

# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 09 Roof 4		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	2 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	34 m <sup>2</sup>	As supplied by Client
Attenuation area:	24 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.34 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	0 hours and 10 minutes	0.06
30 mins	0 hours and 10 minutes	0.08
1 hour	0 hours and 20 minutes	0.09
2 hours	0 hours and 10 minutes	0.07
4 hours	0 hours and 0 minutes	0.01
6 hours	0 hours and 0 minutes	0.01
10 hours	0 hours and 0 minutes	0.01
24 hours	0 hours and 0 minutes	0.00
48 hours	0 hours and 0 minutes	0.00

**Total attenuation required: 0.2 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.3 m <sup>3</sup>
Number of Blue Roof outlets:	2

#### Notes:

1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

‘Consultant’ means ABG Geosynthetics Ltd and its legal successors. ‘Client’ means the person, firm, company or organisation for whom the Consultant is performing the Services. ‘Agreement’ means the contract referred to in Clause 2. ‘Services’ means the services to be performed by the Consultant in accordance with the proposal from the Consultant. ‘Project’ means the project or works for which the Client has commissioned the Services.

## 2. GENERAL

Unless and until a formal agreement is entered into, the Client’s acceptance of the proposal for Services from the Consultant or a request for some or all the Services to be performed by the Consultant, shall constitute a binding contract between the Client and the Consultant which contract will be subject to any terms and conditions contained or referred to in the aforementioned proposal and these terms and conditions. In the event of any conflict, the terms and conditions in the proposal shall prevail over these terms and conditions. The Agreement so formed shall supersede all previous understandings, commitments or agreements whether written or oral between the Client and the Consultant relating to the subject matter hereof. No person or entity shall have any rights in relation to this Agreement, whether as third parties or otherwise, save the parties to this Agreement. Should any term or condition of this Agreement be held to be unenforceable or invalid by the courts of any jurisdiction to which it is subject then such term or condition shall be disregarded and the remaining terms and conditions shall remain in full force and effect.

## 3. PERFORMANCE OF SERVICES AND SCOPE

The Consultant shall perform the Services using the degree of skill care and diligence to be expected from a consultant experienced in the provision of services of similar scope size and complexity. The Consultant shall use reasonable endeavours to complete the Services within the time or programme agreed but shall not be responsible for any delay beyond the reasonable control of the Consultant. The fee contained in the proposal is for the scope of services as defined therein. If not already contained in the proposal the Consultant and the Client shall agree as an initial activity an integrated project services programme to include the activities of all the parties to the Project relevant to the Services to be supplied by the Consultant. The aforesaid programme shall show the key dates for final information and the delivery of such to the Consultant so as to enable the Consultant to carry out the services in an efficient once through manner to achieve the programme delivery dates for the Services.

The Consultant provides various services including Design and Product use advice which is distinct from a Design Service. The Design Service may or may not attract a fee.

Where the Consultant’s services are of an advisory nature and dependent upon the degree of information and release thereof by the Client then the Client agrees that any reliance placed on the services by the Client shall take due account of such constraints.

## 4. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS

i. The Consultant and the Client shall keep confidential all information pertaining to the Services.  
ii. Copyright for all reports, documents and the like produced by the Consultant in the performance of the Services shall remain vested with the Consultant but the Consultant shall grant an irrevocable royalty free license to the Client to use such reports, documents and the like for any purpose in connection with the Project.

## 5. LIABILITY

i. The Consultant shall be liable to pay compensation to the Client arising out of or in connection with this Agreement only if a breach of the duty of care in Clause 3 is established against the Consultant.  
ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

## 6. INSURANCE

The Consultant shall arrange Professional Indemnity Insurance cover for the amount stated in Clause 5(ii). The Consultant will use all reasonable endeavours to maintain Professional Indemnity Insurance cover for the period stated in 5(iv) above, providing such insurance remains available to the Consultant at commercially reasonable rates.

