

Oil-Spill Containment Platform

O-SCP

A Ground-Level Secondary Spill Containment System for Safe Outdoor Fuel and Oil Handling.

Designed to:

OUTLINE refueling and parking areas of adjustable dimensions and capacity.

SECURE controlled oil-handling for vehicles and contaminant-holding equipment.

CONTAIN spilled oil while managing rainwater, preventing overflow.

PROTECT the surrounding environment from contamination.



FUNCTION

Designed to act as secondary protection to meet functional requirements for safe refueling, handling, and storage of fuel, oil, diesel, and other lighter-than-water pollutants. Collected rainwater is managed and discharged in a controlled manner so that available containment volume is not reduced by rainfall.

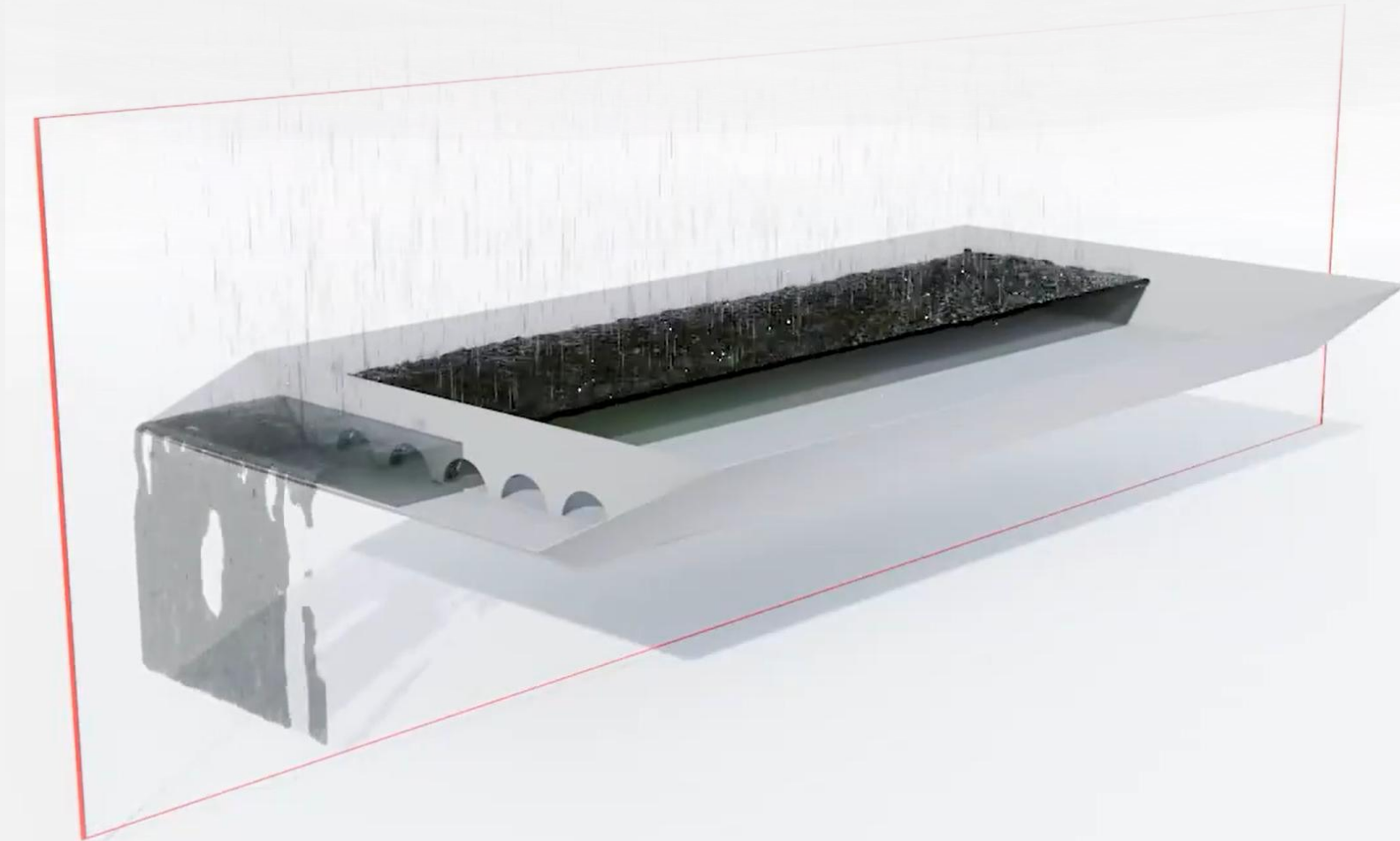
The O-SCP is intended for sites where construction of permanent spill containment infrastructure, such as that typically applied at gas stations and incorporating EN 858 Class 1 oil separators connected to sewer systems, would be economically or practically unreasonable.



