Mason County Solid Waste

Recycling Contamination Reduction and Outreach Plan (CROP)

The goal of the CROP is to reduce contamination of the materials collected in **Mason County**'s single-family, multi-family, drop box, and commercial recycling programs. This, in turn, helps **Mason County Solid Waste** more fully realize the economic, environmental, social, and public health benefits of these programs. The CROP does not specifically include strategies to reduce contamination of other material streams such as organics or construction and demolition debris. However, many of the same strategies apply to these streams and may be included in future CROP updates.

The CROP intends to meet the requirement in [RCW 70A.205.045(10)](#) that counties with a population of more than 25,000, and cities within these counties with independent Solid Waste Management Plans (SWMP), include a CROP in their SWMP by July 1, 2021.

This CROP includes ten action steps and is a framework for developing a more detailed and customized implementation plan in the future. In addition, it also identifies the need to align the CROP with the SWMP, and secure and allocate funding for ongoing planning and implementation.

Step 1: Inventory current recycling collection services and programs
Mason County Solid Waste will inventory single-family, multi-family, drop box, and commercial collection programs to identify what is accepted for recycling, where and how it is collected and by whom, and how it should be prepared for recycling.

This inventory may include, but is not limited to the following:

- Designated recyclables list in the SWMP
- Collection methods (single- or multi-stream, carts or stackable bins, etc.)
- Number of tons collected for recycling and customers for each type of program
- Types of materials accepted for recycling in each type of program
- Cart or container colors
- Minimum service-level or other ordinances, resolutions, or interlocal agreements
- Collection or material processing contracts
- Local government and recycling collector websites and social media sites
- Stickers and signs on containers, in businesses, etc.
- Brochures, newsletters, information shared at community events, etc.

- Recent media coverage

Mason County Solid Waste will identify differences or inconsistencies across contracts and agreements for recycling programs, and in the information provided to residents and businesses about what to recycle and how it should be prepared for collection. **Mason County Solid Waste** will use this data to identify opportunities for more consistent and aligned programs. The data will also be used to help determine what specific contamination reduction strategies to implement.

Step 2: Develop scope of work with stakeholders

Mason County Solid Waste will work with key stakeholders to develop a scope of work for the CROP addressing the specific challenges and opportunities associated with local recycling contamination. To begin this scoping process, the information learned in Step 1 will be shared with the Solid Waste Advisory Committee (SWAC) and the SWAC's role in developing the CROP will be defined.

These stakeholders may include, but are not limited to:

- SWAC members
- Elected officials and key staff from other local governments, including potential regional partners in the same MRF-shed
- Garbage and recycling collection companies and their front-line staff
- Organizations representing homeowners, tenants, and multi-family and business interests
- Material recovery facilities (MRF) and transfer station operators
- End markets for recovered materials
- **Mason County Solid Waste**'s Ecology Regional Planner and grant manager
- Non-governmental organizations and community groups
- Regional, statewide, and national organizations that can provide technical assistance and/or financial support.

Step 3: Prioritize the recycling program(s) to focus on first

Together with key stakeholders, **Mason County Solid Waste** will identify what recycling collection program(s) to focus on first. Driving this decision could be current knowledge of contamination levels and their estimated impact on costs and material quality, the number of customers, total quantity of material collected, etc.

Step 4: Establish acceptable materials lists

Starting with the highest-priority program(s), **Mason County Solid Waste** will establish lists of acceptable materials. This effort will be coordinated with the SWAC, MRF operators, collectors, end markets, and other key stakeholders. Criteria for determining the acceptable materials lists may include, but are not limited to:

- Alignment with the SWMP mission and goals, and community values
- Degree of uniformity across local programs, regionally, and statewide
- Diversion potential
- Cost to collect and process relative to other management options
- Strength and long-term viability and stability of end markets
- Environmental, social, and other benefits and costs

- Potential to cross-contaminate or lower the value of other materials
- Potential to cause customer confusion

The Washington State Association of Counties Solid Waste Managers Affiliate, the Washington State Refuse and Recycling Association, and the Department of Ecology have supported the establishment of regional, and if possible, statewide uniformity in what materials are accepted for recycling and how they should be prepared. More harmonization across programs reduces customer confusion and contamination. To that end, they identified these four priority materials for statewide recovery:

1. Paper (including office and notebook paper, newspaper, mail, catalogues, magazines, and cereal or cracker boxes)
2. Cardboard
3. Plastic bottles and jugs (clear, colored, and natural)
4. Steel and aluminum cans

The resources and guidelines developed by these organizations to establish their list of priority materials will help guide the development of **Mason County Solid Waste**'s acceptable materials list. Ecology's Resource Library contains this information and, along with Ecology's Best Management practices (BMPs) and Resources document, includes other resources to assist in developing an accepted materials list. This includes information on the specific challenges and opportunities associated with collecting glass and aseptic and polycoat containers, which some recycling programs in Washington accept.

