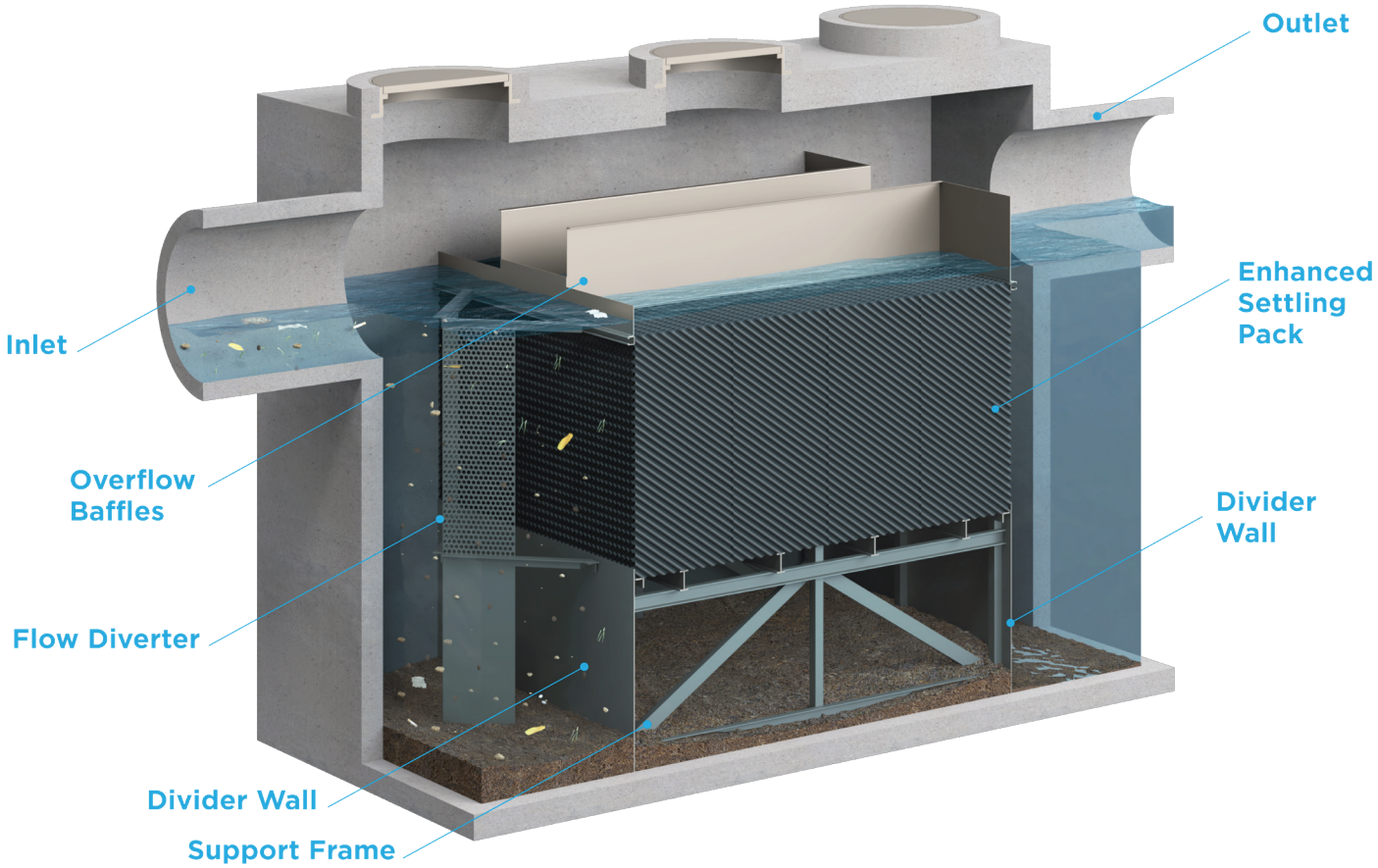
StormTrap®

SurgeSettler™

Operation and Maintenance Manual



2026

SurgeSettler Operation and Maintenance Manual

The SurgeSettler treatment device, manufactured by StormTrap®, is a hydrodynamic separating device designed to capture and store pollutants from stormwater. SurgeSettler's maintenance frequency is site-dependent and routine inspections are recommended to ensure that the system is functioning as designed. Please contact your authorized StormTrap representative if you have questions regarding the operation and maintenance of the SurgeSettler system.

