



SURFACE WATER MANAGEMENT

SURFACE SCOTTISH HOUSEBUILDERS HEALTH & SAFETY FORUM WEDNESDAY 5TH FEBRUARY



AGENDA

1. Who We Are
2. What is the Problem
3. Gully Guards: Product Solution
4. Wm Hamilton & Sons: Service Solution





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WHO WE ARE



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WHAT IS THE PROBLEM

Managing Surface Water Run-off



- Managing sites in accordance with Surface Water Management Plans (SWMPs) and Pollution Prevention Plans (PPPs).
- Surface water run-off during construction gives risk of environmental impact and enforcement actions from Regulators.
- Prevent damage to site assets – Drainage network, Permanent SuDS and Pumping Stations.
- How do you currently protect the environment and watercourses from pollution and contamination?
- Neglecting proper installation and maintenance on any surface water management system can cause pollution, flooding and safety risks.



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WHAT IS THE PROBLEM?

Challenges of Surface Water Run-off on Construction Sites



1

Blockages



3

Accumulation of Silt



5

Pollution



2

Ineffective Drainage



4

Maintenance Challenges



6

Aesthetic Concerns



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WHAT IS THE PROBLEM

Contamination of Permanent SuDS



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WHAT IS THE PROBLEM?

Regulatory Compliance

- **SEPA** advises **not** to use permanent SuDS for construction phase drainage. Once an area of site is complete, it can **then** be allowed to drain into the permanent SuDS.
- **Scottish Water's** preference is to also avoid the use of SuDS as silt ponds or silt traps during the construction phase. This Allows construction run-off to flow into the SuDS may delay the vesting of the asset until all silt and sediment has been removed

(source: August 2023 - Construction Sites - Environmental Regulation Presentation)

(Further information is available on Scottish Water's website "[A Guide for Developers](#)" and "[Sewers for Scotland](#)")

