



Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION
Bureau of Materials Management and Compliance Assurance
Waste Engineering and Enforcement Division

April 27, 2021

Report prepared for:

Stephen DiPietro
Chief Financial Officer
Department of Mental Health and Addiction Services

Thomas Zaprzalka
Director of Food Service, Connecticut Valley Hospital
Department of Mental Health and Addiction Services



Recommendations Report prepared in collaboration with:

Kat McCarthy
The Center for EcoTechnology

Cory Mansell
The Center for EcoTechnology

Caren Harder
Department of Energy and Environmental Protection
(DEEP)

Site visit summary

Connecticut Valley Hospital (CVH) is a state-owned and operated facility that is comprised of 17 inpatient units over two campuses, located in Middletown and Hartford. On April 5, 2021, CET and DEEP staff met virtually with representatives from the Department of Mental Health and Addiction Services (DMHAS) to discuss implementing a food waste diversion program, review their waste streams and recycling systems in Battell Kitchen, located on the hospital's Middletown, CT Campus. In addition to CET and DEEP staff, DMHAS staff present for the meeting included: Stephen DiPietro, Thomas Zaprzalka, Steven Hecimovich, Marina Richeson, and Cheryl Arora.

Battell Kitchen operates with approximately 53 staff members, and serves three meals a day, 365 days a year. The average number of meals during a given meal period is 800 servings, 300 of which are specialty meals. This kitchen feeds approximately 600 hospital patients and 200 staff who are working overtime.

Tom Zaprzalka, Director of Food Service is dedicated to food waste reduction in the kitchen. Approximately 15 years ago, kitchen staff separated food scraps in 55-gallon drums that were collected periodically for animal feed; this practice ceased with the hiring of a new waste hauling contract. Additionally, food ordering practices and meal preparations are tailored to minimize leftover food. All meals are cooked following a recipe that is developed to create the number of portions needed per seating, and meals are either pre-portioned for distribution from a central tray line, or prepared in batches and sent to one of several on-site cafeterias for portioned serving. Bulk portions of food arrives with a limited number of excess servings so that only one or two portions may remain per location at the end of a meal period. Significant quantities of edible food seldom remain after a meal period, and when it is, it is either donated to an on-site homeless shelter, out-patient home, or cafeteria for resale pre COVID. Once the cafeteria is open, the selling of leftover food will begin again.

As a component of Governor Lamont's Executive Order #1 "Greener Gov CT – Lead by Example Initiative" DEEP contacted CVH to support the operation's "Sustainability Performance Plan" (SPP) for evaluating opportunities to reduce their waste 25% by 2030. DMHAS's SPP outlines a goal to identify at least two projects to reduce waste this year, such as "reducing of food waste in kitchen facilities." The virtual site assessment at Battell Kitchen and this

recommendations report are intended to help support implementation of a pilot program for food waste reduction and diversion at this facility. While this report identifies opportunities for waste reduction, food scraps separation, and recycling, it is understood that Battell Kitchen will approach this project in phases, with an initial focus on food waste.

CET and DEEP have partnered to offer technical assistance and support to businesses and institutions in Connecticut. This assistance evaluates opportunities across the hierarchy, and is available to businesses who may or may not be subject to the state's current Commercial Organics Recycling Law. On May 11, at 10:30 CET, DEEP, and DMHAS will reconvene to discuss this report and next steps in this process.

Summary of recommendations & resources included in this report

Detailed recommendations for the following opportunities are below. While it is understood that Battell Kitchen will focus on item 1 and related signage and training (item 5), additional recommendations are provided in this report for future consideration.

1. Food Scraps Collection: Establish a program to source separate food from Battell Kitchen to collect for composting and/or anaerobic digestion.
2. Food Donation: Explore opportunities to divert edible food to a food rescue organization on an as-needed basis.
3. Source Reduction: Consider conducting self-evaluations of food waste to understand current consumption habits and to prevent edible foods from being discarded. CET prepared tips for performing this self-evaluation described below.
4. Strengthen existing recycling collection programs: Review the list of acceptable recyclables and adjust as needed.
5. Signage and training tools for employees: With the expansion of a new food scraps program, training tools and waste bin signage can be very helpful in providing clarity around the different waste streams and materials handling practices.