Inspection Scheduling

SurgeSettler inspections are important to assess the condition of the system internals and to ensure peak performance. The frequency of inspections and maintenance depends on site-specific loading conditions and rainfall frequency. Within the first year of operation, it is recommended that the unit should be inspected quarterly to determine the rate of pollutant accumulation to develop a more accurate maintenance schedule.

Inspections should be performed during dry weather conditions when no flow enters the system. After the first year, the inspection frequency may be adjusted to reflect actual site conditions. Sites with heavy sediment loads, high trash loading, winter sanding, vehicle-related pollutants, or frequent runoff events may require semi-annual or more frequent inspections. Lower loading sites may be maintained less frequently once accumulation patterns are established. SurgeSettler systems should also be inspected whenever the upstream and downstream catch basins and stormwater pipes of the collection system are inspected or maintained.

When the system is checked on an annual basis, the inspection should be conducted before the stormwater season begins to ensure that the device is functioning properly for the upcoming season.

Inspection and Maintenance Equipment

- SurgeSettler Operation and Maintenance Manual and Inspection Checklist
- Flashlight
- Manhole hook/lifter or pry bar to lift the manhole cover
- Measuring device(s) such as a sludge sampler, sediment pole, grade rod, or tape measure of sufficient length to reach the bottom of the device's sump
- Proper personal protective equipment
- Adequate traffic control signage
- Pole with skimmer or net (optional for maintenance procedure)
- Vacuum truck or similar trailer-mounted equipment (for maintenance procedure)
- Spray lance or sewer jetting equipment with a wide spray nozzle, if internal cleaning is required

Maintenance Trigger Summary: Clean the unit when sediment depth reaches the maintenance depth. NJDEP states that maintenance should occur at the 50% sediment storage depth. For SurgeSettler, this is 8 inches (50% of the 16-inch maximum sediment storage depth). Maintenance may also be required when trash, debris, or hydrocarbons materially restrict flow paths or occupy the available storage area, after a spill, or whenever inspection shows component damage, blockage, or abnormal operating conditions.

Inspection Procedure

Inspections should be done when sufficient time has passed after the most recent rain event to allow for static water conditions and ensure that rainfall is not anticipated to occur during the inspection. SurgeSettler does not require entry into the system for inspection or maintenance; however, if entering the system is deemed necessary, appropriate OSHA confined-space requirements and all local safety regulations and guidelines shall be followed.

1. Set up the necessary traffic control signage and safety equipment in accordance with local ordinances and site conditions.
2. Open all manhole covers using appropriate equipment and place the covers where they will not obstruct the inspection process or create a safety hazard

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3. Visually inspect the system from all access opening locations. The device has access at the inlet forebay, the outlet forebay, and middle access opening(s). The access opening(s) in the middle of the unit extends through the entirety of the enhanced settling pack allowing sufficient clearance for a vac hose and clear access to the sump.
4. Confirm that the static water level appears normal. Under dry weather, standing water is generally expected to be near the outlet pipe invert elevation. Water levels that are unusually high or low under static conditions may indicate a downstream blockage, internal obstruction, leakage, or other abnormal operating condition.
5. Inspect the condition of each accessible component using the component inspection criteria in Table 1. If any components are damaged, displaced, clogged, or not functioning as intended, document the condition and contact your authorized StormTrap representative.
6. Observe and document trash, debris, hydrocarbon, and sediment accumulation as described below.
7. Replace and securely seat all manhole covers in the frames and remove traffic control signage after the inspection is complete.

