



Land Between Lodge Road and Tape Lane, Hurst, Wokingham, RG10 0EG

Supplemental Proof of Evidence – Flood Risk and Drainage (Floodplain Compensation Storage) [CD9.15]

Ian Walton Bsc (Hons) MSc DIC MICE CEng

On behalf of Mactaggart and Mickel Strategic Land

Section 78 Appeal against refusal of planning permission by Wokingham Borough Council for the:

Outline application for the proposed erection of up to 99 no. dwellings, green infrastructure, open space, pedestrian and cycle links, recreational facilities and other associated infrastructure and access points on Lodge Road and Tape Lane with required improvements. (All matters reserved except for means of access).

Prepared by:

SLR Consulting Limited

Ground Floor Belmont House , Churchill Way, Cardiff,
CF10 2HE

SLR Project No.: 432.010035.00001

PINS Reference: APP/X0360/W/25/3364304

Planning Reference No: 242067

10 September 2025

Revision: 02



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1.0 Introduction

- 1.1 Revision P06 of the Flood Risk Assessment and Drainage Strategy (FRADS) was submitted to the Environment Agency on 14 August 2025.
- 1.2 The FRADS summarised the results of the updated hydraulic model of the Hatchgate Ditch to address the points raised by the Environment Agency in their second model review.
- 1.3 The Environment Agency in their email of 26 August 2025 confirmed that the hydraulic model submitted with the FRADS was considered '*fit for purpose*'.
- 1.4 However, in their letter of 1 September 2025 reference WA/2024/131683/01-L02, the Environment Agency advised that:

'In the absence of an adequate flood risk assessment (FRA) we object to this application and recommend that planning permission is refused.'

- 1.5 The reasons for objecting to the application were stated as:

'The submitted FRA dated August 2025 by SLR consulting Ltd does not comply with the requirements for site-specific flood risk assessments, as set out in paragraphs 20 to 21 of the Flood Risk and Coastal Change Planning Practice Guidance and its site-specific flood risk assessment checklist. The FRA does not therefore adequately assess whether the development will increase flood risk elsewhere. In particular, the FRA fails to:

- demonstrate that any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere.*

- 1.6 A copy of the Environment Agency's letter is enclosed at Annex A.
- 1.7 The Environment Agency's letter included advice on how their objection could be overcome.
- 1.8 Figure FRA002 enclosed at Appendix F of the FRADS illustrates the extent of the 1% AEP flood envelope allowing for the impact of climate change (1% + CC) in relation to the illustrative masterplan. The parts of the illustrative masterplan shown to be at risk of flooding are limited to the very western edge of the southern development parcel, where the depth of flooding is relatively shallow varying between 0.1m and 0.25m, and part of the access road where the depth of flooding is less than 0.1m.
- 1.9 Figure FRA002 also shows that there is significant land within the Appellant's control that is not within the 1% + CC flood envelope and is beyond the areas to be developed indicated by the parameters plan. Therefore, I can see no reason why the information required to demonstrate that '*any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere*' could not have been made the subject of a condition, particularly as this is a minor issue given the shallow depth and limited extent of flooding.



- 1.10 Nevertheless, and without prejudice to my position, I have set out in Section 2.0 a description of the analysis that has been completed to address the single alleged failing of the FRADS that has prompted the Environment Agency to maintain their objection.



2.0 Floodplain Storage Compensation

- 2.1 Figure FRA002 enclosed at Appendix F of the FRADS illustrates the extent of the 1% AEP flood extent allowing for the impact of climate change (1% + CC). The flood extent was generated by the hydraulic model that the Environment Agency has confirmed is fit for purpose.
- 2.2 The flood envelope shown by FRA002 has been superimposed on the illustrative masterplan, however, as this is a reserved matters application, it is only the location of the built development and the access within the Appeal Site that is being considered, rather than the details of the development itself.
- 2.3 Therefore, the extent to which floodwaters would be displaced through changes in existing ground levels can only be determined once a detailed design of the proposed development has been completed. These details are not available at this stage of the development.
- 2.4 Nevertheless, taking a precautionary approach, a worst-case assumption has been made that the floodwaters are completely excluded from the development areas and access roads to demonstrate that floodplain storage compensation is deliverable.
- 2.5 The analysis has assumed nominal 1 in 3 slide slopes to any areas of fill excluding floodwaters and cut providing compensation storage.
- 2.6 Drawing No. COMP_001 shows the two areas (shaded in a tan colour) where floodwaters would be excluded, Area 1 and Area 2, from the 1% + CC flood envelope along the western edge of the southern development area. The area shaded in cyan provides an indication of the likely area that would have to be lowered to compensate for the exclusion of floodwaters from Area 1 and Area 2.
- 2.7 This indicative compensation area is hydraulically connected to Area 1 and Area 2.
- 2.8 Following the advice set out in the Environment Agency's letter, the volume of floodwater excluded for each 0.05m deep 'slice' has been compared with that provided by the indicative compensation storage area. This is summarised in Table 2-1.



