



Resilience and
Flood Risk

WWW.RABCONSULTANTS.CO.UK
enquiries@rabconsultants.co.uk

The Castle Hotel, Station Road, Hatton, Derby, DE65 5DW

FLOOD RISK ASSESSMENT

21st August 2019

Version 2.0

RAB: 2167L

Second Floor, Cathedral House,
Beacon Street, Lichfield WS13 7AA
[T. 01543 547 303](tel:01543547303)

Unit 5, St Stephens Court, Willington,
Crook, County Durham DL15 0BF
[T. 01388 748 366](tel:01388748366)

Kingsbrook House, 7 Kingsway,
Bedford, Bedfordshire MK42 9BA
[T. 01234 363 582](tel:01234363582)

Unit 10, Beta Centre, Stirling University,
Innovation Park, Stirling, FK9 4NF
[T. 01786 611 022](tel:01786611022)



Revision History

Version	Date	Amendments	Issued to
1.0	08.04.2019	First Issued	Allister Gardiner
2.0	21.08.2019		

Quality Control

Action	Signature	Date
Prepared	N. Parsons / G.M. Wilson	21.08.2019
Checked	T. Haskey	21.08.2019
Approved	G.M. Wilson	21.08.2019

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RAB Lichfield Office

Second Floor
Cathedral House
Beacon Street
Lichfield
WS13 7AA



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1.0 Introduction

RAB Consultants has prepared this Flood Risk Assessment (FRA) in support of the proposed change of use at the Castle Hotel, Hatton.

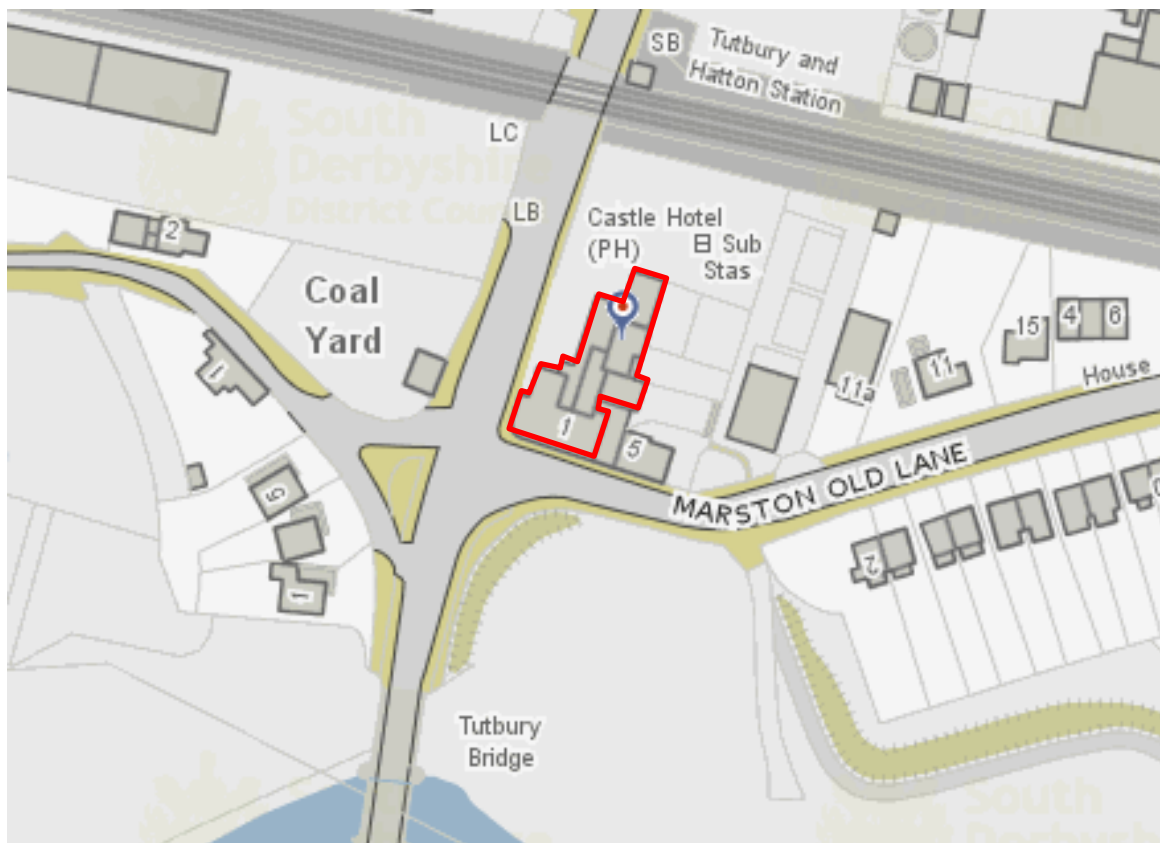
The development site is located in Flood Zone 3a according to the Environment Agency's Flood Map for Planning (Rivers and Sea), therefore a FRA for this site is required under the Planning Practice Guidance (PPG) for the National Planning Policy Framework (NPPF). The site-specific FRA is required to ensure that the development is safe from flooding and will not increase the risk of flooding elsewhere.

