A scenic view of a body of water, likely a lake or bay, with mountains in the background. The water is a deep blue-green color with visible ripples. In the foreground, the yellow bow of a kayak is visible, with a black strap and buckle. The sky is a clear, bright blue. The text "Thurston County Public Health Water Pollution Identification & Correction Manual 2022" is overlaid in white, centered on the image.

Thurston County Public Health Water Pollution Identification & Correction Manual 2022

ACKNOWLEDGMENTS

The 2022 Thurston County Public Health & Social Services Pollution Source Identification and Correction Protocol Manual was based upon Kitsap Public Health's protocol manual last updated in 2019.

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Introduction

Regular monitoring of fecal bacteria in surface waters can help show if land use, development, and human activities are managed in a way that protects public health and the environment. Since fecal bacteria comes from warm-blooded animals, it may contain pathogens like viruses and bacteria that can make people sick. Fecal pollution may come from point sources like wastewater treatment plants or from nonpoint sources like dog poop and leaking septic systems.

Surface water is sampled and analyzed for fecal bacteria like fecal coliform (FC), E. coli (EC), Enterococcus (ENT), and other novel methods to determine whether surface waters and shellfish tissue are safe for contact and human consumption. Results are measured against *Water Quality Standards for Surface Waters of the State of Washington* (Chapter 173-201A WAC).

Background

In Washington State, most local jurisdictions are responsible for monitoring and limiting the fecal bacterial load coming from nonpoint pollution under their National Pollution Elimination and Detection (NPDES) permit. In unincorporated Thurston County, the Public Works Stormwater Division fulfills those requirements. Thurston County Public Health & Social Services partners with the Stormwater Division by conducting monthly monitoring of surface waters and leading fecal pollution identification and correction projects in priority areas. We also partner with the Washington State Department of Health (DOH) to protect and restore shellfish beds.

Thurston County Public Health & Social Services developed the Pollution Identification and Correction (PIC) program to prioritize, assess, investigate rivers, streams and marine shoreline areas that are experiencing elevated E. Coli bacteria pollution. Staff conduct “door-to-door” property inspections (sanitary surveys) to evaluate onsite sewage system maintenance and function, and animal waste management practices — both pets and livestock. When problems are found, they are corrected with targeted education and support for the landowner. If this approach is not successful, then staff proceed with enforcement as specified in the Sanitary Code for Thurston County.

Purpose

The PIC program: assesses fecal pollution of Thurston County surface waters; protects the public from waterborne illness related to fecal pollution of surface waters, storm water, and shellfish; and addresses or assists with federal, state, and county water quality mandates as required.

PIC Program Objectives

- ✓ Monitor E. coli bacteria pollution levels in rivers, streams and other smaller freshwater discharges to our marine shorelines.
- ✓ Educate the public about water quality related health hazards and posting advisories as needed.
- ✓ Identify and correct fecal pollution sources using education, voluntary compliance, and enforcement of local onsite sewage systems (OSS) and solid waste regulations.
- ✓ Investigate public complaints and reports of failing OSS.
- ✓ Educate residents, industry, realtors, builders, and others about OSS care and maintenance.
- ✓ Provide septic loan information (Craft3 Clean Water Loan) to promote voluntary correction of failing OSS.
- ✓ Assist Thurston County Stormwater Utility in finding and correcting storm water illicit discharges or connections.
- ✓ Address federal Clean Water Act Section 303(d) compliance and implementation of Total Maximum Daily Load studies.
- ✓ Respond to Washington DOH commercial shellfish harvest classification downgrades.
- ✓ Coordinate with other agencies to ensure that monitoring efforts are not duplicated.

Chapter 1: Project Preparation

Evaluate the Project Area:

When evaluating a project area, consult the scope of work and Quality Assurance Plan (QAPP) if applicable. Then, gather and organize all relevant [information sources](#) to prepare for the many elements of the project, including:

- ✓ [Initial project area visit](#)
- ✓ [Water quality data evaluation](#)
- ✓ [Public notification](#)
- ✓ [Property inspections](#)
- ✓ [Final report](#)

Information Sources:

Information	Source(s)
Water quality data	Thurston County Ambient Monitoring Program, Washington State Departments of Ecology and Health
PIC property inspections	Thurston County Public Health
OSS Building Site Applications, Permits, Maintenance Records	Thurston County Public Health
Farm inventories, parcel priority lists, Farm violations & BMPs	Thurston County Conservation District (TCD)

Soils	Soil Survey of Thurston County Area, Washington (USDA, September 1980)
Topography	Thurston County Geo Data Mapping Tool
Complaint records	Amanda
Property parcel information	Geo Data
Aerial photographs	Google Earth
Washington Coastal Atlas (aerial photos)	Department of Ecology
PIC Priority Work Plan	Under development
Stormwater drainage/outfalls	Thurston County Geo Data Mapping Tool Thurston County Stormwater Utility City stormwater utilities

Initial Project Area Visit:

Visit the area to “ground-truth” information found during the project area evaluation:

- ✓ Confirm stormwater drainage patterns.
- ✓ Identify flowing water to sample (e.g., roadside ditches, pipe discharges, streams, and marine water).
- ✓ Understand project boundaries and be familiar with street names and property addresses.
- ✓ Identify potential sources like pet or livestock waste and grease, active non-conforming OSS, garbage, and food waste that may attract animals.

Water Quality Evaluation:

- ✓ Review and evaluate existing ambient program water quality monitoring data. Note that our Water Quality Monitoring Program staff (WQM) ensure that data is entered into an Excel spreadsheet on a regular basis which is then uploaded to G Data. Contact WQM for assistance.
- ✓ Analyze E. coli bacteria data and document river/stream ambient stations that are failing one or both parts of the state Primary Contact Recreation Bacteria Criteria for E. coli in Fresh Water. Analyze the previous water year’s data and review data collected during the current water year. Any station that fails Part 1 of the standard (GMV of 100 MPN/100ml) or fails Part 2 of the standard (more than 10% of all samples exceeding 320 MPN/100ml) is subject to investigation.
- ✓ For marine shoreline stations, collect two confirmation samples for any initial result that is ≥ 100 MPN /100mL. Any station with a geometric mean that is ≥ 100 MPN /100ml or has one result that exceeds 320 MPN /100mL is defined as a “hot spot” and is subject to investigation.
- ✓ To help define the location of pollution sources, identify and sample upgradient stations to segment the drainage, if practical. For stream stations, collect five (5) *wet conditions* and five (5) *dry conditions* samples to compare against the standard. For shoreline stations, collect three samples at each upgradient station.

Public Notification:

- ✓ Public notification and community engagement are crucial to project success.
- ✓ After evaluating and visiting the area, notify residents through direct mailings, doorhangers, public meetings, press releases, news media posts and articles, project fact sheets, etc.
- ✓ Press releases must comply with policy; obtain approval from Environmental Health Manager and Division Public Information Officer (PIO).
- ✓ Press Release and fact sheet examples are found in [Appendix A](#).
- ✓ Refer to [Chapter 2: Education and Outreach](#) for ideas.

