## geosynthetic engineering

Project Name: 150 Holborn, EC1N 2NS - Terrace 8th Floor - FSR Data

BLUE ROOF STORAGE AND OUTFLOW ESTIMATE

Prepared for: CNM, London 29/01/2018 Date: ABG Project ID: 12854

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Notes/description: Pedestrian only amenity/terrace area. Pavers on pedestals. \*FOR DISCUSSION ONLY\*

Input Parameters - Rainfall Information (Flood Studies Report 1975)					
Return period:	100 years	As supplied by Client			
Allowance for Climate Change:	40 %	As supplied by Client			
Rainfall ratio, R:	0.43	From statistics based on location (FSR)			
M5-60 expected rainfall:	20.6 mm/h	From statistics based on location (FSR)			

Location selected for FSR data: London (Central)

Input	Parameters	- Roof	Information

1344 m<sup>2</sup> Catchment area: As supplied by Client 902 m<sup>2</sup> As supplied by Client Storage area: Maximum allowable runoff: 7.0 l/s As supplied by Client

Output - Rainfall Calculation						
Duration	Rainfall (l/s/m²)	Storage Required (I/m²)	Time to Empty	Restricted Outflow (I/s)		
15 mins	0.0416	57	3 hours and 10 minutes	5.9		
30 mins	0.0268	69	3 hours and 40 minutes	6.5		
1 hour	0.0163	76	4 hours and 0 minutes	6.8		
2 hours	0.0095	73	3 hours and 50 minutes	6.7		
4 hours	0.0055	57	3 hours and 10 minutes	5.9		
6 hours	0.0039	40	2 hours and 30 minutes	4.8		
10 hours	0.0026	18	1 hour and 10 minutes	2.9		
24 hours	0.0013	5	0 hours and 0 minutes	0.4		
48 hours	0.0007	5	0 hours and 0 minutes	0.3		

Total storage required: 68.5 m<sup>3</sup> Half empty time: 1 hours and 40 minutes.

## **Output - Recommended Blue Roof System**

ABG blueroof VF HD 50mm + Pedestal Void Space of 30mm System Name:

No. of drainage positions & drainage paths TBC with design team. Utilising additional 5 Description:

I/m2 in paver spacing and build-up,

Total storage capacity:  $69.4 \text{ m}^3$ Number of Blue Roof outlets: 6

## Notes:

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