Form (055)
Surface Water Management Plan

Surface Water Management Plan

1. Introduction

To prevent unpermitted contamination of controlled waters, including ground water, caused by our work activities. Specifically, this involves:

- Identifying sources of potential contamination (surface and silt water run-off, fuel and chemical storage, excavation pumping operations etc.)
- Determining the receptors (water courses, ground water, foul, surface drains & SuDS) for any potential discharge and determining risks associated with the development.
- Understanding and managing pollution pathways – to prevent sources of pollution (point A) following it's 'natural pathway' (point B) entering receptors (point C)
- Developing and implementing controls for understanding and minimising risk, through control and treatment.
- Utilising appointed technical consultants to assist in developing appropriate and effective methods of control.
- Ensuring effective monitoring and maintenance of pollution prevention measures.
- Developing a specific and effective Surface Water Management Plan, using the this template
- Preparation of an associated Pollution Incident Response Plan for emergency situations
- Assurance of effectiveness through the implementation of inspection, monitoring and sampling measures.

2. Scope

The requirements for a Surface Water Management Plan applies to all Gleeson Homes developments irrespective of size and location.

3. Process

Surface Water Management Plans are developed and subsequently reviewed in two phases:

Phase A – Following successful agreement to purchase the site, the Plan will draft by the Technical Team, supported by specialist and expert consultants and with input from Land and Partnerships and the SHE Team.

Phase B – The Plan will be finalised by the Construction Team, with the groundworks/road and sewer and remediation contractors. It will form part of all Construction Phase Plans. The Construction Team will ensure that all arrangements are:

- Suitable, practicable and effective,
- Compatible with the desired build route,
- Implemented and maintained throughout the construction lifecycle

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1. Site Details

Site Name :	Ivy Mills Phases 1 & 2
Address:	Main Road/Cleator Moor Road, Whitehaven. CA28 8TP
Date of first draft :	07/08/2024
Site Manager Details: (Name Phone)	tbc
Regulator Details :	Cumbria Council (LLFA) & Environment Agency

2. Change Log

Record of updates / amendments made following initial plan.

Version No.	Date :	Details of change :	Prepared by: Reviewed by :
1	07/08/2024	First Issue	Tech Head (Prep) Construction Head (Rev) Site Manager (Rev)

3. Surface Water Management Plan Sign off

This plan should be completed & signed off by all representatives as part of the pre-construction phase and prior to any work commencing on site

Phase A – Planning & technical Appraisal					
Technical		**Date:**	**Land**		**Date:**
Commercial		**Date:**	**SHE Manager**		**Date:**
Phase B - Construction					
Construction Director		**Date:**			
Site Manager		**Date:**			

Surface Water Management Plan

4. Site Plan and Layout

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Insert a copy of the site drainage plan / layout with planned water management control measures typically illustrating the following:

- Location of this land within the construction site as a whole (if the plan covers only part of the site)
- Location of Water courses (inc. culverted watercourses, land drains etc. ponds, wetlands, springs, ditches, estuaries and coast) on the construction site
- Details of water sources entering the site, surface water run-off, waterway etc
- Locations of surface water capture and treatment measures
- Details of existing drainage infrastructure on site

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5. Site features likely to indicate a High Potential Pollution

Potential Risk	Present Y/N	Potential risk	Present Y/N
Visible flowing water course within 100 metres of site boundary	N	Protected areas (SSSI, national park etc) located downstream	N
Discharge from site flows directly into a water course	N	Groundwater level detected at installed drainage pipework depths	N
Water course contains visible aquatic life (fish etc.) or has been assessed as environmentally sensitive	N	Likely volumes of temporary discharge will exceed those designed for the final discharge consent	N
Soils investigation identifies clay (impermeable materials)	Y	Local water course used as local amenity (fishing, boating, swimming)	N
Site exposed, or at high altitude, or steep gradient	N	Construction Programme identifies that final discharge point will not be available in less than 3 months.	N
Rainfall prediction in location relatively high	Y	Treatment of water discharge is likely to be required to achieve the quality standard of acceptability	N
Historical evidence indicates site suffers from seasonal flooding	N	Consortium site with shared collection and discharge outlets	N

Where the answer to any of the above points is Yes, ensure the surface water management plan specifically addresses and manages associated risks

6. Water sources and drainage infrastructure entering the site

Enter details of existing drainage constraints that may be affected by site activities

Details of Springs / pumping sources
None
Details of existing streams, ditches, swales, road gulleys etc.
None
Details of proposed changes to existing water courses entering the site and or infrastructure
Nobe

