Town and Country Planning Act 1990

Appeal by Barratt David Wilson and Hopkins Homes concerning Land North-East Of Humber Doucy Lane Ipswich Suffolk. Appeal against Ipswich Borough Council's and East Suffolk Council's refusal of – Outline Application (With All Matters Reserved) - Hybrid Application – Full Planning Permission for the means of external access/egress to and from the site. Outline planning application (all matters reserved) for a mixed use development for up to 660 dwellings (Use Class C3), up to 400 sq m (net) of non-residential floorspace falling within Use Class E and/or Use Class F2(b), an Early Years facility, and associated vehicular access and highway works, formal and informal open spaces, play areas, provision of infrastructure (including internal highways, parking, servicing, cycle and pedestrian routes, utilities and sustainable drainage systems), and all associated landscaping and engineering works.

LPA Reference (Ipswich Borough Council):

IP/24/00172/OUTFL

PINS Reference: APP/R3515/W/24/3350674

LPA Reference (East Suffolk Council):

DC/24/0771/OUT

PINS Reference: APP/X3540/W/24/3350673

Proof of Evidence for Flood Risk and Drainage Matters by Benjamin Locksmith BSc (Hons) on behalf of Suffolk County Council as Lead Local Flood Authority

1. Qualifications and Experience

- **1.** I am Benjamin Locksmith BSc (Hons), a Flood and water Engineer of the Flood & Water Team at Suffolk County Council in its capacity as the Lead Local Flood Authority
- **2.** I graduated from the University of Suffolk in 2023 with a Bachelor of Science (BSc) in Civil Engineering and am working towards IEng level membership with the Institute of Civil Engineers.
- 3. I have worked for SCC since 2016 in various roles and in my present capacity as a Flood and Water Engineer since 2022. I am responsible for all major planning applications in the East Suffolk Council district, statutory flood investigations, neighbourhood and local plan contributions.
- 4. I present this Proof of Evidence ("PoE") to explain the Lead Local Flood Authority's position in respect of the proposed development at Land North-East Of Humber Doucy Lane, Ipswich, Suffolk (the "Appeal Site"), planning appeal references APP/R3515/W/24/3350674 and APP/X3540/W/24/3350673, which is the subject of this appeal made by Barratt David Wilson and Hopkins Homes (the "Appellants") against Ipswich Borough Council's ("IBC") and East Suffolk Council's ("ESC") decision to refuse planning permission.
- 5. I am presenting this Proof of Evidence of behalf of the Lead Local Flood Authority due to my previous involvement with, and knowledge, of the application that is now the subject of this appeal process. I jointly reviewed the documents from the initial submission with a colleague (Hannah Purkis BSc (Hons)) who subsequently provided the initial LLFA consultation response on 30-04-2024 prior to LPA recommendation of refusal.
- 5. Where the facts and matters set out in this statement are within my own knowledge, they are true and where they derive from other sources, they are true to the best of my knowledge and belief. I confirm that the opinions expressed in this statement are my true and professional opinions. I am aware of my duty to the inquiry as an expert witness and have satisfied this duty in preparing my evidence

2. Introduction

6. This proof of evidence (PoE) on flood risk and surface water drainage matters sets out my view as an expert witness of behalf of Suffolk County Council (SCC) in its capacity as Lead Local Flood Authority in relation to the hybrid planning application for the proposed development at Land North-East Of Humber Doucy Lane Humber Doucy Lane Ipswich.

7. The proposed development is a hybrid application for full permission to enable access/egress from the site, with all other matters, reserved under the outline element. The outline element includes: 660 dwellings (Use Class C3), up to 400 sq m (net) of non-residential floorspace falling within Use Class E and/or Use Class F2(b), an Early Years facility, and associated vehicular access and highway works, formal and informal open spaces, play areas, provision of infrastructure (including internal highways, parking, servicing, cycle and pedestrian routes, utilities and sustainable drainage systems), and all associated landscaping and engineering works.

8. The site is located on the north-east of Ipswich, which is the largest town in Suffolk, in the south of the county, on the A12 and A14 Strategic Road Network (SRN) corridor. The site is split into three parcels, with the western parcel bounded by the Ipswich to Lowestoft railway line on its northern boundary, Lacy's Farm and Ipswich Rugby Club on its eastern boundary, Humber Doucy Lane on its southern boundary and Tuddenham Road on its western boundary. The eastern parcel is bounded by Ipswich Rugby Club on its northern and western boundaries, Seven Cottages Lane on its eastern boundary and Humber Doucy Lane on its southern boundary and Humber Doucy Lane on its southern boundary.

9. The third parcel is located on the western side of Humber Doucy Lane, to the south of the junction with Tuddenham Road. It is understood that this parcel was included to accommodate potential junction improvements to the junction of Humber Doucy Lane and Tuddenham Road.

10. The site is largely at low risk of flooding from all sources, fluvial (river), pluvial (surface water), tidal, groundwater, reservoir and sewer flooding and thus is in principle suitable for the proposed development. It is agreed that there is a small, isolated area at high risk of pluvial flooding in the eastern portion of the site however this could be addressed by the removing the low spot when the levels strategy for the site is finalised.

3. Timeline of LLFA involvement

11. The LLFA issued informal advice to the applicant (now appellant) in August 2023 regarding the potential use of soakaways onsite and again in September 2023 providing copies of flood risk incident records as requested.

