ACO SuDS Swale Inlet

Linking proprietary drainage systems to vegetated features

Water protection and rainwater management

What is ACO SuDS Swale Inlet?

The ACO SuDS Swale Inlet unit provides an aesthetically pleasing solution when linking proprietary conveyance drainage systems to vegetated infiltration features such as swales, basins, ponds and water courses.

Aesthetically pleasing SuDS interface

In comparison to traditional in-situ structures and concrete headwalls, the low profile unit provides a natural looking interface between proprietary and vegetated drainage solutions, complementing the surrounding environment.

The consistent product appearance makes the product ideal for phased or retrofit installation, and the 1 in 3 gradient profile can be used to help construct swales to satisfy the CIRIA C753 guidance (Design Criteria for Swales).

Erosion protection

The surface finish and the flared outlet of the unit encourages water dispersion and reduces excessive flow velocities - helping to protect the surrounding environment from erosion and meeting the flow rate guidance in CIRIA C753. The ACO SuDS Swale Inlet will reduce the velocity and distribute the flow across a footprint up to 6 times that of a traditionally constructed pipe outfall.

As part of a system to manage the flow rate and volume of surface water run-off, the ACO SuDS Swale Inlet reduces the risk of localised flooding and eases pressure on the drainage network.

Shallow surface water conveyance

The ACO SuDS Swale Inlet can be integrated into any SuDS drainage scheme where there is a requirement to manage water on or near the surface, helping to manage surface water at its source.

Simplified installation

The one piece unit is placed into position and can be installed using concrete bedding or, alternatively secured with spiral ground anchors.

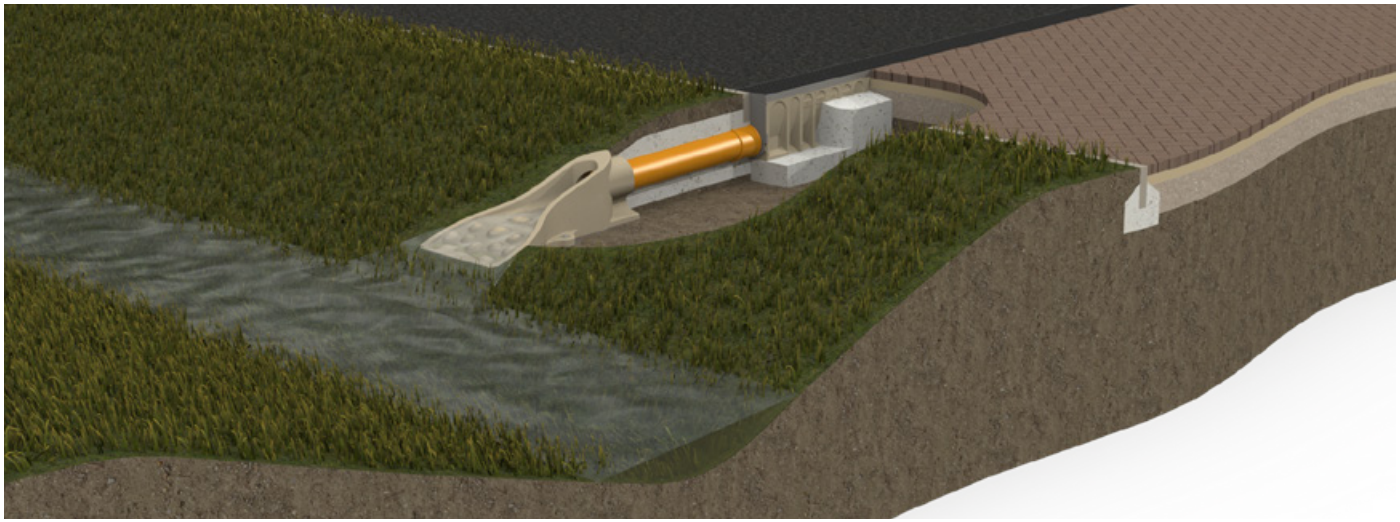
No additional on-site shuttering or formwork is required, removing the need to return to site and ensuring the final stages of a project can be concluded quickly and without hassle.