Table 1. Component inspection criteria

Component	What to look for during inspection	Condition indicating maintenance or follow-up is required
Concrete Structure	Check visible concrete or internal wall surfaces for cracking, separation, spalling, leakage paths, or joint distress. Walls should appear stable and intact.	Structural deterioration, joint separation, leakage, movement, or any condition that could affect hydraulic performance or long-term durability.
Inlet pipe and forebay	Verify the inlet area is unobstructed and that incoming flow is not blocked by trash, debris, or sediment. Look for grout or wall deterioration, sediment mounding at the inlet, and trash and debris accumulation.	Blockage, sediment buildup restricting entry, damaged grout or wall surfaces, or any condition that prevents flow from entering the device as intended.
Flow diverter	Inspect visible flow diverter for damage, confirm the flow diverter is properly aligned, and free of lodged debris. The diverter distributes flow into the treatment section and should not appear broken, bent, or dislodged.	Displacement, cracking, breakage, loose connections, or debris accumulation that changes the intended flow path.
Overflow baffles	Inspect visible baffles for damage, displacement, excessive attached debris, or blockage. Baffles should retain floatables and direct high flows through the intended bypass path.	Broken, missing, or shifted baffles; debris accumulation that blocks openings; or evidence that floatables are bypassing the retention areas under routine conditions.

Component	What to look for during inspection	Condition indicating maintenance or follow-up is required
Enhanced settling pack	Visually inspect the accessible portions of the settling pack for clogging, excessive coating, physical damage, or displacement. Flow passages should remain open, and the media should remain supported and level.	Collapsed, shifted, cracked, or heavily clogged pack surfaces; plugged flow channels; or any condition reducing the effective treatment area.
Enhanced settling pack support frame	Confirm the support frame appears secure, stable, and free of deformation or corrosion-related distress. The frame should continue to hold the settler pack in its intended position.	Bent members, loosened supports, settlement, or frame damage that could allow the settler pack to move or sag.
Outlet bay and outlet pipe	Verify the outlet area is unobstructed and that treated water can leave the system. Look for grout or wall deterioration, unusual standing water levels, debris accumulation, or restricted discharge.	Outlet blockage, persistent abnormal water level, downstream backup, or any obstruction reducing outlet capacity.

Pollutant Accumulation Assessment

After the components are inspected, visually quantify the accumulation of trash, debris, and hydrocarbons within the system by using a measuring device such as a tape measure, grade stick, dipstick, or similar device. Record observations in the inspection log so that changes can be tracked over time.

Measure and record the depth of trash and debris accumulation from the static water elevation (outlet pipe elevation) to the top of the stored materials. Approval drawings for the project-specific unit should be used to confirm elevations and capacities.

For sediment accumulation, utilize either a sludge sampler or a sediment pole to measure and document the amount of sediment accumulation. To determine sediment depth with a sludge sampler, follow the manufacturer instructions. If utilizing a sediment pole or similar device, first insert the pole to the top of the sediment layer and record the depth. Then insert the pole into the bottom of the system and record the depth. The difference between the two measurements corresponds to the amount of sediment in the system. Alternatively, sediment depth can be determined by taking a measurement from a known and consistent elevation, such as the manhole frame, pipe invert, or top of an internal wall, to the top of the sediment layer and comparing it to the measurement from the same reference elevation to the sump floor.

To avoid underestimating sediment accumulation, lower the measuring device carefully onto the top of the sediment layer. Fine material near the surface may offer less resistance than the denser material below it. The inspector should measure at a consistent location or set of locations from one visit to the next whenever practical.

Maintenance should be performed when any of the following conditions are observed:

- Sediment depth reaches 8 inches or more, representing 50% of the maximum sediment storage depth.
- Trash, debris, or floatable material has accumulated to the point that it restricts the inlet, outlet, internal flow path, or the available storage volume.
- A visible hydrocarbon layer is present in an appreciable thickness, a spill has occurred, or oil-stained debris indicates hydrocarbon accumulation should be removed.
- The enhanced settling pack, baffles, flow diverter, divider walls, or support frame are damaged, shifted, or clogged.
- Static water levels appear abnormal, indicating a possible blockage, backwater condition, leakage path, or other hydraulic problem.

Maintenance Procedure

Maintenance should be done when sufficient time has passed after the most recent rain event to allow for static water conditions and ensure that rainfall is not anticipated to occur during the maintenance procedure. Routine maintenance can be completed from the surface; entry into the system is not required for standard cleanout activities.