12. The LLFA issued formal Pre-application advice to the applicant (now appellant) on **1**st **November 2023** (AD11).

13. The planning applications which are the subject of this appeal (references IP/24/00172/OUTFL and DC/24/0771/OUT) were submitted to IBC and ESC respectively in March 2024.

14. SCC in its capacity as Lead Local Flood Authority was formally notified of the planning application under reference IP/24/00172/OUTFL and DC/24/0771/OUT by letter from IBC and ESC on **02 April 2024.**

15. SCC reviewed the documents submitted with the planning application, including but not limited to:

- Flood Risk Assessment and Drainage Strategy 681058-R1(0)-FRA R1 (29-02-2024) (AD10.1 AD10.2 AD10.3)
- GEOTECHNICAL AND GEOENVIRONMENTAL INTERPRETATIVE REPORT NUMBER 16118SI Rev.2 (08-11-2022) (AD13)

16. SCC LLFA submitted a holding objection on 30th April 2024 (AD12) because there had been insufficient information to undertake a proper assessment of the proposed surface water management strategy. Based on the information submitted, we could not determine that the proposed strategy would not lead to an increase in flood risk, or that the strategy was compliant with local and national policy. As I set out above, both myself, and Hannah Purkis Bsc (Hons) MCIWEM C.WEM identified the above deficiencies with the strategy and could not make an informed decision without further information.

17. Further information was submitted by the applicants (now Appellants) in May 2024 directly to the LLFA. Due to internal workload pressures this was not assessed informally and was referred to the LPA for an official re-consultation as per standard practice. This re-consultation was not made in light of the recommendation for refusal on the 4th June 2024 by ESC/IBC. And now forms Appendix 3 of the Appellants Statement of Case (SC1)

18. The applications were refused by ESC and IBC on 4th June 2024. Reason for refusal 5 (of IBC's decision) and 4 (in ESC's decision) specifically deal with flooding matters, and that is the primary focus of my evidence in this PoE. However, drainage is also relevant to reason for refusal 1 as sustainable drainage infrastructure should be considered holistically in the master planning and design of the site as a whole.

4. Policy Context

National Planning Policy Framework (NPPF) as updated December 2024 (NP2)

19. NPPF paragraph 170 states:

National Planning Policy Framework (NPPF) Paragraph 165 states that. "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."

20. NPPF paragraph 182 states:

Applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity. Sustainable drainage systems provided as part of proposals for major development should:

a) take account of advice from the Lead Local Flood Authority;

b) have appropriate proposed minimum operational standards; and

c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development

National Planning Practice Guidance (NPPG) as updated August 2022 (NP1)

21. NPPG paragraph 055 reference ID: 7-055-20220825 states:

The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.

22. NPPG paragraph 056 reference ID: 7-056-20220825 states:

The types of sustainable drainage system which it may be appropriate to consider, will depend on the proposed development and its location, as well as any planning policies and guidance that apply

locally. Where possible, preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the following hierarchy of drainage options:

- *into the ground (infiltration);*
- to a surface water body;
- to a surface water sewer, highway drain, or another drainage system;
- to a combined sewer.

Local Policy and Guidance

East Suffolk Council – Suffolk Coastal Local Plan (DP2)

23. The most relevant policies in the Suffolk Coast Local Plan for the purposes of considering flood risk/ drainage matters on this appeal are Policy SCLP12.24 and SCLP 9.6.

Policy SCLP12.24: Land at Humber Doucy Lane

9.9ha of land to the east of Humber Doucy Lane is identified to come forward for the development of approximately 150 dwellings in conjunction with land identified in the Ipswich Local Plan. Development will only come forward as part of a masterplanned approach with land in Ipswich Borough.

Development will be expected to comply with the following criteria:

a) Delivery of a high quality design incorporating a mix of housing types, including affordable housing on-site;

b) A site-specific Flood Risk Assessment will be required;

c) Provision of 0.1ha of land for an early years setting if needed within the part of the site in East Suffolk;

- d) Contribution to the creation of a 'green trail' around Ipswich and provision of on-site open space;
- e) Provision for sufficient primary school spaces;
- f) Provision of a soft edge to the urban area through the provision of significant landscaping;

g) Promotion of the use of sustainable modes of transport;

h) An archaeological assessment will be required;

i) Design, layout and landscaping of the development should be carefully designed to preserve the setting of the nearby listed buildings; and

j) A project level Habitats Regulations Assessment will be required. Development will be accessed via Humber Doucy Lane. A Transport Assessment will be required to identify any necessary improvements to highways and junctions on Humber Doucy Lane and Tuddenham Road.

Policy SCLP9.6: Sustainable Drainage Systems

Developments should use sustainable drainage systems to drain surface water. Developments of 10 dwellings or more, or non-residential development with upwards of 1,000 sqm of floorspace or on sites of 1 hectare or more, will be required to utilise sustainable drainage systems, unless demonstrated to be inappropriate. Sustainable drainage systems should:

a) Be integrated into the landscaping scheme and green infrastructure provision of the development;

b) Contribute to the design quality of the scheme; and

c) Deliver sufficient and appropriate water quality and aquatic biodiversity improvements, wherever possible. This should be complementary of any local designations such as Source Protection Zones.