DESCRIPTION

One side of the containment unit is lowered and a partition with small openings at the bottom is installed adjacent to the lowered side, dividing the basin into one large and one small segment. Rainwater passes through these openings to the lower side, where it is discharged (though not to sewage), keeping the main section's water level low.

Leaked oil, diesel, and other lighter-than-water pollutants float on the water's surface in the main section and can neither pass through the openings in the partition nor overflow, as excess water drains continuously even during heavy rainfall. As a result, the platform maintains spill containment capacity during rainfall through passive internal water-level control.





This image shows a typical ground-covering basin that has completely filled with rainwater and can no longer contain a spill. This is the issue the O-SCP is designed to address.

PURPOSE

The O-SCP offers a cost-effective alternative to traditional oil spill containment measures such as packed stone surfaces or oil-resistant basins. These solutions either provide limited protection in the event of larger oil spills or completely lose functionality during and following rainfall, as water accumulates in the same basin intended to retain oil.

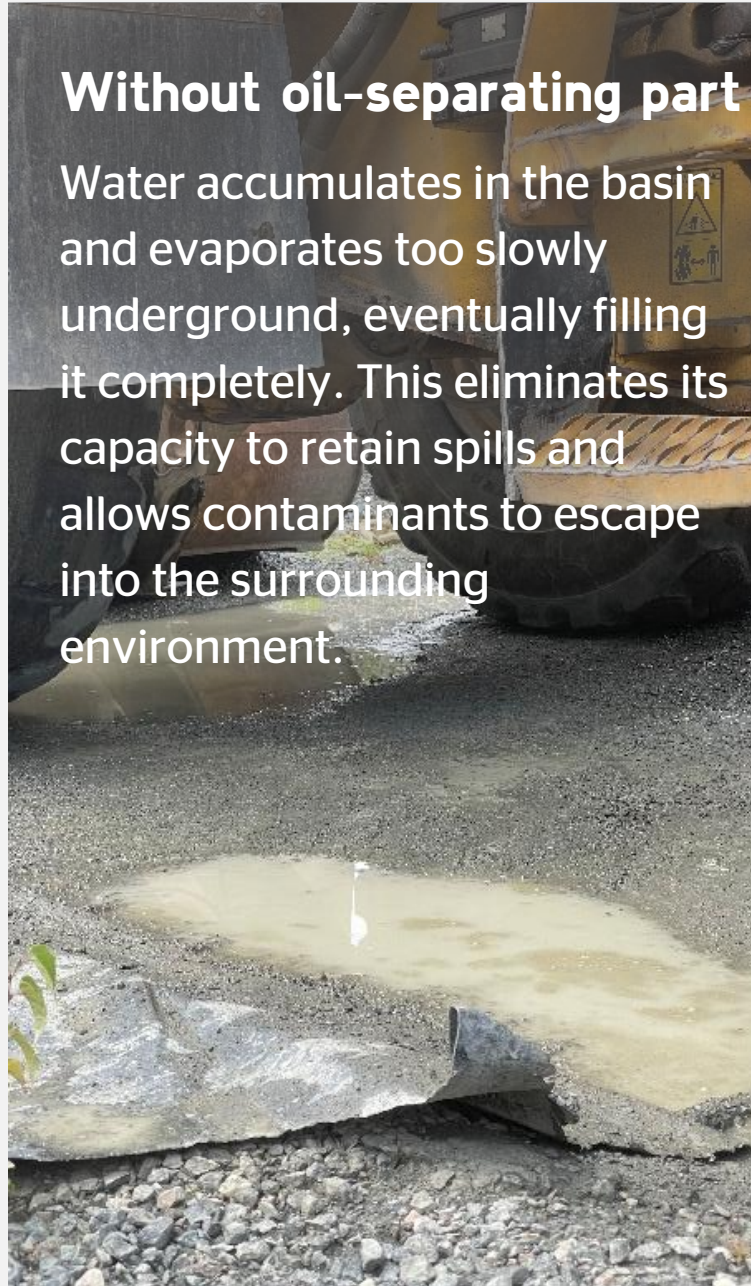
The O-SCP also complements double-jacketed tanks, which may require additional ground protection since theft or vandalism (e.g., drilling through the outer wall) risks compromising the built-in secondary barrier. Further, the system itself establishes a clearly designated and visually identifiable area for refueling, storage, and handling of fuel and oil.

