal, such as electronic and universal waste, is provided by appropriate university units as described in this document.

All MSW and the majority of recyclable materials from Virginia Tech, the Town of Blacksburg, the Town of Christiansburg, and Montgomery County are taken to the Montgomery Regional Solid Waste Authority (MRSWA) per an agreement signed by the four jurisdictions that serve as members of the Authority. The agreement can be found in Appendix 7.3. Located in Christiansburg, Virginia, MRSWA operates a transfer station and a materials processing facility for segregated corrugated cardboard. Municipal Solid Waste (trash) is transported from campus, to MRSWA, where it is weighed, and further transported to the local landfill operated by the New River Resource Authority (NRRA) in Pulaski County, near Dublin, Virginia.

Recyclable materials are transported from the campus, to MRSWA, weighed, and with the exception of corrugated cardboard, further transported to Recycling and Disposal Solutions (RDS), located in Roanoke, Virginia. MRSWA processes and sells the corrugated cardboard to various paper mills. RDS serves as the recycling “hub” for our region, receiving recyclable

materials from both the New River and Roanoke Valleys. RDS separates the single stream recycling material for sale to vendors.

Food waste is collected from our eleven, on-campus, dining facilities, transported to the Prices Fork Closed Landfill, and placed in a 10-ton “sledge” container. When the container is full, Royal Oak Farm (ROF) transports the waste to their composting facility located in Evington, Virginia, near Lynchburg. This approximates to once every ten days during the academic fall and spring semesters.



Figure 1. ROF's 10-ton sledge container is located at VT's Prices Fork closed landfill

The Commonwealth of Virginia Department of Environmental Quality requires each region of the state to prepare and submit an annual recycling rate report. The report is for the previous calendar year (January 1 to December 31). MRSWA prepares a collective report for its four jurisdictional members and other activities within the region. Virginia Tech uses the DEQ format to calculate our base recycling rate, our waste diversion rate, and our final recycling rate. The Calendar Year 2019 Recycling Rate Data for Virginia Tech is at Appendix 7.4.

Waste management activities across campus differ depending on stream (trash, recycling, composting, reusable materials electronic, universal and hazardous) and building type, therefore various units are responsible for the management of campus waste. The Buildings and Grounds unit has the primary responsibility for trash and recycling as coordinated by the DCPIF, along with campus wide campus waste management planning and policy development. Route information is located at Appendix 7.5.

The management of every material stream on campus has an associated cost. The disposal of trash has been and will continue to be the most expensive method of waste disposal. Diverting waste to other streams such as recycling and reuse will decrease waste management costs for

the university. The least expensive method for waste disposal is, however, avoiding the creation of waste whenever and wherever possible. Virginia Tech has implemented several methods to reduce the creation of waste to include reusable mug discounts, refillable water bottle stations, reusable to-go containers and waste reduction measures for student move in and move out.

The collection process for MSW and recycling materials begins with the occupants of each building. Building occupants are responsible for taking their recyclable materials from their offices, rooms, or work stations to a central collection location. The Housekeeping staff for the administrative and academic buildings is typically responsible for transferring these materials from the central collection location in the building, to a designated pick-up location outside the building. The Director of Buildings and Grounds for the Division of Campus Planning, Infrastructure, and Facilities, has the overall responsibility for trash and recyclable materials collection outside the buildings, and for delivery to the MRSWA facilities, or to another location if deemed applicable.

The auxiliary units (dining, housing and residential life) for the Division of Student Affairs and all other auxiliary units will continue implementing and maintaining internal procedures for moving trash and recycling to a central location outside the buildings. The Building and Grounds unit utilizes a combination of waste and recycling crews and contracted services to manage MSW and recyclable materials. Appendix 5.6 shows a campus map highlighting placement of trash and Big Belly receptacles. Specialized wastes are referred to the office of Environmental Health & Safety. In-house crews provide daily collection of single-stream recycling and trash from several hundred small outside collection receptacles. Contracted services employees provide daily and weekly trash collection of our large trash containers including the trash compactors at designated dining facilities locations. Recycling containers are located in the Overflow Parking Lot located near the Duck Pond for volunteer recycling of corrugated cardboard and single-stream recycling.

