DRAINAGE STATEMENT

Mowbray, North Horsham, West Sussex
Sub-Phase 2C Strategic Landscape Buffer & Allotments (RMA6)

Prepared for: Legal & General (Strategic Land North Horsham) Limited
Ref: 312_8220585_SLS_Drainage_Statement_RMA6

Document History

Issue	Date	Description	Prepared By	Checked By
1	18 Sept 26	First Issue	S Smith	C Salt

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1.0 Introduction

1.1 This Drainage Statement has been prepared by Glanville Consultants on behalf of Legal & General (Strategic Land North Horsham) Limited to support an application for the approval of reserved matters for new allotments, a new pond, watercourse restoration and a timber footbridge within the Mowbray development, North Horsham, West Sussex.

1.2 Outline planning permission was granted in March 2018 for the following development on Land North of Horsham (planning application reference: DC/16/1677):

"Outline planning application with all matters reserved except access for a mixed use strategic development to include housing (up to 2,750 dwellings), business park (up to 46,450m²), retail, community centre, leisure facilities, education facilities, public open space, landscaping and related infrastructure."

1.3 The description of development is as follows:

"Application for approval of Reserved Matters pursuant to Condition 5 of Outline Planning Permission reference DC/16/1677 for provision of the Sub-Phase 2C Strategic Landscape Buffer, Eastern Allotments, pond and watercourse restoration works, site clearance, landscaping, drainage, highways and associated infrastructure."

1.4 Condition 17 of the outline planning consent (with wording as subsequently amended via a Section 96a application reference: DC/19/0984) related to the site-wide surface water strategy principles and was discharged in 2019 (application reference: DISC/19/0214).

1.5 Condition 54 of the outline approval states:

"Each Reserved Matters application shall be accompanied by a Detailed Surface Water Strategy demonstrating how the principles established in the approved Site Wide-Surface Water Strategy will be achieved within the area covered by that Reserved Matters Application and shall include details of all Sustainable Drainage Systems (SuDS) and their catchment areas and the location, size and appearance of all features such as ponds, basins and swales, details of critical stormwater storage, details of any surface water sewers, the timing of delivery of the infrastructure necessary to deliver the Detailed Surface Water Strategy and details of long-term management and maintenance of the surface water drainage systems, as well as any temporary measures necessary to facilitate development until the approved surface water drainage strategy is provided in full. The development shall be implemented in accordance with the approved Detailed Surface Water Strategy and thereafter managed and maintained in accordance with the approved details."

1.6 Condition 55 of the outline approval states:

"Each Reserved Matters application shall be accompanied by a foul water drainage scheme (including implementation timetable) for that Reserved Matters Area. The approved foul water drainage scheme shall be implemented for each Reserved Matters Area as approved and no development in that Reserved Matters Area shall be occupied until the foul water drainage system has been completed in accordance with the approved details."

1.7 This report provides details of the disposal of surface water run-off generated by the paths, parking, allotments, roofs and hard standing of this planning application in accordance with Condition 54 of the decision notice. No foul effluent will be generated by the proposals and therefore no details of foul drainage infrastructure are required as part of this report in accordance with Condition 55 of the decision notice.

1.8 This report also details works to an existing man-made pond to restore the original watercourse.

2.0 Existing Situation & Proposed Development

Site Context

2.1 The wider Mowbray development at North Horsham is currently under construction with various applications for the approval of reserved matters for individual infrastructure elements and sub-phases, both under consideration and determined. Prior to development, the wider Mowbray site had a mix of uses, including agricultural land and associated buildings, and dwellings.

2.2 The application site is located to the north of the A264. A location plan showing the extent of the application site edged in red is provided in Appendix A.

2.3 The application site currently comprises previously undeveloped land used in the past for agricultural purposes.

Existing Drainage Infrastructure

2.4 The topographical survey (submitted as part of the outline planning application) confirms that surface water run-off from the undeveloped agricultural land within the application site drains overland to three watercourses within the application site following the prevailing topography.

Proposed Development

2.5 The proposals for which the approval of reserved matters is sought comprise the provision of the Sub-Phase 2C Strategic Landscape Buffer, Eastern Allotments, pond and watercourse restoration works, site clearance, landscaping, drainage, highways and associated infrastructure.

2.6 A site layout is included in Appendix B.

3.0 Surface Water Drainage

3.1 This section provides details of the proposed disposal arrangements for surface water run-off generated by the application site in accordance with Condition 54 of the approval notice. This condition requires each Reserved Matters application to demonstrate the principles set out in the site wide surface water drainage strategy, approved under the discharge of Condition 17 of the outline approval (application reference: DISC/19/0214). As such, this strategy has been prepared with reference to the approved Site-Wide Surface Water Strategy Report (Rev. A, August 2019). The approved strategy drawings are included in Appendix C.

3.2 The only proposals within this application to generate surface water run-off are the allotments, car park, and access road, and as such this section considers these elements of the proposals. The allotments will produce run-off at a much lower rate than the harder standing areas of the car park and road. This has been reflected within the parameters of the hydraulic calculations.

Site-Wide Principles

Surface Water Outfall

3.3 The site-wide surface water drainage strategy established in accordance with the drainage hierarchy that all discharges from the development will be to the local network of watercourses running through and around the site.

3.4 Given the above, it is proposed to discharge surface water run-off generated by the application site to a watercourse running through the site, mimicking the existing situation.

Discharge Rate Approach

3.5 The site-wide surface water strategy employs a staged discharge approach to restrict runoff leaving the site. The development greenfield run-off rates are Q1 for the 1 in 1 year event and Q100 for the 1 in 100 years plus climate change event.

Greenfield Run-Off Rates

3.6 The approved site-wide surface water strategy calculated greenfield run-off rates as set out in Table 1 and these rates have been adopted for this application.

Table 1: Greenfield Rates

Return Period	Greenfield Rate
QBAR	5.2 l/s/ha
Q1	4.4 l/s/ha
Q30	11.8 l/s/ha
Q100	16.5 l/s/ha

Rainfall Data and Climate Change

3.7 The latest FEH 2022 dataset will be adopted.

3.8 Condition 17 states each reserved matters application must provide: "details of an overarching scheme to demonstrate safe management of surface water, including critical storm water storage across the site up to the 1 in 100 year storm event, plus 20% climate change allowance, 40% exceedance".

3.9 As such, a 20% climate change allowance has been used to assess the surface water drainage system, and a 40% allowance has been modelled as an exceedance event. Outputs from both of these scenarios are discussed later in this section.

Impermeable Areas

3.10 The site-wide surface water drainage strategy calculated impermeable areas based on housing density within each drainage catchment, with an additional allowance for highway infrastructure where appropriate. Urban creep was applied to all housing parcels.

Surface Water Drainage Strategy

3.11 The surface water strategy for the allotments (RMA6) is a standalone network that does not drain to, or through, adjacent parcels and it has been named Catchment 11. The allotment drainage network will combine the land drainage from the allotment plots and the surface water drainage from the hardstanding areas (car park and access road) as well as the roof of the shed structure. The proposed surface water drainage strategy is illustrated on the drawings included in Appendix D.

Table 2: Approved and Proposed Discharge Rates (RMA6)

Return Period	Approved Discharge Rate	Proposed Discharge Rate
2.0 l/s/ha	0.8 l/s	0.8 l/s
QBAR	2.2 l/s	0.8 l/s
2 year	1.8 l/s	0.8 l/s
30 year	4.9 l/s	0.8 l/s
100 year	6.9 l/s	0.8 l/s

3.12 As discussed previously, the site-wide surface water drainage strategy employs a staged discharge approach. However, due to the level constraints on the basin to serve the allotment drainage, multiple flow controls are unpracticable. Therefore, a single fixed flow control will be utilised for this parcel.

3.13 A single flow control will restrict the surface water runoff discharging from the network to the 2.0 l/s/ha rate (0.8 l/s) for all storm events up to and including the 1 in 100 year +20%, representing a reduction in discharge rates in all modelled events.

3.14 For the wider site strategy, impermeable areas are based on housing density within each drainage catchment, with an additional allowance for the areas of highway infrastructure as appropriate.

3.15 Given that detailed site layout is available for the allotments, an exact impermeable area has been calculated at 0.417ha. Urban creep has not been applied as it is not a housing parcel. Furthermore, the parcel is constrained by existing root protection areas, a road and pond to the south, woodland to the east, as well as housing to the west. There is no feasible future increase in impermeable area.

3.16 Given the single fixed discharge approach has been applied within the surface water drainage strategy, there is no requirement for long-term storage provision.

3.17 Surface water will be stored within a pond located to the south of the access road. It is proposed that there will be 850mm of permanent water depth below the outlet level of the basin.

Hydraulic Calculations

3.18 InfoDrainage calculations for Catchment 11 included in Appendix E demonstrate that the pond within the RMA6 application area has been sized to provide attenuation storage for all storm events up to and including the 1 in 100 year storm event, with a 20% allowance for climate change. This demonstrates that the surface water drainage networks and basins can accommodate the 1 in 100 year plus 20% climate change storm without flooding from surface water.

3.19 The allotment plots have been treated as 72% impermeable within the calculations. The volume of rainfall entering the network is based on the volumetric coefficient for sloping clay soils at 72%. The hard standing areas, including the Golpla parking surfaces have been treated as 100% impermeable, reflected in the Cv values in the InfoDraiange model.

3.20 It should also be noted that "Surcharge" occurs in the 1 in 2 year event upstream of all flow controls; this is necessary due to water backing up upstream of the flow control.

3.21 Further to the aforementioned calculations, the InfoDrainage models have been run with a surcharged outfall in order to represent the condition that the watercourse would be in when full. The receiving watercourse is not at risk of flooding and as such a top of bank level has been used as a worst-case scenario and the design 1 in 100 year + 20% climate change event modelled, as detailed in the attached calculations at Appendix F. The following results were found:

- no flooding of the network upstream of the pond occurs;
- freeboard in the pond reduces, however no flooding occurs;
- there is no increase in flow rates off-site.

As such, there is no risk to the proposed development in this scenario, and no increase in flood flows off-site.

Adoption and Maintenance Measures

3.22 All new surface water infrastructure will be designed and constructed in accordance with the Building Regulations, adoptable standards, and best practice, as appropriate.

3.23 The proposed allotment drainage, serving only the allotments will not be adopted by a management company but transferred to the Parish Council. The new surface water pipe network and pond will remain private and be the responsibility of a management company. This follows the approach taken throughout Phase 1 and 2 of the development.

3.24 The SuDS Management and Maintenance Plan included in Appendix G outlines typical maintenance tasks for drainage infrastructure constructed as part of Phase 2. This plan will be implemented by the management company upon completion of the related drainage works associated with this application.

Exceedance Flow Routes

3.25 Any surface flooding caused by system failure or during extreme events above the design event which may overload the system will be routed away from the proposed residential parcels. Levels on-site will be designed such that any exceedance flows from drainage infrastructure will follow the proposed levels to the south, overspilling into the proposed pond within the RMA6 application area. In the unlikely event of the pond overspilling, flows would be directed overland, away from proposed development and towards existing watercourses. Exceedance flows from the surface water drainage system are shown on the drawing provided in Appendix D.

3.26 In addition, an exceedance event of the 1 in 100 year + 40% climate change event has been run within the InfoDrainage models to determine how the proposed drainage infrastructure operates during exceedance and to validate this assessment. The following results were found:

- no flooding of the network upstream of the pond occurs; and
- freeboard in the basins reduce, however no flooding occurs.

Summary

3.27 This section demonstrates that a sustainable drainage strategy can be implemented on the site, in accordance with the approved outline surface water drainage strategy.

4.0 Watercourse Reinstatement

4.1 An existing pond is located in the south of the application area. Historically, a watercourse entered the site on the southern boundary at Wimland Road, flowing through the area now occupied by the pond and joining at a confluence with Channells Brook to the north. The pond was then formed by damning up this watercourse. The historical map from 1993 shown in Figure 1 shows the open watercourse prior to the damning of the watercourse and formation of the pond.

4.2 There is an existing piped overflow from the pond to Channells Brook on the eastern side of the pond. The watercourse is currently culverted under Wimland Road in a 13.5m long 1000mm diameter brickwork culvert at a gradient of 1:25.