Surface Water Management Plan

7. Capture Methods

Enter details of anticipated methods of controlling surface water

Pumping
None
Settlement Ponds
None
Earth Bunds
None
Surface water grips / French drains
None
Other

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Surface Water Management Plan

Surface Water Management Plan

8. Treatment

Enter details of planned control measures to manage surface water hazards identified on site

Dirt Bags
None
Gulley Bags
Gully bags have been allowed for to gullies to all the estate roads.
Silt Fencing
None
Settlement Tanks (E.G. Silt buster etc)
None
Settlement Ponds
None
Floc Mats
None
Other (E.G. Road Cleaning Wheel wash measures etc)
Road sweeper

Surface Water Management Plan

9. Discharge Points – detail applicable items and include on drainage plan

Enter agreed discharge arrangements planned for site:

Water Courses
N/A
Ground water (E.G soak away)
N/A
Surface water Drains
Surface water flows, restricted to Greenfield Runoff from the proposed development will discharge to the SuDs storage crates located within the development before discharging to the public SW sewer. (see drainage plan above)
Foul sewer / drains
Foul water flows from the proposed development will discharge to an off-site public FW sewer. (see drainage plan above)
Tanker
None
Other (Include onsite SUDS, catchment ponds/bunds areas and detail of safety protection and signage required)
SuDs storage crates, part of the surface water management system for the proposed development is located within the site.

Surface Water Management Plan

10. Permits, Licences and Consents

Discharge: Enter details of any discharge licences granted together with permitted flow rate and discharge concentrations from EA / local water authority etc
None
Abstraction, Flood risk activities, and other licenses
None

11. Emergency Measures and Arrangements

Enter details for any emergency arrangements if the area is in an EA Flood Warning area or plans to manager excessive weather events etc.

Extreme Weather / Excessive rainfall / Water flow / flood
Straw bails are stored on site for use in extreme weather conditions.
Emergency team Contact:
Site Manager: tbc **Contracts manager:** Liam Aplin – [redacted] **Construction Director:** Brian Corrin – [redacted] **Regional SHE manager:** Jake Slater – [redacted]

Surface Water Management Plan

12. Monitoring Arrangements (locations – to be marked on plan)

Mark on drainage plan applicable controls and detail monitoring regime below

What	How	When	By Whom
Unmade ground	Visual check of unmade ground	Weekly or following adverse weather	Site Manager
Excavations	Contain any silty water discharges	During excavation activity	Groundworkers
Culverts	Visual check to be undertaken of the culvert	Daily or following heavy rainfall	Site Manager
Settlement Ponds	Upper and lower basins (x2) to be visually checked	Daily or following heavy rainfall	Site Manager
Temporary Settlement Tank (portable)	Visual	Daily or following heavy rainfall	Site Manager
Site water entry points			
Site water exit points		Daily	Site Manager
Gulley inspections	Visual	Daily	Site Manager & Groundworkers
Silt Fencing	Visual Inspection	Daily	Site Manager
Testing/Analysis of samples			
Upstream of site			
Other			

13. Reporting

What	To whom	When
Breaches of measures to control flows (e.g. damage to filter mediums, gaps in bunds etc.)	Construction Director or Delegate	Immediate
Inadequacy of implemented measures to control flows (localised flooding, new sources of water flow etc.)	Construction Director or Delegate	Immediate
Changes to visual water quality through the outfalls	Construction Director or Delegate	Immediate
Changes to suspended solids in sampled water analysis	Construction Director or Delegate	Immediate

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14. Review Frequencies

Phase B of Surface water plan to be managed on site by site management team and to be updated wherever circumstances change / dictate

Document	How	When	By Whom
Surface Water Mgt Plan	On site review of management plan to ensure it is still effective for the works currently underway on site	Minimum monthly and following/during severe weather conditions.	Construction Management Team (CM/SM)
Actions	Actions or Issues raised on Safety Culture	As directed by inspection / report severity	Construction Management Team (CM/SM)

15. Equipment Standards

Ensure equipment provided is compliant with standards shown below as illustrated in supplementary information below

Item	Equipment	Supplier	Installer
Silt Tubes / Dewatering bags.	Dirtbags 1.5m2 100 micron	tbc	tbc
Silt Fence	n/a		
Gulley bags	Yes	tbc	tbc
Floc Mats	n/a		
Pumping requirements	Pump as required (Rate no greater than 4l/s)	tbc	tbc
Other			

Supplementary Information

Dirt Bags

Dirtbags

Sediment control the easy way

0113 253 3150
info@dirtbagsuk.com

Dirtbags

» HOME
» DIRTBAGS
» DIRTBAGS IN SETTLEMENT TANKS
» DIRTBOX
» COMING UP...