Shallow surface water conveyance

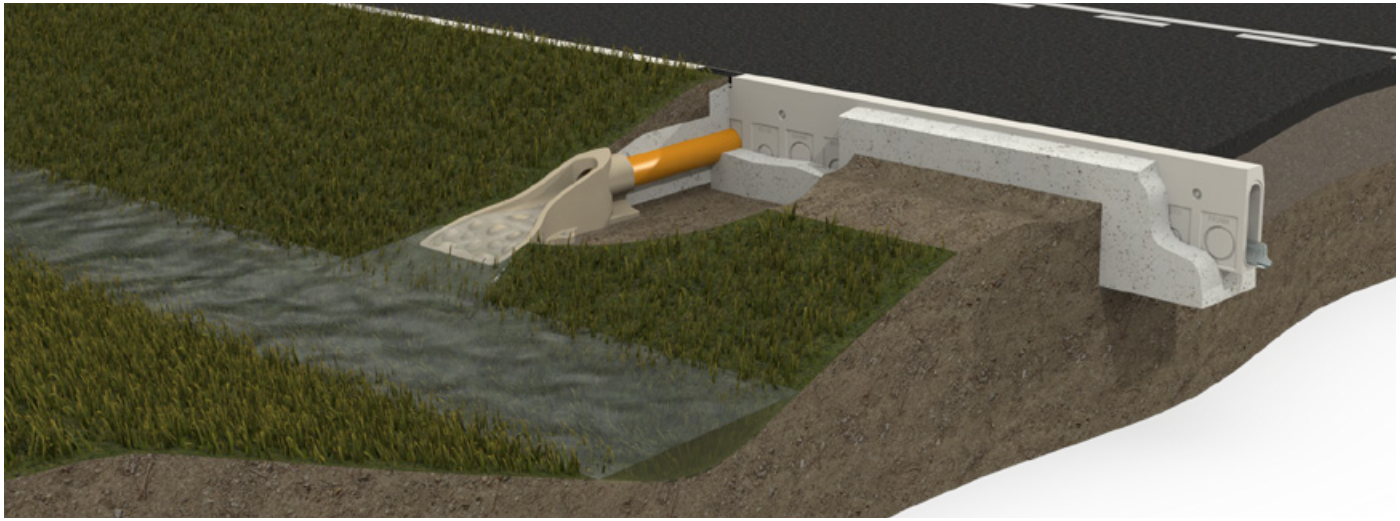
The ACO SuDS Swale Inlet can be integrated into any SuDS drainage scheme where there is a requirement to manage water on or near the surface. Managing surface water at the source allied with shallow surface water conveyance can help to reduce the risk of flooding and alleviate pressure on the drainage network.

The ACO SuDS Swale Inlet unit provides an aesthetically pleasing solution when linking proprietary conveyance drainage systems to vegetated infiltration features such as swales, basins, ponds and water courses. This combined solution encourages plant growth and provides increased amenity and biodiversity to the surrounding environment.

Depending on the application, ACO manufactures a wide range of surface water drainage systems which can simply be connected to the ACO SuDS Swale Inlet. The images to the right demonstrate how ACO surface water conveyance systems can be applied to landscaped and highway applications.



Landscaped environment: ACO MultiDrain™ MD connected to an ACO SuDS Swale Inlet to provide surface water conveyance.



Highway environment: ACO KerbDrain® connected to an ACO SuDS Swale Inlet to provide surface water conveyance.