Information should be direct, concise, complete, and contain the following:

- ✓ Why (water quality status)
- ✓ When (start and end times)
- ✓ Where (project boundaries)
- ✓ Who (by what authority, who to contact with questions)
- ✓ How (what to expect, water quality sampling, parcel survey, free technical assistance)
- ✓ What is causing the problem (possible sources of fecal pollution)

Chapter 2: Education and Outreach

Education and outreach are key to successful projects and maintenance of good water quality. Thurston Public Health incorporates education into every site visit and any special educational workshops or events.

- ✓ When performing education and outreach, providing incentives like septic pumping and tank riser vouchers can encourage behavior change (social marketing).

Workshop or Public Meeting Preparation

Plan ahead for good results. Get help making maps and presentations well ahead of time. Ensure all files, documents, and software, and hardware are updated and compatible. Requirements vary based on the project. See the table below for guidelines.

Timing	Tasks
1-2 months before	Choose venue; make reservations Choose meeting time(s)
1 month before	Prepare the mailing list to send to residents in the project area
1 month before	Submit light refreshments plan & attendance form (if needed)
1 month before	Prepare maps
3 weeks before	Complete meeting notice e.g. postcard
2 weeks before	Send meeting notice to residents
1-2 weeks before	Press release to newspapers and social media; Notify Board of Health & stakeholders

Timing	Tasks
1 week before	Prepare presentation
1 week before	Gather materials for displays
1 week before	Arrange light refreshments (if needed)
1-2 days before	Check out A/V equipment

Suggested Meeting Supplies

Equipment	Supplies/Handout materials	Refreshments
Tape Stapler Extension cord Easels Projector screen Projector	Directional signs to meeting place and room AV equipment & laser pointer Business cards Brochures/Fact sheets Sign-in sheets/Pens	Snacks Bottled water Napkins Spoons Tablecloth(s)

Chapter 3: Field Preparation, Supplies & Equipment, and Safety

Inspectors must be prepared, trained, equipped, and safe. This is our top priority.

Field Preparation:

- ✓ Understand property access and consent, site entry and searches, reasonable expectation of privacy, open view, plain view, implied consent, and curtilage.
- ✓ Assemble all relevant site information and list it on the inspection form.
- ✓ Review databases for prior deficiency, complaints, or notes about dangerous people or animals.
- ✓ Consult Environmental Health Program Manager before contacting law enforcement about safety concerns or escort.
- ✓ If planning to finish in the field, notify your supervisor ahead of time with an email or text.
- ✓ Send an email or text when headed home or returning to the office after the close of business.

Required Training (subject to change)

- ✓ Probationary field training (sample collection/handling, moving over/through difficult terrain)
- ✓ Dog Safety
- ✓ Pepper Spray (training required to carry it)
- ✓ De-escalation/Dealing with combative people
- ✓ Other trainings available periodically

Field Supplies and Equipment

- ✓ Carry only what is needed; conceal valuables in car or trunk
- ✓ Wear personal protective equipment (PPE) like latex gloves, mudders, waders, reflective vest, and field clothing suitable for rugged outdoor conditions
- ✓ Thurston County Public Health ID badge, business cards, cell phone and emergency contact phone numbers
- ✓ Door hangers, plastic bags, and rubber bands to secure materials left behind
- ✓ Educational materials, including Homeowner's Guide to OSS, Craft3, repair brochure
- ✓ Dog biscuits or dog bite sticks
- ✓ Pepper spray and holder (training required)

- ✓ Notebook, Rite in Rain notebook
- ✓ Extra writing utensils, pencil or permanent marker for Rite in Rain
- ✓ Sample bottles, telescoping sampling wand
- ✓ Dye test supplies, including charcoal and WhirlPak bags
- ✓ GPS unit
- ✓ Cooler with ice and/or ice packs (to store samples until delivered to lab)
- ✓ Waterproof “Sharpie” markers (to write on water sample bottles)
- ✓ Sample ID tags with rubber bands
- ✓ Hand-wipes/sanitizer to clean hands after contact with water or sewage

When to take a partner in the field:

- ✓ Use best judgement and request assistance from another inspector as needed
- ✓ Conducting shoreline surveys (confirmations are typically solo)
- ✓ Inspecting homeless camps (coordinate with Solid Waste Team Senior EHS)
- ✓ Responding to RV complaints
- ✓ Inspecting properties with dangerous persons or Washington DOC “Halfway Houses”
- ✓ Registered sex offender nearby <http://www.icrimewatch.net/index.php?AgencyID=54474>
- ✓ Entering a home to conduct a dye test (optional)
- ✓ Inspecting properties with *no trespassing* signs when residence not visible from road (optional)

Tips for site visits:

- ✓ Park your vehicle to make a quick exit and do not block other vehicles.
- ✓ Carry only what is needed. Conceal purses or bags securely in the vehicle or trunk.
- ✓ Organize materials and have them ready; minimize time sitting in vehicle.
- ✓ Wear ID badge and carry business cards.
- ✓ Announce “Hello, Thurston County Public Health” to alert residents and dogs of your presence.
- ✓ Proceed to the front door. Knock and ring the doorbell while announcing yourself. Step back from the door while waiting to put a comfortable distance between you and the door.
- ✓ Introduce yourself, provide a business card, state the reason for the visit, and request a few minutes to talk. If they decline, ask for a better time to visit or call.
- ✓ Be concise, answer questions, and offer to call back if you don’t have the answers.
- ✓ Thank the person for their time.
- ✓ Gather your belongings; have car keys in hand.
- ✓ Drive to a safe place to take notes or make calls.

Dealing with hostile people or animals:

- ✓ Leave at any time if you feel uncomfortable, are threatened, if a person or animal becomes hostile, or you feel an attack is imminent. Go to a safe place and contact your manager.
- ✓ Do not engage in confrontation; if attacked or threatened, you have the right to defend yourself. Try to remove yourself or defuse the situation.
- ✓ Call 911 if assaulted. State the nature of the emergency. Let the dispatcher ask questions. Provide address or cross street where help is needed. Stay on the line until told to hang up.
- ✓ If a person or animal blocks you from leaving, you are authorized to use defensive pepper spray.
- ✓ After discharging pepper spray, leave the property and notify the Environmental Health Program Manager.

Handling Dogs

- ✓ Dogs can be a major threat in the field; take dog safety and pepper spray trainings.
- ✓ Carry both dog treats and pepper spray.
- ✓ Watch for signs of dogs: barking, doghouses, leashes, dog bowls.

- ✓ Stay in or near the car while assessing whether a dog is friendly or not; use best judgement.
- ✓ Rattle a gate or call out your name and affiliation to draw attention to yourself.
- ✓ Continue on the main path to the front door, if confident the dog is not a threat.
- ✓ Look for signs of aggression: ears back, teeth bared, growling, and fur standing up.
- ✓ Be aware of your own posture and never turn your back to a dog.
- ✓ If the dog does not appear friendly, wait a few minutes for the resident to appear.
- ✓ If you are uncomfortable, respectfully ask the resident to put the dog away; if the resident declines, offer to contact by phone to schedule an appointment.
- ✓ Leave a door hanger with a business card at the door or gate detailing the date and time you were there.

