

Crawley Down Road, Felbridge
West Sussex and Surrey

OWNERS MANUAL

Relating to Surface Water Drainage Maintenance

The site has been designed in accordance with Sustainable Drainage Systems (SuDS) techniques.

An extract from the SuDS Manual (CIRIA C753) states “Sedimentation is one of the primary removal mechanisms in SUDS. Most pollution in runoff is attached to sediment particles and therefore removal of sediment results in a significant reduction in pollutant loads”.

In order to remove sedimentation, the surface water drainage design utilises deep seal trapped gullies throughout, along with catchpit manholes and bio-retention areas and forebays within the attenuation basins.

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1) Explanation of the Surface Water Drainage System

The Principle of SuDS has been adopted for the whole of the site, calculations have been carried out using MicroDrainage with a storm return period of 100 years and an allowance of 40% for climate change and 10% allowance for urban creep.

Generally, roof water drains direct to the domestic drainage system within each curtilage and from there will be directed to the below ground surface water network. Hardstanding areas and access roads and drives drain to trapped gullies of which of these systems outfall to the surface water drainage system within the site.

Surface water drainage within the site is split into two catchments (1 for each phase) with the eastern side of the site (phase 1) draining to an attenuation basin which then connects to the existing ditch at a restricted discharge rate. The western side of the site (phase 2) drains to another attenuation basin which outfalls into to the same ditch further downstream a restricted discharge rate also.

The two attenuation basins provide temporary storage of the surface water by slowing down the flows at key manholes through the use of Hydrobrake flow controls, which are located inside of these manholes. During peak storm events the water levels in the basins will rise temporarily and after the rainfall event will drop back down. Both basins have bioretention areas which will remain wet. Both basins feature forebays to provide additional sediment control and are lined.

2) Operating and Maintenance Responsibility

Barratt David Wilson Homes (BDW) are responsible for maintaining the surface water drainage systems on this site during the construction period. The management company **"TO BE CONFIRMED"** appointed by BDW during the construction period will have BDW as the sole directors. Upon handover and occupation, this will be handed over to residents who will take over as Directors for the domestic drainage.

The Management Company will then appoint a managing agent who will ensure that the SuDS are maintained as set out in this document.

An OFWAT regulated sewerage authority will adopt and maintain the public surface and foul water sewers which run beneath the main roads of the site. Major components of the drainage system will be replaced as required by the sewerage authority as part of their respective asset management plan.

Emergency Contact Information:

Telephone number:

3) Maintenance Schedule for catchpits, control chambers, flow control devices and gullies

Hydro-Brake Flow Control Maintenance

Normally, little maintenance is required as there are no moving parts within the Flow Control. The Flow Control is fitted with a pivoting bypass door, which allows the manhole to be drained down should blockage occur. This is operated by a steel tensile rope attached to a pull handle located beneath the cover of the manhole-refer to the hydro international Technical specification sheet appended which indicates this arrangement. It is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required. All flow controls are typically manufactured from grade 304 Stainless Steel which has an estimated life span in excess of the design life of drainage systems. Also Refer to the Hydro International Maintenance and safety Sheet

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Remove sediment and oil deposits from all trapped gullies.	Annually, or as required.
Remedial actions	Repair/rehabilitation of inlets, outlets, overflows and vents.	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed.	Annually and after large storms

4) Maintenance Schedule for Attenuation basins and bio-retention areas

The basins will be lined with a Bentonite clay liner which has self-sealing properties. Therefore, if an object punctures the liner, it will seal around it. This prevents water from entering or exiting beneath the liner. The liner shall also be confined under 300mm of cover material.

Any silts, oils or detritus removed from the basins will undergo WAC testing once removed to determine its waste classification, prior to being transported to landfill.

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Litter and debris removal.	Monthly
	Grass cutting – for spillways and access routes. Removal of tree samplings that seed themselves.	Monthly (during growing season), or as required.
	Grass cutting – meadow grass in and around basin. Ensure that the meadow grass is not cut lower than 10cm. No vehicle should track within 3-5m of the toe of the bank. All clippings and arisings to disposed at the appropriate recycling facility.	50% of the area annually during late autumn period (eg 1 side/bank of the system each year or 50% in area terms spread out amongst the system). Adjust as required should any survey show Water voles are present.
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
	Tidy all dead growth before start of growing season.	Annually.
	Remove sediment from inlets, outlet and forebay.	Annually (or as required).
Occasional maintenance	Check for poor vegetation growth due to lack of sunlight or leaf dropping litter and cut back adjacent vegetation where possible/	Annually
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required	Annually, or if bare soil is exposed over 10% or more of the basin/swale treatment area
	Prune and trim trees and remove cuttings.	2 years (or as required). Ensure this is undertaken outside of bird nesting season.
	Make sure signage around basins is clean and easily visible.	Annually
Remedial actions	Repair of erosion or other damage by re-turfing or reseedling.	As required
	Re-level uneven surfaces and reinstate design levels.	As required.
	Repair/rehabilitation of inlets, outlets and overflows.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices	As required
	Remove and replace and broken/damaged knee railing fencing/posts.	As required
	Remove and replace and broken/damaged signage around the basins.	As required
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly/ after large storms.