Observations

The following images highlight elements of the current waste handling system, as noted during the virtual waste assessment.



Wet side of kitchen with trash and recycling bins.



Contents of recycling bin in kitchen.



Dry side of kitchen.



Loading dock with trash and recycling compactor.

Recommendations

1. **Source separation: Collect food scraps separately at Battell Kitchen**

Collect food scraps separately rather than disposing of them in the trash so they can be sent to commercial composting operations, anaerobic digestion facilities, or animal feed operations.

There are various resources to help Battell Kitchen build its source separation program. To estimate current food waste generation rates, use the [Food Waste Estimation Guide](#). This guide is organized into different industry sectors, including hospitals. Based on this calculator and an average production of 13,000 meals per week, it is estimated that Battell Kitchen produces 3.9 tons of food waste per week. This estimation encompasses all food waste associated with operations in the kitchen, which includes plate waste from diners. Due to the meal distribution process, it is estimated that this pilot program will generate a smaller quantity of food waste for source separation as it focuses primarily on diversion from back-of-house at Battell Kitchen. DEEP has recommended that Battell Kitchen conduct a week-long study, monitoring the volume of food waste that is generated to assist us with identifying the right-sized food scraps handling equipment for the kitchen. Following this time period, Battell Kitchen contacts reported that the facility generates 2 60-gallon barrels of food waste a day, or approximately 4 cubic yards of material a week.

A guidance document, [Source Separation Best Management Practices](#) (BMP), was developed by CET to help institutions implement this program. The BMP covers recommended practices for source separation in kitchen areas. DEEP and CET suggest the following:

- Food scraps should be collected in dedicated receptacles such as buckets or barrels, in the same area that the trash is collected. Pairing a trash and food scraps bin, also known as “twin the bin,” can help reduce potential for contamination in the food scraps bin.
- Containers should be leak proof and should be labeled on all visible sides: “FOOD WASTE ONLY.”
- Food scraps should be collected from food prep areas and sorting areas as frequently as trash is removed from these spaces (after each meal).
- Food scraps should be removed from CVH’s premises at the same frequency trash is currently serviced, once a week. This will help maintain consistent levels of materials handling and mitigate concerns raised about material odors.
- Here is an [instructional video](#) developed to help visualize and train staff on how source separation is done.

Plan to launch the program with back-of-house collection from the kitchen as described above. Over time, we can work with you to evaluate the program’s effectiveness and consider additional opportunities for diversion. It may be possible to establish a food scraps collection for post-consumer food waste from staff members or select dining areas. Locations where staff scrape trays or where groups eat in a common cafeteria may present opportunities for adding onto the program as time progresses. We recognize that shifts in operations due to the pandemic may not

make this feasible initially and encourages a phased in approach to program implementation to ensure successful separation and collection.

Arrange for collection from a hauler. Considering the volume of generation at Battell Kitchen it is recommended that the kitchen review collection options for a service with wheel carts or a small, 4-yard dumpster. We will discuss considerations for both options during our meeting May 11 to determine next steps.

CVH can confirm with its current hauler if they offer food waste pickup services. If the current service provider does not offer these services, consider contacting other haulers for quotes to compare service options. Refer to waste haulers or recycling collection through an online search. Below are the results of a brief online search for area waste haulers, listed in alphabetical order.

- [All American Waste](#)
- [Blue Earth Compost](#)-organics only
- [CWPM](#)
- [USA Hauling](#)
- [Willimantic Waste](#)

Please note, this list was produced by CET and DEEP. The listing does not imply a recommendation or endorsement by either organization.

2. **Expand food donation efforts.**

Staff at Battell Kitchen already adopted food waste diversion efforts, and redirect surplus food to an on-site homeless shelter, out-patient home, or when operating, the cafeteria for sale. It was reported during the virtual site visit that on rare occasion, surplus food may be generated due to a communication gap between programs and the kitchen. While the cafeteria is currently closed, Battell Kitchen may benefit from expanding or strengthening its relationship with existing food rescue partners.

