



Environmental Services

82a- Behavior Change Campaign Strategy and Schedule

NPDES Permit Compliance Statement: This document fulfills the Behavior Change Strategy and Schedule requirement under the NPDES Phase I Municipal Stormwater Permit, Section S5.C.11.a.ii.(b). The City of Tacoma has identified a measurable target behavior, defined a priority audience, and is implementing the Adopt-a-Drain (AAD) program developed by Hamline University using Community-Based Social Marketing (CBSM) principles, adapted to Tacoma’s local context. A final behavior change evaluation report will be submitted to the Washington State Department of Ecology by March 31, 2029, in accordance with the Phase I permit schedule.

Program Overview

Program: Adopt-a-Drain (AAD)

The Adopt-a-Drain (AAD) program encourages residents to take regular and sustained action to reduce localized flooding and stormwater pollution by clearing leaves, litter, and sediment from storm drains. Participants sign up online at wa.adopt-a-drain.org, where they can adopt one or more drains, report cleanings, and track the amount and type of debris removed. Participants receive a welcome kit that includes a yard sign or window cling to promote their involvement and encourage neighbors to join, an educational how-to card, and a welcome/thank-you letter from the City of Tacoma.



The program targets a specific, visible behavior: routine storm drain maintenance by nearby residents. This behavior directly prevents stormwater system blockages and the downstream transport of pollutants into local waterways and Puget Sound. It addresses multiple community concerns, including litter, street flooding, and water quality, while also complementing Tacoma’s broader stormwater maintenance efforts. Participants are encouraged to share their efforts and stories on social media, reinforcing public norms and civic pride.

Program Development and Research Foundation

The Adopt-a-Drain program was originally developed by Hamline University in Minnesota as a behavior change initiative created using Community-Based Social Marketing (CBSM) strategies. The model has since expanded nationally. Tacoma has adopted this framework and tailored it to align with local stormwater priorities, focus audiences, and subbasin-specific data.

Tacoma’s AAD program builds upon established behavior change research, including:

- Hamline University’s foundational motivator/barrier analysis used in the original AAD model.
- Regional insights shared through the Western Washington AAD coordination group (e.g., Seattle’s evaluation experience), to inform messaging, tools, and evaluation methods.
- Tacoma’s participation in the Spanish Language Transcreation subgroup to ensure culturally responsive outreach materials.



Tacoma Program History

Tacoma launched AAD locally in 2021. As of March 2025, the program has 196 participants and 389 adopted drains (approximately 0.5% of single-family households). Early outreach emphasized regional social media and community events. Feedback from the 2023 and 2024 Stormwater Community Surveys and Environmental Services (ES) Community Ambassadors indicated opportunities to strengthen outreach to focus audiences and increase participation. The City is implementing an updated outreach strategy in 2025 for the 2024–2029 permit cycle.

Target Behavior

The AAD Program is intended and designed to change residents' behavior regarding storm drain care. Participants are asked to remove debris (leaves, litter, sediment, other debris) from their adopted storm drain inlets (also referred to as “storm drains” in this document and in the AAD materials) at least monthly, and then report the amount via a web-based portal. This action helps prevent or reduce pollutants (e.g., litter, sediments, organic matter) from entering the stormwater conveyance system and the downstream local waterways.

Water Quality Issues Addressed by Target Behavior Change:

- Reduces sediment and nutrient loading to surface waters
- Reduces localized flooding through routine clearing of storm drain surfaces
- Reduces and prevents litter and other debris accumulation

This consistent action contributes to multiple municipal and environmental goals, including:

- Reducing localized flooding and ponding by improving flow capacity around inlets
- Preventing nonpoint source pollutants such as litter, organic matter, and sediment from entering Tacoma’s Municipal Separate Storm Sewer System (MS4) and downstream receiving waters
- Enhancing neighborhood appearance, street cleanliness, and the visibility of community stewardship
- Reinforcing positive social norms around shared environmental responsibility
- Reinforcing positive social norms to report spills to the City spill response hotline
- Clarifying that MS4 stormwater is generally untreated and pollutants entering storm drains can reach surface waters, underscoring the need to prevent pollutant entry into the system

The storm drain cleaning behavior meets CBSM criteria for effective behavior change:

- **Observable:** Neighbors can see yard signs and clean drains
- **Measurable:** Participants report pounds of debris removed
- **High impact:** Directly prevents debris and sediment from entering waterways
- **Low barrier:** Requires minimal time, no special skills or specialized equipment
- **Sustainable repeatable action:** The cleaning task can be easily incorporated into regular routines and maintained over time
- **Reinforcement:** Participants receive positive feedback through thank-you letters, individual and citywide debris-removal summaries, and occasional public recognition that reinforces continued behavior
- **Commitment:** Participants make an explicit commitment when adopting a drain, increasing accountability and long-term follow-through
- **Social norms:** Yard signs, visible clean drains, and shared stories promote community norms that reinforcing storm drain cleaning community expectations



- **Prompts:** Seasonal emails, postcards, and other timely reminders cue participants to check and clean their drains during high-debris periods

The storm drain cleaning behavior was chosen based on:

- **Alignment:** The behavior change aligns with community and City priorities, including litter reduction, water quality protection, and healthy neighborhoods and environment
- **Accessibility:** The behavior is straightforward, does not require specialized tools or training, is free, and can be performed at any time
- **Visibility:** The action produces immediately visible results, reinforcing the benefit to the participant

Priority Audience and Geographic Focus

The primary audience for this behavior change effort is single-family residents living in South Tacoma, specifically within ZIP codes 98408, 98409, and 98444, encompassing portions of the Flett Creek and Foss Waterway watersheds. This area was selected based on a combination of environmental, equity, and engagement data, and includes six priority subbasins identified in the Urban Waters Protection Plan (UWPP) Subbasin Prioritization Tool.

The South Tacoma focus area includes key surface waters such as Wapato Lake, Ward's Lake, Snake Lake, the Flett Wetlands, and Foss Waterway, all of which receive stormwater runoff that can be directly impacted by residential storm drain maintenance behaviors.

Primary Audience: Single-Family Residents in South Tacoma

Secondary Audiences: English and Spanish speaking single-family residents citywide.

Audience Identification Sources:

- AAD Spanish Language Transcreation Working Group (interviews, surveys, focus groups)
- 2023 & 2024 Stormwater Community Surveys
- Internal staff interviews across Environmental Services divisions
- Urban Waters Protection Plan (UWPP) Subbasin Prioritization Tool
- Tacoma Equity Index
- Focus group feedback from Environmental Services Community Ambassadors
- Community event conversations (e.g., South Sound Sustainability Expo, IIHTG Film & Arts Festival, East Tacoma Community Leaders Meeting, One Tacoma Comprehensive Plan neighborhood workshops, Asian Pacific Cultural Center (APCC) Community Partner Pilot)

Barriers and Motivators

This section identifies the primary barriers and motivators affecting participation in Tacoma's Adopt-a-Drain (AAD) program and describes the Community-Based Social Marketing (CBSM) strategies that will be used to promote routine storm drain cleaning and reporting. Findings are based on the 2023–2024 Stormwater Community Surveys, Environmental Services (ES) Community Ambassador focus groups, AAD Spanish Language Transcreation Working Group, community event conversations, Hamline University research, and regional coordination with the Western Washington AAD group.



Key Barriers

Knowledge Barriers	<ul style="list-style-type: none"> • Limited understanding of storm drain function and the connection to water quality • Uncertainty about what debris should be removed and how to clean safely
Convenience and Time Barriers	<ul style="list-style-type: none"> • Perception that drain maintenance is time-consuming • Difficulty understanding how often cleaning is needed
Language and Digital Access Barriers Language and Digital Access Barriers	<ul style="list-style-type: none"> • Spanish speaking residents need materials in appropriate language and tone • Elders and residents without home internet may need assistance with sign-up and reporting
Forgetfulness	<ul style="list-style-type: none"> • Participants may forget to check and clean drains regularly without reminders
Resource and Instruction Barriers	<ul style="list-style-type: none"> • Need for clear instructions and access to simple cleaning tools

Primary Motivators

Flood Prevention	<ul style="list-style-type: none"> • Strong desire to prevent localized flooding, especially in areas with repeated drainage issues
Neighborhood Appearance	<ul style="list-style-type: none"> • Interest in reducing litter and maintaining clean, attractive streets
Environmental Values	<ul style="list-style-type: none"> • Desire to protect local waterways and Puget Sound; concerns about pollution impacts
Visible, Immediate Impact	<ul style="list-style-type: none"> • Motivation from seeing clean drains and being able to track debris removed
Low Barrier to Participation	<ul style="list-style-type: none"> • Appreciation for simple actions requiring no special skills or equipment
Community Connection and Recognition	<ul style="list-style-type: none"> • Interest in contributing to neighborhood improvement and being recognized for stewardship

CBSM Strategies

Tacoma's AAD program applies CBSM tools to reduce barriers, amplify motivators, provide incentives and support sustained participation.