Good
Practice



Poor
Practice



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Product Solution

www.forestgroupuk.co.uk





Forest Group^{UK}
Gully Guard

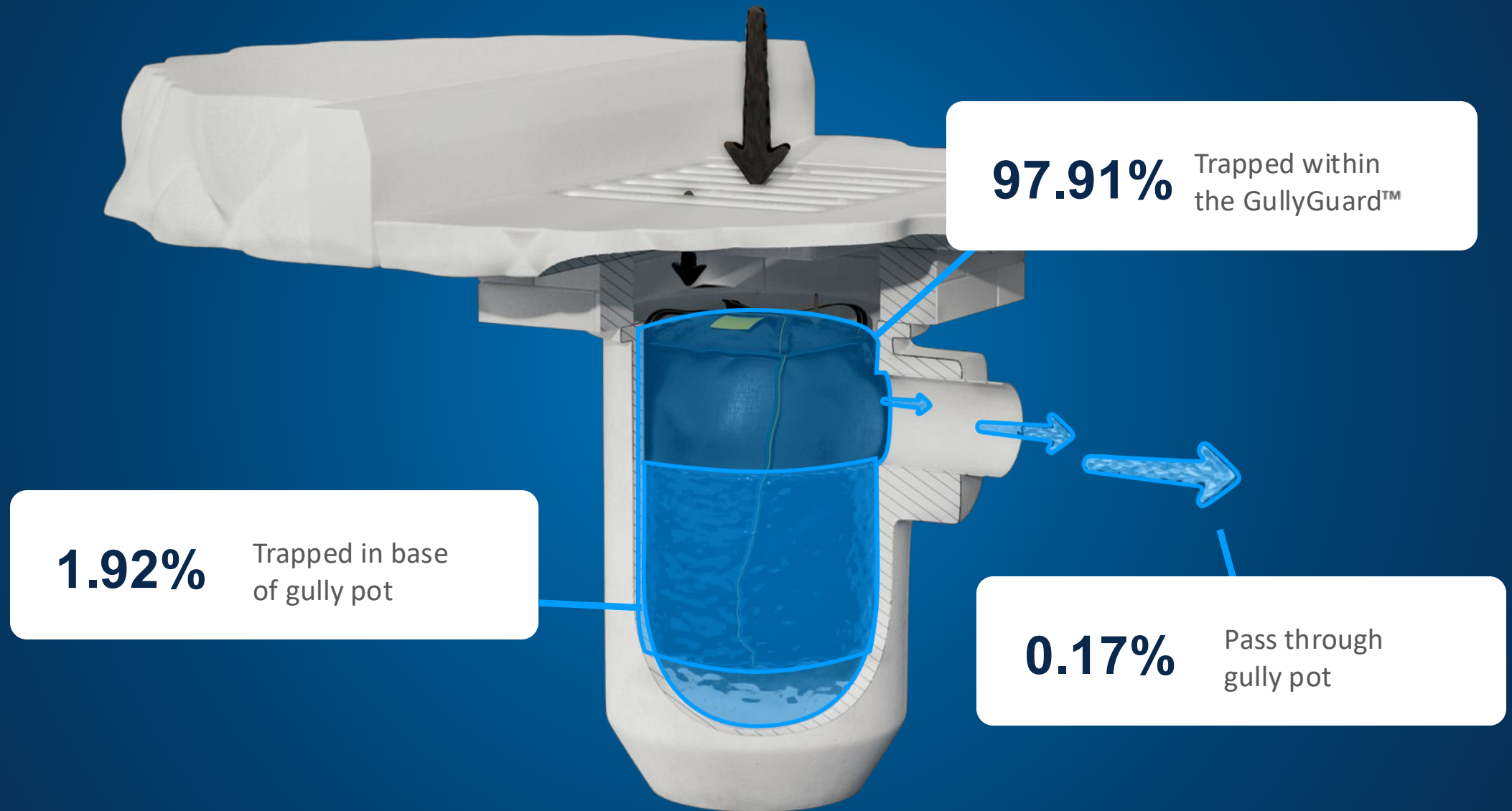


Backed by independent laboratory testing

GullyGuard™ is proven to **remove 98% of suspended solids & debris** from entering into the existing watercourse, **capturing surface water contaminants such as; PAH's, heavy metals, de-icing agents, nitrates and phosphates.**



Sediment fraction retained





Chemical Analysis Results



