

Project name	Lotmead Farm, Swindon		
Design note title	Strategic Surface Water Management Strategy		
Document reference	22006-HYD-P0-XX-TN-C-0002		
Author	N Jerrom		
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Date	26 October 2022	Approved	✓

1. BACKGROUND

This Technical Note has been produced pursuant to condition 46 of the outline planning permission for Lotmead Farm in Swindon, planning application number S/OUT/19/0582.

Condition 46

Prior to the approval of the first reserved matters, a strategic Surface Water Management Scheme for the site, in accordance with the approved Addendum to March 2019 Flood Risk Assessment (27970/4003/TN001) dated 22/08/19, shall be submitted to, and approved in writing by the Local Planning Authority.

- *Details to demonstrate how the proposed flows from the site will be restricted to 4.67l/s/ha for all events up to and including the 1% AEP + climate change event;*
- *Details of how the drainage scheme has been designed to incorporate SuDS techniques to manage water quantity and maintain water quality as set out in the FRA addendum, and in accordance with adopted policy and best practice guidance including the New Eastern Villages SuDS Vision SPD and the SuDS Manual C753;*
- *A strategic surface water drainage plan showing the proposed location of the proposed SuDS features;*
- *Details of the volumes (including indicative dimensions and indicative cross sections) and proposed construction details of the proposed SuDS measures;*
- *Details of how the scheme shall be maintained and managed after completion;*
- *Detailed drainage calculations for all rainfall events up to and including the 1 in 100 year plus climate change event to demonstrate that the strategic SuDS features can cater for the critical storm event for its lifetime;*
- *The submission of evidence relating to accepted outfalls from the site, particularly from any third party network owners; and*
- *Sequencing for implementation in accordance with the approved Phasing Plan (Condition 9).*

The detailed Surface Water Management Schemes for each phase or sub phase (as required by condition 48) shall be implemented in accordance with the approved details and timetable.

The Lotmead Farm development is part of the Swindon New Eastern Villages (NEV) allocation, and represents approximately 2,500 new houses and associated infrastructure. The proposed drainage strategy follows the principles set out in the NEV SuDS Vision SPD produced by Swindon Borough Council (2017), the approved outline FRA (Ref: 27970/4003, Dated:08/03/2019) and FRA Addendum (Ref: 27970/4003/TN001, Dated: 22/08/2019) produced by PBA/Stantec.

Figure 1 Indicative Masterplan



This Strategic Surface Water Management Strategy has been based on the approved FRA Addendum (Ref: 27970/4003/TN001, Dated: 22/08/2019) produced by PBA/Stantec by PBA/Stantec, in accordance with the following principles:

- SuDS are to be provided in accordance with CIRIA C753 and to be located outside of post-development 1 in 100 plus climate change floodplain extents.
 - Shallow above ground conveyance features will be prioritised throughout the development (where feasible), utilising natural drainage routes and existing drainage features which must be retained post-development.
 - Plot scale 'source control' SuDS features such as raingardens, permeable paving, green roofs or swales, will be prioritised in the first instance. The exact features, including their locations, will be determined at the detailed design stage.
 - SuDS drainage features will be prioritised in the following hierarchy:
 - Primary – plot scale 'source control' features such as raingardens, permeable paving etc;
 - Secondary – under drained swales providing conveyance and attenuation storage;
 - Tertiary – attenuation basins or ponds providing attenuation storage.
- All existing watercourses will be retained post-development.