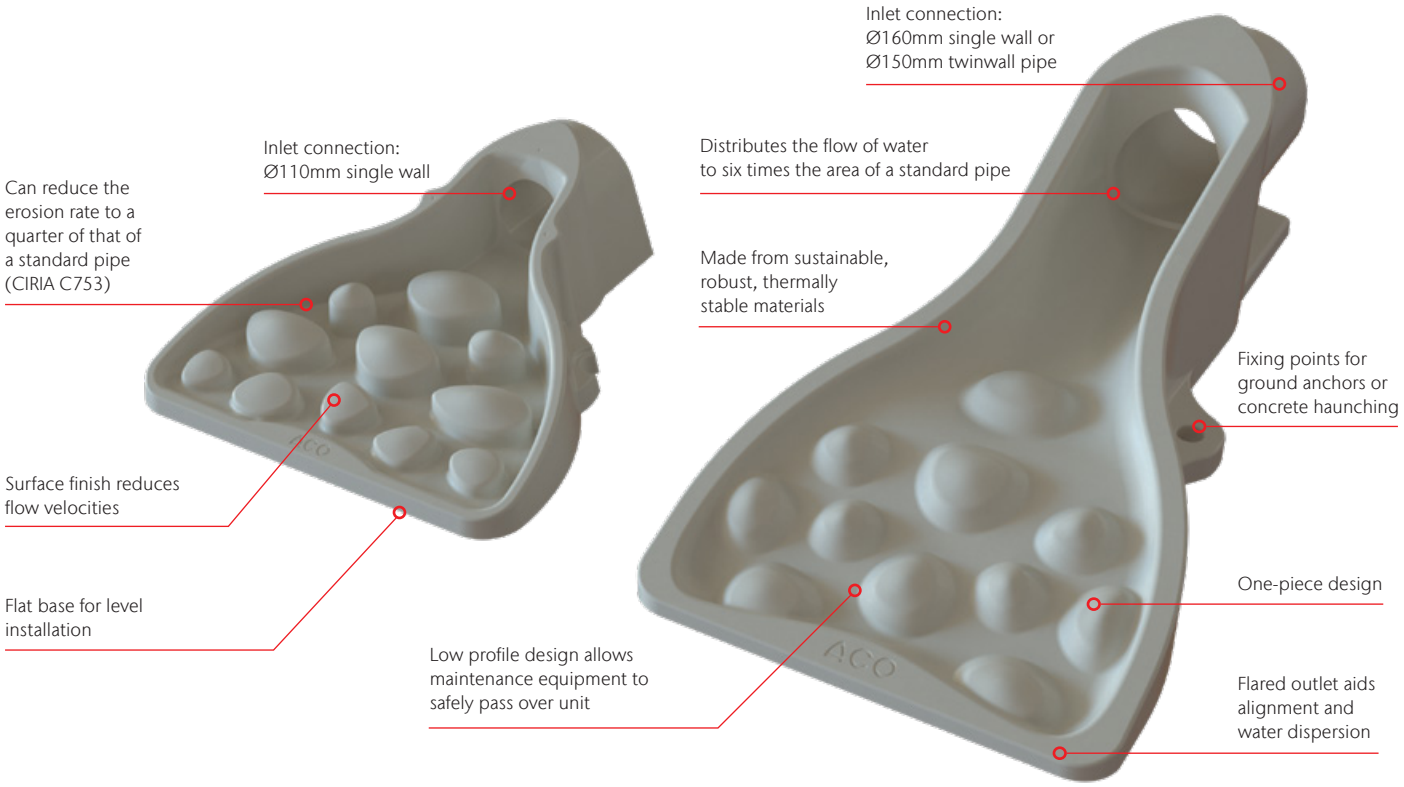
Why choose ACO SuDS Swale Inlet

The ACO SuDS Swale Inlet is manufactured from ACO's high strength polymer concrete which offers greater durability when compared to traditional materials and structures which are likely to deteriorate in service. The properties of the material allow virtually no water absorption giving protection against frost and freeze-thaw cycles, thus maintaining the long term performance of the unit.

ACO SuDS Swale Inlet is available as standard in three colours to suit project requirements: natural, grey and black. There are two sizes with either Ø110mm inlet connection or Ø150/160mm connection (twinwall/single) to pipes. An optional textured finished can also be applied to the unit if required.

When installed in applications that require a greater degree of protection such as schools or playing fields, an optional stainless steel grating can be applied to the upper inlet area to protect pedestrians and maintenance equipment.