| Sediment Fraction | Mass Collected in Test (g) note 1 | PAH Absorbed (mg/g) note 2 | Equivalent PAH retained (mg) | Equivalent PAH retained |
|--------------------------|-----------------------------------|----------------------------|------------------------------|-------------------------|
| General Sample | - | 0.099 | | - |
| GullyGuard™ | 2400 | 0.093 | 223 | 97% |
| Base of gully pot | 47 | 0.019 | 5.1 | 2.2% |
| Passed through gully pot | 4.2 | 0.432 | 1.8 | 0.8% |

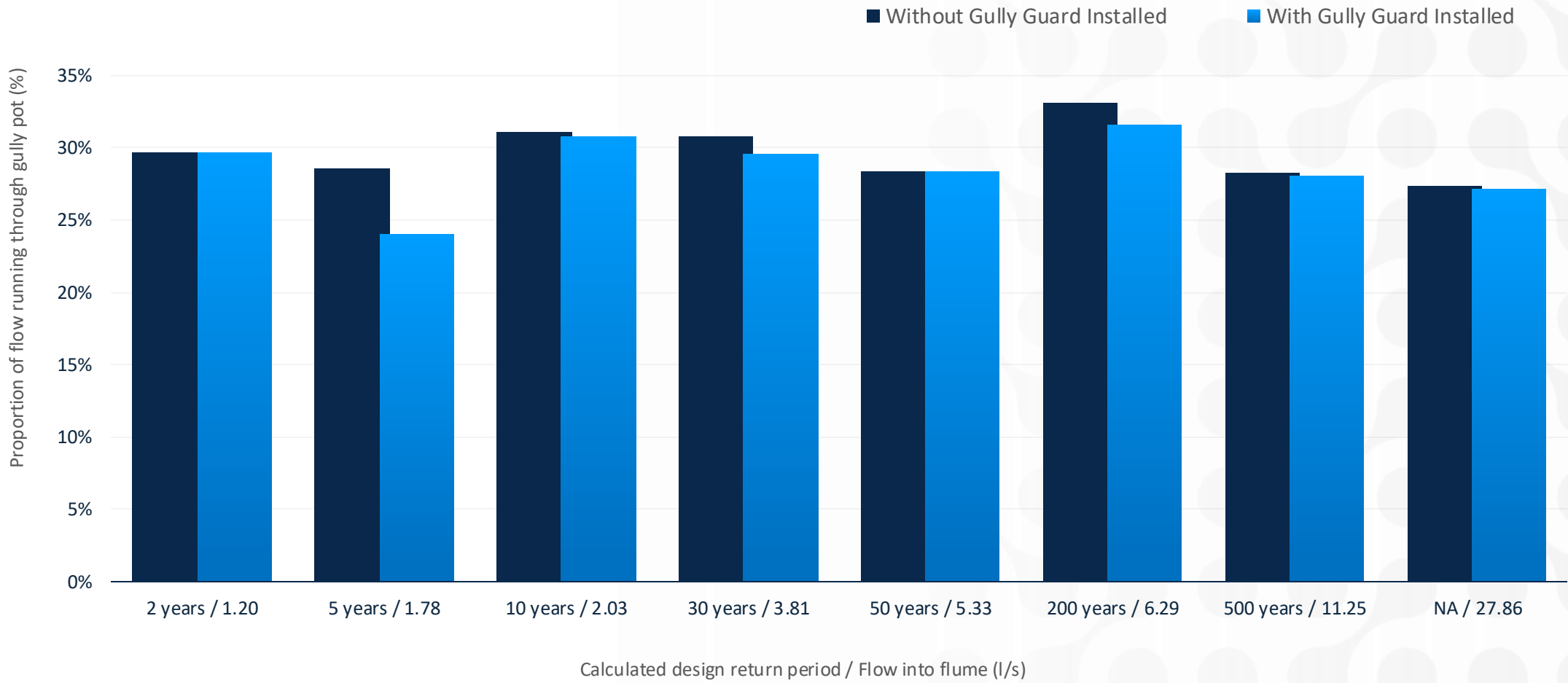
Chemicals removed from silt water run-off