Additional contracted support is utilized for special events such as student move-in, home football games and student move-out. Experience shows student move-in generates nearly 30 tons of corrugated cardboard. The university adds temporary receptacles to ensure this waste stream is captured and processed appropriately. Virginia Tech normally hosts six or seven home football games which results in increases with both recycling materials and trash. During student move-out provisions are made for the collection of usable discards through the very popular “Y-Toss” program. The YMCA at Virginia Tech and Virginia Tech Buildings and Grounds staff co-sponsor “Y-Toss” and includes participation from students, staff, faculty and local volunteers. Reusable items are collected, inspected and stored by the YMCA Thrift Store during the summer, and offered for sale prior to the start of the fall semester. The “YToss” program provides students with leadership opportunities for planning and execution, and it is the recipient of a Governor’s Environmental Excellence Award.

4.0 Campus Waste Streams -Operations and Responsibilities

As previously mentioned the Virginia Tech Division of CPIF has the overall responsibility for trash and recycling operations. This is accomplished through the Buildings and Grounds unit handling the day to day operations. Funding is provided through the university waste management central fund. Three major financial costs are associated with the disposal of VT's MSW: rental fees for outdoor receptacles, fees charged for the removal of each ton of waste produced on campus (hauling fees), and fees charged for disposing of material at the transfer station (tipping fees). Food waste composting is funded separately through a contract established by Dining Services with Royal Oak Farm located in Evington, Virginia. Specialized waste, such as electronic waste, is provided by appropriate university units and disposal fees are paid through a central fund managed by the Office of Environmental Health & Safety. The same fund is used to pay for proper disposal of chemical, radiological, and biological wastes.

Below is a listing of waste collected, the responsible party for collection and removal, and contact information. Should you have questions about topics not included in the information below, please contact Nathan King in the Sustainability Office at 540-231-5184 or by email, naking@vt.edu.

4.1 Trash (Windell Jones – 540-231-9916, jonesjw@vt.edu)

- Republic Services (Outdoor large bins, Athletic Facilities).
- Meridian Waste (Some outdoor large bins).
- VT Waste Management & Recycling (Big Belly Solar Trash Compactors, Parking Lot Cans, and Special Pick-ups).
- University Facilities Housekeeping and Residential Services Housing Unit each play a distinctive roll in waste removal from campus buildings.
- Montgomery Regional Solid Waste Authority (MRSWA) in Christiansburg, VA, receives our trash in their transfer station and then sends trash to the New River Resource Authority (NRRA) Landfill in Dublin, VA.

4.2 Recycling (Windell Jones – 540-231-9916, jonesjw@vt.edu)

- Meridian Waste (Outdoor large bins, Athletic Facilities, Tailgate Recycling).
- VT Waste Management & Recycling (Yard and Wood Waste, Big Belly Recycling Containers and Special One-Time Pick-ups).
- University Facilities Housekeeping and Residential Services Housing Unit each play a distinctive roll in recycling operations for campus buildings.
- Montgomery Regional Solid Waste Authority (MRSWA) in Christiansburg, VA, receives the majority of our Principal Recyclable Materials (PRMs) and transports our single stream recycling material to Recycling & Disposal Solutions (RDS) located in Roanoke, VA. RDS further processes single stream material and sells it to various markets. MRSWA processes our cardboard and sells it to Virginia paper mills.

4.3 Food Waste Composting (Blake Bensman – 540-231-3064, bensman@vt.edu)

- Meridian Waste collects food waste from all campus dining facilities for transport to the Prices Fork Closed Landfill and placement in 10-ton Sledge Containers. Food waste from the Athletic Department or The Inn at Virginia Tech and Skelton Conference Center is currently not composted.
- Royal Oak Farm (ROF) owns the Sledge Containers. When full, ROF swaps out the full container for an empty one and transports the full container about 77 miles to their composting facility at Evington, Virginia (near Lynchburg) and are the only DEQ permitted composting facility in Southwest Virginia.

4.4 Electronic Waste (Kenny Osborne – 540-231-2509, kosborne@vt.edu)

Environmental Health and Safety collects and recycles electronic waste (e-waste) and consists of computer monitors, computers, computer cables, and other electronic devices.

4.5 Universal Waste (Kenny Osborne – 540-231-2509, kosborne@vt.edu)

- Environmental Health and Safety (EHS) collects and recycles universal wastes which includes batteries, fluorescent tubes and lamp ballasts.

4.6 Hazardous Waste (Kenny Osborne – 540-231-2509, kosborne@vt.edu)

- Environmental Health and Safety collects and manages the disposal of all hazardous waste from the university. Approximately 70 percent of this comes from laboratory operations and 30 percent from facilities operations.