The ACO SuDS Swale Inlet simplifies inspection, with easier identification of blockages, and maintenance procedures are straightforward due to the simplified, consistent design of the outlet.



System benefits

- Aesthetically pleasing interface between proprietary and vegetated drainage features
- Consistent appearance complements surrounding environment
- Helps protect local area from erosion
- Reduces excessive velocities and encourages water dispersion
- Complies with flow rate guidance in CIRIA C753
- Reduces the risk of localised flooding and pressure on the drainage network
- Cost effective alternative to traditional in-situ structures and pre cast concrete headwalls
- Offers durable, long term performance
- Simplifies installation and removes unnecessary costs
- Straightforward inspection and maintenance

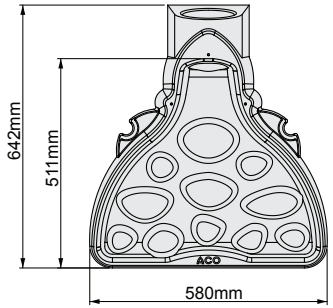
ACO SuDS Swale Inlet 110mm

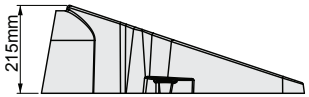
Natural

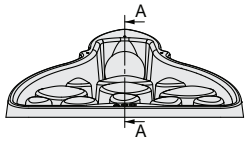
Grey

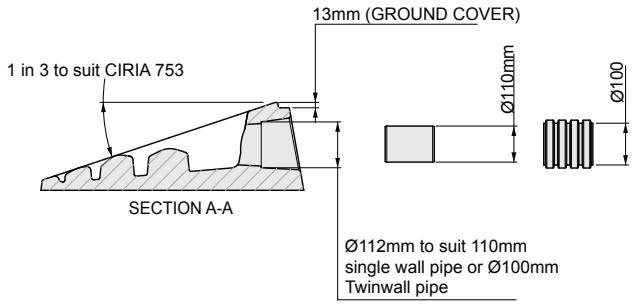
Black

Product Code	Description	Length [mm]	Width Overall [mm]	Depth Overall [mm]	Weight [kg]
ACO SuDS Swale Inlet 110mm					
27311	SuDS Swale Inlet 110mm Natural	642	580	215	32
27312	SuDS Swale Inlet 110mm Grey	642	580	215	32
27313	SuDS Swale Inlet 110mm Black	642	580	215	32
27314	SuDS Swale Inlet Mesh grating kit 110mm including fixings, Stainless steel	210	240	22	0.8
27315	SuDS Swale Inlet Newt grating kit 110mm including fixings, Stainless steel	170	210	114	0.8
27127	Anchor kit				0.8