WATCH THE VIDEO

IMAGE GALLERY

CONTACT US NOW

phone 0113 253 3150
fax 0113 252 7394
email info@dirtbagsuk.com

• DIRTBAGS

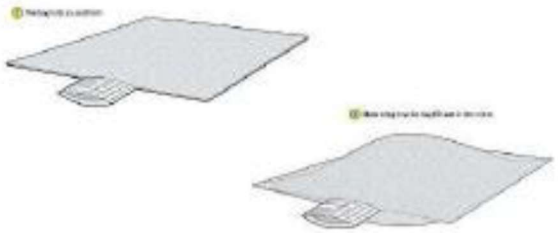
The standard size of the Dirtbag is 1.5m^2 giving a filtration area of 4.5m^2 allowing a flow rate well in excess of 4600 l/min or the pumping capacity of a 6" pump.

The Dirtbag can be used in various applications in its' raw form, as the shape & size of the bag can be determined by the end user and as Dirtbags are manufactured in the UK we can make them any shape or size to suit your exact site requirements.

Unlike other sediment control units the Dirtbags are NOT RELIANT on pumping speeds or settlement times and the bags will help retain solids from your pumped water.

The Dirtbag is fitted with a standard 10" elasticated collar which will fit around any size delivery hose or connector and you simply pump the water into the Dirtbag, the water runs through the bag which catches the solids in the water.

Dirtbag in its traditional 'envelope' form:



Click on image to enlarge

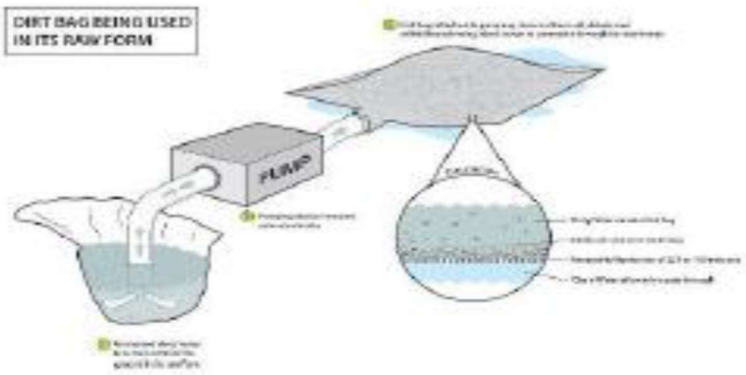
Dirtbags are available in 100, 200 & 500 micron filter sizes and will retain solids dependant on the filter size of Dirtbag used.

How it Works

The image below shows the Dirtbag laid on the ground whilst water is being pumped through it. This is an easy solution if your site conditions allow for site water to run away and find its own course.

The solids are retained in the Dirtbag which allows the water to flow away.

Supplementary Information
Dirt bags



Click on image to enlarge

Once the Dirtbag has filled with solids and the Dirtbag no longer allows adequate water flow (i.e. blinded off), it is simply disposed of in accordance with your on site waste disposal guidelines and another Dirtbag is used.

"Simple"

Utility Bag

The utility bag was purpose made for small mobile street works and its simplicity has proved to be very popular with street works and utility contractors.

The Utility bag is simply laid at the kerb side, before the road gulley and trench water is pumped through it which catches the solids before reaching the drainage system.

The bag can be turned inside out and re-used and is easily stored in the gang's vehicles or PPE kits until needed again.

The utility bag measures 1m x 300mm and its 10" elasticated collar means it will accept any size delivery hose.

"Dirtbags are manufactured and distributed in the UK so we can make any size bags to suit your exact requirements"

DIRTBAGS KEY ADVANTAGES:

Simple & Easy to use, light & compact for easy storage, bag can be made to any shape or size with 100, 200 or 500 micron filter sizes, 24 hour delivery if required, indefinite shelf life, no cleaning up required just dispose of the bag once it's full, simple order and delivery process, 50 micron Dirtbags are available for certain applications on request

"The Dirtbag does not rely on pumping speeds or settlement times"

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Surface Water Management Plan

Supplementary Information

Dirtbags

Sediment control the easy way

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Dirtbox

- HOME
- DIRTBAGS
- DIRTBAGS IN SETTLEMENT TANKS
- DIRTBOX
- COMING UP...