Chapter 4: Sampling and Testing Methods

Quality Assurance and Quality Control:

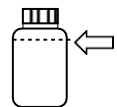
Collection, labeling, and transport of water samples follows the Thurston County Quality Assurance Project Plan, Surface Water Ambient Monitoring Program; and the applicable Quality Assurance Project Plans (QAPP's) developed for specific grant funded projects.



Collecting Water Samples:

Samples are collected and analyzed for E. coli bacteria for ambient monitoring, PIC segment monitoring, shoreline monitoring and animal waste management complaints. For onsite sewage complaints, the sample must be analyzed for fecal coliform bacteria as that is currently the only fecal indicator specified in Article IV of Thurston County Sanitary Code. Proper collection, labeling, and transport is essential to ensure valid data.

- ✓ Wear one or two sets of nitrile gloves for protection.
- ✓ Wash hands and use sanitizer after sampling and before eating.
- ✓ Avoid contaminating the sample bottle or lid.
- ✓ Avoid collecting sediment. If this occurs, use a fresh bottle or empty the bottle, rinse it with clear water from the sampling site, and resample.
- ✓ All stations shall be approached from a downstream direction.
- ✓ For shoreline samples, collect water from all flowing discharge points including storm water outfalls, yard drains, bulkhead drains, pipes, drainage ditches, seeps, and sheet flow. When possible, collect free-falling water to prevent surface bacteria and sediment contamination.
- ✓ For surface water samples, affix the bottle to the end of a sampling wand and plunge an upside-down bottle straight down into the water approximately to the middle of the water column. Use a smooth semi-circular or U-shaped scooping motion to bring the bottle back up the surface. This method helps prevent collecting bacteria or sediments from the surface micro-layer.
- ✓ Fill the 100mL bottle to the line as shown; if overfilled, slowly pour out the excess. Replace and tighten the cap; avoiding contact with the neck of the bottle and inside the cap.
- ✓ Record observations in field book (e.g., odors, temperature, matting, vegetative growth, laundry lint, food waste, animals, animal tracks, animal waste, and inhabited RVs). Affix Sample ID tag if present to bottle.
- ✓ If tag is not present, use a black permanent marker (or regular pen) to label the sample bottle with the sample name, date, and time the sample was collected.
- ✓ Clearly record the sample name, collection time, location, drainage size, pipe diameter, and pipe material (if applicable), and observations in the field notebook.
- ✓ Record detailed descriptions in the field notebook so that outfalls can be re-sampled by



- different staff, if necessary. Record a digital picture and GPS coordinates at new sites.
- ✓ Put samples into a cooler with ice packs and water baths as necessary to keep samples at or below 10 degrees Celsius (Holding time and temperature from APHA Standard Methods, 20th edition pg. 9-21), or per the project QAPP.

Transporting Samples:

- ✓ Transport samples in coolers with ice, ice packs, and water baths as necessary to meet the temperature of < 6 degrees Celsius within holding times. For shoreline monitoring, use the insulated backpack cooler.

Lab Analysis:

- ✓ Water samples are analyzed at the Environmental Health Division Laboratory which is accredited by the Washington State Department of Ecology. There are separate chains of custody (COC) for ambient and PIC segment monitoring. There is also single sample bottle wrap COC.
- ✓ Use separate COC's for marine water or fresh water and EC, FC, ENT, and nitrates respectfully.
- ✓ Record results into dedicated Excel sheets and/or G Data (Thurston County PIC Tracking Spreadsheet)

Chapter 5: Shoreline Surveys

Shoreline surveys provide an inventory and bacterial assessment of all shoreline discharges. These surveys are progressively and continuously performed in conjunction with the Department of Health's routine marine water sampling and shoreline survey evaluations. This concurrence is performed to reaffirm and survey minor discharges.

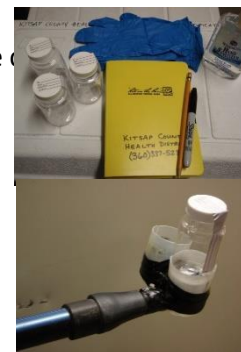
- ✓ Wet weather surveys normally occur from October 1st through April 30th. They can uncover OSS failures caused by high seasonal groundwater and surface water drainage. Wet weather conditions are present when water is flowing off parcels and stormwater is flowing in ditches or storm systems.
- ✓ Dry weather surveys normally occur from May 1st through September 30th. They can uncover problems that would normally be masked by stormwater, or from sources that are only occupied in the summer.
- ✓ Most QAPPs require both wet and dry weather shoreline surveys.

Field Preparation Checklist:

- ✓ Check tides (<http://www.protidest.com/washington>) or other tide charts and weather conditions.
- ✓ For a specific shoreline length, map the beginning and end points to be surveyed. Find access points using aerial maps. Visit ahead of time to ensure access is available. Access points may be on private property with permission or at a public boat launch or park.
- ✓ Work in teams of two when the area is unknown or soggy, muddy or marshy. Always err on the side of caution, while using resources carefully and wisely. When working in pairs, park one vehicle at the "beginning" access point and one at the "end" point.
- ✓ Estimate the number of samples to be collected by checking data records for previous surveys conducted in the area. Strategize sampling plan and nomenclature.
- ✓ Check with the Environmental Health Division Lab for confirmation of sampling dates and quantity. At this time, 30 samples are the daily maximum for shoreline surveys.
- ✓ Ensure rainfall for the past 24 hours does not exceed the threshold for a storm event in the shoreline to be surveyed.
- ✓ Obtain the correct type and number of sampling containers.
- ✓ Coordinate sample delivery and analysis/holding times with the laboratory.

Gather field supplies:

- ✓ See Chapter [3: Field Preparation, Supplies & Equipment, and Safety](#)
- ✓ PPE, including boots, rain gear, hat, gloves, and mudders (if needed)
- ✓ Sampling wand, bottles, cooler, ice packs, or the backpack in place of the cooler
- ✓ Field notebook, pens, pencils, black permanent markers
- ✓ GPS, camera, cell phone, extra set of batteries, salinity meter
- ✓ First aid kit & hand sanitizer
- ✓ Fact sheet about the area being surveyed
- ✓ Photolog with descriptions, coordinates, and pictures if available
- ✓ Business cards, identification badge
- ✓ Dog treats, pepper spray



Example of station Nomenclature (limit station ID to 6 characters)

Project Area	Naming Description	Sampling Station Identifier*
Eld Inlet	ELD	001

NOTE: Sometimes subsequent surveys (typically during wet weather) will have additional flows. Use a letter of the alphabet as an extension to the name (e.g., 1; name then 1A, 1B, and 1C.)