Runoff rates from new development must be restricted to greenfield runoff rates wherever possible. Where a site is previously developed, the proposed runoff rates should be restricted as close to the greenfield rates, or at the very minimum a betterment of at least 30% should be considered over the brownfield runoff rates.

No surface water connections should be made to the foul system and connections to the combined or surface water system should only be made in exceptional circumstances where there are no feasible alternatives. Foul and surface water flows should also be separated.

Ipswich Borough Council Local Plan 2018-2036 (DP1)

24. The most relevant policies in Ipswich Borough Council's Local Plan for the purposes of considering flood risk /drainage matters on this appeal are ISPA4.1 and DM4

ISPA4.1 Cross Boundary Working to Deliver Sites

Ipswich Borough Council will work with neighbouring authorities to master plan and deliver appropriate residential development and associated infrastructure on identified sites within the Borough but adjacent to the boundary where cross boundary work is needed to bring forward development in a coordinated and comprehensive manner.

23.28ha of land at the northern end of Humber Doucy Lane, identified on the Policies Map as ISPA4.1, is allocated for 449 dwellings and associated infrastructure to come forward in conjunction with land allocated in Policy SCLP12.24 of the Suffolk Coastal Local Plan in East Suffolk as a cross-boundary site. 60% of the site within Ipswich Borough is allocated for housing and 40% is allocated for secondary uses, comprising open space and other green and community infrastructure.

Development will be planned and comprehensively delivered through master planning of the site, including the allocation of land in East Suffolk, to be undertaken jointly with East Suffolk Council and the landowner.

Development will be expected to comply with the following criteria:

a) Delivery of a high-quality design in compliance with Policy DM12, including at least 30% affordable housing (unless viability assessment shows otherwise) in accordance with Policies CS8 and CS12. The mix and tenure types of housing will be determined through the master planning process;

b) Development must respect the maintenance of separation between Ipswich and surrounding settlements which is important to the character of the area. This should be achieved by the effective use of green infrastructure to create a transition between the new development/Ipswich urban edge and the more rural landscape character of East Suffolk;

c) The settings of the grade II Listed Westerfield House Hotel, Allens House, Laceys Farmhouse, and the Garden Store north of Villa Farmhouse must be preserved or enhanced as part of any future development of the site. Development must also have regard to its impact on the significance of non-designated heritage assets identified in the 43 Heritage Impact Assessment (HIA) (September 2020). An archaeological assessment is also required. Any future planning applications will require an HIA demonstrating how the effects on heritage assets are taken into account and mitigated;

d) A site specific Flood Risk Assessment will be required;

e) Rows of trees covered by Tree Preservation Orders (TPOs) along the boundary with Westerfield House should be preserved unless there are overriding reasons for their removal;

f) Current infrastructure requirements are as follows (subject to any additional infrastructure that may be identified as part of the planning application process):

i. Primary school places and an early years setting to meet the need created by the development;

ii. Replacement sports facilities if required to comply with policy DM5, other open space in compliance with the Council's Open Space Standards set out in Appendix 3 of the Core Strategy DPD and links to the Ipswich 'green trail' walking and cycling route around the edge of Ipswich;

iii. A project level Habitat Regulations Assessment will be required and Suitable Alternative Natural Greenspace (SANGs);

iv. Landscaping and development proposals must take account of the Ipswich Wildlife Audit (2019) recommendations for the site, contribute positively to the enhancement of strategic green infrastructure both on and off the site in its vicinity as appropriate, include a 10% biodiversity net gain, and provide a soft edge to the urban area where it meets the countryside;

v. Transport measures including:

• highway and junction improvements on Humber Doucy Lane and Tuddenham Road;

• walking and cycling infrastructure to link the site to key social and economic destinations including the town centre, and local services and facilities;

• public transport enhancements; and

• appropriate transport mitigation measures that arise from demand created by the development, in line with the ISPA Transport Mitigation Strategy;

vi. Development will need to be phased and delivered in coordination with the delivery of the Ipswich Garden Suburb to ensure sufficient primary school capacity is provided to meet demand generated from the strategic allocation at the northern end of Humber Doucy Lane;

vii. The development will be triggered by the ability to provide the necessary primary school capacity on the Red House element of Ipswich Garden Suburb or an agreement between the landowner and Suffolk County Council, as the Education Authority, to provide a primary school on the Humber Doucy Lane development;

viii. As part of the master planning work, the opportunity for the provision of convenience retail on site should be assessed in order to reduce travel demand, taking into account any effects on the viability of existing local retail facilities;

ix. and A financial contribution to off-site healthcare facilities.

Policy DM4: Development and Flood Risk

Development will only be approved where it can be demonstrated that the proposal satisfies all the following criteria:

a) the sequential test set out in national policy is met, other than on allocated sites where the sequential test will not need to be repeated for uses consistent with the allocation;

b) if it is not possible for the development to be located in a zone at lower risk of flooding, that the sustainability benefits would outweigh the flood risk and the development will remain safe for people for its lifetime;

c) it will not increase the overall risk of all forms of flooding in the area or elsewhere through the mitigation of flood risk in the layout, design and form of the development and the appropriate application of Sustainable Drainage Systems (SuDS);

d) that no surface water connections are made to the foul system and connections to the combined or surface water system are only made in exceptional circumstances where it can be demonstrated that there are no feasible alternatives (this applies to new developments and redevelopments);

e) that adequate sewage treatment capacity and foul drainage already exists or can be provided in time to serve the development;

f) it will be adequately protected from flooding in accordance with adopted standards of the Suffolk Flood Risk Management Strategy;

g) it includes water efficiency measures such as water re-use, stormwater or rainwater harvesting, or use of local land drainage water; and

h) it does not have any adverse effect on European and Nationally designated sites in terms of surface water disposal.

