RECYCLING CERTIFICATION INSTITUTE

WM TUALATIN VALLEY WASTE RECOVERY

CORR PROTOCOL EVALUATION REPORT

September 24, 2024
Evaluation Body: RCI

Executive Summary

This report corresponds to the evaluation of the Application for CORR Certification by the WM Tualatin Valley Waste Recovery (TVWR) Mixed C&D processing operation submitted to the Recycling Certification Institute (RCI). TVWR is co-located with WM's Hillsboro Landfill at 3205 SE Minter Bridge Road in Hillsboro Oregon, 97123. The Evaluation was conducted by RCI and represents an independent review of TVWR's data and information provided to the Institute. Due diligence was followed to ensure Duty of Care and Duty of Loyalty to the Institute and to manage any Conflict of Interest.

RCI Evaluators Manual 2.0 (EM) and RCI General CORR Protocol 1.9 (GCP) guided the evaluation process per standard practice. C&D materials and commercial dry waste are processed within the building, first with a floor sort, and then either loaded out via excavator or moved to the processing lines where further recovery processes are employed.

RCI uses a 95% confidence level as its Minimum Quality standard when calculating recovery or recycling rates for facilities receiving/processing less than 1,000 tpd. The evaluation found neither material nor immaterial misstatements nor deviations from the described process train for the operations at the TVWR operation. The twelve months of recovery and recycling data submitted by TVWR was within the quantitative materiality threshold of 95% (less than 5% error) per EM Section 2.2.3. The onsite Evaluation was conducted on August 26, 2024.

Overview of Tualatin Valley Waste Recovery Operations

Tualatin Valley Waste Recovery (TVWR) is owned and operated by WM (formerly Waste Management), with the facility co-located with the Hillsboro Landfill at 3205 SE Minter Bridge Road in Hillsboro, Oregon. TVWR has operated as a resource recovery facility since 2008 under various permits issued by the State of Oregon Dept of Environmental Quality (Permit #1280, issued Sept 2004), State Dept of Agriculture, and Oregon Metro (Permit #936672). A water discharge permit is held and maintained by the Hillsboro Landfill.

The DEQ Permit #1280 approves >50,000 tpy, and TVWR is currently processing >128,000 tpy under their permit. As the processing operation has a design capacity of 80 tph, it is operating below capacity. TVWR has a Facility Agreement with Oregon Metro as a Designated Facility. Residuals from the recycling operations are landfilled at the Hillsboro Landfill, which is co-located onsite.

The Facility is open to the public from 6:00 a.m. to 4:00 p.m. Monday through Friday and 8:00 a.m. to noon on Saturdays. The site is closed on Sundays and major holidays.

Site operations include C&D processing, wood grinding, and landfill disposal. The C&D processing MRF, which includes a Public Drop-Off (Z-Wall) for dry waste and household recyclables, is the focus of this Evaluation.

Overview of TVWR's Process Flow:

Weighing and Ticketing

Vehicles enter the TVWR facility through the main landfill entrance located at 3205 SE Minter Bridge Road in Hillsboro, Oregon, and proceed to the Inbound scale. The scale house uses a combination of three Unitec scales – two Inbound and one Outbound, that are connected to the WM "Fast Lane" scale tracking and ticketing software system.

All commercial vehicles and vehicles with trailers over 8' in length are weighed in and out to generate the weight tags. The loads are assessed and measured to determine content and disposal charges. Small vehicles such as passenger cars, pickups, and SUV's are charged a flat rate, with flat rate studies being conducted regularly to calibrate weights and charges on certain small vehicle types.

At the Inbound scale, the scale attendant inquires with the driver about the origin and type of material being delivered. The scale attendant then assesses each load for vehicle and material type and generates a scale ticket with the weight before directing the customer to the appropriate location for unloading.

The scale attendant will call the loader operator on 2-way radio with a description of the load, material composition, and vehicle type, and the loader operator will respond with the appropriate bay number to which the vehicle will be directed.