Visit the [Food Donation Case Study](#) to see how various businesses are donating food to save money, reduce waste, and feed food insecure individuals.

- For more information on donating food, temperature guidelines, labeling procedures visit CET's Wasted Food Solutions [Food Donation Guidance](#).
- DEEP worked with the Harvard Food Law and Policy Clinic to develop these fact sheets:
 - [Date Labeling Laws](#)
 - [Liability Protections](#)
 - [Tax Incentives for Businesses](#)
 - [Feeding Food Scraps to Animals](#)
- [The Bill Emerson Good Samaritan Food Donation Act](#) protects donors from liability when donating to nonprofit organizations should the product, donated in good faith, later cause harm to the needy recipient.

Consider contacting a Donation Site to expand relationships with additional food rescue partners. Below is contact information for a local receiver of surplus food:

- [Amazing Grace Food Pantry](#), Saint Vincent DePaul
16 Stack Street, Middletown
860-347-3222
Donations are accepted on Wednesday and Friday between 9 am and 4 pm. Contact the pantry for more information and to confirm these details.
- Portland Food Bank
7 Waverly Avenue, Portland
Phone: (860) 342-6795
This food pantry services residents of Portland Monday and Thursdays 9 am – 12 pm. While the site typically provides boxed or packaged food to clients, it was noted that with advanced notice, the organization may be able to accommodate donations of prepared foods. Contact Ruth Maio for more information.

Please note, this list was produced by CET and DEEP. The listing does not imply a recommendation or endorsement by either organization. There may be other food pantries in your area that accept prepared food.

3. Explore opportunities to reduce food waste

Rationale: According to [ReFED](#) every year America spends \$218 billion a year on growing, transporting and disposing of food that is every even consumed. Yet one in seven Americans is food insecure. According to [Leanpath](#), there is even more uncertainty in this COVID-era of food service. Waste generation totals are different now and more uncertain than they were before COVID-19. **“Now more than ever food waste prevention is key.** Thin margins don’t need the extra burden of wasted food... Your sustainability mission and food waste prevention efforts will find a receptive audience with COVID-era diners!”

Battell Kitchen already focuses on food waste reduction for back of house preparation. By observing trends in plate waste, the facility may be able to identify other opportunities to prevent food waste through strategies such as menu planning. Visit CET’s [toolbox](#) for [Source Reduction Guidance](#). Source reduction is the act of preventing food waste before it occurs. This guidance includes information on the reduction of food waste with strategies such as waste tracking, meal planning, and food purchasing.

4. Expand existing recycling collection programs

CET and DEEP observed a potentially recyclable item in trash cans during the waste assessment. Providing additional recycling bins in the kitchen may help address this. This also represents an opportunity for additional staff education for recycling (see 5. *Waste bin signage and training for employees*). Recycling additional materials provides the opportunity to divert materials from the trash compactor.

Additionally, during the virtual site assessment it was noted that waxed cardboard is currently being collected in the recycling compactor. Although corrugated cardboard is recyclable, the coating on waxed cardboard makes this material difficult to recycle, and in CT this should not be placed in the recycling compactor. For a quick-reference guide of recyclable items, refer to the [Recycle CT](#) website. Waxed cardboard can be processed with food scraps at Quantum BioPower, and it is recommended that CVH explore options to include this material with food scraps as the diversion program is established.

Plastic film was also observed in the trash cans during the virtual site visit. While this material cannot be included in single stream recycling, clean film can be recycled through a separate program. Consider establishing a program for recycling clean plastic film. This includes plastic bags and wrapping that is not food-soiled.

