

Ms Lindy Marshall
Advisor - Development Planning
Natural Resources Wales
Maes Newydd
Llandarcy
Neath Port Talbot
SA10 6JQ

29th July 2020

Our reference: 88440-Weaver-JulianTerrace-LetterV1

Your reference: CAS-113594-F4V5

Neath Port Talbot County Borough planning reference: P2020/0303

Site: Site Adjacent to Julian Terrace, Port Talbot SA12 6UE

Development: Construction of A Ground Floor Retail Unit And 2 No. First Floor One Bedroom Apartments with Associated Parking And Amenity Space.

Dear Ms Marshall,

I am writing in response to your letter dated 28/05/2020 (NRW reference CAS-113594-F4V5).

Please find below our response to your comments:

- 1. The effects of the reduction of existing flood storage volume and/or flood conveyance with the effects elsewhere must be quantified (i.e. change in flood levels elsewhere, identify whether additional properties at risk, onset of flooding etc.) and appropriate compensatory storage provided to mitigate any increases and/or other negative impacts. We note that the FCA does not include any assessment of this and should be included in an updated FCA*

UNDA response:

Given the extensive fluvial floodplain a simple floodplain storage calculation has been undertaken to assess the impact of the potential 195m² increase in building footprint. It should be noted that the flood cell has been outlined, delineating land shown to be within the modelled maximum 1:100 yr + climate change modelled flood extent.

The impact of the proposed development on floodplain storage volume has been calculated based on the following:

- The proposed net new building footprint within the 1:100yr (+CC) floodplain is: 195m².
- The on site 1:100yr (+CC) flood level is: 5.65mAOD.
- At 5.65mAOD, the proposed increased building footprint will take up approximately: 117.0m³ of storage volume (average depth of 0.6m).
- The usable flood cell area at the 1:100 year (+CC) flood level is approximately 473500m².
Total usable flood cell area for analysis:

= Usable flood cell area – increase in building footprint

Therefore,

Total usable flood cell area for analysis:

= 473500 – 117

= 473383m²

Flood level increase as a result of the new building offsetting flood waters:

$$= (\text{Volume offset at 5.65mAOD}) / (\text{Flood cell area} - \text{increase in building footprint})$$

Therefore,

Flood level increase as a result of the building offsetting flood waters:

$$= 117 / 473383$$

$$= 0.000247\text{m (0.0247cm or 0.247mm)}$$

With a potential increase in flood level of 0.247mm (less than a quarter of a mm), the impact of the increase in built footprint on site post development is considered to be negligible. There will therefore be no unacceptable loss in flood storage on site post development.