WATCH THE VIDEO

IMAGE GALLERY

CONTACT US NOW

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email info@dirtbagsuk.com

• DIRTBOX

After various trials and feedback from our customers we have designed and built:

The 'Dirtbox'

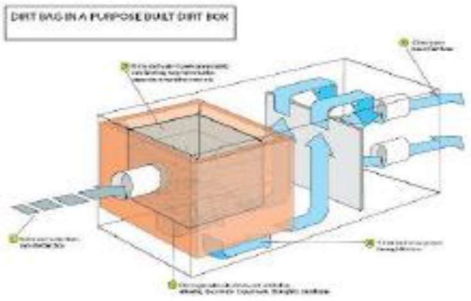
which is a purpose built tank that houses the Dirtbag and allows a much easier, safer and more controlled environment for collecting solids through the water transfer process.

For this application the Dirtbags are cube shaped and measure 1m³ giving an even bigger filtration surface area than the stand alone Dirtbag.

The Dirtbox comprises of:

- An outer tank with 1 No. 6" inlet and 2 No. 6" outlets with one blanking cap. The two outlets are situated at different heights to suit different applications and can both be used if pumping at high speeds.
- The tank measures only 1800L x 1200W X 1200H meaning it is smaller than a 1500 gallon settlement tank and takes up less room on your site.
- The inlet & outlet connectors are industry standard bauer fittings
- A removable permeable inner tank that holds the Dirtbag and is lifted out ensuring the safe & easy change and disposal of the Dirtbag
- A removable baffle plate which can be inserted to create a settlement area and catch any additional smaller silt particles if required, or removed to create an instant water flow to the outlets.

The image below shows the Dirtbag being used inside the custom built Dirtbox.



Click on image to enlarge

The Dirtbox will handle flow rates up to 280m³ per hour (1000 gallons per minute) which basically equates to a 6" pump working at full capacity.

Once the Dirtbag is full and not accepting water at the desired flow rate then simply lift out the inner tank, remove the Dirtbag and dispose as per site waste guidelines, insert a new Dirtbag and carry on pumping.

The Dirtbag contains all solids down to at least the size of the Dirtbag (100, 200 or 500 microns) and is easily disposed of leaving no mess and no cleaning up is required"

No manual lifting required as the inner tank and the Dirtbag have lifting eyes for mechanical lifting.

"The Dirtbox is available for sale or hire and really is the ideal site solution for using a Dirtbag"

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Supplementary Information

Silt Fencing

wildlife | specialist | biodegradables | **geotextiles** | agrotextiles | accessories

Hy-Tex **Terrastop™** Silt Fences for Stormwater Run-Off Control

Hy-Tex Terrastop silt fence in use on National Grid's Milford Haven to Aberdulais gas pipeline project

Hy-Tex Terrastop silt fence in use on National Grid's Felindre to Brecon gas pipeline project

News: Terrastop HighFlow trapped approx. 5 tonnes of silt per 10m fence run over 1 month on potato field trials in Scotland

Terrastop™ Premium (W1380)

CE

1137-CPR-0613/29

Sand bags in both grades also available for no-dig solutions. Call for further details

Many construction, forestry and farming activities result in disturbed or bare ground that is vulnerable to weather erosion. The silt laden run-off, plus site debris and other pollutants, often contaminates surrounding land, watercourses, lakes and drains - resulting in significant environmental diffuse pollution and potentially costly fines.

However, due to the on-going nature of such work, it is generally not possible to protect exposed surfaces until the project is complete. So stormwater from such sites represents a major non-point source of diffuse water pollution in the UK.

Solution: Hy-Tex *Terrastop™ Premium*, and *HighFlow* silt fences, offer a proven, practical, economic and effective method to reduce stormwater run-off pollution from such locations. They are special, high quality, permeable, technical filter fabrics, that can be installed as an entrenched vertical barrier fence, and are designed to intercept and detain run-off - trapping harmful silt through settlement and filtration before it leaves the site.

Performance: The benefits of silt fences are increasingly becoming recognised in Britain: The Environment Agency/SEPA Pollution Prevention Guidelines (PPG5) now recommend the use of silt fences to reduce silt transport from exposed ground and stock piles; and research at The James Hutton Institute, using Terrastop silt fencing, demonstrated that even after post-harvest contour grubbing of potato fields an estimated 80 tonnes of soil containing 60-70 kg phosphate-P contaminants was trapped from a 17ha field [Dr Andy Vinten].

While in other countries where silt fences have been used extensively for many years, their proven performance (intercepting up to 86% of suspended solids [Horner et al. 1990]) has made them a standard *Best Management Practice* on a diverse range of projects.