Step 5: Define what data to collect to determine baseline levels of recycling contamination
Starting with the highest priority program(s), and based on the review completed in Step 1, **Mason County Solid Waste** will identify what the acceptable materials are and what is considered contamination for the purposes of establishing a baseline recycling contamination rate. This data will also inform decisions about what, if any, changes to make to the accepted materials list in the future.

Step 6: Gather baseline recycling contamination data
Starting with the highest-priority program(s), **Mason County Solid Waste** will establish baseline levels and types of recycling contamination. Recycling contamination rates can vary significantly across different programs and communities. Nationally, The Recycling Partnership (TRP) estimated an average contamination rate of about 17% across 197 programs that participated in their 2019 State of Curbside Survey. In Washington State, TRP's 2019 survey of seven MRFs found inbound levels of contamination from commingled recycling collection programs ranging from 5%-20% by weight. Recent drop-off programs and cart lid-lift audits in Washington showed rates as high as 40%. For this reason, it is important to gather data on local recycling contamination levels.

In discussions with stakeholders, and building on the information in the State CROP and Ecology's Resource Library, and on the work completed in Step 5 **Mason County Solid Waste** will identify and develop ways to track specific contaminants. For example, tracking the number of carts containing plastic bags may be a more useful metric than an estimated overall percentage of contamination by volume.

Data collection methods may include, but are not limited to:

- Recycling stream composition studies
- Survey of transfer stations and MRF operators
- Tracking contamination using on-board truck or container-mounted cameras
- Drop box composition studies or visual audits
- Container lid-lift audits for residential, multi-family and commercial accounts
  - *Legal questions have been raised about lid-lift audits. The Measurement and Reporting section of* Ecology's BMPs *provides more details.*

Step 7: Identify key contaminants and their costs and impacts

Based on the data collected in Step 6 and collaborating with key stakeholders, **Mason County Solid Waste** will identify the most problematic and costly contaminants starting with the highest-priority program(s). Although the types and impacts of contamination don't vary as much as the levels of contamination across different communities and programs, it is still important to gather locally specific data. This data is critical to designing outreach campaigns and other strategies targeting the most problematic materials. It can also be helpful in calculating the economic and other benefits of removing problematic materials from the recycling stream.

In recent surveys, such as the one conducted by the TRP in 2019, MRFs and cities in Washington identified the following recycling contaminants as the most problematic and costly to manage:

- Plastic bags and film
- Tanglers including rope, cords, chains, and hoses
- Food and liquids
- Shredded paper
- Bagged garbage
- Non-program plastics including clamshells and polystyrene foam
- Hypodermic needles

These contaminants can:

- Slow down the sorting and processing of materials.
- Reduce the quality and value of secondary material feedstocks.
- Result in costly shutdowns.
- Damage collection, processing, and remanufacturing equipment.
- Cause serious injuries to collection and processing facility staff.

According to TRP, the greatest costs associated with managing a contaminated recycling stream at MRFs nationally come from the following and represent 80% of total contamination-related costs:

- 40% for disposal of residuals
- 26% in value lost from contaminated recyclables
- 14% in labor to remove contamination from sorting equipment, etc.

Step 8: Develop and implement education and outreach strategies to reduce contamination

Mason County Solid Waste will develop and implement education and outreach strategies based on best practices. This starts with addressing any inconsistencies in recycling information and messaging identified in Step 1. All new outreach materials and messages will be aligned and consistent across all platforms.