1. Set up the necessary traffic control signage and safety equipment per local ordinances and site conditions.
2. Open all manhole covers using appropriate equipment and place the covers where they will not obstruct the maintenance process or create a safety hazard.
3. Visually inspect the system at all access opening locations before beginning cleanout. Confirm that all visible components are intact and identify any conditions requiring special attention during cleaning.
4. Remove accumulated trash, debris, and hydrocarbons stored on the water surface using the vacuum hose or a pole with an attached skimmer or net. If an oil spill or heavy hydrocarbon accumulation is present, remove the material as soon as practicable and manage the recovered waste in accordance with applicable regulations.
5. To remove sediment, insert the vacuum truck hose into each of the access openings so that the inlet area, middle area(s), and outlet area can all be reached. The access opening(s) in the middle of the unit extends through the entirety of the enhanced settling pack allowing sufficient clearance for a vac hose and clear access to the sump. All sediment should be removed from the sump.
6. If excessive sediment or debris buildup remains on internal components after vacuuming, components may be washed with sewer jetting equipment or a spray lance to remove stubborn materials. Particular care should be taken when spraying the enhanced settler pack. Use a wide spray nozzle and avoid concentrated high-pressure spray that could damage or distort the pack.
7. After washdown, vacuum any loosened material so it is removed from the device.

8. Complete a post-maintenance inspection to confirm that the inlet, outlet, and all internal components are in good condition and free of obstructions.
9. Replace and securely seat all manhole covers in the manhole frames, remove traffic control signage, and restore the site.
10. Dispose of all pollutants removed during maintenance in accordance with applicable local, state, and federal requirements.

Remote Monitoring Devices

SurgeSettler units can also be installed with remote monitoring technology that measures current capacities within the system and reports the data to an internet-capable device. If a remote monitoring device is used, the device shall be inspected and maintained in accordance with the manufacturer's recommendations. Battery replacement, cleaning of sensors, confirmation of communication status, and verification of mounting locations should be completed as needed to ensure that the monitoring technology remains functional.

Inspection and Maintenance Documentation

Proof of inspections and maintenance activities is the responsibility of the owner. All inspection and maintenance reports and any relevant data should be kept on site or at a location where they will be accessible in accordance with local requirements.

It is good practice to take time-stamped photographs after every inspection and maintenance event to include within logs. It is also good practice to keep records of rainfall events between maintenance events, the estimated or measured quantity of material removed, and any repair actions completed, even when no report is specifically required. Some municipalities may require inspection and maintenance reports to be forwarded to the proper governmental permitting agency on an annual basis. Refer to local regulations and ordinances for any additional maintenance requirements not contained herein.

At a minimum, each inspection or maintenance record should include the date, site name, weather conditions, inspector name, observed sediment depth, observations regarding trash, debris, hydrocarbons, and component condition, maintenance performed, and any recommended follow-up repairs.

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SurgeSettler Inspection Checklist

Structure ID: _____

Weather Conditions: _____

Date: _____

Rain in the last 48 hours? Yes No

Time: _____

If yes, list amount & timing: _____

Location/Address

_____

_____

_____

Inspector

Name: _____

Email: _____

Phone: _____

* Do not enter underground chambers to inspect system unless Occupational Safety & Health Administration (OSHA) regulations for confined space entry are followed.
* Follow inspection and maintenance instructions provided by system manufacturer.
* Please circle the condition of each inspection item below. 1 being the worst and 5 being the best condition.

Inspection Item	Condition	Comment	Action Needed
Frames and Covers			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Inlet Pipe(s)			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Flow Diverter			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Divider Walls			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No

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Inspection Item	Condition	Comment	Action Needed
Enhanced Settling Pack			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Enhanced Settling Pack Support Frame			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Overflow Baffles			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Outlet Pipe			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No
Component(s) structural condition	1 2 3 4 5		Yes No
Concrete Chamber			
Component(s) structural condition	1 2 3 4 5		Yes No
Sediment Storage Capacity			
Sediment storage capacity	1 2 3 4 5		Yes No
Trash Capture Screen (if applicable)			
Accumulation of debris and/or sediment	1 2 3 4 5		Yes No

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SurgeSettler Inspection Checklist

Notes

Wet Weather Inspection Needed	Yes	No
Maintenance Activities Needed	Yes	No

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