From this in-depth research, and practical experience, Hy-Tex *Terrastop™ Premium* and *HighFlow* were developed to exceed the highest standards, with many unique features for ease of use, reliability and effective results.

Kirsty Liddon's Edinburgh University Dissertation "Prevention of Diffuse Pollution from Active Forestry Harvesting Sites:" concluded "the Hy-Tex [Terrastop Premium] material appears to be the most suitable material for use as sediment retention as it has the most consistent performance between differing soil types retaining the highest volumes of sediment for both gley and peat solutions."

Key Features: General purpose non-woven and woven geotextiles are unsuitable for silt fence use as they clog, overtop and inadequately filter sediment due to poor hydraulic properties (typically less than 15 l/m²/sec) and often fail: tearing and fraying (as they are too weak to withstand the forces of stormwater/silt build-up without costly additional wire support fences) or becoming brittle quickly (due to lack of UV protection). *Terrastop™ Premium* and *HighFlow* are manufactured specifically as silt fences so have high tensile and burst strengths, premium UV stabilisation, woven structures with tear resistant non-fraying reinforced edges, that are durable and self supporting between fixing posts for reliability, as well as having a visually pleasing subtle green colour.

The CE Mark certified *Terrastop Premium* also has an special fibrous weft yarn, combined with a high quality weave, to enhance filtration, maintain flow and minimise clogging.

Installation Aids: Silt fences also often fail through poor installation or aftercare, therefore *Terrastop™ Premium* incorporates pre-marked lines for burial depth and maximum silt accumulation level to ensure correct set-up and maintenance; as well as a top ribbon strip to simplify post attachment and tensioning.

Specification	Terrastop™ Premium (W1380)	Terrastop™ HighFlow
Tensile Strength	22kN/m	32kN/m
Puncture Resistance (CBR)	3,500N	3,700N
Permeability	45 l/m²/sec	190 l/m²/sec
Opening Size	250µm	320µm
Weight	200g/m²	145g/m²
Material	1000µ thick, green/black, 400kLy UV stabilised, polypropylene, tear resistant non-fraying edges.	500µ thick, green/black, 450kLy UV stabilised, polyethylene, tear resistant non-fraying edges.
Roll Size	0.75 x 100m	1.00 x 100m
Other Key Features:	Fibrillous weft yarn, burial depth and maximum silt accumulation marker lines, top tying-off and tensioning ribbon.	

*Basic" grade also available for less stringent applications

Aldington Mill, Mill Lane,
Aldington, ASHFORD, Kent TN25 7AJ
sales@hy-tex.co.uk www.hy-tex.co.uk

Tel: 01233 720097
Fax: 01233 720098

Hy-Tex (UK) Limited
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Surface Water Management Plan

Supplementary Information

wildlife | specialist | biodegradables | **geotextiles** | agrotextiles | accessories

Hy-Tex **Terrastop™** Silt Fences for Stormwater Run-Off Control

Installation Guidelines

SCOPE

1. This practice covers common installation requirements for temporary silt fence applications.

2. This practice is applicable to the use of silt fences as vertical permeable interceptors designed to remove suspended soil from overland, non-concentrated water flow. The function of a temporary silt fence is to trap and allow settlement of soil particles from sediment-laden water and to filter particles from water permeating through the fabric. The purpose is to greatly limit the transport of eroded soil from the construction site by water runoff.

3. The practices presented herein are intended to ensure good workmanship and quality and are not necessarily adequate for all purposes in view of the wide variety of possible sediments and performance objectives.

4. This standard does not purport to address all safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

CONDITIONS WHERE PRACTICE APPLIES

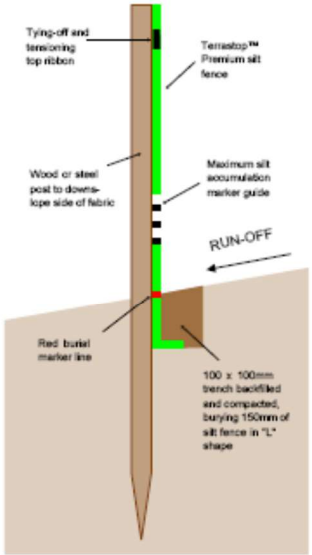
1. Below disturbed areas where erosion would occur in the form of sheet and rill erosion, and where ponded run-off will not cause damage.

2. Where the size of the drainage area is no more than 0.30 hectares per 100.00m of silt fence length; the maximum slope length behind the barrier is 30.00m; and the maximum gradient behind the barrier is 50 percent (2:1).