## 7. CLIENT’S OBLIGATIONS

The Client shall supply, without charge and in such time so as not to delay or disrupt the performance of the Consultant in carrying out the Services, all necessary and relevant information, in his possession or available to him from his other agents or consultants and all necessary approvals or consents. Any deviation on any information from the proposal shall be confirmed in writing and any attendant consequential fees will be forwarded for approval by the Client before any changes are made. The Consultant shall not be liable for any consequential delays on site. Every reasonable effort will be made to mitigate against delays, however no liability for losses and costs will be accepted. The approval or consent by the Client to the Services shall not relieve the Consultant from any liability under this Agreement. All work undertaken by the Consultant must be ratified and signed off by the Client.

## 8. PAYMENT

i. The Client shall pay the Consultant for the Services in accordance with the proposal and this Agreement. If the Consultant performs any additional services or if the Services are delayed or disrupted for reasons beyond the reasonable control of the Consultant then the Consultant shall be entitled to such additional fees as are fair and reasonable in the circumstances. The Consultant may render an invoice at monthly intervals for services properly performed. The agreed invoice, or in the event of a dispute the undisputed element, shall be paid within 28 days of receipt of the invoice by the Client. Any invoice paid after this period will attract interest at 3% above the base rate of the central bank of the country of the currency of payment along with any collection costs which may occur.  
ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

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Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	30 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	34 m <sup>2</sup>	As supplied by Client
Attenuation area:	24 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.34 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	1 hour and 10 minutes	0.22
30 mins	1 hour and 10 minutes	0.23
1 hour	1 hour and 10 minutes	0.22
2 hours	0 hours and 50 minutes	0.19
4 hours	0 hours and 20 minutes	0.10
6 hours	0 hours and 0 minutes	0.03
10 hours	0 hours and 0 minutes	0.02
24 hours	0 hours and 0 minutes	0.01
48 hours	0 hours and 0 minutes	0.00

**Total attenuation required: 0.9 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.3 m <sup>3</sup>
Number of Blue Roof outlets:	2

#### Notes:

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Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	100 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	34 m <sup>2</sup>	As supplied by Client
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Maximum allowable runoff:	0.34 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	1 hour and 20 minutes	0.26
30 mins	1 hour and 30 minutes	0.27
1 hour	1 hour and 30 minutes	0.27
2 hours	1 hour and 10 minutes	0.24
4 hours	0 hours and 40 minutes	0.15
6 hours	0 hours and 10 minutes	0.06
10 hours	0 hours and 0 minutes	0.02
24 hours	0 hours and 0 minutes	0.01
48 hours	0 hours and 0 minutes	0.01

**Total attenuation required: 1.1 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.3 m <sup>3</sup>
Number of Blue Roof outlets:	2

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  2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
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## 5. LIABILITY

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ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

## 6. INSURANCE

The Consultant shall arrange Professional Indemnity Insurance cover for the amount stated in Clause 5(ii). The Consultant will use all reasonable endeavours to maintain Professional Indemnity Insurance cover for the period stated in 5(iv) above, providing such insurance remains available to the Consultant at commercially reasonable rates.

## 7. CLIENT’S OBLIGATIONS

The Client shall supply, without charge and in such time so as not to delay or disrupt the performance of the Consultant in carrying out the Services, all necessary and relevant information, in his possession or available to him from his other agents or consultants and all necessary approvals or consents. Any deviation on any information from the proposal shall be confirmed in writing and any attendant consequential fees will be forwarded for approval by the Client before any changes are made. The Consultant shall not be liable for any consequential delays on site. Every reasonable effort will be made to mitigate against delays, however no liability for losses and costs will be accepted. The approval or consent by the Client to the Services shall not relieve the Consultant from any liability under this Agreement. All work undertaken by the Consultant must be ratified and signed off by the Client.