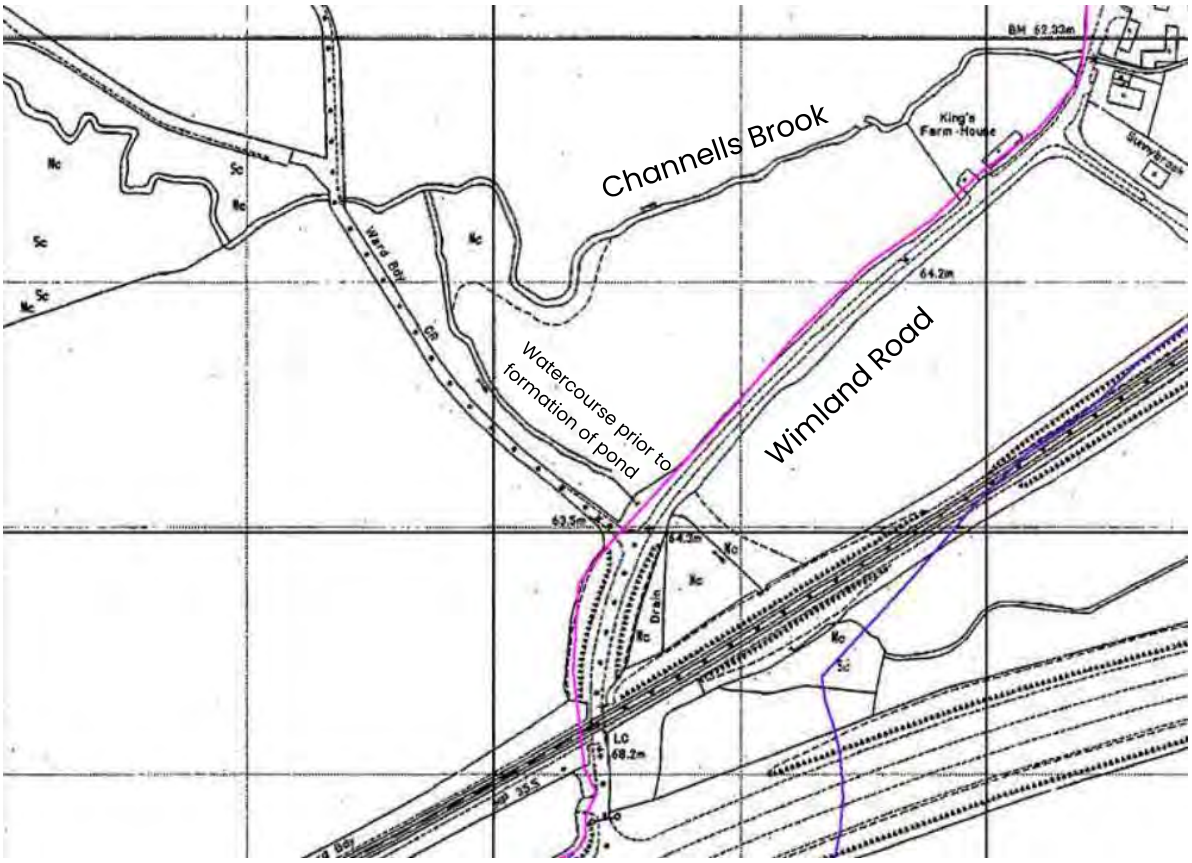

Figure 1: Extract from Ordnance Survey Mapping 1993

4.3 It is worth noting that this existing pond was shown on the original Outline approved drainage strategy as being utilsed as an attenuation pond for the proposed development. However, since it is connected to the existing watercourse network and is upstream of the majority of the proposed development, it is not suitable to be reused as an attenuation pond.

4.4 As such, it is proposed to reinstate the former watercourse, allowing free flow of water from the upstream catchment into Channells Brook, as per the natural hydrology of the area.

4.5 In order to avoid impact on tree root protection areas, it is proposed to retain the existing outer banks of the pond and form two parallel watercourses with a central island.

4.6 The final section between the former pond and Channells Brook will need to be piped in order to avoid impact on root protection areas. This piped section outfalls to Channells Brook just upstream of a proposed box culvert structure which culverts Channells Brook under a proposed access road. The proposed access road and box culvert formed part of a separate reserved matters planning application known as RMA3 (Application Reference: DC/26/0731). The box culvert will be adopted by West Sussex County Council as local highway authority, whereas the headwall proposed as part of this application will remain private. The two structures will be separate and independent of one another.

4.7 A section of the new watercourse will be culverted in order to provide maintenance access to the island. The island is proposed to comprise of vegetation and therefore only pedestrian access is expected to be required to the island.

4.8 Other works included making good / repairing an existing footbridge over an existing section of watercourse and blocking up the existing overflow pipe between the pond and Channell Brook.

4.9 The proposals are illustrated on the plan included in Appendix I.

4.10 The contributing catchment area has been calculated at 47ha. The flow rates from the catchment have therefore been calculated using ReFH2 software and are detailed in Table 3. The calculations rate included in Appendix J.

Table 3: Catchment Flow Rates

Return Period	Peak Flow Rate l/s
2 year	130
30 year	263
100 year	333
100 year +40% climate change	593

4.11 The existing culvert under Wimland Road has a capacity of 5,361 l/s and therefore does not restrict the flow from the catchment in all the modelled events.

4.12 The watercourse has been designed with a base width of 1.0m. The outer banks are designed to match the existing bank gradients at approximately 1:2. The inner banks are designed at a self-supporting gradient of 1:3. The depth of proposed watercourse varies from 0.75m at the upstream end to 2.3m at the downstream end. The watercourse gradient also varies between 1:26 and 1:192. Based on the shallowest proposed depth (0.75m) and gradient (1:192), the capacity of each parallel watercourse is 2,521 l/s, with a combined capacity of 5,042 l/s. Therefore, the watercourse capacity exceeds the incoming flow rates in all modelled events. The watercourse capacity calculations are included in Appendix K.

4.13 The culverted sections of watercourse will be constructed as 525mm pipes. The final culvert outfall into Channells Brook will be laid at a gradient of 1:19, whereas the culvert along one of the parallel watercourses will be laid at a gradient of 1:30. Their respective capacities are therefore 1,103 l/s and 878 l/s. Therefore, the culvert capacities exceed the incoming flow rates in all modelled events.

4.14 Where the watercourse splits, protection will be provided to prevent erosion of the new embankment opposite the incoming flows. Appropriate erosion and scour protection will also be considered at detailed design stage for the new watercourses and downstream of the headwall outfall into Channells Brook.

4.15 The hydraulic modelling of the receiving watercourse (Channells Brook) already includes the contributing catchment which drains via the existing pond. The aforementioned proposed box culvert modelling therefore also includes this contributing catchment. Therefore, there is no impact on the hydraulic modelling of the receiving watercourse, design of the box culvert or flood risk downstream of the watercourse reinstatement proposals.

4.16 This area will be managed and maintained by private management company.

Summary

4.17 The proposals seek to reinstate the former watercourse, returning the catchment as close as practical to its natural state whilst retaining existing established trees and creating new landscaped areas.

4.18 The design of the new watercourse and associated infrastructure demonstrate that there will be no increase in flood risk upstream or downstream of the proposals.

5.0 Proposed Footbridge

5.1 As part of this application for the approval of reserved matters, permission is sought for informal paths through the landscape buffer that will include a timber footbridge where a route crosses a watercourse.

5.2 Hydraulic modelling was undertaken to support a reserved matters application for proposed road infrastructure through Phase 2 known as RMA3 (Application Reference: DC/26/0731). The 1 in 100 year plus 64% climate change flood level at the location of the proposed footbridge in the post-development hydraulic model is 61.945 mAOD. The top of banks at the location of the proposed footbridge are between 62.53 mAOD and 63.02 mAOD. As such, this modelled flood event is contained within the banks of the watercourse.

5.3 The proposed footbridge will be designed at a level at or above the top of bank level such that the footbridge structure does not encroach on this modelled flood event and cause an obstruction to flow. As such, Ordinary Watercourse Consent is not considered to be necessary.

5.4 The proposed footbridge design is shown on the drawing included in Appendix L.

6.0 Summary and Conclusion

Summary

6.1 This Drainage Statement has been prepared to support an application for the approval of reserved matters for an allotment within the Mowbray development, North Horsham, West Sussex. The description of development is as follows:

6.2 *"Application for approval of Reserved Matters pursuant to Condition 5 of Outline Planning Permission reference DC/16/1677 for provision of the Sub-Phase 2C Strategic Landscape Buffer, Eastern Allotments, pond and watercourse restoration works, site clearance, landscaping, drainage, highways and associated infrastructure."*

6.3 This report demonstrates how suitable measures will be implemented to deal with surface water drainage from the application site, in compliance with Conditions 54 of the outline planning consent DC/16/1677.

6.4 The surface water drainage strategy demonstrates that there will be no flooding for all storm events up to and including the 1 in 100 year storm event, with a 20% allowance for the effects of climate change. Flood risk on-site will therefore not increase either on-site or elsewhere as a result of the development.

6.5 This report demonstrates that how the reinstatement of a former watercourse will be implemented without increasing flood risk upstream or downstream of the proposals.

Conclusion

6.6 In conclusion, this report has demonstrated that the proposed works:

- will not increase flood risk elsewhere; AND
- will employ a surface water drainage strategy based on the principles of sustainable drainage and the approved site wide drainage strategy.

6.7 On this basis, the proposals are considered to fully comply with National, Regional and Local planning policy such that the requirements of Condition 54 of the outline planning consent are met.

6.8 No foul water drainage is required for the allotments and therefore not discussed within this report.

Appendices

Appendix A

Site Location Plan

Z:\2898 Land North of Horsham\2898-5-DESIGN\2898-5-2 DESIGN\2898-5-2-16 S106 2C Station Buffers Eastern Allotment 2-10\2898-5-2-16-DR-2001-S5-P5 Phase 2C Buffers and Allotments application boundary.dwg

KEY

Boundary:
Application Site

Track
Benson's Cottage
The Lodge
Greenbroom Copse
Seagraves Copse
BENSON'S LANE
Frog and Nightgown (PH)
Benson's Farm
Pond
FB
LB
Royal Oak Cottage
67.3m
Benson's Farm Cottages
66.3m
Owlscastle Barn
Owlscastle Farm
Def
60.2m
CR
WIMLAND ROAD
Brook House
Brook Barn
Channells Brook
King's Farm House
Sunnybrook Farm
BROOK LANE
MP 35.25
LC
64.2m
Brook Lane
Pond
Ditch
63.5m
64.3m
Drain
Level Crossing
68.2m
MP 35.5

Notes

Issue: Drawn by David Jarvis Associates Limited (CROWN COPYRIGHT. ALL RIGHTS RESERVED 2026 LICENCE NUMBER 0100031). This drawing is for Planning purposes only - Do not use this drawing for Construction. The information contained in the drawing should be used as a guide to the final forms and finishes of the landscape scheme. Any revisions to be approved by the Client and Local Authority

Survey: Original survey provided by the Client.

N

0 20m 40m 60m 80m 100m

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Status
PLANNING

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Project
LAND NORTH OF HORSHAM - PHASE 2C BUFFERS AND ALLOTMENTS

Drawing Title
APPLICATION BOUNDARY

Scale	Sheet Size	Date Plotted
1:1250	A1	16/09/2026

Client Ref.	Drawing Ref.	Drawing No.	Version
-	2898-5-2-16	DR-2001	S5-P5

Appendix B

Site Layout

M:\2022\S220585\(9)_External_Info\(18)_Landscaping (DJA)\RMA6\2026.09.18\2898-5-2-16-DRS-0000-S0-P1 Phase 2C Buffers COMPOSITE BASE.dwg

0 20m 40m 60m 80m 100m

Seagraves Copse

Notes

Related Drawings: DJA Drawing based on 'GLANVILLE 'MOW-GLA-RMA6-1201-BOUND-2026.09.02', 'Gatt-Pond-DesignModel-BOUND-2026.08.28'

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Scaling: Do not scale this drawing. Use given dimensions only.

Setting out: refer to Engineers for information regarding setting out. In the event of discrepancy refer to Engineers in the first instance.

Survey: Original survey provided by the Client.

Services: Where possible these are identified on the drawings but, for the avoidance of doubt all service/utility locations should be considered indicative until identified on site. To ensure those services / utilities shown are current refer to the original survey provider or utilities designer or Client for confirmation and further information regarding easements. In the event of new services being installed refer to the appointed Engineer. It is recommended that hazard warning tape 'danger electric cable'/'danger services' to be installed over all service routes (to remain on site) to current BS guidelines (BS7671).

Lighting: Refer to lighting engineers drawings.

Planting: Plant species are selected and located in line with consideration of the site conditions, NHBC guidelines and discussions with the Local Authority and design team. All plants and planting procedure to conform to the David Jarvis Associates Limited Landscape Specification that will accompany the Construction issue drawings. No species or plant location is to be varied without prior consent of the Landscape Architect.

Biosecurity: All plant stock to be sourced from a supplier certified to be pest and disease free and in accordance with Plant Passport / Animal and Plant Health Agency (APHA) and current DEFRA requirements. Supplier information / certification to be retained for a period of not less than 12 years and must be made available upon request.

Foundations: Developers / Contractors to ensure that all foundations (buildings and external walling) are designed and constructed so as to take into account, at the time of maturity, any existing or proposed trees, hedgerows or other vegetation on the application site or existing vegetation on land adjoining the site at the time of construction and any trees felled or hedgerows removed on or adjacent to the site during the previous 15 years. For this purpose the developer / contractors will submit all relevant details to the authority dealing with the Building Regulations Certificate.

Design Levels: Refer to Engineers where design levels are not shown.