Conducting the Shoreline Survey:

- ✓ Safely park vehicle at “starting” access point so that it will not obstruct traffic.
- ✓ Put your business card on the dashboard or window.
- ✓ Know the rules for property access and consent.
- ✓ Remember and secure the car keys.
- ✓ See [Chapter 4](#) : Sampling and Testing Methods.
- ✓ A composite sample may be collected when there are multiple small discharges that appear to emanate from one parcel and/or are close together.
- ✓ Sometimes discharges are too small to sample without capturing underlying sediment. This is not a significant problem; attempt to minimize the amount of sediment collected.
- ✓ Some projects require salinity testing. In this case, if the salinity is >10 parts per thousand (ppt), samples shall not be taken.
- ✓ For the field notebook entry, include the start and end locations, date, staff members, and the weather and tide conditions. See an example below.
- ✓ Take detailed notes regarding access permission granted for shoreline parcels and identifying sample locations so another inspector can resample the location if needed.

Eld Inlet Shoreline Survey			Staff Initials		Date	
Rain, 50F, wind S at 10 mph						
Start: Address/ public access and approximate distance						
Sample ID	Time	Latitude	Longitude	Description	Comments	
ELD 1	10:15	xx.xxxxx	xx.xxxxx	6 in black flex in bulkhead	Matting at base of bulkhead	
ELD 2	10:25	xx.xxxxx	xx.xxxxx	Beach seep	Raccoon tracks, Salinity 16	
ELD 3	10:43	xx.xxxxx	xx.xxxxx	4 in PVC pipe under dock	Suds	

- ✓ For every 10th sample, take a duplicate sample. Mark the letters “QA” at the end of the sample ID for duplicate samples. If the flow is too low, collect a duplicate sample at the next station.
- ✓ Consult the QAPP to see if additional samples must be collected.
- ✓ Record GPS coordinates by entering the sample ID into the GPS unit at each station. The GPS, Station ID, and water quality results will all be recorded in the PIC Tracking Spreadsheet.
- ✓ Photograph each sample location, including a distinguishing feature to help locate it in the future (e.g., include a house in the photo or point to the flow with the sample wand).
- ✓ Photograph each sample location, including a distinguishing feature to help locate it in the future (e.g., include a house in the photo or point to the flow with the sample wand).
- ✓ Transport samples in coolers or backpacks with ice packs, keeping them at 6 degrees Celsius or below.
- ✓ Samples are generally delivered to the laboratory during their normal operating hours. However, if you need to drop off samples after hours, place the samples on the bottom two shelves of their fridge and leave a note stating the time of delivery with the chain of custody on the counter.

Confirmation sampling:

- ✓ For marine shoreline stations, collect two confirmation samples for any initial result that is ≥ 100 MPN /100ml. Any station with a geometric mean that is ≥ 100 MPN /100ml or has one result that exceeds 320 MPN is defined as a “hot spot” and is subject to investigation.
- ✓ Resample **as soon as possible** within the same season (wet/dry) (flows may dry up)
- ✓ Hot spots may be during dry, wet, or both seasons.
- ✓ Confirmed hot spots are investigated for potential fecal sources through property surveys and segmentation sampling.
- ✓ Rank the hot spots according to GMV and investigate those with the highest GMV first.
- ✓ Assemble an investigation file for each hot spot, including drainage tracking, segment sampling, photos, and building and OSS records for nearby residences.
- ✓ Keep files organized and updated in case they are transferred to another inspector. Color code by wet and dry weather if desired.

Investigating and closing a confirmed shoreline hot spot:

- ✓ Test for salinity at the outfall to ensure this is not marine water draining at low tide.
- ✓ Investigate, locate and correct all human sources in the drainage:
 - Septic systems
 - Side sewer
 - Farm animal waste
 - Pet waste
- ✓ Resample three times to confirm cleanup, if possible.
- ✓ Look for non-human related biological pollution such as wildlife scat, or a sediment reservoir that may be contributing to high bacteria levels.
- ✓ Consider Bacteroides or Contaminants of Emerging Concern testing.

The Environmental Health Program Manager and PIC Program Lead will review all hot spots before closing them. Hot spots may be closed if all sources of human origin biological pollution within the drainage have been investigated and corrected.

Shoreline and Stream Hotspot Investigation Procedure

STEP 1	<ul style="list-style-type: none">✓ Shoreline “hot spots” – collect a minimum of three samples with EC GMV levels ≥ 100✓ Stream “hot spots” – collect a minimum of five samples in dry <u>and</u> five samples in wet conditions. If EC GMV ≥ 100 or a single sample EC MPN is ≥ 320 in one or both conditions✓ Stream segments failing state EC standard annually and/or seasonally – consider segment sampling
STEP 2	<ul style="list-style-type: none">✓ Conduct reconnaissance upland to assess drainage and potential segment sample sites. Record number of homes and proximity to the drainage, livestock, etc.✓ For shoreline “hot spots”, conduct segment monitoring if >10 homes. Collect 3 samples and calculate geometric mean for each segment. Conduct segment sampling during the same season “hot spot” was found and confirmed.
STEP 3	<ul style="list-style-type: none">✓ Develop list of properties to be inspected based on OSS permit and maintenance records, field observations, and segment monitoring data if collected
STEP 4	<ul style="list-style-type: none">✓ Inspect all properties on your list. Conduct dye tests as needed
STEP 5	<ul style="list-style-type: none">✓ Correct all identified sources
STEP 6	<ul style="list-style-type: none">✓ Bring the “hot spot” to next staff meeting for closure evaluation

Chapter 6: Dye Testing

Dye Testing:

Inspectors use field and office review, as well as best professional judgement, to determine which residences to dye test in a hotspot drainage. Plan and document each step taken to ensure precise results that can be easily interpreted by future parties and instances where corrective action is needed.

A dye test may help show a hydraulic connection between a failing OSS or greywater discharge, and apolluted drainage. Dye tests may be prioritized based on:

- ✓ Age of system
- ✓ Lack of permit records or maintenance
- ✓ Proximity to contaminated drainage
- ✓ Potential for cross-connection of effluent
- ✓ Standing water/saturated conditions near drain field with odors and/or high bacteria counts
- ✓ Existing deficiencies
- ✓ Unpermitted repairs

Dye tests required:

- ✓ There are no OSS records and one or more living units are <200 feet from surface water
- ✓ There is evidence of unpermitted repairs and drainfield is <100 feet from surface water
- ✓ There is a pipe with discharge, gray or black matting, and/or high bacterial counts on or near a property with an OSS
- ✓ There is a stormwater structure on or near the property with evidence of an illicit connection

Dye test recommended:

- ✓ No OSS records and >200 feet from surface water
- ✓ A history of deficient pump reports and <100 feet from surface water
- ✓ Permitted alternative OSS with history of deficient reports and <100 feet from surface water
- ✓ All other OSS with factors indicating probability of failure

Many dry-weather dye tests are negative. Dye tests are usually done in wet weather, but may be done in dry weather when:

- ✓ There is gray or black matting, or elevated levels of bacteria or ammonia ($\text{NH}_3 \geq 0.30 \text{ mg/L}$).
- ✓ The OSS is within 25 feet of shoreline.
- ✓ There is standing water or saturated conditions near the OSS along with odors or elevated levels of bacteria or ammonia.
- ✓ When occupancy allows, ex. Summer home.