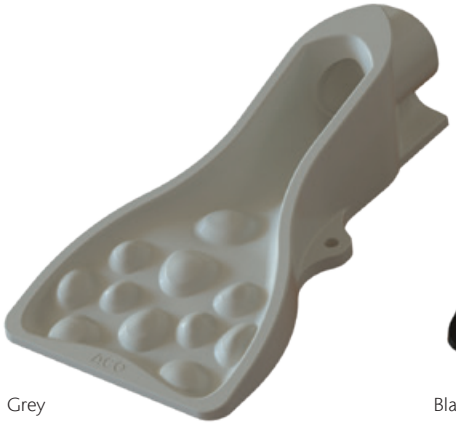






ACO SuDS Swale Inlet 160mm

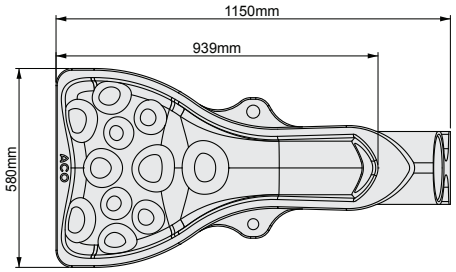
Natural

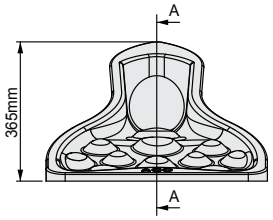


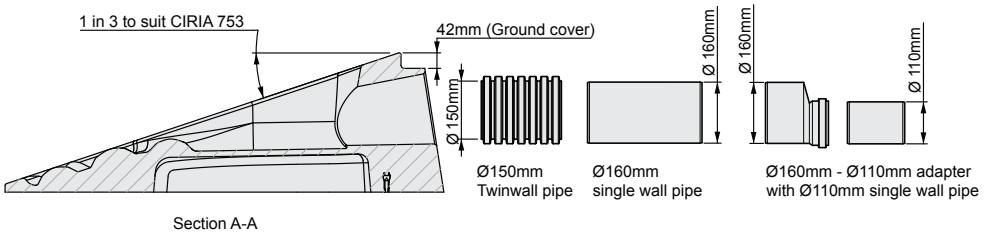
Grey

Black

Product Code	Description	Length [mm]	Width Overall [mm]	Depth Overall [mm]	Weight [kg]
ACO SuDS Swale Inlet 110mm					
27111	SuDS Swale Inlet 160mm Natural	1150	580	365	76
27112	SuDS Swale Inlet 160mm Grey	1150	580	365	76
27113	SuDS Swale Inlet 160mm Black	1150	580	365	76
27121	SuDS Swale Inlet Mesh grating kit 160mm including fixings, Stainless steel	352	225	22	15.7
27109	SuDS Swale Inlet Newt grating kit 160mm including fixings, Stainless steel	397	225	115	15.7
27127	Anchor kit				0.8



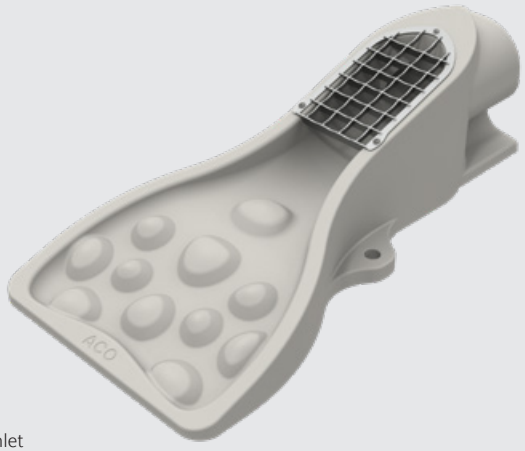




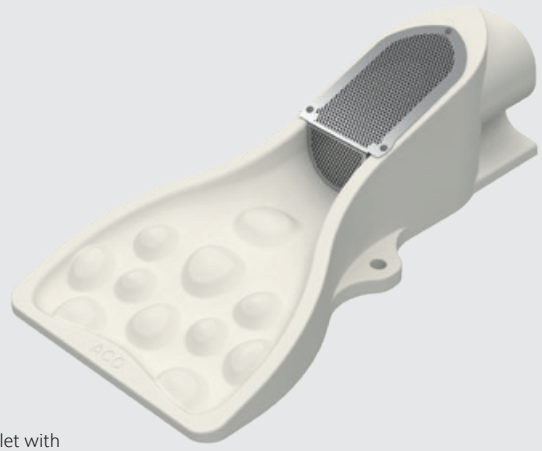
ACO SuDS Swale Inlet grating kit

The SuDS Swale inlets are compatible with optional grating kits for applications that require a greater degree of protection. Two grating kits are available. The standard grate is suitable for SuDS features which will be regularly mowed or maintained. The grate prevents mower wheels from falling into the outlet.

The second grating kit is specifically designed for areas where newt and other amphibian populations have been identified. This mesh limits their access to the pipe from the SuDS feature, and ultimately helps retain the species in their natural environment.