CDM: Drawings to be read in conjunction with Designers risk assessment. Potential risks above that of those associated with the general construction typical to the drawing are identified below;

KEY

- APPLICATION BOUNDARY
- EXISTING TREES AND VEGETATION — TO BE RETAINED
- EXISTING VEGETATION — TO BE REMOVED
- PROPOSED TREES
- MIXED NATIVE HEDGE
- TOTAL WOODLAND (INCLUDES OAK & WILLOW SPECIES)
- DEEP WOODLAND (INCLUDES WILLOW SPECIES, EXCLUDES OAK SPECIES)
- FRONT WOODLAND (EXCLUDES OAK & WILLOW SPECIES)
- EDGE
- DEFENCE PLANTING
- PLANTING
- AMENITY GRASS - MOWN
- SPECIES RICH WILDFLOWER GRASS
- SPECIES RICH WETLAND MEADOW WITHIN BASIN AREA — EMORSGATE EM8 - MEADOW MIXTURE FOR WETLANDS, SOWN @ 4g/m²
- MARGINAL PLANTING WITHIN SPECIES RICH WETLAND MEADOW
- PERMANENT WATER BODY WITH AQUATIC PLANTING
- BULB PLANTING
- SELF BINDING GRAVEL PEDESTRIAN AREAS — REFER TO DJA DETAIL 2898-5-5-SUR-0002-S5-P4 SELF BINDING GRAVEL
- EMERGENCY ACCESS — MARSHALLS TEGULA BLOCK PAVING, TRADITIONAL, LAID 45 DEGREE HERRINGBONE, WITH DOUBLE STRETCHER COURSE AT EDGES. EBN (BULL NOSE EDGING).
- DEER FENCE — WITH 300X300MM GAP AT THE BASE EVERY 100M. REFER TO DJA DETAIL 2898-5-5-BND-0011-S5-P1 DEER FENCING
- TIMBER CLEFT 3 RAIL FENCE — REFER TO DJA DETAIL 2898-5-5-BND-0002-S5-P5 TIMBER CLEFT 3 RAIL
- LOCKABLE PEDESTRIAN GATE 1.8m HIGH TO MATCH FENCING — REFER TO DJA DETAIL 2898-5-5-BND-0009-S5-P3 TIMBER FIELD GATE - PEDESTRIAN & VEHICULAR
- TIMBER PICNIC TABLE — REFER TO DJA DETAIL 2898-5-5-FRN-0001-S5-P5 BENCHES, SEATS AND PICNIC TABLES
- TIMBER SEAT — REFER TO DJA DETAIL 2898-5-5-FRN-0001-S5-P5 BENCHES, SEATS AND PICNIC TABLES
- LITTER BIN AND DOG BIN — REFER TO DJA DETAIL 2898-5-5-FRN-0007-S5-P4 LITTER BIN, 2898-5-5-FRN-0004-S5-P5 DOG WASTE BIN
- ENTRANCE TOTEM — REFER TO DJA DETAIL 2898-5-5-FRN-0014-S5-P1 ENTRANCE TOTEM
- FIXED BOLLARD — REFER TO DJA DETAIL 2898-5-5-FRN-0009-S5-P5 TIMBER BOLLARD
- REMOVABLE BOLLARD — REFER TO DJA DETAIL 2898-5-5-FRN-0009-S5-P5 TIMBER BOLLARD
- TIMBER FOOT BRIDGE — 2M WIDE REFER TO STANTEC DRG 25216/2011/MLD/01 FOR FURTHER DETAILS
- MOUNDS
- ROOT BARRIER — GREEN-TECH ROOT BARRIER 36D, 650mm DEEP, OR SIMILAR APPROVED
- BADGER SETT — TUNNELS: 0.3m WIDTH & MIXED LENGTHS, BOXES: RANGE FROM 0.45m - 0.75m CUBES

REFER TO DJA DWG 2898-5-2-16-DR-2100 BADGER SETT DESIGN

REFER TO DJA DWG 2898-5-2-16-DR-0004 & 0005 OWLCASTLE ALLOTMENTS

Black RPA refers to trees not accurately plotted on topographical survey therefore plotted by tree surveyor using gps –positions should not be taken as exact

Benson's Farm Cottages

66.3m

King's Farm House

64.2m

64.3m

63.5m

60.2m

Brook House

Brook Barn

WIMLAND ROAD

CR

APT - P 126-130

APT - A 115 - 125

118-128

2C Buffers Planting Schedule

SPECIMENS

Species	Height	Girth	Pot Size	Specification	No.
Acer campestre	400-450cm	16-18cm		Extra Heavy Standard: 5 brks: 3x: RB: Clear Stem min. 200cm	9
Alnus glutinosa	425-600cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	13
Betula pendula	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	8
Betula pubescens	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	5
Carpinus betulus	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	5
Castanea sativa	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	5
Crataegus monogyna	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	8
Cydonia oblonga 'Meeches Prolific'	400-450cm	14-16cmg	45-85L	3x: Extra Heavy Standard: CSH 175-200: 5 brks: C	2
Juglans regia	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	4
Malus sylvestris	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	13
Mespilus germanica 'Nottingham'	400-450cm	14-16cmg	45-85L	3x: Extra Heavy Standard: CSH 175-200: 5 brks: C	2
Morus nigra	400-450cm	14-16cmg	45-85L	3x: Extra Heavy Standard: CSH 175-200: 5 brks: C	2
Populus tremula	min. 450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	3
Prunus avium	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	8
Prunus padus	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	7
Pyrus communis	450-625cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	12
Quercus petraea	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	3
Quercus robur	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	8
Salix alba	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	2
Sorbus aria	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	4
Sorbus aucuparia	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	4
Tilia cordata	400-450cm	16-18cm		Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	4

LOW WATER DEMAND NATIVE HEDGE

Species	Height	Pot Size	Specification	Mix Density	No.
Cornus sanguinea	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Ctr Double Staggered at 0.5m offset	155
Corylus avellana	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Ctr Double Staggered at 0.5m offset	193
Euonymus europaeus	40-60cm		1+1: Transplant - seed raised: Branched: 3 brks: B	0.4Ctr Double Staggered at 0.5m offset	155
Ilex aquifolium	40-60cm	150cc min.	1+0: Seedling: CE	0.4Ctr Double Staggered at 0.5m offset	78
Lonicera periclymenum		0.5L	Several Shoots: 2 brks: C	0.4Ctr Double Staggered at 0.5m offset	39
Viburnum opulus	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Ctr Double Staggered at 0.5m offset	155

NATIVE HEDGEROW MIX

Species	Height	Pot Size	Specification	Mix Density	No.
Acer campestre	40-60cm		1+1: Transplant - seed raised: B	0.4Ctr Double Staggered at 0.5m offset	98
Clematis vitalba		0.5L	Several Shoots: 2 brks: C	0.4Ctr Double Staggered at 0.5m offset	26
Corylus avellana	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Ctr Double Staggered at 0.5m offset	49
Crataegus monogyna	40-60cm		1+1: Transplant - seed raised: B	0.4Ctr Double Staggered at 0.5m offset	98
Humulus lupulus		50cc min.	Plug: Established Root min. 2-3 months: Sept to April planting: British Native-origin: C	0.4Ctr Double Staggered at 0.5m offset	26
Prunus cerasifera	40-60cm		1+0: Seedling: Branched: 1 brk: B	0.4Ctr Double Staggered at 0.5m offset	49
Prunus insititia	40-60cm		1+0: Seedling: Branched: 1 brk: B	0.4Ctr Double Staggered at 0.5m offset	49
Rosa canina	40-50cm		1+0: Seedling: Branched: B	0.4Ctr Double Staggered at 0.5m offset	26
Rubus idaeus	40-60cm		0/1: Cutting: B	0.4Ctr Double Staggered at 0.5m offset	26
Viburnum opulus	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Ctr Double Staggered at 0.5m offset	49

EDGE MIX

Species	Height	Pot Size	Specification	Mix Density	No.
Cornus sanguinea	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	1099
Corylus avellana	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	551
Cytisus scoparius	40-60cm	150cc min.	1+0: Seedling: Bushy: CE	0.5Ctr	551
Euonymus europaeus	40-60cm		1+1: Transplant - seed raised: Branched: 3 brks: B	0.5Ctr	551
Lonicera periclymenum		0.5L	Several Shoots: 2 brks: C	0.5Ctr	276
Prunus spinosa	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	551
Rosa arvensis	50-60cm		1+0: Seedling: Branched: 2 brks: B	0.5Ctr	276
Viburnum lantana	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	551
Viburnum opulus	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	1099

DEFENCE PLANTING

Species	Height	Pot Size	Specification	Mix Density	No.
Crataegus monogyna	40-60cm		1+1: Transplant - seed raised: B	0.5Ctr	409
Ilex aquifolium	40-60cm	150cc min.	1+0: Seedling: CE	0.5Ctr	205
Prunus spinosa	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	0.5Ctr	409
Rosa canina	40-50cm		1+0: Seedling: Branched: B	0.5Ctr	103
Rosa pimpinellifolia	40-60cm		1+1: Transplant - seed raised: Branched: 3 brks: B	0.5Ctr	103
Rubus fruticosus			0/1: Cutting: Branched: 2 brks: B	0.5Ctr	103
Rubus idaeus	40-60cm		0/1: Cutting: B	0.5Ctr	103
Ruscus aculeatus	20-30cm	2L	Several Shoots: 3 brks: C	0.5Ctr	103
Sambucus nigra	40-60cm		1+0: Seedling: Branched: 2 brks: B	0.5Ctr	205
Ulex europaeus	20-30cm	2L	Bushy: 3 brks: C	0.5Ctr	307

WOODLAND MIXES (TOTAL WOODLAND, FRONT WOODLAND, DEEP WOODLAND)

Species	Height	Pot Size	Specification	Mix Density	No.
Acer campestre	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Betula pendula	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Betula pubescens	40-60cm		1+0: Seedling: B	1Ctr	248
Carpinus betulus	40-60cm		1u1: Seedling - undercut: B	1Ctr	248
Castanea sativa	40-60cm		1+1: Transplant - seed raised: B	1Ctr	586
Corylus avellana	40-60cm		1+1: Transplant - seed raised: Branched: 2 brks: B	1Ctr	1284
Crataegus monogyna	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Ilex aquifolium	40-60cm	150cc min.	1+0: Seedling: CE	1Ctr	248
Malus sylvestris	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Prunus avium	40-60cm		1+0: Seedling: B	1Ctr	248
Prunus cerasifera	40-60cm		1+0: Seedling: Branched: 1 brk: B	1Ctr	248
Prunus padus	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Pyrus communis	40-60cm		1+1: Transplant - seed raised: B	1Ctr	248
Rhamnus cathartica	40-60cm		1+1: Transplant - seed raised: Leader with Laterals: 3 brks: B	1Ctr	248
Rhamnus frangula	40-60cm		1+1: Transplant - seed raised: Leader with Laterals: 3 brks: B	1Ctr	248
Rosa arvensis	50-60cm		1+0: Seedling: Branched: 2 brks: B	1Ctr	109
Rosa canina	40-50cm		1+0: Seedling: Branched: B	1Ctr	121
Rosa pimpinellifolia	40-60cm		1+1: Transplant - seed raised: Branched: 3 brks: B	1Ctr	93
Ruscus aculeatus	20-30cm	2L	Several Shoots: 3 brks: C	1Ctr	93
Salix alba	40-60cm	150cc min.	1+0: Seedling: CE	1Ctr	198
Salix caprea	40-60cm	150cc min.	1+0: Seedling: CE	1Ctr	198
Salix cinerea	40-60cm	100cc min.	1+0: Seedling: Branched: CE	1Ctr	170
Salix fragilis	40-60cm	150cc min.	1+0: Seedling: CE	1Ctr	57
Salix viminalis	40-60cm	100cc min.	1+0: Seedling: Branched: CE	1Ctr	170
Sambucus nigra	40-60cm		1+0: Seedling: Branched: 2 brks: B	1Ctr	113
Sorbus aucuparia	40-60cm		1+0: Seedling: B	1Ctr	277
Sorbus torminalis	40-60cm		1+2: Transplant - seed raised: B	1Ctr	248
Taxus baccata	40-60cm	150cc min.	1+0: Seedling: CE	1Ctr	248
Tilia cordata	40-60cm		1+1: Transplant - seed raised: B	1Ctr	259
Ulmus glabra	40-60cm		1+1: Transplant - seed raised: B	1Ctr	198
Ulmus procera	40-60cm		1+1: Transplant - seed raised: B	1Ctr	198

MARGINAL PLANTING

Species	Pot Size	Specification	Mix Density	No.
Butomus umbellatus	2L	Full Pot: June to Sept planting: British Native-origin: C	4/m²	107
Caltha palustris	2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	27
Carex otrubae	2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Eriophorum angustifolium	2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Filipendula ulmaria	1.5-2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Iris pseudacorus	1.5-2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	27
Lythrum salicaria	1.5-2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Mentha aquatica	1.5-2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Myosotis scorpioides	2L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54
Potentilla palustris	1L	Full Pot: Sept to April planting: British Native-origin: C	4/m²	54

AQUATIC PLANTING

Species	Specification	Mix Density	No.
Ceratophyllum demersum	Bunched and Weighted: 4-5 strands: British Native-origin: B	2Ctr	17
Hottonia palustris	Bunched and Weighted: British Native-origin: B	2Ctr	17
Menyanthes trifoliata	Clump: 3 buds: min. 1 year old: British Native-origin: B	2Ctr	22
Nuphar lutea	Clump: 3 buds: min. 1 year old: British Native-origin: B	2Ctr	17
Nymphaea alba	Clump: 3 buds: min. 1 year old: British Native-origin: B	2Ctr	17
Ranunculus aquatilis	Clump: 3 buds: min. 1 year old: British Native-origin: B	2Ctr	22

BULBS

Species	Specification	Mix Density	No.
Galanthus nivalis	Grade 5/6	25/m²	6420
Narcissus poeticus	Grade 14/16	6/m²	355
Narcissus pseudonarcissus	Grade 5/6	15/m²	3863

Drawing Revision

Rev.	Date	Description	DWN	CKD
P1.1	10/09/2026	First draft issued to client.	JB	PG
P1	21/08/2026	First draft issued to client.	JB	PG

Status

DRAFT

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Client

LEGAL AND GENERAL (STRATEGIC LAND NORTH HORSHAM) LIMITED

Project

LAND NORTH OF HORSHAM - PHASE 2C BUFFERS AND ALLOTMENTS

Drawing Title

PHASE 2C BUFFERS - MASTERPLAN

Scale	Sheet Size	Date Plotted
1:1000	A1	18/09/2026

Client Ref.	Drawing Ref.	Drawing No.	Version
-	2898-5-2-16	DR-2002	S3-P1

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Appendix C

Approved Site-Wide Surface Water Strategy

NOTES

1. DRAWING BASED ON BDB DESIGN MASTERPLAN DRG. No. 2153A-160.
2. AREA OF STATIC WATER/BASE OF TANKS IS 53184m².

KEY

- NOTIONAL CORE AREA OF GREAT CRESTED NEWTS
- CATCHMENT AREAS
- G.C. NEWT PONDS
- SWALE
- 1 IN 100 yr PLUS CLIMATE CHANGE FLOOD EXTENT
- PERMANENTLY WET POND
- GRASSED ATTENTUATION BASIN
- SUB-SURFACE TANK

POND REF	FLOOD STORAGE VOLUME	STORAGE DEPTH	COMMENTS
R18	400m3	0.8m	
R19	611 m3	1.0m	
R22A	300m3.	0.2m	Existing moat - assuming 200mm mightbe available as on-line attenuation. Subject to survey
R22B, C and D	Combined 3150m3	Varying depths	Includes limited pitch flooding
R23A	1600m3	1.5m	
R23B	800m3	1.5m	
R23C	700m3	1.5m	
R24A	200m3	0.2m	
R24B	1500m3	1m	
R24C	1250m3	1.5m	
R25A	1200m3	1m	
R25B	1200m3	0.8m	
R25C	300m3	1m	
R27	1200m3	1.5m	
R52A	260m3	0.3m	
R52B	120m3	0.5m	
R52C	1000m3	1.5m	
All volumes subject to detail design.			