4.7 Lab Waste (Kenny Osborne – 540-231-2509, kosborne@vt.edu)

- Environmental Health and Safety (EHS) collects and manages the disposal of all hazardous and non-hazardous laboratory waste from the university.

4.8 Waste Cooking Oil - (Blake Bensman – 540-231-3064, bensman@vt.edu)

- Valley Protein collects waste cooking oil in barrels from Dining Services and at The Inn at Virginia Tech and Skelton Conference Center.

4.9 Motor Vehicles (John Falck – 540-231-4955, jwfalck@vt.edu)

- Fleet Services (used tires, waste oil and oil filters, used batteries)
- Environmental Health and Safety (waste oil and oil filters, used batteries)

4.10 Yard Waste & Wood Waste (Bo Frazier – 540-231-6450, frazierj@vt.edu)

- The Division of Campus Planning, Infrastructure and Facilities Department transports, stores and grinds yard waste (brush and trees) in a designated area at the Prices Fork Landfill.

4.11 Hokie Stone (Anthony Watson – 540-231-6852, anwatson@vt.edu)

- Virginia Tech owns and operates a 40-acre limestone Quarry in Blacksburg, and uses the stone for the exterior façade of the majority of our on-campus buildings. It is our signature building material called “Hokie Stone.”
- Hokie Stone is cut at the Quarry. Stone scrap that cannot be used (called overburden) is ground into gravel for fill material at various project sites.
- On average, the Quarry produces between 1,000 to 2,000 tons of overburden per month, and it is included in our waste diversion rate calculations.
- All About Hokie Stone: <https://vt.edu/about/traditions/hokie-stone.html>
- Video: <https://www.facilities.vt.edu/departments-services/quarry.html>

4.12 Trash and Recycling for New Construction and Major Renovation Projects (Denny Cochrane – 540-231-5184, denniscc@vt.edu)

- General Contractor responsible for selecting trash and recycling vendors, the placement of collection containers, the disposal of waste and for recording data for our LEED (Leadership in Energy and Environmental Design)

4.13 Trash and Recycling for Minor Renovation Projects (Denny Cochrane – 540-231-5184, denniscc@vt.edu)

- Contractor is responsible for providing trash and recycling services

4.14 Virginia Tech Owned Facilities (Windell Jones – 540-231-9916, jonesjw@vt.edu) and Leased Properties in Blacksburg:

- Virginia Tech is responsible for providing trash and recycling services for our owned facilities.
- For properties Virginia Tech leases in Blacksburg, trash and recycling services are in accordance with the lease agreement.
- For properties at the Corporate Research Center leased by Virginia Tech, trash and recycling services are in accordance with the lease agreements.

4.15 Reoccurring Special Events (Nathan King – 540-231-7358, naking@vt.edu)

- Virginia Tech Waste Management & Recycling Coordinates Services
 - Gobblerfest,
 - Relay for Life,
 - April 16 3.2 Mile Run for 32.
- Dining Services’ Hokie Hi Picnic

4.16 Surplus Property (Ronald Barrett II – 540-231-2177, ronald@vt.edu)

- The Surplus Property Department, located at 1425 South Main Street in Blacksburg, Virginia, is responsible for receiving and disposing of surplus Virginia Tech property.
- The majority of the items received are repurposed either by re-utilizing them with other university activities, or selling them at their in-person auctions or through govdeal.com. Some scrap pieces are recycled and the remainder go to the landfill.

- Policy 3955: Management of Surplus Property - <https://policies.vt.edu/3955.pdf>

4.17 Y-toss Program (Enrique Rebolledo – outreach@vtymca.org)

- Coordinated by the YMCA at Virginia Tech, Y-toss is one of the largest sustainability events on Virginia Tech's campus. Each year, the program collects gently used items, such as furniture and clothing, from the residence halls during student move out.
- Those items are then made available to students during a fall move-in sale at Cassell Coliseum at Virginia Tech and all of the profits support the [YMCA Student Programs](#).
- See <https://www.housing.vt.edu/experience/sustainability/Y-toss.html>

4.18 Education and Outreach (Sarah Myers – 540-525-6167, midnight@vt.edu)

- The Outreach and Engagement Unit of the Division of CPIF works on outreach and education which includes compiling information and using VT sources to reach students and the public regarding any updates within the respective units of DCPIF.
- The outreach team additionally provides information, tours and presentations to our partners and others within the campus and off-campus community.

