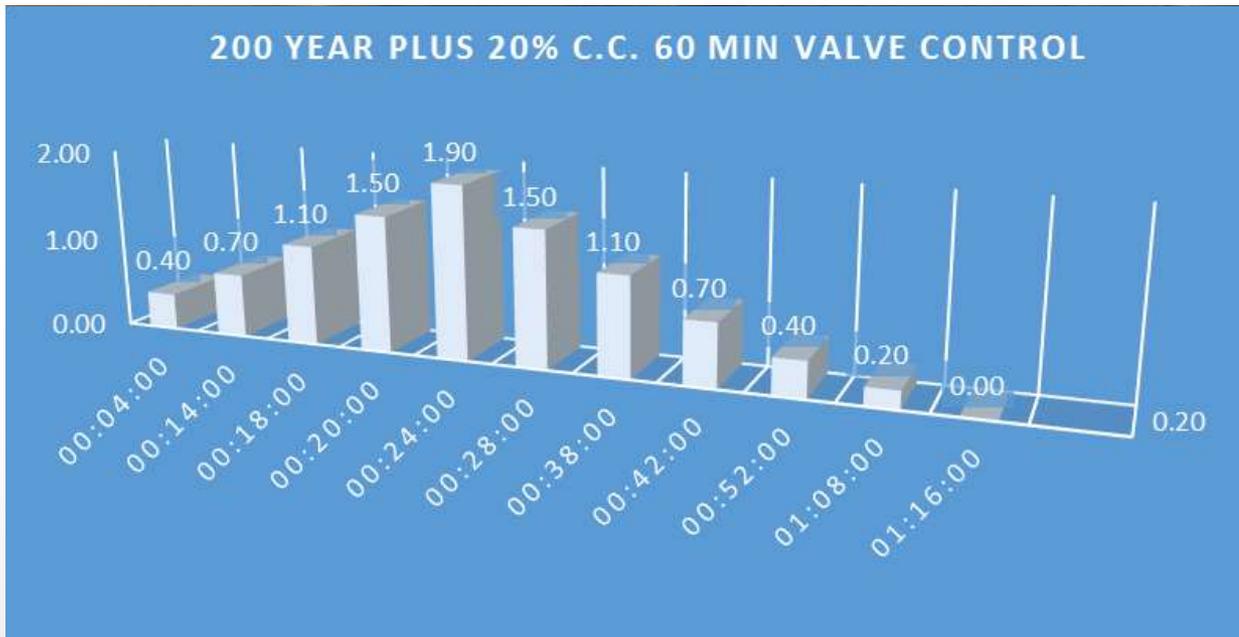


James Travers – Senior Engineer
12th May 2016

Typical Site Layout

- Layouts
- Land costs/competition
- Plot densities
- Designing streets
- Legislation/guidance, no section 7 agreements
- 2 stages end of line
- Why a third for housing?
- Typically filter trenches or porous paving
- Poor maintenance
- Costs

