
GUIDE

Best Practice Guide to Preventing Pollution on Construction Sites



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Best Practice Guide to Preventing Pollution on Construction Sites

According to research conducted by construction blog Bimhow, the construction sector causes 40% of all water pollution. Most senior environment professionals would claim they are well aware of the risks and have preventative and reactive procedures in place. This may, on the face of it, be true but we visit construction sites every week - including those of the biggest companies - and what we find is a lot of bad practice when it comes to pollution prevention.

By bad practice, we don't just mean the absence of pollution prevention measures in one area or another but also approaches known by local managers to be flawed. The latter is box-ticking – making it look like you are doing the job when you know you are not. The Environment Managers that invite us onsite aren't willing to accept these bad practices.

What is surprising, however, is that having implemented best practices on one site many companies fail to roll it out onto every other site. 'We don't do that' is a frustration commonly aired. 'Each project can make its own decisions' is another. Even when the approach being taken has been denounced by the Environment team and a better, more cost-effective solution recommended. This defies common sense but, worse, is damaging the environment.

In this Best Practice Guide to Preventing Pollution on Construction Sites, we shine a light on some common bad practices and suggest how you can do the job more effectively and, crucially, without necessarily having to spend more.

Flawed spill control

Most companies understand that they need to use some form of oil-absorbent pad underneath motorised equipment. Capturing oil leaks and refuelling spills is a key part of site spill control policy. But it's hardly best practice to use absorbent or rigid spill trays which fill with oily water every time it rains. Every environment manager we've met has openly admitted that these are left to overflow or that site workers empty the contaminated water onto the ground when full.

You're not preventing pollution, you're just delaying it.



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Flawed Drain Protection

When it rains, mud is washed from your site into the nearest surface water drains. This water may also be contaminated with oil and fuel from equipment and vehicles. Additionally, you may pump muddy water from excavations straight into the drains on your site.

Surface water drains run straight into natural waterways like rivers or the sea, so any silt or hydrocarbons in the water directly impact water quality and biodiversity. A build-up of sediment can also block drains leading to localised flooding. So what's the best way to protect drains?

Drain covers and mats prevent anything getting into the drain but they just pass the problem down the road, depositing silt as it goes. This is a skid risk for motorists, a slip risk for pedestrians and unsightly for local residents. There are more responsible approaches.

Another approach involves wedging a drain bag inside the gully pot. This allows water to flow through but traps sediment. A common complaint is that the weight of sediment can cause the bag to fall to the bottom of the gully pot rendering it ineffective and making it difficult to remove.

Flawed Dewatering

In Spring 2022, a leading UK housebuilding company was fined £433,000 for multiple water pollution offences. These all involved the illegal discharge of muddy water into a nearby river.

A common source of silt-laden water comes from pumping out flooded excavations. This may be pumped onto site roads where it can enter surface water drains or it might be discharged directly into natural waterways.

Environment managers are well aware of the legislation around dewatering so why are shortcuts taken?

Contractors are under pressure to get the job done. Faced with an unexpected dewatering job, they might have to wait for a settlement tank to be ordered and delivered or, if the water is contaminated with hydrocarbons or other pollutants, a vacuum tanker. Both of these approaches are expensive too.

So, faced with delays and expensive call-out or rental charges, a contractor might be inclined to turn a blind eye to the pollution risk. The key is to provide tools that enable the job to be done quickly, easily and at low-cost. An additional factor here is education. Silt is not an obvious contaminant and site workers may be unaware of its potentially damaging effects.

There is no reason for these bad practices to persist. Highly effective and affordable alternatives have been available for years and many of the UK's top construction companies are already using them.

In the second half of this guide we take a look at what they are doing.

Best Practice Spill Control

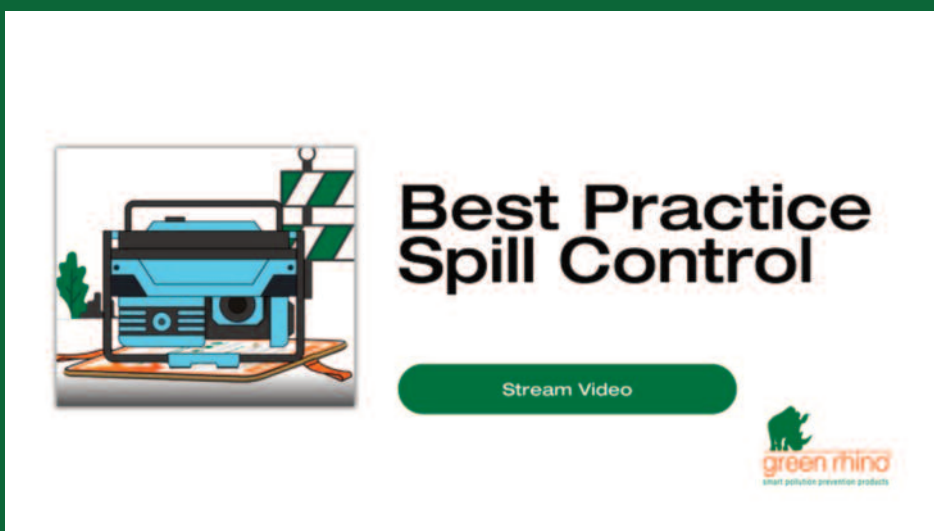
In the UK, 18 of the top 25 construction companies now use the Green Rhino EnviroPad for spill control. You may find that some of your sites do. Morgan Sindall listed EnviroPad on the Considerate Constructors Best Practice Hub. In a 2018 Sustainability Case Study, Balfour Beatty said 'EnviroPad overcomes the flaws of the Plant Nappy.'