Why is the oil-separating partition needed?



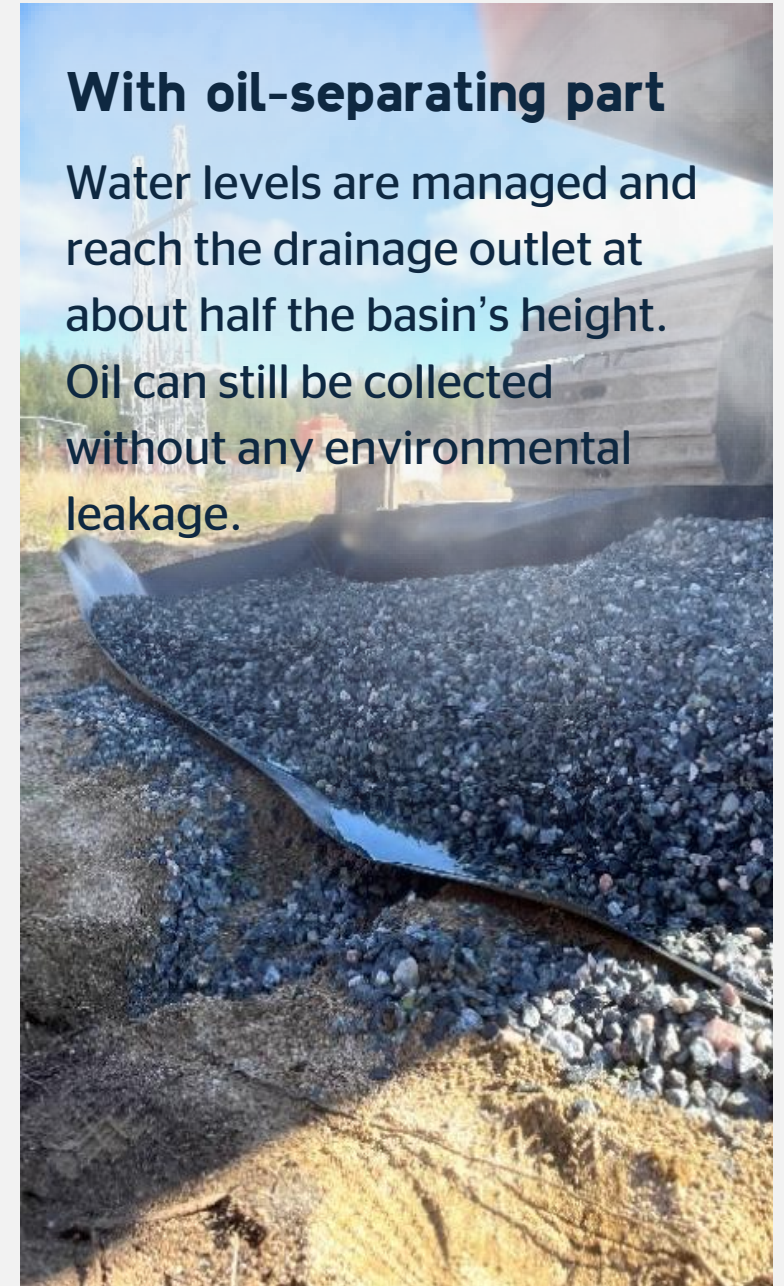
Without oil-separating part

Water accumulates in the basin and evaporates too slowly underground, eventually filling it completely. This eliminates its capacity to retain spills and allows contaminants to escape into the surrounding environment.