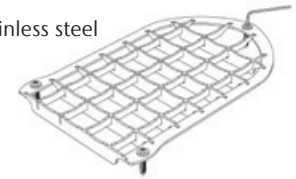
ACO SuDS Swale Inlet with grating kit



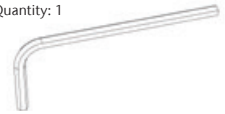
ACO SuDS Swale Inlet with mesh grating kit for newts

Kit content includes:

Grating stainless steel
Quantity: 1



Security Allen key
Quantity: 1



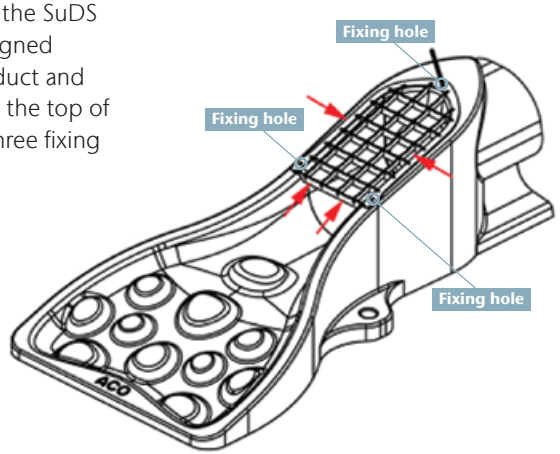
Nylon anchors
Quantity: 3

Screw fixing screws
Quantity: 3

Washers
Quantity: 3

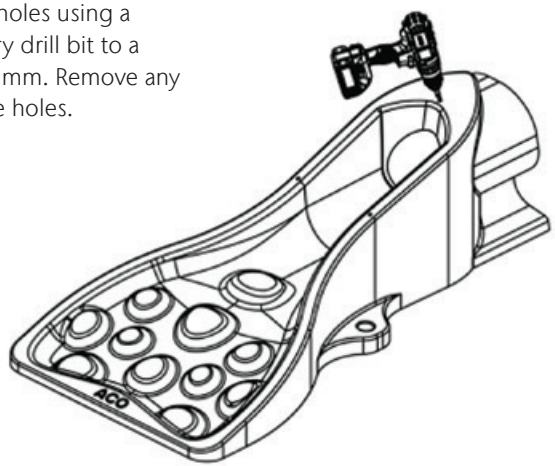
ACO SuDS Swale Inlet grating kit installation instructions

Place the grating on the SuDS Swale Inlet so it is aligned centrally on the product and pushed flush against the top of the inlet. Mark the three fixing hole positions.



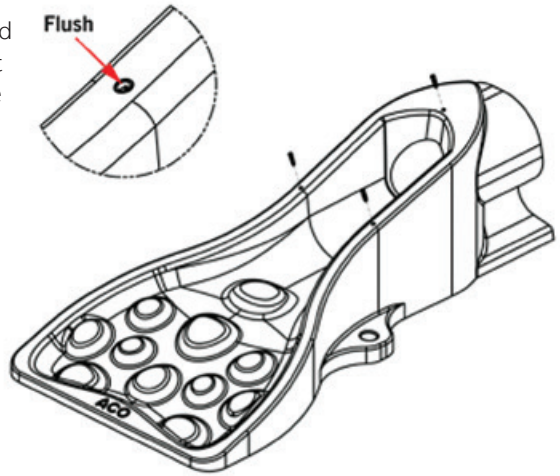
1

Drill the three holes using a Ø7mm masonry drill bit to a depth of 30-35mm. Remove any debris from the holes.



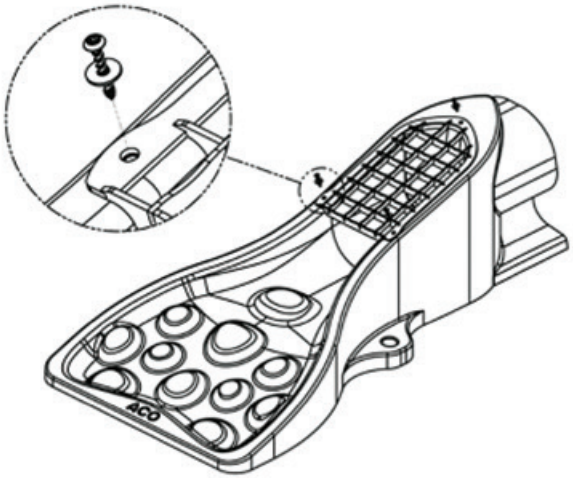
2

Place the nylon anchors into the drilled holes and push down until they sit flush with the top of the SuDS Swale Inlet.