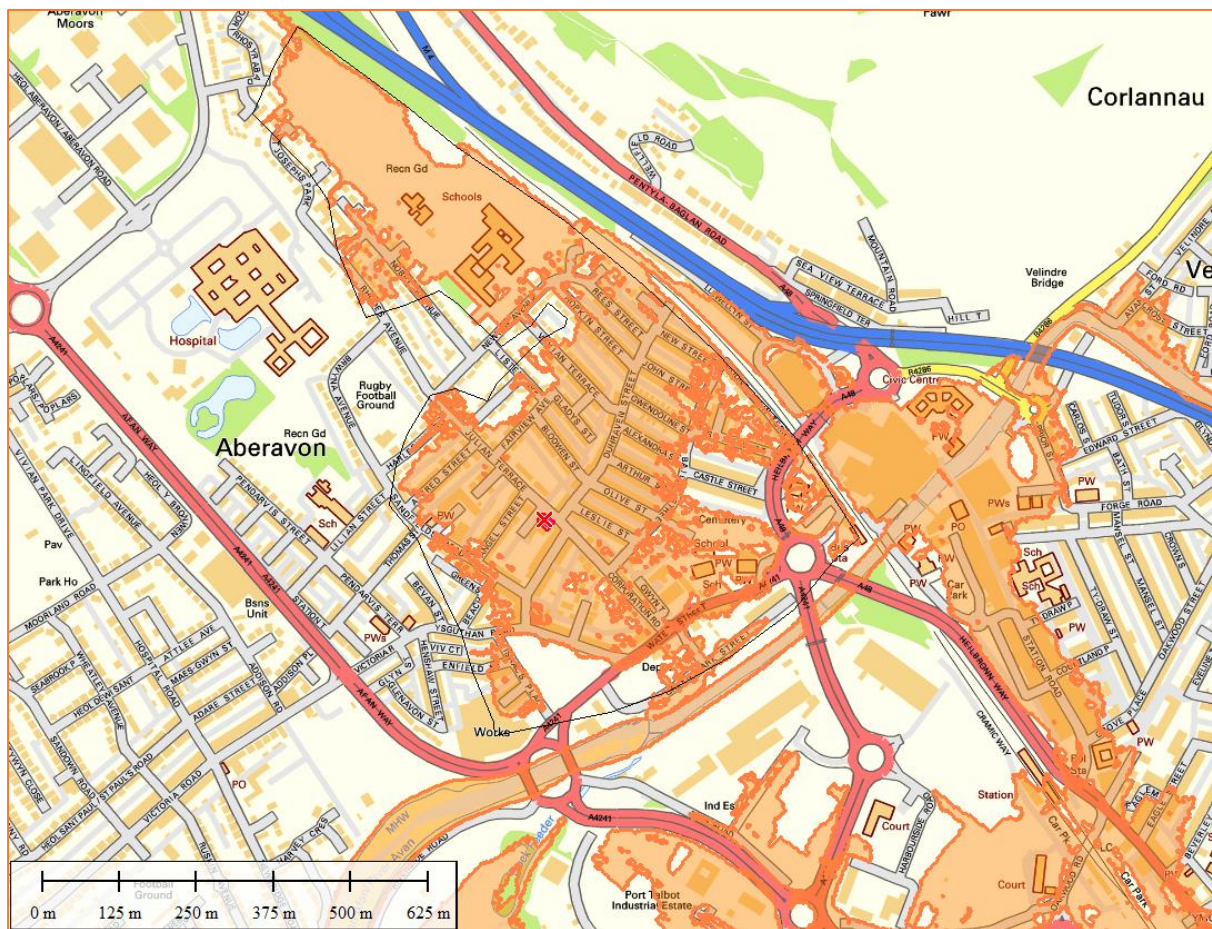


Figure 1: Modelled maximum 1:100 year flood extent with allowance for climate change. Site location shown by red cross (Source: NRW, OS Mapping)

