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FLOOD RISK ASSESSMENT AND SURFACE WATER DRAINAGE STRATEGY ADDENDUM

St Michaels Convent, Ham Common

Prepared for: Beechcroft Developments
Issue 1: 21 February 2017
Ref: TR8151310/LMcG/DW/026

Document History

Issue	Date	Description	Prepared By	Checked By
1	21 Feb. 17	For planning	L McGregor	J Hanlon

Glanville

Glanville Consultants is a multi-disciplinary engineering, design and surveying consultancy with the following expertise:

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Appendices

1.0 Introduction

1.1 This report has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd in support of a planning application for the re-development, for residential purposes, of St Michael's Convent, Ham Common, Richmond.

1.2 This report is supplementary to the Flood Risk Assessment and Surface Water Drainage Strategy by Glanville Consultants, report number TR8151310/LMcG/DW/021 Issue 3 dated 1 September 2016.

1.3 Since the Flood Risk Assessment and Surface Water Drainage Strategy was published the proposed site layout has undergone changes based on the public consultation process. The revised site layout is included as Appendix A to this report.

1.4 The major changes comprise: a reduction in the number of properties proposed in the initial application from 26 to 23 residential units; the addition of a proposed estate manager's office and meeting rooms; and a general adjustment in the site layout to bring development closer into the main building.

1.5 The purpose of this report is to examine the changes to the development proposals and determine whether there is any change to the conclusions of the Flood Risk Assessment and Surface Water Drainage Strategy.

2.0 Flood Risk Assessment

2.1 The Flood Risk Assessment concluded that the site was at low risk from all sources of flooding. As this assessment is based on the site itself, not the development proposal, this assessment is not affected by the changes to the proposed development.

2.2 Since it is at low risk of flooding, all forms of development are suitable at the site. Therefore changes to the proposed development have no effect on the suitability of the site for the development.

3.0 Surface Water Drainage Strategy

3.1 It was proposed that surface water drainage from the site be discharged partially by infiltration into the Kempton Park Gravel Formation and partially by restricted discharge into the public surface water sewer in Ham Common, re-using the existing surface water connection to this public sewer.

3.2 The discharge rate to the public sewer was proposed at 5 l/s, and this was considered to provide significant betterment over the existing situation.

3.3 SuDS features, comprising permeable pavements, infiltration trenches, and geocellular attenuation crates, were proposed to store and attenuate run-off to the appropriate discharge rate.

3.4 In the revised layout for the first application area, the layout has been drawn closer into the central building. This reduces the amount of impermeable area within the plan, which reduces the impact of the development from the original proposal. The revised impermeable area is measured as approximately 0.442 ha.

3.5 Revised attenuation storage calculations based on the new impermeable area are included in Appendix B. It can be seen that the attenuation storage volume required will be up to 306m^3 (not including any storage for the part of the site not included in this application, which will need to be attenuated separately).

3.6 Excluding areas within tree root zones, where no deep pavement excavation will be permitted, the usable paving area for sub-base storage within the new site layout is approximately 2450m^2.

3.7 With a sub-base of 500mm depth and a 30% voids ratio, the entire required storage volume can be accommodated within this paved area. Therefore in the revised design there is no requirement for geocellular storage crates to supplement the attenuation provision.

3.8 Infiltration trenches will still be included within the design to provide conveyance through the sub-base and encourage infiltration where possible.

3.9 A revised drainage strategy plan has been included in Appendix C.

4.0 Conclusion

4.1 Following examination of the updated development proposals, no changes have been made to the conclusions of the Flood Risk Assessment and Surface Water Drainage Strategy.