3. In minor swales or ditch lines where the maximum contributing drainage area is no greater than 0.80 hectares.

4. Under no circumstances should silt fences be constructed in live streams or in swales or ditch lines where flows are likely to exceed 0.03m³/s.

Figure 1: Hy-Tex Terrastop™ Premium



5. Silt fence should not be used in areas where rock or hard surfaces prevents the full and uniform depth anchoring of the barrier.

DESIGN CRITERIA

1. An effort should be made to locate silt fence at least 1.50 to 2.00m beyond the base of disturbed slopes with grades greater than 7%.

2. Properly supported silt fence which stands 0.60 metres above the existing grade tends to promote more effective sediment control (higher fences are vulnerable to excessive wind resistance or may impound volumes of water sufficient to cause failure of the structure).

3. A minimum 150mm of silt fence shall be embedded.

4. Maximum post spacing shall be 1.50m.

CONTROLLING MATERIAL SPECIFICATIONS

1. The material used for temporary silt fence shall be Hy-Tex Terrastop™ Premium, or similar approved, with CE Mark certification for EN13253: erosion control works and conforming to the following specification requirements:

Grab tensile strength [ASTM D4632]: minimum 0.98kN warp, 0.95kN weft. Water permeability [NBN EN ISO 11058]: minimum 0.015 m/s. Opening size [EN ISO 12956]: maximum 250µm. Composition: 400dLy UV stabilised woven polypropylene with split tape warp and fibrillated fibre weft yarns, burial depth and maximum silt accumulation marker lines, top tying-off and tensioning ribbon, tear resistant non-fraying edges and 0.75m fabric width.

2. The contractor shall provide to the engineer all certifications required by the controlling material specification.

3. Silt fence materials shall be subject to sampling and testing in accordance with, and to verify conformance with, the controlling material specification.

4. All posts shall be a minimum length of 1.20m, have sufficient strength to resist damage during installation and to support the applied loads due to material build up behind the silt fence.

[Note 1]: Generally, for wooden posts the cross section must be minimum 30 x 30mm for hardwood and 50 x 50mm for softwood; while steel posts (standard "U", "T" or "L" section) must be a minimum weight of 2kg/m).

INSTALLATION

1. Silt fences sections should be continuous and transverse to the flow. The silt fence should follow the contours of the site as closely as possible. Place the fence such that the water cannot runoff around the end of the fence, extending ends upslope enough to allow water to pond behind the fence (See figure 2)..

2. A trench shall be excavated approximately 100mm wide and 100mm deep on the upslope side of the proposed silt fence location.

3. Bury bottom 150mm of silt fence (To top of RED MARKER LINE on Terrastop™ Premium) in a "L" configuration in the trench so that no flow can pass under the silt fence. Backfill the trench and compact the soil over the geotextile so that the compacted soil completely fills the trench.

4. Compaction prior to installing posts is generally recommended. Compact the backfill soil immediately next to the silt fence geotextile. Compact the upslope side first, and then the downslope side. The soil adjacent to the buried silt fence geotextile shall be compacted to achieve no less than 50% of its original insitu strength, unless otherwise specified.

[Note 2]: Poor compaction is one of the main causes of silt fence failure. Installed posts may interfere with compaction by large equipment adjacent to the silt fence. Compaction is commonly accomplished with the front wheel of a tractor, skid steer, roller or other device, as well as with manual tamping or other manual means, taking care not to damage the silt fence.

5. When joints are unavoidable, the fabric shall be spliced together only at a support post, with a min. 300mm overlap, and securely sealed so that there are no gaps, voids, or other loss of integrity of the barrier, ideally by wrapping the overlap around the post.

6. Place the posts tight to the downslope side of the silt fence at 1.50m spacing. Drive posts a minimum of 500mm into the ground. Increase depth to 600mm if fence is placed on a slope of 3:1 or greater.

[Note 3]: Where 500mm depth is impossible to attain, posts should be adequately secured/braced to stop overturning of the fence due to sediment loading.

7. Fasten the filter fabric securely and taut to the upslope side of the posts using top ribbon (see figure 3), wire/cable ties threaded through the silt fence, or 30mm long extra wide head galvanised clout nails (The fabric shall not be stapled to existing trees). Where required, tighten top edge of fabric by looping top ribbon over posts, and strain/brace posts to maintain fence tension and stability (See figure 1).

[Note 4]: If a silt fence is to be constructed across a ditch line or swale, the fence length must be sufficient to eliminate endflow, the plan configuration shall resemble an arc or horseshoe with the ends oriented upslope, and post spacing a maximum of 1.00m.

