

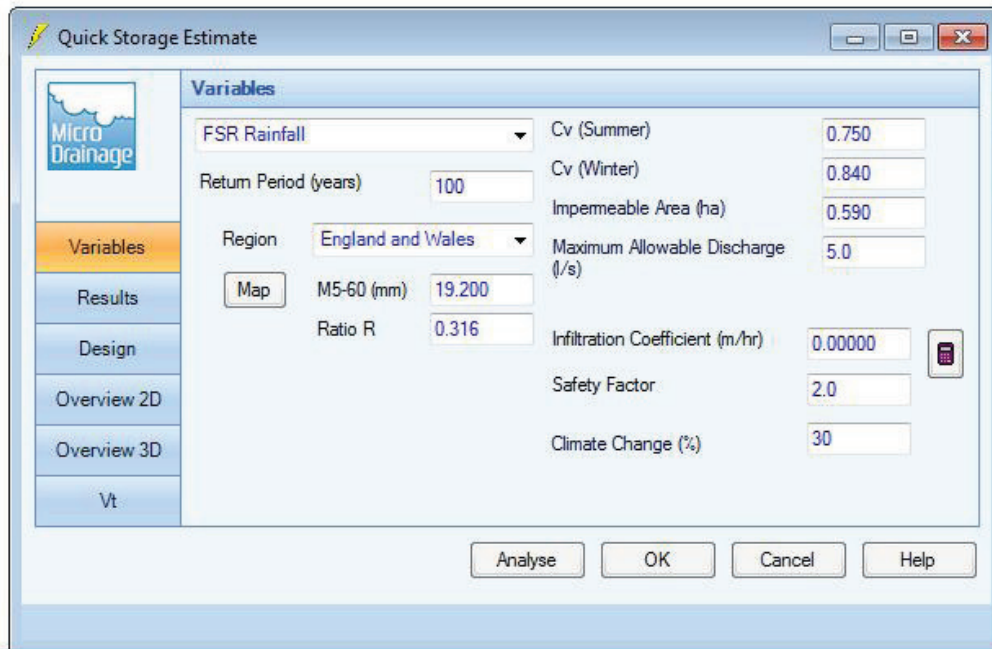
**APPENDIX C:**



**APPENDIX D**

## Storage Calculations

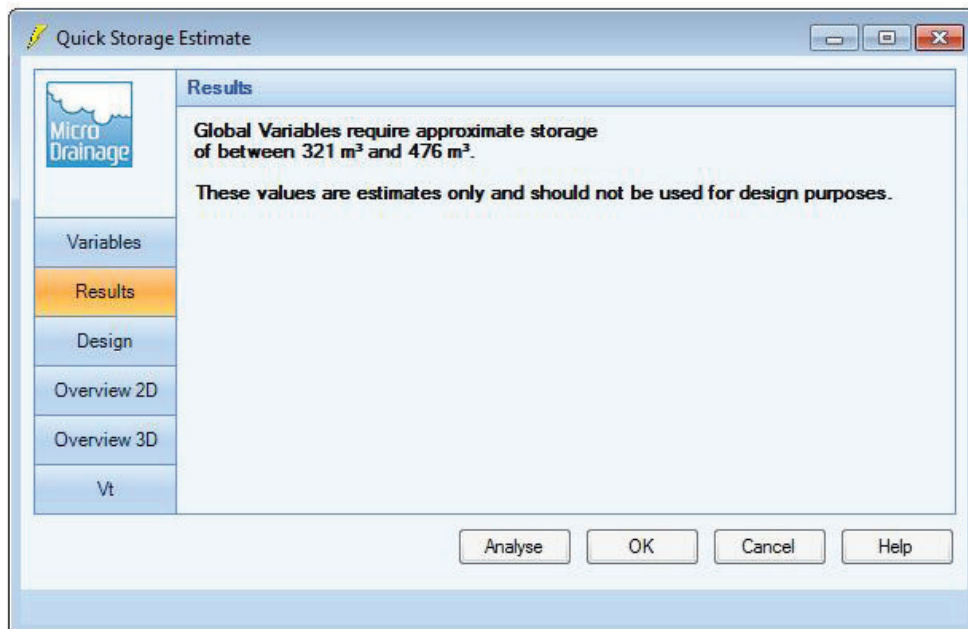
The storage calculations are based on an impermeable area of 0.59ha and a discharge of 5l/s in the 1 in 100 year event plus climate change.



The screenshot shows the 'Quick Storage Estimate' window with the 'Variables' tab selected. The window title is 'Quick Storage Estimate'. On the left is a navigation pane with 'Variables' highlighted. The main area contains the following settings:

Parameter	Value
FSR Rainfall	[Dropdown]
Return Period (years)	100
Region	England and Wales
M5-60 (mm)	19.200
Ratio R	0.316
Cv (Summer)	0.750
Cv (Winter)	0.840
Impermeable Area (ha)	0.590
Maximum Allowable Discharge (l/s)	5.0
Infiltration Coefficient (m/hr)	0.00000
Safety Factor	2.0
Climate Change (%)	30

Buttons at the bottom: Analyse, OK, Cancel, Help.



The screenshot shows the 'Quick Storage Estimate' window with the 'Results' tab selected. The window title is 'Quick Storage Estimate'. On the left is a navigation pane with 'Results' highlighted. The main area displays the following text:

**Global Variables require approximate storage of between 321 m<sup>3</sup> and 476 m<sup>3</sup>.**

**These values are estimates only and should not be used for design purposes.**

Buttons at the bottom: Analyse, OK, Cancel, Help.

**APPENDIX E**

## Charles Townsend - Elluc Projects

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**From:** Ruckledge, John <john.ruckledge@environment-agency.gov.uk>  
**Sent:** 03 October 2016 09:20  
**To:** Charles Townsend - Elluc Projects  
**Subject:** RE: Buxton, Walley Bridge

Charles,

Sorry for the delay in this. Our modelling team are still comparing the recent model with the previous from 2005 to hopefully determine the reasons for the big differences. We will just have to take a view on your FRA and levels used when we see it.

**John Ruckledge**  
**Flood Risk Officer**  
**Partnerships & Strategic Overview Team**  
**(Greater Manchester, Merseyside and Cheshire Area)**

**Environment Agency, Richard Fairclough House, Knutsford Road, Warrington WA4 1HT**  
**Tel: 02030 250692 | Fax: 01925 415961 |**

Flood defence consent applications have now been incorporated into the environmental permitting framework.

As of 6th April 2016 you may require a permit to carry out works or activities affecting "main river" watercourses. Details of this can be found at:-

[www.gov.uk/guidance/changes-to-your-flood-defence-consent-after-6-april-2016](http://www.gov.uk/guidance/changes-to-your-flood-defence-consent-after-6-april-2016)

**ARE YOU PREPARED?**



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**From:** Charles Townsend - Elluc Projects [mailto:charles@ellucprojects.co.uk]  
**Sent:** 30 September 2016 09:39  
**To:** Ruckledge, John <john.ruckledge@environment-agency.gov.uk>  
**Subject:** Buxton, Walley Bridge

Hi John, hope you are well.

Just wondering if we are anywhere closer to resolving the flood levels. I am in a bit of a bind as my client have to contractedly go for planning next week. There will need an FRA to ratify the planning. Therefore if the levels are not dealt with by middle of next week, I will issue with the previous levels as they seem to be closer to the truth.

Could you confirm this is acceptable.

Kind regards  
Charles

Charles Townsend  
**Senior Hydrologist**

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**APPENDIX F**