

SUSTAINABLE DRAINAGE MANAGEMENT PLAN FOR FORMER OLYMPIC WORKS, BENNETT ST, MANCHESTER

1.0 An introduction to sustainable drainage systems or SuDS

SuDS are new environmentally friendly approach to managing rainfall that uses features to deal with control of surface water.

SuDS aim to:

- Control the flow, volume and frequency of water leaving a development area
- Prevent pollution by intercepting silt and cleaning runoff from hard surfaces
- Provide attractive surroundings for the community

2.0 SuDS at Bennett Street.

The site is a brownfield site, which originally drained unattenuated into Cornbrook and Black Brook culverts which crossed the site east to west.

Unfortunately due to the underlying ground conditions (both contaminated at depth and underlying clay strata) soakaways are not suitable for this site.

Through negotiation with Manchester Council's LLFA the surface water discharge rate was agreed to be restricted to variable discharges up to 75l/s via flow control devices (ie HydroBrakes) See Appendix A

The storage will be held in oversized pipes up to and including the 1 in 100 year event plus 45% climate change.

3.0 Managing the SuDS

The sewers shown coloured Red and Blue on the Section 104 Plan contained in Appendix B will be adopted by ICOSA Water Services Ltd once the site has completed and following a 12month maintenance period and Kellen Homes have completed any remedial works required by ICOSA.

Kellen Homes will undertake all maintenance works until such time the areas are adopted.

These works will include the following:

- Regular "day to day" care - litter collection, grass cutting, checking silt traps, gullies, inlets and outlets where water enters or leaves any SuDS feature.
- Occasional tasks - managing vegetation and removing any silt that builds up in the SuDS features
- Remedial work - repairing damage where necessary



4.0 Spillage – EMERGENCY ACTION

Most spillages on development sites are of compounds that do not pose a serious risk to the environment if they enter the drainage in a slow and controlled manner with time available for natural breakdown in a treatment system.

Therefore small spillages of oil, or other known organic substances should be removed where possible using soak mats as recommended by the Environment Agency with residual spillage allowed to bio-remediate in the drainage system.

In the event of a serious spillage, either by volume or of unknown or toxic compounds, then isolate the spillage with soil, turf or fabric and block outlet pipes from chamber(s) downstream of the spillage with a bung(s). (A bung for blocking pipes may be made by wrapping soil or turf in a plastic sheet or close woven fabric.)

Contact the Environment Agency immediately.

5.0 Existing Culvert.

The existing culverts (Black Brook and Cornbrook) will be remain managed by the riparian owner.

During the construction works Kellen Homes undertook regular inspections of the existing Cornbrook and CCTV of the diverted Black Brook following the completion of the piling works.

The routes of both culvert are protected by an easement preventing home owners from building over the culvert.

5.0 Typical SuDS and Landscape Maintenance – Summary

		Frequency
	REGULAR MAINTENANCE	
1	LITTER MANAGEMENT	
1.1	Pick up all litter in SuDS and Landscape areas and remove from site	12 visits monthly
2	GRASS MAINTENANCE – all cuttings to wildlife piles	
2.1	Mow all grass verges, paths and amenity at 35-50mm with 75mm max. Leaving grass in situ	As required or monthly
2.2	~~Mow all dry swales, dry SuDS basins and margins to low flow channels and other SuDS features at 100mm with 150mm max. Cut wet swales or basins annually as wildflower areas~~	~~4-8 visits as required Annually~~
2.3	Wildflower areas strimmed to 50mm in Sept or at end of school holidays Or Wildflower areas strimmed to 50mm on 3 year rotation 30% each year	1 visit annually 1 visit annually
3	INLETS AND OUTLETS	
3.1	Inspect monthly, remove silt from slab aprons and debris. Strim 1m round for access if required.	4 visits yearly
4	WETLAND AND POND VEGETATION	
4.1	~~Wetland vegetation to be cut at 100mm on 3 – 5 year rotation. 30% each year. All cuttings to be removed to wildlife piles or from site.~~	As required
5	SILT MANAGEMENT	
5.1	Inspect relevant features like crates, swales, ponds and wetlands annually for silt accumulation	4 visits yearly
5.2	Excavate and remove silt	As required
6	REMEDIAL WORK	
6.1	Inspect SuDS system regularly to check for damage or failure. Undertake remedial work as required.	As Required
5.3	Existing Culvert – the culvert will be maintained by the Riparian Owner. Undertake remedial work as required.	As Required

APPENDIX A – Technical Approvals

I.0 - Discharge Rate

Please find below the discharge rates calculated using ICP SUDS.

UK and Ireland Rural Runoff Calculator

ICP SUDS / IH 124	ADAS 345	FEH	ReFH2			
Method ☒ ICP SUDS ☐ IH 124						
Area (ha) 5.20						
SAAR (mm) 892.0						
Soil 0.450 Map						
Region Region 1 ...						
Additional Options						
Urban 0.000						
Return Period (years) 1000						
Growth Curve (None)						
Calculate						
Results						
Region	QBAR Rural (L/s)	QBAR Urban (L/s)	Q 1000 (years) (L/s)	Q 1 (years) (L/s)	Q 30 (years) (L/s)	Q 100 (years) (L/s)
Region 1	30.3	30.3	110.1	25.8	57.3	75.2



2.0 - Discharge Rate Approval

Charles Townsend

From: Flood Risk Management <floodriskmanagement@manchester.gov.uk>
Sent: 06 October 2022 10:31
To: Charles Townsend
Cc: markwaite@kellenhomes.com; stephengreen@kellenhomes.com; andybrown@kellenhomes.com
Subject: RE: Bennett Street, Gorton easements, discharge rates and flooding.

External (floodriskmanagement@manchester.gov.uk)

[Report This Email](#) [FAQ](#) [GoDaddy Advanced Email Security](#), Powered by INKY

Good morning Charles,

Thank you for your email, I hope you are well.

Yes I can confirm the variable discharge rates up to the -100 year in your table below are acceptable (please note, the climate change allowance should not be added to your 100-year rate for discharge).

Regarding the setting of your discharge rate in this case. As you note below, you contacted us March 15 with initial proposal. We requested further information – survey – which was presented 23 August. By this time, we had already been engaged by the LPA since 11 August on a formal application you had submitted.

Once we become engaged by the LPA, it is our role to advise the LPA, who hold the authority of the decision-making in all matters.

The submission did not contain sufficient information to support the drainage or culvert strategy, which in most cases would result in an objection to the development from the LLFA. To assist you in light of your pre-app commitments, instead of objecting, we held internal discussions and issued requests for further information via the LPA.

We do not commit to detailed comments, including setting discharge rates, until sufficient information is presented. This process is designed to assist you, by ensuring you receive confirmed and full comments on presentation of sufficient information.

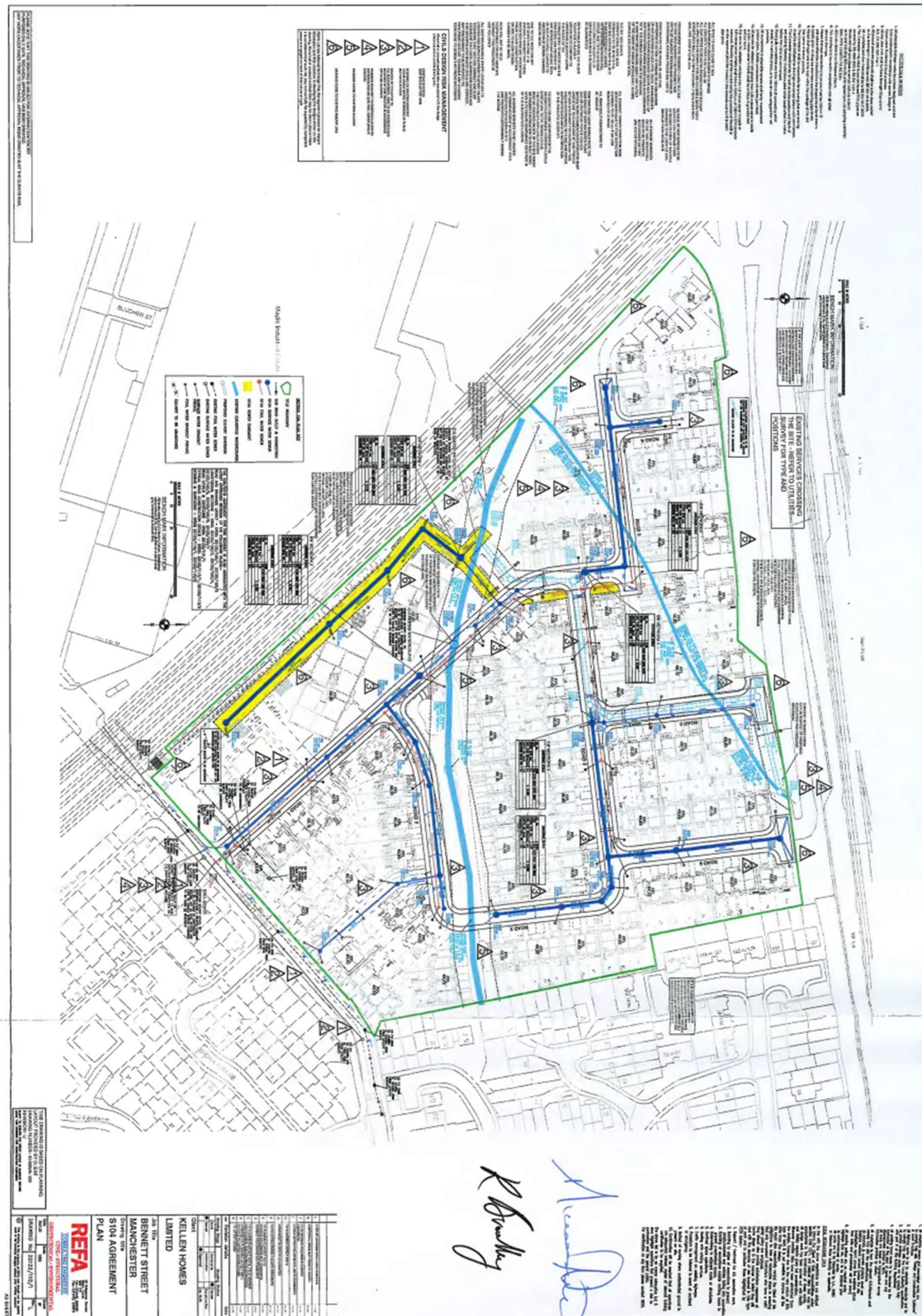
As I have explained to your colleague, we have returned comments to the LPA following your recent submission. I hope this email provides some clarification as to the application process, and we look forward to progressing your application.

Kind Regards,
Laura

Laura Peacock
Flood Risk Engineer – LLFA

Highways Service,
Growth and Neighbourhoods Directorate
Manchester City Council
PO Box 532
Town Hall
Manchester

APPENDIX B - Signed Section 104 Agreement Drawing



APPENDIX C

Synopsis: Maintenance Regime for Culverts / Pipes (Based on CIRIA C689)

Objective:

To ensure culverted watercourses remain effective and safe, preventing blockages, flooding, and structural failure through a proactive maintenance regime.

Maintenance Regime Overview

CIRIA C689 emphasises a **risk-based maintenance approach** tailored to the culvert's location, design, catchment characteristics, and downstream sensitivity. Maintenance should include inspection, cleaning, vegetation control, debris removal, and structural assessment.

Recommended Timescales for Maintenance Activities

Activity	Recommended Frequency	Notes
Routine Visual Inspections	Annually (typically in spring/autumn)	Adjust frequency based on debris load and risk level.
After Major Storm Events	Within 24–72 hours post-event	Essential to assess for blockage or structural impact.
Debris and Sediment Removal	Annually based on inspection	More frequent in urban/high-debris catchments.
Vegetation Management (at inlets / outlets)	Annually or as required	Prevents root intrusion and flow obstruction.
Structural Inspection	Every 5–10 years (detailed survey)	Align with asset management planning cycles.

Key Considerations

- Maintenance frequency must be **adaptive** based on performance records and environmental changes.
- Implementing a **culvert asset management register** supports scheduling and tracking.
- Use **remote monitoring (e.g., cameras or telemetry)** in inaccessible or high-risk locations for early warning.

Conclusion

A structured maintenance regime with well-defined timescales based on CIRIA C689 helps reduce flood risk, prolong culvert life, and support regulatory compliance. The timescales should be reviewed periodically and adjusted as needed based on asset condition and catchment dynamics.