- All strategic SuDS attenuation features will be design with a minimum freeboard of 300mm to allow for any residual risk related to blockage or an extreme rainfall event (in excess of the 1 in 100 plus climate change event).
- Rainfall catchment areas have been determined and for each catchment a limiting discharge rate (mean annual greenfield rate) of 4.67 l/s/ha will be applied for all events up to and including the 1 in 100 plus climate change event. Each rainfall catchment will comprise a minimum of two SuDS components to attenuate and improve water quality prior to discharging into one of the adjacent watercourses.
- No infiltration potential at site.
- Limiting discharge rate of 4.67 l/s/ha (mean annual greenfield rate) for all events up to and including 1 in 100 plus climate change event.
- Design undertaken in accordance with best practice and National Planning Policy Framework (NPPF).
- Additional ecological and biodiversity benefits to be provided within SuDS such as planting, reed beds, or varying permanent water depths where feasible.
- Exact detail of onsite drainage to be confirmed through detailed design. This can be achieved through provision of swales, ditches, permeable paving or other forms of SuDS and in accordance with the 'SuDS Vision for New Eastern Villages (NEV) Supplementary Planning Document' (SPD) – February 2017.
- All SuDS designs within the development shall be based above the 1 in 100 plus climate change flood level, including any outfalls.
- At the detailed design stage, the proposed drainage strategy will be tested with surcharged outfalls to confirm the adequate operation and performance of the system in the event of the receiving watercourse being in flood. Inline non-return valves shall be fitted to all outfall points subject to flooding.
- Adoption and maintenance is to be undertaken in line with the long term management plan set out in the March 2019 FRA.
- Long term management of SuDS components is essential to ensure they continue to function to their design standard. As such, a management and maintenance plan will need to be developed in order to ensure the systems continue to function effectively.
- The final strategy for adoption of SuDS and SuDS maintenance plan, including a maintenance schedule and details of easements and outfalls for the drainage system, will be produced at the detailed design phase, once details of any SuDS features to be incorporated into the site have been finalised.
- The catchment areas have been amended as per PBA Drawing 27970-4005-001 Rev B. It is expected that the intermediate discharge rates will vary as detailed designs are prepared at a later stage to suit evolving designs for SuDS features however, the overall discharge rate will still be limited to 4.67 l/s/ha, and is anticipated to be distributed across a number of catchment areas across the site through the indicative allowable discharge rates as per Table 1 (of the FRA addendum).

The information approved under Condition 46 will support the approval of in phase surface water management schemes, as per outline condition 47.

1.1 Historical dialogue with the LLFA

Extensive discussions have taken place between Hydrock, the Client and the LLFA which have been based on a number of different strategic surface water drainage strategies prepared to discharge Condition 46. Prior to now, feedback received from the LLFA indicated that they did not consider the earlier strategies to accord with the requirements of the outline planning permission and Condition 46. However, this updated Strategic Surface Water Management Strategy has been developed to respond positively to feedback, to gain approval from the LLFA to discharge Condition 46.

Notwithstanding the content of this Design Note, as detailed residential layouts and drainage designs are progressed, CSS will need to keep the feasibility and prioritisation of the Strategic SuDS Strategy under review, including considerations of overall site viability.

2. SURFACE WATER DRAINAGE STRATEGY

2.1 Pre-Development

The Lotmead Farm development consists mainly of undeveloped fields which would generate a surface water runoff ('greenfield runoff') rate once soils are saturated. On the western edge of the site there is an area of farm buildings, commercially let buildings and hard paved yards. It is assumed this hard paved area drains positively to the nearby ditch network via a system of gravity pipework. The development is adjacent to the Liden Brook, River Cole and Dorcan Stream and there are several surface water ditches crossing through the site.

Flood modelling has been undertaken for the adjacent water courses to determine the extents of flooding within the site. The post development extent of flooding is shown on the drainage strategy drawing 22006-HYD-XX-XX-DR-C-2002.

2.2 Post-Development

In accordance with the Sustainable Drainage Systems (SuDS) hierarchy, rainfall run-off should be managed in the following preferential order:

1. Infiltrated to ground.
2. Discharged to local watercourses.
3. Discharged to a local surface water sewer network.
4. Discharged to a local combined water sewer network.