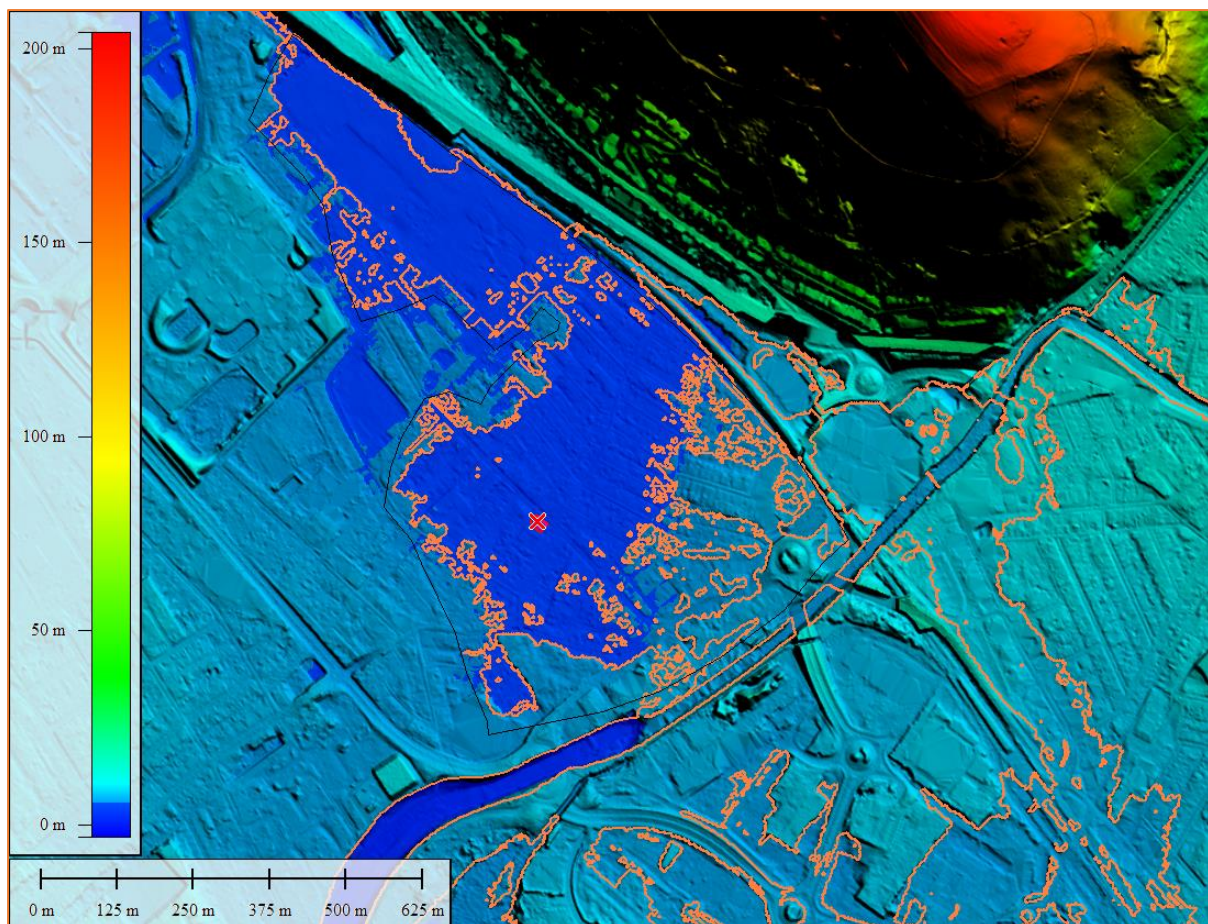


Figure 2: 2m LiDAR DTM, with modelled maximum 1:100 year flood extent with allowance for climate change outlined in orange. Land below modelled on site 1:100yr+CC flood level (5.65mAOD) shaded blue. Site location shown by red cross (Source: NRW)