Applications should be supported by site-specific flood risk assessments as required. The Development and Flood Risk Supplementary Planning Document provides relevant guidance on what constitutes safe development.

Suffolk Flood Risk Management Strategy Appendix A – Sustainable Drainage System (SuDS) a Local Design Guide (as updated 2023) (DG2)

24. Section 3 of the Local Design Guide contains a table of the information that SCC, as Lead Local Flood Authority expect to see submitted as supporting evidence for each type of application. This document is based on the CIRIA SuDs Manual (OT26) (detailed industry guidance which is supported by the Planning Practice Guidance, paragraph 057 (NP1), in which it is stated that applicants and developers should take the CIRIA SuDS Manual into consideration).

25. Section 4 of the Local Design Guide (DG2) states that new development should:

- Not increase flood risk off-site,
- Ensure no internal flooding on-site and no above ground flooding on-site, other than designated storage areas,
- Runoff must be managed at source with residual flows conveyed downstream using above ground conveyance to further above ground storage or treatment components where required,
- Take account of the construction, operation and maintenance requirements of SuDS allowing for any maintenance access required to undertake this work,
- Accommodate climate change.

5. Flood risk and drainage: Evaluation

- 26. The documents submitted in support of the initial application included:
- Flood Risk Assessment and Drainage Strategy 681058-R1(0)-FRA R1 (29-02-2024) (AD10.1, AD10.2, AD10.3)

The document provided a proposed approach to managing surface water within the development parcel on an outline basis via the use of Sustainable Drainage Systems (SuDS). Within the document, the site is split into two primary parcels, Northern and South-Eastern. Both parcels are proposed to be drained using the same drainage principles but with standalone drainage strategies that do not interact. The report draws upon GEOTECHNICAL AND GEOENVIRONMENTAL INTERPRETATIVE REPORT NUMBER 16118SI Rev.2 (08-11-2022) (AD13) to rule out shallow infiltration and propose 7 strategic deep infiltration basins with parcels partially fed by strategic swales (5 in the Northern Parcel, 2 in the South-Eastern). Raingardens and permeable paving are also mentioned as methods to be used within private areas, with text on page 21 (AD10.1, AD10.2, AD10.3) indicating that permeable paving is the proposed favourable method for drainage within parcels.

27. Based on the information submitted within 681058-R1(0)-FRA R1 (29-02-2024) (AD10.1, AD10.2, AD10.3) and associated supporting documentation a holding objection was submitted to the LPA (AD12) because there was not sufficient information or clear drainage strategy development to support an outline development of the proposed scale. There was not sufficient information for the LLFA to confidently confirm that the drainage hierarchy had been followed or that a suitably sufficient drainage scheme had been developed. The initial LLFA holding objection was formed based on 9 points of objection. A copy of the holding objection is provided in Appendix 1 to SCC's Statement of Case.

28. SCC's objection was reflected in IBC's reason for refusal 5 and ESC's reason for refusal 4.

29. IBC reason for refusal 5 is in the following terms:

'A Flood Risk Assessment has been submitted with the application, but it fails to adequately consider the existing watercourse network around the site. Without this being fully considered it cannot be concluded that the proposed development would not have an adverse impact upon the existing watercourse network and that there would not be an increase in flood risk to the surrounding area.

The submitted Drainage Strategy fails to comply with the Suffolk SuDs Guide through an overreliance of deep infiltration structures and a lack of at-source SuDs measures to reduce the need for below ground SuDs features.

The Flood Risk Assessment submitted is deficient in a number of aspects and <u>it cannot be concluded</u> <u>that the proposals comply with the requirements of DM4 and adequately demonstrates that the new</u> <u>development would not increase off-site flood risk.</u> In addition, the proposed drainage strategy is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175) and Local Plan Policy DM4. 30. ESC reason for refusal 4 is in materially similar terms:

'A Flood Risk Assessment has been submitted with the application, but it fails to adequately consider the existing watercourse network around the site. Without this being fully considered it cannot be concluded that the proposed development would not have an adverse impact upon the existing watercourse network and that there would not be an increase in flood risk to the surrounding area.

The submitted Drainage Strategy fails to comply with the Suffolk SuDs Guide through an overreliance of deep infiltration structures and a lack of at-source SuDs measures to reduce the need for below ground SuDs features.

The Flood Risk Assessment submitted is deficient in a number of aspects and <u>it cannot be concluded</u> <u>that the proposals comply with the requirements of SCLP9.6 (Sustainable Drainage Systems) and</u> <u>adequately demonstrates that the new development would not increase off-site flood risk.</u> In addition, the proposed drainage strategy is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175), Local Plan Policies SCLP12.24 (Land at Humber Doucy Lane), SCLP9.6 (Sustainable Drainage Systems), and Rushmere St Andrew Neighbourhood Plan Policy RSA 9 (e) (Design Considerations).'