A desk study and geotechnical report was produced by Hydrock, ref: 20786- HYD-XX-XX-RP-GE-1001. Testing identified reworked alluvium over Amphthill Clay and Kimmeridge Clay Formation. In line with the SuDS hierarchy, infiltration was investigated as the primary method of stormwater disposal for the site and soakaway testing was undertaken at SA01-08. The report concluded that soakaways were considered unsuitable for the site based on the inability of the soils to offer infiltration and as such, infiltration is not considered a viable option for surface water disposal.

Following the hierarchy, surface water runoff generated by the proposed development will be drained into existing onsite ditches and proposed swales before leading to the Liden Brook and River

2.2.1 Discharge Rate

Proposed catchment areas and discharge rates from the development are based on the approved Flood Risk Assessment Addendum, produced by PBA/Stantec. There are 17 sub-catchments with a maximum discharge rate of 4.67l/s/ha for all rainfall events up to the 1 in 100 year plus 40% climate change. Details of each catchment and their discharge rate are shown on drawing 22006-HYD-XX-XX-DR-C-2002 provided in Appendix A.

2.2.2 Climate Change

Following the release of the latest climate change allowances by the Environment Agency in May 2022, an allowance of 40% will be applied to the 1 in 100 year calculations, as the site is located in the Gloucestershire and the Vale Management Catchment.

2.2.3 Impermeable Areas

In the absence of a detailed site layout, the storage volumes across the development have been sized based on a percentage impermeable area. The following assumptions have been made (as per the approved FRA Addendum):

- » Residential areas = 60% PIMP
- » Commercial/retail areas = 80% PIMP

Impermeable areas will be reviewed once detailed parcel layouts are available as part of the reserved matters application pursuant to condition 47 of the outline permission.

2.2.4 SuDS Design

The Quick Storage Estimate function within MicroDrainage has been used to size indicative attenuation features using the above parameters. These details are shown on the drainage strategy plan in Appendix A. These will be reviewed with each Reserved Matters application as it is brought forward, pursuant to condition 47 of the outline permission.

Design of each above ground attenuation pond incorporates a minimum of 1 in 3 side slopes, 300mm freeboard and a 2m maintenance strip around the crest.

In addition, the SuDS are located outside of the 1 in 100-year fluvial floodplain with the invert level of the components set at or above the 1 in 100 year + 70% flood level as per the LLFA's request in response to the outline planning permission. Surcharged outfalls will be modelled at detailed design stage to ensure the drainage features will operate correctly and have sufficient capacity during a flood event.

Furthermore, each catchment will utilise source control measures to improve water quality, biodiversity, and amenity. Such measures will include the use of over the edge swales, rain gardens, filter strips, and tree pits provided alongside tertiary roads. Surface water drainage will pass through a minimum of two SuDS features before discharging into the River Cole or Liden Brook.

The exact attenuation requirements and SuDS features for each catchment will be reviewed at the Reserved Matters stage. SuDS features will be prioritised and will lead the detailed layout design of each development parcel.

2.3 Water Quality Analysis

As per Chapter 26 of the SuDS Manual, individual properties and general access roads are deemed to have a low-level pollution hazard and all other roads (with the exception of trunk roads/motorways) are deemed to have a medium-level pollution hazard. A simple index approach is therefore recommended to determine what measures are required to deal with any pollution that may arise. The tables below are extracts from Chapter 26 of The SuDS Manual, identifying the level of pollution hazard and pollution mitigation index respectively. The total pollution hazard indices must be less than or equal to the total SuDS mitigation indices.

Table 1: Pollution hazard indices for different land use classifications (extract from CIRIA C753 SuDS manual)

Land Use	Pollution Hazard Level	Total Suspended Solids	Metals	Hydro-carbons
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non- residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7

Table 2: Indicative SuDS mitigation indices for discharges to surface waters (extract from CIRIA C753 SuDS manual)

Land Use	Mitigation Indices			
	Type of SuDS component	TSS	Metals	Hydrocarbons
Swale		0.5	0.6	0.6
Detention Basin		0.5	0.5	0.6
Mitigation Total		0.75	0.85	0.9
Total SuDS mitigation index = mitigation index1 + 0.5 (mitigation index2)				

Table 2 confirms that the total mitigation index of the attenuation features and swales is greater or equal to pollution hazard index in 1 and is therefore satisfactory for dealing with any potential pollution arising from the development. No further mitigation measures are required.