3

Place the grating back into position and secure it using the screws and washers. Tighten the screws using the allen key provided.



4


ACO SuDS Swale Inlet
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ACO SuDS Swale Inlet installation detail

Ground conditions

The customer should ensure that the ground conditions are suitable for the proposed installation detail. Engineering advice may be necessary.

Watertight joints

Where a secure watertight joint is required between the pipework and the SuDS Swale Inlet unit, a suitable proprietary sealant should be used.

Surface protection

The installer should ensure that the adjacent ground level is higher than the SuDS Swale Inlet unit to avoid damage to the unit during installation or mowing activities.

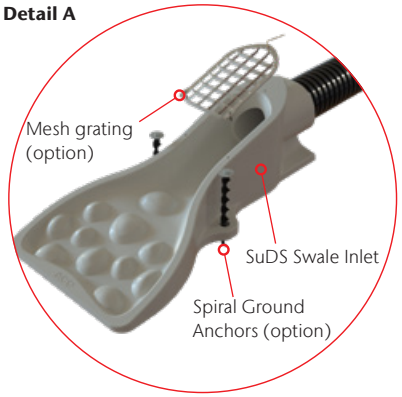
Optional mesh grating and ground anchors

These are available for retrofit and typical installations. The anchors are installed by knocking them into the ground through the holes in the units; see detail A.