- Metals**
Cadmium
Chromium
Copper
Iron
Manganese
Nickel
Lead
Zinc
- PAH**
Naphthalene
Acenaphthylene
Acenaphthene
Fluorene
Phenanthrene

Nutrients & de-icing chemicals

- Naphthalene
Acenaphthylene
Acenaphthene
Fluorene
Phenanthrene

GullyGuard™ wont significantly impact Flow Rate

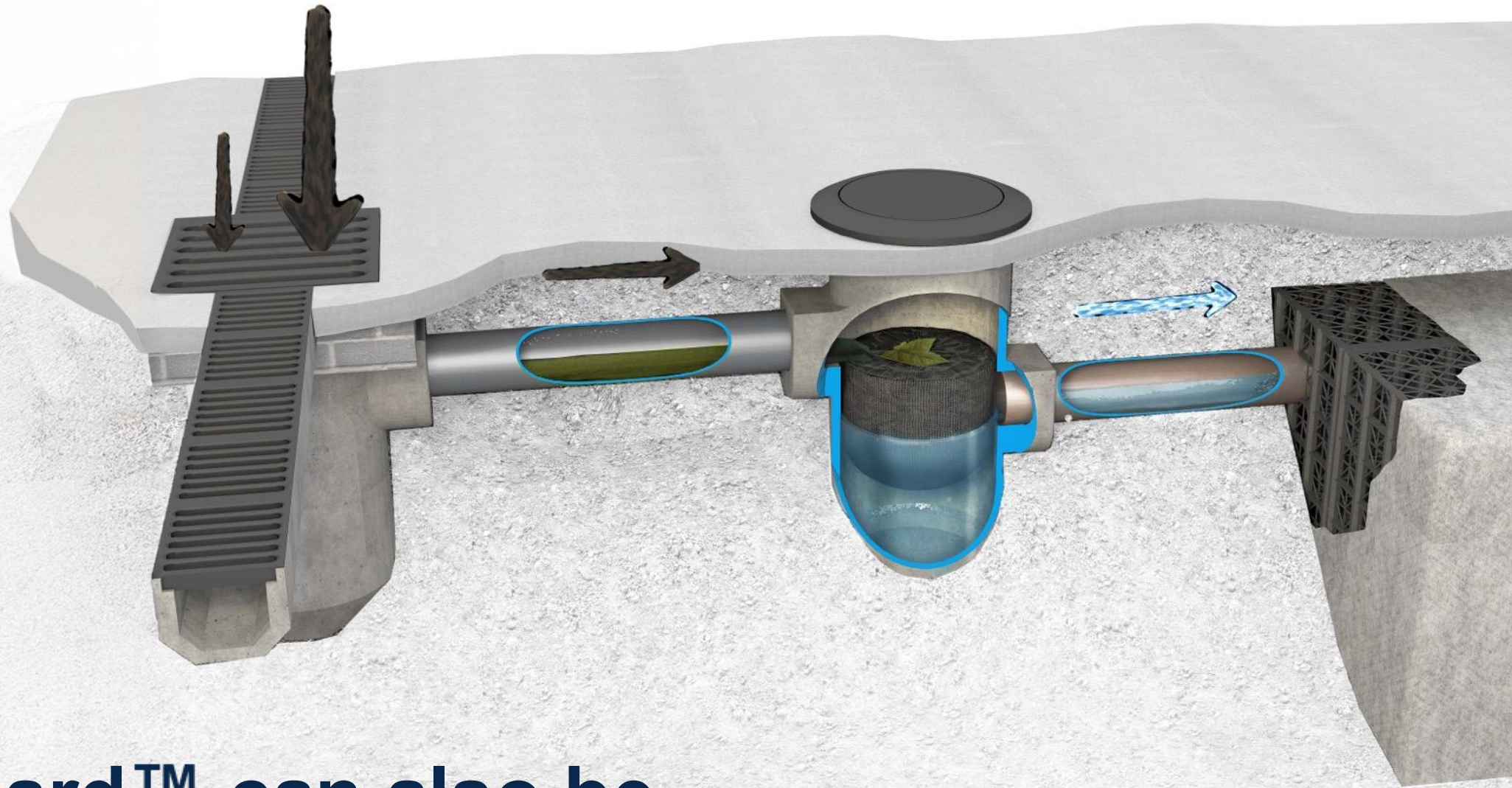


GullyGuard™ is Available in two sizes

Smaller unit for yard pots 300mm Ø



Standard unit for road pots 350mm
Ø or greater



GullyGuard™ can also be used to protect your assets



installation



Trapped Suspended Silts & Debris
**99.8%
Overall**
Reduction in Watercourse

No Impact on Flow-Rate
With GullyGuard™ Installed

Quick & Easy install
Effortless Maintenance

Made from
100% Recycled Materials

Completely Reusable
Surface Water Silt Management

97% of PAHs, Metals & others
Captured Prior to Discharge

Tested to Flows in Excess
**500
year**
Return Storm Event

Cost effective solution
Huge savings vs other products

Independently tested by
The University of Sheffield

Forest Group^{UK}
Gully Guard

The GullyGuard™ can be offered as part of a service solution with WM Hamilton



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Forest Group UK



WM HAMILTON & SONS: SERVICE SOLUTION

Hydrovac & Gully Guards

- Gully guards **MUST** be removed, cleaned and reinstalled to keep the drainage system working properly throughout the construction phase.
- Hydrovac with suction boom and high-pressure water jetting technology efficiently cleans and recharges gullies.
- Gully guards are removed, cleaned, and the gully is restored to a free-flowing condition.
- Gully Guards **MUST** be installed into a clean, charged gully.
- The system only functions effectively when gullies and gully guards are regularly cleaned and maintained.
- Without maintenance, gullies and filter bags will become blocked, sediment weight may damage or sink the bag, rendering it ineffective.



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WM HAMILTON & SONS: SERVICE SOLUTION

Gully Maintenance Process

1. Open Gully Grating and expose the gully guard, take Pre-Cleaning Photos and document the gully condition.
2. Remove Surface Debris using hydrovac suction boom/jetting lance.
3. Clean and Wash Gully Guard, washing residues directly into the gully.
4. Clear and Wash Gully Pot of all sediment and debris.
5. Pressure-Wash Gully Pot to remove residues.
6. Rinse Kerbside Residues and extract waste-washings then charge Gully with clean water to outlet level.
7. Re-install Gully Guard following manufacturers guidelines.
8. Take Post-Cleaning Photos and document the gully condition.
9. Close and Secure Gully Grating following cleaning process.
10. Generate maintenance report and send to customer.

The above steps ensure the gully is cleaned and in working condition for continued functionality.



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Step 1:

Open Gully Grating
and expose the gully
guard and pot.

Take Pre-Cleaning Photos
and document the
gully condition.

WM HAMILTON & SONS: SERVICE SOLUTION

Maintenance Reporting

Service Management Reporting provides real-time asset information and serves as a permanent record for maintenance and compliance evidence.