4.19 Regulatory Communication and Reporting by MRSWA (Alan Cummins – 540-998-5704, acummins@mrswa.com and Sherry Frederick – 540-381-2820 ext. 305, sfrederick@mrswa.com)

- MRSWA provides the region with the assurance of a fully integrated solid waste management plan, which includes closed landfill management, a transfer station, and recycling. <http://www.mrswa.com>. The MRSWA *Solid Waste Management Plan* includes sections detailing the process of collecting and moving trash, principle recyclable material, and compostable material from campus to MRSWA or other designated facilities. The plan also details waste reduction activities, the recycling of construction and demolition waste, and the disposal of special materials.
- Material types are tracked for regional waste and recycling tonnages that are reported to the Department of Environmental Quality.

5.0 Long Term Goal

During Academic Year 2019-2020 the university took a fresh look at the current VTCAC. Among a list of 15 goals is the long-term goal for the development of a comprehensive strategy to become a Zero Waste Campus thereby, further reducing waste streams in all campus units. The industry definition of Zero-Waste is keeping 90% or more of our generated waste out of the landfill.

6.0 Conclusion and Recommendations

Continuous improvement in managing waste on our Virginia Tech campus is a priority for the DCPIF. Great strides have been made to remove waste and recycling from campus in an efficient, economic and an environmentally conscience manner. As Virginia Tech experiences growth within the campus community, the university will continue to explore opportunities to provide resources and maintain exceptional service to our students, faculty and staff. Virginia

Tech aspires to be the best steward of our campus and make available the best methods for disposal of all waste materials without compromising the environment. An evaluation will be completed to determine waste and recycling initiatives for the coming year, along with action items and responsible personnel to perform the tasks needed to achieve approved goals and objectives. Future CWMP-VT revisions will support the Virginia Tech Climate Action Commitment and serve as the necessary documentation for the Sustainability Tracking, Assessment and Rating System (STARS) Rating, the Department of Environmental Quality Annual Recycling Rate Report, and the MRSWA Solid Waste Management Plan.