STORAGE DEPTHS ARE THAT REQUIRED FOR THE ATTENUATION OF A 1 IN 100 YEAR RAINFALL EVENT ALLOWING FOR +20% CLIMATE CHANGE AND AN APPROPRIATE INCREASE FOR URBAN CREEP. STATIC WATER DEPTHS NOT INCLUDED WHICH WILL VARY UP TO A MAXIMUM OF 2m.

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Mark	Revision	Date	Drawn	Chkd	Appd
I	TABLE ADDED	23.01.20	JHW	IJF	
H	PONDS RENUMBERED	22.01.20	JHW	IJF	
G	DRAWING TITLE AMENDED	10.12.19	JHW	IJF	
F	CATCHMENTS ADJUSTED TO SUIT RUSPAR ROAD AND MEAT FARM REQUIREMENTS	29.11.19	JHW	IJF	
E	REDRAWN TO SUIT NEW MASTERPLAN 2153A-160	21.06.19	SF	IJF	
D	REDRAWN TO SUIT NEW MASTERPLAN 2153-150Q	26.05.16	JW	IJF	
C	REDRAWN TO SUIT NEW MASTERPLAN 2153-150N	03.02.16	JW	IJF	
B	REDRAWN TO SUIT NEW MASTERPLAN 2153-150	02.06.15	JW	IJF	
A	REDRAWN TO SUIT COMMENTS AND 2153-59B	24.03.15	JW	IJF	

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

FOR PLANNING

LAND NORTH OF HORSHAM
PLANNING APPLICATION
SUDS FEATURES AND CATCHMENTS
SHEET 2 OF 3

Client

Legal & General
STRATEGIC LAND NORTH HORSHAM LTD

Date of 1st Issue	Designed	Drawn
24.03.15		JW
A1 Scale	Checked	Approved
1:2500	IJF	

Drawing Number: 25216/2007/SK02

Revision: I

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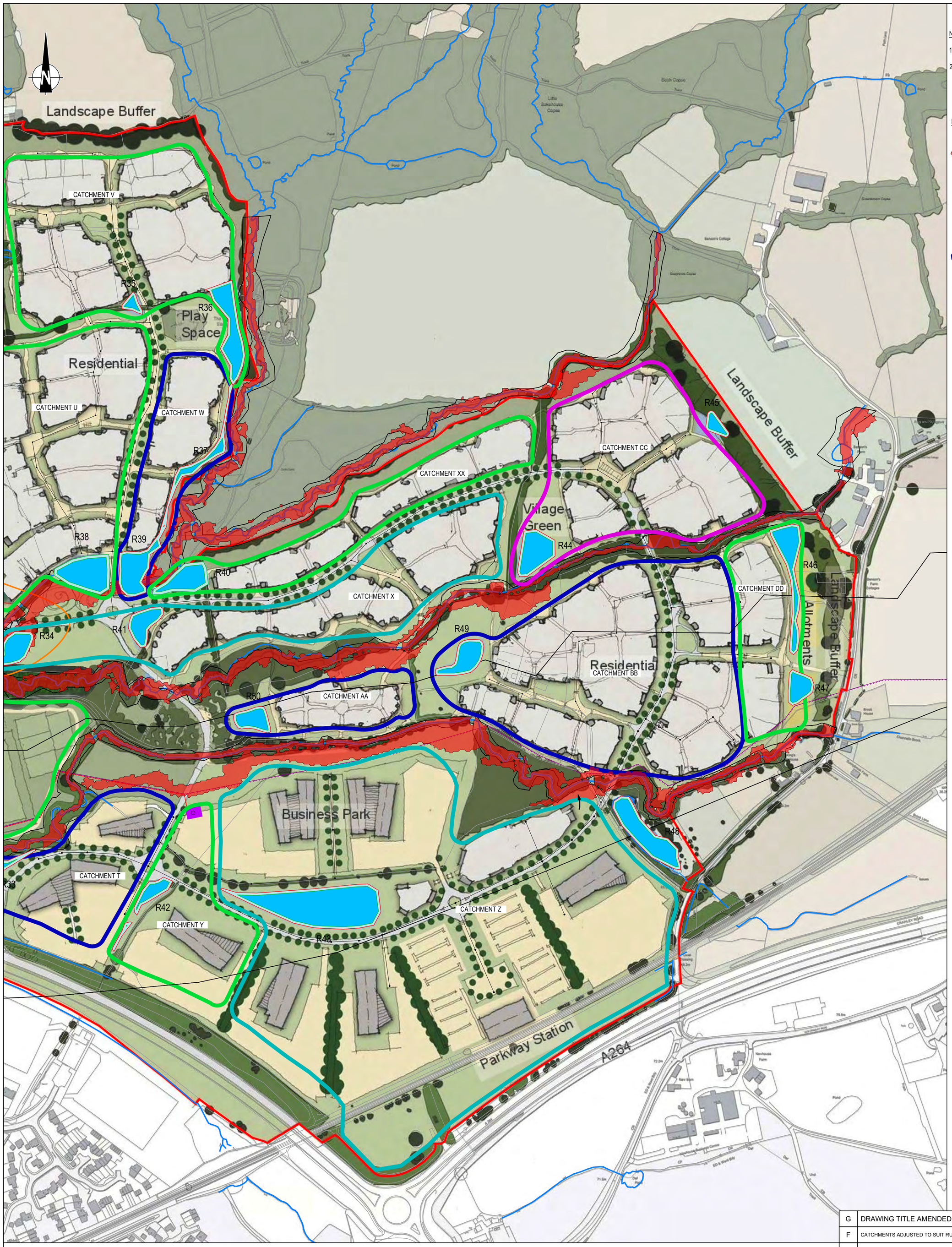
user name: woodvine, john

File Location: j:\25216 north horsham\civils\cad\dwgs\sketches\25216-2007-sk01-03i.dwg

Appendix C

Approved Site-Wide Surface Water Strategy



NOTES

1. DRAWING BASED ON BDB DESIGN MASTERPLAN DRG. No. 2153A-160.
2. AREA OF STATIC WATER/BASE OF TANKS IS 53184m².

KEY

- 1 IN 100 YEAR PLUS CLIMATE CHANGE FLOOD EXTENT
- NOTIONAL CORE AREA OF GREAT CRESTED NEWTS
- R## PROPOSED POND
- CATCHMENT AREAS
- G.C. NEWT PONDS
- SWALE
- SUB-SURFACE TANK

Mark	Revision	Drawn	Date	Chkd
G	DRAWING TITLE AMENDED	JHW	10.12.19	IJF
F	CATCHMENTS ADJUSTED TO SUIT RUSPAR ROAD AND MEAT FARM REQUIREMENTS	JHW	29.11.19	IJF
E	REDRAWN TO SUIT NEW MASTERPLAN 2153A-160	SF	21.06.19	IJF
D	REDRAWN TO SUIT NEW MASTERPLAN 2153-150Q	JW	26.05.16	IJF
C	REDRAWN TO SUIT NEW MASTERPLAN 2153-150N	JW	03.02.16	IJF
B	REDRAWN TO SUIT NEW MASTERPLAN 2153-150	JW	02.06.15	IJF
A	REDRAWN TO SUIT COMMENTS AND 2153-59B	JW	24.03.15	IJF

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Drawing Issue Status

FOR PLANNING

LAND NORTH OF HORSHAM
PLANNING APPLICATION
SUDS FEATURES AND CATCHMENTS
SHEET 3 OF 3

Client

Legal & General
STRATEGIC LAND NORTH HORSHAM LTD

Date of 1st Issue	Drawn by
24.03.15	JW
A1 Scale	Checked by
1:2500	IJF

Drawing Number: 25216/2007/SK03

Revision: G

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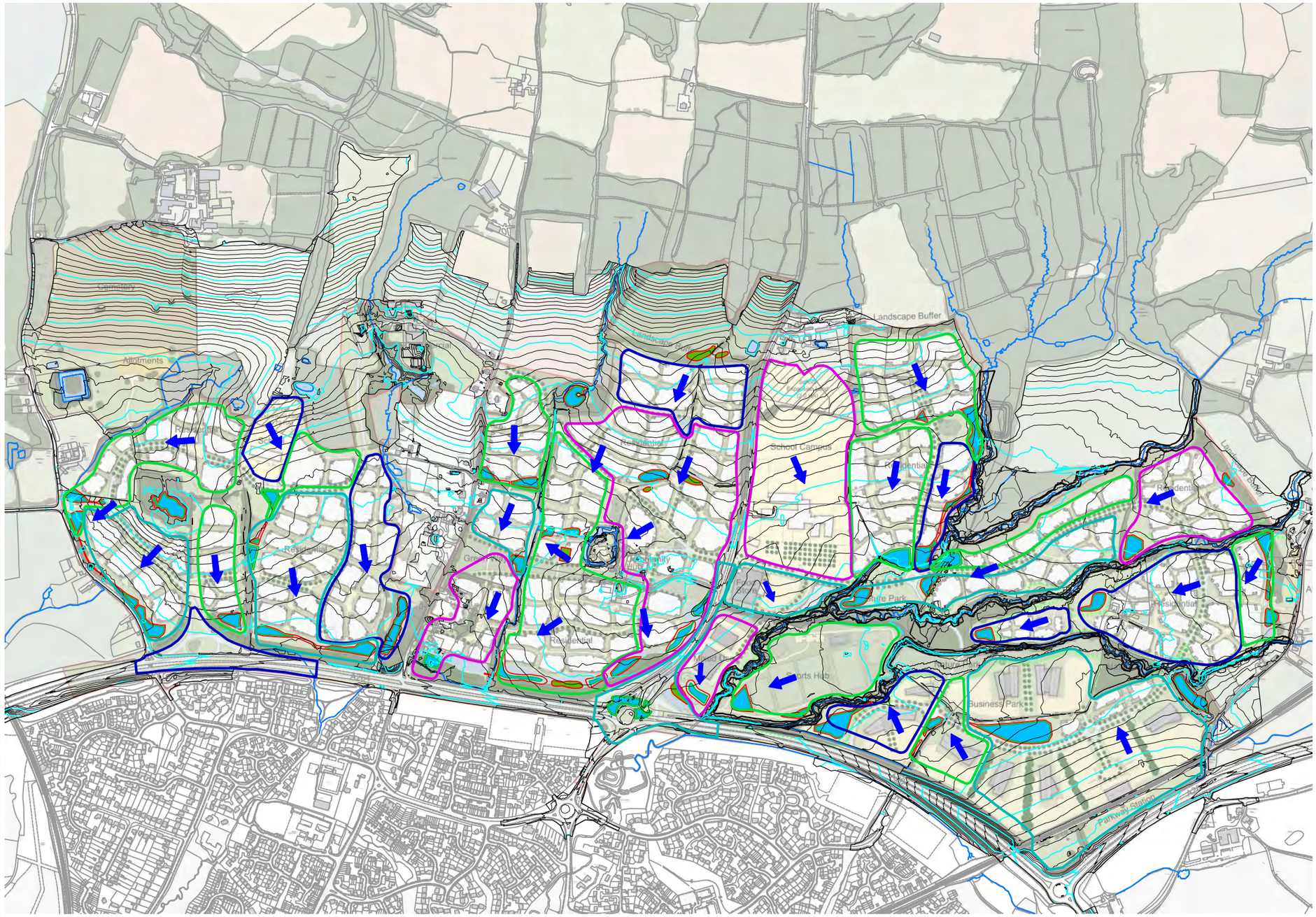

NOTES

1. DRAWING BASED ON BDB DESIGN MASTERPLAN DRG. No. 2153A-160.

KEY

1 IN 100 YEAR PLUS CLIMATE CHANGE FLOOD EXTENT

CATCHMENT AREAS

SURFACE WATER FLOW DIRECTION

Mark	Revision	Date	Drawn	Chkd	Appd
D	REVISION TO POND LAYOUTS IN CENTRAL AREA	23.01.20	JHW	IJF	
C	REDRAWN TO SUIT PHASE 1 MASTERPLAN AND MOAT FARM AREA	25.10.19	RMLM	IJF	
B	REDRAWN TO SUIT NEW MASTERPLAN 2153A-160	21.06.19	JC	IJF	
A	REDRAWN TO SUIT NEW MASTERPLAN 2153-150N	03.02.16	JW	IJF	

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Drawing Issue Status

FOR PLANNING

LAND NORTH OF HORSHAM
SUDS FEATURES AND CATCHMENTS

Client

Legal & General
STRATEGIC LAND NORTH (HORSHAM) LTD

Date of 1st Issue	Designed	Drawn
03.09.15		JW
A3 Scale	Checked	Approved
nts	IJF	

Drawing Number	Revision
25216/2007/SK08	D

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Appendix D

Technical Layout

NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Scaleable for planning purposes only.
3. This drawing has been prepared for information purposes only and must not be used for tender of construction purposes.
4. Cover levels are for reference only, refer to the detailed levels drawing for levels.
5. Levels and details of drainage infrastructure subject to further refinement at detailed design stage.

KEY

- Application boundary.
- Proposed surface water sewer.
- Proposed land drainage (perforated plastic pipe).
- Drainage proposed as part of adjoining RMA3 planning application.
- Proposed flow control chamber with restricted discharge rate.
- Proposed road gully.
- Proposed bagwork headwall.
- Exceedance flow direction.
- Proposed 3m maintenance margin

Chute gully

Gravel/grass cellular grid on parking bays. Refer to Landscape Architect's drawings for details.

Concrete surround for section of pipe under road.

Pond 11
IL @ Outlet: 63.082
Top of Bank: 64.082
Storage volume: 668 m³ including 300mm of freeboard.
Max water level: 1.43 m
Side slopes 1:5
Permanent depth of water 850mm below outfall with 1:3 side slopes.

3m Maintenance Margin

Proposed headwalls (x3) to be clad in Horsham stone or Sussex Sandstone.

Flow Control
Catchment 11 - Single Hydrobrake @
0.8l/s Qbar: 2.2 l/s
2 l/s/ha rate: 0.8 l/s
1 in 2 year discharge rate: 0.8 l/s
1 in 30 year discharge rate: 0.8 l/s
1 in 100 year +20% discharge rate: 0.8 l/s

Bagwork Headwall
Headwall IL 63.020
Bed level: 62.870

Rev.	Description	Date	By	Chkd
P2	Updated to new layout.	18.09.2026	SLS	CS
P1	First Issue	28.08.2026	SLS	CS

Glanville
Survey > Plan > Engineer
Civil Engineering · Highways Engineering · Structural Engineering · Building Surveying · Transport Planning · Geomatics
Hertfordshire | Oxfordshire | Cambridgeshire | Bristol

Client : Legal & General (Strategic Land Horsham) Ltd

Project : Mowbray (Land North of Horsham)

Title : Strategic Landscape Buffer & Allotments (RMA6) Technical Layout

Engineer : C.Salt | Date : August 2026

Director : J.Birch | Scale : 1:250

Status : PRELIMINARY

Drawing No. MOW-GLA-RMA6-1201 | Rev P2

Appendix E

InfoDrainage Calculations

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Glanville:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	SW1		Time Area Diagram	0.308	72	0	72	0.222
Catchment Area 2	SW1		Time of Concentration	0.033	100	0	100	0.033
Catchment Area 3	SW2		Time of Concentration	0.025	100	0	100	0.025
Catchment Area 4	SW5		Time of Concentration	0.039	100	0	100	0.039
Catchment Area 5	SW3		Time of Concentration	0.012	100	0	100	0.012
TOTAL		**0.0**		**0.417**				**0.331**

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Outfall Details Storm Phase: Phase	Company Glanville:		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Title: Rainfall Analysis Criteria	Company Glanville:		

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 519000 133350 TQ 19000 33350
Rainfall Version	2022
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 2 years: +0 %: 60 mins: Summer	0.31	11.2	23.556
Catchment Area 3	FEH: 2 years: +0 %: 60 mins: Summer	0.03	3.0	3.690
Catchment Area 4	FEH: 2 years: +0 %: 60 mins: Summer	0.04	4.6	5.724
Catchment Area 2	FEH: 2 years: +0 %: 60 mins: Summer	0.03	3.9	4.866
Catchment Area 5	FEH: 2 years: +0 %: 60 mins: Summer	0.01	1.4	1.776

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 30 years: +0 %: 60 mins: Summer	0.31	25.4	53.244
Catchment Area 3	FEH: 30 years: +0 %: 60 mins: Summer	0.03	6.7	8.334
Catchment Area 4	FEH: 30 years: +0 %: 60 mins: Summer	0.04	10.4	12.930
Catchment Area 2	FEH: 30 years: +0 %: 60 mins: Summer	0.03	8.8	11.010
Catchment Area 5	FEH: 30 years: +0 %: 60 mins: Summer	0.01	3.2	4.002

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 100 years: +20 %: 60 mins: Summer	0.31	39.1	81.999
Catchment Area 3	FEH: 100 years: +20 %: 60 mins: Summer	0.03	10.3	12.846
Catchment Area 4	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.9	19.932
Catchment Area 2	FEH: 100 years: +20 %: 60 mins: Summer	0.03	13.6	16.944
Catchment Area 5	FEH: 100 years: +20 %: 60 mins: Summer	0.01	4.9	6.162

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 2 years: +0 %: 60 mins: Summer	64.220	63.333	63.436	0.103	15.1	0.016	0.000	15.1	28.421	OK
SW2	FEH: 2 years: +0 %: 60 mins: Summer	64.060	63.260	63.381	0.121	18.0	0.019	0.000	17.9	32.111	OK
SW3	FEH: 2 years: +0 %: 60 mins: Summer	64.200	63.175	63.286	0.111	19.3	0.125	0.000	19.2	33.901	OK
SW4	FEH: 2 years: +0 %: 960 mins: Summer	64.010	63.050	63.236	0.186	0.8	0.329	0.000	0.8	72.090	OK
SW5	FEH: 2 years: +0 %: 60 mins: Summer	64.010	63.410	63.447	0.037	4.6	0.006	0.000	4.6	5.723	OK
Outfall	FEH: 2 years: +0 %: 360 mins: Summer	63.580	62.920	62.937	0.017	0.8	0.000	0.000	0.8	26.697	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 30 years: +0 %: 60 mins: Summer	64.220	63.333	63.561	0.228	34.2	0.036	0.000	33.9	64.254	Surcharged
SW2	FEH: 30 years: +0 %: 60 mins: Summer	64.060	63.260	63.497	0.237	40.6	0.038	0.000	40.4	72.599	Surcharged
SW3	FEH: 30 years: +0 %: 1440 mins: Winter	64.200	63.175	63.370	0.195	4.9	0.220	0.000	4.8	165.765	OK
SW4	FEH: 30 years: +0 %: 1440 mins: Winter	64.010	63.050	63.370	0.320	0.8	0.565	0.000	0.8	115.393	Surcharged
SW5	FEH: 30 years: +0 %: 60 mins: Summer	64.010	63.410	63.467	0.057	10.4	0.009	0.000	10.4	12.929	OK
Outfall	FEH: 30 years: +0 %: 60 mins: Summer	63.580	62.920	62.937	0.017	0.8	0.000	0.000	0.8	4.183	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 100 years: +20 %: 60 mins: Summer	64.220	63.333	64.009	0.676	52.7	0.107	0.000	50.8	98.930	Flood Risk
SW2	FEH: 100 years: +20 %: 60 mins: Summer	64.060	63.260	63.871	0.611	61.1	0.097	0.000	59.4	111.548	Flood Risk
SW3	FEH: 100 years: +20 %: 60 mins: Summer	64.200	63.175	63.578	0.403	64.4	0.456	0.000	63.4	116.956	Surcharged
SW4	FEH: 100 years: +20 %: 2160 mins: Winter	64.010	63.050	63.549	0.499	0.8	0.882	0.000	0.8	162.861	Surcharged
SW5	FEH: 100 years: +20 %: 2160 mins: Winter	64.010	63.410	63.549	0.139	0.9	0.022	0.000	0.9	47.597	OK
Outfall	FEH: 100 years: +20 %: 60 mins: Summer	63.580	62.920	62.937	0.017	0.8	0.000	0.000	0.8	4.326	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 2 years: +0 %: 960 mins: Summer	63.236	63.236	0.154	0.154	6.8	71.508	0.000	0.000	0.8	72.321		82.742

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 30 years: +0 %: 1440 mins: Winter	63.370	63.370	0.288	0.288	5.6	142.157	0.000	0.000	0.8	115.877		65.690

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 100 years: +20 %: 2160 mins: Winter	63.549	63.549	0.467	0.467	6.4	250.286	0.000	0.000	0.8	163.653	1140	39.594

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	63.436	0.112	28.421	0.8	0.35	15.1	OK
2	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.381	0.116	32.111	0.9	0.51	17.9	OK
6	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.447	0.045	5.723	1.7	0.12	4.6	OK
3	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.286	0.075	33.901	1.7	0.46	19.2	OK
4	FEH: 2 years: +0 %: 240 mins: Summer	Pipe	Pond	SW4	64.082	63.214	0.148	17.730	0.2	0.02	0.8	OK
5	FEH: 2 years: +0 %: 360 mins: Summer	Pipe	SW4	Outfall	64.010	63.226	0.017	26.697	0.6	0.01	0.8	OK

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	63.561	0.225	64.254	0.9	0.79	33.9	Surcharged
2	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.497	0.209	72.599	1.1	1.15	40.4	Surcharged
6	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.467	0.095	12.929	1.8	0.26	10.4	OK
3	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.355	0.143	76.282	2.0	1.03	43.3	OK
4	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	Pond	SW4	64.082	63.265	0.199	4.718	0.3	0.03	1.0	OK
5	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW4	Outfall	64.010	63.265	0.017	4.183	0.6	0.01	0.8	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	64.009	0.225	98.922	1.3	1.18	50.8	Flood Risk
2	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.871	0.225	111.516	1.5	1.69	59.4	Flood Risk
6	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.483	0.139	19.930	1.8	0.41	16.0	OK
3	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.578	0.225	116.905	1.8	1.51	63.4	Surcharged
4	FEH: 100 years: +20 %: 60 mins: Winter	Pipe	Pond	SW4	64.082	63.354	0.225	5.049	0.3	0.03	1.1	Surcharged
5	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW4	Outfall	64.010	63.354	0.017	4.326	0.6	0.01	0.8	Surcharged

Appendix F

InfoDrainage Calculations – Surcharged Outfall

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Glanville:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	SW1		Time Area Diagram	0.308	72	0	72	0.222
Catchment Area 2	SW1		Time of Concentration	0.033	100	0	100	0.033
Catchment Area 3	SW2		Time of Concentration	0.025	100	0	100	0.025
Catchment Area 4	SW5		Time of Concentration	0.039	100	0	100	0.039
Catchment Area 5	SW3		Time of Concentration	0.012	100	0	100	0.012
TOTAL		**0.0**		**0.417**				**0.331**

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by:	Checked by:	Approved By:
	S.Smith	C.Salt	C.Salt
Report Details: Type: Outfall Details Storm Phase: Phase	Company Glanville:		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Fixed Surcharged Level	☐	63.600	
FEH : 2 years: +0 %: 60 mins: Summer			63.600	
FEH : 2 years: +0 %: 60 mins: Winter			63.600	
FEH : 30 years: +0 %: 60 mins: Summer			63.600	
FEH : 30 years: +0 %: 60 mins: Winter			63.600	
FEH : 100 years: +20 %: 60 mins: Summer			63.600	
FEH : 100 years: +20 %: 60 mins: Winter			63.600	
FEH : 2 years: +0 %: 120 mins: Summer			63.600	
FEH : 2 years: +0 %: 120 mins: Winter			63.600	
FEH : 30 years: +0 %: 120 mins: Summer			63.600	
FEH : 30 years: +0 %: 120 mins: Winter			63.600	
FEH : 100 years: +20 %: 120 mins: Summer			63.600	
FEH : 100 years: +20 %: 120 mins: Winter			63.600	
FEH : 2 years: +0 %: 180 mins: Summer			63.600	
FEH : 2 years: +0 %: 180 mins: Winter			63.600	
FEH : 30 years: +0 %: 180 mins: Summer			63.600	
FEH : 30 years: +0 %: 180 mins: Winter			63.600	
FEH : 100 years: +20 %: 180 mins: Summer			63.600	
FEH : 100 years: +20 %: 180 mins: Winter			63.600	
FEH : 2 years: +0 %: 240 mins: Summer			63.600	
FEH : 2 years: +0 %: 240 mins: Winter			63.600	
FEH : 30 years: +0 %: 240 mins: Summer			63.600	
FEH : 30 years: +0 %: 240 mins: Winter			63.600	
FEH : 100 years: +20 %: 240 mins: Summer			63.600	
FEH : 100 years: +20 %: 240 mins: Winter			63.600	
FEH : 2 years: +0 %: 360 mins: Summer			63.600	
FEH : 2 years: +0 %: 360 mins: Winter			63.600	
FEH : 30 years: +0 %: 360 mins: Summer			63.600	
FEH : 30 years: +0 %: 360 mins: Winter			63.600	
FEH : 100 years: +20 %: 360 mins: Summer			63.600	
FEH : 100 years: +20 %: 360 mins: Winter			63.600	
FEH : 2 years: +0 %: 480 mins: Summer			63.600	
FEH : 2 years: +0 %: 480 mins: Winter			63.600	

FEH : 30 years: +0 %: 480 mins: Summer			63.600	
FEH : 30 years: +0 %: 480 mins: Winter			63.600	
FEH : 100 years: +20 %: 480 mins: Summer			63.600	
FEH : 100 years: +20 %: 480 mins: Winter			63.600	
FEH : 2 years: +0 %: 600 mins: Summer			63.600	
FEH : 2 years: +0 %: 600 mins: Winter			63.600	
FEH : 30 years: +0 %: 600 mins: Summer			63.600	
FEH : 30 years: +0 %: 600 mins: Winter			63.600	
FEH : 100 years: +20 %: 600 mins: Summer			63.600	
FEH : 100 years: +20 %: 600 mins: Winter			63.600	
FEH : 2 years: +0 %: 720 mins: Summer			63.600	
FEH : 2 years: +0 %: 720 mins: Winter			63.600	
FEH : 30 years: +0 %: 720 mins: Summer			63.600	
FEH : 30 years: +0 %: 720 mins: Winter			63.600	
FEH : 100 years: +20 %: 720 mins: Summer			63.600	
FEH : 100 years: +20 %: 720 mins: Winter			63.600	
FEH : 2 years: +0 %: 960 mins: Summer			63.600	
FEH : 2 years: +0 %: 960 mins: Winter			63.600	
FEH : 30 years: +0 %: 960 mins: Summer			63.600	
FEH : 30 years: +0 %: 960 mins: Winter			63.600	
FEH : 100 years: +20 %: 960 mins: Summer			63.600	
FEH : 100 years: +20 %: 960 mins: Winter			63.600	
FEH : 2 years: +0 %: 1440 mins: Summer			63.600	
FEH : 2 years: +0 %: 1440 mins: Winter			63.600	
FEH : 30 years: +0 %: 1440 mins: Summer			63.600	
FEH : 30 years: +0 %: 1440 mins: Winter			63.600	
FEH : 100 years: +20 %: 1440 mins: Summer			63.600	
FEH : 100 years: +20 %: 1440 mins: Winter			63.600	
FEH : 2 years: +0 %: 2160 mins: Summer			63.600	
FEH : 2 years: +0 %: 2160 mins: Winter			63.600	
FEH : 30 years: +0 %: 2160 mins: Summer			63.600	
FEH : 30 years: +0 %: 2160 mins: Winter			63.600	
FEH : 100 years: +20 %: 2160 mins: Summer			63.600	
FEH : 100 years: +20 %: 2160 mins: Winter			63.600	
FEH : 2 years: +0 %: 2880 mins: Summer			63.600	

FEH : 2 years: +0 %: 2880 mins: Winter			63.600	
FEH : 30 years: +0 %: 2880 mins: Summer			63.600	
FEH : 30 years: +0 %: 2880 mins: Winter			63.600	
FEH : 100 years: +20 %: 2880 mins: Summer			63.600	
FEH : 100 years: +20 %: 2880 mins: Winter			63.600	
FEH : 2 years: +0 %: 4320 mins: Summer			63.600	
FEH : 2 years: +0 %: 4320 mins: Winter			63.600	
FEH : 30 years: +0 %: 4320 mins: Summer			63.600	
FEH : 30 years: +0 %: 4320 mins: Winter			63.600	
FEH : 100 years: +20 %: 4320 mins: Summer			63.600	
FEH : 100 years: +20 %: 4320 mins: Winter			63.600	

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by:	Checked by:	Approved By:
	S.Smith	C.Salt	C.Salt
Report Title:	Company Glanville:		
Rainfall Analysis Criteria			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 519000 133350 TQ 19000 33350
Rainfall Version	2022
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	0.000
100.0	20.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment Area 1	FEH: 2 years: +0 %: 60 mins: Summer	0.31	11.2	23.556
Catchment Area 3	FEH: 2 years: +0 %: 60 mins: Summer	0.03	3.0	3.690
Catchment Area 4	FEH: 2 years: +0 %: 60 mins: Summer	0.04	4.6	5.724
Catchment Area 2	FEH: 2 years: +0 %: 60 mins: Summer	0.03	3.9	4.866
Catchment Area 5	FEH: 2 years: +0 %: 60 mins: Summer	0.01	1.4	1.776

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment Area 1	FEH: 30 years: +0 %: 60 mins: Summer	0.31	25.4	53.244
Catchment Area 3	FEH: 30 years: +0 %: 60 mins: Summer	0.03	6.7	8.334
Catchment Area 4	FEH: 30 years: +0 %: 60 mins: Summer	0.04	10.4	12.930
Catchment Area 2	FEH: 30 years: +0 %: 60 mins: Summer	0.03	8.8	11.010
Catchment Area 5	FEH: 30 years: +0 %: 60 mins: Summer	0.01	3.2	4.002

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m^3)
Catchment Area 1	FEH: 100 years: +20 %: 60 mins: Summer	0.31	39.1	81.999
Catchment Area 3	FEH: 100 years: +20 %: 60 mins: Summer	0.03	10.3	12.846
Catchment Area 4	FEH: 100 years: +20 %: 60 mins: Summer	0.04	15.9	19.932
Catchment Area 2	FEH: 100 years: +20 %: 60 mins: Summer	0.03	13.6	16.944
Catchment Area 5	FEH: 100 years: +20 %: 60 mins: Summer	0.01	4.9	6.162

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 2 years: +0 %: 4320 mins: Winter	64.220	63.333	63.604	0.271	1.1	0.043	0.000	1.1	115.120	Surcharged
SW2	FEH: 2 years: +0 %: 4320 mins: Winter	64.060	63.260	63.604	0.344	1.3	0.055	0.000	1.3	130.235	Surcharged
SW3	FEH: 2 years: +0 %: 4320 mins: Winter	64.200	63.175	63.604	0.429	1.3	0.485	0.000	1.3	136.540	Surcharged
SW4	FEH: 2 years: +0 %: 4320 mins: Winter	64.010	63.050	63.604	0.554	0.8	0.978	0.000	0.0	130.236	Surcharged
SW5	FEH: 2 years: +0 %: 4320 mins: Winter	64.010	63.410	63.604	0.194	0.2	0.031	0.000	0.2	23.334	Surcharged
Outfall	FEH: 2 years: +0 %: 60 mins: Summer	63.580	62.920	63.600	0.680	0.7	0.000	0.000	0.7	6.591	Flood

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 30 years: +0 %: 4320 mins: Winter	64.220	63.333	63.649	0.316	1.8	0.050	0.000	1.8	184.028	Surcharged
SW2	FEH: 30 years: +0 %: 4320 mins: Winter	64.060	63.260	63.649	0.389	2.0	0.062	0.000	2.0	207.245	Surcharged
SW3	FEH: 30 years: +0 %: 4320 mins: Winter	64.200	63.175	63.649	0.474	2.1	0.536	0.000	2.1	217.602	Surcharged
SW4	FEH: 30 years: +0 %: 4320 mins: Winter	64.010	63.050	63.649	0.599	0.8	1.058	0.000	0.5	165.505	Surcharged
SW5	FEH: 30 years: +0 %: 4320 mins: Winter	64.010	63.410	63.649	0.239	0.4	0.038	0.000	0.4	36.881	Surcharged
Outfall	FEH: 30 years: +0 %: 60 mins: Summer	63.580	62.920	63.600	0.680	0.7	0.000	0.000	0.7	6.881	Flood

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 100 years: +20 %: 60 mins: Summer	64.220	63.333	64.020	0.687	52.7	0.109	0.000	51.1	98.916	Flood Risk
SW2	FEH: 100 years: +20 %: 60 mins: Summer	64.060	63.260	63.881	0.621	61.3	0.099	0.000	60.0	111.493	Flood Risk
SW3	FEH: 100 years: +20 %: 4320 mins: Winter	64.200	63.175	63.755	0.580	3.3	0.656	0.000	3.3	332.199	Surcharged
SW4	FEH: 100 years: +20 %: 4320 mins: Winter	64.010	63.050	63.755	0.705	0.8	1.246	0.000	0.7	269.189	Flood Risk
SW5	FEH: 100 years: +20 %: 4320 mins: Winter	64.010	63.410	63.755	0.345	0.6	0.055	0.000	0.5	56.328	Flood Risk
Outfall	FEH: 100 years: +20 %: 60 mins: Summer	63.580	62.920	63.600	0.680	0.8	0.000	0.000	0.8	7.061	Flood

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 2 years: +0 %: 4320 mins: Winter	63.604	63.604	0.522	0.522	2.3	286.182	0.000	0.000	0.0	3.027		30.930

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 30 years: +0 %: 4320 mins: Winter	63.649	63.649	0.567	0.567	3.2	317.093	0.000	0.000	0.5	66.112		23.470

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 100 years: +20 %: 4320 mins: Winter	63.755	63.755	0.673	0.673	4.2	394.126	0.000	0.000	0.7	183.445		4.878

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	63.436	0.112	28.421	0.8	0.35	15.1	OK
2	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.381	0.116	32.111	0.9	0.51	17.9	OK
6	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.447	0.049	5.723	1.6	0.12	4.6	OK
3	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.286	0.078	33.899	1.7	0.46	19.2	OK
4	FEH: 2 years: +0 %: 4320 mins: Winter	Pipe	Pond	SW4	64.082	63.604	0.225	0.000	0.0	0	0.0	Surcharged
5	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	SW4	Outfall	64.010	63.179	0.225	0.000	0.0	0.01	0.4	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	63.562	0.225	64.253	0.9	0.79	33.9	Surcharged
2	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.497	0.209	72.569	1.0	1.15	40.4	Surcharged
6	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.466	0.099	12.929	1.7	0.26	10.4	OK
3	FEH: 30 years: +0 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.355	0.151	76.179	1.9	1.03	43.3	OK
4	FEH: 30 years: +0 %: 4320 mins: Winter	Pipe	Pond	SW4	64.082	63.649	0.225	0.000	0.0	0.01	0.5	Surcharged
5	FEH: 30 years: +0 %: 4320 mins: Winter	Pipe	SW4	Outfall	64.010	63.649	0.225	0.000	0.0	0.01	0.5	Surcharged

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +20: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	64.020	0.225	98.906	1.3	1.18	51.1	Flood Risk
2	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	63.881	0.225	111.452	1.5	1.71	60.0	Flood Risk
6	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.482	0.143	19.930	1.8	0.41	16.0	OK
3	FEH: 100 years: +20 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.584	0.225	116.785	1.8	1.53	64.1	Surcharged
4	FEH: 100 years: +20 %: 4320 mins: Winter	Pipe	Pond	SW4	64.082	63.755	0.225	97.679	0.0	0.02	0.7	Surcharged
5	FEH: 100 years: +20 %: 4320 mins: Winter	Pipe	SW4	Outfall	64.010	63.755	0.225	95.904	0.0	0.01	0.7	Flood Risk

Appendix G

Phase 2 SuDS Management and Maintenance Plan

Mowbray, North Horsham, West Sussex (Phase 2)
Phase 2 – SuDS Management and Maintenance Plan

1.0 Site and Drainage Description

1.1 The wider Mowbray development at North Horsham is currently under construction with various applications for the approval of reserved matters for individual infrastructure elements and sub-phases, both under consideration and determined.

1.2 This SuDS Management and Maintenance Plan relates to the drainage infrastructure proposed as part of Phase 2 of the development.

1.3 Surface water run-off generated by the Phase 2 of the development will be discharged to the existing network of watercourses running through and around Phase 2, utilising attenuation provided by basins and geo-cellular attenuation crates located across the phase and serving various land parcels.

1.4 Foul effluent generated by the residential parcels will be conveyed by gravity sewer networks, which will gravitate flows to the various pump stations proposed.

1.5 This plan should be read alongside the accompanying drainage reports for the various applications submitted for individual infrastructure elements and residential parcels located across Phase 2. This SuDS Management and Maintenance Plan does not constitute a complete maintenance schedule and should be developed at the appropriate design stage, taking into account advice and recommendations from system manufacturers and installers. Appropriate health and safety measures should also be put in place.

2.0 Management Responsibilities

2.1 The proposed surface water pipe network and associated drainage infrastructure serving the development parcels of Phase 2 are to be adopted by the Advanced Water Infrastructure Networks (AWIN), which will have the responsibility to keep them maintained. There are some exceptions to this where small sections of proposed surface water drainage infrastructure will remain private. The accompanying drainage reports for the various applications submitted for individual infrastructure elements and development parcels should be referred to.

2.2 Gullies, gully connections and other surface water drainage infrastructure solely serving highway land are to be adopted by West Sussex County Council (WSCC) in its role as highway authority. Surface water drainage infrastructure adopted by WSCC will be their responsibility to maintain.

2.3 Foul water drainage infrastructure constructed as part of Phase 2 and serving the residential parcels are to be adopted by AWIN and will have the responsibility to keep them maintained.

2.4 All attenuation basins will remain private and be the responsibility of a management company to maintain.

3.0 Maintenance Activities

3.1 This section details the type and frequency of maintenance activities for the drainage infrastructure which will be implemented as part of Phase 2 of the Mowbray development.

Conventional Pipe Network / Inspection Chambers / Catchpits / Gullies

3.2 Piped network components require regular inspection and maintenance to ensure that the individual components continue to operate as designed, both in terms of hydraulic capacity and potential pollutant removal. All gullies, inspection chambers and catchpits will therefore be inspected and cleaned regularly, with typical maintenance activities detailed in Table 1.

Table 1: Conventional Pipe Network / Inspection Chambers / Gullies – Typical Maintenance Activities

Maintenance Schedule	Maintenance Activity	Inspection Frequency
Regular Maintenance	Inspect and identify any features that are not operating correctly. If required, take remedial action.	Monthly (for first three months), then six monthly
	Remove debris from catchment surface / gratings (where it may cause risk to performance).	Quarterly and after large storms
	Inspect and remove sediment, debris, and silt from gullies, silt traps, and catchpit chambers.	Annually, or as required
	Inspect pipework for blockages, root ingress, displaced joints, or other signs of differential settlement.	Annually, or as required
Remedial Actions	Clear pipework of blockages, root ingress, repair joints or repair other signs of differential settlement.	As required
	Replacement of gullies / pipe system.	As required
	Repair / rehabilitation of gratings, inlets and outlets.	As required
Monitoring	Inspect / check all gratings, manholes, gullies, and catchpits to ensure that they are in good condition and operating as designed.	Annually and after large storm events
Structure Rehabilitation / Repair	Regular maintenance and monitoring to identify if repair and / or replacement of features or pipe system is required.	As required

Attenuation Basin

3.3 Attenuation basins are landscaped depressions which surface water is attenuated within prior to being discharged to the network of watercourses running through and around Phase 2 of the Mowbray development. To ensure the effective operation of the basins with limited erosion and silt accumulation, regular inspection and maintenance is required including the typical maintenance activities detailed in Table 2.

Table 2: Attenuation Basins – Typical Maintenance Activities

Maintenance Schedule	**Maintenance Activity**	**Inspection Frequency**
Regular Maintenance	Mow grass access paths and verges surrounding basins, at 35mm-50mm minimum and 75mm maximum.	Monthly (during growing season), or as required
	Mow rough grass areas for occasional access or habitat reasons at 100mm and 150mm maximum with cutting removed to wildlife piles.	As required
	Manage other vegetation and remove nuisance plants.	Monthly (for first three months, then as required)
	Inspect for signs of clogging and remove any litter / debris found.	Monthly, or as required
	Inspect and clear inlets, outlets, and overflows of any blockages.	Annually, or as required
	Inspect inlets and pre-treatment systems for silt accumulation; establish appropriate silt removal frequencies.	Monthly (for first year), then annually, or as required
	Inspect banksides for evidence of physical damage and repair as appropriate.	Annually, or as required
	Cut (strim) wetland vegetation at 100mm and remove cuttings.	Annually, or as required
	Reseed areas of poor vegetation growth.	As required
	Prune and trim any trees and remove cuttings.	Every 2 years, or as required
Occasional Maintenance	Where silt accumulates on apron or area in front of inlet or outlet then remove and spread above design profile of SuDS. Where silt accumulates more than 150mm in base of basins undertake a phased removal of silt subject to Client approval. Remove silt but not more than 30% of basin area at any one time and to an agreed depth. Retain as much representative existing vegetation as possible to ensure rapid re-colonisation of open areas. Stack excavated material adjacent to basin to allow de-watering of silt. Undertake silt removal during September-October to minimise damage to protected wildlife and ensure re-growth of aquatic vegetation before winter. Spread excavated material on site above SUDS design profile.	Every 3 years, or as required (likely to be minimal requirements where effective upstream source control is provided)
Remedial Actions	Repair erosion or other damage by reseeding or re-turfing.	As required

Geo-Cellular Attenuation Crates

3.4 Geo-cellular attenuation crates are below ground structures utilised to attenuate surface water run-off. To ensure both the effective operation and hydraulic capacity of the attenuation crates is maintained, regular inspection and maintenance is required including the typical maintenance activities detailed in Table 3.

Table 3: Geo-Cellular Attenuation Crates (Wavin or Similar) - Typical Maintenance Activities*

Maintenance Schedule	Maintenance Activity	Inspection Frequency
Regular maintenance	Initial inspection and identify any areas that are not operating correctly and either clean or replacement inlets, outlets, overflows, and/or vents.	Monthly for 3 months, then annually
	Inspect / check all inlets, outlets, vents, and overflows to ensure that they are in good condition and operating as designed.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays.	Annually, or as required

**Refer to manufacturer's guidance for specific maintenance instructions.*

Inlet / Outlets / Controls

3.5 Headwalls, flow control chambers and outfalls direct the flow in and control the flow rate out of the proposed basins across Phase 2. To prevent surface water exceedance, regular inspection and maintenance of these structures are required to remove potential blockages and ensure the intended design flow rates are achieved. Typical maintenance activities for these structures are included in Table 4.

Table 4: Inlets / Outlets / Flow Control Devices – Typical Maintenance Activities*

Maintenance Schedule	Maintenance Activity	Inspection Frequency
Regular Maintenance	Inspect control chamber and remove any sediment, debris, and silt to ensure water is flowing freely.	Quarterly, or as required
	Inspect chamber and incoming / outgoing pipework for blockage or root ingress.	Six monthly, or as required
	Inspect surface structures for physical damage.	Quarterly, or as required
	Cut (Strim) vegetation 1m minimum from the surround of structures.	Six monthly (spring and autumn)
	Remove debris and silt from hard head wall aprons.	Quarterly, or as required
	Inspect and clear headwall grills.	Quarterly, or as required
	Undertake general inspection after Autumn leaf fall.	Annually
Occasional Maintenance	Check topsoil levels are 20mm above chamber edges to avoid mower damage.	As required
Remedial Actions	Clear chamber and incoming / outgoing pipework of blockages.	As required
	Repair physical damage or replace missing grills or controls.	As required

**Refer to manufacturer's guidance for specific maintenance instructions*

Appendix H

InfoDrainage Calculations – 1 in 100 year +40% Climate Change Design Event

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflow Summary Storm Phase: Phase	Company Glanville:		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	SW1		Time Area Diagram	0.308	72	0	72	0.222
Catchment Area 2	SW1		Time of Concentration	0.033	100	0	100	0.033
Catchment Area 3	SW2		Time of Concentration	0.025	100	0	100	0.025
Catchment Area 4	SW5		Time of Concentration	0.039	100	0	100	0.039
Catchment Area 5	SW3		Time of Concentration	0.012	100	0	100	0.012
TOTAL		**0.0**		**0.417**				**0.331**

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Outfall Details Storm Phase: Phase	Company Glanville:		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by:	Checked by:	Approved By:
	S.Smith	C.Salt	C.Salt
Report Title:	Company Glanville:		
Rainfall Analysis Criteria			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Shortest
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

FEH

Type: FEH

Site Location	GB 519000 133350 TQ 19000 33350
Rainfall Version	2022
Summer	☑
Winter	☑

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	40.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Inflows Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Inflow

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow Volume (m³)
Catchment Area 1	FEH: 100 years: +40 %: 60 mins: Summer	0.31	45.7	95.673
Catchment Area 3	FEH: 100 years: +40 %: 60 mins: Summer	0.03	12.0	14.982
Catchment Area 4	FEH: 100 years: +40 %: 60 mins: Summer	0.04	18.6	23.250
Catchment Area 2	FEH: 100 years: +40 %: 60 mins: Summer	0.03	15.8	19.764
Catchment Area 5	FEH: 100 years: +40 %: 60 mins: Summer	0.01	5.8	7.188

Project: Mowbray Allotments RMA6	Date: 18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Junctions Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW1	FEH: 100 years: +40 %: 60 mins: Summer	64.220	63.333	64.220	0.887	61.5	0.522	0.381	55.8	115.402	Flood
SW2	FEH: 100 years: +40 %: 60 mins: Summer	64.060	63.260	64.060	0.800	67.8	0.154	0.027	67.7	130.040	Flood
SW3	FEH: 100 years: +40 %: 60 mins: Summer	64.200	63.175	63.692	0.517	73.4	0.585	0.000	73.5	136.329	Surcharged
SW4	FEH: 100 years: +40 %: 2880 mins: Winter	64.010	63.050	63.629	0.579	0.8	1.024	0.000	0.8	223.883	Surcharged
SW5	FEH: 100 years: +40 %: 2880 mins: Winter	64.010	63.410	63.629	0.219	0.9	0.035	0.000	0.9	59.519	Surcharged
Outfall	FEH: 100 years: +40 %: 60 mins: Summer	63.580	62.920	62.937	0.017	0.8	0.000	0.000	0.8	4.304	OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)
Pond	FEH: 100 years: +40 %: 2880 mins: Winter	63.629	63.629	0.547	0.547	6.0	303.560	0.000	0.000	0.8	224.742	2445	26.736

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Company Glanville:		

Status
OK

Project:	Date:		
Mowbray Allotments RMA6	18/09/2026		
	Designed by: S.Smith	Checked by: C.Salt	Approved By: C.Salt
Report Details: Type: Connections Summary Storm Phase: Phase	Company Glanville:		

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1	FEH: 100 years: +40 %: 60 mins: Summer	Pipe	SW1	SW2	64.220	64.220	0.225	115.394	1.4	1.29	55.8	Flood
2	FEH: 100 years: +40 %: 60 mins: Summer	Pipe	SW2	SW3	64.060	64.060	0.225	130.008	1.7	1.93	67.7	Flood
6	FEH: 100 years: +40 %: 60 mins: Summer	Pipe	SW5	Pond	64.010	63.490	0.150	23.248	1.8	0.47	18.6	OK
3	FEH: 100 years: +40 %: 60 mins: Summer	Pipe	SW3	Pond	64.200	63.692	0.225	136.278	1.9	1.75	73.5	Surcharged
4	FEH: 100 years: +40 %: 60 mins: Winter	Pipe	Pond	SW4	64.082	63.394	0.225	5.097	0.3	0.04	1.3	Surcharged
5	FEH: 100 years: +40 %: 60 mins: Summer	Pipe	SW4	Outfall	64.010	63.394	0.017	4.304	0.6	0.01	0.8	Surcharged

Appendix I

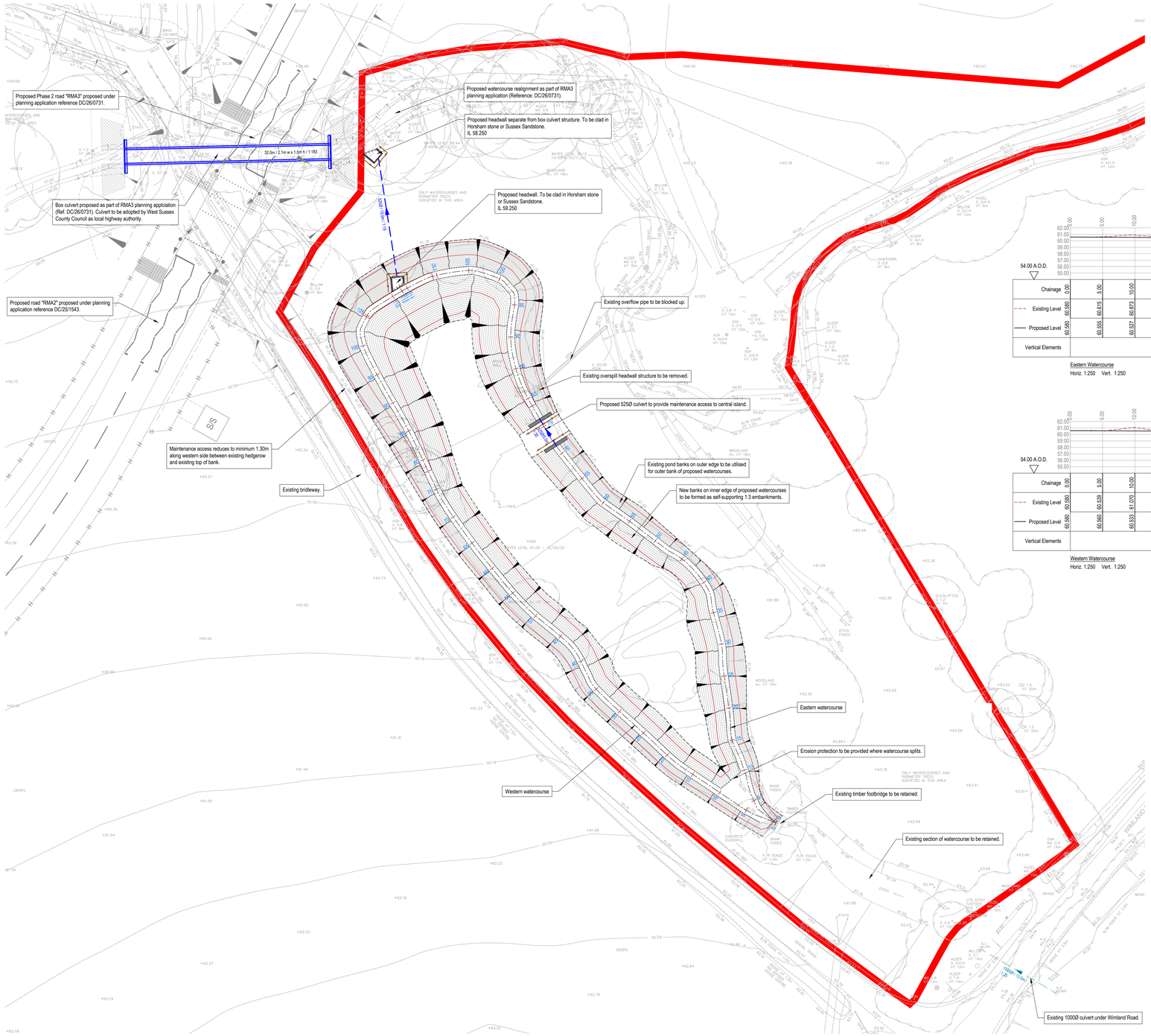
Watercourse Reinstatement Proposals

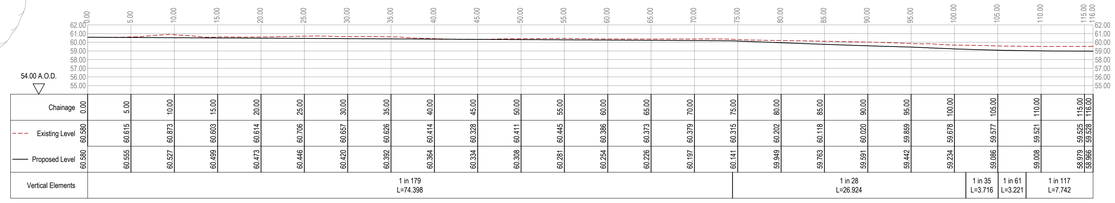
NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Drawing scalable for planning purposes only.