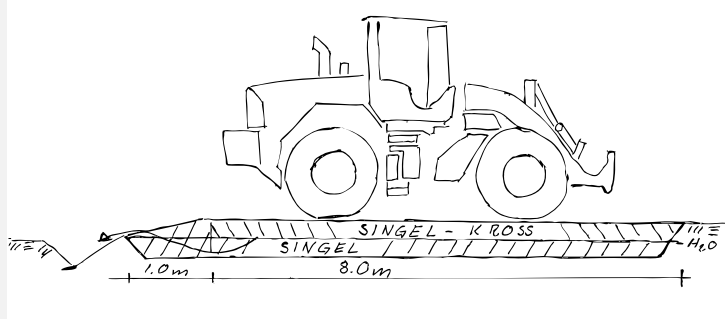


With oil-separating part

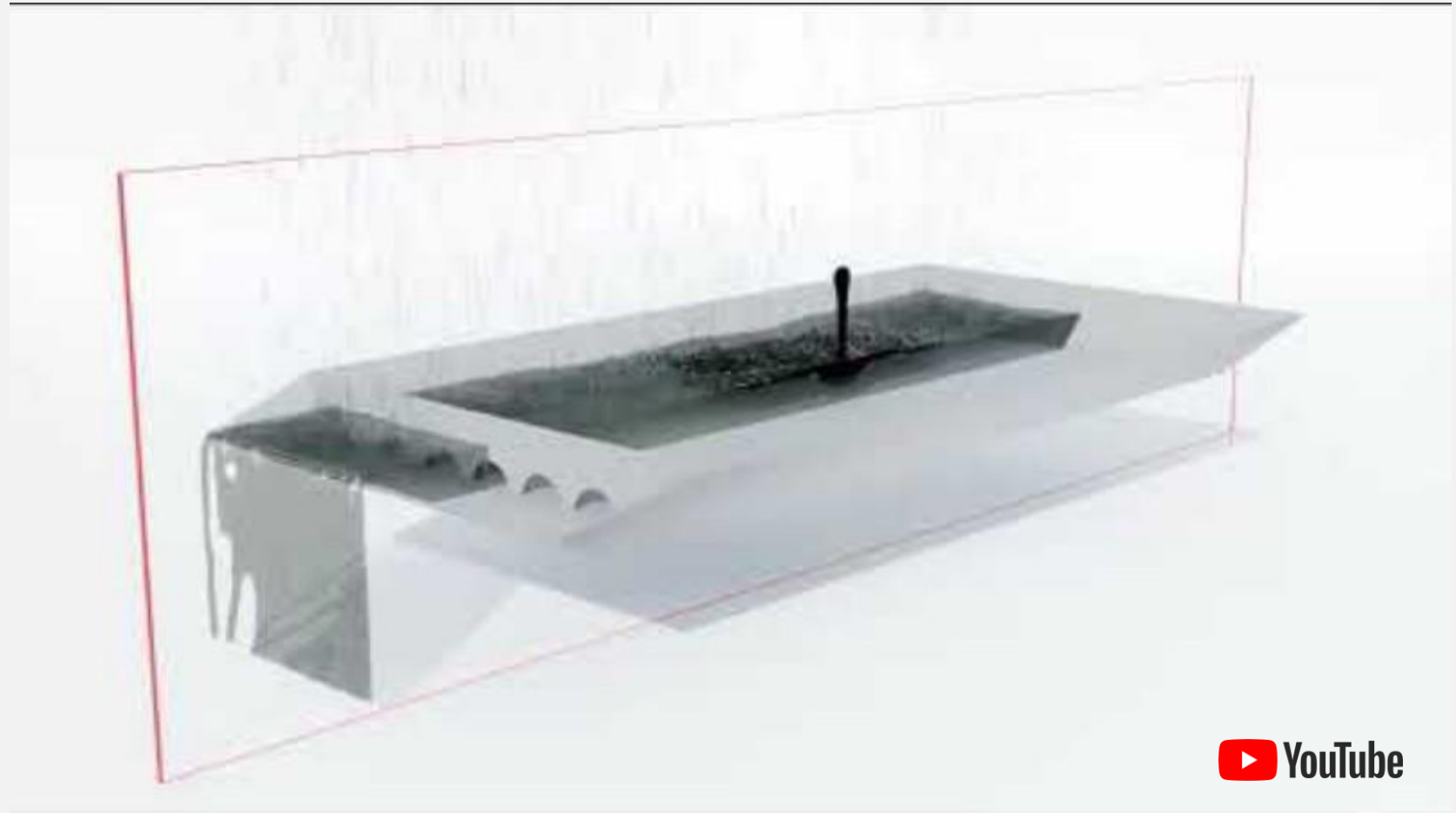
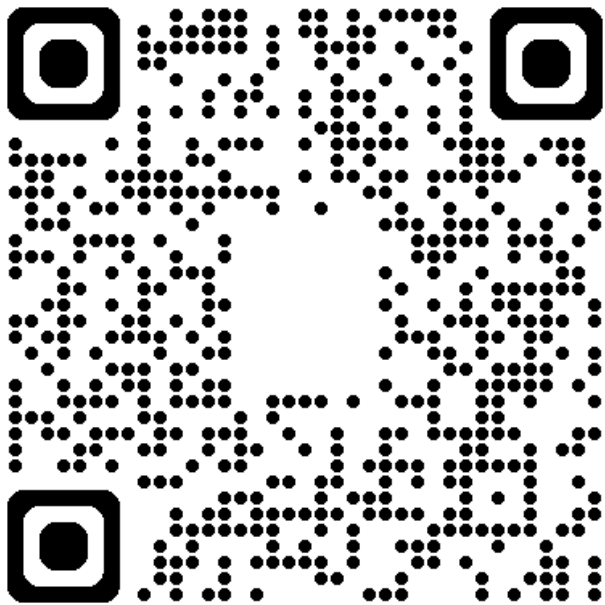
Water levels are managed and reach the drainage outlet at about half the basin's height. Oil can still be collected without any environmental leakage.