Monitoring	Inspect banksides, structures, pipework etc. for evidence of physical damage.	Monthly/ after large storms.
	Inspect signs and knee railing fences around basins for damage.	Monthly/ after large storms.
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly.
	Check flow control device and other mechanical devices.	Half yearly.

5) Maintenance Schedule for Althon Grilles to Headwalls.

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Litter and debris removal.	Monthly (or as required) or after heavy rainfall events
Occasional maintenance	Check moving parts and locks. Oil and ensure free moving. Replace when necessary.	As required.
Remedial actions	Remove build-up of sediment.	As required.
Monitoring	Inspect for blockages, and clear if required.	Monthly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly.

This schedule is also to be read in conjunction with the Althon Maintenance specification document appended to this manual.

6) Maintenance Schedule for solid wall pipes & Manholes

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly.
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Sediment removal from catchpit sumps.	Monthly
	Inspect chambers and manholes for evidence of pipes operating correctly and take remedial action if necessary, to include jetting of pipework.	Monthly for 3 months, then annually

7) Maintenance Schedule Ditches, Headwalls and Culverts

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Litter and debris removal.	Monthly (or as required).
	Grass cutting – to retain grass height within specified design range. Close cut around outlet & structure. 100 – 150mm generally.	Monthly (during growing season), or as required.
	Manage other vegetation and remove nuisance plants.	Monthly (at start, then as required).
Occasional maintenance	Check for poor vegetation growth due to lack of sunlight or dropping of leaf litter, and cut back adjacent vegetation where possible.	Annually
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required.	Annually, or if bare soil is exposed over 10% or more of the swale treatment area.
Remedial actions	Repair erosion or other damage by re-turfing or reseeded.	As required
	Re-level uneven surfaces and reinstate design levels.	As required.
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip.	As required.
	Remove and dispose of oils or petrol residues using safe standard practices.	As required.
Monitoring	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation. Record areas where water is ponding for >48 hours.	Monthly, or when required.
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly.

This schedule should be read in conjunction with the Althon SFA10 Maintenance documents appended to this manual.

8) Reasons for Maintenance

Surface water contains variable amounts of sediment which settles out at certain locations and could cause blockages if left. Road gullies also trap oil and prevent it entering the surface water sewer system.

9) Management and Maintenance

Some of the proposed drainage system is to be adopted by ICOSA Water (S104 agreement has received technical approval). Therefore, the maintenance responsibility of those parts of the system will remain with them. ICOSA has confirmed that they will be carrying out maintenance in accordance with the requirements of the DCG.

The parts of the system not adopted will be maintained either by the assigned management company or individual property owner.

Drainage infrastructure which serves a single plot will be the sole responsibility of the owner/occupier of the associated plot.

Any other parts of the drainage system i.e. the basins and shared (serving more than a single plot and/or being outside of any individual plot's curtilage) unadopted infrastructure will be the responsibility of the management company.

The watercourse within the sites boundary will be maintained by the assigned management company in-line with the land owners legal obligations under the Land Drainage Act 1991/2010.

Any additional maintenance activities beyond this will be the responsibility of the management company, to be appointed by the developer upon completion of the development.

10) Funding

The funding of the maintenance will be the responsibility of the end users as follows:

- Adopted parts of the system will be maintained by ICOSA Water, annual fees will be paid to ICOSA by the owners/occupiers of the plots.
- Shared non-adopted infrastructure will be maintained by the management company and annual fees will be paid to the management company by the owners/occupiers of the plots.
- Private parts of the system will be the responsibility of individual plot owners who will be responsible for funding their own drainage system.

11) Record Keeping

Records shall be kept of maintenance undertaken which will help establish a long-term maintenance regime.

It is recommended that a record of maintenance carried out is kept, which should include the following information:

Date of maintenance:				
Location	Maintenance Carried Out	Silt Depth	Notes/Faults	Date of Next Inspection

Appendix (A)
Althon Headwall & Grille Manufacturer
Maintenance Specifications



December 2014

Maintenance of Headwalls, Silt Traps & Chambers.

With respect to the maintenance of any exposed surfaces of concrete components, only routine (Annual) cleaning **may** be necessary with a Power Washer and possibly some mild detergent to any exposed surfaces to maintain appearance; however all sites are unique and environmental impact of cleaning should be taken into account. Where cleaning is required and environmental conditions prevent mild detergent, using clean water and a power washer/stiff brush should suffice. Concrete units are often expected to “weather” and some coverage will help them to blend into their environment.

If damage to the structure of any pre-cast concrete components occurs we recommend their replacement not repair. If there is minor damage to corners during their normal life by grass cutting equipment etc. then repair with an epoxy compound such as 'Mason Mate 0868PR380 Polyester Resin'.

To dispose of any Pre-Cast concrete components the preferred method is to recycle the material by crushing and grading, but if the quantity is too small to be cost effective then disposal in conventional landfill is acceptable as all the concrete components are inert with regard to having any environmental impact.

Maintenance of Galvanised Grates & Handrails.

Annual/bi-annual visual checks are basic recommendations. If gratings are in a water course subject to a higher level of debris/weed, then more regular checks may be required. Clearing of debris/weeds from the grate will ensure no disruption to the flow, or backing up of the water course. Handrails should also only require a visual inspection – annually or at the same time as the headwall & grates.



SFA10 Headwall Range

Up to 750mm Pipework
800mm - 1520mm Backwall Height

300 and 500mm Thick Toe

Althon Sewers for Adoption precast headwalls should be used when a concrete headwall is part of a Section 104 Agreement and the sewers are to be adopted once completed by the local Water Company. The materials used and installation must comply with the 'Sewers for Adoption' guidelines. Althon SFA precast concrete headwalls offer a cost effective alternative to in-situ structures for connecting pipework discharging into open watercourses.

There are four sizes of Sewers for Adoption concrete headwalls available catering for pipe sizes up to and including 1500mm. Each size of SFA precast concrete headwall comes with three depths of toe and four back wall heights offering wing wall profiles to suit most applications.

Althon Sewers for Adoption precast concrete headwalls are cast to suit the diameter and type of pipe being used and can be provided with fixings cast in at the time of manufacture to accommodate gratings, trash screens, flap valves, penstocks, ladders, Kee Klamp® handrails and flow and depth monitoring equipment.

Our Sewers for Adoption compliant precast headwalls are available with toe extensions either 300 or 500mm thick with depths ranging from 450 to 1000mm. We also manufacture Sewers for Adoption compliant outfall safety grilles to suit our concrete headwalls.



SFA10 A
800mm Backwall

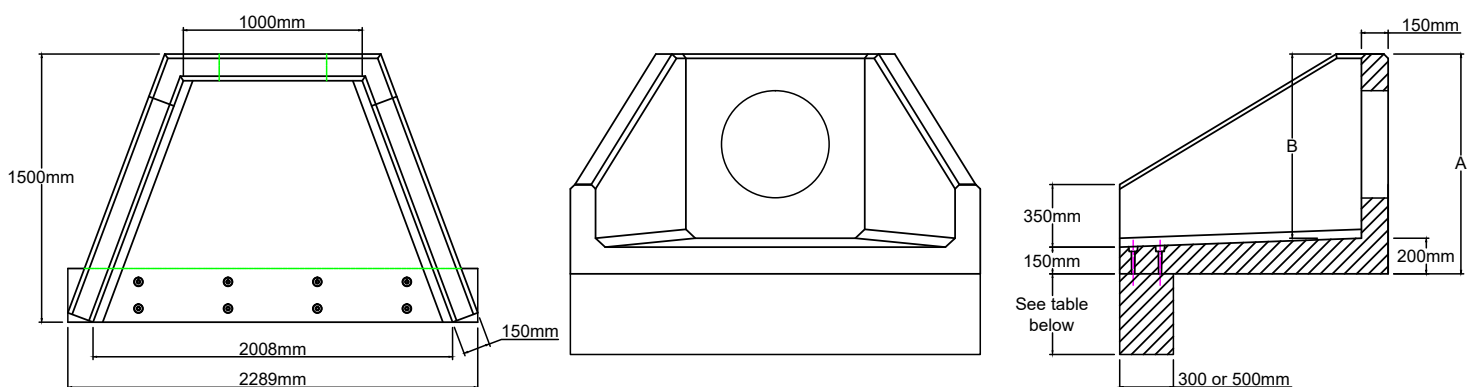
SFA10 B
1040mm Backwall

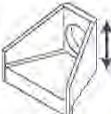
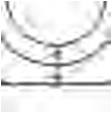


SFA10 C
1230mm Backwall

SFA10 D
1520mm Backwall

Optional Kee Klamp handrail



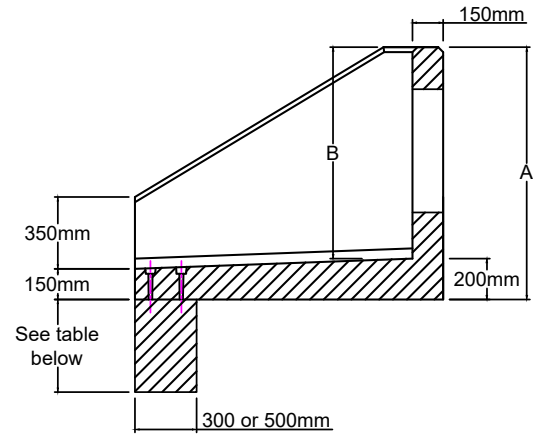
						
Maximum pipe size 750mm	Backwall heights 800mm - 1520mm	Specifiable pipe invert levels	Single or multiple pipe openings	Optional pre-fitted grating	Optional pre-fitted flap valve	Optional pre-fitted penstock



SFA10 Headwall Range

Up to 750mm Pipework
800mm - 1520mm Backwall Height

300mm Thick Toe



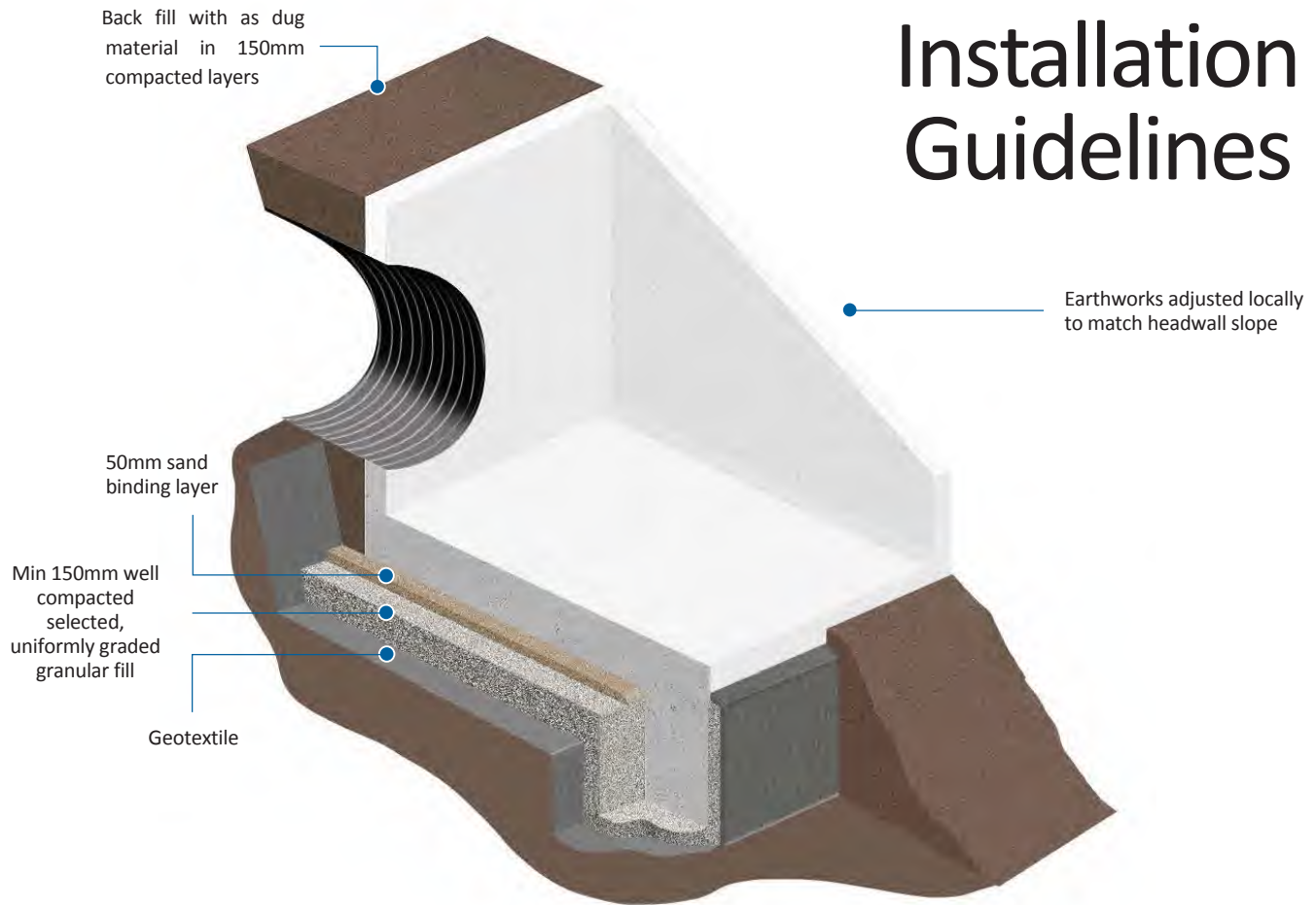
Headwall Ref	Back Wall Height A	Back Wall Height B	Wing Wall Profile	Weight	Weight with Toe			Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening
					450mm	700mm	1000mm	Invert Level with Apron		100mm Invert Level		225mm Invert Level	
								TW / Clay	Concrete	TW / Clay	Concrete	TW / Clay	Concrete
	mm	mm		kg	kg	kg	kg	mm	mm	mm	mm	mm	mm
SFA10A	800	600	1:4	1882	2636	3042	3542	400	375	300	300	150	N/A
SFA10B	1040	840	1:2	2124	2878	3284	3784	600	600	500	450	450	375
SFA10C	1230	1030	1:1.5	2315	3069	3475	3975	750	675	600	600	600	525
SFA10D	1520	1320	1:1	2607	3361	3767	5267	750	675	750	675	750	675

500mm Thick Toe

Headwall Ref	Back Wall Height A	Back Wall Height B	Wing Wall Profile	Weight	Weight with Toe			Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening	Max Pipe Opening
					500mm	750mm	1000mm	Invert Level with Apron		100mm Invert Level		225mm Invert Level	
								TW / Clay	Concrete	TW / Clay	Concrete	TW / Clay	Concrete
	mm	mm		kg	kg	kg	kg	mm	mm	mm	mm	mm	mm
SFA10A	800	600	1:4	1882	3262	3952	4642	400	375	300	300	150	N/A
SFA10B	1040	840	1:2	2124	3504	4194	4884	600	600	500	450	450	375
SFA10C	1230	1030	1:1.5	2315	3695	4385	5075	750	675	600	600	600	525
SFA10D	1520	1320	1:1	2607	3987	4677	5367	750	675	750	675	750	675

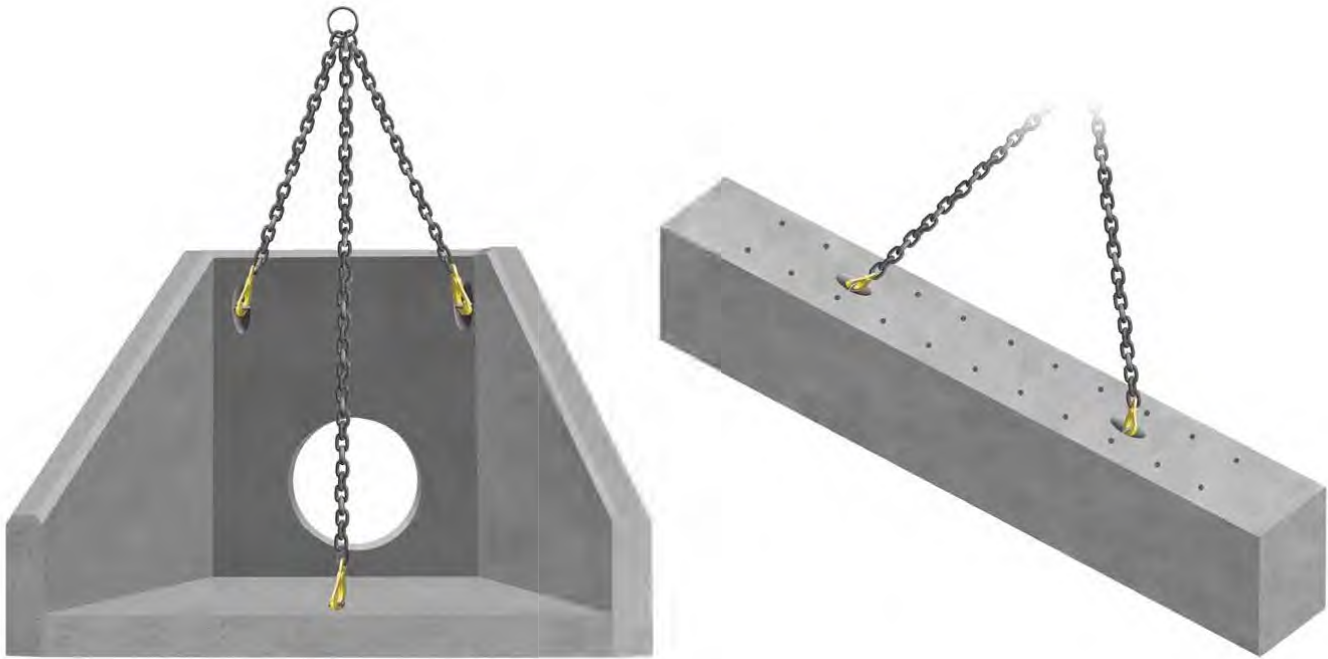
Note - Approximate headwall weights are based on a headwall with no hole cast in

Installation Guidelines



- 1 Ensure that first or last spigot/butt or socket/butt pipe that is to be fitted to the Headwall is in position and free from backfill.
- 2 Dig out the bank of the watercourse to take the size of the headwall making sure that the Headwall will not protrude into the path of the water flow. The angle of the excavation to the rear of the Headwall should be roughly the same as the existing bank profile.
- 3 Dig out sufficient size trench to take the toe along the front of the foundation.
- 4 Line toe foundation with Geotextile then place selected, uniformly graded granular fill in the base and compact well. Lift Toe into position and level then fill around the toe with selected, uniformly graded granular fill and compact well. Insert supplied threaded rod into the sockets cast into the top of the toe.
- 5 Line the base of the rest of excavation with Geotextile then place a minimum bed of 150mm Class 6N or 6K* well graded granular Material on the base & compact well, especially around the back of the toe, then a 50mm topping of fine material (Class 6L*) to ensure units are level and stable. Lift Headwall into position, over the end of the pipe & locate over threaded rod protruding from the toe and level. Place washer over threaded rod in recess in Headwall apron and tighten nut. Fill recess with high strength non-shrink grout.
- 6 The pipe should be flush with the front of the back wall if fitting grating or flap valve, or protruding by 50mm if not.
- 7 Shim the pipe until it is central within the opening then fill void with sand cement mortar or high strength non-shrink grout.
- 8 If flap valve or grating is supplied, this will need to be removed before the pipe is inserted and sealed into place. Then reinstall using stainless steel fixing bolts into cast in sockets. (When bolting flap valves against headwall, use a good quality sealant but do not over tighten bolts or distortion may occur resulting in the valve not seating correctly.
- 9 Backfill pipe section first then backfill all around Headwall with as dug material. Make good at front of toe with as dug material ensuring river bank is returned to its original profile. It may be necessary to provide protection in front of the toe, please refer to engineers' recommendation.

*Manual of Contract Documents for Highway Works: Volume 1 (MCHW1), Specification for Highway Works, Series 600 (Nov 09)



Rapid-Lift Lifting Anchors

All Althon SFA Headwalls and Toes are fitted with Rapid-Lift lifting anchors. The Althon Rapid-Lift system allows the SFA Headwalls & Toes to be offloaded, transported and located in their final position without the need for any specialised lifting equipment. Standard lifting hooks and chains can be used with the three lifting points (two lifting points on Toes). The minimum chain leg length for all units is 1500mm.

Althon Precast Concrete SFA Headwall Safety Sheet

Althon Limited manufacture pre-cast concrete SFA Headwalls using :-

6 - 14mm aggregate • 0/4mm Sharp sand • Portland cement BS EN 197-1- Cem 1 52.5 • Cryso Fluid Premia 205 Varit Superplasticiser

When units have been manufactured and cured they are in a chemically inert state. But the following information should be considered.

- It is advisable to wear toe cap safety footwear when handling any concrete products. Please refer to your company Safety Policy for specific details on manual handling.
- When cutting with masonry grinding discs or drilling with masonry drill bits it is necessary to wear eye protection and a dust mask. It is also recommended to wear ear protection during either of these two processes.
- Due to some units having sharp edges it is advisable to wear protective gloves when handling Althon products.
- When fitting or removing some of the larger accessories it is necessary to use a mechanical system to prevent risk of back injury.

Maintenance of SFA Headwalls

With respect to the maintenance of any exposed surfaces of concrete components, only routine (Annual) cleaning may be necessary with a Power Washer and possibly some mild detergent to any exposed surfaces to maintain appearance; however all sites are unique and environmental impact of cleaning should be taken into account. Where cleaning is required and environmental conditions prevent mild detergent, using clean water and a power washer/stiff brush should suffice. Concrete units are often expected to “weather” and some coverage will help them to blend into their environment.

If damage to the structure of any pre-cast concrete components occurs we recommend their replacement not repair. If there is minor damage to corners during their normal life by grass cutting equipment etc. then repair with an epoxy compound such as ‘Mason Mate 0868PR380 Polyester Resin’.

To dispose of any Pre-Cast concrete components the preferred method is to recycle the material by crushing and grading, but if the quantity is too small to be cost effective then disposal in conventional landfill is acceptable as all the concrete components are inert with regard to having any environmental impact.

Maintenance of Galvanised Grates & Handrails.

Annual/bi-annual visual checks are basic recommendations. If gratings are in a water course subject to a higher level of debris/weed, then more regular checks may be required. Clearing of debris/weeds from the grate will ensure no disruption to the flow, or backing up of the water course. Handrails should also only require a visual inspection – annually or at the same time as the headwall & grates.

Appendix (B)
Hydro International Hydro-Brake
Maintenance Specifications and Details



HYDRO-BRAKE® FLOW CONTROL

MAINTENANCE AND SAFETY DATA SHEET

MAINTENANCE

Normally, little maintenance is required as there are no moving parts within the Hydro-Brake® Flow Control. Experience has shown that if blockages occur they do so at the intake, and the cause on such occasions has been due to a lack of attention to engineering detail such as approach velocities being too low, inadequate benching, or the use of units below the minimum recommended size. Hydro-Brake® Flow Controls are fitted with a pivoting by-pass door, which allows the manhole chamber to be drained down should blockages occur. The smaller type conical units, below the minimum recommended size, are also supplied with roding facilities or vortex suppressor pipes as standard.

Following installation of the Hydro-Brake® Flow Control it is vitally important that any extraneous material i.e. Building materials are removed from the unit and the chamber. After the system is made live, and assuming that the chamber design is satisfactory, it is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required. If problems are experienced please do not hesitate to contact the company so that an investigation may be made.

Hydro-Brake® Flow Controls are typically manufactured from grade 304 Stainless Steel which has an estimated life span in excess of the design life of drainage systems.

COSHH

Hydro-Brake® Flow Controls are manufactured from Stainless Steel, which is not regarded as hazardous to health and exhibits no chemical hazard when used under normal circumstances for the stated applications.

MANUAL HANDLING

The handling of Hydro-Brake® Flow Controls should be in accordance with current legislation and regulations:

- The Health and Safety at Work Act 1972.
- The Management of Health and Safety at Work Regulations 1992.
- The Manual Handling Operations Regulations 1992.

All published and printed by the Health and Safety Executive.

Technical Specification

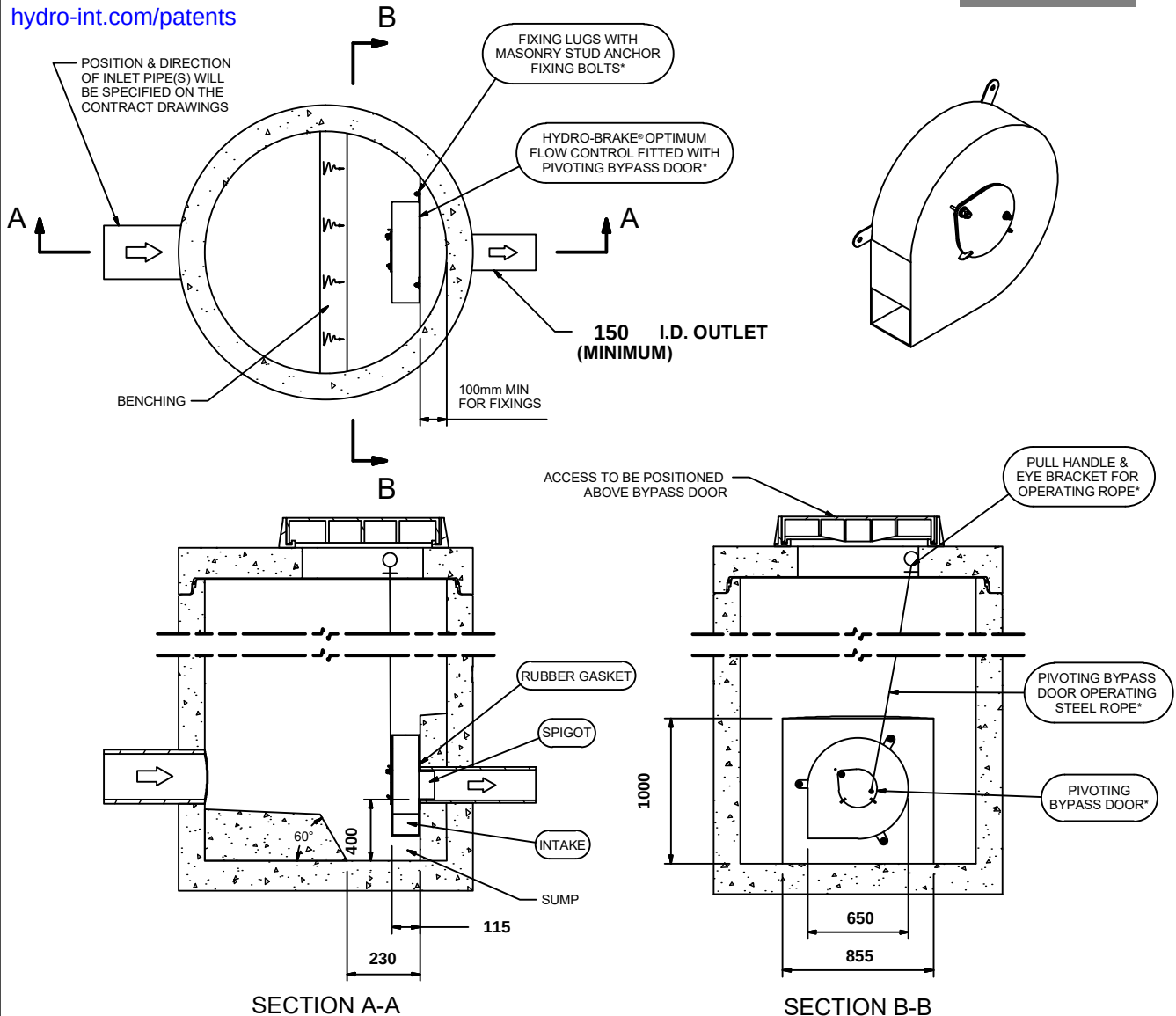
Control Point	Head (m)	Flow (l/s)
Primary Design	1.710	6.300
Flush-Flo™	0.470	6.022
Kick-Flo®	0.955	4.801
Mean Flow		5.370

Hydro-Brake® Optimum Flow Control including:

- 3 mm grade 304L stainless steel
- Integral stainless steel pivoting by-pass door allowing clear line of sight through to outlet, c/w stainless steel operating rope
- Beed blasted finish to maximise corrosion resistance
- Stainless steel fixings
- Rubber gasket to seal outlet
- Indicative Weight: 20 kg



hydro-int.com/patents



IMPORTANT: LIMIT OF HYDRO INTERNATIONAL SUPPLY
 THE DEVICE WILL BE HANDED TO SUIT SITE CONDITIONS
 FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
 ALL CIVIL AND INSTALLATION WORK BY OTHERS
 * WHERE SUPPLIED
 HYDRO-BRAKE® FLOW CONTROL & HYDRO-BRAKE® OPTIMUM FLOW CONTROL ARE REGISTERED TRADEMARKS FOR FLOW
 CONTROLS DESIGNED AND MANUFACTURED EXCLUSIVELY BY HYDRO INTERNATIONAL

THIS DESIGN LAYOUT IS FOR ILLUSTRATIVE PURPOSES ONLY. NOT TO SCALE.

DESIGN ADVICE



The head/flow characteristics of this SHE-0107-6300-1710-6300 Hydro-Brake® Optimum Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.
The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.

Hydro
International®

DATE	19/07/2023 07:38	SHE-0107-6300-1710-6300 Hydro-Brake® Optimum
SITE	Felbridge	
DESIGNER	Meagan Weedon	
REF	5086 Ph1	

Technical Specification

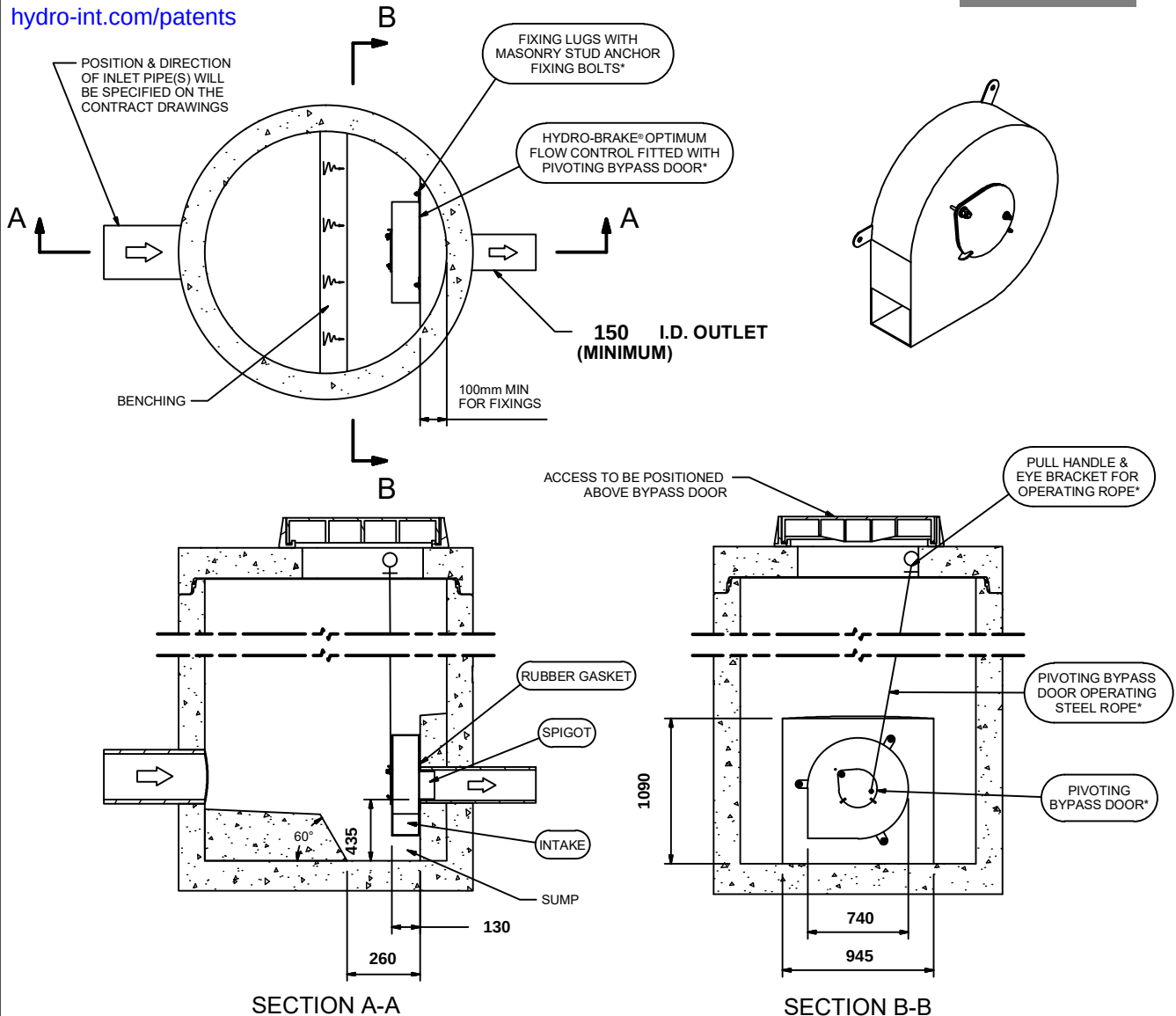
Control Point	Head (m)	Flow (l/s)
Primary Design	3.178	10.900
Flush-Flo™	0.534	8.336
Kick-Flo®	1.095	6.605
Mean Flow		8.347

Hydro-Brake® Optimum Flow Control including:

- 5 mm grade 304L stainless steel
- Integral stainless steel pivoting by-pass door allowing clear line of sight through to outlet, c/w stainless steel operating rope
- Beed blasted finish to maximise corrosion resistance
- Stainless steel fixings
- Rubber gasket to seal outlet
- Indicative Weight: 50 kg



hydro-int.com/patents



IMPORTANT:

○ LIMIT OF HYDRO INTERNATIONAL SUPPLY

THE DEVICE WILL BE HANDLED TO SUIT SITE CONDITIONS
FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
ALL CIVIL AND INSTALLATION WORK BY OTHERS

* WHERE SUPPLIED

HYDRO-BRAKE® FLOW CONTROL & HYDRO-BRAKE® OPTIMUM FLOW CONTROL ARE REGISTERED TRADEMARKS FOR FLOW
CONTROLS DESIGNED AND MANUFACTURED EXCLUSIVELY BY HYDRO INTERNATIONAL

THIS DESIGN LAYOUT IS FOR ILLUSTRATIVE PURPOSES ONLY. NOT TO SCALE.

**DESIGN
ADVICE**



The head/flow characteristics of this SHE-0122-1090-3178-1090
Hydro-Brake® Optimum Flow Control are unique. Dynamic hydraulic modelling
evaluates the full head/flow characteristic curve.
**The use of any other flow control will invalidate any design based on this data
and could constitute a flood risk.**

Hydro
International®

DATE 19/07/2023 08:35

SITE Felbridge

DESIGNER Meagan Weedon

REF 5086 Ph2

SHE-0122-1090-3178-1090

Hydro-Brake® Optimum