31. Further information was provided by the applicants (now Appellants) in May 2024 responding to some of the LLFA's concerns.:

Document reference: *LLFA holding objection in relation to outline application – hybrid application reference: DC/24/0771/OUT (08-05-2024) (AD12)*

32. The LLFA has assessed this document and considers that is has satisfactorily addressed Points 1 to 4 of its holding objection.

33. The LLFA had a further meeting with the Appellants to discuss what information would be required to address the remaining points on the 27th November 2024. After that meeting an updated drainage strategy plan: *Proposed Surface Water Drainage Strategy 890695-RSK-ZZ-XX-DR-C-0007-P02 (04-12-2024)* (APD1) was provided by the Appellants. Having reviewed that updated plan alongside the information which had previously been submitted by the Appellants, there are now three points of objection raised in SCC's holding objection which remain. These are Point 6, Point 7, Point 9.

Point 6 – Pollution Mitigation

'The simple index approach has been used to assess the surface water pollution hazard potential however given the number of dwellings, a school and community uses proposed on the site, it is likely that the main distributor road will generate a greater level of pollution than can be assessed

using this method. The assessment used only applies to roads with less than 300 traffic movements per day.'

34. This point of objection relates to section 7.4 of the FRA and Drainage Strategy which addresses water quality, and the treatment train provided in the drainage strategy.

35. The Appellants have used the Simplex Index Approach for the purposes of the assessment. It identifies the proposed impacts of individual property driveways, roofs, residential car parks, low traffic roads, non-residential car parking with infrequent change (schools, offices) as being '**Low** Pollution Hazard – Simple Index Approach'.

36. However, as is set out in Table 7.2 of the FRA and Drainage Strategy, the 'Low' Pollution Hazard Level for that type of land use in the SuDS Manual Table 26.2 (OT26) would apply where there are less than 300 traffic movements a day. That is incorrect for this development. The Appellants have not identified the water quality impacts on the basis that the primary distributor road(s) will be subject to over 300 movements and thus falls under the medium pollution category as noted in SuDS Manual Table 26.2: '*Roads (excluding low traffic roads, highly frequented lorry approaches to industrial estates, trunk roads/motorways)'* (OT26).

37. This has been agreed with the Appellants in writing in the further information submitted in May 2024 (SC1) but remains a point of objection as despite acknowledging that point, it has not been addressed in any updated drainage strategy report/addendum. This is needed because an accurate assessment of the most polluting areas of the proposed site should be adequately shown to be of a sufficient scale to provide treatment. Treatment design has a direct effect on the size and placement of strategic SuDS features and thus form an important element of accurate feature integration within the development infrastructure and open space.

38. The updated drainage strategy plan which has been provided (APD1) provides retention times for the strategic swales but does not provide retention times for the medium risk highway swales. The medium risk areas of the site will also rely on the provided infiltration basins to provide sufficient treatment. The cross-sections and specifications provided do not currently demonstrate a specification that can meet CIRIA treatment requirements for infiltration basins (OT26). Whilst the strategic swales (excluding highways) have treatment compliant notes on the updated drainage strategy plan it has not been sufficiently demonstrated through updated calculations and drawings that treatment compliant swales have been provided.

39. Whilst the drainage for the site falls within the outline part of the applications, the at the outline application stage the 'worst case' swales and basins should be assessed. That is, swales and basins which are the smallest size potentially proposed, which serve the most extensive site area, and have the worst retention times. These features should be fully assessed and modelled to demonstrate CIRIA SuDS treatment design compliance with a supporting dimensioned cross-section(s) showing vegetation/check dams, demonstrating that a sustainable drainage system which will meet the treatment criteria that a developer says will be met as part of the treatment train can be delivered on the site.

40. SSC would therefore expect the Water Quality section of a drainage strategy report to (1) correctly identify the pollution hazard levels, (2) propose a sufficiently compliant Simple Index Assessment pollution treatment train, and then (3) finally assess the worst-case proposed features to demonstrate compliance with CIRIA SuDS treatment design.

41. This is important as it provides a crucial function in sizing all strategic SuDS features on a proposed development site. SuDS proposed without adequate treatment design may work hydraulically in attenuating the critical storm events but may not meet the criteria to provide adequate pollution treatment, necessitating larger land takes than if not designed for treatment. Correct design for both attenuation and treatment is crucial in providing policy compliant SuDS features ensuring that land take is accurate and avoiding a reliance on proprietary treatment devices at later stages of the site development.

42. Point 6 continues to be maintained as an objection. The strategic infrastructure at outline development stage should clearly provide the correct attenuation, be accurately sized, and function within the technical parameters if it is to be used as treatment device. Demonstrating at outline stage that a sustainable drainage system which will meet the treatment criteria that a developer says will be met as part of the treatment train can be delivered on the site, when the more detailed plans for the proposed development come forward for approval at reserved matters stage is crucial to achieving a multifunctional and policy compliant scheme. Significant changes to SuDS criteria such as treatment at the detail design stage can led to an overreliance on less valuable SuDS features such as proprietary drainage systems due to a lack of available space and other competing planning requirements, such as SANG.