2.4 Exceedance & Site Levels

The site levels for each catchment will be designed such that any exceedance flows will be routed towards the site SuDS features. FFLs will be designed to be 600mm above the 1 in 100 year + 70% CC flood levels.

2.5 SuDS Maintenance and Management Plan

The main sewer systems serving this development will be offered for adoption under Section 104 of the Water Act 1991. This means that maintenance responsibilities will fall to them as the owner of the system. In the instance that Thames Water will not adopt the SuDS features, a management company will be appointed and maintenance will be undertaken in line with the below tables.

Private plot drainage (designed in accordance with Part H Building Regulations) will be maintained by individual plot owners. No communal SuDS features have been proposed within a property's curtilage

and therefore no individual homeowner will be responsible for the maintenance of any shared drainage features.

Highway gulley's, roadside swales & their connections to the sewer system will remain the responsibility of Swindon Borough Council as the adopting highway authority.

A detailed SuDS Maintenance and Management Plan is to be submitted and approved pursuant to Condition 48 in due course and prior to the occupation.

2.5.1 Attenuation Basin

The attenuation basins will be planted basin, designed to temporarily hold surface water runoff, while the system discharges at a controlled rate. As a minimum the maintenance regime for the basin should comply with the Ciria SuDS Manual, see Table 3 below.

Table 3: Operation and maintenance requirements for detention basins. (C753 Ciria SuDS Manual 2015, page 502)

Maintenance Schedule	Required action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly
	Cut grass - for spillways and access routes	Monthly (during growing season) or as required
	Cut grass - meadow grass in and around basin	Half yearly (spring - before nesting and autumn)
	Manage other vegetation and remove nuisance plants	Monthly (at start, then as required)
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Monthly (for first year), then annually or as required.
	Check any penstocks and other mechanical devices	Annually
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from inlets, outlet and forebay	Annually (or as required)
Occasional Maintenance	Reseed areas of poor vegetation growth	As required
	Prune and trim any trees and remove cuttings	Every 2 years or as required
	Remove sediment from inlets, outlets, forebay and main basin when required	Every 5 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
	Realignment of rip-rap	As required
	Repair/rehabilitation of inlets, outlets and overflows	As required
	Relevel uneven surfaces and reinstate design levels	As required.

2.5.2 Swales

Swales will be used for conveyance of stormwater throughout each of the catchments, these swales will be planted and unlined. The maintenance regime for the swales should be in accordance the Ciria SuDS Manual C753, see Table 4 below.

Table 4: Operation and maintenance requirements for Swales. (C753 Ciria SuDS Manual 2015, page 329)

Maintenance Schedule	Required action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly
	Cut grass - to retain grass height within specified design range	Monthly (during growing season), or as required
	Manage other vegetation and remove nuisance plants	Monthly (at start, then as required)
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Half yearly
Occasional Maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions if required.	As required or if bare soil is exposed over 10% or more of the swale treatment area
Remedial Actions	Repair erosion or other damage by reseedling or re-turfing	As required
	Relevel uneven surfaces and reinstate design levels	As required.
	Scarify and spike topsoil layer to improve infiltration process, break up silt deposits and prevent compaction of soil surface	As required
	Remove and dispose of oils or petrol residues using safe standard practices	As required
	Remove build-up of sediment	As required

2.6 Design Compliance Review

This drainage strategy has been designed in accordance with the NEV SuDS Vision SPD produced by Swindon Borough Council (2017), the outline FRA (Ref: 27970/4003, Dated:08/03/2019) and FRA Addendum (Ref: 27970/4003/TN001, Dated: 22/08/2019) produced by PBA/Stantec. Compliance is demonstrated in the table below.