MAINTENANCE

1. The contractor shall inspect all temporary silt fences immediately after each rainfall, and at least daily during prolonged rainfall. The contractor shall immediately correct any deficiencies.

2. The contractor shall also make a daily review of the location of silt fences in areas where construction activities have altered the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, as determined by the engineer, additional silt fence shall be installed as directed by the engineer.

3. Repair damaged or otherwise ineffective silt fences or replace promptly.

4. Either remove sediment deposits when the accumulation reaches one third the height of the exposed fence (Top of BROAD WHITE/BLACK MARKER BAND on Terrastop™ Premium), or install a second silt fence as directed by the engineer.

5. The silt fence shall remain in place until the engineer directs it be removed. Upon removal the contractor shall remove and dispose of any excess sediment accumulations, dress the area to give it a pleasing appearance, and vegetate all bare areas in accordance with contract requirements.

6. Removed silt fence may be used at other locations provided the geotextile and other material requirements continue to be met to the satisfaction of the engineer.

Figure 2: Silt Fence Placement

Alignments called 'U' or 'J' hooks ensure water & sediment pond behind each silt fence.

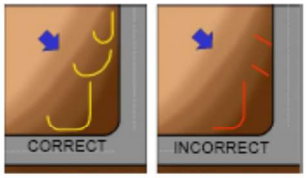


Figure 3: Ribbon attachment to post

Aldington Mill, Mill Lane,
Aldington, ASHFORD, Kent TN25 7AJ
sales@hy-tex.co.uk www.hy-tex.co.uk

Tel: 01233 720097
Fax: 01233 720098

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Surface Water Management Plan

Supplementary Information
Gulley Bags

When should I use Gully Guard™?

Infrastructure Planning

- Ideal for agricultural sites, food and drink processing and industrial plants
- Transport and utilities maintenance
- Supports health and safety requirements
- Quick to install and easy to maintain
- Reusable - reduces gully maintenance costs
- Prevents build-up of toxins and debris in the gully
- No restriction to water flow into water transport drainage systems
- Standard gully pot and bespoke sizes available

Food processing

Infrastructure maintenance

Agriculture management

Phosphate pollution - surge in algae over production

Construction

- Reduces labour and mechanical costs involved in emptying the gullies
- Protects gullies during site construction
- Prevents gullies from being blocked by silt and debris
- Visible silt and debris management system

Remedial Solutions

- Aids in containment of contaminated silt and suspended solids
- Assists in protecting the water course from pollutants found in run-off storm water. E.g. hydrocarbons, heavy metals
- Environmentally friendly

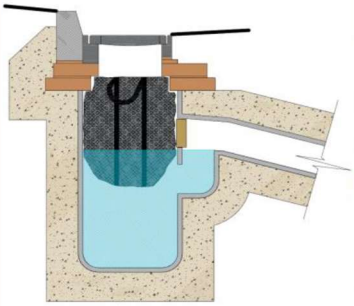
Gully Guard™ Installation
Takes minutes!

Our customers reported no Gully pot clogging issues! And the cleaning process is simple - just hose down and reinstate!

1. Lever open gully grid. Gully Guard™ can fit a range of gully pot sizes.
2. Hold handles at top of the Gully Guard, work beads to top and insert base into gully pot.
3. Lower the Gully Guard into the pot. The beads will fall freely into the size void within the pot.
4. Tuck the holding handles to the side of the Gully Guard™.
5. Close and secure gully grid.

How much does Gully Guard™ filter out?

- 97.91% is trapped in the Gully Guard
- 1.92% is trapped in the Gully Pot base
- 0.17% passes through the Gully pot