The lack of suitable information on treatment design goes in particular to paragraph 3 of reasons for refusal 4 (ESC) and 5 (IBC). Without sufficient treatment design the system is not in compliance with the following:

- ESC policy SCLP 9.6 which clearly states that any SuDS system on a major development should 'Deliver sufficient and appropriate water quality and aquatic biodiversity improvements, wherever possible. This should be complementary of any local designations such as Source Protection Zones.'
- IBC policy DM4: 'a. it does not increase the overall risk of all forms of flooding in the area or elsewhere through the layout and form of the development and wherever practicable appropriate application of Sustainable Drainage Systems (SuDS);'
- SCC's SuDS Local Design Guide: Page 7 clearly state that treatment design is expected to be submitted as part of an outline application. Page 10 states 'Best practice maximises treatment, amenity and biodiversity potential by using multifunctional, open SuDS close to source, thereby reducing downstream requirements for storage and volume control.'
- CIRIA SuDS manual Chapter 26.1: 'Best practice maximises treatment, amenity and biodiversity potential by using multifunctional, open SuDS close to source, thereby reducing downstream requirements for storage and volume control.'
- CIRIA SuDS Manual 7.6.4 (Page 122): a suitable SuDS Management Tain(s) for all subcatchments that delivers appropriate treatment.
- NPPF Paragraph 182 'These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity.'

43. As per the NPPF/G, IBC/ESC District Council policies SCLP 9.6 and DM4, and Local Authority guidance it is clear that policy compliant strategic SuDS features should be demonstrated to meet treatment criteria which is not currently the case.

Point 7 – Highway drainage

'In accordance with the Suffolk SuDS Guide and Suffolk Design for Streets Guide the main access roads should be drained to roadside swales. Cross sections should be provided to demonstrate how space has been provided to ensure this can be accommodated in the final layout.'

44. The original FRA and Drainage Strategy (AD10.1, AD10.2, AD10.3) did not make any provision for roadside swales on the primary distributor road.

45. All primary and secondary distributor roads should be drained by roadside swales, either two smaller swales or one larger swale. Both the SuDS Local Design Guide (DG2) and the Highway Authority Suffolk Design for Streets Guide Page.83/84/87) (DG1) state clearly that the provision of swales for conveyance of road runoff is the first and most preferable option and an alternative non-SuDS solution will need to be robustly evidenced.

46. The updated drainage strategy plan (APD1) shows a 2-swale approach on the main spine road of the site, but no supporting data, labels, or cross-sections have been provided. This is not in accordance with NPPF paragraph 175 (b) *'have appropriate proposed minimum operational standards'* (NP2) as the LLFA cannot determine if the proposed feature comply with the minimum operational standards set by the LLFA (NP2).

46. Nor does it comply with NPPG Paragraph 055 which provides that '*The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.'* (NP1).

47. The primary road swales at outline stage must be sized to accurately to drain the proposed road/footpath areas. Often the road layouts are the most congested areas of a site for competing infrastructure, and a corridor will be required to deliver roads, footpath, cycleway, trees, streetlighting, service strips, accesses, and swales. It must therefore be accurately sized at outline stage relative to the other infrastructure provision to ensure that features such as swale performance are not diluted as the design is developed. For example, above ground conveyance swales as currently provided in the strategy becoming under drained which is a less effective desirable solution or being removed entirely. Without that information being provided there cannot be any certainty that at detailed design stage that competing pressures do not damage the provision of good green/blue infrastructure as set out in ESC Policy SCLP 9.6 (DP2).

48. The following paragraph from page 21 of the Appellants' original drainage strategy document (AD10.1, AD10.2, AD10.3) 'The dimensions, volumes and location of the SuDS features will need to be revised as the masterplan develops and during the detailed planning stage. Detailed design of individual features is not part of the scope of this report. Preliminary design criteria have been based upon guidance given in the CIRIA publication 'The SUDS Manual'' shows that best practice has not been considered in considering strategic infrastructure. SCC therefore remains concerned that the Appellants have not properly considered the strategic infrastructure sizing and provision to meet the technical requirements of the LLFA and Highway Authority guidance (DG1 & DG2), nor the importance of the required land take in all primary aspects of green infrastructure provision.

49. Point 7 of SCC's consultation response therefore continues to be maintained as an objection as the lack of suitable information provided for the primary distributor road swale and supporting the following parts of reason for refusal 4 (ESC) and 5 (IBC):

- 'a lack of at-source SuDs measures to reduce the need for below ground SuDs features. 'and
- 'is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175) and Local Plan Policy...'.'