Depending on the type of recycling program, outreach and education strategies may include, but are not limited to:

- Moving toward uniformity in cart and container colors (or at least lids)
    - blue for recycling, gray or black for garbage, and green for organics
- Visual, easy-to-understand signage using photos and universal pictures and symbols
- Cart-tagging and cart rejection
- On-route monitoring tools, including apps and cameras
- Pairing right-sized recycling and trash bins
- On-site assistance and outreach at drop-off sites
- Up-to-date, and easy-to-find and access websites with clear, consistent messaging
- Social media posts, campaigns, mailings, brochures, and other communications
- Online apps for residents and businesses to get answers to their recycling questions
- Community presentations, tabling, and activities at community events
- School presentations and activities focused on recycling right
- Translation and transcreation of educational materials and campaigns to ensure recycling information is clearly understood by all audiences
- Social marketing campaigns to effectively promote long-term behavior change

Where possible, free and customizable resources will be utilized, including Ecology's Recycle Right campaign materials and The Recycling Partnership's Anti-Contamination Kit. Ecology's Contamination Reduction Best Management Practices & Resources document and Resource Library have examples of successful anti-contamination programs.

Step 9: Evaluate the effectiveness of anti-contamination strategies and set next steps
Mason County Solid Waste will conduct periodic assessments on the effectiveness of recycling contamination reduction programs and strategies, and share the results with key stakeholders and the public. These assessments will use, at least in part, the same methodology used in Step 6 to establish baseline contamination levels.

The assessment results inform what is working and what adjustments to make for better results. This includes reducing contamination in other recycling programs that were not a focus during the initial CROP implementation.

Step 10: Explore contamination reduction strategies beyond education and outreach
As part of a statewide effort, **Mason County Solid Waste** will work with Ecology and other partners to explore strategies and solutions beyond education and outreach. These could address regional planning, operations

and collection, contracting, incentives, pricing, policies, mandates, enhanced data collection, etc. Based on this evaluation, **Mason County Solid Waste** will identify and pursue the most promising initiatives.

These options may include, but are not limited to:

- Regional planning and aligned or joint contracting for services to harmonize messaging, lower program costs, and improve program performance.
- Evaluating the costs and benefits of operational changes, including collection frequency, level of source-separation at the curb, and innovative drop-off container designs on contamination levels and overall program performance.
- Product bans or restrictions.
- Strengthening contracts with haulers and MRFs to include provisions focused on reducing contamination, collecting and reporting data on program performance and ensuring materials on the accepted materials list are responsibly recycled. Consult [The Recycling Partnership's BMPs for MRF contracting](#) and their [supporting materials](#) for guidance.

Ensure alignment of the CROP and SWMP and secure and allocate funding to implement the CROP: This work will occur throughout the process as needed. Updates to the CROP can occur during SWMP revisions, including the required five-year revision process.

This work includes involving key stakeholders in reviewing, and if necessary, updating related elements in the SWMP to ensure they are aligned and consistent with the contents of the CROP and implementation work. This information may include, but is not limited to:

- Designated recyclables list
- Recycling facilities including transfer stations, drop-off sites, and MRFs
- Recycling collection services and providers, and collection systems and fees
- Waste reduction and recycling education and outreach strategies
- Funding sources and mechanisms for recycling programs and services

During this process, **Mason County Solid Waste** will also work with Ecology and other key stakeholders to identify and secure new and/or allocate existing funding, and forge partnerships with agencies and organizations to provide technical and financial assistance.

The State CROP and [Ecology's Resource Library](#) are tools to get started on implementing the CROP. The library includes contamination reduction best management practices, contracting guides, MRF-shed maps, materials from successful programs in Washington State and across the country, and more.

An initial 3-year implementation schedule for all ten steps in the CROP is included below. As **Mason County Solid Waste** clarifies and defines the scope of work, and identifies the resources to complete the work, a more detailed and refined implementation plan, schedule and budget will be developed.

CROP Implementation Schedule

Year 1 (2023)

Step 1: Inventory current recycling collection services and programs

Step 2: Develop scope of work with stakeholders

Step 3: Prioritize the recycling program(s) to focus on first

Step 4: Establish acceptable materials list

Year 2 (2024)

Step 5: Define what data to collect to determine baseline levels of recycling contamination

Step 6: Gather baseline recycling contamination data

Step 7: Identify key contaminants and their costs and impacts

Year 3 (2025)

Step 8: Develop and implement education and outreach strategies to reduce contamination

Step 9: Evaluate the effectiveness of anti-contamination strategies and set next steps

Step 10: Explore contamination reduction strategies beyond education and outreach

Ensure alignment of the CROP and SWMP and identify and secure or allocate funding to implement the CROP – These are steps that will be addressed throughout the process as needed.