HOW IT WORKS (a simulation)



Link: <https://www.youtube.com/watch?v=wYQn6SwHumw>



HOW TO USE



Dimension the O-SCP to contain the full volume of the largest tank placed on it, plus at least 10 % of the combined volume of any additional containers.



Install the O-SCP beneath designated storage, parking, or refueling areas and fill it with suitable porous aggregate.



Perform refueling operations and place fuel tanks, parked machinery, and other oil- or fuel-containing equipment on the Oil-Spill Containment Platform.

INSTALLATION STEP BY STEP

Installation manual (PDF)

<https://marktackande-oljeavskiljare.se/wp-content/uploads/installation-manual-oil-spill-containment-platform.pdf>



1



2



3



4



5



6



7



8



9



10



DETECTING SPILLS

Spilled oil is retained within the aggregate layer, where it causes visible darkening that provides a clear visual indication of both the occurrence and location of a spill, including during rainfall. The aggregate acts as a physical cover that greatly reduces immediate exposure to wind, wildlife, and mechanical disturbance until the spill is detected.

Contaminated material must be removed and replaced without delay once a spill is identified, in accordance with site-specific response procedures and to eliminate the risk of oil residues in discharged rainwater. Routine visual inspections for such areas with darkened aggregate should be conducted.

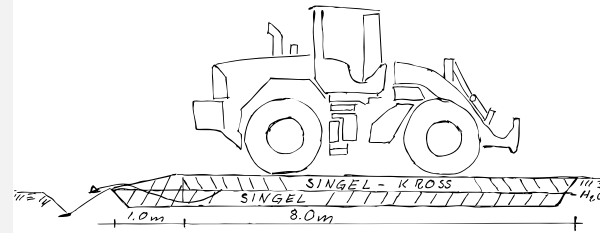


CONTROLLING THE INTEGRITY OF THE O-SCP

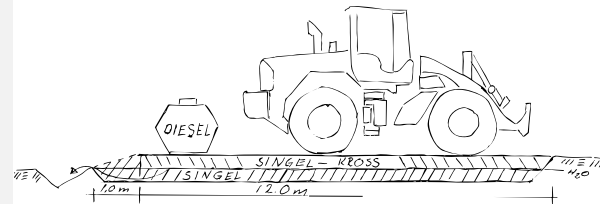
The integrity of the O-SCP may be assessed by observing water retention in the weeks following rainfall, either at the drainage side or through an observation tube to the base of the system. The presence of retained water indicates that the containment liner remains intact, as water would otherwise have drained. A full visual inspection requires excavation and exposure of the entire unit, which is generally not feasible after installation but should be performed whenever the system is relocated and reinstalled.



CUSTOMIZABLE AREA AND VOLUME



**8 x 5 m variant
Parking Area**



**12 x 5 m variant
Refueling Area**



Specifications

Function

Keeps spilled oil and other light liquids contained until removed, while allowing rainwater to drain away, eliminating the need for a roof or similar structures.

Application

The O-SCP is compatible with all machinery and vessels containing oil, diesel, and other pollutants, protecting the surrounding environment from unseen leaks.

Containment capacity

Contains around 65 L of spilled oil per square meter, adding up to

2,500 L

(8 m variant)

Installation

Can be installed in under

2 hours

by 1-2 people using an excavator.