50. Without sufficient detail provided to support the primary distributor highway drainage proposal the drainage strategy does not comply with the following policy/guidance:

- ESC policy SCLP 9.6: which clearly states that SuDS should be: 'a) Be integrated into the landscaping scheme and green infrastructure provision of the development; b) Contribute to the design quality of the scheme; and c) Deliver sufficient and appropriate water quality and aquatic biodiversity improvements, wherever possible. This should be complementary of any local designations such as Source Protection Zones.'
- IBC policy DM4 which states that drainage should: 'c) it will not increase the overall risk of all forms of flooding in the area or elsewhere through the mitigation of flood risk in the layout, design and form of the development and the appropriate application of Sustainable Drainage Systems (SuDS);'
- SuDS Local Design Guide (DG2) Page 10: 'Runoff must be managed at source with residual flows conveyed downstream using above ground conveyance to further above ground storage or treatment components where required,'
- Suffolk Design Streets Guide (DG1): Page 51: 'Highway drainage should, wherever practical, use SuDS principles and maximise source control.' 'SuDS features should be deployed as much as reasonably possible, but designers must ensure and prove they are fully utilised. That is to say not a token feature which offers little benefit in regard to increasing source control or water quality' and Page 85 'The streets should be tree-lined in accordance with national policy, with consideration for integration with SuDS.'
- CIRIA SuDS manual Page (144): 'It is advisable to consider drainage from roads specifically during the master planning process, taking account of local road (including street) design guidelines'
- NPPF Paragraph 182: Applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity. Sustainable drainage systems provided as part of proposals for major development should:
- a) take account of advice from the Lead Local Flood Authority;
- b) have appropriate proposed minimum operational standards; and
- c) have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development
- NPPG Paragraph 055: The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.
- NPPG Paragraph 056: 'The types of sustainable drainage system which it may be appropriate to consider, will depend on the proposed development and its location, as well as any planning policies and guidance that apply locally. Where possible, preference should be given to multi-functional sustainable drainage systems'

51. Point 7 of SCC's consultation response is therefore maintained in the context of reasons for refusal 4 (ESC) and 5 (IBC) as the lack of sufficient information supporting the provision of primary distributor road swales clearly shows noncompliance with the above national and local policy/guidance.

Point 9 – dimensions of strategic SuDS features

'The strategic swales and basins should have dimensions provided to demonstrate they are in accordance with the Suffolk SuDS Guide. As many of the parcels are currently shown to be drained by traditional drainage, it is likely that the invert level of the pipes will be too deep to discharge into surface features and this should be considered at this stage to avoid excessive below ground infrastructure being required at the detailed design stage.'

52. The applicant has provided dimensions of the strategic swales on the updated drainage strategy plan (APD1), has updated basin dimensions to meet LLFA guidance, and shown swales to the primary distributor road (although without supporting data, labels, or cross-sections, as set out above). Whilst that updated plan has gone some way towards addressing the concerns raised under this point of objection, the Appellants have still not provided sufficient information to fully address this point.

53. The strategic swales have been dimensioned on plan and will be acceptable in principle subject to (1) updated modelling outputs that address the other outstanding requirements and (2) the provision of a dimensioned swale cross-section (largest swale) that shows indicative planting/check dams as required. (3) the provision of CIRIA simple index pollution assessment compliant calculations.

54. The new primary distributor road swale shown on plan is not dimensioned, and has no supporting dimensioned labelling so is not clearly modelled or sized. There is no supporting dimensioned cross-section or simple index assessment calculations provided. The provision of dimensioned strategic features in the masterplan formed reason 1 of refusal and point 6.48 of the SCC statement of case (SC2). Correctly designed and dimensioned SuDS features are essential in ensuring that there is not an adverse impact on runoff rates from sites, particularly large sites such as this. The inspectors report for appeal APP/K0425/W/18/3218645 (CDOT17) notes that when the council concern of 'the proposal was not accompanied by information sufficient to assess whether a sustainable drainage system could be put in place to prevent an increased risk of flooding from surface water as a result of the development.' The inspector found that 'I cannot be satisfied that the proposal would not result in an increase in surface water run off rates at the site. As such it would not accord with Policy DM39 of the WDLP, Policy CS18 of the DPD and the Framework, which together seek to ensure that surface water does not increase flooding risk.' The application in question was for a total of 3 houses, which is significantly smaller than the site provision proposed at Land North-East Of Humber Doucy Lane Ipswich Suffolk (CDOT17).

55. The basins on the original drainage strategy (AD10.1, AD10.2, AD10.3) are not compliant with LLFA guidance, having (1) 1 in 4 side slopes with no wet bench, (2) no depths dimensioned on plan, and (3) a non-compliant cross-section (DG2). The updated drainage strategy plan (APD1) has text updates to show wet bench integration, but the plan areas and water levels have not changed which shows no new supporting modelling has been undertaken to demonstrate compliance with LLFA guidance. Basin 3a and 3b also have a water level that is in excess of the 1m max that the LLFA guidance (DG2) specifies, with basin 3a at 1.193m max water level, and basin 3b at 1.147m max water level. LLFA does not accept water depths in excess of 1m / advises that water depths in excess

of 1m should be avoided as this necessitates deeper features which are less safe, less multifunctional and cannot be sensitively integrated into open space provisions, requiring features such as knee-rail fencing separating the SuDS from the landscape around it.

56. The Appellants' proposals are therefore not in accordance with LLFA Guidance (DG2), NPPF paragraph 175 (a,b,d) (NP2), NPPG paragraph 055 (integration with landscaping and open space), NPPG 056 (local guidance and multifunctionality) (NP1), Policy SCLP 9.6 (a,b) (DP2).

57. Point 9 of SCC's consultation response is therefore maintained. The incorrect sizing and missing dimensions of some features does to both reason for refusal 4 (ESC) and 5 (IBC) and to reason for refusal 1:

- Reasons for refusal 1, paragraph 2 'The Masterplan should set out the layout, scale, landscaping, and appearance of the entire site, including any public spaces and infrastructure. This should be used to shape the reserved matters applications and inform condition compliance. '
- Reason for refusal 4 / 5 paragraph 3 'is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175) and Local Plan Policy..."

