



Delivering SuDS in Leicestershire Early Experiences




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Introduction

- Lead Local Flood Authority for Leicestershire, excluding the city of Leicester, a unitary authority at the centre of the county
- Upper tier authority - 7 Local Planning Authorities
- “Land Locked” county, on a watershed for 3 major catchment areas
- 3 River Basin Management Plans - Trent/Humber, Severn and Welland/Anglian
- Environment Agency Area of Nottinghamshire, Leicestershire and Derbyshire
- One Internal Drainage Board - small area in the far north of the county
- From a geological point of view the dominant soil type is clay




The story so far.


- Since FWMA (2010) aware of the SuDS elements of act – How can they be introduced?
- Use of Soakaways for Highway SW, where ground conditions allow, adopting as “Highway Drainage” as part of the S38 Agreement
- Permeable Paving – Initially a Footway area – Permeable Paving to Infiltration in carriageway at Thomas Cook Place in Loughborough, adopted as part of the S38 agreement
- During “Interim” period - adopting Attenuation Basins or Ponds at the end of a “Conventional” system, as local Water Authority not adopting but insisting that Basin/Pond be adopted by a Public Body
- Early 2013 set up a SuDS Approving Body (SAB) Implementation Project
- Some Local Developers Keen to introduce SuDS – Planning and EA requirement to do so - Pre-planning meetings – Joint meetings including LPA Landscape and Ecology
- Learning lessons – More integrated designs – Multi functional use of Open Space



Peter McCaig Way, Quorndon for Miller Homes.


- Soakaway for Highway Drainage only
- Soakaway in P.O.S. that is maintained by the Parish Council
- Ground conditions are predominantly Sands & Gravels
- Private Plot drainage to soakaways in back gardens
- Adopted as “Highway Drainage” as part of the S38 Agreement in March 2009






Thomas Cook Place, Loughborough for William Davis Ltd.

- Permeable Paving to Infiltration, in adoptable carriageway
- Section 38 Agreement, Provisional Certificate issued and placed on 3 years maintenance in Sept 2012
- Development on behalf of Nottingham Community Housing Association
- Surface Water from roof areas and parking courts to soakaways under car parking and in back gardens




Thomas Cook Place, Loughborough as it looks now, 2 years on.







Site Plan – Purple Areas indicate the Permeable Paving - Brown Areas are conventional block paving – Grey Areas Bituminous surface



Permeable Paving to Infiltration. S38 Adoptable Carriageway.



Sub-base layer under construction,
Thomas Cook Place, Loughborough.



Permeable Paving just after
completion at the same location.





Sub-base layer under construction,
Thomas Cook Place, Loughborough.



Permeable Paving just after
completion at the same location.



**Netherhall Drive & Fenny Copse Lane, Quorndon
for David Wilson Homes**

- Swales, Infiltration “Basin” and a “crate” soakaway, for Highway Drainage only
- Swale and Infiltration Basin adjacent to the copse and the P.O.S.
- Ground conditions predominantly Sands & Gravels
- Private Plot drainage to soakaways in the back gardens
- All included within the S38 Agreement signed August 2012










Swale as a means of conveyance for highway water, to be adopted as part of the S38 Agreement.



Swale at site entrance, adjacent to P.O.S. which is on the right



Highway Drain inlet to Swale/Infiltration feature. The ground conditions are predominantly sands & gravels.




P.O.S. including a “Copse” area of trees, behind which the Swale sits.



Grangewood Manor, Beggars Lane, Leicester Forest East.
Taylor Wimpey East Midlands, JPP Consulting and Leicestershire C.C.

- Permeable Paving, Swales, Filter Strips, Detention Basin and Flow Control
- Pre-planning discussions took place between Developer – Consultant – LCC “Team work”
- Private Plot Drainage to adopted “Swales”
- Main attenuation in Detention Basin
- Pass forward flow to watercourse 15 l/sec





Permeable Paving under construction, Road 4, field beyond is the location of the proposed "Detention Basin"



Laying bituminous surface, "protection" layer by hand in two layers, Road 4



Digging for the under-drained "Swale"



"Swale" at a road crossing, perforated cover to catch pit

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Detention Basin under construction



Detention Basin under construction

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Detention Basin in April 2014



Detention Basin as it appears now,
photograph taken 16 July 2014



Commuted Sums & Future Maintenance

- Developers charged Commuted Sums, calculated per SuDS feature
- Based on Maintenance Costs in the Cambridge City Guide
- Maintenance to be carried out by Leicestershire Highways Operations as part of their normal highways maintenance duties
- Currently - Highway Drainage gangs – External Contractor verge maintenance
- Training for operatives – Drainage – Landscaping - Confined Spaces
- Long term I feel there will be a need for dedicated teams - “Drainage Section”
- Opportunities for Partnership working with other Authorities that maintain the Public Open Spaces adjacent to SuDS features



Summary

- Sustainable Drainage is the RESPONSIBLE and MORAL way to deal with Surface Water from New Development
- Should all be looking for opportunities to introduce SuDS
- Consider retrofitting SuDS as part of scheme design
- Team work – Developer – Designer – Local Authorities – Water Authority
- Quote Barry West, “Don’t be afraid to give it a go.”