General public customers who do not have self-tipping vehicles are directed to the public drop Z-Wall and have the option to either separate their dry waste and household recyclables into designated containers to be recycled, or deposit their mixed dry waste into drop boxes located at the Z-Wall adjacent to the processing operation. Z-Wall material is then moved into the processing facility for appropriate handling and sorting.

Processing

TVWR utilizes front end loaders, excavators, roll off trucks, and semi-trucks for onsite movement of materials. Loads are deposited on the tipping floor and are checked prior to sorting. A mechanical floor sort is typically done on all commercial loads before materials are loaded onto the sort line. Large residual items, and other commodities that could be problematic to load on the sort line, are separated and loaded out directly with an excavator into trucks or drop boxes.

After the mechanical sort is completed, the remaining material is placed on an incline conveyor where the material moves past a series of screens. The primary screen is an 8" aperture. Material larger than 8" stays on top of the screen and is dropped onto a sort line belt where workers pick material at sort stations and drop the materials into drop boxes below the line. Any material still left on the 8" overs belt beyond the sort stations is dropped into a **Residual** load out bunker.

Material smaller than 8” falls through the primary screen and continues to an electromagnet where **Ferrous Metals** are removed. The material then passes over a 2” screen to remove dust, dirt, and fines. The **Screen Fines** are weighed out and counted as residual to be buried at the landfill. The remaining 2”-8” fraction moves down a second sort line where all remaining metals can be hand-picked as **Nonferrous Metal**. The material then passes through an air classifier to be separated from heavy inert objects. Once separated from the heavies, the 2”-8” fraction is sent through an optical sorting unit targeting **Wood**. Once the **Wood** has been removed, the material passes through a small air classifier to remove leftover heavy inerts, and then it flows out to the **Residual** load out bunker.

Residual (non-recyclable) material is collected at the end of the belt and removed by truck to the disposal area of the Hillsboro Landfill after passing through the scale to generate an Outbound ticket.

Streams that enter the facility as single material loads and are not run across the sort line are directed to existing stockpiles for clean-up and quality control. These may include wood, concrete, dirt, container glass, metal, cardboard, electronic scrap, tires, and batteries.

Recovered Materials
Materials recovered from the sort line drop boxes and stockpiles are weighed over the scales, and Outbound tickets are generated for shipment to other recyclers for further processing or use onsite. Material streams are:

- Asphalt Shingles – landfill road and pad base
- Cardboard/OCC – recycled at a fiber processor
- Inert Heavies – (concrete, asphalt, etc.) reuse as landfill road base
- Glass (Container) – recycled at a glass processor, note that Oregon has a Deposit Return System
- Gypsum/Drywall – clean unpainted and textured is recycled at a gypsum processor
- Metal – recycled at a metal processor
- Appliances containing CFC – recycled at processor
- Electronics -- recycled at processor
- Batteries -- recycled at processor
- Used oil – recycled at processor
- Yard debris – converted to compost at processor
- Screen Fines – disposed in landfill
- Tires – sent to a tire recycler
- Used oil – recycled at processor
- Wood – hog fuel

Development of Evaluation Plan

Tualatin Valley Waste Recovery initiated the Certification process by first Registering the TVWR facility on RCI's Registration webpage https://www.recyclingcertification.org/registration/. The Registration process requires facilities to submit facility and contact information which provides RCI with a general understanding of the on-site operation(s) and what additional information may be needed in preparation for an Evaluation. A sample of information provided through the Registration process includes:

- Name of the facility
- Street address of the facility (P.O. Box not acceptable)
- Name of the city/state where the facility is located
- Facility type
- Scale(s) certified
- Permits – state/local Registration Number or state/local permit number
- Hours of facility operation
- Current tons of Inbound and Outbound materials
- Name of company contact person, position/title, and contact information
- Website address