## 8. PAYMENT

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

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# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 09 Roof 4		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	100 years	As supplied by Client
Allowance for Climate Change:	40 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	34 m <sup>2</sup>	As supplied by Client
Attenuation area:	24 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.34 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	1 hour and 40 minutes	0.31
30 mins	1 hour and 50 minutes	0.33
1 hour	1 hour and 50 minutes	0.33
2 hours	1 hour and 40 minutes	0.31
4 hours	1 hour and 10 minutes	0.22
6 hours	0 hours and 30 minutes	0.12
10 hours	0 hours and 0 minutes	0.03
24 hours	0 hours and 0 minutes	0.01
48 hours	0 hours and 0 minutes	0.01

**Total attenuation required: 1.6 m<sup>3</sup>**  
**Half empty time: 0 hours and 20 minutes.**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.3 m <sup>3</sup>
Number of Blue Roof outlets:	2

- Notes:
1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
  2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
  3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
  4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
  5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

‘Consultant’ means ABG Geosynthetics Ltd and its legal successors. ‘Client’ means the person, firm, company or organisation for whom the Consultant is performing the Services. ‘Agreement’ means the contract referred to in Clause 2. ‘Services’ means the services to be performed by the Consultant in accordance with the proposal from the Consultant. ‘Project’ means the project or works for which the Client has commissioned the Services.

## 2. GENERAL

Unless and until a formal agreement is entered into, the Client’s acceptance of the proposal for Services from the Consultant or a request for some or all the Services to be performed by the Consultant, shall constitute a binding contract between the Client and the Consultant which contract will be subject to any terms and conditions contained or referred to in the aforementioned proposal and these terms and conditions. In the event of any conflict, the terms and conditions in the proposal shall prevail over these terms and conditions. The Agreement so formed shall supersede all previous understandings, commitments or agreements whether written or oral between the Client and the Consultant relating to the subject matter hereof. No person or entity shall have any rights in relation to this Agreement, whether as third parties or otherwise, save the parties to this Agreement. Should any term or condition of this Agreement be held to be unenforceable or invalid by the courts of any jurisdiction to which it is subject then such term or condition shall be disregarded and the remaining terms and conditions shall remain in full force and effect.

## 3. PERFORMANCE OF SERVICES AND SCOPE

The Consultant shall perform the Services using the degree of skill care and diligence to be expected from a consultant experienced in the provision of services of similar scope size and complexity. The Consultant shall use reasonable endeavours to complete the Services within the time or programme agreed but shall not be responsible for any delay beyond the reasonable control of the Consultant. The fee contained in the proposal is for the scope of services as defined therein. If not already contained in the proposal the Consultant and the Client shall agree as an initial activity an integrated project services programme to include the activities of all the parties to the Project relevant to the Services to be supplied by the Consultant. The aforesaid programme shall show the key dates for final information and the delivery of such to the Consultant so as to enable the Consultant to carry out the services in an efficient once through manner to achieve the programme delivery dates for the Services.

The Consultant provides various services including Design and Product use advice which is distinct from a Design Service. The Design Service may or may not attract a fee.

Where the Consultant’s services are of an advisory nature and dependent upon the degree of information and release thereof by the Client then the Client agrees that any reliance placed on the services by the Client shall take due account of such constraints.

## 4. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS

i. The Consultant and the Client shall keep confidential all information pertaining to the Services.  
ii. Copyright for all reports, documents and the like produced by the Consultant in the performance of the Services shall remain vested with the Consultant but the Consultant shall grant an irrevocable royalty free license to the Client to use such reports, documents and the like for any purpose in connection with the Project.

## 5. LIABILITY

i. The Consultant shall be liable to pay compensation to the Client arising out of or in connection with this Agreement only if a breach of the duty of care in Clause 3 is established against the Consultant.  
ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

## 6. INSURANCE

The Consultant shall arrange Professional Indemnity Insurance cover for the amount stated in Clause 5(ii). The Consultant will use all reasonable endeavours to maintain Professional Indemnity Insurance cover for the period stated in 5(iv) above, providing such insurance remains available to the Consultant at commercially reasonable rates.

## 7. CLIENT’S OBLIGATIONS

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

Changes to the above terms and conditions will only be considered if agreed in writing as part of the appointment process prior to ABG Geosynthetics commencing work.



# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 1		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	2 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	348 m <sup>2</sup>	As supplied by Client
Attenuation area:	300 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.89 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	0 hours and 20 minutes	0.11
30 mins	0 hours and 40 minutes	0.16
1 hour	1 hour and 30 minutes	0.22
2 hours	3 hours and 20 minutes	0.33
4 hours	3 hours and 40 minutes	0.35
6 hours	3 hours and 10 minutes	0.33
10 hours	2 hours and 0 minutes	0.25
24 hours	0 hours and 0 minutes	0.04
48 hours	0 hours and 0 minutes	0.02

**Total attenuation required: 5.9 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	29.1 m <sup>3</sup>
Number of Blue Roof outlets:	2

#### Notes:

1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

‘Consultant’ means ABG Geosynthetics Ltd and its legal successors. ‘Client’ means the person, firm, company or organisation for whom the Consultant is performing the Services. ‘Agreement’ means the contract referred to in Clause 2. ‘Services’ means the services to be performed by the Consultant in accordance with the proposal from the Consultant. ‘Project’ means the project or works for which the Client has commissioned the Services.

## 2. GENERAL

Unless and until a formal agreement is entered into, the Client’s acceptance of the proposal for Services from the Consultant or a request for some or all the Services to be performed by the Consultant, shall constitute a binding contract between the Client and the Consultant which contract will be subject to any terms and conditions contained or referred to in the aforementioned proposal and these terms and conditions. In the event of any conflict, the terms and conditions in the proposal shall prevail over these terms and conditions. The Agreement so formed shall supersede all previous understandings, commitments or agreements whether written or oral between the Client and the Consultant relating to the subject matter hereof. No person or entity shall have any rights in relation to this Agreement, whether as third parties or otherwise, save the parties to this Agreement. Should any term or condition of this Agreement be held to be unenforceable or invalid by the courts of any jurisdiction to which it is subject then such term or condition shall be disregarded and the remaining terms and conditions shall remain in full force and effect.

## 3. PERFORMANCE OF SERVICES AND SCOPE

The Consultant shall perform the Services using the degree of skill care and diligence to be expected from a consultant experienced in the provision of services of similar scope size and complexity. The Consultant shall use reasonable endeavours to complete the Services within the time or programme agreed but shall not be responsible for any delay beyond the reasonable control of the Consultant. The fee contained in the proposal is for the scope of services as defined therein. If not already contained in the proposal the Consultant and the Client shall agree as an initial activity an integrated project services programme to include the activities of all the parties to the Project relevant to the Services to be supplied by the Consultant. The aforesaid programme shall show the key dates for final information and the delivery of such to the Consultant so as to enable the Consultant to carry out the services in an efficient once through manner to achieve the programme delivery dates for the Services.

The Consultant provides various services including Design and Product use advice which is distinct from a Design Service. The Design Service may or may not attract a fee.

Where the Consultant’s services are of an advisory nature and dependent upon the degree of information and release thereof by the Client then the Client agrees that any reliance placed on the services by the Client shall take due account of such constraints.

## 4. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS

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## 5. LIABILITY

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ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

Changes to the above terms and conditions will only be considered if agreed in writing as part of the appointment process prior to ABG Geosynthetics commencing work.

# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 1		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	30 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	348 m <sup>2</sup>	As supplied by Client
Attenuation area:	300 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.89 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	5 hours and 30 minutes	0.45
30 mins	6 hours and 30 minutes	0.51
1 hour	7 hours and 20 minutes	0.56
2 hours	8 hours and 10 minutes	0.61
4 hours	8 hours and 20 minutes	0.61
6 hours	7 hours and 50 minutes	0.58
10 hours	6 hours and 20 minutes	0.51
24 hours	1 hour and 30 minutes	0.22
48 hours	0 hours and 0 minutes	0.04

**Total attenuation required: 14.8 m<sup>3</sup>**  
**Half empty time: 0 hours and 10 minutes.**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	29.1 m <sup>3</sup>
Number of Blue Roof outlets:	2

- Notes:
1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
  2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
  3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
  4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
  5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

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## 2. GENERAL

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## 3. PERFORMANCE OF SERVICES AND SCOPE

The Consultant shall perform the Services using the degree of skill care and diligence to be expected from a consultant experienced in the provision of services of similar scope size and complexity. The Consultant shall use reasonable endeavours to complete the Services within the time or programme agreed but shall not be responsible for any delay beyond the reasonable control of the Consultant. The fee contained in the proposal is for the scope of services as defined therein. If not already contained in the proposal the Consultant and the Client shall agree as an initial activity an integrated project services programme to include the activities of all the parties to the Project relevant to the Services to be supplied by the Consultant. The aforesaid programme shall show the key dates for final information and the delivery of such to the Consultant so as to enable the Consultant to carry out the services in an efficient once through manner to achieve the programme delivery dates for the Services.

