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Andel is an environmental company at the cutting edge of water, oil and gas resource control and management within the built and natural environments.



Flood defence, flood risk monitoring and management.



Making water sustainable for a cleaner and safer environment.

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Our approach is to create a proactive chain of defensive lines.

## Floodproof with Andel

According to the latest reports on the impacts of climate change, flooding caused by severe and frequent rainstorms is the UK's most pressing climate-change risk and could affect millions of people.

### A proactive chain of defensive lines

To support UK households, businesses and public organisations in protecting themselves and their assets from the effects of extreme rainfall, Andel has developed a turnkey package of products and services for effective Property Level Flood Defence.

Our approach is to create a **proactive chain of defensive lines** to allow for a timely response to flooding caused by rainfall to protect the assets and lives of those communities at risk.

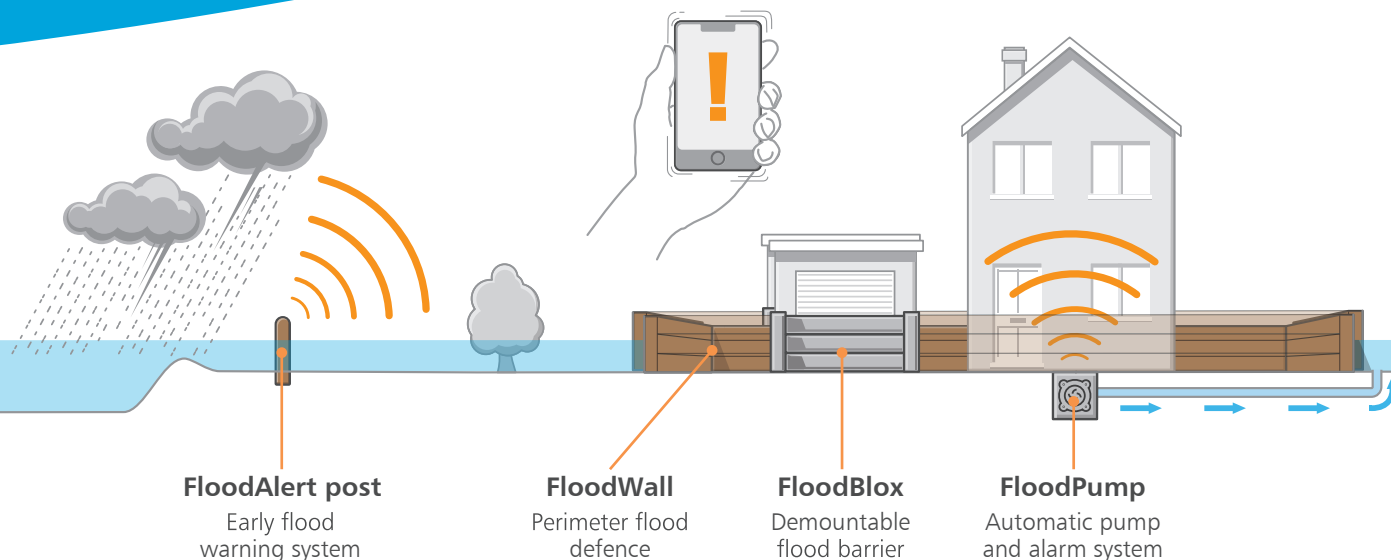
### A unique range of sustainable flood defence products

**Andel FloodAlert** provides real-time information on rising water levels and automatically sends out early flood warnings.

**Andel FloodWall** prevents flood water from entering the perimeter of a property or protected area.

**Andel FloodBloX** provides a demountable flood barrier for all types of property openings.

**Andel FloodPump** automatic pump and alarm system, in conjunction with other property flood resilience measures provide a final and effective line of defence.