7.0 Appendix

7.1 Glossary of Terms

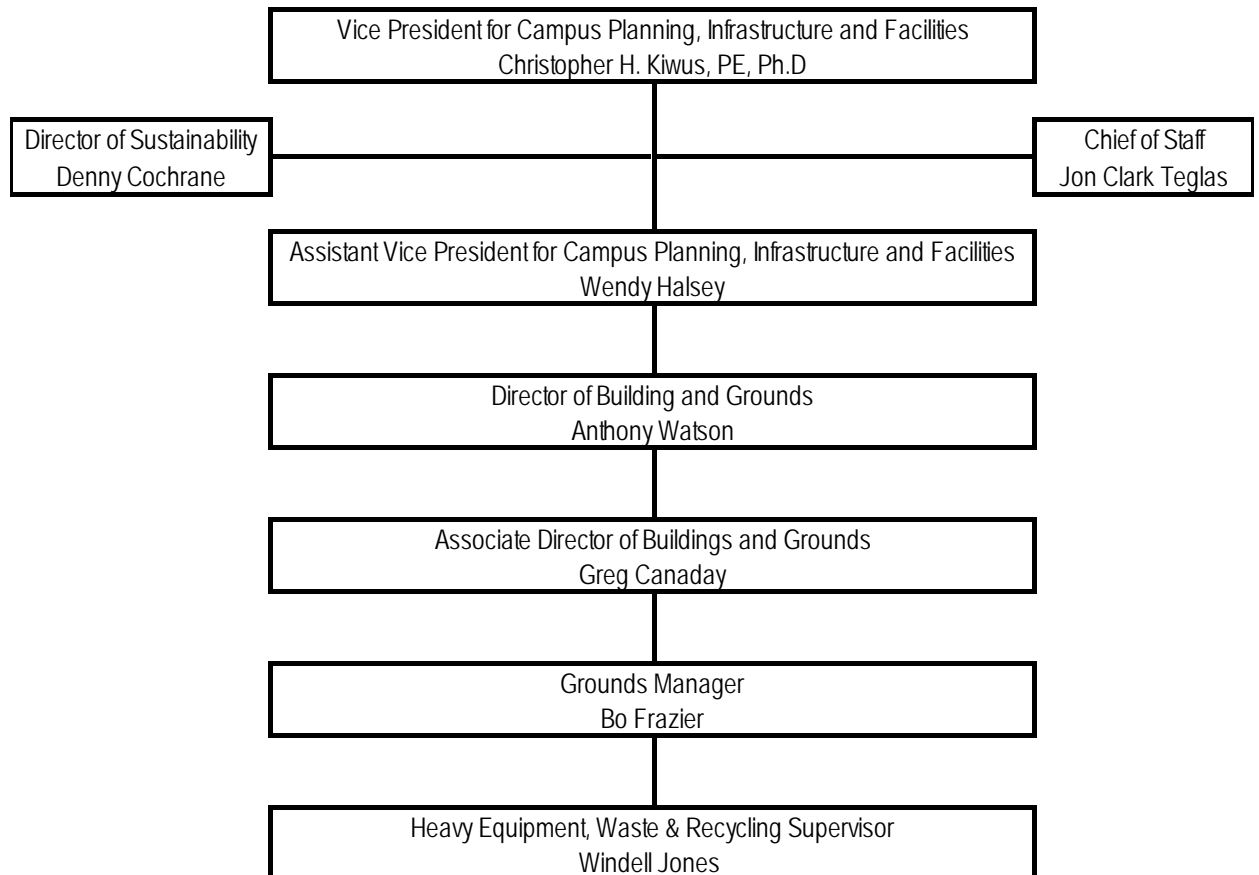
- **Compostable Materials:** organic (food, plant, and soiled paper) material appropriate for composting.
- **Construction and Demolition Waste (C&D):** waste generated during construction, maintenance, and renovation activities on campus.
- **Electronic Waste:** commonly referred to as “e-waste”, this waste stream is comprised of electronic products at the end of their life cycle. (Examples include computers, monitors, laptops, computer cables and other electronic devices.)
- **Hazardous Waste:** waste that exhibits one or more of the traits of ignitability, reactivity, toxic or corrosivity, and has a threat to public health and/or the environment. (Examples include solvent based paints, pesticides, gasoline, motor oils and cleaning products.)
- **MRSWA:** the acronym used for Montgomery Regional Solid Waste Authority, where all collected trash and recycling is transported for proper disposal or recycling.
- **Municipal Solid Waste (MSW):** most commonly referred to as “trash” or “garbage” and comprises the majority of waste generated on a daily basis at Virginia Tech.
- **Recyclable Materials:** materials collected that require reprocessing at a materials recovery facility. Virginia Tech distinguishes recyclables as principal recyclable materials (PRM) and special materials. Campus collection includes corrugated cardboard and single stream recycling (paper, metal cans, glass bottles, #1 and #2 plastic bottles), scrap metals (includes old farm equipment, air handlers, steel pipe, copper cabling, etc.), shipping pallets, leaves/brush, fluorescent lamps & ballasts, toner cartridges, kitchen grease, e-waste (monitors, hard drives, printers, microwaves, TVs, etc.), auto batteries, and tires.
- **Reusable Materials:** material that can be used again in its current form or a new capacity. This material is not reprocessed (as in recycling).
- **STARS:** Sustainability Tracking, Assessment & Rating System used to measure the university’s sustainability performance.

- **Surplus Property:** university furniture, equipment and other such property that is duplicated, damaged, or obsolete that exceeds the needs of a department. The Procurement Department manages the process of redistribution or final disposition of surplus property.
- **Universal Waste:** a type of waste which may potentially contain hazardous materials including, but not limited to, lead, mercury, cadmium and copper. (Examples include batteries, computer monitors and other e-waste, fluorescent lamps and light ballasts.)

7.2 DCPIF Waste and Recycling Organizational Chart

Division of Campus Planning, Infrastructure and Facilities

(Waste Management Team)



7.3 Montgomery Regional Solid Waste Authority Right of First Refusal

Authority policy dictates that MRSWA has the “right of first refusal” for all municipal solid waste and recyclable material disposed of by Virginia Tech. Virginia Tech therefore must first attempt to dispose of all materials first through MRSWA. If MRSWA cannot dispose of the material the Authority has the option of allowing Virginia Tech to find alternative means of disposal.

MONTGOMERY REGIONAL SOLID WASTE AUTHORITY

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Christopher Kiwus, Vice-Chair
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October 13, 2020

Chris Kiwus
Vice President Campus Planning, Infrastructure & Facilities
Facilities Department
230 Sterrett Drive
Blacksburg, VA 24061

RE: Procedures - Right of First Refusal

Dear Mr. Kiwus,

The attached “Procedures - Right of First Approval” was approved by the MRSWA Board of Directors on February 10, 2011. This document has not been modified or updated and is still in effect.