EnviroPad is different because it isn't a tray and so doesn't collect rainwater. But it's what's inside that's the clever bit. This innovative product uses smart polymers to absorb hydrocarbons and turn them into an insoluble, rubber-like substance.

The solidified hydrocarbons can't leak out and won't be washed out by rainwater or even jet washing. Site workers prefer it because it is cleaner and easier to handle.

Importantly, EnviroPad is significantly cheaper than nappy-style products.

EnviroPad works with all common hydrocarbons found around construction sites - motor oil, petrol, diesel, hydraulic fluid - as well hydrotreated vegetable oil (HVO).



**Best Practice
Spill Control**

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Best Practice Drain Protection

In order to protect drains in a more responsible and effective way, a drain filter is widely considered to be the best approach. This is suspended inside the gully pot and filters out sediment and debris as run-off passes through. The big advantage of drain filters is that they can be easily emptied and reused if they fill up.

The Green Rhino EnviroHorn drain filter is a robust and long-lasting approach popular with leading housebuilders. A new drainage system is often installed early in a housebuilding project. Muddy site roads and dewatering can lead to a high volume of silt-laden water so a reliable and reusable solution is highly advantageous.

Balfour Beatty has listed EnviroHorn on the Considerate Constructors Best Practice Hub.



Best Practice Drain Protection

[Stream Video](#)

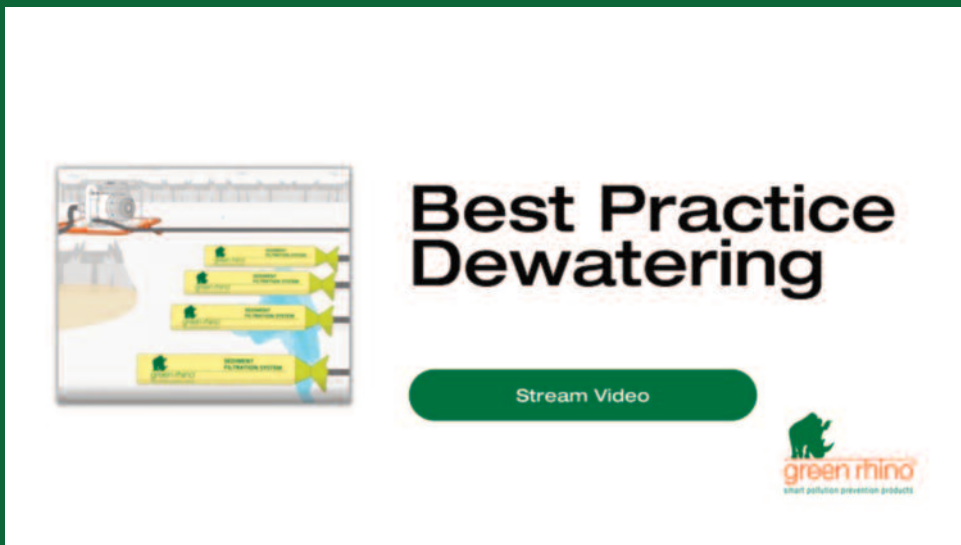


Best Practice Dewatering

Fortunately, if you are well-prepared you can dewater most small to medium-sized excavations in a way that is fast, affordable and compliant with environmental regulations.

Best practice is to pump the water through a sediment filter (sediment sock or silt bag). This will filter out silt so you can discharge the cleaned water direct to surface water drains or a natural waterway.

Beware poor quality sediment filters, however, which can easily burst under pressure. Site workers often don't need too many excuses to abandon what they may see as unnecessary hassle. Providing cheap, ineffective tools gives them just such an excuse.



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Ref: <https://www.greenrhinoglobal.com/category/dewatering-filters/>

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Green Rhino's range of rugged sediment filters are built to survive the rigours of repeated use on construction sites and roadside works. With options for hydrocarbon capture and ultra-fine sediment filtration on sensitive sites, you can make sure your workers have the right tools for every scenario. Green Rhino Sediment Filters are standard issue for the UK's leading utility maintenance contractors who dig a lot of holes.

For many high-volume dewatering jobs the only recourse is to use settlement tanks. But some jobs fall in between and here Green Rhino has come up with a low-cost solution that helps you dewater higher volumes quickly, safely and with a huge cost saving.

Working with a UK construction customer, we developed the Green Rhino Manifold which can harness up to eight sediment filters simultaneously. This can deliver the throughput and filtration capacity of a settlement tank. Stored on site, the Manifold can be mobilised in around ten minutes and filters can be emptied and refitted if they get full. Filtered sediment can be added to a spoil heap and reused on site. Compared to the hire costs of a settlement tank, the Manifold will pay for itself in weeks.

In many cases you will need a dewatering permit to discharge water into the environment. In all cases, contact your local environment agency for advice. It is against the law to be operating without a permit when you need one. For more tips, read our comprehensive Best Practice Guide to Dewatering Excavations.





The Buck Stops With You

By implementing best practice pollution prevention you can minimise the risk of fines, prosecution, unplanned delays and clean-up costs. It's likely that across your projects you have a variety of approaches being taken - some best practice others not. Environment teams need to be stronger at demanding that the highest standards are adopted and maintained on all sites.

If you are a primary contractor you'll have a number of subcontractors working for you but this is no excuse for allowing bad practice to be carried out. You have the power to demand that your subcontractors follow best practice. The most effective approach we've seen is a top 5 housebuilder which issues its subcontractors with a handbook of approved SHEQ products that must be used.

An effective approach to pollution prevention also needs buy-in from site workers. Ill-thought out approaches encourage non-compliant behaviour. The cleaner, easier to use and more durable the solutions you ask your site workers to use, the more likely they are to accept them in the first place and keep using them.

Take the first step towards environmental best practice and request an onsite demonstration from Green Rhino today. Invite us to present to the whole Environment team or on individual project sites.

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