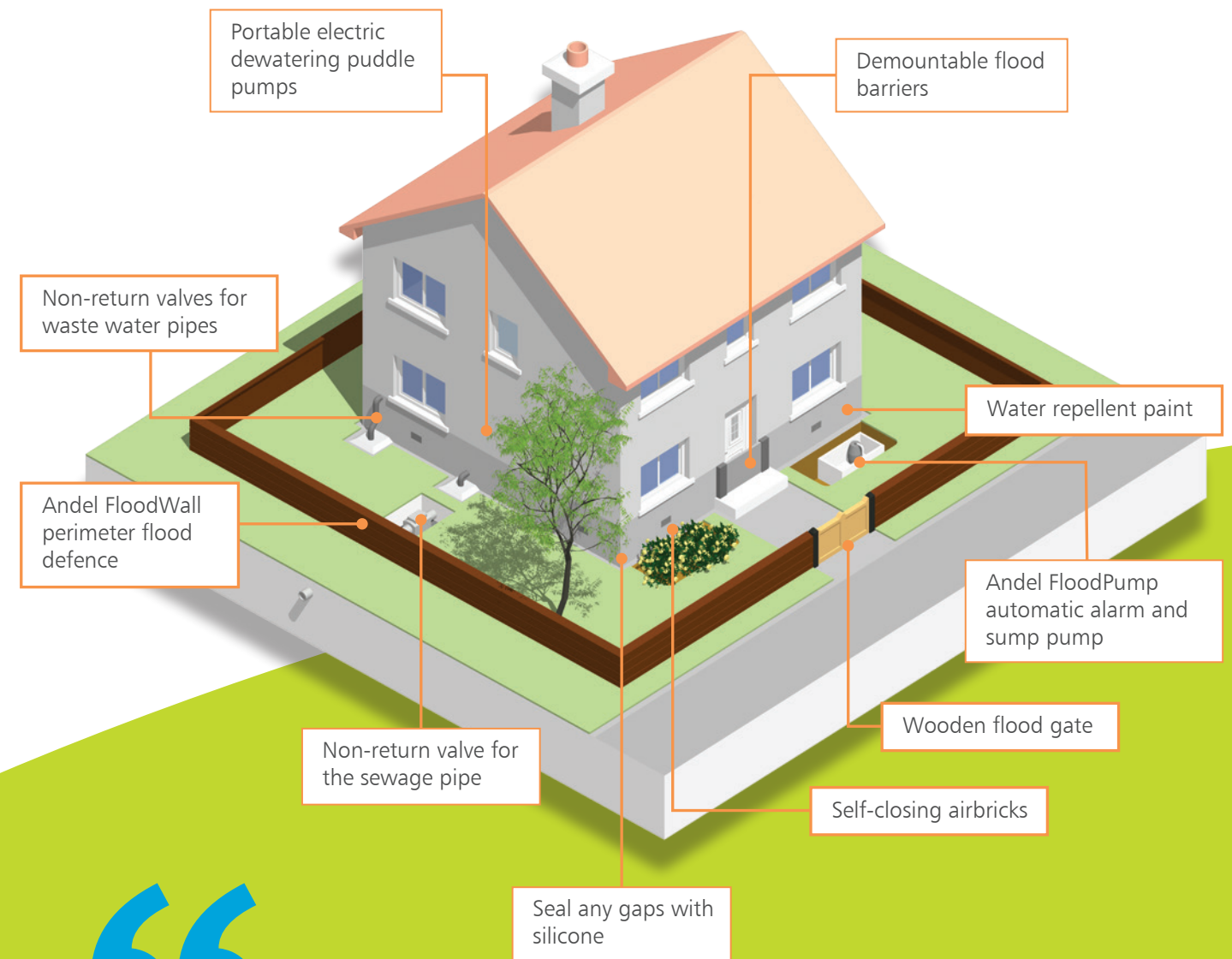
## Property flood resilience measures

Andel can implement a number of measures to protect any property against flooding.

The proactive chain of defensive lines provides an effective defence against surface water flooding. Your property however could still be vulnerable to flood damage from water rising from below the ground. Andel's property flood resilience installation will provide property owners with practical, sustainable

and cost-effective steps to help reduce flood risk.

Through the use of sustainable and affordable products, Andel's installations utilise a range of products and measures, to protect against surface and groundwater flooding, tailored to each individual installation.



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Reducing flood risk through the use of sustainable and affordable products.



**FloodAlert** provides deeper insight into flood risk management at catchment level.

### FloodAlert gateway

A single gateway connects to all devices and communicates all data to a central network server.

### Web portal

FloodAlert provides live monitoring on a secure, cloud-based portal, accessible from any device connected to the internet. Information from multiple data sources is visualised in an easy-to-use dashboard with a simple traffic light green, amber and red warning system.



### Water level monitoring

FloodAlert tracks and monitors water levels at multiple locations as runoff rainwater travels down hillsides to lower ground in watercourses, below and around urban communities and into rivers.

### Early flood warning

FloodAlert sends SMS and email early warnings for fluvial and pluvial flooding.

### Data merging

FloodAlert collects real-time water level data in groundwater, surface water and watercourses and merges the information with flood risk variables such as 36-hour rainfall forecast data, ground rain gauge data, soil moisture ground saturation data and Environment Agency river level data.

### Data analytics

A real-time digital map can be created and used to produce meaningful data such as trend analysis, diagnostic analysis and predictive failure analysis.