Construction

The O-SCP is constructed from 1.5 mm non-permeable HDPE plastic that is resistant to oil, ground frost, UV radiation, and all chemicals commonly found in relevant industries.

Driving on & off

Avoid vehicle entry from the drainage side with the separating partition to prevent damage. Vehicles should enter from the other three sides.

Outdoor Storage

The O-SCP tolerates extended outdoor storage before installation, but years of exposure to direct sunlight and UV rays may cause degradation.

Other contaminants

Heavier-than-water contaminants settle within the lower portions of the O-SCP and are retained regardless of rainfall and water level.



Easy to reuse

Units can be dug up, relocated, and reinstalled several times.

Easy to handle

Units weigh about 25 kg and have several robust handles that can be pulled either manually or by machinery during installation.



Easy to transport

Can be folded and stacked for efficient, cost-effective transport. Units fit on Euro pallets, allowing easy loading and unloading from trucks and other vehicles.

REQUIREMENTS & LIMITATIONS FOR PROPER FUNCTION

Installation

Install the O-SCP on a level base. Borders should slope approximately 45° from the bottom, with the divider side lower than the others to enable controlled drainage.

Divider

The divider making up the separating partition should stand perpendicular to the O-SCP's floor for optimal function.

Choice of Aggregate

The O-SCP must be filled with permeable aggregate capable of supporting expected loads without compressing while also allowing water and oil to permeate it so that intended function can be established.

Positioning on Site

Position the O-SCP so machines can drive on and off easily, so water drains from its lowest side, and on elevated ground where there is risk of flooding.



Flooding

If flooding raises the surrounding water level above the drainage outlet, the O-SCP's oil-collection capacity may be reduced or lost.

Surrounding Water Level

If the groundwater level is above the base of the O-SCP, visual integrity verification through retained water cannot be performed.

Operation during dry conditions

In dry conditions (e.g., immediately after installation or an extended dry period), the oil-separating function is not engaged. During this period, the system functions equivalently to a conventional oil-collection basin.

Immediate Clean-up

Spilled contaminants must be removed immediately upon detection in accordance with standard spill-response practice and the precautionary principle.

FIELD EXPERIENCE AND FUNCTIONAL VERIFICATION

- The system has been deployed at multiple sites during its initial operational season. To date, no releases of contaminants to surrounding soil or water have been reported.
- Documented site inspections conducted during and following periods of heavy rainfall consistently indicate maintained water levels and preserved oil-collection capacity.
- During operation, water levels have not been observed to fall to a level that would allow contaminants to migrate toward the drainage section and risk being discharged.
- No damage to the system or compromise of its intended function has been observed despite repeated daily use involving heavy machinery driving on and off the platform and operating on the O-SCP.
- The system has been used at environmentally sensitive locations, including within water protection areas in Sweden, where previous temporary containment solutions were assessed as insufficient due to rainfall compromising function.

Operational experience does not constitute formal certification. Site-specific risk assessment and regulatory approval remain the responsibility of the operator.





REGULATORY CONTEXT AND LOCAL REQUIREMENTS

Environmental requirements applicable to fuel and oil handling vary between regions, jurisdictions, and site conditions. As the responsibility for compliance rests with the operator, the suitability of using O-SCP may be assessed in dialogue with the relevant supervisory authority and based on site-specific risk.

The O-SCP is a passive secondary containment measure and does not discharge water to sewer systems. It therefore falls outside the intended scope of EN 858, which applies to oil separators intended for continuous oil-water separation and discharge. Assessment of the O-SCP should instead focus on its function as a cost-effective alternative to traditional oil spill containment measures and its ability to prevent oil from reaching soil or water.

Depending on local regulations and site-specific risk, additional measures may be required, such as site signage indicating operations are taking place within a water protection area, availability of spill response equipment, or supplementary operational controls.

SUMMARY

O-SCP is a ground-level containment solution intended to reduce the risk of oil reaching soil and water at sites where conventional solutions or permanent containment systems are impractical.

- Containment capacity is maintained independently of rainfall through passive water-level control.
- Performance depends on correct installation, dimensioning, and operational routines.
- Integrity can be routinely verified through visual observation.
- Spilled contaminants should be removed promptly upon discovery.
- The solution may be used as a complement to other protective measures, such as double-jacketed tanks or existing secondary containment.
- Final suitability and acceptability are determined on a case-by-case basis based on site-specific risk.



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