Please let me know if you have any questions or if I can be of any further help.

Sincerely,



Alan M. Cummins
Executive Director, MRSWA

PROCEDURES – RIGHT OF FIRST REFUSAL

The Montgomery Regional Solid Waste Authority has adopted a policy governing situations where a Member Jurisdiction controls materials that are able to be recycled and no current Authority program exists to recycle those materials (the “Policy”). The Policy gives the Authority the “right of first refusal” to accept the materials in question. These Procedures (the “Procedures”) interpret the Policy and will govern each such situation when it arises. The goal of these Procedures is to reduce the number of situations where such a “right of first refusal” will need to be used, and to set forth a plan of action if such a “right of first refusal” is necessary.

-- Each Authority Board member (not including the at-large member) will give a copy of these Procedures to representatives and employees of their respective Member Jurisdiction who coordinate recycling activities for that Member Jurisdiction (a “Recycling Representative”).

-- These Authority Board members will ask the Recycling Representatives to review the recycling activities for their Member Jurisdiction to confirm that all recyclables under the control of that Member Jurisdiction are being sent to the Authority.

-- If a Member Jurisdiction is either currently not sending, or at some time in the future plans to not send, all recyclables under the control of that Member Jurisdiction to the Authority, the Authority shall expect the Member Jurisdiction to take reasonable steps to allow the material to be recycled by the Authority under existing Authority procedures and to send such material to the Authority to be recycled. These reasonable steps shall include but are not limited to implementing procedures that other Member Jurisdictions have implemented to allow such materials to be recycled by the Authority. The Recycling Representative is expected to consult

with the Executive Director of the Authority, as needed, when implementing these reasonable steps.

-- If such reasonable steps do not exist, the Recycling Representative is expected to contact the Executive Director of the Authority in writing (by either US mail or electronic mail) and fully describe and explain the situation. The Executive Director shall then attempt to resolve the situation with the Recycling Representative, which may include consideration of adjustments to Authority procedures, and shall keep the Authority Board member representing that Member Jurisdiction fully informed of all discussions and decisions.

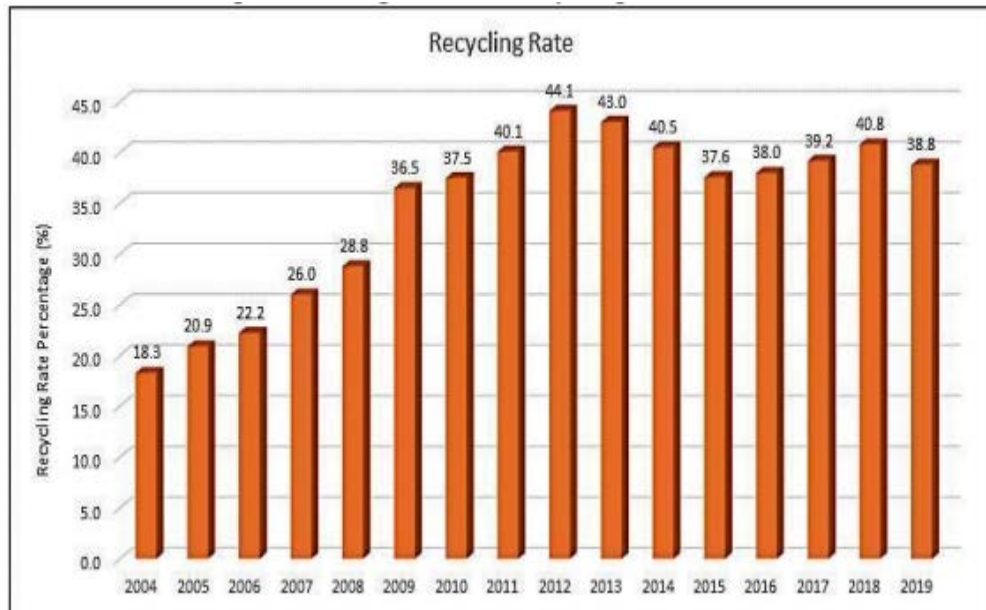
-- If the situation cannot then be resolved, the Executive Director shall report details of the situation to the Authority Board at a meeting of the Board, and the Authority Board shall attempt to resolve the situation.