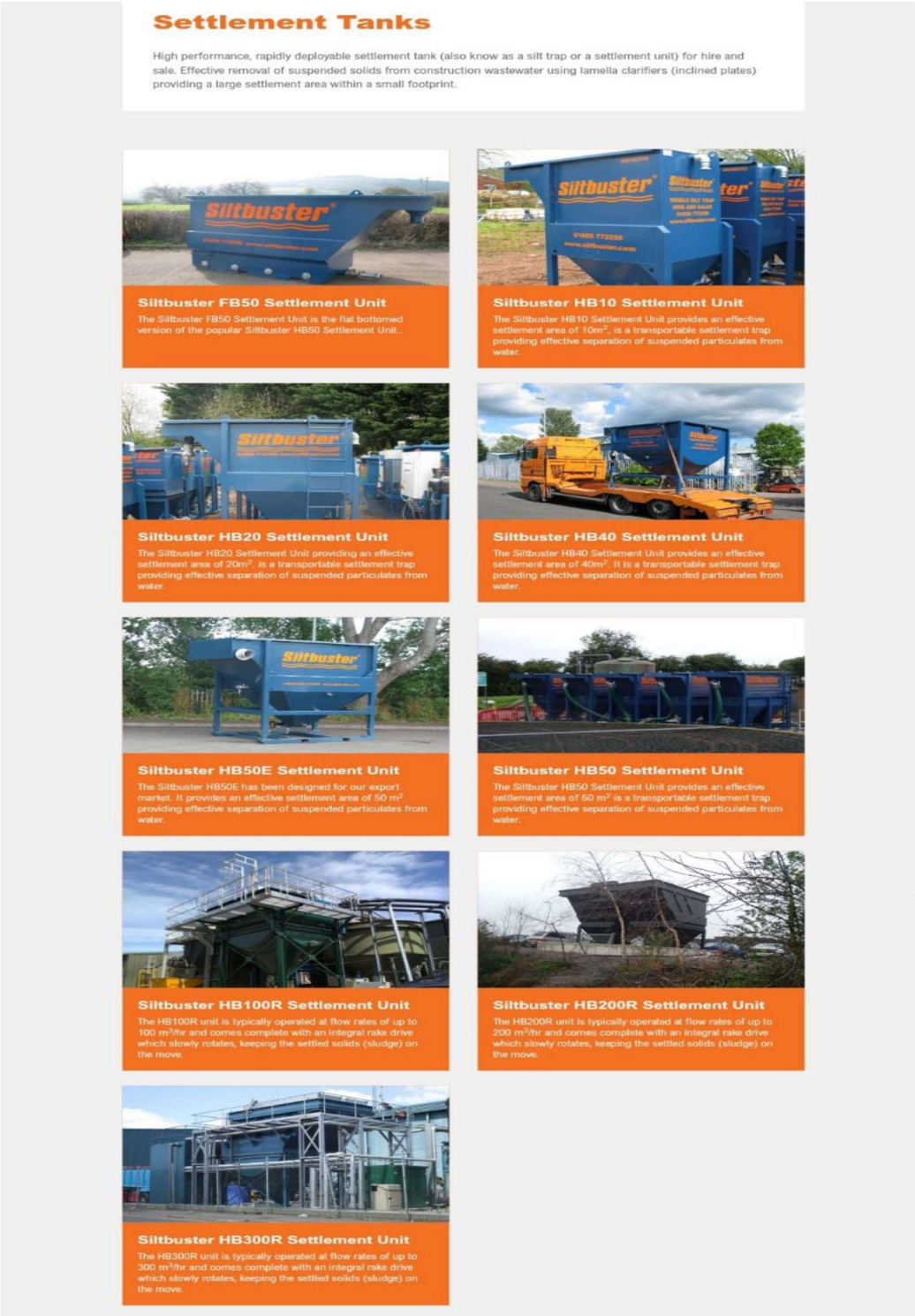
Speak to our friendly sales team to find out more:
Tel - **01531 828 960** | Email: **info@forestgroupuk.co.uk**

Form (055)

Surface Water Management Plan

Supplementary Information

Silt buster



Form (055)

Surface Water Management Plan

Supplementary Information

Floc Matts

Proven in the field to reduce downstream levels of suspended solids

4 easy steps to using SiltMat

Use our reference table (overleaf) to judge optimal placement. As a rule of thumb, SiltMat is best placed in areas where stream energy is reduced and natural deposition takes place.

SiltMat is unfolded and orientated to cover the width of the channel. The edges of silt mat can be overlaid without gaps. Mats are staked in place or weighted with local material.

SiltMat will trap large amounts of sediment. Stakes or weights are removed and the mats rolled up ready for disposal.

With correct permission SiltMat can be seeded and left on site, creating an environmental enhancement and avoiding disposal costs.

SiltMat is a fully biodegradable mat that captures and prevents sediment resuspension.

The mats can be placed in natural or artificial channels, ditches or directly on land to trap suspended sediments.

SiltMat can be orientated sideways or lengthways and fits into all channel types.

SiltMats are mainly used to manage sediment release to watercourses from construction sites.

Applications

1. Drainage from construction sites
2. River restoration and maintenance operations
3. Used in artificial dispersion fields
4. Forestry and agricultural operations
5. Runoff attenuation features
6. Can be used as a planned or reactive sediment control measure

frog environmental

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