
Retro fitting surface water measures along highways

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Flood Risk

Pluvial	Ground
Coastal	Fluvial
Reservoir	Sewer

14 Critical Drainage Areas
49,813 properties at risk (3-10cm)
1.02% National Flood Risk



Who can I blame?

Sewer design	Thames Water
Loss of front gardens	Residents
Removal of grass verges	The 80's
Traffic calming	New Labour
Enforcement	Legal
Efficiencies	Procurement
Maintenance	Reactive



Nothing else then?

"I am informed that the flooding has been the same for the past eight to ten years in times of sudden and heavy rainfall. If you have any suggestions to offer as to dealing with the trouble I shall presume to hear from you in due course"

*Mr Fitzmaurice, LCC to Borough Engineer 29th
August 1911*



Maintenance Schemes

- Standard practice
- Ease of design
- Simple materials
- “nothing special”
- Materials used by utilities
- Cost is comparative?

The norm – not the exception



Central Hill

- Planned maintenance
- Principle Road Network
- Paved footway adjacent to Park
- X-fall into road
- Ground water
- Separation of Public Realm



Central Hill Before



Central Hill

- Construct Verge
- Change x-fall
- Open graded aggregate
- Standard Footway construction

No surprises



Central Hill After



Highways SuDS scheme

Ardlui Road & Chatsworth Way
 Risk from Pluvial flooding
 Historical evidence in the area
 Scheme is being developed as a base line and needs to be scrutinised/challenged



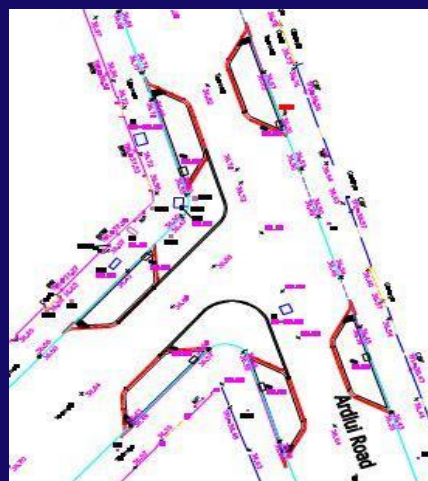
Ardlui Road



Lambeth

Highways SUDs Scheme

- Survey's
- Low maintenance
- Easy re-instatement for utilities
- Amenity
- DIY Streets/Green Streets
- “Free range kids”
- Community
- Resilience
- Other Benefits?



Lambeth

Rain Gardens

Rule of Thumb size – 8m x 2m

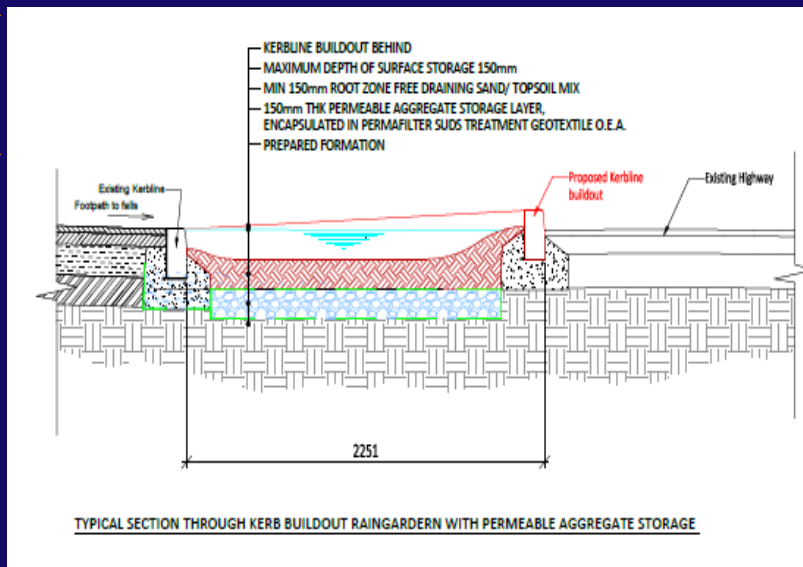
Desired run off reduction – 5%

Typical depth 450mm

Traditional construction and materials

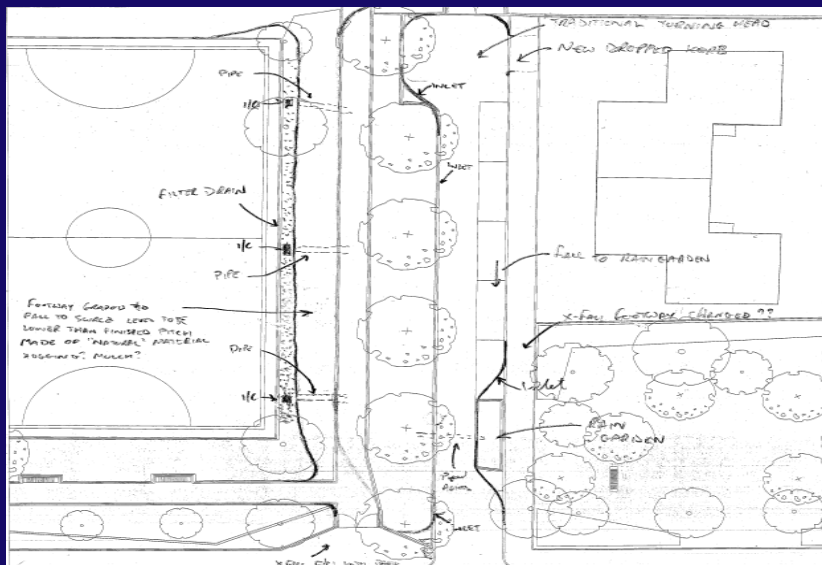
3 options

- 1) Volume = 2.05cu.m – run off 4%
- 2) Volume = 2.55cu.m – run off 9% - £3,908.32
- 3) Volume = 4.02cu.m – run off 14% - £4,503.72



Ingleborough Street

“forgotten” highway
 Serves 4 properties
 In a middle of a park



Current situation of schemes

Central Hill	Complete
Highways SUD	Design and modelling in progress, consultation to start September.
Ingleborough	Concept design, meeting this month



Opportunities

Identified a possible 17 “verge”, SUDS or GI Schemes

Maintenance backlog matched with CDA’s

Continuingly looking for opportunities

Isabel Street

Old Town

Venn Street



Opportunity?



GI or SuDS?



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