Dye test follow-ups:

- ✓ Consider conducting a follow up dye test in the wet season when a dry season dye trace is negative.
- ✓ Schedule follow-up visits and potential dye tests for systems that may develop issues in the wet season.

Dye Test Procedures:

Thurston County Public Health uses methods developed by Dr. Tom Aley, of Ozark Underground Laboratories (OUL). See full procedure and reference documents at <http://ozarkundergroundlab.com>.

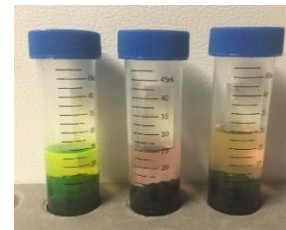
Dye testing is typically conducted when the bacterial results of a nearby water sample are elevated. In the Henderson and Nisqually Inlet watersheds dye traces may be conducted without an elevated E. coli bacteria sample being confirmed first since dye traces in those watersheds is focused on periodic performance testing. Dye tests require dye solution, elution solution, and charcoal packets. Dye is flushed down toilets, sinks, and laundry outlets. Charcoal packets are placed in the water sample location where they can pick up or adsorb dye. The packets are eluted in the Health District's onsite lab for immediate visual analysis or sent to OUL for spectrofluorophotometric analysis.

Thurston County Public Health uses three fluorescent dyes prepared by OUL:

- ✓ Fluorescein (a green-yellow dye)
- ✓ Rhodamine WT (a purple-red dye)
- ✓ Eosine (a pink-green dye)



Sample test colors



Actual dye test results

The three different dyes may be used to test three homes at the same time. Use Fluorescein and Rhodamine-WT first; they are easier to differentiate visually due to the wavelength difference. Consult other team members or the Program Manager on dye selection as needed. Thurston County Public Health purchases premixed tracer dyes from OUL to ensure their quality and reliability. We also purchase the activated charcoal samplers that our required for the dye trace process from OUL. Applicable dye tracing policies are located here:

[Public Health - Environmental Health Division - O&M and DT Policy List.pdf - All Documents \(sharepoint.com\)](#)

Chapter 7: Property Inspections

Inspectors must be confident, cordial, well-organized, and professional so the public sees them as objective and trustworthy. Developing a good relationship and trust is key to success. The objective is to identify pollution sources, make recommendations for fixing them and enforce action if necessary, in order to help owners protect water quality and their OSS. All findings and notes are public record; only record the facts.

PIC staff use many sources to prepare for inspections. These include:

- ✓ PIC inspection forms
- ✓ Assessor records
- ✓ GIS maps showing elevation, drainage, and stormwater and sewage infrastructure
- ✓ OSS records (Permit, Building Site Application, and Record of Construction As-Built)
- ✓ Septic pumping and operation and maintenance (O&M) reports
- ✓ Communication with sewer billing departments to confirm sewer connections
- ✓ Water quality monitoring results
- ✓ Public complaint investigations

Property Inspection Prioritization:

- ✓ Stream segments that fail the state EC standard.
- ✓ All medium and high-priority parcels in listed segment outside of failing segment (*see EIM Mapping Tool*)
- ✓ All high priority parcels (see below)

HIGH	<p>Properties <u>with gravity or alternative OSS</u> within 200 feet of the drainage that have one or more of the following characteristics:</p> <ul style="list-style-type: none"> • No OSS permit records – confirm with EH Clerical • Evidence of unpermitted repairs • Previous “Concern” or “Suspect” inspection rating • Permitted \geq 30 years old • History of public OSS or water quality complaints • Two or more deficient pump/maintenance reports indicating component failure or malfunction, or surfacing failure that has no record of repair • Livestock present, pasture and/or heavy use area in poor condition, with high probability of contaminated runoff due to topography
MEDIUM	<p>Properties within 200 feet of the drainage that have one or more of the following characteristics:</p> <ul style="list-style-type: none"> • Permitted <i>gravity</i> OSS 15-29 years old with no maintenance in last 6 years • Permitted <i>gravity</i> OSS 15-29 years old where the most recent deficient pump report indicates component failure or malfunction, or surfacing failure • Permitted <i>alternative</i> OSS with the <i>most recent</i> pump/maintenance report being deficient – consult with O&M Team before inspecting • Livestock present, pasture and/or heavy use area in poor condition, some probability of contaminated runoff due to topography
LOW	<p>Properties within 200 feet of the drainage that have one or more of the following characteristics:</p> <ul style="list-style-type: none"> • Permitted gravity OSS 0-14 years old • Permitted alternative OSS with 0 deficient pump/maintenance reports – consult O&M Team before inspecting. • Livestock present, with low probability of runoff due to topography

Property Access and Consent:

Inspectors must follow the Property Access and Consent Policy when entering private property.

Site Entry and Searches:

State and federal constitutions prohibit unreasonable searches. There are no blanket rules regarding allowable searches, so inspectors must use their best professional judgement when entering a property.

In all cases, an inspection may only occur after obtaining consent from a responsible party (owner or tenant over the age of 18), or by making observations from a location where the inspector may legally be without consent. There are some basic constitutional doctrines to consider.

Reasonable Expectation of Privacy:

Generally, a person has a reasonable expectation of privacy in their home, in the area immediately adjacent to the home, and in areas where they have taken steps to exclude the public and shield the area from public view. There are two components to a reasonable expectation of privacy. The first is a subjective component: does the person have a subjective expectation of privacy in a particular object or location? The second is an objective component: is this expectation one that society recognizes as reasonable?

Residence:

A person always has a reasonable expectation of privacy in their home. You may not enter a person's home, except with the resident's consent.

Curtilage:

The land immediately surrounding and associated with the home, i.e., that area associated with the intimate activity of a home and the privacies of life. Curtilage receives the highest level of protection under both the federal and state constitutions. You may not enter the curtilage without a resident's consent, except as explained below. To help determine if an area is within the curtilage, answer these questions:

Q: How close is the area you want to inspect to the house? A: *The closer the area you want to inspect is to the house, the more likely it will be considered within the curtilage.*

Q: Is there a fence or other enclosure that surrounds the house and the area you want to inspect?