-- If the situation cannot be resolved through these Procedures, each party retains all rights to take action as allowed by the User Agreement between the Authority and each Member Jurisdiction.

These procedures were adopted by the Board of Directors of the Montgomery Regional Solid Waste Authority by unanimous vote of the four members in attendance on February 10, 2011.

7.4 Virginia Tech Recycling Rate Data

In 2019 the university generated 2,031 tons of principal recyclable materials (PRMs), and achieved a 39% recycle rate. Our food waste composting (566 tons) represents nearly 28% of our PRMs. Our waste diversion rate was 80%, including Hokie Stone waste rock crushed to usable gravel.



7.5 Route Information

Route Name *	Material	Frequency
VTR 5	Cardboard	Daily
VTR 8	Trash (barrels)	Daily
VTR 10	Comingled Containers	Daily (am)
VTR 10	Mixed Paper	Daily (pm)

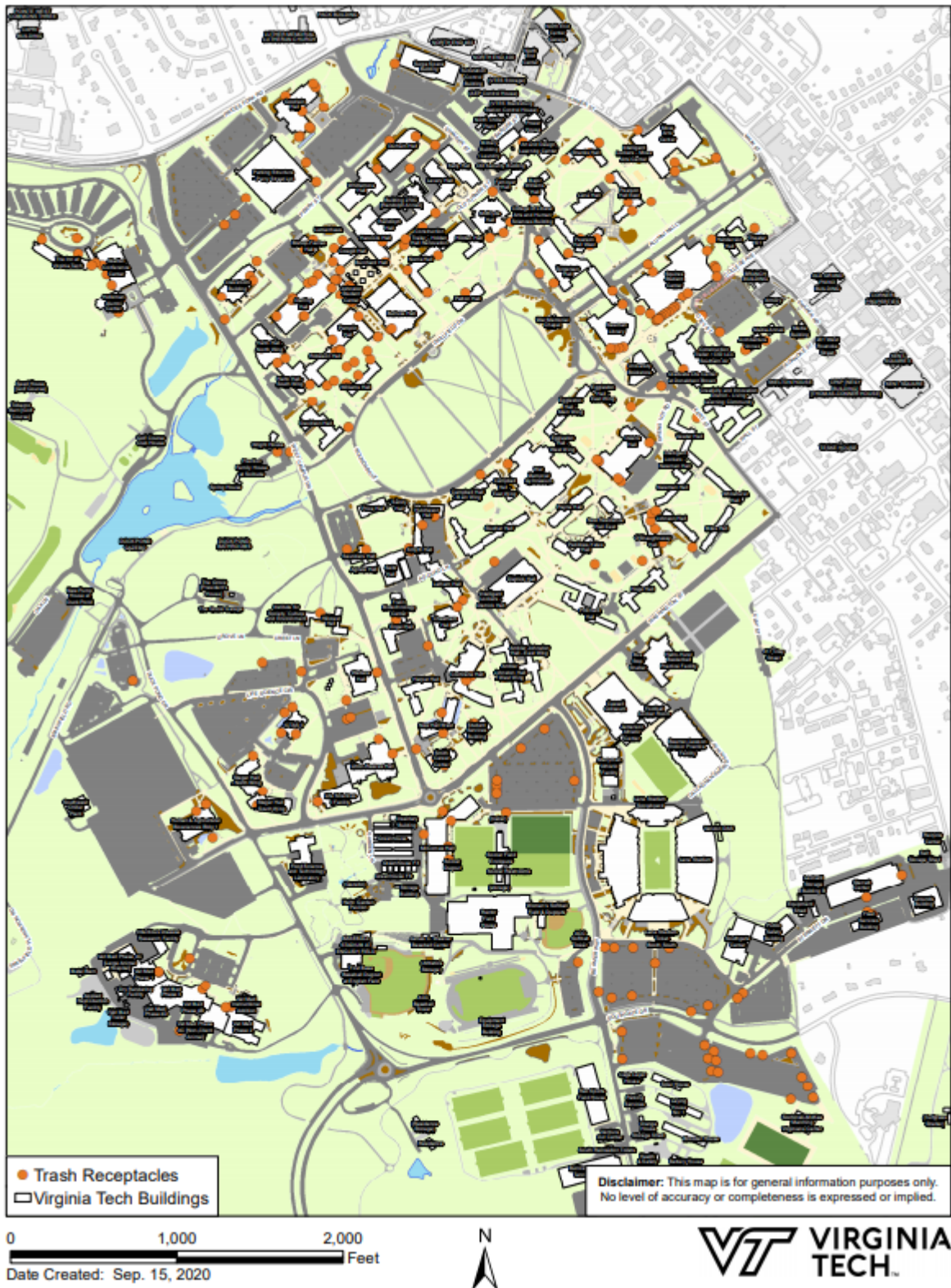
Contractor Routes

Route Name *	Material	Frequency
VTR 7	Trash	Daily
Republic Services	Trash	Weekly
Special Events	Trash and Recycling	On Call (15/month)
Football Game Day	Trash and Recycling	5+ times yearly
Outdoor Recycling Locations (residential and campus sites)	Comingled Containers and mixed paper	On call

Route names are assigned based on original truck number. Truck numbers change overtime; however, routing numbers have remained the same. Routes are subject to change at anytime.

7.6 Campus Map with Trash and Recycling Receptacles

Trash Receptacle Locations



Big Belly Locations



7.7 University Policy 5505: Campus Energy, Water, and Waste Reduction

<http://www.policies.vt.edu/5505.pdf>

7.8 Virginia Tech Climate Action Commitment

<http://www.facilities.vt.edu/documents/sustainability/climateAction.pdf>

On June 1, 2009, the Virginia Tech Board of Visitors approved “The Virginia Tech Climate Action Commitment (VTCAC)” and it is university policy. The VTCAC, as well as the accompanying Virginia Tech Climate Action Commitment Sustainability Plan (VTCAC&SP), was developed by the Energy and Sustainability Committee, and reviewed using the university governance system. This VTCAC established goals and objectives guide the university in a variety of sustainability endeavors to include recycling and waste minimization. During academic year 2012-2013 the Energy and Sustainability Committee revised the VTCAC to reflect numerous sustainability accomplishments and lessons learned. Revision 1 to the VTCAC was approved by the University Council on May 6, 2013 (Presidential Policy Memorandum 262, Revision 1) <http://www.it.vpas.vt.edu/docs/sust/op18/PPM262rev1.pdf>. Several key points are as follows:

- Point #5 states “Virginia Tech will maintain a sustainability office to coordinate programs for campus sustainability and to oversee the implementation of the VTCAC&SP.” This office assists Facilities Operations with recycling policy and execution, and data collection. Point #6 states “Virginia Tech will improve the sustainability of its built environment by achieving LEED Silver certification or better for all eligible and applicable new buildings and major renovations.” Capturing CDD waste for reuse and recycling is a key component of achieving that goal.
- Point #8 states: “Virginia Tech will minimize waste and achieve a 50% recycle rate by 2020.”
- Virginia Tech has adopted the following goals for its solid waste and recycling programs over the planning period:

Solid Waste Goals:

- Improve collection efficiency
- Standardize exterior and interior refuse receptacles.
- Continue the outstanding partnership with MRSWA and jurisdictional members.

Recycling Goals:

- Achieve a 50% recycling rate by 2020 per VTCAC point#8.
- Successful implementation of a Single Stream Recycling System.
- Improve collection efficiency and reduce collection costs.
- Maintain a viable composting food waste program with outside vendors.
- Explore opportunities to develop a Virginia Tech Composting Facility on campus.
- Revise and maintain the Virginia Tech Comprehensive Waste Management Plan.
- Capture CDD waste for reuse and recycling to support LEED new construction and major renovation capital projects.
- Explore more recycling and composting opportunities with the Athletic Department.
- Continue to promote Zero-Waste events on campus to include the Hokie Welcome Picnic for incoming freshmen at the beginning of the fall semester, the 3.2 Mile Run for Remembrance in April, the Grad Bash in May, and the Staff Appreciation Day Picnic in May.
- Continue to explore opportunities to participate in Special Event e-waste programs.
- Continue to enhance the outstanding partnership developed with MRSWA and other jurisdictional members.

7.9 Virginia Tech Climate Action Commitment and Sustainability Plan

See <http://www.facilities.vt.edu/documents/sustainability/sustPlan.pdf>

7.10 Website Links for Additional Information:

MRSWA - www.mrswa.com

RDS – www.rds-virginia.com

Royal Oak Farm – www.royaloakfarmllc.com

New River Resource Authority - www.newriverresourceauthority.org

8.0 Acknowledgements

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