Key Features of Gully Maintenance Reporting:

- Real-time data
- Customised reporting
- Actionable maintenance insights
- Detailed visual documentation
- Video integration for escalation
- Gully Risk Assessment: **Green**, **Amber**, **Red**



Gully Cleaning & Maintenance Record (Before & After)

28 Nov 2024 / James Cannon

Complete

| Score | 42 / 43 (97.67%) | Flagged items | 0 | Actions | 0 |
|---|------------------|---------------|---|---------|---|
| Development Name | | | | | |
| Attendance Date | | | | | |
| 28.11.2024 08:19 GMT | | | | | |
| Lead Operator | | | | | |
| James Cannon | | | | | |
| Location | | | | | |
| 10 Duich Cres, Glasgow G33 1GU, UK (55.8952702, -4.1719998) | | | | | |



WM HAMILTON & SONS: SERVICE SOLUTION

Service Agreement: Overview & Benefits



- **Contract Maintenance Program:** Provides year-round coverage for consistent service, addressing weather impacts and construction activities.
- **Program Details:** Maintenance visits scheduled on a bimonthly basis.
- **Site Asset Protection:** Safeguards infrastructure, reduces damage and protects surrounding watercourses from pollution and contamination.
- **Environmental Compliance:** Ensures adherence to environmental obligations and legislation.
- **Proactive Approach:** Promotes best practices, ensuring safety and efficiency throughout the construction phase.
- **Maintenance Reports:** Dated records of asset cleaning to support SWMPs, serving as evidence for SEPA/Scottish Water to demonstrate compliance with legal obligations.
- **Cost & Control Savings:** Minimise backend project costs for drainage cleaning, pumping stations and SuDS de-silting, allowing cost control through upfront proactive management.
- **Roads Bonds & Adoption:** Assist housebuilders with Road and Sewer Bond release and facilitate the smooth transfer and adoption of site infrastructure and assets.



WM HAMILTON & SONS: SERVICE SOLUTION



Waste Removal & Recycling of Gully Waste

- Gully wastes are classified under the European Waste Catalogue (EWC) code **20 03 03**.
- All waste disposal and processing are carried out in strict accordance with environmental regulations, ensuring full legal compliance.
- Gully waste is processed and recycled at our purpose-built facilities located at Dovesdale Farm and Paisley site, under **SEPA PPC Part A** and **Waste Management Licences (WMLs)**.
- We also collaborate with a network of waste management partners for disposal, depending on the site's geographical location.



WM HAMILTON & SONS: SERVICE SOLUTION

New Wash Plant: Recycling Solutions

- £5m Wash Plant complete with Effluent Treatment will enable us to recycle inert material using Industry-leading technology.

Tonnage: 80-100tph

Material: C&D Waste, Road Sweeping & Gully Waste

Output: Recycled Sands, Aggregates

- Fully closed loop water recycling system.
- This new facility further demonstrates Wm Hamilton's contribution to the circular economy by increasing recycling rates and reducing the amount of waste going to landfill.
- Transforming waste into valuable, high-quality recycled products.



WHAT OUR CUSTOMERS ARE SAYING ABOUT OUR SERVICE...



"We are pleased to commend Wm Hamilton and Sons for their outstanding gully management service. The protection and maintenance provided have been nothing short of excellent. It is reassuring to know that we have a viable system in place, managed and recorded in such a professional manner.

The importance of managing preventable pollution to the environment remains high in our priorities. This service is a strong indicator of our commitment to managing and protecting the environment. Wm Hamilton and Sons' reliability and dedication to maintaining high standards have given us great confidence in their services. We highly recommend Wm Hamilton and Sons for their exceptional work and commitment to excellence"

Andy Borland – Construction Director
Bellway Homes (Scotland West)



"Following the introduction of the Gully Guard Service provided by WM Hamilton, I have been extremely impressed with a solution to a problem facing the construction industry for a number of years. The process of installation and maintenance paired with their detailed reporting system allows a Principal Contractor confidence and assurances when queried by any regulatory bodies surrounding the management of surface water. Their understanding of the industry, use of equipment that is not only effective in filtration but is re-usable and environmentally friendly coupled with their fleet of industry leading plant ensures we have a robust control measure in a challenging area for construction".

Deryck Schendel Taylor Wimpey



"Barratt Homes West

Scotland implemented Wm Hamilton's Gully Maintenance Service to address the increasing challenges of surface water run-off during construction activities. This service has played a key role in promoting best practices and with detailed maintenance reporting will further strengthen compliance with surface water management regulations".

Craig McFarlane – Construction Director



"Wm Hamilton & Sons have been supporting Avant Homes for several months now with gulley cleaning and maintenance. Their service has been professional, informative and friendly, as well as doing exactly what's expected in terms of protecting the storm sewer system"

Bryan Galloway Construction
Director



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QUESTIONS?



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