A: *A fence that surrounds the house suggests the limits of the curtilage. Accordingly, where a house is situated on a standard lot and the lot is fenced, that is the limit of the curtilage. On a larger piece of property there may be a fence around the perimeter of the property, and an inner fence enclosing the house. In that case, the interior fence would indicate the limits of the curtilage. A clearing or maintained area has the same effect. Thus, on a larger piece of property that is forested, the cleared area surrounding the house would indicate the limits of the curtilage.*

Q: What is the area you want to inspect used for? A: *The concept of the curtilage is to protect those activities normally associated with the home and the privacies of life. Thus, if an area near the house is used for family or personal activities (e.g., play area, patio, garage), then it is probably within the curtilage. However, if the area is used for activities not associated with home life, especially illegal activities, then it probably will not be considered within the curtilage. You may use evidence you observe from the road or a neighbor's property, or information a neighbor gives you, to determine if an area is being used for an activity associated with the home or some other activity.*

Q: Has the resident taken any steps to protect the area you want to inspect from observation of passersby? A: *If a fence -- especially a sight-obstructing fence -- or hedge shields the view of the house from the street and neighboring properties, then the area within the fence or hedge will probably be considered within the curtilage.*

Q: Can an inspector ever enter the curtilage? A: *Yes. You may enter the curtilage to contact the resident. In doing so, however, you may use only a recognizable access route, such as a driveway, walkway, or path. Approach the house as any reasonably respectful citizen would. Normally, you should not enter a side or back yard. You may, however, call out or try to get someone's attention if you see or hear something that leads you to believe the resident is in a side or back yard.*

Additional considerations for inspecting private property:

No Trespassing Signs:

A "No Trespassing" or "No Solicitors" sign does not prohibit you from approaching a residence using a recognized access route for the purpose of contacting the resident.

Open Fields:

Areas that are outside the curtilage are considered "open fields" and do not always receive the same high level of constitutional protection that the curtilage does. In an urban area, you may not find any open fields. In outlying areas, however, you are likely to encounter them. An open field doesn't need to be either "open" or a "field." It could be a thickly wooded area or a beach. Generally, an open field is any unoccupied or undeveloped area outside the curtilage.

In many instances, you will be able to enter open fields without the permission of the owner. However, you need to consider whether the owner has manifested an "expectation of privacy" in the area you want to enter. Some manifestations of an expectation of privacy are: 1) a long driveway; 2) "No Trespassing" signs; 3) fences, especially sight-obstructing fences, or maintained hedges; 4) a locked gate; or 5) the area cannot be seen from a road or neighboring property.

Each situation is different, so it is not possible to provide a blanket rule for entering open fields. It may be best to consult with a supervisor before entering.

Open View:

If you are in a place you may legally be, such as a roadway, public property, a neighboring property that you have permission to be on, or are approaching the residence via a recognized access route, then you can base an enforcement action on anything you see from that vantage point. Accordingly, if a person allows you in their backyard, and you see illegally stored solid waste on the neighbor's patio, you can write a notice and order to correct the violation or a notice of civil infraction based on what you see from the neighbor's property. If you remain on the property you have permission to be on, you can climb a ladder to see over a fence or use binoculars. You may take photographs from a place you may legally be.

Plain View:

The plain view doctrine applies when you have entered a property with the resident's consent. The plain view doctrine allows you to use anything that you see inadvertently as you walk through the area. The object must be in plain view; you may not move anything. You may not remove a lid on a trash container to see inside. Plain view works the same way when the resident has given you permission to look around. If you want to see inside or under something, ask the resident if it's okay.

Implied Consent:

An inspector obtains valid consent to inspect when he or she asks the resident for permission to conduct an inspection and receives an affirmative response through words or action. An inspector need not inform a person of his/her right to refuse an inspection but, if the person asks whether he/she may refuse, the inspector must tell the person that he/she may refuse.

Statements such as “I’m going to look around,” or “I have to inspect the property,” should be avoided. A person who submits to an inspection after such a statement has not given his/her consent to the inspection and a court could suppress anything that is found during the inspection.

Although inspectors have the legal right to access a property marked “No Trespassing,” PIC inspectors offer a higher level of respect to the property owner by leaving a door hanger at a gate or fence post. Bring plastic bags and rubber bands to secure door hangers especially in windy or wet weather. Do not put door hangers in or on mailboxes; they are legally reserved for USPS only.

When approaching a property, call out a friendly greeting and enter a property along the main access route to the front door. Following no response at the front door, it is also acceptable to follow the main access route to the back door. Call out a greeting in case someone is working outside and knock on a side or back door, provided this does not infringe on the curtilage of the property. Do not proceed to the property if the situation appears to be unsafe, or you feel uncomfortable. Coordinate a return visit with a co-worker, the Field Supervisor, or the Program Manager.

Door Hangers:

If the resident is not home, leave a door hanger with a brief description of the purpose of the visit and a business card with contact information.

- ✓ Attempt to make contact three times in total. If contact is not made within the first two attempts, attempt to make contact outside of regular business hours – either on a weekend or evening.
- ✓ Note the dates of contact attempts on the PIC inspection form (or other form).
- ✓ If there is no response after 3 attempts, send a letter to the property owner.

You are the key to water quality

An Environmental Health Specialist
visited your property on
Date: _____ Time: _____

For the following reason:

- ☐ Complaint investigation
- ☐ Recent septic tank pumping
- ☐ Septic system inspection
- ☐ See note on back side
- ☐ Water quality project

Please Contact:
(business card)

THURSTON COUNTY
Public Health and Social Services
Environmental Health Division

Meeting the Resident:

If a resident over 18 is home, give a brief reason for your visit (e.g., PIC project, public complaint, deficient septic tank pumping report). The purpose of the PIC survey is to provide educational information and technical assistance to the resident, assess the OSS, and address things that could impact water quality (e.g., animal waste, fertilizer, hazardous waste, composting, feeding wildlife.)

- ✓ Using the PIC form, refer to the checklist of discussion topics. Note observations on PIC form.
- ✓ Ask about problems with odors, soggy spots, or water backing up into the house.
- ✓ Make site-specific suggestions to protect the OSS (i.e. conserve water, route surface or ground water away, reduce waste strength and limit use of harmful chemicals, and prevent physical damage like parking, driving, burning, pasturing animals, or letting vegetation take over).
- ✓ Ask to go over the OSS components with the owner using the records, if available. Look for signs of stress or failure and to share those signs with the resident. Give the resident a copy of the OSS records.
- ✓ Look for issues like greywater discharges, proximity to streams, stormwater, occupied RVs, and other potential fecal pollution sources.

Inspecting for Signs of a Failing OSS:

Odors:

- ✓ Sewage odor alone does not determine a failure.
- ✓ Odor can be caused by normal OSS venting, decaying vegetation, or odors carried by the wind.

Signs of Surfacing Failure:

- ✓ Standing or flowing water near the collection system, tanks, distribution box, or drainfield. Collect a sample and note any animal or bird waste. You may need to sample when residents are using water.
- ✓ Lush green vegetation and wet, soggy, soil.

Signs of Physical Damage:

- ✓ Damage can occur before, during, or after the OSS was installed.
- ✓ Soil removal or excessive backfill over the drainfield.
- ✓ New or widened roads or driveway construction
- ✓ Compaction from vehicle parking or driving
- ✓ Cut banks near the drainfield, including landscaping or rock walls
- ✓ Patios or other structures over the OSS
- ✓ Ruts caused by vehicular traffic or livestock

Signs of Disturbance:

- ✓ Eroded soils, evidence of digging or soil settling
- ✓ Sand, bark, or rock over the drainfield.

