

URBAN DOMESTIC CASE STUDY

A COMPLEX SEWAGE AND SURFACE WATER SYSTEM FOR A NEW BLOCK OF FLATS

When Solid Links Ltd were asked to design a sewage system for a new block of flats in London, they immediately turned to Klaraester. Although the site was close to the sewer, the layout meant they couldn't rely on gravity to remove waste and they also needed to dispose of roof water. After considering the architecture of the block, the team realised there wouldn't be room for one large pump system to dispose - and potentially store - the whole building's waste and water. So they created a complex three connection system.

The first two would be installed in light wells and would take care of sewage. The third would be smaller, solely for rainwater not requiring 24 hour storage. Solid Links filled the systems very early in the project's build, meaning they were all up and running long before the new residents moved in.

3

Separate systems forming an efficient, robust solution.

8

high end flats.

2,400

litres of total site storage.



HARNESSING 50 YEARS OF EXPERIENCE TO WORK FOR YOU
KINGSPAN KLARGESTER

EMERGENCY 24 HOUR

storage with Pumpstor Commercial pump systems.

What could happen if your power supply failed and the pump stopped working? Baffled. Regulation requirements means preparing for such an eventuality is no longer an afterthought - it's essential. Our Pumpstor high capacity series has the ability to hold waste for 24 hours. So you can comply with guidelines, safe in the knowledge that your premises are protected from overflow in an emergency.

To make sure you use the right system for your premises, our Klargester team will carry out a FREE site assessment and advise on the design and structure. Full commissioning and service plans are available from our service business, Kingspan Environmental Services.

For the past 100 years, mechanical pumping systems have been used for both sewers and storm sewers. However, the use of gravity isn't an option. The rate of infiltration is too high for toxic treatment plants, surface water and septic tanks. Tanks and pumps come in a range of sizes and configurations. And to comply with Building Regulations, there's a 24-hour storage capacity for foul water.



Vertical Chamber Size (mm)	Capacity Up To (lits)	Test Material	Control Panel	Alarm	Pump Type
1,250 Dia	4,200	GRP	Included	Standard	Single/Twin
1,600 Dia	5,500	GRP	Included	Standard	Single/Twin
2,600 Dia	21,000	GRP	Included	Standard	Single/Twin

For the purpose of the comparison, we used the following data: the number of cases of influenza A in the community, the number of cases of influenza B in the community, the number of cases of influenza A in the hospital, and the number of cases of influenza B in the hospital.

- 1) What is a stream?
- 2) What is a hill? What is a valley? What is a watershed?
- 3) What is the difference between a stream and a river? How do they differ?
- 4) How do rivers change over time? What factors influence this?
- 5) How do rivers change over space? What factors influence this?
- 6) How do rivers change over time and space? What factors influence this?
- 7) How do rivers change over time and space? What factors influence this?
- 8) How do rivers change over time and space? What factors influence this?
- 9) How do rivers change over time and space? What factors influence this?
- 10) How do rivers change over time and space? What factors influence this?

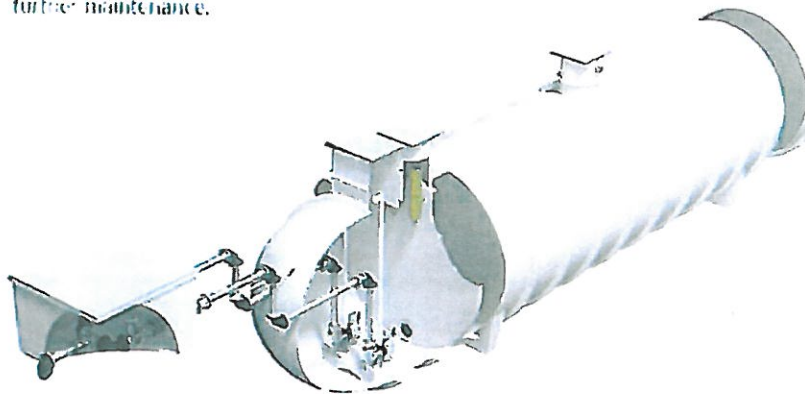
- 1 Application: (i) fresh residues; (ii) or manure?
- 2 Method of application: (i) spray; (ii) efficient; or surface water?
- 3 Intended use: (i) below ground; (ii) or above ground?
- 4 Fertilizer distance: (i) 1 ft; (ii) or 2 ft?
- 5 Technical supply:

Please contact Kingspan
Klargester's pump team
on 01296 633033 email
info@klargester.com
or download our Package Pump
Enquiry Form from our website
[www.klargester.com/products/
pump-stations.htm](http://www.klargester.com/products/pump-stations.htm)

HARNESSING 50 YEARS OF EXPERIENCE TO WORK FOR YOU
KINGSPAN KLARGESTER

PUMPSTOR HORIZONTAL COMMERCIAL PUMP SYSTEMS

If your supply fails, Pumpstor Commercial responds instantly, expanding liquids and solids into a separate chamber and storing waste for up to 48 hours. Once power is restored, the pumps will work normally again without further maintenance.



Chamber Size (mm)	Capacity Up To (litres)	Tank Material	Control Panel	Alarm	Pump Type
2,600 Dia	79,000	GRP	Included	Standard	Single/Twin

DESIGN AND FEATURES

Pumpstor Commercial pump systems are made from robust, durable and long-lasting materials and are built to last. They are designed to handle a wide range of liquids and solids, including household and industrial waste.