Upon TVWR's completion of the Registration process and in preparation for the Evaluation, RCI requested further documentation as expressed in the CORR guidance documents. RCI also provided an overview of the Evaluation process to aid in the streamlining and completion of activities on the day of the site visit. On-and Offsite review would include:

- Review of recyclables sales records
- Sales contacts to verify facility sales and other off-site movement of materials
- Confirmation of permits
- Verification of use and accuracy of scales including calibration frequency
- Observation and verification of load/material sorting and accuracy
- Interviews with key personnel
- Review of employee training/safety manuals
- Calculation of variance in recovery and recycling rates
- Other materials/documentation that may aid in preparation of a Facility Evaluation Report and Evaluation Opinion.

RCI reviewed twelve prior months of TVWR's facility data to determine accuracy of the mass-balance calculations. TVWR provided data in a format that allowed random sampling and review of all aspects of data including customers, weight tags, days, dates, materials, tons, etc. RCI noted areas of potential risk on which to follow up during the site visit.

SITE VISIT

RCI performed an on-site evaluation of the TVWR facility on August 26, 2024. John Cunningham, MRF Manager, conducted the outside tour of the facility, and Andrew Muhly, MRF Supervisor, conducted the tour inside the MRF. Both provided information and assisted with the administrative and records review portion of the site visit. Mr. Cunningham served as TVWR's lead contact throughout the Evaluation process and was responsible for submitting the initial applications and responding to subsequent inquiries as well, including the data elements of the Evaluation. RCI completed a drive and walk-through of the facility, examining where materials enter, are measured, deposited, processed/sorted, and eventually leave the facility, in verifying information provided in the Application for Certification.

Interviews were conducted with Mr. Cunningham and Mr. Muhly regarding key areas of the operations, as they have access authority and responsibility for maintaining, reviewing, and the overall integrity of TVWRs data. RCI also reviewed the training logs to determine if adequate QC existed for those staff with the potential to directly affect the recycling and recovery rates reported by the facility.

Regulatory Compliance Test

TVWR possesses the necessary permits to operate.

Tualatin Valley Waste Recovery is owned and operated by WM and is co-located with WM's Hillsboro Landfill at 3205 SE Minter Bridge Road in Hillsboro Oregon. The facility operates under permits and certifications issued by the Oregon Department of Environmental Quality, the Oregon Dept of Agriculture, and Oregon Metro.

There has been no substantiated non-compliance with permitted operations or other regulations regarding the operations of the TVWR facility in the past twelve months.

Use of Scales

RCI Concludes TVWR satisfies the requirements for use of scales.

TVWR meets the scales requirement for Certification, with its three Unitec scales (two Inbound, one Outbound) inspected and certified at least once per year by the Oregon State Dept of Agriculture, Weights and Measures. Review of records indicates the scales undergo servicing, calibration, and certification by a State-approved firm at frequencies exceeding this requirement.

The scale attendant will call the loader operator on 2-way radio with a description of the load, material composition, and vehicle type, and the loader operator will respond with the appropriate bay number to which the vehicle will be directed.

Materials In and Out

Scales are located near the entrance to the facility, allowing room for queuing vehicles. At the Inbound scales, the scale attendant inquires with the driver about the origin and type of material being delivered. The scale attendant then assesses each load for vehicle and material type and generates a scale ticket with the vehicle weight before directing the customer to the appropriate location for unloading, where the load is checked in the tipping area and materials are confirmed. The driver returns to the scales and re-weighs before exiting. The data is automatically entered into the WM Fast Lane software system. A similar process is followed for trucks arriving to pick up and transport materials offsite, with the data going into the WM Fast Lane system.

Supporting Data for Rate Estimates

RCI concludes TVWR maintains required supporting data as required by the EM for recycling and recovery rate estimates.

