	<p align="center">London Borough of Hammersmith & Fulham</p> <p align="center">CABINET MEMBER DECISION</p> <p align="center">16th February 2015</p>
<p align="center">THAMES WATER COUNTERS CREEK MELINA ROAD Suds SCHEME</p>	
<p align="center">Report of the Cabinet Member for Environment, Transport & Residents Services</p>	
<p>Open Report</p>	
<p>Classification - For Decision Key Decision: No</p>	
<p>Wards Affected: Askew</p>	
<p>Accountable Executive Director(s): Lyn Carpenter - Bi-Borough Executive Director of Environment, Leisure & Resident Services</p>	
<p>Report Author: George Warren – Flood Risk Manager</p>	<p>Contact Details: Tel: 020 (753 6991) E-mail: (George.Warren@lbhf.gov.uk)</p>

AUTHORISED BY:

The Cabinet Member has signed this report.

DATE: 22 February 2015..

- 1. EXECUTIVE SUMMARY**
- 1.1. This report has been prepared with the purpose of briefing the Cabinet Member for Environment, Transport & Residents Services about the Sustainable Drainage Systems (SuDS) measures proposed by Thames Water Utilities Limited (“TWUL”) to be installed within Melina Road.
 - 1.2. In addition to this the paper also seeks approval for the construction (and maintenance) of the SuDS measures to be undertaken by the London Borough of Hammersmith & Fulham’s (“LBHF”) Highways Department on behalf and to be fully funded by TWUL.

2. RECOMMENDATIONS

- 2.1. Approve the Melina Road scheme proposed by TWUL and grant permission for LBHF Highways Department to undertake the construction works and maintenance programme, as set out in the report

3. REASONS FOR DECISION

- 3.1. With Surface Water Flooding posing a significant risk to LBHF the implementation of a SuDS scheme is seen as the most environmentally friendly and potentially the most cost effective way of reducing the risk of flooding to the community.
- 3.2. With Melina Road being a scheme initiated, financed and initially managed by TWUL it is seen as a great means by which to trial a number of SuDS technologies to see the impact on surface water flooding as well as to monitor the costs associated with construction and maintenance with limited risk to the Council. It will also provide first-hand experience of the construction and maintenance of such applications or schemes for Council staff and contractors.

4. INTRODUCTION AND BACKGROUND

- 4.1. Over 2,000 properties within the Counters Creek catchment have reported sewer flooding in recent years and widespread flooding occurred in July 2007 following severe weather. The Council has been committed to implementing more SuDS projects to help reduce the amount of surface water draining into the combined sewerage system to reduce the risk of flooding to properties within the borough. In addition to the flooding benefits, SuDS can also provide environmental and social benefits.
- 4.2. SuDS are becoming an increasingly hot topic regarding the management of surface water in the UK. There have been many discussions lately within DEFRA and Central Government around the implementation of Section 3 of the Flood and Water Management Act (2010) and how SuDS can be rolled out across the UK. Therefore, this project is seen as a great opportunity to trial out new SuDS technologies within LBHF at no capital cost to the Council, whilst also forming a working relationship with TWUL, a key stakeholder moving forward.
- 4.3. TWUL has an obvious vested interest in encouraging SuDS, due to their ability to reduce the rate of flows to the sewer. As part of their overall Counters Creek investigation, TWUL are commissioning a series of retrofit pilots in three streets, Melina Road, Mendora Road and Arundel Gardens (RBKC), to help understand the costs, benefits, deliverability and customer acceptability of SuDS. These particular streets were chosen, from a shortlist of over 15 potential streets, as they were deemed to be representative of the streets found within the two boroughs. In addition to this the sewers in each street are not greatly influenced by rainwater flows

from neighbouring streets, allowing for more accurate measurements of the direct benefits of SuDS.

4.4. TWUL has employed the services of an Independent Advisory Group (IAG) since 2006 to provide expert independent advice and guidance while the Counters Creek scheme was being designed. These consist of three eminent professors:

- Professor David Balmforth is Executive Technical Director at MWH, a leading international wet infrastructure and water management company, and President of the Institution of Civil Engineers.
- Professor Bob Andoh is Chief Technology Officer at Hydro International, which develops solutions for stormwater and wastewater management companies globally. Bob is an expert on urban flooding, sewerage systems and the wastewater treatment processes.
- Professor Adrian Saul, Professor of Water Engineering at the University of Sheffield, is a leading academic in the Flood Risk Management Research Consortium.

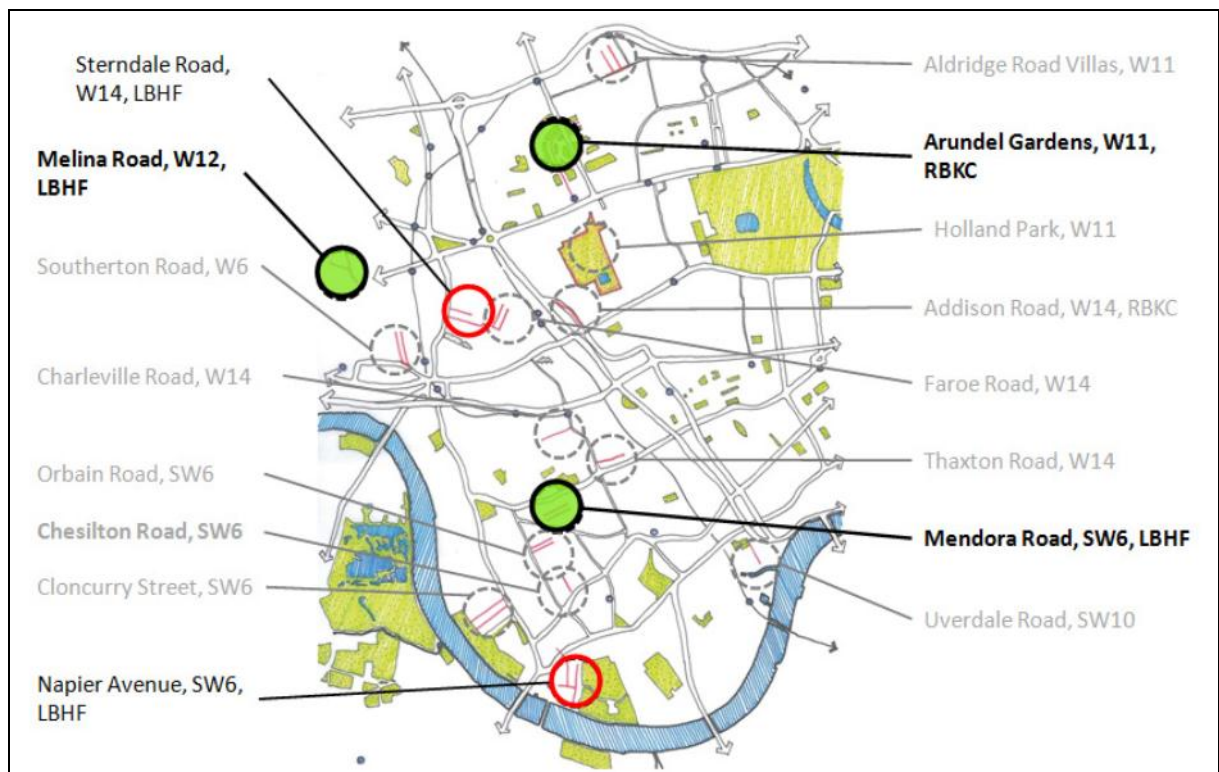


Figure 1 - Location of the three selected pilot streets (rejected streets from the shortlist shown in red. De-selected streets from the original long list greyed out)

4.5. Specific aims of the study are as follows:

- Measure the effectiveness of retrofitting SuDS in reducing rainwater runoff to the combined sewer system

- Evaluate how easy it is to engage the public with regards to SuDS
 - Evaluate engagement with stakeholders
 - Assess the social impact
 - Assess the cost of retrofitting SuDS compared with conventional flood alleviation schemes, taking into account the environmental costs/benefits of both approaches.
 - The approach looks for innovative ways to minimise rainwater flows to the combined sewer system that also enhance the customer experience by greening streets, improving properties and their value and engaging the public in water issues.
- 4.6. This report focusses on the Melina Road scheme.

5. PROPOSAL AND ISSUES

- 5.1. Currently, surface water flows from the existing Melina Road carriageway and enters the combined sewer through the existing road gullies and connection arrangements. The existing sewer approximately runs down the centre of Melina Road and then into an 1150mm diameter sewer in Goldhawk Road, via Cathnor Road.
- 5.2. The selected proposal involves the installation of new rain gardens in the existing pedestrianised area at the southern end of the road. This had more support from residents, particularly those living closest to the largest expanse of pedestrianised area, as they thought the rain gardens would break up the hard standing area and deter gangs of youths from congregating.
- 5.3. The proposal would divert these run-off flows from the carriageway into rain gardens adjacent to Cathnor Park at the south end of Melina Road. This would be achieved by excavating locally at a number of the existing gullies and capping off. The existing gully arrangement would then be modified so that flows are diverted into a number of rain gardens. There are four rain gardens proposed, each will have geo-cellular water storage units beneath them to provide the necessary attenuation volume while minimising excavation depth. The rain gardens have an impermeable membrane liner.
- 5.4. The storage has sufficient capacity to store surface water runoff from this area for an event up to the 100 year event plus an allowance for climate change (+30%). This will provide an increased flood protection to the immediate area as well as freeing up significant capacity within the combined sewer network for areas downstream to potentially drain to.
- 5.5. The rain garden will intercept and hold flows, releasing them at a controlled rate to the sewer network. A water retentive phenolic foam layer will be installed below the soil layer to extend the irrigation of the plants in the rain garden once water has drained at a controlled rate back into the

combined sewer. Flows from each rain garden are controlled by a weir arrangement and are measured via sensors, all contained within a small number of chambers on the downstream side of the rain garden.

- 5.6. The final planting regime has been agreed with ELRS's Parks Department and has been selected to tie in with the planting regime within Cathnor Park where possible to provide some continuity between the two spaces.
- 5.7. The proposal will result in the relocating of the maintenance access point to Cathnor Park from its current location beside number 45 to a location suitable for vehicular access, as requested by the Cathnor Park maintenance team. The current access point has been problematic and therefore this alteration is considered to be a positive for Cathnor Park. This will require the installation of a dropped curve and the removal of an existing bollard.
- 5.8. A visualisation of the proposals for Melina Road is shown in Figure 2 below:



Figure 2 - Artists Impression of Melina Road

- 5.9. Detailed drawings of the raingardens and the maintenance statement can be provided upon request.
- 5.10. The Melina Road proposed scheme spans land managed and maintained by both the Parks Department and the Highways Department within LBHF and therefore requires input from both parties. As the local highway authority LBHF is responsible for all publicly maintained roads in the borough, with the exception of the Transport for London Road Network (TLRN). Therefore in order to install any form of SuDS along Melina Road TWUL will need to work closely with LBHF.
- 5.11. TWUL have been carrying out baseline modelling on Melina Road and along Cathnor Road monitoring the flows within the sewer, so as to be able to determine the impact of these measures on reducing the flow rate from the street once the measures have been implemented.
- 5.12. TWUL has proposed to fund the construction of the project including the monitoring and maintenance of the installations for a period of 24 months post completion of the construction works. Once this 24 month period has

expired the monitoring and maintenance responsibilities will lie with the Council thereafter.

- 5.13. LBHF submitted a lump sum fixed fee price for the construction of Thames Water's design on the 30/10/14 for £317,098.91. This includes the contractors fee, 10% contingency, a consultancy fee to cover officers time supervising the works and a 7.5% fee for administrative charges. It is proposed that this fee be paid in three stages by Thames Water (25%, 50%, 25%).
- 5.14. An agreement will need to be reached between LBHF and Thames Water over what constitutes a successful pilot scheme. It is the intention to utilise the IAG in these discussions, as impartial experts in the field. It is important to also identify what constitutes failure so as to ensure that LBHF aren't tied into the adoption of a pilot scheme which turns out not to function as intended. These discussions will be necessary prior to construction commencing.
- 5.15. The construction will be carried out on behalf of the Council by the Highways Department's, principal contractor, F M Conways.
- 5.16. The proposed programme shows a 3 weeks lead in subject to approval being given and then 12 weeks for construction, during which time disruption to residents will be minimised where possible.
- 5.17. During the construction phase weekly meetings between LBHF staff, F M Conways and TWUL will occur to ensure that the project remains on track and that any potential issues are resolved quickly and efficiently.
- 5.18. Maintenance will be carried out according to the Maintenance Statement, (the maintenance programme) jointly by ELRS's existing parks maintenance contractor, Quadron, highways officers and the existing highways maintenance contractor, F M Conways. As previously stated this will be funded for the first 24 months by TWUL, with an upfront annual payment made on the basis of an estimated cost for the additional maintenance burden.
- 5.19. In order to help facilitate the implementation of the project within LBHF TWUL has offered to fully fund an engineering internship within LBHF Highways team for 12 months. This will provide the opportunity for a junior member of staff to gain experience in highways construction as well as SuDS.

6. CONSULTATION

- 6.1. An extensive consultation process has been undertaken by TWUL throughout the project, details of which can be found within Appendix A.
- 6.2. In addition to regular updates to residents regarding the progress of the works during construction, TWUL and F M Conways will provide a presentation to the pupils and staff at the two schools adjacent to the site,

Hammersmith Academy and the Cathnor Park Children's Centre, about the works and their benefit to the local area. This is seen as a perfect opportunity to educate local residents about the benefits of SuDS.

7. LEGAL IMPLICATIONS

- 7.1. An agreement must be executed between the Council and TWUL detailing the agreed costs to be paid to the Council for the construction works and associated maintenance programme of these SuDS measures for the 24 month period after installation of the construction works.
- 7.2. Implications verified by Sharon Cudjoe: Solicitor, Tel: 020 8753 2993

8. FINANCIAL AND RESOURCES IMPLICATIONS

- 8.1. Quadron Services Limited are the grounds maintenance contractor for the council.
- 8.2. They have agreed to maintain the improved site from their additional resource. Should this change and result in an increased contract payment then additional funding will be required.
- 8.3. Implications verified/completed by: Gary Hannaway, Head of Finance, Ex. 6071

9. PROCUREMENT IMPLICATIONS

- 9.1. The construction works are to be purchased by Thames Water and actioned by LBHF as Private Works.
- 9.2. Once awarded it is proposed to procure the services of the LBHF Highways Term Contractor, F M Conways, to undertake the construction work at both locations simultaneously under the supervision of an LBHF Highways Projects Officer.
- 9.3. A quotation was acquired from F M Conways, using our framework of pre-agreed rates, from which a "Lump Sum" Fee Estimate was created and submitted to Thames Water on 30/10/14 to undertake the works.
- 9.4. The fee estimate for Thames Water did not declare our pre-agreed rates with F M Conways, instead it showed their total for the work plus a 10% contingency, a £28,425 fee for consultancy services (for each site) and a 7.5% administrative charge.

LOCAL GOVERNMENT ACT 2000

LIST OF BACKGROUND PAPERS USED IN PREPARING THIS REPORT

No.	Description of Background Papers	Name/Ext of holder of file/copy	Department/ Location
1.			

2.			
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Appendix A - Thames Water Consultation Process