- Inquire with the facilities department to understand if CVH already has a program for recycling film plastic, such as pallet wrap and other packaging. This material could be collected in a separate container for inclusion in a CVH-wide recycling program.
- If there is no on-site recycling program, consider other locations that may be available in the area to handle this material. [Plastic Film Recycling](#) offers a directory of sites and additional resources for establishing a program.
- Caren Harder or Jennifer Weymouth of DEEP will be reaching out to discuss your SPP related to general recycling, following implementation of your food waste diversion program.

5. Waste bin signage and training for employees

Waste bin signage and staff training are imperative steps to take when implementing new food waste management programs and/or strengthening existing recycling initiatives.

New staff members in the department should always be trained on the collection, transportation, and storage of trash, recycling, and food waste throughout the facility. This can be completed in a variety of ways— shift leaders, managers, or a designated trainer can take staff on a “walk through” of the facility to identify where recycling bins, food scrap, and trash bins are located. Verbally explain what is acceptable in each stream.

New and existing staff can be given a facility waste management plan, as showcased below. This plan should detail each stream of material generated at Battell Kitchen, which bins to place the material, the ultimate destination, and who to contact if they have any questions.

The Facilities Waste Management Plan is a fillable PDF so Battell Kitchen can add its own text and photos to the document. CET staff is happy to review a draft of the plan and provide feedback to CVH. The Facilities Waste Management Plan can also be posted in kitchen and utility rooms as a reminder for staff on the go.

FACILITY WASTE MANAGEMENT PLAN				
MATERIAL	DESCRIPTION/ HOW TO PREPARE	INTERIOR BINS	HAULER PICKUP LOCATION	PHOTOS
				
				
				

Staff training should be ongoing. Battell Kitchen staff should perform periodic checks of each stream to ensure the right materials are being placed in the right bins. If a mistake is observed, take corrective action immediately by moving the material to the correct bin and hosting a refresher training with staff on the proper procedures.

Waste bin signage is imperative to improving clarity around where materials are collected and what is accepted in each stream. Waste bin signs can be used wherever collection bins are present inside and on the trash compactor outdoors. See below for CET’s waste bin templates:

Food Scraps



ALL FOOD SCRAPS

Fruit & vegetable peels
Dairy, eggs, grains, bread
Meat, fish, poultry
Bones, shells



NO

Tissues, napkins, paper towels
Compostableware
Coffee cups, wrappers
Plastic, metal, glass



Single Stream



EMPTY BOTTLES & CONTAINERS

Plastic, metal, glass
Clean aluminum foil



PAPER & FLAT CARDBOARD

NO

Liquids, food soiled materials
Plastic bags, utensils, straws
Chip bags, hot coffee cups
Tissues, napkins



Do not bag recyclables!

Food Donation



Is there leftover food that can be donated today?

DONATE

Whole fruits & vegetables
Fresh dairy, grains
Prepared foods
Food stored below 41°F
or above 135°F



Call _____ at _____ today
with questions or to schedule pickup!
Store food in fridge located _____
Label and keep temperature log every _____ minutes.

NO

Moldy, rotten, spoiled food
Items past expiration date
Food not held at proper temperatures

If you can't donate it - compost it!
Compost bins are located _____



Trash



When in doubt, throw it out!

It's better than contaminating the recycling bin.

Plastic bags, cling wrap, gloves
Lids, utensils, straws
Liquids, food-soiled materials
Hot coffee cups, Styrofoam™
Chip bags and candy wrappers
Tissues



NO

Cardboard, paper
Empty bottles and cans





CET can modify the above signs to include the CVH logo as well as update the text and images to reflect the actual materials found onsite. For example, if Battell Kitchen's future food waste hauler also accepts napkins and paper towels in this collection, CET can add paper products to the YES section of the food waste sign.

Thank you! CET and DEEP's assistance is ongoing and we are thrilled to continue working with CVH and Battell Kitchen. As a next step, we will meet on May 11 at 10:30 am to review our findings and discuss next steps.

Recommendations Prepared by:

Kat McCarthy, Kat.McCarthy@cetonline, (607) 319-6533

Coryanne Mansell, Coryanne.Mansell@cetonline.org, (973) 229-1704

Caren Harder DEEP, Caren.Harder@ct.gov