Table 2-1: Southern Compensation Area

Slice (mAOD)	Excluded floodplain volume (m ³)			Compensation (m ³)	Balance (m ³)
	Area 1	Area 2	Total		
38.00 to 37.95				-0.142	-0.142
37.95 to 37.90				-2.55	-2.55
37.90 to 37.85				-6.892	-6.892
37.85 to 37.80				-12.16	-12.16
37.80 to 37.75				-22.545	-22.545
37.75 to 37.70				-35.24	-35.24
37.70 to 37.65				-48.012	-48.012
37.65 to 37.60	51.648	5.23	56.878	-58.689	-7.041
37.60 to 37.55	43.095	2.04	45.135	-58.534	-15.439
37.55 to 37.50	11.386	0.154	11.54	-56.955	-45.569
37.50 to 37.45	0.005	0	0.005	-13.44	-13.435

- 2.9 Positive volumes in Table 2-1 represent a loss of floodplain storage and negative volumes a gain in floodplain storage arising from the compensation earthworks. As the 'balance' is negative for each of the 0.05m 'slices', adequate compensation storage has been provided.
- 2.10 Sections A, B and C on Drawing No. COMP_001 show sections through the indicative compensation area. It should be noted that these sections are drawn with a vertical exaggeration of 5 to aid clarity.
- 2.11 As shown by Drawing No. COMP002, a similar analysis has been completed for the sections of access road near the entrance to the Appeal Site that are shown to be at risk of flooding, Area 3 and Area 4.
- 2.12 The areas at risk of flooding to the north and east of the access road would be connected hydraulically to the compensation area by ducts or shallow culverts installed beneath the road, or the compensation storage increased assuming the flood storage in these areas was also removed.
- 2.13 The compensation storage volume provided for the access road is summarised in Table 2-2.



Table 2-2: Access Road Compensation

Slice (mAOD)			Excluded floodplain volume (m ³)			Compensation (m ³)	Balance (m ³)
			Area 3	Area 4	Total		
38.20	to	38.15				-0.002	-0.002
38.15	to	38.10				-0.062	-0.062
38.10	to	38.05				-0.201	-0.201
38.05	to	38.00				-0.388	-0.388
38.00	to	37.95				-0.721	-0.721
37.95	to	37.90				-1.662	-1.662
37.90	to	37.85				-4.153	-4.153
37.85	to	37.80				-9.855	-9.855
37.80	to	37.75				-19.211	-19.211
37.75	to	37.70				-27.875	-27.875
37.70	to	37.65				-34.268	-34.268
37.65	to	37.60	3.772	2.621	6.393	-39.685	-33.292
37.60	to	37.55	14.690	10.579	25.269	-46.876	-21.607
37.55	to	37.50	2.357	1.296	3.653	-51.094	-47.441
37.50	to	37.45	0.003		0.003	-10.412	-10.409

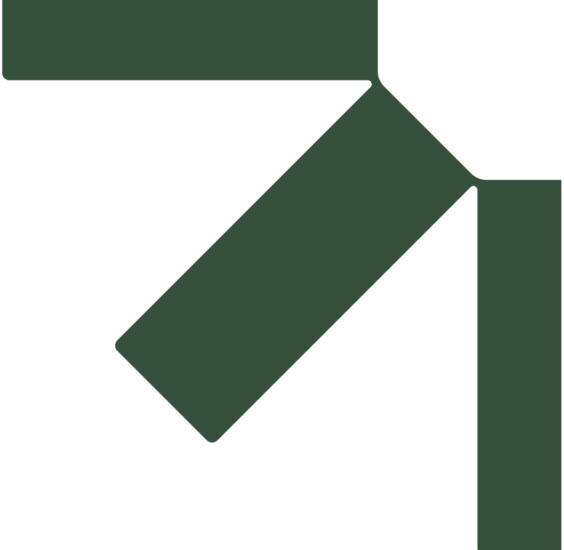
- 2.14 Again, positive volumes in Table 2-2 represent a loss of floodplain storage and negative volumes a gain in floodplain storage arising from the compensation earthworks. As the 'balance' is negative for each of the 0.05m 'slices' adequate compensation storage has been provided.
- 2.15 Sections D, E and F on Drawing No. COMP_002 show sections through the indicative compensation area. It should be noted that these sections are drawn with a vertical exaggeration of 5 to aid clarity.



3.0 Summary and Conclusions

- 3.1 The Environment Agency has confirmed that the hydraulic model submitted for review on 14th August 2025 is fit for purpose.
- 3.2 However, in their letter of 1st September 2025, the Environment Agency has maintained its objection to the proposed development on the basis that version P06 of the FRADS *'fails to demonstrate that any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere'*.
- 3.3 I consider that given the limited extent and depth of floodwaters that might be displaced by the proposed development and that there are areas available to provide compensation storage within the Appeal Site, this is a minor issue that could have been dealt with by condition in much the same way that drainage matters are routinely dealt with by way of condition as evidenced by the three Appeal Decisions at CD9.22, CD9.23 and CD 9.24.
- 3.4 Nevertheless, an indicative flood compensation scheme has been prepared following the advice set out Environment Agency's letter of 1st September 2025 that demonstrates it can be readily delivered on land within the control of the Appellant.
- 3.5 There is no information at this stage on how existing ground levels may change within the Appeal Site as this will clearly be a matter for detailed scheme design. However, taking a precautionary approach, it has been assumed that floodwaters will be excluded from those areas of proposed development and associated access roads shown by the parameters plan that are at risk of flooding.
- 3.6 Therefore, I conclude that the indicative scheme set out in this Statement addresses the single reason that the Environment Agency cite for maintaining its objection to the proposed development in that it has been demonstrated that any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere.
- 3.7 This additional assessment, together with the proposed drainage scheme set out at Section 9.0 of the FRADS, demonstrates that the development will be safe for its lifetime and will not result in an increase in flooding elsewhere.
- 3.8 On this basis I see no reason for the Environment Agency to maintain its objection to the proposed development.
- 3.9 I would, however, suggest that providing a detailed flood compensation scheme is made the subject of a condition as compensation may be required when the layout is finalised through the reserved matters. I understand that such a condition will be included in the list of suggested conditions.





Drawings

Land Between Lodge Road and Tape Lane, Hurst, Wokingham, RG10 0EG

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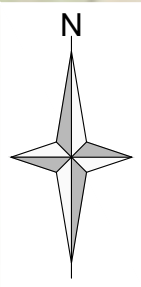
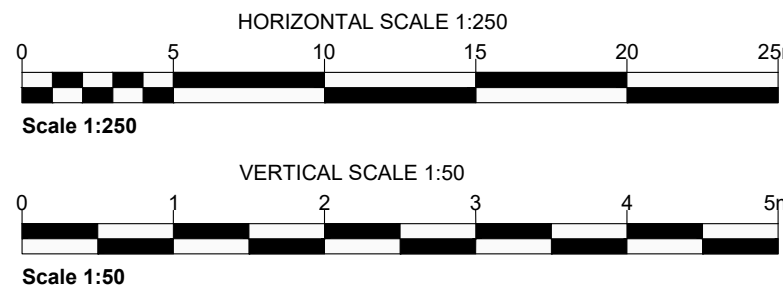
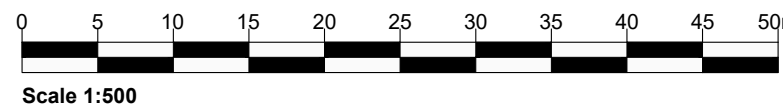
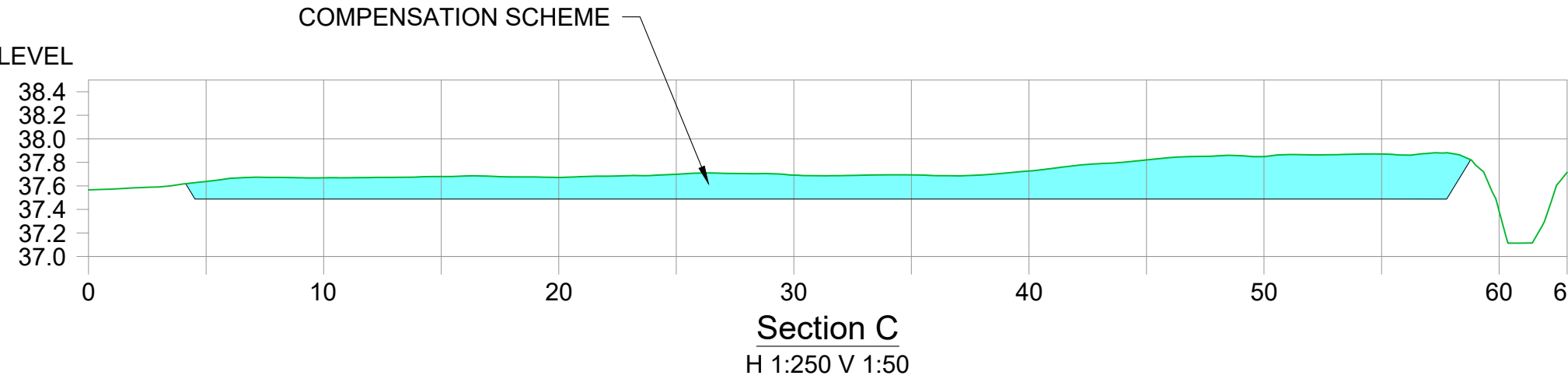
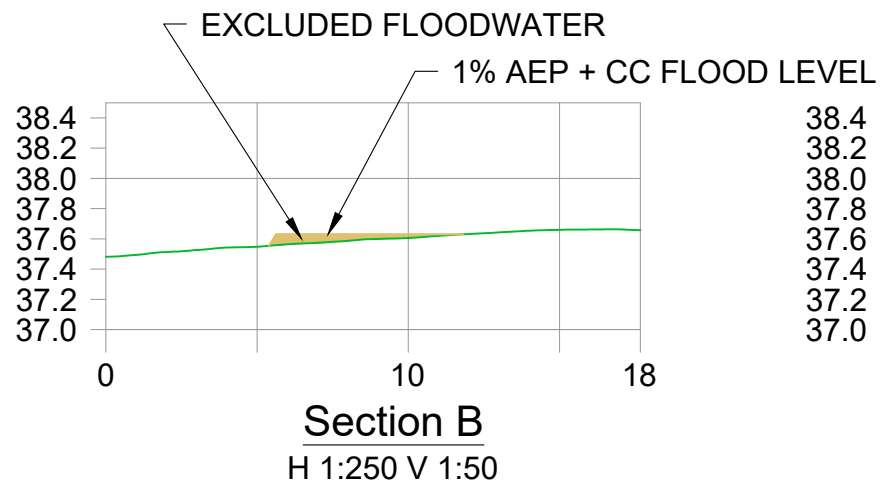
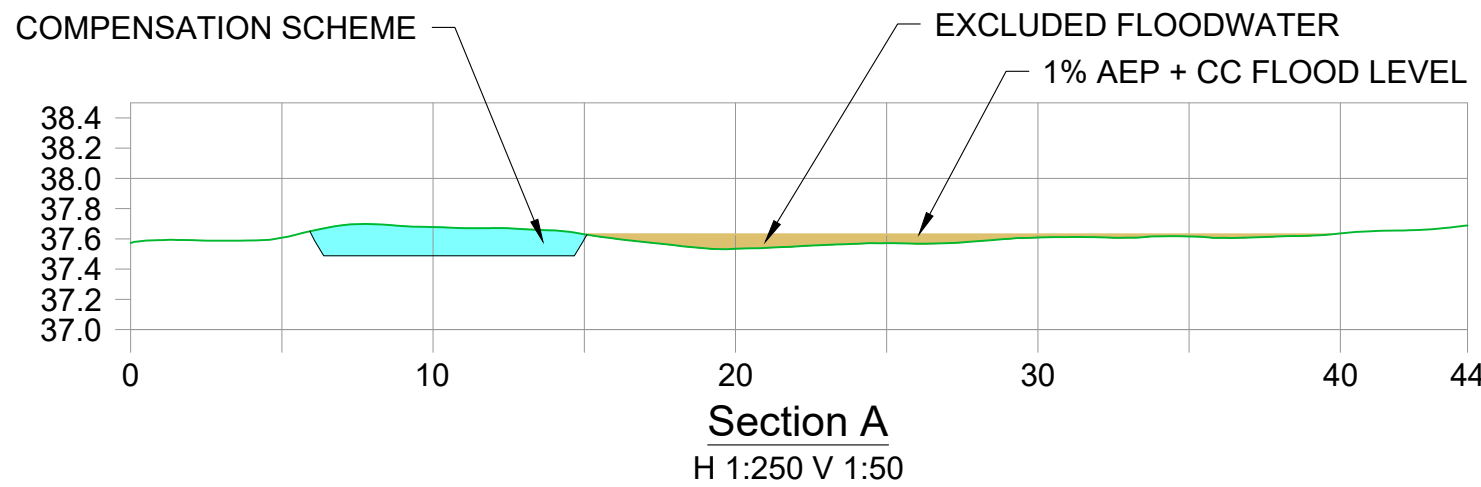
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10 September 2025

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Notes:

1.

Legend:

- SITE BOUNDARY
- EXISTING TOPOGRAPHIC CONTOURS
- 1% AEP PLUS CLIMATE CHANGE FLOOD ENVELOPE
- AREA FROM WHICH FLOODWATERS EXCLUDED
- FLOODWATER COMPENSATION AREA

Legend: Section

- EXISTING GROUND LEVEL
- AREA RAISED TO EXCLUDE FLOODWATER
- FLOODWATER COMPENSATION SCHEME

P01	FIRST ISSUE	05.09.25	AB	IW	IW
Rev	Amendments	Date	By	Chk	Auth



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Drawing Purpose	Suitability Code
FOR PLANNING	S0

Client
MACTAGGART AND MICKEL STRATEGIC LAND

Project
LAND EAST OF LODGE ROAD, HURST

Drawing Title
SOUTHERN COMPENSATION SCHEME

Scale AS SHOWN @ A1		SLR Project No. 432.010035.00001	
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Date 09.25	Date 09.25	Date 09.25	Date 09.25

Drawing Number	Rev
COMP_001	P01

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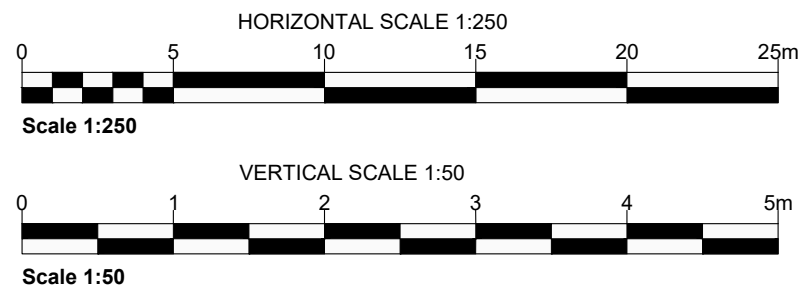
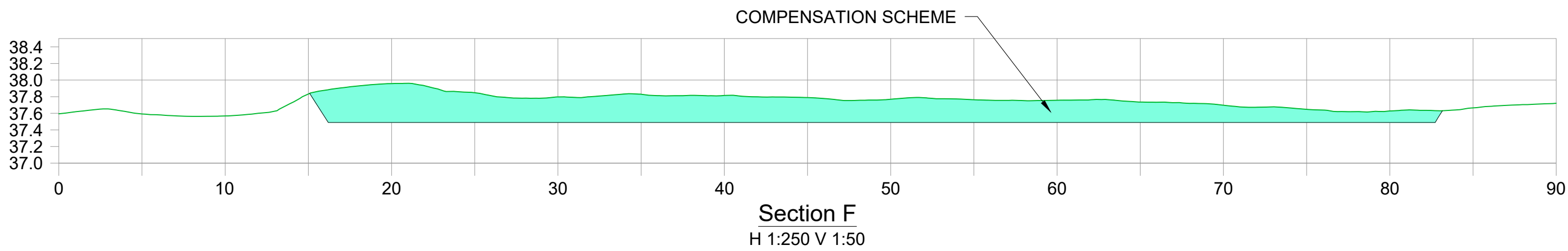
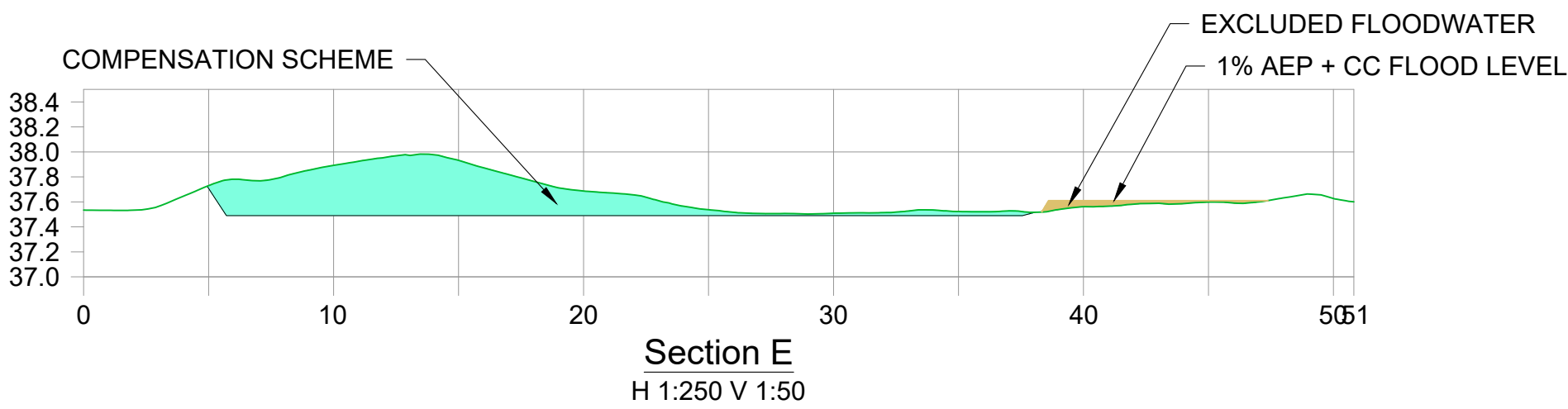
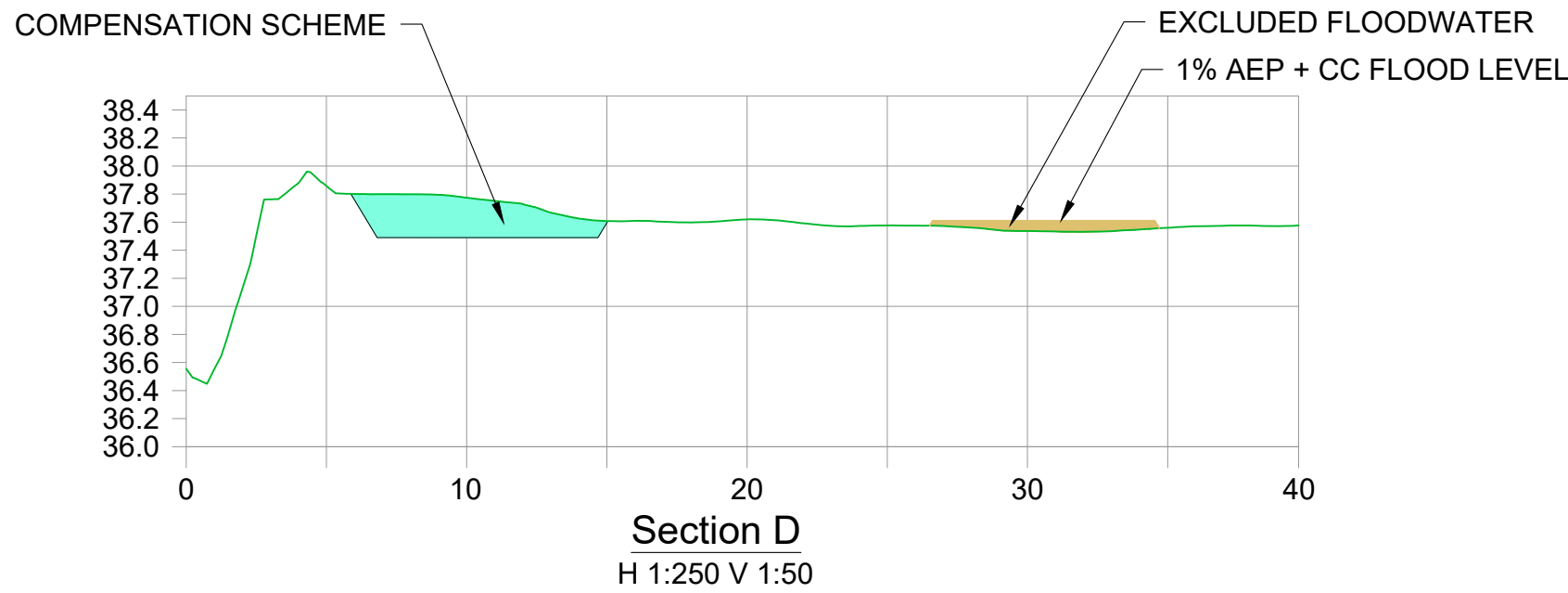
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Legend:

- SITE BOUNDARY
- EXISTING TOPOGRAPHIC CONTOURS
- 1% AEP PLUS CLIMATE CHANGE FLOOD ENVELOPE
- AREA FROM WHICH FLOODWATERS EXCLUDED
- FLOODWATER COMPENSATION AREA

Legend: Section

- EXISTING GROUND LEVEL
- AREA RAISED TO EXCLUDE FLOODWATER
- FLOODWATER COMPENSATION SCHEME



P01	FIRST ISSUE	05.09.25	AB	IW	IW
Rev	Amendments	Date	By	Chk	Auth

SLR

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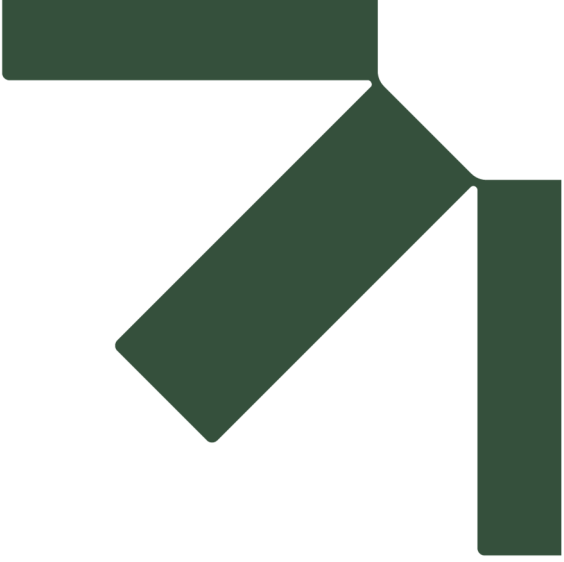
Drawing Purpose	Suitability Code
FOR PLANNING	S0

Client
MACTAGGART AND MICKEL STRATEGIC LAND

Project
LAND EAST OF LODGE ROAD, HURST

Drawing Title
ACCESS ROAD COMPENSATION SCHEME

Scale	AS SHOWN @ A1	SLR Project No.	432.010035.00001
Designed	AB	Checked	IW
Date	09.25	Date	09.25
Drawing Number	COMP_002	Rev	P01



Annex A Environment Agency letter of 1st September 2025

**Land Between Lodge Road and Tape Lane, Hurst,
Wokingham, RG10 0EG**

Ian Walton Bsc (Hons) MSc DIC MICE CEng

**Section 78 Appeal against refusal of planning permission by Wokingham
Borough Council.**

SLR Project No.: 432.010035.00001

PINS Reference: APP/X0360/W/25/3364304

10 September 2025

The Planning Inspectorate
Room 3/05 Kite Wing
Temple Quay House (2 The Square)
Temple Quay
Bristol
Avon
BS1 6PN

Our ref: WA/2024/131683/01-L02
PINS ref: APP/X0360/W/25/3364304
LPA ref: 242067
Date: 01 September 2025

Dear Sir/Madam

OUTLINE APPLICATION FOR THE PROPOSED ERECTION OF UP TO 99 NO. DWELLINGS, GREEN INFRASTRUCTURE, OPEN SPACE, PEDESTRIAN AND CYCLE LINKS, RECREATIONAL FACILITIES AND OTHER ASSOCIATED INFRASTRUCTURE AND ACCESS POINTS ON LODGE ROAD AND TAPE LANE WITH REQUIRED IMPROVEMENTS. (ALL MATTERS RESERVED EXCEPT FOR MEANS OF ACCESS.) LAND BETWEEN LODGE ROAD AND TAPE ROAD, HURST RG10 0EG

Following the recent completion of the third modelling review and the finding of the model fit for purpose, our nominated flood specialist Jo Marchant has completed a review of the updated flood risk assessment. Her findings are included below.

Environment Agency position

In the absence of an adequate flood risk assessment (FRA) we **object** to this application and recommend that planning permission is refused.

Reasons

The submitted FRA dated August 2025 by SLR consulting Ltd does not comply with the requirements for site-specific flood risk assessments, as set out in paragraphs 20 to 21 of the Flood Risk and Coastal Change Planning Practice Guidance and its site-specific flood risk assessment checklist. The FRA does not therefore adequately assess whether the development will increase flood risk elsewhere. In particular, the FRA fails to:

- demonstrate that any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere.

Overcoming our objection

To overcome our objection, the applicant should submit a revised FRA which addresses the points highlighted above.

If this cannot be achieved, we are likely to maintain our objection. Specifically the FRA will need to:

- demonstrate that any loss of floodplain storage within the 1% AEP plus an appropriate allowance for climate change can be directly compensated for to prevent an increase in flood risk elsewhere.

Floodplain storage

Any increase in built footprint or raising of ground levels should be compensated up to the 1% AEP plus an appropriate allowance for climate change flood level (the design flood level). This is necessary to prevent the proposed development reducing floodplain storage and displacing flood waters, thereby increasing flood risk elsewhere.

Level for level floodplain compensation is the preferred method of mitigation and should be considered within the FRA. Level for level floodplain compensation is the matching of floodplain storage volumes lost with new floodplain storage volume gained through the reduction of ground levels. Please note for this to be achievable it requires land on the edge of the floodplain and above the 1% annual exceedance probability (AEP) flood level with an appropriate allowance for climate change to be available. A comparison of ground levels (from a topographical survey) with modelled floodplain levels will show if land is available above the 1% AEP flood level with an appropriate allowance for climate change to be used as compensation.

We recommend that level for level floodplain storage calculations are provided in a table that sets out the volume of floodplain storage lost (cut) and the volume of floodplain storage gained (fill) for each of the slices. Typically, the thickness of a slice should be 100mm or 200mm, dependent on-site specific considerations. This may vary in the case of large, very flat sites, where 0.05 metres could be used; or in very steep sites with a high range of flood water levels. Slice thickness should be set to provide 10 to 15 slices in these cases. It will need to be demonstrated that there would be no net loss in storage volume for any slice.

A location plan that corresponds with the table should also be submitted showing where the compensation will be located on site. The location of the changes in floodplain storage should be clearly identified, demonstrating the scheme would be hydraulically connected for each slice. It is not acceptable to propose works several kilometres away or separated from the site by a significant structure such as a weir, bridge or other obstruction.

Excavation of the proposed floodplain compensation scheme should be completed prior to the construction of development to ensure floodplain capacity is maintained.

If this cannot be achieved, then the applicant may need to amend the development to ensure that there will be no increase in flood risk elsewhere (for example by reducing built footprint or amount of land raising proposed).

Closing Comments

If you have any additional questions, please contact me at the email address provided.

Yours faithfully

Mr Oliver Murray
Planning Advisor



Making Sustainability Happen