The Consultant provides various services including Design and Product use advice which is distinct from a Design Service. The Design Service may or may not attract a fee.

Where the Consultant’s services are of an advisory nature and dependent upon the degree of information and release thereof by the Client then the Client agrees that any reliance placed on the services by the Client shall take due account of such constraints.

## 4. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS

i. The Consultant and the Client shall keep confidential all information pertaining to the Services.  
ii. Copyright for all reports, documents and the like produced by the Consultant in the performance of the Services shall remain vested with the Consultant but the Consultant shall grant an irrevocable royalty free license to the Client to use such reports, documents and the like for any purpose in connection with the Project.

## 5. LIABILITY

i. The Consultant shall be liable to pay compensation to the Client arising out of or in connection with this Agreement only if a breach of the duty of care in Clause 3 is established against the Consultant.  
ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

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## 7. CLIENT’S OBLIGATIONS

The Client shall supply, without charge and in such time so as not to delay or disrupt the performance of the Consultant in carrying out the Services, all necessary and relevant information, in his possession or available to him from his other agents or consultants and all necessary approvals or consents. Any deviation on any information from the proposal shall be confirmed in writing and any attendant consequential fees will be forwarded for approval by the Client before any changes are made. The Consultant shall not be liable for any consequential delays on site. Every reasonable effort will be made to mitigate against delays, however no liability for losses and costs will be accepted. The approval or consent by the Client to the Services shall not relieve the Consultant from any liability under this Agreement. All work undertaken by the Consultant must be ratified and signed off by the Client.

## 8. PAYMENT

i. The Client shall pay the Consultant for the Services in accordance with the proposal and this Agreement. If the Consultant performs any additional services or if the Services are delayed or disrupted for reasons beyond the reasonable control of the Consultant then the Consultant shall be entitled to such additional fees as are fair and reasonable in the circumstances. The Consultant may render an invoice at monthly intervals for services properly performed. The agreed invoice, or in the event of a dispute the undisputed element, shall be paid within 28 days of receipt of the invoice by the Client. Any invoice paid after this period will attract interest at 3% above the base rate of the central bank of the country of the currency of payment along with any collection costs which may occur.  
ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

Changes to the above terms and conditions will only be considered if agreed in writing as part of the appointment process prior to ABG Geosynthetics commencing work.

# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 1		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	100 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	348 m <sup>2</sup>	As supplied by Client
Attenuation area:	300 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.89 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	6 hours and 50 minutes	0.53
30 mins	8 hours and 0 minutes	0.60
1 hour	9 hours and 0 minutes	0.65
2 hours	10 hours and 10 minutes	0.70
4 hours	10 hours and 30 minutes	0.73
6 hours	10 hours and 10 minutes	0.71
10 hours	8 hours and 50 minutes	0.64
24 hours	3 hours and 30 minutes	0.34
48 hours	0 hours and 0 minutes	0.06

**Total attenuation required: 20.2 m<sup>3</sup>**  
**Half empty time: 2 hours and 20 minutes.**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	29.1 m <sup>3</sup>
Number of Blue Roof outlets:	2

- Notes:
1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
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Blue Roof Estimate

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

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# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 1		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	100 years	As supplied by Client
Allowance for Climate Change:	40 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	348 m <sup>2</sup>	As supplied by Client
Attenuation area:	300 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.89 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	8 hours and 40 minutes	0.63
30 mins	10 hours and 10 minutes	0.71
1 hour	11 hours and 20 minutes	0.77
2 hours	12 hours and 50 minutes	0.85
4 hours	13 hours and 30 minutes	0.88
6 hours	13 hours and 10 minutes	0.87
10 hours	12 hours and 0 minutes	0.80
24 hours	6 hours and 20 minutes	0.50
48 hours	0 hours and 10 minutes	0.11