### Natural flood management

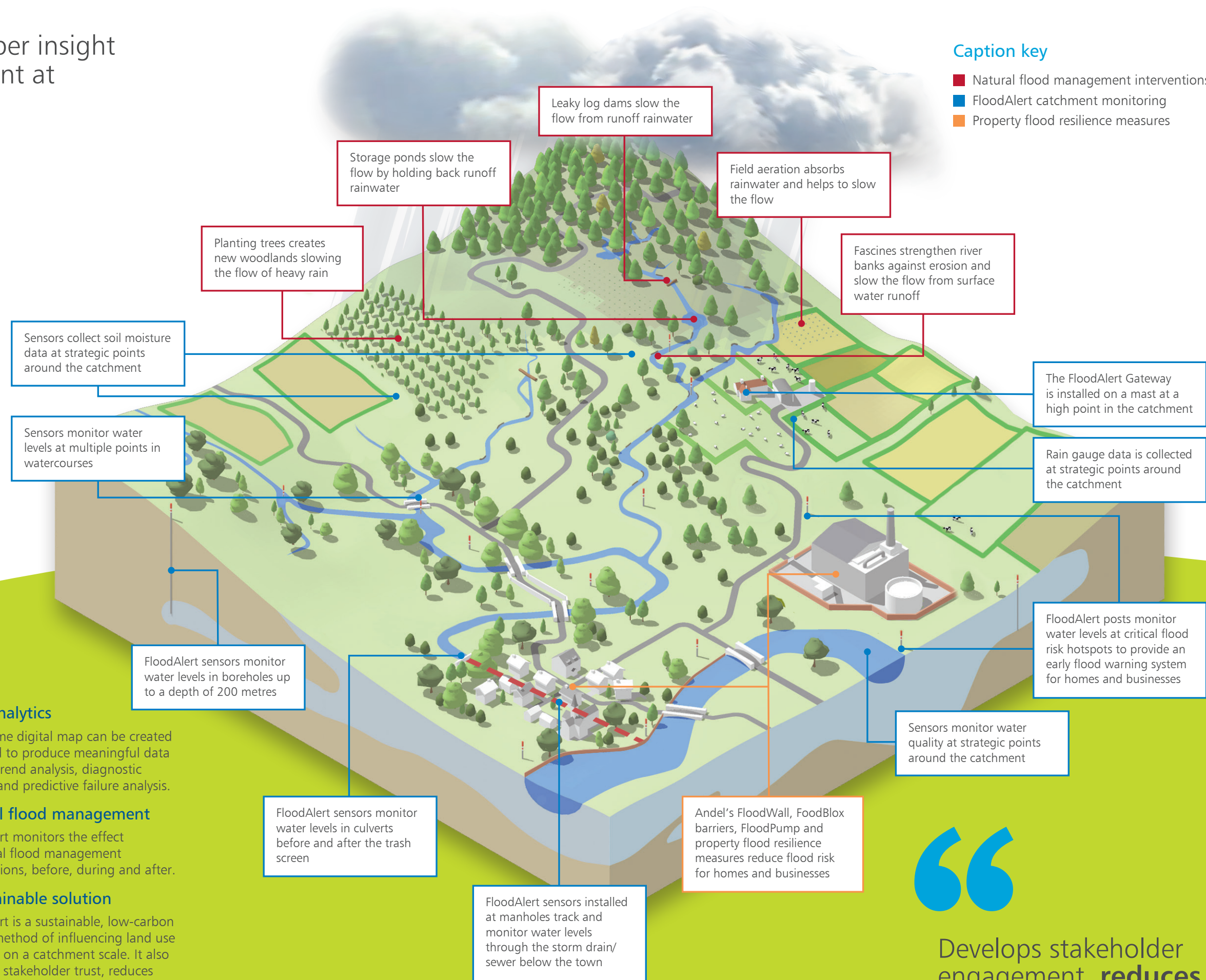
FloodAlert monitors the effect of natural flood management interventions, before, during and after.

### A sustainable solution

FloodAlert is a sustainable, low-carbon impact method of influencing land use practices on a catchment scale. It also develops stakeholder trust, reduces flood risk and increases resilience.

### Caption key

- Natural flood management interventions
- FloodAlert catchment monitoring
- Property flood resilience measures



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Develops stakeholder engagement, **reduces flood risk** and increases resilience.”





## 'Slow the Flow' – supporting Natural Flood Management

Andel donates 10% of flood defence profit to the development of Natural Flood Management projects.

'Slow the Flow' combats upstream rainwater runoff which occurs when there is more water than the land can absorb, leading to flooding downstream and includes a number of natural interventions.