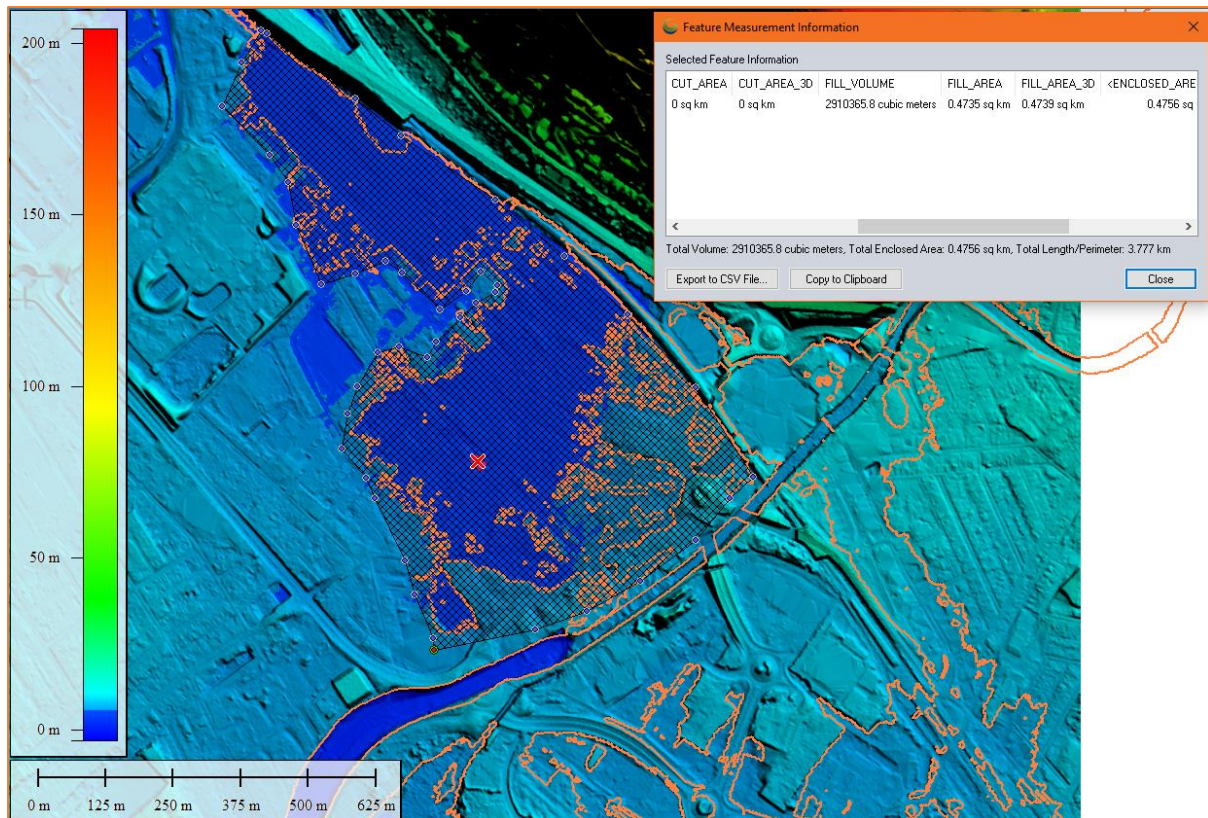


Figure 3: 2m LiDAR DTM, with modelled maximum 1:100 year flood extent with allowance for climate change outlined in orange. Land below modelled on site 1:100yr+CC flood level (5.65m AOD) shaded blue. Site location shown by red cross. Flood cell area shown as 473500m². (Source: NRW)

2. *In addition, based on the hydrological data provided in the FCA, during the 1% (1 in 100 year) plus climate change allowance (CCA) the site is predicted to flood to a depth of 600mm. The FCA recommends that the finished ground floor levels be raised 300mm above existing levels however, this would result in a flood depth of 300mm and is therefore not A1.14 compliant. All new development should be designed to meet the criteria in A1.14. This should include the entire proposal, including the associated parking and amenity space. We therefore advise that an updated FCA is submitted which demonstrates the risks and consequences of flooding can be managed to an acceptable level in line with TAN15.*

UNDA response:

The developer has confirmed that the finished ground floor level of the development will be raised 600mm above adjacent ground levels. The entire development (both the commercial ground floor and residential first floor) will therefore be flood free for the 1:100 year plus climate change event.

3. *It is unclear what the predicted flood depth is during the 0.1% (1 in 1000 year) event. In addition, we advise that no information has been provided on the rate of rise or speed of inundation as per A1.15 of TAN15 and the Welsh Government's CPO letter (Planning Policy on Flood Risk and Insurance Industry Changes) on 9 January 2014. We therefore advise this is included in the updated FCA for completeness.*

UNDA response:

The modelled on site 1:1000 year flood level is 6.22mAOD. Comparison of this modelled flood level with topographic site levels (4.9mAOD to 5.2mAOD) shows that the site could flood with depths of between 1.02m and 1.32m for the modelled 1:1000 year event.

With an average depth of flooding of 1.17m on site, raising the finished floor level by 600mm would equate to a flood depth of 0.57m above the finished ground floor level, which is below the tolerable 600mm allowances in TAN15.

No information has been provided on the rate of rise or speed of inundation by NRW as part of the Product 4 data request.

I trust this is sufficient information for you to remove your objections on flood risk grounds.

Please do not hesitate to contact us if you have any questions.

Yours sincerely,

Emma Jeffery (*Senior Consultant*)
On behalf of Unda Consulting Limited.