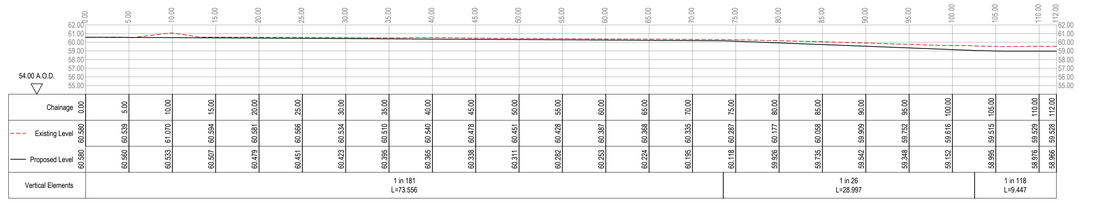
KEY

- Application boundary
- Proposed pipe
- Proposed precast concrete headwall
- Proposed bagwork headwall
- Proposed contours
  - Major contour - 1.00m spacing
  - Minor contour - 0.10m spacing





Eastern Watercourse
Horiz. 1:250 Vert. 1:250



Western Watercourse
Horiz. 1:250 Vert. 1:250

Rev.	Description	Date	By	Chkd
P2	Additional notes and long sections shown.	04/09/2026	DS	CS
P1	Preliminary issue.	28/08/2026	DS	CS

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Survey > Plan > Engineer

Civil Engineering | Highways Engineering | Structural Engineering | Building Surveying | Transport Planning | Geomatics

Hertfordshire | Oxfordshire | Cambridgeshire | Bristol

Client : Legal & General (Strategic Land North Horsham) Ltd

Project : Mowbray (Land North of Horsham)

Title : Strategic Landscape Buffer & Allotments (RMA6) Pond Watercourse Reinstatement

Engineer : C. Salt | Date : August 2026

Director : J. Birch | Scale : 1:250 @ A0

Status : PRELIMINARY

Drawing No. MOW-GLA-RMA6-PH2-1301 | Rev. P2

Appendix J

ReFH2 Catchment Calculations

ReFH2 Outputs
Mowbray, Horsham
Pond Watercourse Reinstatement

Catchment Area	47	ha

Description	Return period (yrs)	Urbanised peak flow (m^3/s)	Urbanised direct runoff (ML)	As-rural peak flow (m^3/s)	As-rural direct runoff (ML)	Urbanised peak flow (l/s)	As-rural peak flow (l/s)
1 year	1	0.116	2.258	0.111	2.142	116	111
2 year	2	0.130	2.564	0.125	2.434	130	125
5 year	5	0.176	3.566	0.168	3.391	176	168
10 year	10	0.208	4.279	0.199	4.076	208	199
30 year	30	0.263	5.505	0.252	5.254	263	252
50 year	50	0.291	6.134	0.278	5.861	291	278
75 year	75	0.315	6.677	0.302	6.385	315	302
100 year	100	0.333	7.096	0.320	6.790	333	320
100 year 1.25 CC	100	0.430	9.287	0.413	8.913	430	413
100 year 1.45 CC	100	0.511	11.160	0.492	10.733	511	492
100 year 1.64 CC	100	0.593	13.038	0.571	12.563	593	571
200 year	200	0.385	8.271	0.369	7.927	385	369
1000 year	1000	0.556	12.177	0.534	11.724	556	534

Appendix K

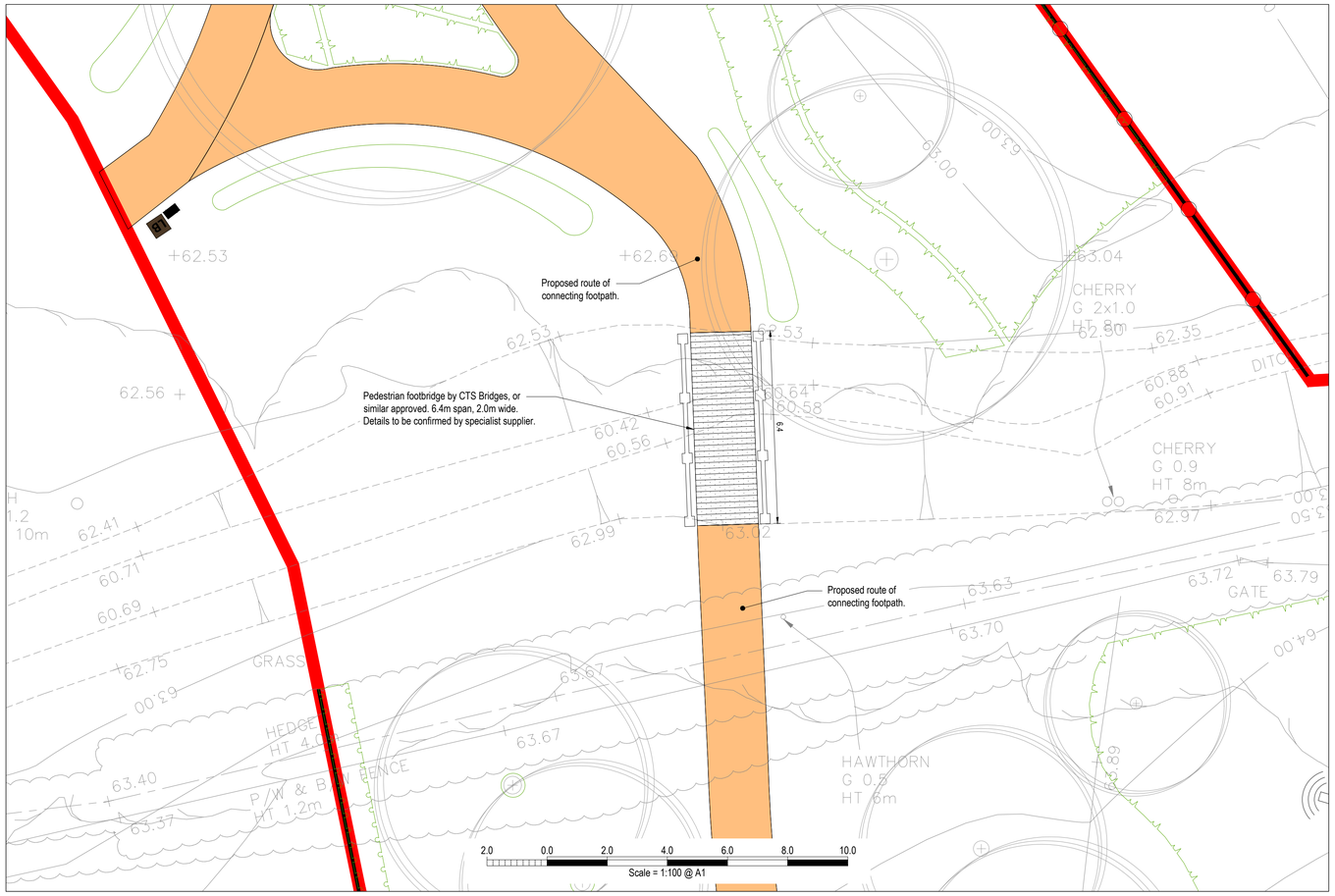
Watercourse Capacity Calculations

Existing Ditch Capacity Calculations
Mowbray, Horsham
Pond Watercourse Reinstatement

Parameters			**Proposed Watercourse**
Base Width	w	m	1
Minimum Depth	r	m	0.75
Side Slope 1			2
Side Slope 2			3
Side Width 1			1.5
Side Width 2			2.25
Slope		1:	192
Slope	S	m/m	0.0052
Area	A	m^2	2.156
Perimeter	P	m	5.049
Hydraulic Radius	R_H	m	0.427
Manning's n	n	-	0.035
Velocity	V	m/s	1.169
Flow Rate	**Q**	**l/s**	**2,521**

Appendix L

Timber Footbridge Drawing



SITE PLAN
Scale 1:100 @ A1



ILLUSTRATIVE IMAGE OF BRIDGE
Image taken from CTS Bridges' website



TYPICAL FOOTBRIDGE SURFACE DETAIL
Scale 1:10 @ A1

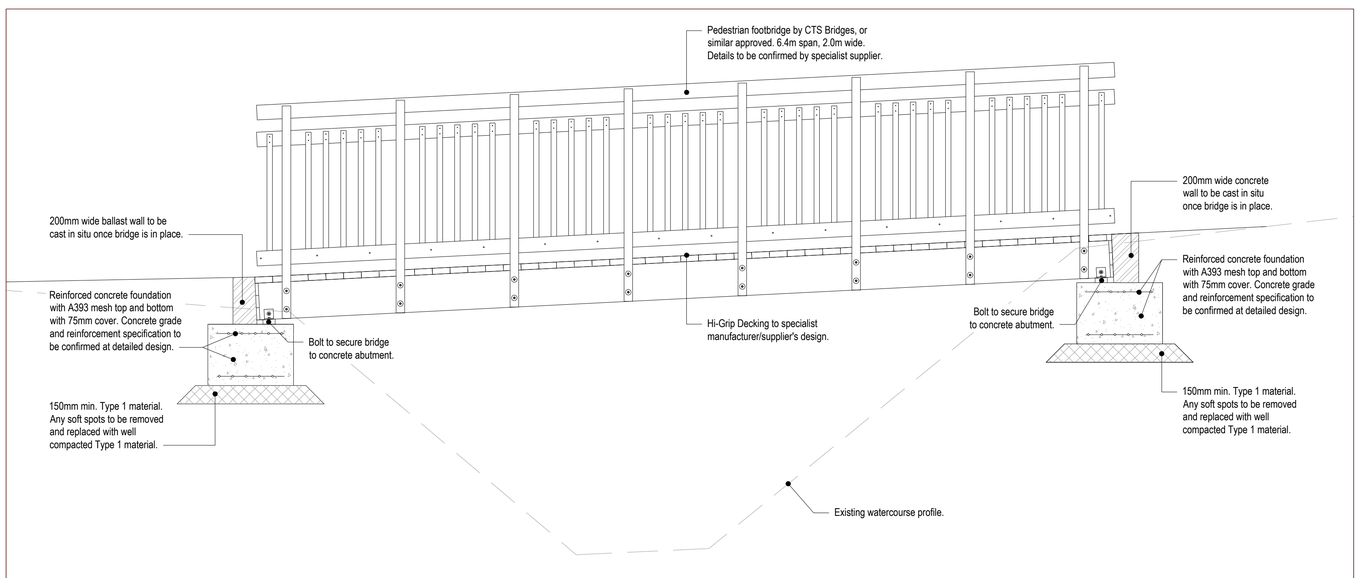
NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Scaleable for planning purposes only.
3. This drawing has been prepared for information purposes only and must not be used for tender of construction purposes.
4. Approaching footpaths to be confirmed by DJA.
5. Footbridge section and foundation details are indicative only. All footbridge details are subject to detailed design. Footbridge to specialist design by CTS Bridges, or similar approved.
6. All exposed concrete to be dressed in Horsham stone or Sussex sandstone.

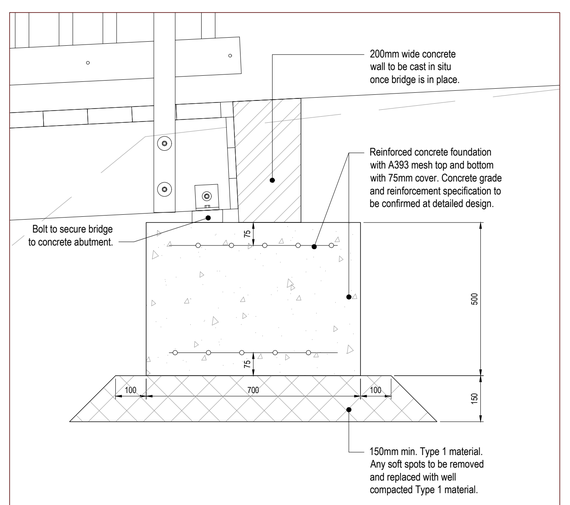
KEY

- Application boundary.
- Resin bound footpath.
- Hi-Grip deck surfacing by CTS Bridges, or similar approved.

N



TYPICAL FOOTBRIDGE SECTION
Scale 1:25 @ A1



TYPICAL FOOTBRIDGE FOUNDATION DETAIL
Scale 1:10 @ A1

Rev.	Description	Date	By	Chkd
P1	First issue.	18/09/2026	DS	CS

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Survey > Plan > Engineer

Civil Engineering · Structural Engineering · Transport Planning · Highways Engineering · Building Surveying · Geomatics

Hertfordshire | Oxfordshire | Cambridgeshire | Bristol

Client : Legal & General (Strategic Land North Horsham) Ltd

Project : Mowbray (Land North of Horsham)

Title : Strategic Landscape Buffer & Allotments (RMA6) Footbridge General Arrangement

Engineer : D. Strange | Date : September 2026

Director : J. Birch | Scale : As Shown @ A1

Status : PLANNING

Drawing No. MOW-GLA-RMA6-PH2-1501 | Rev P1

Hertfordshire | Oxfordshire | Cambridgeshire | Bristol

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Survey > Plan > Engineer

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