**Total attenuation required: 29 m<sup>3</sup>**  
**Half empty time: 5 hours and 20 minutes.**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	29.1 m <sup>3</sup>
Number of Blue Roof outlets:	2

- Notes:
1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
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Blue Roof Estimate

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## 5. LIABILITY

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ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
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The Client shall supply, without charge and in such time so as not to delay or disrupt the performance of the Consultant in carrying out the Services, all necessary and relevant information, in his possession or available to him from his other agents or consultants and all necessary approvals or consents. Any deviation on any information from the proposal shall be confirmed in writing and any attendant consequential fees will be forwarded for approval by the Client before any changes are made. The Consultant shall not be liable for any consequential delays on site. Every reasonable effort will be made to mitigate against delays, however no liability for losses and costs will be accepted. The approval or consent by the Client to the Services shall not relieve the Consultant from any liability under this Agreement. All work undertaken by the Consultant must be ratified and signed off by the Client.

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

If a party is in breach of a material term of this Agreement and despite written notice from the other party fails to remedy such breach within 30 days or such other period as may be agreed between the parties, then the other party shall be entitled to terminate this Agreement forthwith. The Consultant may seek to recoup costs incurred for works completed prior to termination.

## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

Changes to the above terms and conditions will only be considered if agreed in writing as part of the appointment process prior to ABG Geosynthetics commencing work.

# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 2		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	2 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	29 m <sup>2</sup>	As supplied by Client
Attenuation area:	21 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.33 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	0 hours and 10 minutes	0.06
30 mins	0 hours and 10 minutes	0.08
1 hour	0 hours and 10 minutes	0.08
2 hours	0 hours and 10 minutes	0.05
4 hours	0 hours and 0 minutes	0.01
6 hours	0 hours and 0 minutes	0.01
10 hours	0 hours and 0 minutes	0.01
24 hours	0 hours and 0 minutes	0.00
48 hours	0 hours and 0 minutes	0.00

**Total attenuation required: 0.2 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.0 m <sup>3</sup>
Number of Blue Roof outlets:	2

#### Notes:

1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

‘Consultant’ means ABG Geosynthetics Ltd and its legal successors. ‘Client’ means the person, firm, company or organisation for whom the Consultant is performing the Services. ‘Agreement’ means the contract referred to in Clause 2. ‘Services’ means the services to be performed by the Consultant in accordance with the proposal from the Consultant. ‘Project’ means the project or works for which the Client has commissioned the Services.

## 2. GENERAL

Unless and until a formal agreement is entered into, the Client’s acceptance of the proposal for Services from the Consultant or a request for some or all the Services to be performed by the Consultant, shall constitute a binding contract between the Client and the Consultant which contract will be subject to any terms and conditions contained or referred to in the aforementioned proposal and these terms and conditions. In the event of any conflict, the terms and conditions in the proposal shall prevail over these terms and conditions. The Agreement so formed shall supersede all previous understandings, commitments or agreements whether written or oral between the Client and the Consultant relating to the subject matter hereof. No person or entity shall have any rights in relation to this Agreement, whether as third parties or otherwise, save the parties to this Agreement. Should any term or condition of this Agreement be held to be unenforceable or invalid by the courts of any jurisdiction to which it is subject then such term or condition shall be disregarded and the remaining terms and conditions shall remain in full force and effect.

## 3. PERFORMANCE OF SERVICES AND SCOPE

The Consultant shall perform the Services using the degree of skill care and diligence to be expected from a consultant experienced in the provision of services of similar scope size and complexity. The Consultant shall use reasonable endeavours to complete the Services within the time or programme agreed but shall not be responsible for any delay beyond the reasonable control of the Consultant. The fee contained in the proposal is for the scope of services as defined therein. If not already contained in the proposal the Consultant and the Client shall agree as an initial activity an integrated project services programme to include the activities of all the parties to the Project relevant to the Services to be supplied by the Consultant. The aforesaid programme shall show the key dates for final information and the delivery of such to the Consultant so as to enable the Consultant to carry out the services in an efficient once through manner to achieve the programme delivery dates for the Services.

The Consultant provides various services including Design and Product use advice which is distinct from a Design Service. The Design Service may or may not attract a fee.