Document name	Section/ page	Specific document wording	Hydrock Compliance
PBA/Stantec FRA Addendum	Page 2	'SuDS are to be provided in accordance with CIRIA C753 and to be located outside of post-development 1 in 100 plus climate change floodplain extents.	All SuDS have been located outside of the 1:100 year +70% CC floodplain extents.
PBA/Stantec FRA Addendum	Page 2	'Shallow above ground conveyance features will be prioritised throughout the development (where feasible), utilising natural drainage routes and existing drainage features which must be retained post-development.	Shallow highway swales have been shown to follow indicative road alignments. Flows discharge to existing drainage features which will be retained.
PBA/Stantec FRA Addendum	Page 2	Plot scale 'source control' SuDS features such as raingardens, permeable paving, green roofs or swales will be prioritised in the first instance. The exact features, including their locations, will be determined at the detailed design stage.	Noted. Plot scale features have not been shown at this (strategic) stage but will be determined at the detailed design stage.
PBA/Stantec FRA Addendum	Page 2	SuDS drainage features will be prioritised in the following hierarchy: Primary - plot scale 'source control' features such as rain gardens, permeable paving etc. Secondary - under drained swales providing conveyance and attenuation storage Tertiary - attenuation basins or ponds providing attenuation storage	As noted above, Primary (plot scale) drainage features will be determined at the detailed design stage. Secondary features in the form of under drained highway swales have been shown to follow indicative road alignments, to convey and treat flows. Tertiary features have also been shown to provide attenuation storage and further water treatment.
PBA/Stantec FRA Addendum	Page 2	All existing watercourses will be retained post development.	All existing watercourses have been shown on the drainage strategy plan and will be retained post development.
PBA/Stantec FRA Addendum	Page 2	All strategic SuDS attenuation features will be designed with a minimum freeboard of 300mm to allow for any residual risk related to blockage or an extreme rainfall event (in excess of the 1 in 100 plus climate change event).	Refer to the calculations in Appendix A which demonstrate that a 300mm freeboard has been provided.
PBA/Stantec FRA Addendum	Page 2	Limiting discharge rate of 4.67 l/s/ha (mean annual greenfield rate) for all events up to and including 1 in 100 plus climate change event.	4.67l/s/ha has been adhered to. Refer to the drainage strategy plan.
PBA/Stantec FRA Addendum	Page 2	Additional ecological and biodiversity benefits to be provided within SuDS such as planting, reed beds, or varying permanent water depths where feasible.	These features will be included as part of the detailed design stage.

PBA/Stantec FRA Addendum	Page 2	Exact detail of onsite drainage to be confirmed through detailed design. This can be achieved through provision of swales, ditches, permeable paving or other forms of SuDS and in accordance with the 'SuDS Vision for New Eastern Villages (NEV) Supplementary Planning Document' (SPD) – February 2017.	Noted. Detail to be developed through the detailed design stage.
PBA/Stantec FRA Addendum	Page 2	All SuDS designs within the development shall be based above the 1 in 100 plus climate change flood level, including any outfalls.	All SuDS have been located above the 1:100 year +70% CC floodplain extents. Due to the shallow nature of the existing drainage features, it has not been practical to lift the outfalls above this flood level, however these will be tested with surcharged outfalls to demonstrate that they operate correctly and cause no flooding issues.
PBA/Stantec FRA Addendum	Page 3	At the detailed design stage, the proposed drainage strategy will be tested with surcharged outfalls to confirm the adequate operation and performance of the system in the event of the receiving watercourse being in flood. Inline non-return valves shall be fitted to all outfall points subject to flooding.	Noted. At detailed design stage, the design will be tested with surcharged outfalls.
PBA/Stantec FRA Addendum	Page 3	It is expected that the intermediate discharge rates will vary as detailed designs are prepared at a later stage to suit evolving designs for SuDS features however, the overall discharge rate will still be limited to 4.67 l/s/ha	Noted. The catchment areas are based on those in the FRA Addendum and these are subject to change through the detailed design process.
SBC NEV SuDS Vision SPD	3.1/p36	'SuDS should be well integrated with the green infrastructure network but should not be located in areas of high or medium risk of flooding'	All SuDS have been located outside of the 1 in 100 year +70% CC flood event.
SBC NEV SuDS Vision SPD	3.1/p37	'Overland surface water flows should be routed away from any vulnerable areas	Overland flows will be routed away from residential areas, towards SuDS features on the edges of the development.
SBC NEV SuDS Vision SPD	3.1/p38	'Developers must demonstrate that the quality of surface water runoff will be controlled to an acceptable standard through a designed SuDS treatment train'	Section 2.3 of this report demonstrates that adequate water treatment will be provided, in accordance with CIRIA C753.
SBC NEV SuDS Vision SPD	3.1/p46	'Highways and car parks must be drained using source control techniques, either using a permeable surface or over the edge drainage to under drained swales	Indicative highways have been shown at a strategic level which utilise over the edge drainage to under drained swales. At detailed design stage highway and car parking areas will utilise the same approach where feasible.