Commitment Strategies	<ul style="list-style-type: none"> • Online sign-up creates a formal commitment to care for specific drains • Welcome kits reinforce participation immediately after joining • Participants are encouraged to share their commitment and actions within their neighborhood or online
Prompts	<ul style="list-style-type: none"> • Seasonal email reminders timed with high-debris periods (fall leaves, spring blossoms)



	<ul style="list-style-type: none"> • Messaging on postcards, social media posts, and printed outreach materials prompts cleaning and reporting
Social Norm and Visibility Strategies	<ul style="list-style-type: none"> • Yard signs and window clings make participation visible and encourage neighbors to adopt a drain • A social media sharing toolkit supports participants in posting photos and stories • Milestone highlights (e.g., total debris removed citywide, number of participants) reinforce shared community action
Barrier Reduction Strategies and Incentives	<ul style="list-style-type: none"> • Spanish language materials developed using a community-informed transcreation process • Illustrated “how-to” cleaning instructions included in welcome kits and online • Cleaning supplies (leaf scoops, gloves) available upon request and at events • Mobile-friendly reporting platform designed for quick, simple reporting • Paper sign-up and mail-based reminders available for residents without phone or internet access
Reinforcement Strategies	<ul style="list-style-type: none"> • Welcome and thank-you letters reinforce positive early engagement • Periodic email newsletters share program updates and highlight community contributions • Participants can view cumulative debris totals and their own past reports via the online platform • Seasonal messages highlight the importance and impact of ongoing participation
Partner Outreach Strategies	<ul style="list-style-type: none"> • ES Community Ambassadors conduct culturally responsive outreach • Collaboration with community-based organizations and neighborhood councils helps expand reach and build trust • Youth outreach through ES educational programs provides take-home materials for families

Outreach Strategy

Tacoma's Adopt-a-Drain outreach strategy is designed to promote storm drain cleaning as a visible, rewarding, and community-centered behavior. The strategy applies CBSM principles, such as public commitment, prompts, and social norms. The following are planned tactics for 2025-2029; actions may be added or removed through adaptive management as the campaign develops.

Digital & Print	Social media posts/ads (geo-targeted in priority subbasins), EnviroTalk and other city mailers, AAD postcards, updated website content, refreshed tabling materials
Community Partners and Trusted Messengers	ES Community Ambassadors, neighborhood councils, community-based organizations; partner toolkits to extend reach



Cross-program Coordination	Integration with Environmental Services programs (e.g., Tidy-Up Tacoma, Adopt-a-Spot, Litter Free 253) and alignment with “If It Hits the Ground, It Hits the Sound”
Youth Connection	EnviroChallengers classroom outreach includes AAD take-home flyers
Regional Collaboration	Tacoma participates in the Western Washington AAD coordination groups to share evaluation findings and materials, explore cost-sharing options for outreach, regional event collaboration, regional recognition and media coverage, shared AAD social media page, and co-developed Spanish language outreach via the Transcreation subgroup.

Evaluation Metrics and Success Targets

The City of Tacoma will complete a comprehensive evaluation of the Adopt-a-Drain (AAD) Program by March 31, 2029, in accordance with Phase I Municipal Stormwater Permit requirements. The purpose of this evaluation is to:

- Measure changes in our audience’s understanding of stormwater and the impact of removing debris from storm drains;
- Assess changes in the adoption and frequency of the target behavior, removing debris from storm drains; and
- Identify and recommend improvements to increase the overall effectiveness of the AAD Program.

To support this evaluation, a standardized participant survey was developed in coordination with Hamline University and the Puget Sound Adopt-a-Drain regional group. The survey is administered at sign-up (baseline) and again at the end of each calendar year (follow up). Using consistent questions allows the City to measure pre- and post-adoption changes in knowledge, motivations, and behaviors. Survey results also help identify barriers to participation and inform potential program improvements.

In addition to survey data, sign-up information, and storm drain cleaning reports will be analyzed to evaluate participation trends, behavioral frequency, outreach effectiveness, and program impact.