Where the Consultant’s services are of an advisory nature and dependent upon the degree of information and release thereof by the Client then the Client agrees that any reliance placed on the services by the Client shall take due account of such constraints.

## 4. CONFIDENTIALITY AND INTELLECTUAL PROPERTY RIGHTS

i. The Consultant and the Client shall keep confidential all information pertaining to the Services.  
ii. Copyright for all reports, documents and the like produced by the Consultant in the performance of the Services shall remain vested with the Consultant but the Consultant shall grant an irrevocable royalty free license to the Client to use such reports, documents and the like for any purpose in connection with the Project.

## 5. LIABILITY

i. The Consultant shall be liable to pay compensation to the Client arising out of or in connection with this Agreement only if a breach of the duty of care in Clause 3 is established against the Consultant.  
ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

## 6. INSURANCE

The Consultant shall arrange Professional Indemnity Insurance cover for the amount stated in Clause 5(ii). The Consultant will use all reasonable endeavours to maintain Professional Indemnity Insurance cover for the period stated in 5(iv) above, providing such insurance remains available to the Consultant at commercially reasonable rates.

## 7. CLIENT’S OBLIGATIONS

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

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## 10. DISPUTE RESOLUTION

Any dispute between the parties that cannot be settled by mutual agreement shall be referred for final settlement to the arbitration of a person agreed between the parties or failing such agreement appointed upon the application of either party by the President of the Chartered Institute of Arbitrators and the said arbitration shall be carried out in accordance with the Construction Industry Model Arbitration Rules 1998 or such other version current at the time of the referral under this clause. Where the Agreement is subject to a governing law other than that of England and Wales then any dispute between the parties that cannot be settled by mutual agreement shall be finally settled by arbitration in accordance with the UNCITRAL Arbitration Rules by one arbitrator appointed in compliance with the said Rules. In either case such rules as appropriate are deemed to be incorporated into this Agreement by reference.

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This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

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# BLUE ROOF ATTENUATION AND OUTFLOW SUMMARY

## PRIVATE & CONFIDENTIAL - NOT FOR DISTRIBUTION

Project Name:	19 Charterhouse Street, Farringdon, EC1N 6RA - Level 10 Roof 2		
Prepared for:	Davies Maguire		
Date:	25/03/2025		
ABG Project ID:	ABG/P/24/001011	Calculator version:	1.37
Prepared by:	Matt Gledhill, matthew.gledhill@abgltd.com		
Notes/description:	Mix of green roof, soft and hard landscaping - TBC. Potential for free-standing/ballasted, PV panels, lighter-weight plant units or planters to be installed on top of the 'blue roof' system (recommended). Appropriate support for larger plant units TBC with ABG, and structural and M&E engineers. Maintenance or pedestrian/amenity access only - TBC. Warm/inverted roof construction, with zero falls - TBC.		
Document/Drawing references:	2352-DMAG-SK066A P01		

### Input Parameters - Rainfall Information (FEH22)

Return period:	30 years	As supplied by Client
Allowance for Climate Change:	0 %	As supplied by Client
OS grid reference selected for FEH data:	TQ 31672 81731	

### Input Parameters - Roof Information

Total catchment area:	29 m <sup>2</sup>	As supplied by Client
Attenuation area:	21 m <sup>2</sup>	As supplied by Client
Maximum allowable runoff:	0.33 l/s	As supplied by Client

### Output - Rainfall Calculation

Duration	Time to Empty	Restricted Outflow (l/s)
15 mins	1 hour and 0 minutes	0.21
30 mins	1 hour and 0 minutes	0.22
1 hour	0 hours and 50 minutes	0.21
2 hours	0 hours and 40 minutes	0.17
4 hours	0 hours and 10 minutes	0.06
6 hours	0 hours and 0 minutes	0.02
10 hours	0 hours and 0 minutes	0.01
24 hours	0 hours and 0 minutes	0.01
48 hours	0 hours and 0 minutes	0.00

**Total attenuation required: 0.7 m<sup>3</sup>**

**Half empty time: The critical storm does not result in the storage reaching half full**

### Output - Recommended Blue Roof System

System Name:	ABG bluerroof VF HD 108mm
Description:	Blue roof depth of 108mm. No. of control positions TBC by design team, and also cross-referenced with the structural engineer's long-term deflection analysis. Additional 'tell-tale' parapet overflow outlets, may also be added by the architect.