Signs of Greywater Discharge:

- ✓ Discharges to the ground near the house.
- ✓ Laundry soap or bleach odors.
- ✓ Clothing fibers and lint near a pipe.
- ✓ See [Chapter 9: Enforcement](#).

OSS Ratings:

The following section describes the OSS ratings that are assigned in the PIC Tracking Spreadsheet.

No Apparent Problems (NAP)

- ✓ OSS records are on file.
- ✓ No illegal repairs, permit conditions are met, and required setbacks are fulfilled.

Concern

- ✓ No OSS records
- ✓ Improper use of reserve area
- ✓ Pavement or driving over drainfield
- ✓ Drainfield is less than 50 feet from surface water
- ✓ Potential impact from roof drains or other drainage/infiltration.
- ✓ Unpermitted expansion or modification of existing structures or addition of new structures or RV connections
- ✓ Unpermitted work on the OSS
- ✓ Excavation or excess fill within the OSS area, or a cut down slope of the OSS that has the potential to impact the performance of the OSS
- ✓ Drained area is found to be saturated
- ✓ Water sample results from bulkhead drains, curtain drains, or other pipes or seeps <200 FC/100 ml and positive dye test results.
- ✓ For unpermitted alterations, expansions, repairs, connections or new construction, consult with Program Manager regarding enforcement options; mail letter; follow up with dye test.

Failure

When you identify an OSS failure, flag the failing OSS in the parcel search database. Report shoreline failures to DOH shellfish.

- ✓ Sewage surfacing on the ground or backing up inside structure due to slow effluent absorption.
- ✓ Sewage discharged to surface water or ground surface unless permitted by DOE.
- ✓ Sewage leaking from septic tank, holding tank, or collection system.
- ✓ Any component of OSS or public sewer that is broken, in disrepair, or not functioning as intended.
- ✓ Inadequately treated sewage effluent contaminating ground or surface water.
- ✓ Collected water sample result from bulkhead drains, curtain drains, or other pipes or seeps, above 200 FC/100 ml and positive dye-test results.
- ✓ Cesspools or seepage pits where evidence of ground water or surface water quality degradation exists, or inadequately treated effluent contaminating ground or surface water.
- ✓ Non-compliance with standards stipulated on the permit, or with regulations in effect when the system was approved for use.
- ✓ Greywater or blackwater discharge from any indoor plumbing or recreational vehicles.

Assessing Non-OSS FC Pollution Sources (Pet Waste):

State and local regulations require that pet waste not be discarded where it may pollute surface or ground water. Thurston County's Nonpoint Source Pollution Ordinance states that "no person shall

intentionally dump, deposit, or wash any animal wastes from small domestic animals, such as dogs or cats, into surface water, storm drains or man-made drainage systems.” During PIC property inspections, staff review the proper disposal of pet waste with owners (as it applies). A pet waste brochure and pet waste pick-up bags can be provided to residents.

Assessing of Non-OSS FC Pollution Sources (Farms):

Thurston County’s Nonpoint Source Pollution ordinance states that “farm operators and animal owners shall prevent domestic animal wastes from being washed into surface water.” Additionally, it states that: “for protection of ground water and surface water, no person shall exceed agronomic rates in the application of manure sludge, manure or crop residues... and maintained in a manner that minimizes leaching and runoff”

Start agricultural inspections early in a project since they may be time consuming and challenging. See

[Chapter 7: Property Inspections.](#)

- ✓ Walk the property to identify, sketch, photograph, and sample surface water leaving the property by sheet flow, pipes, and stormwater structures(include location, diameter, and type (e.g., ditch, size and type of pipe)
- ✓ Note:
 - Animal type and quantity, including birds
 - Stream access points and uncontrolled access to surface water
 - Accumulated animal waste (pets and livestock)
 - Inadequate grease or food waste management which can attract wildlife
 - Non-vegetated, muddy, or heavy use or animal holding areas draining to surface water.
- ✓ Collect three water samples from the same location(s) on different days to get representative results. Sample during wet weather (recommended). When the geometric mean value (GMV) ≥ 100 EC/100 ml across the property, source correction is needed.
- ✓ Refer to Thurston Conservation District for help with a waste management plan or the owner/occupant can prepare their own plan.
- ✓ If the resident declines TCD assistance and does not correct the fecal pollution issue, enforce under the Nonpoint Source Ordinance. [See Chapter 9: Enforcement.](#)



Assessing Non-OSS FC Pollution Sources (Wildlife):

Fecal bacteria from wildlife can be a serious problem. Encourage residents to avoid feeding wildlife.

The following activities attract wildlife:

- ✓ Feeding animals outdoors
- ✓ Bird feeders and squirrel feeders
- ✓ Improper grease and food waste management

PIC Wildlife inspections:

During a routine shoreline “hotspot” investigation, PIC staff found a large raccoon latrine adjacent to a shellfish growing area.

- ✓ Investigate drainages at least three times, sampling above (if possible) and below properties where human activity is attracting wildlife (ideally within a one-month period).
- ✓ Look for grease and food waste management or evidence of feeding.
- ✓ Refer the resident to TCD if farm practices need improvement.
- ✓ Record findings on the PIC inspection form and enter them into the PIC Tracking Spreadsheet.

Inspection Status (PIC Tracking Spreadsheet):

Keep the spreadsheet updated by assigning a status to each property inspection.

- ✓ Assigned – property has been assigned to a staff member to survey
- ✓ Completed – education materials and inspection of OSS components complete
- ✓ Denied Access – told you to get off their land, denied drainfield inspection, or not interested.
- ✓ Did not Participate – doorhangers were left on three occasions without a response.
- ✓ Education – conducted educational component but did not inspect the OSS
- ✓ Other – staff was unable to walk the drainfield or complete a survey
- ✓ PCI – property conveyance inspection
- ✓ Vacant – home is unoccupied

Chapter 8: Nonpoint Source Complaints, Onsite Sewage Complaints and Deficient Pumper Reports in PIC Priority Areas

PIC staff respond to nonpoint source pollution complaints county wide, and onsite sewage complaints and deficient pumper reports in PIC project areas. PIC may also respond to other water quality related complaints to include: *Complaints are managed in the Amanda database, please see **Appendix A** for instructions that extend from complaint receipt to the pursuit of civil penalties:*

Complaint Type:

- ✓ Sewage from recreational vehicles (RV) or tent
- ✓ Sewage from side sewer
- ✓ Sewage odors
- ✓ Sewer disconnection notice reported by utility
- ✓ Illicit connection to municipal stormwater system
- ✓ Boat sewage

Complaint Entry:

- ✓ Complaints are made by phone, email, or submitted online.
- ✓ Managers, supervisors, and the admin team enter complaints into the Amanda database.
- ✓ The following information must be collected from the complainant to ensure a timely and effective response:
 - Date and time the complaint was received
 - Location of violator (address or directions)
 - Complainant contact information and whether it is anonymous or confidential
 - Problem statement, including ways to access the property or view the issue
 - Whether occupants at the site are dangerous

Complaint Response and Investigation:

- ✓ Complaints are assigned by the program manager, supervisor, or their designee.
- ✓ Response times vary based on potential public health impact. Spills to surface water require an immediate response. For other complaints, attempt a field investigation within 4 working days.
- ✓ See [Chapter 7: Property Inspections](#).
- ✓ Document observations through photos and notes on a complaint form and document notes in the complaint database. Save photos digitally, preferably in a template photo log
- ✓ Report dumping or spills into the city or county stormwater system to the applicable Public Works

Department.