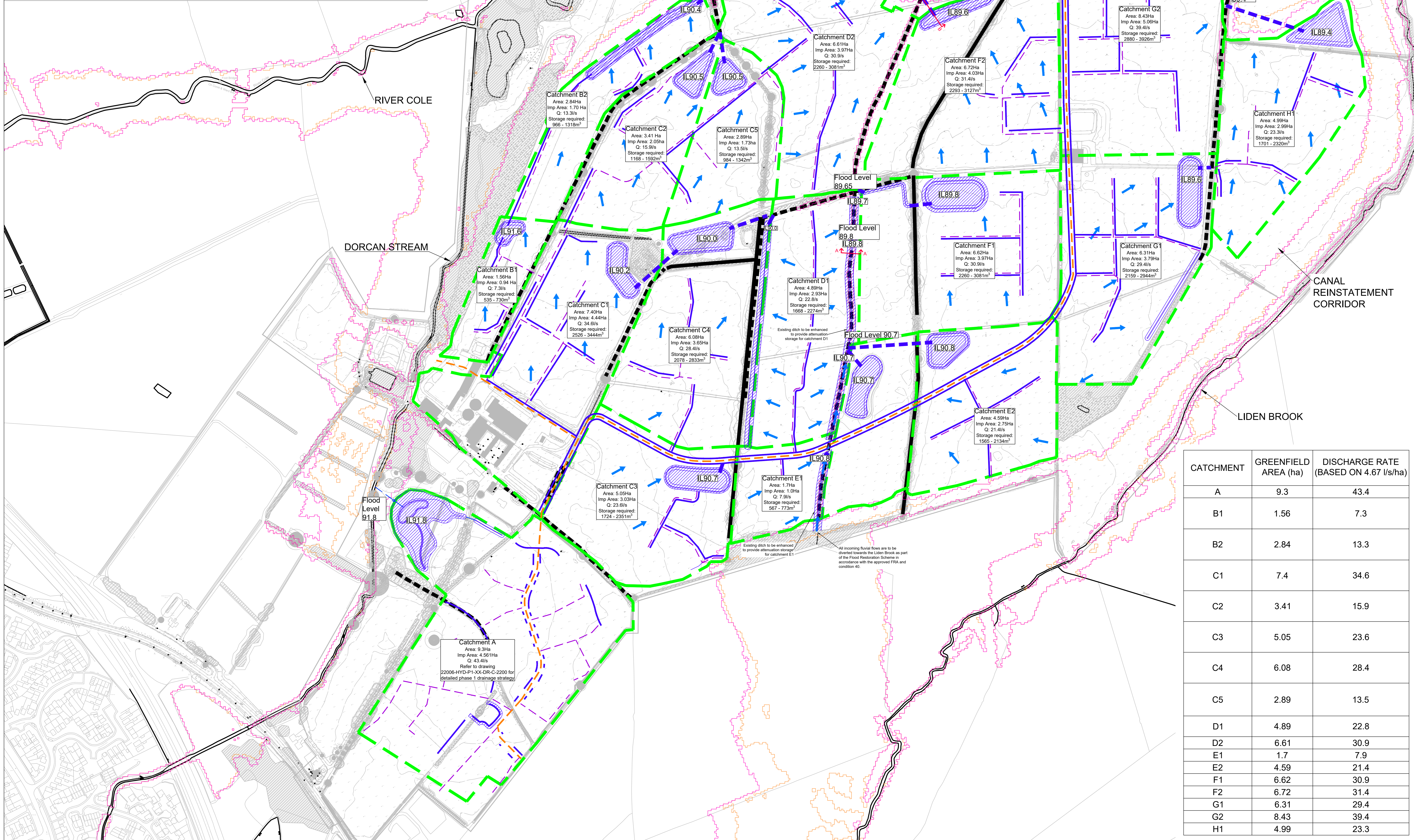