Participation Metrics	<ul style="list-style-type: none"> • Number of unique participants registered • Number of storm drains adopted • Geographic distribution of adopters by subbasin (with emphasis on priority subbasins: FL10, FL08, FL07, FL05, FS10, FS09) • Attrition rate of existing adopters (defined as participants who discontinue drain maintenance or stop reporting cleanings)
Behavior Frequency Metrics	<ul style="list-style-type: none"> • Number of cleanings reported through the AAD platform • Percentage of active participants who report at least one cleaning per year • Percent of participants reporting cleanings quarterly • Reporting rates before and after reminder postcards and/or emails
Impact Metrics	<ul style="list-style-type: none"> • Total pounds debris removed • Common debris types collected (e.g., leaves, litter, sediment) • Seasonal cleaning patterns based on reporting



Outreach Effectiveness	<ul style="list-style-type: none"> Participant-reported source of awareness (e.g., social media, mailers, community partners, neighbors) Visibility and use of outreach materials (e.g., yard sign, window cling, welcome kits) Survey feedback on message clarity, motivations, and barriers to participation Number of Spanish welcome kits requested
Survey Tools	<ul style="list-style-type: none"> Pre-survey administered at sign up to assess awareness, intent, and behavior Follow up survey conducted 6–12 months after signup Comparative analysis of pre and post behavior

Adaptive Management

The City of Tacoma will use an adaptive management approach to ensure the Adopt-a-Drain (AAD) Program remains effective and responsive throughout the permit cycle. This approach includes ongoing evaluation, iterative refinement, and final assessment to support continuous improvement and inform future program decisions.:

- **Annual program reviews:** Assess participation trends, sign-up rates, geographic distribution (with focus on priority subbasins), and outreach performance.
- **Annual outreach assessment:** Evaluate the effectiveness of outreach strategies/materials and adjust to improve reach to focus audiences.
- **Iterative refinement:** Use pre/post survey insights, participant feedback, and program metrics to adjust messaging, outreach, and participant support tools.
- **Final evaluation:** At the end of the permit cycle, assess program effectiveness and recommend continuation or modifications for future cycles.

Implementation Schedule

Quarter/Date	Milestone / Activity	Details
2024 Q1–Q4	Behavior selection process	Conducted community surveys, focus groups, and internal department interviews to analyze stormwater-related problems and identify a behavior change opportunity.
2024 Q1–Q4	Finalize behavior change goal	Selected the target behavior: routine cleaning and reporting of storm drains in residential areas.
2024 Q1–Q4	AAD contract renewal	Signed a five-year contract with Hamline University to manage the Adopt-a-Drain platform and support program operations.
2025 Q1	Review previous program (2021–2024)	Evaluated Tacoma's Adopt-a-Drain program outcomes, engagement approaches, and community participation data.
2025 Q1	Define focus audience	Focus audience identified based on: (1) Community Stormwater Survey, (2) Priority subbasins using the UWPP



		tool, (3) Feedback from Community Ambassadors, and (4) Internal department assessments. Completed audience research.
2025 Q2	Test pilot messaging	Tested messaging, outreach approach, motivators, barriers and engagement tactics with community partners and ES Community Ambassadors.
2025 Q3 (July 1st)	Complete behavior change strategy and schedule	Finalize the behavior change strategy and schedule
2025 Q3	Survey past adopters (~200)	Collected additional insights from current participants to assess supplementary motivators, barriers, and opportunities for improved engagement beyond foundational research from Hamline University and regional findings from Seattle's behavior change evaluation.
2025 Q3	Analyze pilot and survey results	Used findings to inform updates to outreach strategy and incentives.
2025 Q3	Evaluate past outreach effectiveness	Reviewed outreach tactics from the prior AAD program to identify gaps and successful outreach strategies.
2025 Q3	Update outreach plan	Coordinated with the Engagement and Communications teams to refine and prepare the outreach plan update.
2025 Q3	Update and develop promotional messaging and tools as needed	Finalized communications and outreach materials to support behavior change (e.g., social media, partner packets, printed materials, website updates).
2025 Q3	Build engagement schedule	Prepared rollout calendar supporting behavior-focused outreach beginning September 2025.
2025 Q4 (September)	Behavior change implementation	Program fully operational. Launch updated engagement plan.
2025–2029	Program implementation, annual program outreach evaluation, and adaptive management	Collecting adopter cleaning reports and monitoring participant activity. Send out pre- and post-program surveys. Annually evaluate the program outreach plan and adaptively manage.
2028 Q3–Q4	Final program evaluation	Compile five years of program data, including reports and survey responses.
	Final evaluation report	Evaluate effectiveness of the AAD in achieving desired behavior change.
2029 (March 31st)	Submit final evaluation report	Submit comprehensive behavior change evaluation findings to Ecology as required under the Phase I NPDES permit, in accordance with the annual reporting deadline of March 31st following the final permit year.

