



Site Specific Water Management and Pollution Mitigation Plan

New Development

WOOD LANE, HIGHAM-ON-THE-HILL





DO WE HAVE CONTROLS IN PLACE?

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GENERAL GUIDANCE NOTES

SILT CONTROL

Why do we need to control silt?

Silt has the potential to harm aquatic plants and animals, smother important habitat, reduce water quality and transport other contaminants such as oil and chemicals.

It is an offence to allow polluting materials to drain into a watercourse.

Silt pollution can result in prosecution and with it the potential for large financial penalties and reputational damage.



What are the sources of silt?

There are a number of high-risk areas on a site that are prone to silt mobilisation during rainfall:

- roads and parking areas
- exposed soil
- dewatering muddy excavations
- plant and wheel washing facilities
- vehicles tracking across rivers, streams and ditches
- material storage areas and stockpiles
- uncontrolled concrete wash waters

How does silt pollution escape from site?

Once sediments are mobilised they will travel the path of least resistance, often resulting in muddy water leaving site.

Key pathways include:

- ditches, streams and ponds
- neighbouring fields
- land drains
- surface water and foul drains
- Excavations
- Roads
- Gulley's

What are the benefits of silt control?

- reduce the risk of delays and the associated cost
- improve relationships with the client, regulator and neighbours
- reduce complaints, disputes and the potential for compensation claims
- ensure local communities and local wildlife aren't impacted by our activities
- reduce the likelihood of fines and enforcement notices from the Environment Agency



**Remember: it's easier to be proactive and plan how to control silt run off
once its in full flow you won't be able to stop it!**

The following site checklist can be used as a guide to help plan silt management:

Before works start:

DO:

- Be aware of all rivers, streams, ditches and drains and where they flow to, plan to protect these from mobilised silt.
- How much rainfall can reasonably be expected? Ensure any settlement ponds are sized appropriately.
- Check what silt control interventions are needed e.g. filtration devices, pipe reactors, silt capture channels. Seek advice early if unsure.
- Plan to divert clean water away from exposed soils and working areas i.e. minimise silt creation.
- Minimise the extent and duration of soil disturbance, establish new vegetation on bare ground as soon as possible.
- Retain a vegetated strip (buffer zone) adjacent to rivers, streams and ditches.

During construction:

- As the site develops check measures are working and still in place.
- Report evidence of discoloured water leaving site to the client or site foreman.
- Prevent contaminated water from entering watercourses untreated.
- Roads and drains on site should be kept free of sediment build up.
- Keep site access clean and free from mud and standing water.
- Check site drainage and silt control interventions after rainfall events.
- Check silt treatment systems are working and that water being finally discharged from site is clear of silt on a daily basis.
- Monitor silt traps, ensure they are working as planned.

DON'T:

- Don't strip land of vegetation unless it is necessary. Aim to reduce exposed soil on site.
- Don't store piles of excavated material within 10m of a river, stream or ditch.
- Don't pump muddy water to rivers, streams or ditches without treatment in place.
- Don't release muddy water from excavations without appropriate controls.
- Don't release road-sweeper waste or concrete washout directly onto the land or into drains, use designated site-specific methods of disposal.
- Don't hose down roads, concrete or cement spills directly into rivers, streams, ditches or drains without controls in place.
- Don't wash off any tools or plant directly in rivers, streams or ditches.



Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
437765/295221

Created
16 Nov 2023 14:49

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- In an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

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Environment
Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
437765/295221

Scale
1:2500

Created
16 Nov 2023 14:49

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area

0 20 40 60m

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Scope

This plan has been produced to supplement the clients Construction Environmental Management Plan (CEMP) that will be written to describe the environmental responsibilities and controls necessary during the construction phase of the development.

The plan outlines the site- specific mitigation measures to be implemented ahead of and during works on the project; therefore, minimising the risk of offsite flooding caused by surface water run-off and ground water during construction works. These mitigation measures will also minimise potential pollution of the local water courses that lie adjacent to the site.

Water and Pollution Management – Risk Assessment Methodology

The development lies within **flood zone one**; Due to construction activities having the potential to impact on current drainage systems and the possible presence of high ground water in certain locations, mitigation measures will be implemented in line with our clients' company procedures.