TVWR maintains their data in the company's Fast Lane electronic data management system. TVWR retrieved twelve months of load-level data from their system for RCI's review. The data included information on customers, weight tags, dates, materials, tons, etc. RCI reviewed the data and conducted a mass-balance analysis, computed the recycling and recovery rates of the TVWR facility, and substantiating the outcomes and calculations of the reporting. TVWR retains records of all transactions and RCI conducted random sampling of Inbound and Outbound loads to verify accuracy and substantiate the electronic reports. Mr. Cunningham demonstrated how reports are generated and how that data is entered into RCI's online reporting system.

Data Transcription and Management

Sufficient QC exists for creation of reuse and recycling rate tables from EMS data.

RCI discussed TVWR reporting and electronic data management system with Mr. Cunningham, who provided details on how TVWR reports and mass balance data are generated. Material data is automatically entered into the TVWR's Fast Lane system for accounting purposes. These reports are reviewed to verify accuracy as well as manually enter and/or correct any manual adjustments as determined through the normal course of business.

The TVWR reports are reviewed for a final crosscheck before uploading to RCI's online monthly reporting system. RCI also reviewed the written procedures against the observed processes as well as various phases where data is generated and recorded. Based on the critical need for accurate monthly reports for internal and customer accounting, and observed competencies in data entry, RCI concludes that sufficient QC exists for data transcription and management per the EM.

Individuals Properly Trained for Functions They Perform

TVWR employees receive adequate in-house initial and recurring training.

TVWR has mandatory training for all permanent and contract staff at the facility. The training modules and schedule emphasize specific areas of the facility, covering the operation, equipment, personal safety, hazard communication, and the Emergency Action Plan. A sample of the training modules includes hazardous materials recognition, housekeeping, fall prevention, ladder safety, Emergency Response (safety and training), with emphasis on safety, health (including personal health), environmental controls, the Lock Out/Tag Out procedures, fire extinguisher and other OSHA required training. Records of the training are included in the operating record. Upon inspection and inspection of the operation, employees were observed to be wearing the appropriate PPE and appeared to understand their duties sorting and handling materials consistent with the operational profile.

Performance Standard Test

Reported reuse and recycling rates are within the 5% allowed threshold.

RCI reviewed and analyzed the electronic mass balance data before scheduling a site visit at TVWR. RCI initiated its review noting areas requiring clarification or correction. RCI conducted several meetings and other communications with TVWR to review RCI's questions related to the twelve-month mass-balance and monthly entries, as well as to discuss how TVWR extracted and uploaded its data into RCI's web-based reporting system. Material codes were reviewed and their validity evaluated, with potential areas of risk identified for review during the site visit. The recycling and recovery rates information submitted by TVWR fell within the five-percent tolerance threshold defined per the EM for facilities receiving/processing less than 1,000 tpd. RCI concludes that TVWR's reported reuse and recycling rates satisfy the Performance Standard Test required per the EM 2.2.3.

Evaluation Statement Overview

Based on an extensive review of data from TVWR's operations, the findings according to RCI protocols via the evaluation process, and the on-site visit and interviews with key staff, RCI finds that TVWR meets RCI's eligibility requirements, complies with all measurement and record-keeping requirements, and has no existing material or significant immaterial non-conformances or misstatements in their reported data. RCI hereby certifies the Reuse and Recycling rates submitted by TVWR as Real Rates as outlined in the EM per RCI CORR protocol.

The undersigned hereby certify that the information provided herein is true, complete, and accurate; they have read and understand the protocols developed by RCI and are familiar with the requirements of RCI. Furthermore, they also certify that any signatories are duly elected, qualified, and acting officers of their respective organizations, and that their organizations agree to be bound to the protocols of RCI.

For Recycling Certification Institute:

	Stephen M Bantillo
By	Print Name
Executive Director	September 30, 2024
Title	Date

For Tualatin Valley Waste Recovery:

John Cunningham	MRF Manager
By	Title
John Cunningham	September 30, 2024
Print Name	Date