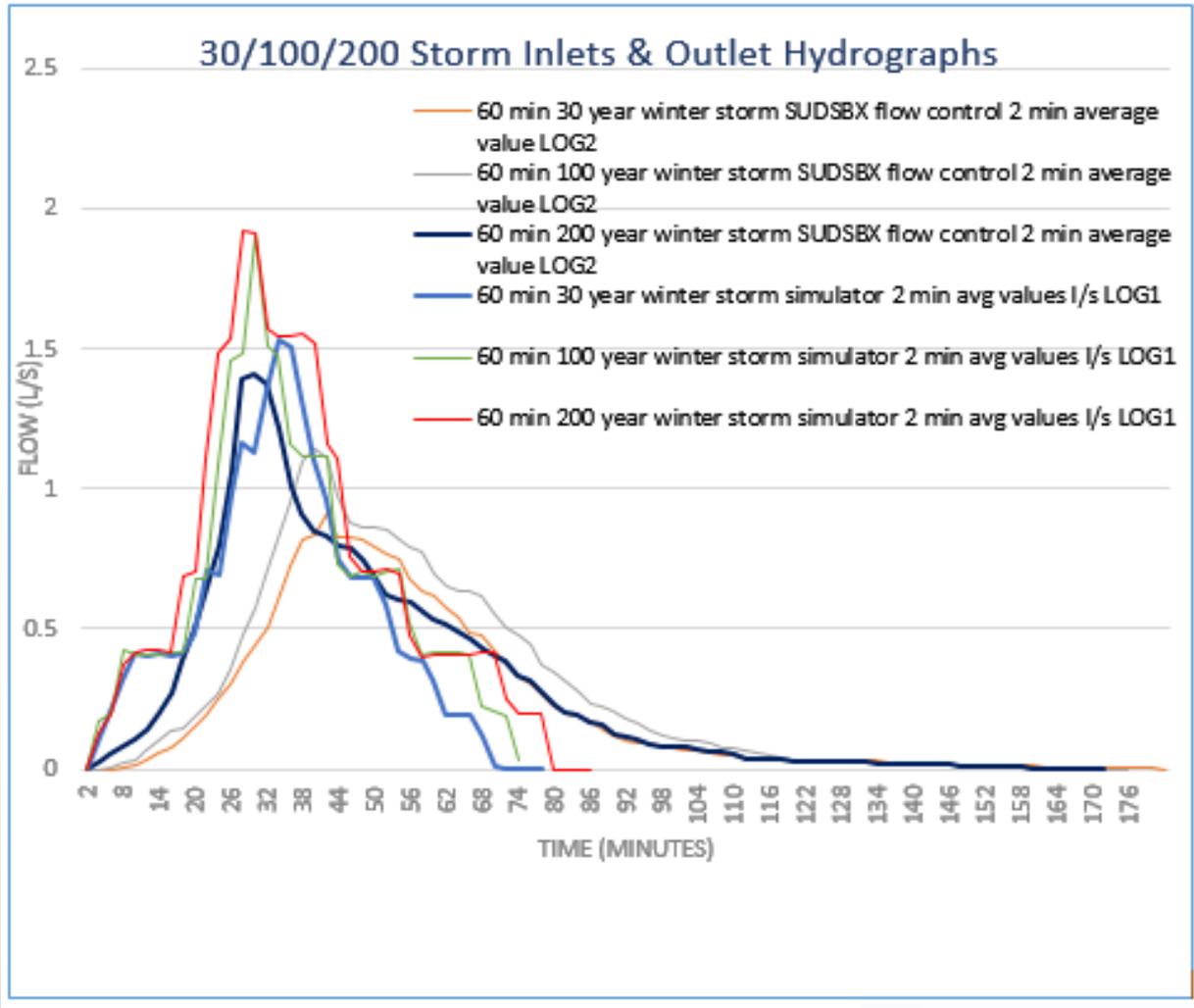




Rainfall Simulator

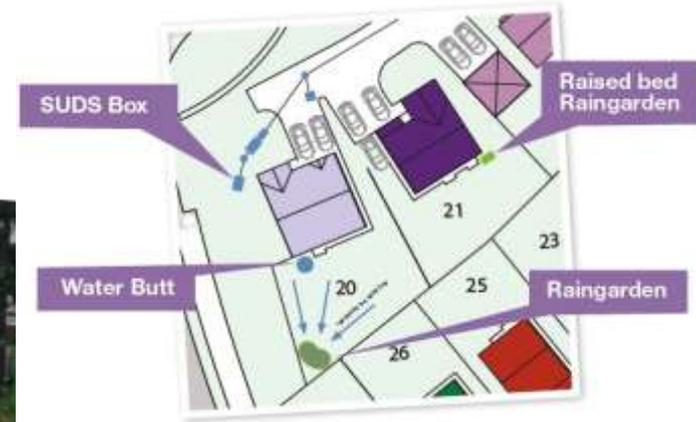
- 2 No. 1250l water tanks
- Manually adjustable valve controls
- To mimic any storm event (micro drainage output)
- At full plot scale
- 1 hr test using approx.3000l of water

SUDS Box Results



- Assuming no infiltration or losses
- 200 year storm outflow reduced to below 30 year
- Delayed time of entry to sewers
- Increased retention time

- Scottish Government approach Central Scotland Green network (CSGN) to involve a major house builder with regards to Green Infrastructure
- Installations at Torrance Park
- Greener gardens client leaflet
- VIBES Judge's visit, Sept. 2015
- Co-operation Award Winners 2015



- Torrance Park testing in conjunction with Abertay University on SUDS Box for min. 2 years
- Rain gauge installation to record events against outflows
- Liaise with local schools on surface water management & biodiversity
- Further work with the Scottish Government and CSGN on the Greener Gardens initiative
- Potential of additional trial Raingardens over further Taylor Wimpey West Scotland developments



New Considerations

- SEPA Regulatory method WAT-RM-08 (Sustainable Drainage systems)
- Interception storage – considered & receiving environment (ex. 100% SC if less than good status)
- CIRIA C753 SUDS Manual
- Scottish Government
- Local Authorities
- Scottish Water

4.3 WATER QUALITY DESIGN STANDARDS

The following are standards of "good practice". Local planning documents or national standards may take precedence.

4.3.1 Water quality standard 1: Prevent runoff from the site to receiving surface waters for the majority of small rainfall events

No runoff should be discharged from the site to receiving surface waters or sewers for the majority of small (eg < 5 mm) rainfall events. This is termed **Interception**.



RBMP Interactive Map

This web page shows the 2008 classification information reported to Europe in the Scotland RBMP (2009-2015). Please visit our [classification webpage](#) to obtain more recent classification results.



Classification Table

To download the data in this table, right-click anywhere on the table and select: Export Table!

Water Body	Length (km)	Area (km ²)	Overall status							
			2011		2012		2013		2014	
			Classification	Change	Classification	Change	Classification	Change	Classification	Change
10060 - North Calder Water (Lug...	5.08		Poor		Poor	No Change	Poor	No Change	Poor	No Change



Taylor
Wimpey

C&D Associates



Abertay
University