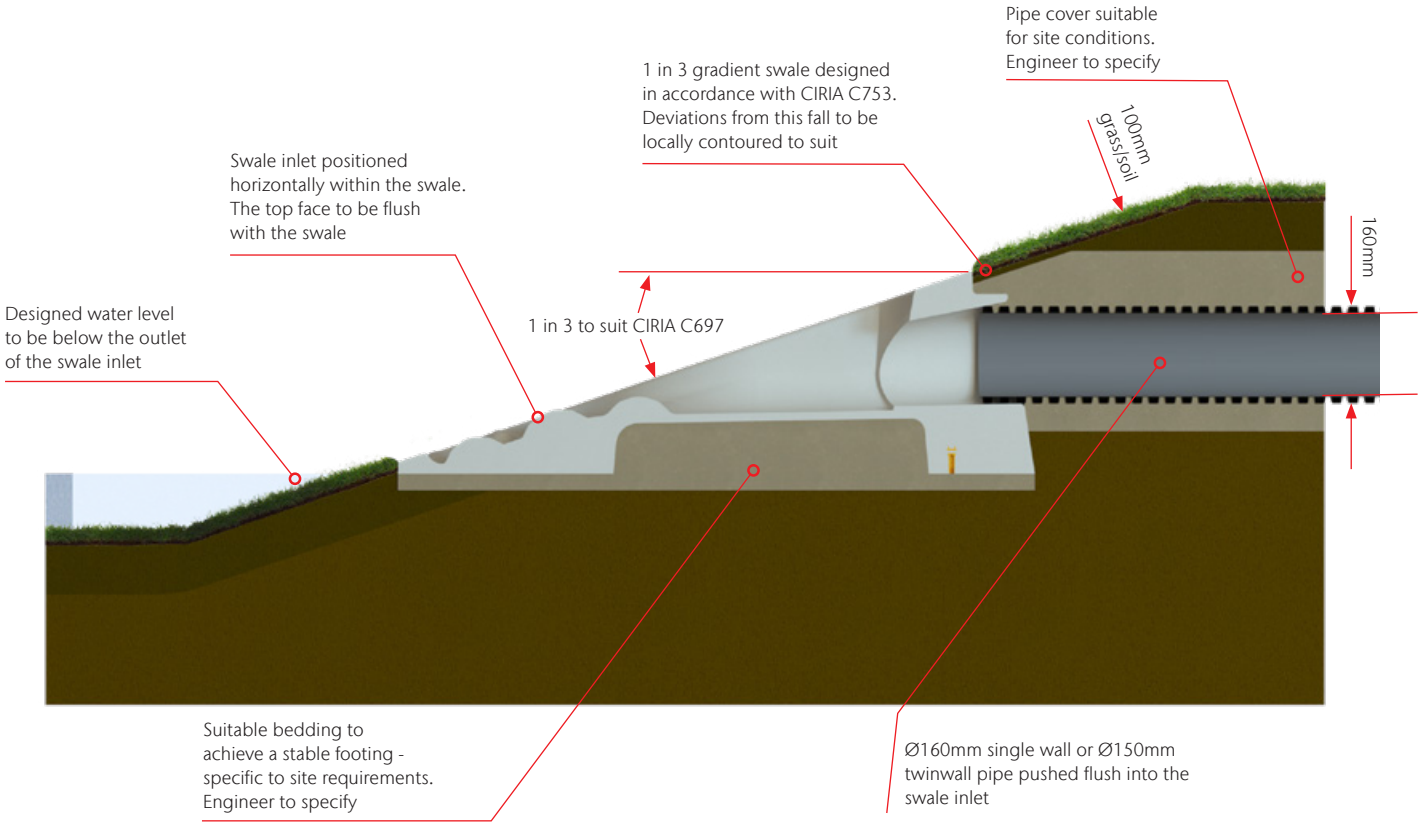
Handling

Please ensure suitable safe lifting techniques are used when positioning and installing the unit.

Detail A



An electronic version of the ACO SuDS Swale Inlet installation detail is available to download from the ACO website. Visit **www.aco.co.uk**



Model specification clause

The swale inlet shall be ACO SuDS Swale Inlet as supplied by ACO Technologies plc. All materials and components within the scope of the system shall be supplied by this manufacturer.

The ACO SuDS Swale Inlet units shall be either 110mm connection (643mm (L) x 580mm (W) x 215mm (D)) or 160mm connection (1150mm (L) x 580mm (W) x 365mm (D). With a 1 in 3 gradient. profile in accordance with CIRIA C753 (Design Criteria for Swales). The ACO SuDS Swale Inlet Unit shall be of one piece construction of Grey/Natural/Black coloured polymer concrete.

The units shall be installed with the manufacturer's grating and ground anchor kits as required for the scheme. The ACO SuDS Swale Inlet system shall be installed in accordance with the manufacturer's printed recommendations, and the works carried out as specified on drawings (*) and in accordance with recognised good practice.

ACO. we care for water

ACO is a Water-Tech company that protects water. Building on our global drainage expertise that protects people from water, we increasingly see our mission as also protecting water from people.

Managing Directors ACO Group
Iver and Hans-Julius Ahlmann

5,200

employees in more than 47 countries (Europe, North and South America, Asia, Australia, Africa)

1 Billion

Euro Sales in 2021

37

production sites in 18 countries

With the ACO WaterCycle, ACO provides systems that collect and channel, clean, retain and ultimately reuse water. In this way, ACO contributes to the preservation of clean groundwater as a vital resource, and makes a contribution to tomorrow's world. In its Agenda 2030, the UN global community set the improvement of water quality as one of 17 sustainable development goals.

Intelligent drainage systems from ACO increasingly use smart technology to ensure that rainwater and wastewater are drained, or temporarily stored. With innovative separation and filter technology, we prevent water contamination by pollutants such as fat and grease, fuels, heavy metals and microplastics.

Today, ACO goes one step further: we accept the challenge of reusing water, and thus establishing a resource-saving cycle. For all products and systems, ACO attaches great importance to durability, reusability and a low carbon footprint. The pursuit of sustainability is an ongoing process that we strive to meet every day.

The ACO Group is a global family business that is one of the world market leaders in the Water-Tech segment. Founded in Schleswig-Holstein in 1946, it operates as a transnational network in over 50 countries. Worldwide, ACO is characterised by a high level of decentralised ownership, and explicit regional market proximity.

www.aco.com

Every product from ACO Water Management supports the ACO WaterCycle

ACO Water Management

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