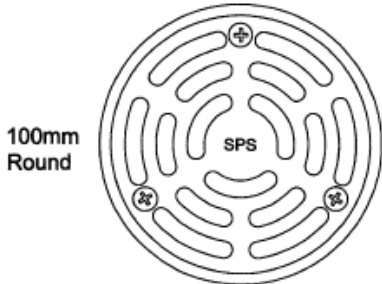
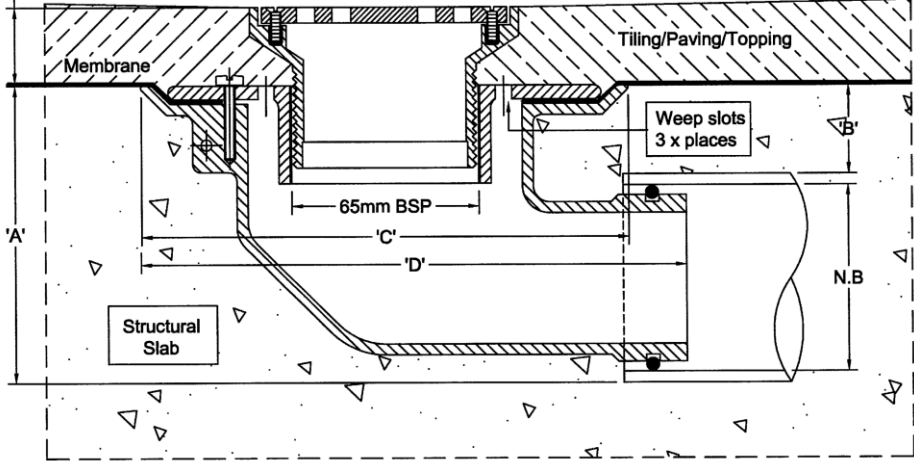
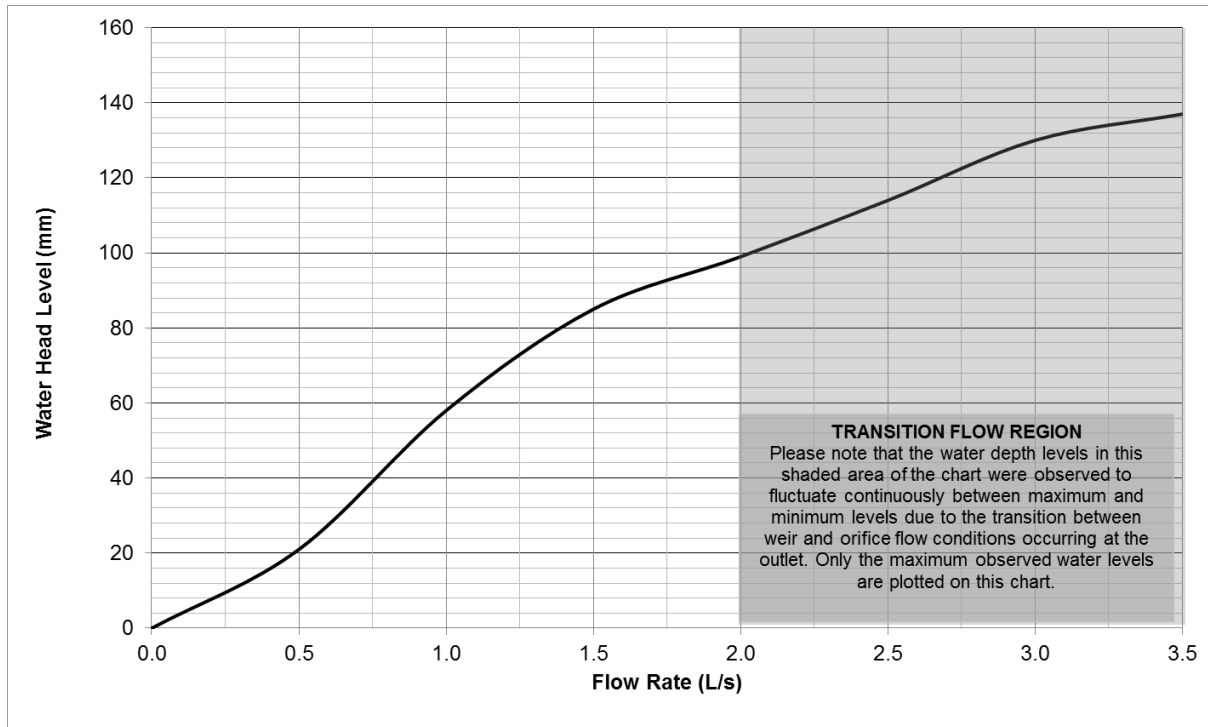


OUTLET PERFORMANCE CERTIFICATE ID: SPS010 - R100S4/C90

Test Results		ID: SPS010
Description	SPS Vari-Level Drains – 90° Outlet	
Drain Type	100mm Round Side Outlet Drain	
Model	R100S4/C90	
Outlet Size	65NB	
Test Date	16 th August 2016	
Grate Drawing	<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">  <p>100mm Round</p> </div> <div style="text-align: left;"> <ul style="list-style-type: none"> Round grate available in nickel bronze, 304 & 316 stainless Steel. Bronze non-stock option. ABS 90° Body and Reversible Membrane Clamp Collar with female 65mm BSP thread. </div> </div> <p style="text-align: center;">SPS Catalogue Ref: 4.01</p>	
Housing Drawing	<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 10px;"> Height adjustment: Min. 20mm Max. 65mm </div> <div style="text-align: center;"> <p>Typical Application</p>  </div> </div>	
Drain Pipe Configuration	<p>Due to the side entry 90 degree bend design of the housing the horizontal pipe configuration was modified to suit the housing. The 90 degree bend configuration was omitted from this test.</p>	

Flow Characteristic Curve – R100S4/C90



Weir flow - 1.0 L/s (60mm)



Surcharged Flow - 2.5 L/s (110mm)

Observation Comments:

- A concentric swirl pattern was observed which indicated weir flow conditions, with the water head level stabilising at each flow rate setpoint from 0-2.0 L/s.
- At 2.5 L/s a transition from swirl motion to vortex flow was observed, as the air core decreased to approximately 20mm Diameter, followed by a sudden increase in water head level as the vortex collapsed to surcharged orifice flow.
- The maximum flow design limit to maintain weir flow conditions is 2.0 L/s.

I hereby certify that the test results presented on this outlet performance certificate are true and correct and were obtained using recognised AHSCA Gutter Outlet Testing procedures.

Dr Terry Lucke,
Chief Researcher:



Mark Alexander,
AHSCA Foundation Chairman:



Date: 16th November 2016

Date: 16th November 2016