The risk analysis will be categorised into High, Medium and Low risks as follows:

- **Low Risk** – Standard Alliance Groundworks & Civils Ltd / Client Procedures will be followed as defined within the relevant safe systems of work Method Statements and the Client CEMP.
- **Medium Risk** – Over and above the implementation of Standard Procedures, additional mitigation measures have been identified as required to control potential pollution incidents.
- **High Risk** – Over and above the implementation of Standard Procedures, additional mitigation measures have been identified to control surface water run-off and flood potential. Furthermore, the SHE Advisor will undertake watching briefs / inspections to ensure mitigation measures are effective and prevent pollution incidents.



Standard Procedures

In addition to the Client CEMP. Key points include:

- Storage of spoil to be kept a minimum of 10mtrs away from any watercourse or drains.
- Storage of fuel and refuelling to be kept a minimum of 10mtrs away from any watercourses or drains.
- Spill kits will be available at all works locations.
- Training of all key employees in the use of spillage containment. This includes the locations of the equipment, and the means by which used spill containment materials are to be disposed of following use.
- Silt fencing, Silt Mats, Etc., Rock dams, straw bales or cut off ditches to prevent pollution entering watercourses. Such measures must be installed before works commence. These will be marked up onsite.
- Fuel bowsers will be double skinned and will be locked when not in use.
- Drip trays to be used for all items of mobile plant and equipment.
- Machine operators will carry out daily checks of plant, including hydraulic lines.
- Abstraction / de-watering of excavations should be undertaken in excess of 10m from a watercourse (if highly sensitive or prone to flooding this distance may need to be increased). The de-watering exercise should be carried out through a silt protection capture layer such as a silt sock, sumps, silt fencing, rock dams, or onto a vegetated area at least 30m from a watercourse (if practicable) with landowner permission.
- Sign up to the Environment Agency flood risk helpline.
- Checklist to be completed and authorisation given to operatives to proceed once all measures have been satisfied.

Supplementary Mitigation and Emergency Response Measures

- All necessary consents and permits (client / EA) will be obtained prior to works commencing, i.e. discharge consent.
- Monitoring of the weather forecast daily, and also provision of a 5-day weather look ahead to assist in the planning of activities.
- All works will cease if extreme wet weather occurs, preventing project activities enhancing surface water run-off and increasing the potential for a pollution incident occurring.

- Watercourses and any drains will be inspected visually by the Site Supervisor on a daily basis and/or during any operation which could affect the watercourse/ sewer network.
- To maintain connectivity of any flood plain, there will be gaps left within the spoil piles. This will prevent impacts on the surface flood water, by ensuring there are no barriers to flood waters. The gaps will be monitored to ensure they remain open and allow water to flow unimpeded.
- Grips will be installed where required around spoil piles and work area boundaries. Silt fencing, straw bales (or similar) will be used within the grips where appropriate.
- Spoil piles will be battered back. Long term stockpiles (greater than one month) will be either seeded or will be covered with Terram/similar material and pegged appropriately.
- Where appropriate, wheel washes will be implemented.
- De-watering and pumping activities will be assessed prior to works commencement and any requirements such as Permits to Pump etc. will be issued for the works, in conjunction with any sediment filtration systems where required.
- Additional mitigation measures to be readily available on site, i.e. back up pump and silt fencing.
- Designated concrete washout to be set up where required away from drains and water courses.
- Regular monitoring by the Alliance HSE team and senior management. Where required briefings provided to site operatives.
- Should a decision be made that a spillage / silt incident is larger than can be adequately be controlled using the above spill containment provisions, then further guidance and advice will be sought to enable the appropriate control response.

Supplementary Mitigation and Emergency Response Measures (Continued)

This standard shall not apply to soil stockpiles that will be built and removed within 24 hours

Soil stockpiles must be located, at a minimum, 10mtrs from any wetland, stream, ditch, swale water conveyance system, lake, pond, etc. The measurement of the buffer zone is to be made from the edge of the protected area nearest the stockpile, to the outside edge of the stockpile perimeter.

- Stockpiles shall not be located within an overland flow path.
- Stockpiles shall not be located in a designated floodway.
- The natural angle of repose of the piled soil material shall be designed into the height and slope of the stockpile, to avoid any potential sloughing of the slope.
- The stockpile shall not be built within the drip line, or over the root crown, of adjacent trees.