FEATURES

- Single tank installed in up to 2.6m x 1.0m footprint systems available
- Multiple valve options for isolation and diverting flows
- Anti-siphon features to prevent backflow of liquids from the system
- High level alarm
- Fully reversible design

INSTALLATION & OPERATION

- One piece tank and pump for easy installation
- Minimal site assembly
- Easy to operate and shut down for maintenance or emergency situations
- Comprehensive safety features to minimise any requirement for personnel to enter the tank

KEY FACTORS TO SIZE YOUR SYSTEM

- Application and use of the system
- Diameter and length of the system
- Flow rate and pressure requirements
- Power supply and control
- Electrical supply

Please contact Kingspan Klargesters pump team on 01296 633033 email info@klargesters.com or download our Package Pump Enquiry Form from our website www.klargesters.com/products/pump-stations.htm

COMMERCIAL CASE STUDY

HELPING A GREENHOUSE DEVELOPMENT MANAGE ITS WATER

Thanel Earth in Kent is the UK's largest and most technically complex greenhouse development. Norfolk based Bingham Hall Associates (BHA) were commissioned to manage the development's water, and they asked us to help find a solution.

After much consultation with Klargester specialists, BHA designed a system using four Klargester vertical pump stations. They also included a 79,000 litre Pumpstor tank linked to two inter-connecting 65,000 litre tanks, meaning waste could be stored for 24 hours in an emergency.

We delivered the tanks to the site all ready for installation, saving time and money in comparison with concrete chambers. All BHA had to do was connect the pumping station to the sewer - through over 2.5km of piping - and the system was ready to go.

67ha

development with seven glasshouses, an on site pack house and a visitors centre.

210,000

litres of waste water can now be stored for 24 hours.

"We chose Kingspan Klargester pumps and storage chambers as they provided a cost effective and simple means of achieving the large storage volumes required for the waste water system. Furthermore... Kingspan Environmental's technical engineering expertise is excellent, so they were able to provide valuable advice to support the project."

Andrew Bingham, Principal at BHA



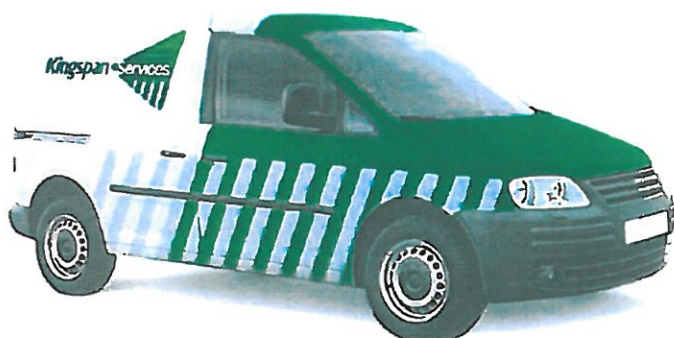
SERVICE CONTINUES

A SERVICE PLAN WILL ENSURE THE SMOOTH RUNNING
OF YOUR PUMP STATION YEAR AFTER YEAR

Our service doesn't stop once the installation checklist is ticked off. Whilst our products are designed and produced with longevity, care and low maintenance in mind, we're on hand once a system is up and running to ensure it continues to run as efficiently as possible. Preventative maintenance is essential to ensuring that your pump station operates effectively with the minimum amount of hassle.

With a Service Plan you can:

- ▶ **Relax:** we look after it so you don't have to
- ▶ **Save money:** experience fewer breakdowns with planned maintenance
- ▶ **Be priority:** for repair or upgrade
- ▶ **Reduce:** the call-out charges



98%

of call-outs resolved on the first visit.

FREE

Love2Shop vouchers for homeowners when they recommend up to 5 friends.

24/7

call-out, national coverage for commercial customers.

Contact the service team
for further information:
UK 0844 846 0500
IRL 048 3025 4077
info@kingspanenvservice.com



TOTALLY INTEGRATED ENVIRONMENTAL SOLUTIONS

Kingspan Environmental has been at the forefront of innovation for more than fifty years. Thought leaders in sustainability for the built environment, our 'gold standard' products feature in the world's most sustainable buildings and are tried and tested in more than 60 countries. And because we design and manufacture our own world class components, delivery is quick and reliable.

Design integrity is backed by exemplary service. Our professional designers tailor systems to any site specification while our technical experts study building plans to create a 'best-fit' solution, which maximises effectiveness and meets the latest environmental standards and building codes.

Our bespoke systems are installed quickly, run easily and are covered by market leading warranties while on-the-road support, sales teams and accredited installers give local help and advice when you need it.

In our unique one stop shop for sustainable building, products fall into three easy to browse categories.



WATER MANAGEMENT SOLUTIONS

Our pioneering brands Klirrester for waste water and storm water attenuation and Kingspan Water for rainwater harvesting offer a portfolio of proven and ground breaking water management technologies. Kingspan Klirrester's portfolio includes the following efficient drainage solutions:

- ▶ Sewage treatment plants
- ▶ Effluent separators
- ▶ Stormwater attenuation
- ▶ Pump systems

RENEWABLE ENERGY SOLUTIONS

Inspired thinking is at the heart of our renewable energy offer. High performing wind turbines, solar thermal tubes and panels, hot water systems and heat pumps capture, store and transform natural energy from the sun and wind into reliable and highly effective heating and cooling for water and buildings.

ENVIRONMENTAL MANAGEMENT SOLUTIONS

Our high performance environmental containers are at the forefront of plastics technology while our award winning bio-matix solutions offer affordable level measurement gauges and integrated energy management systems. As well as remarkable products, we offer world class consultancy and environmental services, whether it's a Kingspan system or not.



Kingspan Klargestar is part of
Kingspan Environmental.

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www.klargester.com