58. Without the required information to ensure the form and scale of the strategic infrastructure is suitable the LLFA cannot recommend that it meets the following policies/guidance:

- NPPF Paragraph 182: IBC policy DM4 which states with regards to drainage that : 'c) it will not increase the overall risk of all forms of flooding in the area or elsewhere through the mitigation of flood risk in the layout, design and form of the development and the appropriate application of Sustainable Drainage Systems (SuDS);'
- ESC Policy SCLP 9.6 which states that SuDS should:' a) Be integrated into the landscaping scheme and green infrastructure provision of the development; b) Contribute to the design quality of the scheme'; NPPG Paragraph 055: The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road networks and other infrastructure can maximise the availability of developable land.
- NPPG Paragraph 056: 'The types of sustainable drainage system which it may be appropriate to consider, will depend on the proposed development and its location, as well as any planning policies and guidance that apply locally. Where possible, preference should be given to multi-functional sustainable drainage systems'
- SuDS Local Design Guide (DG2) (page 17): 'Maximum depth of the basin should not exceed 1.5m (C753 p.763) while the maximum water depth within the basin should not exceed 1.0m (C753 p.847)'
- CIRIA SuDS Manual 7.6.4 (Page 122): the extent to which each of the design criteria (quantity, quality, amenity and biodiversity) will be delivered by the SuDS design, and the impact of any stakeholder engagement undertaken during the design process.

6. Summary

58. Based on the information submitted within 681058-R1(0)-FRA R1 (29-02-2024) (AD10.1, AD10.2, AD10.3) and associated supporting documentation a holding objection was submitted to the LPA because there was not sufficient information or clear drainage strategy development to support an outline development of the proposed scale. There was not sufficient information for the LLFA to confidently confirm that the drainage hierarchy had been followed or that a suitably

sufficient drainage scheme had been developed. The initial LLFA holding objection was formed based on 9 points of objection.

59. Further information was provided by the applicants (now Appellants) in May 2024 responding to some of the LLFA's concerns and which satisfactorily addressed Points 1 to 4 of SCC's points of objection (SC1).

60. The Appellants subsequently submitted an updated plan: *Proposed Surface Water Drainage Strategy Plan 890695-RSK-ZZ-XX-DR-C-0007-P02 (04-12-2024)* (APD1). Having reviewed that updated plan alongside the information which had previously been submitted by the Appellants, this addressed points 5 and 8 of the points raised in SCC's consultation response.

61. However, SCC maintains its objection on Point 6, Point 7, Point 9 which have not been satisfactorily addressed.

62. On Point 6, the lack of suitable information on treatment design goes in particular to paragraph 3 of reasons for refusal 4 (ESC) and 5 (IBC). Without sufficient treatment design the system is not in compliance with ESC policy SCLP 9.6 (DP2), IBC policy DM4 (DP1), SCC's SuDS Local Design Guide (DG2); the CIRIA SuDS Manual (OT26), and NPPF Paragraph 182 (NP2).

63. On Point 7, the lack of suitable information provided for the primary distributor road swale and supporting the following parts of reason for refusal 4 (ESC) and 5

- 'a lack of at-source SuDs measures to reduce the need for below ground SuDs features.' and
- 'is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175) and Local Plan Policy...'.'

64. Without sufficient detail provided to support the primary distributor highway drainage proposal the drainage strategy does not comply with ESC Policy SCLP 9.6 (DP2), IBC Policy DM4 (DP1), the SuDS Local Design Guide (DG2), Suffolk Design Streets Guide (DG1), the CIRIA SuDs Manual (OT26), NPPF Paragraph 182 (NP2); and NPPG Paragraph 56 (NP1).

65. Point 9 of SCC's consultation response is also maintained. The incorrect sizing and missing dimensions of some features goes to both reason for refusal 4 (ESC) and 5 (IBC) and to reason for refusal 1:

- Reasons for refusal 1, paragraph 2 'The Masterplan should set out the layout, scale, landscaping, and appearance of the entire site, including any public spaces and infrastructure. This should be used to shape the reserved matters applications and inform condition compliance.'
- Reason for refusal 4 / 5 paragraph 3 'is not considered to follow the advice set out within the Suffolk SuDs Guide, Suffolk Design for Streets Guide to ensure a drainage strategy which provides adequate protection from flooding and is safe for the lifetime of the development as set out in the NPPF (paragraphs 173 and 175) and Local Plan Policy..."

66. Without the required information to ensure the form and scale of the strategic infrastructure is suitable the LLFA does not consider it complies with ESC Policy SCLP 9.6 (DP2), IBC Policy DM4 (DP1), NPPF Paragraph 182 (NP2); NPPG Paragraphs 55 & 56 (NP1); the SuDS Local Design Guide (DG2) or the CIRIA SuDS Manual (OT26).

67. If the Planning Inspector is minded to allow the appeal, SCC as Lead Local Flood Authority would request that suitable planning conditions are applied to attempt to address these matters at the more detailed design stage but noting that these will not fully overcome the risk of a potential increase in surface flood risk.