Total attenuation capacity:	2.0 m <sup>3</sup>
Number of Blue Roof outlets:	2

- Notes:
1. This document contains an estimate which has been prepared by ABG Ltd and is illustrative only and not a detailed design.
  2. Further details on the theories used in this estimate are available upon request from ABG. The values given for the performance of the system relate to testing, modelling and analysis of our systems obtained from laboratories and testing institutes. In line with our policy of continuous improvement the right is reserved to make changes to our systems without notice at any time.
  3. The estimate given in this report is based on the stated parameters as per the brief. If these parameters are not correct or have changed, ABG should be contacted to provide a revised estimate.
  4. This estimate is specific to the characteristics of ABG products/systems and is not applicable to other competitor products. The substitution of the whole or any component of this design for a material supplied from another source renders this estimate invalid.
  5. Final determination of the suitability of any information is the sole responsibility of the user. ABG will be pleased to discuss the use of this or any other product but responsibility for selection of a material and its application in any specific project remains with the user.

Blue Roof Estimate

## 1. DEFINITIONS

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## 5. LIABILITY

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ii. Notwithstanding any other term to the contrary in this Agreement or any related document and whether the cause of action for any claim arises under or in connection with the Agreement in contract or in tort, in negligence or for breach of statutory duty or otherwise the Consultant shall have no liability to the Client in respect of any claim for loss or damage arising from acts of war or terrorism or arising from flooding, burst water mains or failed drainage or arising from any incidence of toxic mould or asbestos but otherwise in relation to any cause of action as aforesaid the total liability of the Consultant in the aggregate for all claims shall be limited to a sum equivalent to ten (10) times the fee payable under this Agreement or £50,000, whichever is the lesser, or such other sum as may be expressly stated in the Consultant’s proposal, and further but without prejudice to the aforesaid limit of liability any such liability of the Consultant shall be limited to such sum or sums as it would be just and equitable for the Consultant to pay having regard to the Consultant’s responsibility for the same and on the basis that all other parties appointed or to be appointed by the Client to perform related services in connection with the Project shall be deemed to have provided undertakings on terms no less onerous than this Agreement and shall be deemed to have paid to the Client such contribution as it would be just and equitable for them to pay having regard to their responsibility for any loss or damage and providing that it shall be deemed that such other parties have not limited or excluded their liability to the Client for such loss or damage in any way which may be prejudicial to the Consultant’s liability under this clause. Nothing in this clause shall operate to exclude or limit the Consultant’s liability for death or personal injury.  
iii. The Client shall indemnify and keep indemnified the Consultant from and against all claims, demands, proceedings, damages, costs and expenses arising out of or in connection with this Agreement or the Project arising from acts of terrorism or arising otherwise in excess of the liability of the Consultant under this Agreement or which may be made in respect of events occurring after the expiry of the period of liability stated in this Agreement.  
iv. No action or proceedings under or in connection with this Agreement shall be commenced against the Consultant after the expiry of one year from completion of the Services.  
v. ABG Geosynthetics Ltd is not responsible for consequential, indirect or incidental losses.

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ii. The Client shall not withhold any payment of any sum or part of a sum due to the Consultant under this Agreement by reason of claims or alleged claims against the Consultant unless the amount to be withheld has been agreed between the Client and the Consultant as due to the Client or such sum arises from an award in adjudication, arbitration or litigation in favour of the Client and arises under or in connection with the Agreement. Save as aforesaid all rights of set off at common law, in equity or otherwise which the Client may otherwise be entitled to exercise are hereby expressly excluded.

## 9. TERMINATION

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## 10. DISPUTE RESOLUTION

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## 11. COMPLIANCE WITH LAWS

This Agreement shall be governed by and construed in accordance with the law of England and Wales unless stated otherwise in the proposal for services from the Consultant.

Changes to the above terms and conditions will only be considered if agreed in writing as part of the appointment process prior to ABG Geosynthetics commencing work.