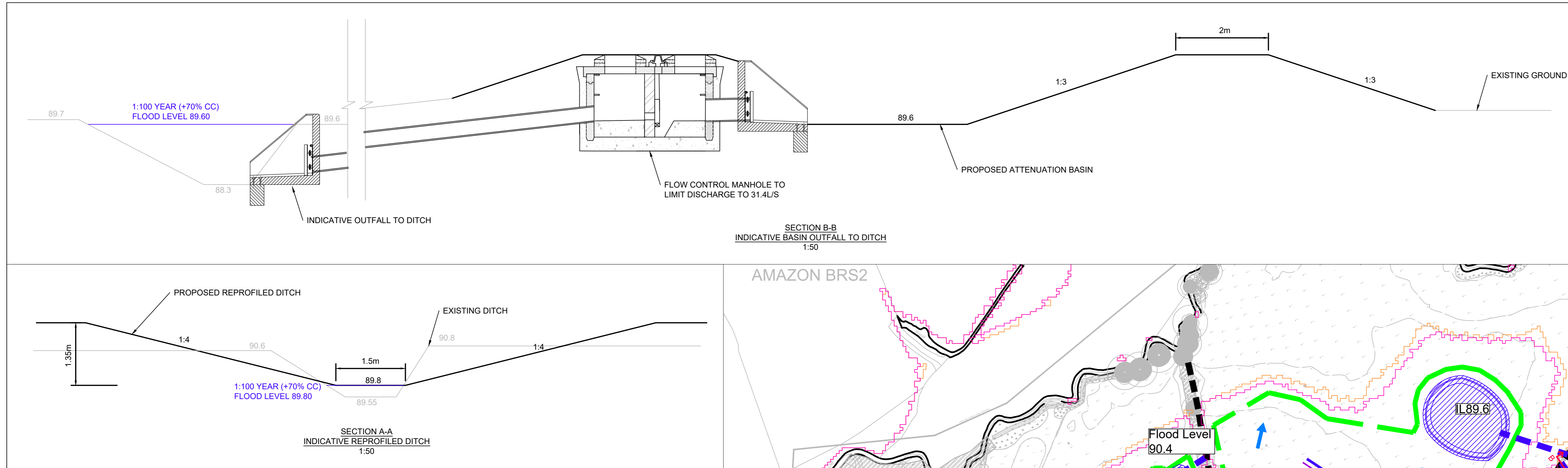
3. SUMMARY

This drainage strategy report has been prepared by Hydrock on behalf of Countryside Sovereign Swindon LLP pursuant to condition 46 of the outline planning permission for Lotmead Farm.

- The drainage strategy is compliant with the NEV SuDS Vision SPD produced by Swindon Borough Council (2017), the outline FRA (Ref: 27970/4003, Dated:08/03/2019) and FRA Addendum (Ref: 27970/4003/TN001, Dated: 22/08/2019) produced by PBA/Stantec.
- Surface water flows are to be attenuated within attenuation features designed for the 1 in 100 year storm event plus 40% allowance for climate change.
- All attenuation features are to be set above the 100 year +70% climate change fluvial flood level, as requested by the LLFA in the outline planning permission.
- Flows are to be discharged into either the Liden Brook or River Cole at a maximum rate of 4.67l/s/ha.
- Primary and secondary source control will be prioritised through over the edge swales, rain gardens, filter strips and tree pits etc. The detail of the SuDS features for each catchment will be prepared at the Reserved Matters stage.
- Surface water runoff will pass through a minimum of two SuDS features prior to discharging into the receiving water course.
- The SuDS features will provide sufficient water quality improvements for a development of this type.
- Maintenance should be carried out in accordance with the schedule set out in this report as a minimum.

Notwithstanding the content of this Design Note, a separate Designers Response (ref. 22006-HYD-P0-XX-TN-C-0003 LLFA Comments Response) has been prepared by Hydrock in response to the LLFA's comments of 05/09/2022. In accordance with the provisions of the FRA Addendum, which was informed by an illustrative masterplan and not detailed phase layouts, CSS reserve the right to revisit and re-discharge condition 46 following further detailed design in later phases. In such circumstances, evidence relating to the feasibility and prioritisation of above ground SuDS features will be provided, balanced against other elements of the permission.

Appendix A - Drainage Strategy



KEY

- Site Boundary
- 1: 100% +35%CC Flood Level
- 1: 100% +70%CC Flood Level
- SuDS Feature
- Southern Connector Road - to utilise over-the-edge swales
- Tertiary roads - to utilise over the edge swales where possible
- Indicative swales within catchment - subject to detailed design
- Flow routing
- Indicative outfall
- Existing ditch
- Existing bund
- Catchment area based on FRA Addendum by PBA/Starac

- Notes:**
- SuDS features shown are indicative and subject to design development as part of the Reserved Matters for each phase.
 - SuDS features are roughly sized, based on a quick storage estimate from MicroDrainage.
 - Surface water flows will be treated with a minimum of 2 SuDS features before discharging off site.
 - Existing watercourses will be used for conveyance and storage where possible.
 - All SuDS features are to be located above the 1 in 100 year (plus climate change) flood level.

CATCHMENT	GREENFIELD AREA (ha)	DISCHARGE RATE (BASED ON 4.67 l/s/ha)
A	9.3	43.4
B1	1.56	7.3
B2	2.84	13.3
C1	7.4	34.6
C2	3.41	15.9
C3	5.05	23.6
C4	6.08	28.4
C5	2.89	13.5
D1	4.89	22.8
D2	6.61	30.9
E1	1.7	7.9
E2	4.59	21.4
F1	6.62	30.9
F2	6.72	31.4
G1	6.31	29.4
G2	8.43	39.4
H1	4.99	23.3

REVISIONS

Rev	Date	Description	By	Ckd	App
P09	28/10/22	Flood restoration note added	NJ	JC	JC
P08	04/10/22	Sections added	NJ	JC	JC
P07	28/09/22	Catchments revised	NJ	JC	JC
P06	28/07/22	Amendment to SCR	EP	OD	OD
P05	25/07/22	Minor amendment to key	EP	OD	OD
P04	18/07/22	Amendments to tertiary roads and swales	EP	OD	OD
P03	06/07/22	Minor amendments to Parcel A and areas	EP	OD	JC
P02	04/07/22	Parcel A information added.	EP	OD	JC
P01	28/06/22	First issue.	EP	OD	JC

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PROJECT
LOTMEAD FARM

TITLE
INDICATIVE SITE WIDE SURFACE WATER DRAINAGE STRATEGY

HYDROCK PROJECT NO.
C-22006-C

SCALE @ A0
1:2000

STATUS DESCRIPTION
FOR PLANNING

STATUS
S2

DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)
22006-HYD-P0-XX-DR-C-2211

REVISION
P09