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To:
Bev Lambert
Sustainable Places - Planning Advisor
Environment Agency
Kings Pool
Peasholme Green
York
YO1 7PX

BY E-MAIL

Our ref: 1305-11l05a
EA ref: RA/2022/144798/02-L01
Planning ref: 2022/90245

Copy to:
Victor Grayson
Kirklees Metropolitan Borough Council
Development Management
Huddersfield Town Hall
PO Box 1720
Huddersfield
HD1 9EL

3rd April 2023

Dear Bev,

ERECTION OF EXTERNAL SUBSTATION AND BOUNDARY TREATMENT. LAND AT, ABBEY ROAD NORTH, SHEPLEY, HUDDERSFIELD, HD8 8DY - FLOOD RISK

1. We are writing in response to your letter of objection to Kirklees Council – letter reference RA/2022/144798/02-L01 dated 15th November 2022 – regarding the proposed electricity sub-station which is required to serve the new development of 27 residential units at the above site.

2. Your above letter raises a number of specific points regarding the assessment of flood risk which was documented in the 'Flood Risk Assessment Addendum' technical note prepared by ARP Associates – reference 1305/11tn01 dated 12th October 2022.

3. To re-iterate the context, the proposed substation was not included in the original planning applications for the residential development (Outline permission reference 2017/92233 and subsequent Reserved Matters permission 2019/91638), hence a new planning application for the substation has been submitted to Kirklees Council (reference 2022/90245).

4. The technical note 1305/11tn01 was prepared as an Addendum to the assessment of flood risk previously undertaken for the residential development, to provide additional information in relation to the proposed electricity substation and its relationship to the agreed flood mitigation

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measures for the wider development, to address queries raised by the Environment Agency in August 2022.

5. This letter has been prepared to address the further points raised in the Environment Agency's most recent letter (RA/2022/144798/02-L01 dated 15th November 2022). The specific points raised by the Environment Agency are addressed in turn below.

Location of the Sub-Station Within the Site

6. Although the location of the proposed sub-station is shown by the current Flood Map for Planning to be partly within Flood Zone 2 and Flood Zone 3a (Flood Zone 3a/3b delineation is discussed further below), it lies within the area of proposed land-raising associated with the previously granted planning permission for residential development. Assuming implementation of the approved planning permissions, including the proposed land raising of the area in which the sub-station is to be located to a level over 146.5mAOD, the sub-station located is expected to have less than 1 in 1000 year probability of fluvial flooding, akin to it being within Flood Zone 1.

7. As the above proposals for land raising form part of the approved planning permissions, the location of the sub-station should not be considered to be sequentially less preferable than any other area of the proposed development site. The further measures set out herein will ensure that the infrastructure remains at a low risk of flooding when any potential uncertainty in flood levels is taken into account.

Finished Floor Levels

8. As discussed in paragraph 2.7 of 1305/11tn01, the Environment Agency previously confirmed in an email dated 3rd February 2020 (Attachment 5 of 1305/11tn01), that it considered the local 'floodplain' to be land below the level of 146.5mAOD. This was set out in the context of discussions on compensatory storage.

9. At the time of the Environment Agency's email (February 2020), the application of climate change allowances to river flows was based upon the River Basin District of the proposed development site, the flood risk vulnerability of the proposed development, the design life of the proposed development, and the present-day Flood Zone classification. The proposed development site is situated within the Humber River Basin District, can be considered to have a design life of at least 100 years, and based on the Flood Map for Planning is located in Flood Zone 2 and 3a.

10. The national guidance which was in place in February 2020 noted that the developers should *"In the majority of cases use the higher central* [climate change] *allowance to calculate floodplain storage compensation"*. For the Humber River Basin District the applicable 'higher central' allowance on river flows was +30% at that time. On this basis, it is reasonable to conclude that the Environment Agency considered the 1 in 100 year +30% climate change allowance river level to be of the order of 146.5mAOD.

11. As set out in the *current* national guidance on climate change allowances, compensatory storage requirements are to be considered against the flood level/extent of the 1 in 100 year plus climate change event using the 'central' climate change allowance. The applicable allowances have been revised and are now based on the Management Catchment within which the proposed development site falls, and the intended design life of the development. With reference to the current climate change allowances map, the 'central' climate change allowance on river flows for the Management Catchment in which the site falls, considering a development lifetime of at least 100 years, is currently +23%. This is less than the previously applicable +30% allowance, and therefore expected to result in a design flood level less than the previously confirmed 146.5mAOD.

12. As set out in paragraph 3.4 the FRA Addendum (1305/11tn01), it is proposed that the sub-station will have a Finished Floor Level of 147.2mAOD. This is 700mm above the design flood level of 146.5mAOD which was specified by the Environment Agency previously, and therefore is expected to be *more* than 700mm above the current design flood level, taking into account the current applicable climate change allowance. This is considered to be sufficiently robust to address the potential risk of flooding in the event that river levels exceed the predicted levels.

13. The Environment Agency notes in its most recent letter that the proposed Finished Floor Level of the sub-station is lower than the 'minimum' Finished Floor Level of 148.4mAOD for the associated residential development, as set out in Condition 23 of the Reserved Matters planning permission (2019/91638). This is acknowledged, however, it must be noted that Condition 23 of the above was defined with respect to the letter (reference 1305/11/ARPjc) written by ARP and dated 20th January 2020 (Attachment 6 of 1305/11tn01).

14. Within that letter it is noted that the proposed Finished Floor Levels of the residential development are at 148.4mAOD or higher, however it is *not* specified that this is to be considered the *minimum* Finished Floor Level necessary to mitigate flood risk. The proposed floor levels of the properties were defined by infrastructure requirements other than flood risk, leading to them being above the minimum level which would be required to mitigate flood risk. With respect to the discussion above, the appropriate absolute minimum Finished Floor Level to mitigate flood risk would in fact be 147.1mAOD or above (i.e. 600mm above the 146.5mAOD level previously confirmed by the Environment Agency). The Finished Floor Level of the sub-station is to be set above this level.

<u>Compensatory Storage</u>

15. As discussed above, the Environment Agency confirmed in an email dated 3rd February 2020, that it considered 'the floodplain' to be land below the level of 146.5mAOD with respect to compensatory storage considerations. As discussed, this level is considered to be greater than the level which would be expected through application of the most recent climate change allowance guidance (given that the previous applicable allowance of +30% on watercourse flows

has been superseded by a +23% allowance when considering the requirement for compensatory storage).

16. Although the location of the proposed sub-station is shown to be partly within Flood Zone 2 and Flood Zone 3a by the current Flood Map for Planning, it lies within the area of proposed land-raising associated with the previously granted planning permissions for residential development. Assuming implementation of the approved planning permissions, including raising of the development platform to a level over 146.5mAOD, the location of the sub-station is expected to have less than 1 in 1000 year probability of fluvial flooding following, akin to it being within Flood Zone 1. This is illustrated in Figure 1 of the FRA Addendum (1305/11tn01).

17. Notwithstanding the above, the Environment Agency's latest correspondence suggests that it had previously indicated that the compensatory storage calculations prepared by ARP (as set out in letter reference 1305/11/ARPjc dated 11th February 2020 which was submitted as part of Reserved Matters application 2019/91638) did not demonstrate that compensatory storage was provided to the 1 in 100 year plus climate change level. It is assumed that this is in reference to the letter submitted by the Environment Agency in response to ARPs compensatory storage calculations (letter reference RA/2019/140189/04-L01 dated 27th February 2020 – included as Attachment (a) to this letter).

18. However, revised calculations were submitted by ARP under Reserved Matters application 2019/91638 on 3rd March 2020 (included as Attachment (b) to this letter). The Environment Agency then responded to the Local Planning Authority again on 11th March 2020 (letter reference RA/2019/140189/05-L01 as included as Attachment (c) to this letter) to remove its objection to the Reserved Matters application. The Reserved Matters application was subsequently granted with a condition requiring compensatory storage measures as per ARP's calculations of 3rd March 2020.

19. On this basis, it can be concluded that, assuming implementation of the previously defined compensatory storage scheme, there will be no further loss of floodplain storage due to the sub-station being developed upon the previously defined development platform.

<u>Development Close to the Watercourse</u>

20. The Environment Agency note that appropriate consents are required from the Flood Risk and Drainage Team at Kirklees Council for works in relation to the Shepley Dike (this being an Ordinary Watercourse).

21. The above is acknowledged, but it is also noted the Lead Local Flood Authority did not raise any objection to the proposals during the Reserved Matters planning application process, therefore there is no known concern regarding the proposals. It is also noted that any requirement for obtaining Land Drainage Consent (under the Land Drainage Act 1991) is outside of the Planning process.

Sequential Test

22. As noted in the Environment Agency's recent letter, the NPPF flood risk Sequential Test is for the Local Planning Authority to apply if required.

23. Although the location of the proposed sub-station is shown to be within Flood Zone 2 and 3 by the current Flood Map for Planning, it lies within the area of proposed land-raising associated with the previously granted planning permissions for residential development. Assuming implementation of the approved planning permissions, the location of the sub-station is expected to have less than 1 in 1000 year probability of fluvial flooding following development, akin to it being within Flood Zone 1.

24. It is also important to note that the electricity sub-station is necessary to support residential development which has already been granted permission.

25. On the basis that the residential development has previously been granted planning permission, including for some land raising within Flood Zone 2 and 3 areas, and the sub-station will be located on land which is within one of those areas, it would not be appropriate to apply the Sequential Test to the proposed sub-station as if it were an independent development and/or on the basis that it is in Flood Zone 2/3. It is our opinion that the Sequential Test should therefore be deemed passed for the purpose of the current application.

Exception Test

26. As noted in the Environment Agency's recent letter, the NPPF flood risk Exception Test is for the Local Planning Authority to apply if required.

27. When considered in accordance with NPPF Annex 3, it is anticipated that the flood risk vulnerability classification of the sub-station would be 'More Vulnerable', as it is effectively part of the associated residential development, and does not fall under the definition of any of the higher vulnerability classifications.

28. In accordance with Table 2 of the NPPF Practice Guidance, More Vulnerable development is considered appropriate in Flood Zone 1 and Flood Zone 2 without the need to apply the Exception Test. The Exception Test would be required for a More Vulnerable development located in Flood Zone 3a, and development would not be appropriate in Flood Zone 3b.

29. Firstly, with reference to the mapping included with the Calder Catchment Strategic Flood Risk Assessment (April 2016), it can be seen that the site does not lie within Flood Zone 3b. The Exception Test is therefore only potentially relevant to the sub-station proposal in terms of it being located partly within the current Flood Zone 3a.

30. However, although the location of the proposed sub-station is shown to be partly within Flood Zone 3a by the current Flood Map for Planning, it lies within the area of proposed land-raising associated with the previously granted planning permissions for residential development. Assuming implementation of the approved planning permissions, the location of the sub-station is expected to have less than 1 in 1000 year probability of fluvial flooding following development, akin to it being within Flood Zone 1.

31. On this basis, it would not be appropriate to apply the Exception Test to the proposed sub-station as if it were an independent development and/or on the basis that it is in Flood Zone 3a. It is our opinion that the Exception Test should therefore be deemed not applicable for the purpose of the current application.

_____

32. We trust the further clarification and discussion above is satisfactory in addressing the outstanding points of objection, and look forward to your further response.

Your sincerely,

Matthew Wilson BEng MCIWEM
Associate Director
07307 849 396
matthewwilson@arpnorthwest.co.uk

On behalf of ARP Associates

Attachments to this letter

a) Environment Agency letter – 27th February 2020
b) ARP additional calculations – 3rd March 2020
c) Environment Agency letter – 11th March 2020

Mr Christopher Carroll
Kirklees Metropolitan Borough Council
Development Management
PO Box B93
Huddersfield
West Yorkshire
HD1 2JR

Our ref: RA/2019/140189/04-L01
Your ref: 2019/91638

Date: 27 February 2020

Dear Christopher

PROPOSAL: **RESERVED MATTERS APPLICATION FOR ERECTION OF 27 DWELLINGS PURSUANT TO OUTLINE PERMISSION 2017/92233 FOR ERECTION OF UP TO 34 DWELLINGS**

LOCATION: **LAND AT ABBEY ROAD NORTH, SHEPLEY, HUDDERSFIELD, HD8 8DY**

Thank you for consulting the Environment Agency on the reserved matters pursuant to outline permission 2017/92233 for the erection of up to 34 dwellings at land at Abbey Road North in Shepley, Huddersfield.

Environment Agency Position

We have reviewed the compensatory storage document dated 11 February 2020 from Alan Poyser provided under application RA/2019/140189/04.

This document details the use of compensatory storage to the estimated 1% level of 146.5 mAOD for two areas of the site where levels are being raised within the 1% outline. These are the areas of the turning head and footpath link to Stretchgate. It is not clear why the turning head is required in this location within the 1% outline.

Although the document titled ‘page 6’ indicates that storage will be provided to the SW corner of the site we assume this is a typo as it appears to be provided to the NE corner of the site and above the non-main river culvert.

We would normally expect to see an allowance for climate change using the most up to date allowances at the link climate change allowances are added to the 1% level to determine the required storage. We ask that the storage requirements are assessed taking into account an allowance for climate change. The compensatory storage assessment should also demonstrate that the existing flow routes are maintained and that flood risk it not transferred to others.

We note that there is an area to the NW of the site with ground levels of 145.8 m(AOD) shown in the original existing topographic survey (reference 12517-131_2dT (2)) dated 29/3/17. However the topographic survey provided in drawing reference 1305/11/08 dated April 2019 provided within the compensatory storage document indicates this

area is at ground levels of around 148 mAOD and so above the1% level of 146.5 mAOD.

Based on the original topographic levels of 145.8 mAOD this area would be within the 1% outline and therefore compensatory storage would be also required for raising this area to the new levels of 148 mAOD.

It would be useful to overlay the new 1% outline of 146.5 mAOD on the existing topographic survey 12517-131_2dT (2) dated 29/3/17 along with the proposed new topographic levels in this area and FFL of the dwellings. Then use this to assess whether compensatory storage is required in this area and if so how this will be provided including the allowance for climate change.

Advice to LPA

We note that a non-main river culvert runs through the site. The Flood Risk and Drainage Teams at Kirklees Council as the Lead Local Flood Authority should deal with matters such as the de-culverting proposal and the use of this area for compensatory storage

If you have any questions please contact me

Yours sincerely

Mr Tim Crawshaw
Sustainable Places - Planning Advisor

Direct dial 020 847 48679
Direct e-mail Tim.Crawshaw@environment-agency.gov.uk

End

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Client: CAMSTEAD.	Project No: 1305/11	Sheet 1 of 4
Project: ABBEY ROAD NORTH, SHIPLEY.	Calc By: ARP	Date: 3/3/20.
Element: FLOOD COMPENSATION.	Chkd By:	Date:

LOSS of FLOODPLAIN.

Using the orginal survey drawing 12517-131_2dT shows the area around the footpath link to Stretchgate has increased, as shown on the plan on page 2.



Total area = $25 \times 20 = 500\,m^2$

Area (A) = $\left(\frac{1}{2} \times 18 \times 15\right) + \left(\frac{1}{2} \times 10 \times 14\right)$

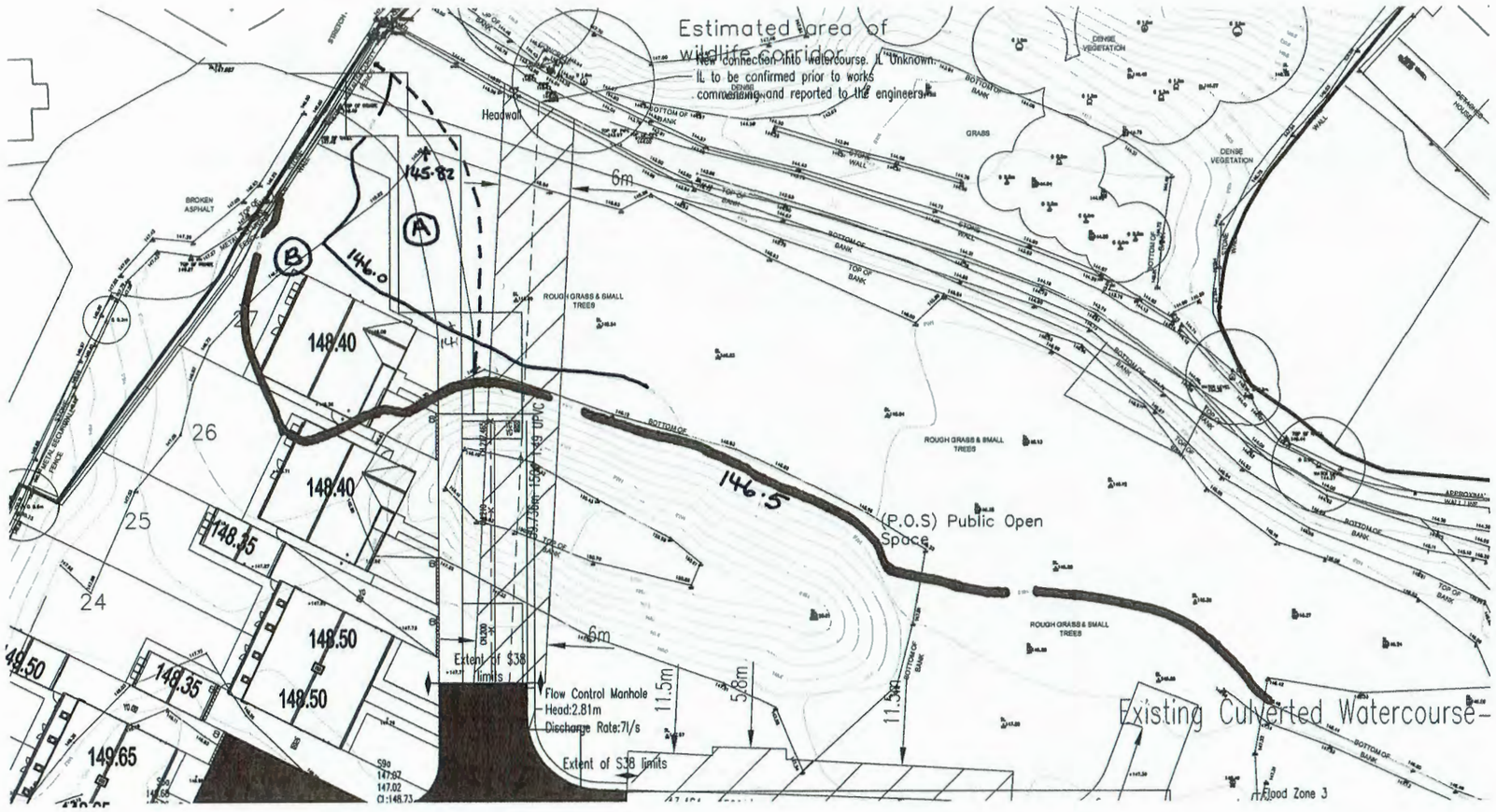
= $205\,m^2$

∴ Area (B) = $500 - 205 = 295\,m^2$

∴ Volume in (A) = $205 \times 0.5 = 102.5\,m^3$

Volume in (B) = $295 \times \frac{0.5}{2} = 73.8\,m^3$

∴ Loss of floodplain = $\underline{\underline{176.3\,m^3}}$


Estimated area of wildlife corridor
New connection into watercourse. IL Unknown. IL to be confirmed prior to works commencing and reported to the engineers.
Headwall
145.82
146.0
148.40
148.40
148.35
148.50
148.50
148.35
149.65
149.50
146.5
(P.O.S) Public Open Space
Extent of S38 limits
Flow Control Manhole
Head:2.81m
Discharge Rate:7l/s
Extent of S38 limits
Existing Culverted Watercourse
Flood Zone 3
BROKEN ASPHALT
ROUGH GRASS & SMALL TREES
GRASS
DENSE VEGETATION
STONE WALL
BOTTOM OF BANK
TOP OF BANK
26
25
24
6m
11.5m
5.8m
11.5m

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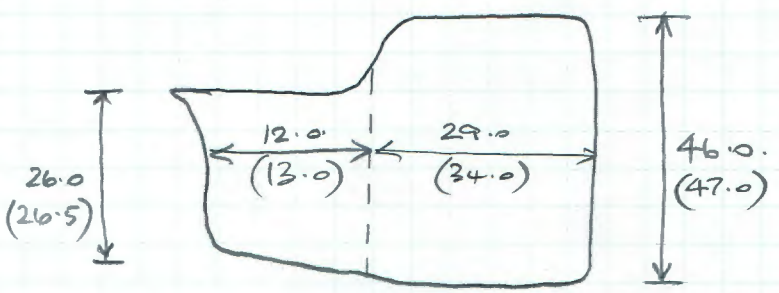
Client: CAMSTEAD.	Project No: 1305/11	Sheet 3 of 4
Project: ABBEY ROAD NORTH, SHIPLEY.	Calc By: ARP	Date: 3/3/20
Element: FLOOD COMPENSATION.	Chkd By:	Date:

Flood Compensation

Assuming an embankment slope of at least 1 in 3 from the site boundaries, the flood compensation area, based on a level of 146.5m., is presented on the plan on page 4.



Area = (26.0 × 12.0) + (46.0 × 29.0)
= 1646 m².

∴ Average flood depth = 176.3 / 1646 = 0.107 m

Available flood depth = (146.5 − 146.15) / 2 = 0.175 m

Therefore, the flood compensation is robust.

If an allowance is made for climate change, the water rises up the embankments (measurements in brackets) to a maximum level of 147.1 m.

∴ Compensation area = (26.5 × 13.0) + (47.0 × 34.0) = 1942 m²

Therefore, even if climate change of 0.6m is added to the average flood depth of 0.107m, the flood area increases and the depth is still accommodated in the available 0.175m depth

1305/11 4 of 4
3/3/20

NEW LEVEL OF 146.15m

146.50m

BOTTOM OF BANK

TOP OF BANK

Ex 146.50m

146.15

DENSE VEGETATION LINE
BUSHES, BRAMBLES, SMALL TREES

FZ3

FZ1

DENSE VEGETATION
UNABLE TO SURVEY

OVERHEAD WIRE

UGH GRASS & SMALL TREES

DENSE VEGETATION LINE
BUSHES, BRAMBLES, SMALL TREES

147.10

REGRADE TO
NEW 146.50m.
CONTOUR.

DEVELOPMENT BOUNDARY

ROUGH GRASS & SMALL TREES

GARDEN STORAGE

EAVES LEVEL
151.55

FLAT ROOF
153.74

DETACHED
HOUSE

RIDGE LEVEL
155.68

EAVES LEVEL
153.68

147.10

SITE BOUNDARY

STONE WALL

TOP OF WALL

METAL SECURITY FENCE

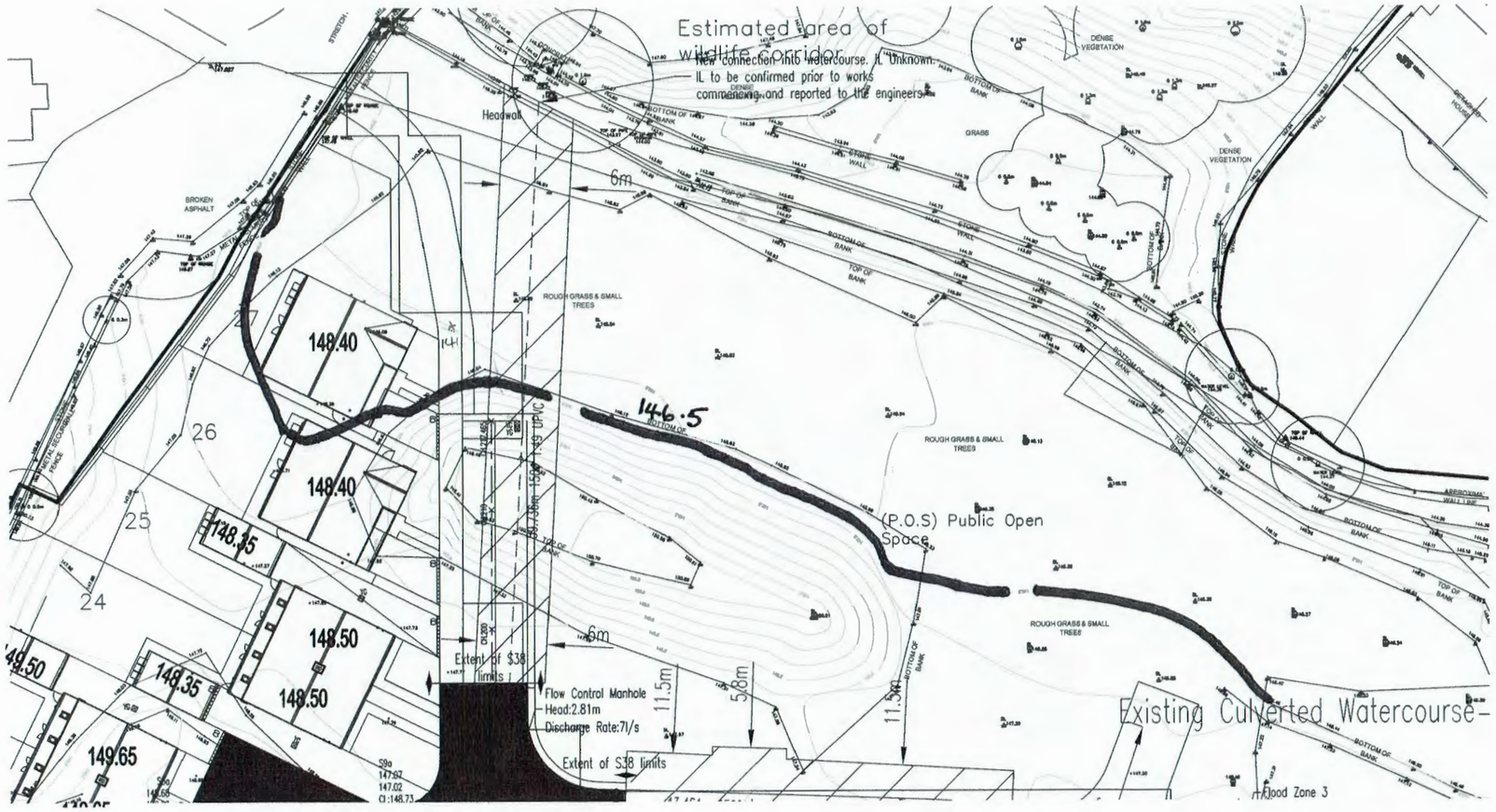
ASPHALT

ABBEY ROAD NORTH

S7
148.473

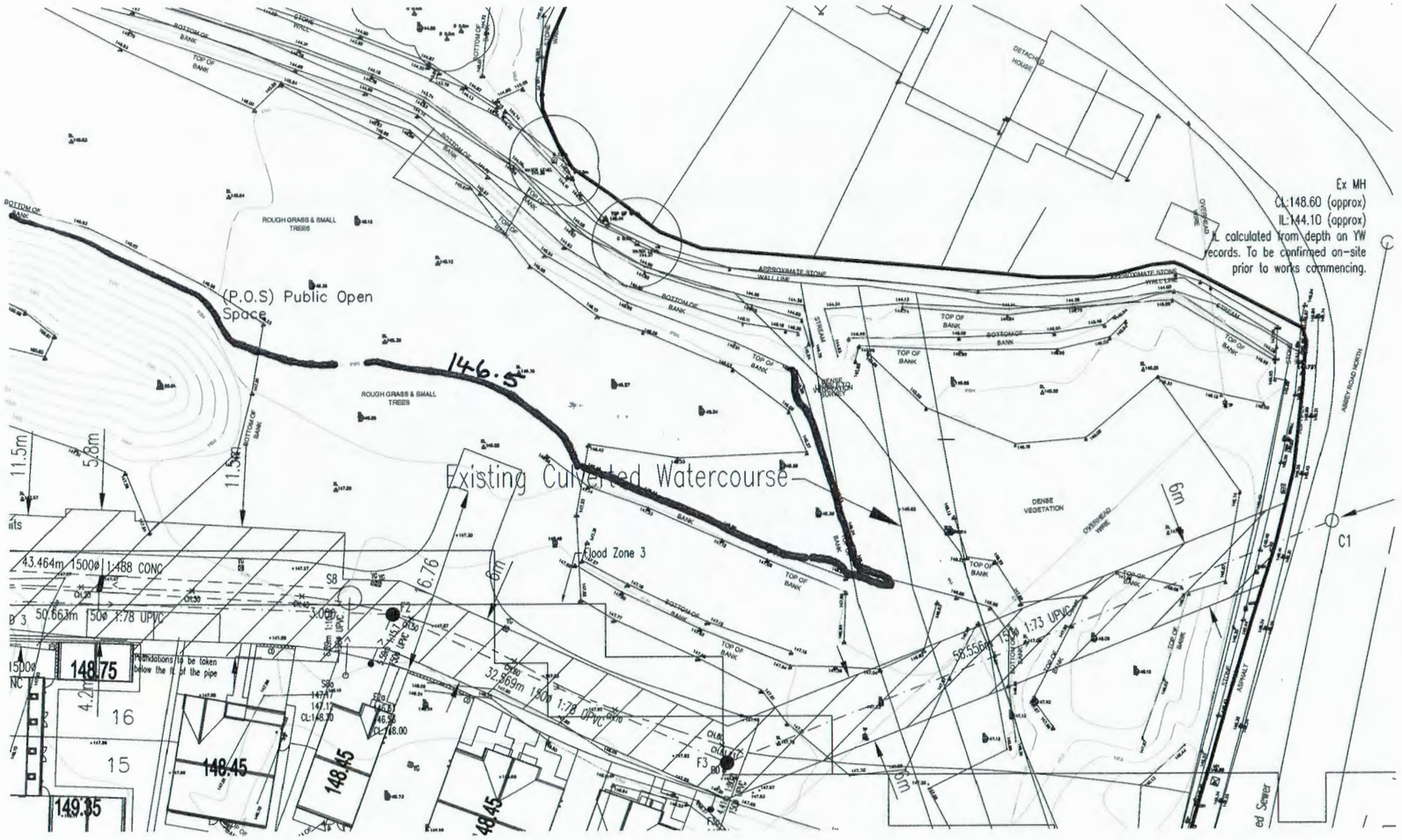
1305/11 3/3/20

Pedestrian Link to Stretchgate in relation to Topographical Survey 12517-131_2dT



1305/11 3/3/20.

Turning Head in relation to Topographical Survey 12517-131-2dT



Mr Christopher Carroll
Kirklees Metropolitan Borough Council
Development Management
PO Box B93
Huddersfield
West Yorkshire
HD1 2JR

Our ref: RA/2019/140189/05-L01
Your ref: 2019/91638

Date: 11 March 2020

Dear Mr Carroll

RESERVED MATTERS APPLICATION FOR ERECTION OF 27 DWELLINGS PURSUANT TO OUTLINE PERMISSION 2017/92233 FOR ERECTION OF UP TO 34 DWELLINGS
LAND AT ABBEY ROAD NORTH, SHEPLEY, HUDDERSFIELD, HD8 8DY

Thank you for your consultation on 4 March 2020, regarding the additional information provided by the applicant on 3 March 2020.

We have reviewed the additional information supplied and are able to remove our previous objection in our letter 27 February 2020, subject to the inclusion of the following conditions on any subsequent approval.

Environment Agency position
We have reviewed the further information submitted by the Applicant in response to our letter dated 27 February 2020. We are now satisfied with the details submitted, and consider that a conservative approach is being taken with regard to the flood risk data associated with the main river. We therefore wish to remove our objection on flood risk grounds.

The proposed development will only meet the National Planning Policy Framework's requirements if the following planning condition is included.

Condition
The development shall be carried out in accordance with the submitted flood risk assessment by ref 1305/11/ARPjc by ARP dated 20 January 2020 and details for Flood Compensation by ARP dated 3/3/20 and the following mitigation measures they detail:

- Finished floor levels shall be set no lower than 148.4 m above Ordnance Datum (AOD).
- Flood compensation storage shall be provided as detailed

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason
To reduce the risk of flooding to the proposed development and future occupants.

Environmental permit - advice to applicant
The proposal lies within 8m of Shepley Dike which is classified as a main river. The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a main river
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river) and you don't already have planning permission

For further guidance please visit https://www.gov.uk/guidance/flood-risk-activities-environmental-permits or contact our National Customer Contact Centre on 03708 506 506. The applicant should not assume that a permit will automatically be forthcoming once planning permission has been granted, and we advise them to consult with us at the earliest opportunity.

We note that a non-main river culvert runs through the site. The Flood Risk and Drainage Teams at Kirklees Council as the Lead Local Flood Authority should deal with matters such as the de-culverting proposal and the use of this area for compensatory storage

We trust the above advice is useful.

If I can be of any further assistance, please don't hesitate to contact me.

Yours sincerely

Mrs Frances Edwards
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cc I D Planning

End