- ✓ Refer solid and hazardous waste violations to the Solid Waste Senior Environmental Health Specialist (e.g., garbage, sharps, homeless encampments, junk vehicles and boats).
- ✓ Notify the sewer purveyor of broken side sewer; issue a Notice of Violation (NOV), see [Chapter 9: Enforcement](#).
- ✓ Issue an NOV for sewage from RVs; see [RV response guidance below](#).

Closing a Complaint:

- ✓ After violations have been corrected or were not affirmed, update the Amanda database.
- ✓ Ensure notes are accurate and understandable to others.
- ✓ Remove extra paperwork from the file including copies of existing OSS and LIS records.

Deficient Pumper Report (DPR) Investigation:

- ✓ Attempt field inspection within 6 calendar days.
- ✓ Check ORME and Application Manager for repairs and follow-up pumper reports.
- ✓ Consult the program manager if the house is vacant or was pumped for sale of the home.
- ✓ Record OSS failures in the PIC Tracking Spreadsheet and Complaint databases.
- ✓ Proceed to OSS Compliance Process below.

Follow-up Postcard (under development):

- ✓ Every resident who completes a sanitary survey (interview and property inspection) will be provided a card with a project web page link and phone number that they can use to provide feedback on the property visit. The PIC lead will process the feedback and share results with the Program Manager and other staff.

OSS Compliance Process:

- ✓ For confirmed OSS failures, review evidence and discuss next steps with the program manager.
- ✓ Consult program manager for the NOV; submit for review before mailing.
- ✓ If the violator does not comply with orders, consult program manager before taking further enforcement action (e.g., citation, vacate orders). [See Chapter 9: Enforcement](#).

Livestock Waste Compliance Process:

- ✓ For confirmed livestock waste violations or help determining one, consult the program manager.
- ✓ See the Nonpoint Source Pollution Ordinance for the compliance process.

Homeless Camp Complaint:

Storm Water Illicit Discharge Complaint or Referrals (Including Spills):

- ✓ Contact the Public Works Department for the appropriate jurisdiction.

Recreational Vehicle (RV) Sewage Complaint Response Guidance:

1. Inspect the site within five working days. Take another inspector on the first visit.
2. Strive for voluntary compliance. Educate residents about RV sewage waste disposal and potential public health risks.
3. Document conditions through photos, notes, water samples, and other evidence. Collect license plate info to identify the registered owners through the State's licensing system (consult with Solid Waste Program Senior EHS).
4. If a violation of Thurston County sanitary codes is not identified, close the complaint.
5. If sewage is discharging to the ground, order the residents to immediately remove the discharge.

- hose, close the greywater and blackwater valves, and disconnect the freshwater supply hose.
Lime application may be recommended where sewage has discharged to the ground.
6. If the residents are not there, leave a door hanger requesting a phone call. If they call back, state the requirements listed in step 5 and that you will be checking on compliance.
 7. Notify the applicable county or city Code Enforcement program of your actions.
 8. Reinspect the site within seven days to verify compliance with Health District orders:
 - I. if the occupant has complied and there is no ongoing sewage violation, close the complaint.
 - II. if the occupant has not complied and there is an ongoing violation, one or more of the following may be done in consultation with the program manager:
 - Send an NOV to the occupant, registered owner, and property owner citing violations of Section 4.6 and 4.7 of Article IV.
 - Post the RV with the order letter.
 - If no response, pursue enforcement as outlined in Article I and Article IV. Notify the applicable county or city Code Enforcement program of your actions.
 9. Seek program manager guidance for situations not described here.

Chapter 9: Enforcement

Enforcement of violations are pursued when necessary and after consultation with a program manager or Senior Environmental Health Specialist (SEHS). The EH Director may also be notified, at the discretion of the program manager or SEHS. Enforcement is conducted by following procedures outlined in Article I and the particular sanitary code that is being violated (e.g. Article IV for onsite sewage and Article VI for Nonpoint Source Pollution). Please see Appendix A for instructions that extend from complaint receipt to the pursuit of civil penalties when all other remedies have failed.

Chapter 10: Illicit Discharge Detection and Elimination (IDDE)

Stormwater systems reduce localized flooding by moving water away from development and can rapidly move pollutants to surface waters. The system includes ditches, ponds, pipes, swales, catch basins, and underground facilities. National Pollution Discharge and Elimination System Phase II stormwater permits require local jurisdictions to find and eliminate illicit connections to the stormwater system. Wet weather may mask illicit discharges, so dry weather is an optimal time to find them.

Handling Stormwater Illicit Discharges:

The stormwater utility generally leads their own illicit discharge investigations. The public can submit a spill or discharge report here: [Thurston County | Stormwater Utility | Report \(thurstoncountywa.gov\)](https://thurstoncountywa.gov/stormwater-report). Public Health typically gets involved when we locate a failing onsite sewage system that is impacting the county stormwater system. We are required to notify the utility and make sure that the discharge is stopped as soon as possible. This can be through entering a report in their public portal or by calling the utility. If we observe other types of spills or discharges in the field, we must report those as well.

Handling Sewer System or Side Sewer- Evaluations and Investigations:

Some sewer collection systems and side sewer connections are beyond their functional lifespan. They may not be well mapped. They may be broken, cracked, subject to inundation by and cross-connection to

stormwater, exposed to infiltration when the groundwater is high, and leakage when the ground water is low (especially with pressurized lines). These problems must be addressed by the sewer utility or the property owner, but we can be a partner in the investigation.

- ✓ Partner with sewer utilities, looking for abnormalities in service history.
- ✓ Request lines be dug, evaluated with a camera, or smoke tested.
- ✓ Request an infiltration and inflow analysis to look for side sewer lateral issues.
- ✓ Evaluate existing maps or create new ones.
- ✓ Collect E. coli bacteria samples to help locate the source.
- ✓ Collect water samples, as close to the potential source as possible, and analyze for ammonia-nitrogen using our field meter.
- ✓ Conduct dry weather screening and investigate using the IDDE Manual and the U.S. Environmental Protection Agency handbook "Sewer System Infrastructure Analysis and Rehabilitation," 1991.

PIC Project Follow-up:

Follow-up will be needed for properties that did not participate. Analyze water quality data to determine whether rainfall correlates with elevated E. coli bacteria. Sample surface water entering and leaving suspect or non-participating properties. Wet weather samples may help identify OSS failures due to seasonal high water and surface water intrusion. Dry weather samples can identify direct discharges, seeps, or illicit discharges into storm waters.

APPENDIX A: