



## 01 DRAWING REFERENCES SHOWING LOCATIONS, SPECIFICATION, ETC

The Combined Drainage & Kerb System (CKDS) shall comprise of Marshalls twopiece Mini Beany®, consisting of a top block and base block, or alternative with equivalent hydraulic and loading performance. CKDS to be manufactured from hydraulically pressed concrete, with the exception of certain fitments such as access covers and end caps. One-piece CKDS made of polymer bound materials and recycled plastic shall not be used. The selected products must be BSI Kitemark Certified and comply with BS EN 1433.

The CKDS shall be installed to the manufacturer's guidance and clause 516 of the SHW. The locations of all CKDS, including access points, silt traps and outfalls are shown on the contract drawing numbers:

# [Insert drawing numbers]

Typical construction details are shown on drawing numbers: [Insert drawing numbers]

#### 02 LIMITING DIMENSIONS

Maximum width 280mm, excluding any haunching requirements, with a minimum width requirement of 255mm excluding any haunching requirements. Maximum depth from top of kerb to underside of the base unit to be 585mm, excluding any bedding requirements. Minimum depth requirement from top of kerb to underside of the base unit to be 435mm, excluding any bedding requirements.

Top of kerb to underside of base unit (excluding any bedding requirements for each size)	Base 210: 435mm Base 260: 485mm Base 310: 535mm Base 360: 585mm
Kerb upstand	[Insert info] (See note 1 for guidance)
Kerb profile	[Insert info] (See note 2 for guidance)

#### **03 STRENGTH REQUIREMENTS**

The CKDS shall comply with BS EN 1433 and achieve load classification E600 as per clause 516.6 of the SHW. The CKDS shall be marked W+R to ensure suitable weathering resistance and long-term performance where there is potential for standing water containing de-icing salts in frost conditions. The selected products must be BSI Kitemark Certified.

To ensure long-term performance and to accommodate accidental loading and impact, the CKDS shall be solid apart from the inlet apertures from carriageway to the top of CKDS.

There shall be a maximum of 1 inlet per 500mm that is not within 150mm of the side of each unit when measured on the front face.

## Revision: 04 16.02.2023











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#### 04 HYDRAULIC DESIGN PARAMETERS

Design flows shall be accommodated without surcharge within the main combined drainage and kerb section and beneath the underside of any inlet slot sections. The design has been based on Marshalls Mini Beany<sup>®</sup>, any alternative system proposed by the Contractor should provide equal or greater capacity with equivalent or greater loading performance. The water inlet apertures shall increase in size towards the inside of the unit with a minimum divergence angle of 5°. The angle of incline of the water inlet aperture shall be at least 30° to the horizontal.

[Insert design criteria including any climate change or individual run requirements here, including run number, length]

#### **05 SPECIAL FITTINGS REQUIRED**

All accessories shall be designed to match and be fully compatible with the system used.

Joints shall be sealed with Marshalls M-Seal and shall be watertight.

Access covers to be installed at the head of the run and at a maximum of 50m spacings.

Silt traps with access covers to be installed at a maximum of 100m spacings.

CDKS to outfall via a trapped prefabricated outfall with access cover.

Access covers shall be hinged and installed to the direction of traffic. They shall be designed so as not to reduce the effective waterway area of the system.

The lengths of the units shall be selected to ensure horizontal and vertical curves can be achieved as shown in the drawings. For curves of radii 30m or less, special units with appropriate splayed ends shall be used. For curves of radii greater than 30m and less than 56m, 500mm long units shall be used.

Where the base units of two-piece blocks are to be plated to allow flow under carriageways, there shall be a minimum of 150mm cover of road construction material above the units. This minimum cover shall also apply to vehicular crossings.

06 SURVEYING REQUIREMENTS WITH PRE-CLEANSING REQUIREMENTS

[Insert info]

#### 07 ALIGNMENT

The units, when installed, shall not deviate by more than 3mm in 3 metres from line and level.

### **08 GENERAL**

[Insert info]

### NOTES FOR GUIDANCE

Kerb upstand of between 75-125mm

A kerb upstand of between 100-125mm is permissible with the half battered profile, 75-100mm with the 45° splayed profile and 100-125mm with the bullnose profile, this must be specified on an individual contract basis. If pedestrian and driveway crossings are required please consider how the specified kerb upstands will affect the upstand of the centre stones.

Mini Beany<sup>®</sup> is available with half battered, 45°splayed and bullnose profiles.



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