4.2 Revisions have been made to the indicative drainage strategy in order to incorporate the revised site layout.

Appendices

Appendix A

Proposed Site Layout

To be read in conjunction with Area Schedule r7

Beechcroft

Drawn	ed
Checked	PD
Date	10/02/2017

St Michael's Convent, Ham

Unit numbers Key Plan

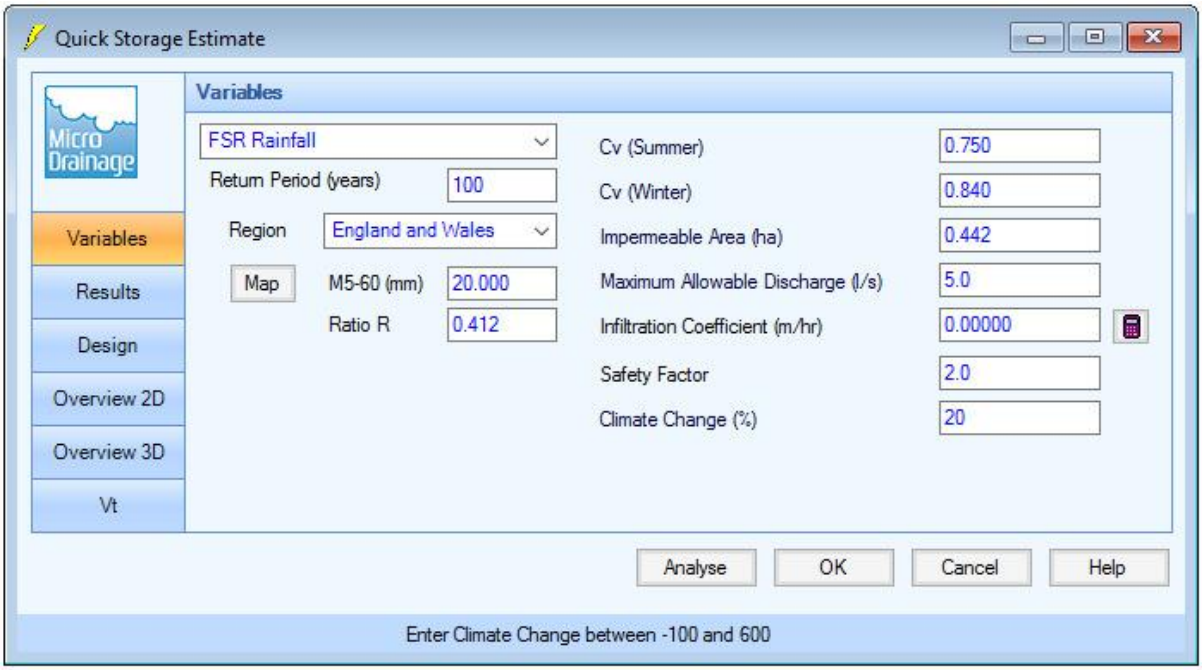
AA6250-SK07
REV -1

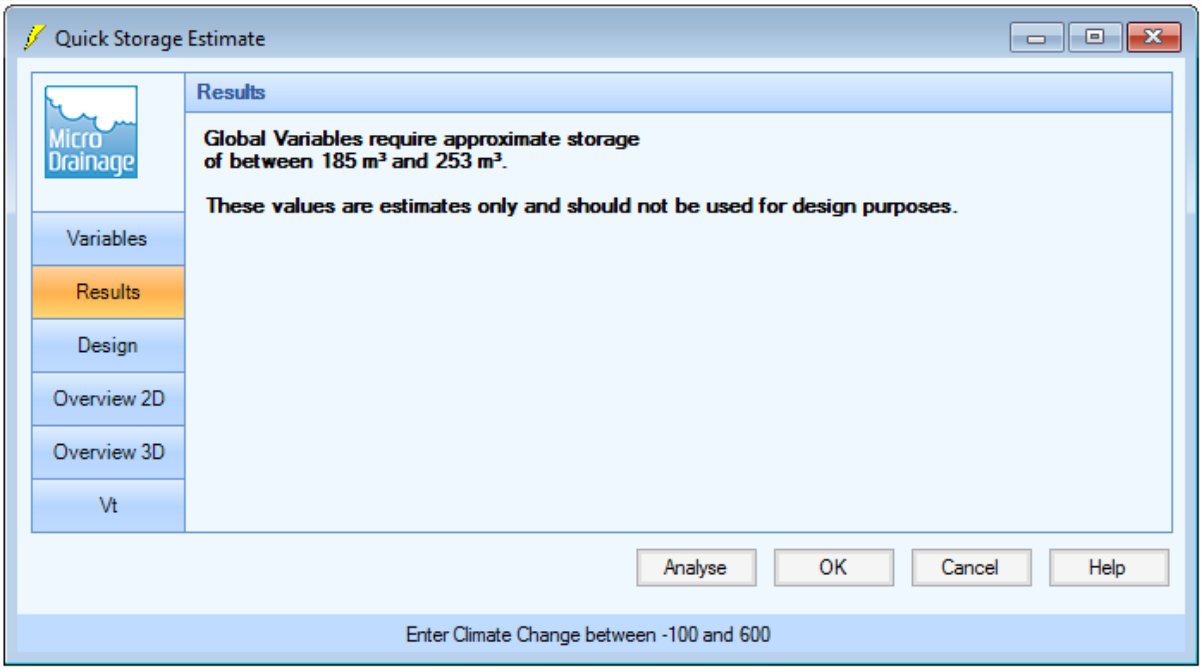