Planting trees to create new woodlands slows the flow of heavy rain. Woodland also removes and stores carbon from the atmosphere, enhances air quality for the local and wider population and improves the urban heat island effect by reflecting sunlight and providing shade.

Other initiatives include:

Fascines, bundles of brushwood staked in the ground to strengthen hillsides and riverbanks

Leaky dams built from logs and fixed into position.

Water storage ponds.

Ground aeration and boreholes to absorb runoff rainwater.

*Photographs: Andel made a donation to Leeds Coppice Workers, a cooperative committed to restoring and managing neglected and underused woodlands, specifically for a 'Slow the Flow' project. The donation funded the fascines and a group of Andel volunteers including employees and directors spent a day planting a thousand trees.*



### Andel FloodWall

Sustainable, modular, perimeter flood defence system designed to give long-term peace of mind to homes and businesses at threat from flooding.

- Robust panels and posts constructed from nonporous, durable, 100% post-industrial recycled plastic waste
- Modular system designed for easy transportation and speedy on-site assembly
- Reduces carbon footprint compared to an all concrete construction
- Cost-effective compared to traditional perimeter flood defence systems
- Suitable for residential, commercial, new build and retrofit
- Aesthetically sympathetic with wood-effect finish



### Andel FloodBlox

A lightweight, demountable, watertight flood barrier system for openings such as pathways, gates and doorways.

- Easy to deploy and demount for storage
- Watertight barrier for openings such as pathways, gates and doors up to six metres wide
- Uses the natural pressure and weight of floodwater to create a watertight seal
- Beams fit into guide profiles with rubber seals
- Optional clamping system for tight closure
- Versions with different materials available on request
- Available in two widths



### Andel FloodPump

Advanced alarm and automatic flood pump that can be deployed inside or out, protecting buildings and protected areas at risk from flooding.

- Wall-mounted control panel and submersible sump sensor unit with integrated automatic pump
- Works continuously and automatically 24 hours a day
- Sends SMS alarm notifications and updates to mobile devices
- Operates up to two pumps
- Automatically controls other equipment such as automatic flood gates, flood doors and drain closure devices
- Sends alarm notifications and logs via Modbus to a Building Management System
- Provides system status alerts

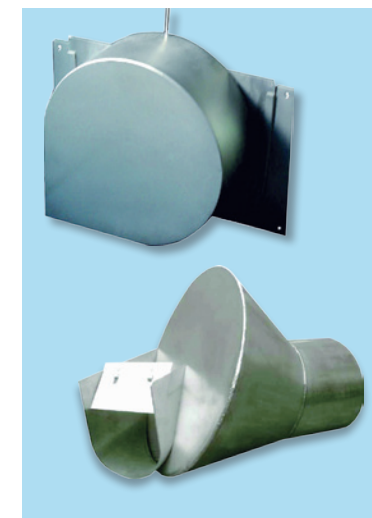
## Andel's flood defence products



### Andel FloodAlert

The flood warning solution for properties not covered by the Environment Agency flood warning system.

- FloodAlert post with water level sensor is easy to install and set up
- Sustainable, cost-effective, real-time local flood alert system for properties at risk of flooding through rising groundwater, surface water and watercourses
- Robust and reliable
- Three alert levels, tailored to each installation
- Sends out SMS and email flood alerts for timely action to protect properties
- Live monitoring on a cloud-based portal, accessible via any device connected to the internet
- Tracks rising water levels for up to 10km from a gateway
- Communicates with an unlimited number of designated users
- Communication via a low-power LoRaWAN® network
- Multiple posts can connect to form a network for flood risk hotspots



### Vortex Flow Control

An innovative, sustainable, durable and low maintenance drainage flow limiter designed for the restriction of water flows in sewer systems.

- Utilises the vortex effect caused by the natural flow of water within the unit and the water height at the inlet level
- Restricts the flow of waste water in overflow systems, storm water systems, storage systems, combined and rainwater sewer systems - all to a predetermined maximum flow capacity
- No energy consumption
- The flow control consists of a durable stainless steel housing with no moving parts
- Available in Cyclone and Vertical versions
- Accurate capacity
- Corrosion-free construction
- Minimum maintenance
- Simple and quick to install



Making water sustainable for a cleaner and safer environment.

Users of Andel's products and services include many of the world's leading blue chip organisations.



LEAK DETECTION



WATER SUSTAINABILITY



OIL STORAGE MAINTENANCE & COMPLIANCE



DRAINAGE, WASTEWATER & INTERCEPTOR MAINTENANCE



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