List of available Sediment Management Interventions

The following sediment management solutions are easy to use and specifically designed to reduce pollution from construction activities.



SILT MAT

- Captures sediment and prevents resuspension in high flows
- Proven in the field to reduce downstream sediment pollution
- Each 2x1 meter mat can capture over 40 kg of silt
- Easily deployed on site, in ditches, channels and watercourses



FLOC MAT

- Treats and polishes muddy water from construction sites
- Active ingredient binds sediment and enables separation of silt from water
- Versatile product with a range of sediment control applications
- Deployed on land and in drainage channels to clean muddy water before it is discharged



SILT WATTLE

- Reduces flow rate and aids natural sediment collection
- Filters water and traps sediment reducing downstream levels of TSS
- Durable solution that can be left on site over a period of months
- Deployed on slopes, in ditches and channels and used as a boundary protection



TREATED GEO-JUTE

- Polishes water in discharge channels and settlement ponds
- Rolled product, easy to handle and deploy
- Active ingredient binds and traps sediment preventing downstream pollution
- Biodegradable and disposable to bankside (with correct permit)



FLOCCULANT BLOCKS

- Environmentally friendly flocculant blocks safe to use in site drainage
- Different blends to suit site-specific water and soil chemistry
- Binds fine clays and silt making it easier to capture and remove
- Deployed in ditches upstream of settlement ponds



PIPE REACTOR™

- Pumped system using Water Lynx to separate water from sediment
- Highly portable, used for dewatering muddy excavations on construction sites
- Fits to standard 2 or 3 inch pump
- Deployed with silt capture products to capture flocculated particles



SILT FENCE

- Site perimeter protection
- Overland flow interception
- Drain and surface water protection
- Reduces catchment flood risk
- Reduces pollution incidents offsite



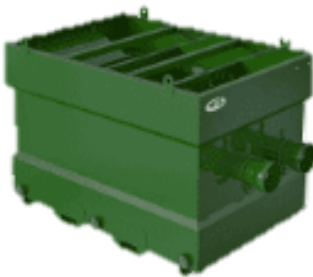
SILT NET

- Improves performance of settlement ponds and lagoons
- Semi-permeable barrier treated with active ingredient to help bind sediment
- Highly durable solution using combination of biodegradable natural fibres
- Deployed across the width of treatment ponds to capture silt



STRAW BALES

- Used to intercept and detain small amounts of sediment from disturbed areas
- Cost effective pollution control product
- Promotes sheet flow and reduces runoff velocity
- Slow the process of erosion



SETTLEMENT TANKS

- Allows suspended particles to settle out of waste water
- Rapidly deployable
- Accumulated solids can be periodically removed
- Provides some degree of purification and filtration to treat waste water

WATER DISCHARGE CHECKLIST (MUST BE COMPLETED PRIOR TO DISCHARGE)

No.	Comments	Yes	No	N/A
1	Have all watercourses and drainage systems been identified on site?			
2	Have all works near to watercourses been agreed with site management, environment agency, local authority, etc?			
3	If any works are within the watercourse (i.e. headwall construction) or discharge to be made to stream, etc. has EA consents been obtained and approved?			
4	Have site personnel been briefed on dealing with waste water on site i.e. groundwater. Consider new site personnel/ changeover of site supervisor does everyone involved know what should be happening as part of the control measures to prevent pollution.			
5	If consent has been granted for pumping of water into a foul drain or watercourse, has an agreed method of work been put in place and briefed to those involved to include controls such as pumping through a silt buster/ filter system, etc.			
6	Have designated areas been set up on site to keep oils, fuels and concrete washouts bunded and away from watercourses and gullies?			
7	Have controls been put in place to deal with silt run off i.e. gulley terram/bags, silt fences, topsoil bunds, straw bales, silt mats, etc.			
8	Signed brief by all involved completed on overleaf of this checklist? Please note that at any point that a No is issued in the above checklist works should be stopped and your Contracts Manager/ HSE Advisor should be contacted for further guidance.			



WATER DISCHARGE BRIEFING SHEET

[illegible]