PRP

Appendix B

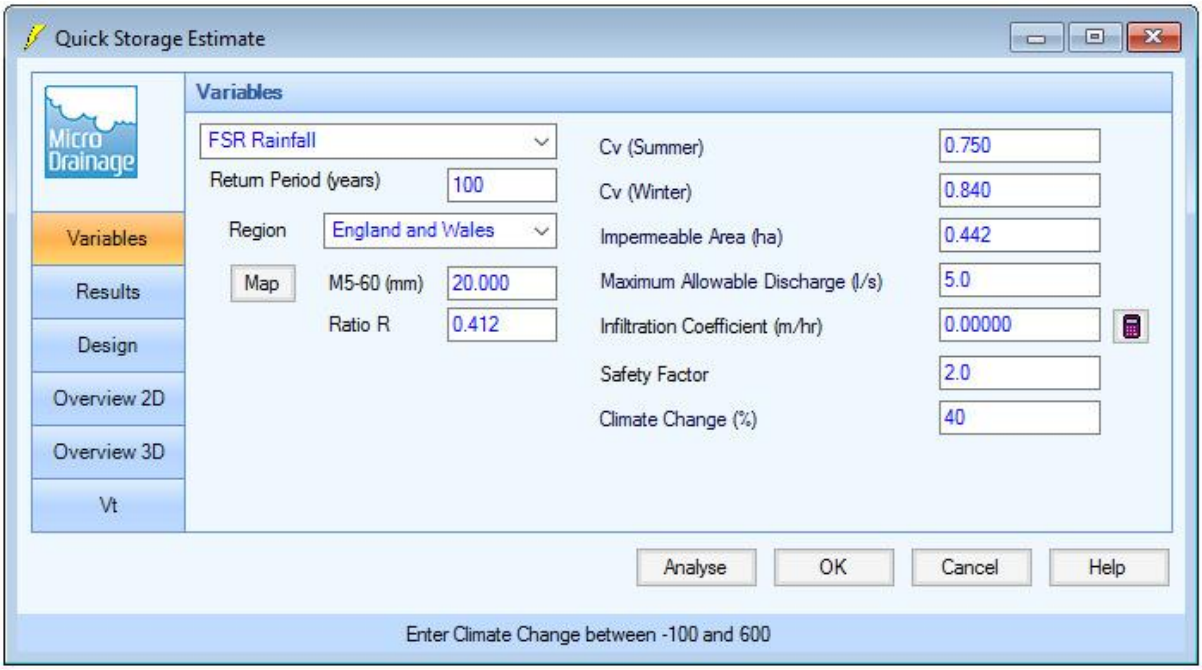
Attenuation Calculation

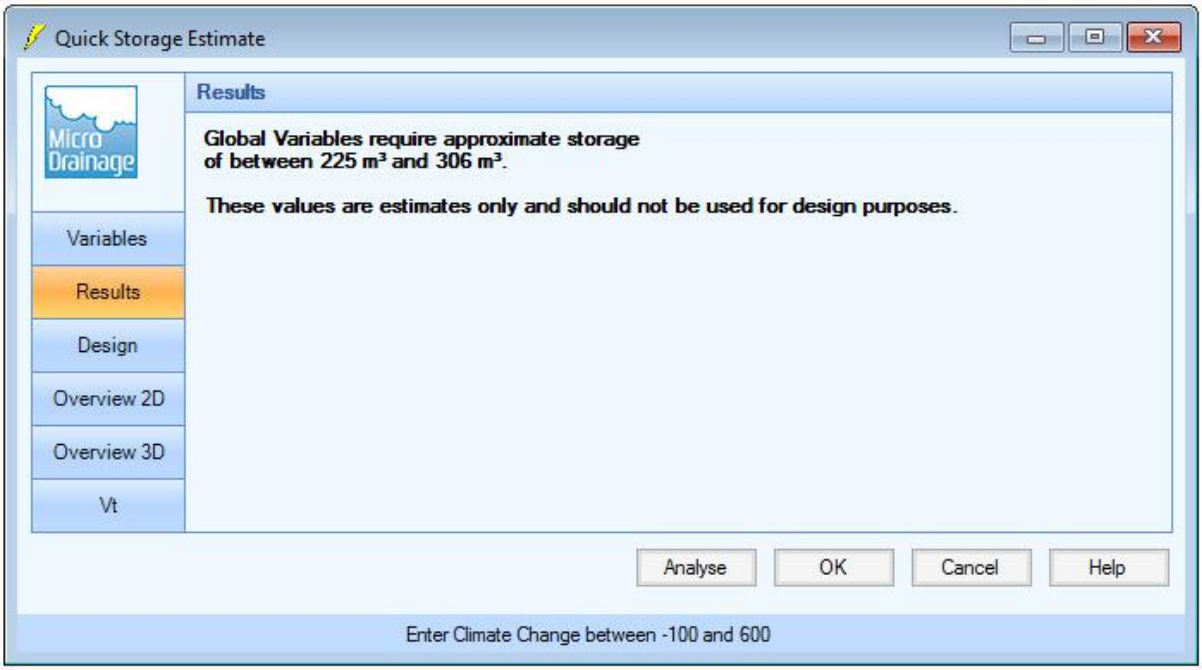
Attenuation volume storage incorporating 20% CC





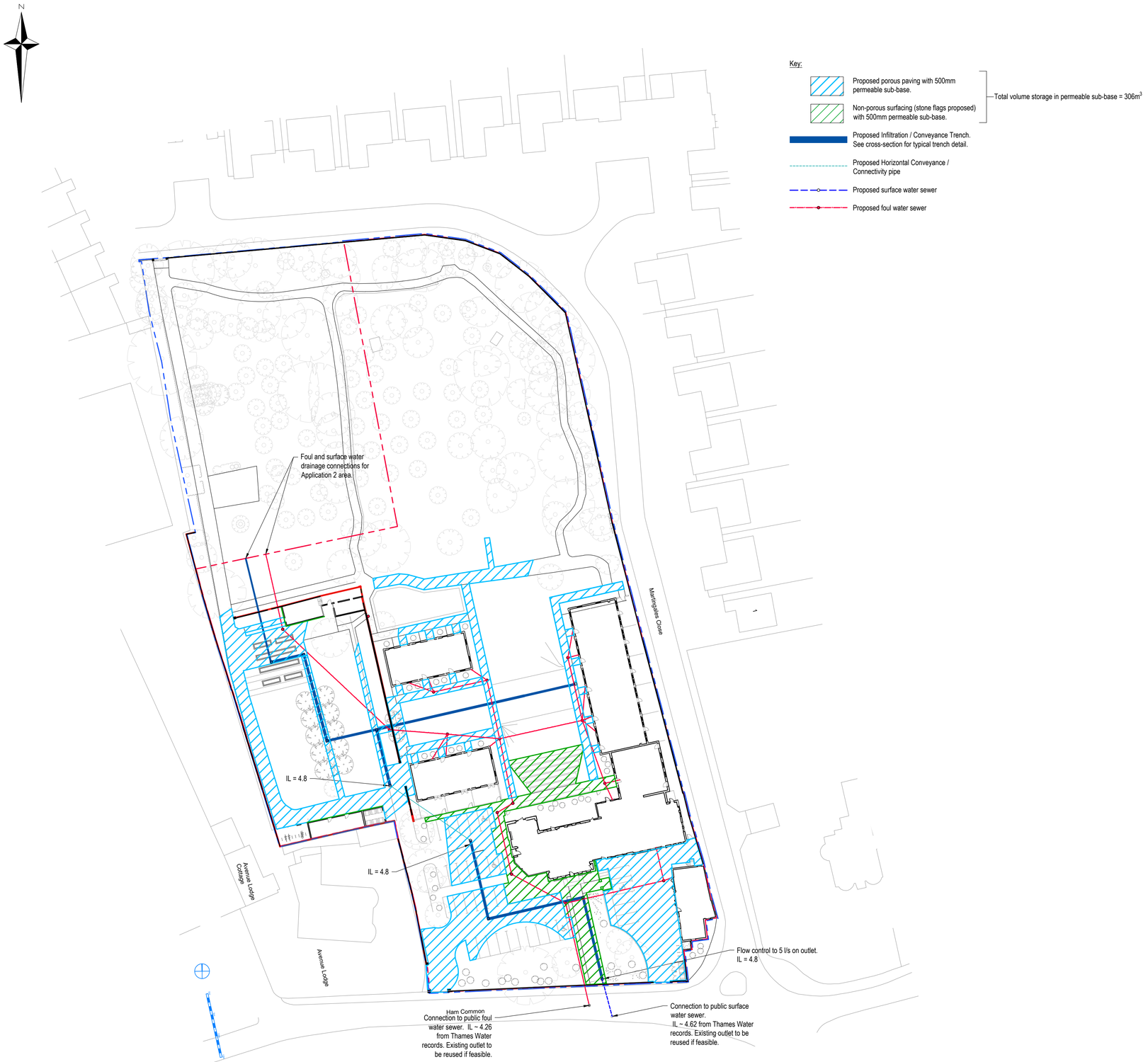
Attenuation volume storage incorporating 40% CC





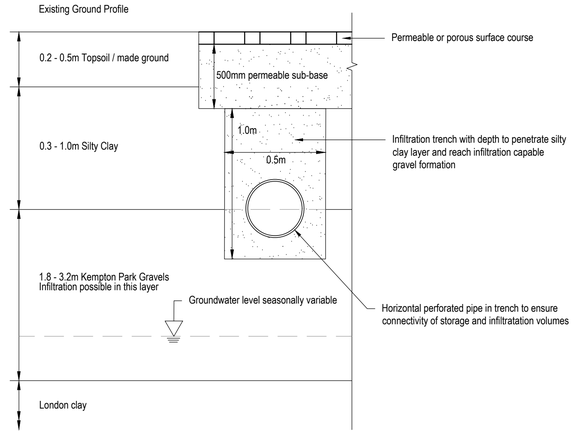
Appendix C

Indicative Drainage Strategy Drawing



PLAN

Scale 1 : 500



PERMEABLE PAVEMENT / INFILTRATION TRENCH CROSS SECTION

N.T.S.

Rev.	Description	Date	Chkd
P3	Planning Issue.	15.02.17 MM	LM
P2	Planning Issue.	12.08.16 MM	LM
P1	Preliminary Issue.	11.08.16 MM	LM

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Client : Beechcroft Developments Ltd

Project : St Michaels Convent, Ham Common

Title : Outline Drainage Strategy

Project Engineer : L. McGregor
Project Director : K. Rayner
Scale : As shown
Date : August 2016
Status : Preliminary

Drawing No. 8151310/001

Rev P3

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