2.0 Site details

2.1 Site location

TABLE 1: SITE LOCATION

Site address:	The Castle Hotel, Station Road, Hatton, Derby, DE65 5DW
Site area:	0.15 Hectares
Existing land use:	Hotel and Restaurant
OS NGR:	SK 21496 29634
Local Planning Authority:	South Derbyshire District Council



2.2 Site description

The site comprises a semi-detached hotel, restaurant and bar. The restaurant and bar are located on the ground floor with the hotel accommodation located on a first, second and third floor. There is a hard-standing car park to the north of the building which is accessed directly from Station Road.

A photographic survey, visual assessment and topographic survey of the site and surrounding area was undertaken by RAB Consultants on the 05/03/2019.

TABLE 2: SITE PHOTOGRAPHS



FIGURE 1: THE HOTEL FROM STATION ROAD (GOOGLE STREET VIEW)



FIGURE 2: LOOKING SOUTH ALONG STATION ROAD



FIGURE 3: LOOKING NORTH ALONG STATION ROAD



FIGURE 4: TOP OF EMBANKMENT, LOOKING EAST

2.3 Development proposal

Planning permission is sought for the change of use of the hotel, bar and restaurant building into 17 self-contained flats distributed throughout all floors of the building.

The proposed floor plans (drawing 18018.F.SK003 and 18018.F.SK004, found in Appendix A) show that the ground floor is to be converted into 8 flats, the first floor to be converted into 6 flats, the second floor to be converted into 2 flats and the third floor to be converted into one flat.



3.0 Flood Risk

3.1 Sequential test

According to the Environment Agency's Flood Map for Planning the site lies partially within Flood Zone 2 and partially in Flood Zone 3.

Flood Zone 2 is described in the NPPF as land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (between 1% and 0.1% Annual Exceedance Probability, AEP).

Flood Zone 3 is described in the NPPF as land having a 1 in 100 or greater annual probability of river flooding (1% or greater Annual Exceedance Probability, AEP).

The NPPF follows a sequential risk-based approach in determining the suitability of land for development in flood risk areas, with the intention of steering all new development to the lowest flood risk areas. NPPF Planning Practice Guidance (PPG) Table 2 confirms the flood risk vulnerability classification of a site, depending upon the proposed usage. This classification is subsequently applied to Table 3 flood risk vulnerability and flood zone compatibility to determine whether:

- The proposed development is suitable for the flood zone in which it is located; and
- Whether an Exception Test is required for the proposed development.

The proposed development is classed as a 'more vulnerable' development in accordance with NPPF PPG. The development is therefore appropriate for the Flood Zone. Both a sequential test and exception test would normally be required in accordance with Table 3, however as the development is change of use the tests do not need to be applied (second note to Table 3).

3.2 Flooding history

The South Derbyshire Level 1 Strategic Flood Risk Assessment (SFRA) (2008) indicates that there has been a number of instances of flooding in South Derbyshire along the River Dove (Table 2-1 within the SFRA details these events). Hatton has previously flooded due to the River Dove, with the most recent occurring in 2000, prior to the construction of the existing defences that now protect large parts of Hatton.



FIGURE 5: AERIAL VIEW OF TUTBURY BRIDGE AND THE CASTLE HOTEL DURING THE FLOOD IN 2000

Online searches reveal a photograph of flooding in 2000 from the Environment Agency's FLICKR account (Figure 5). Marston Old Lane is flooded on the photograph whereas the hotel car park to the rear is dry. The flood level on the photograph is estimated to be approximately 54.0m AOD.

Since these events the level of flood protection to the site has increased through the construction of an embankment on the left bank of the River Dove in 2002. According to the 2008 SFRA there have been no recorded incidents of flooding within Hatton from the River Dove since the construction of the embankment. The Lower Dove Flood Risk Management Scheme was completed in 2013 which provides extensive flood protection throughout Hatton.

The Environment Agency hold one historic flood outline for Hatton which occurred in 1957. The site does not lie within the flood outline.

During the site visit, the owner of the site stated there had been no flooding to the site since the embankment had been constructed.

3.3 Fluvial (Rivers)

River flooding may occur when a watercourse is at its maximum capacity and water overtops or breaches the riverbanks. River flooding is closely linked to periods of heavy rainfall and waterlogged catchments.

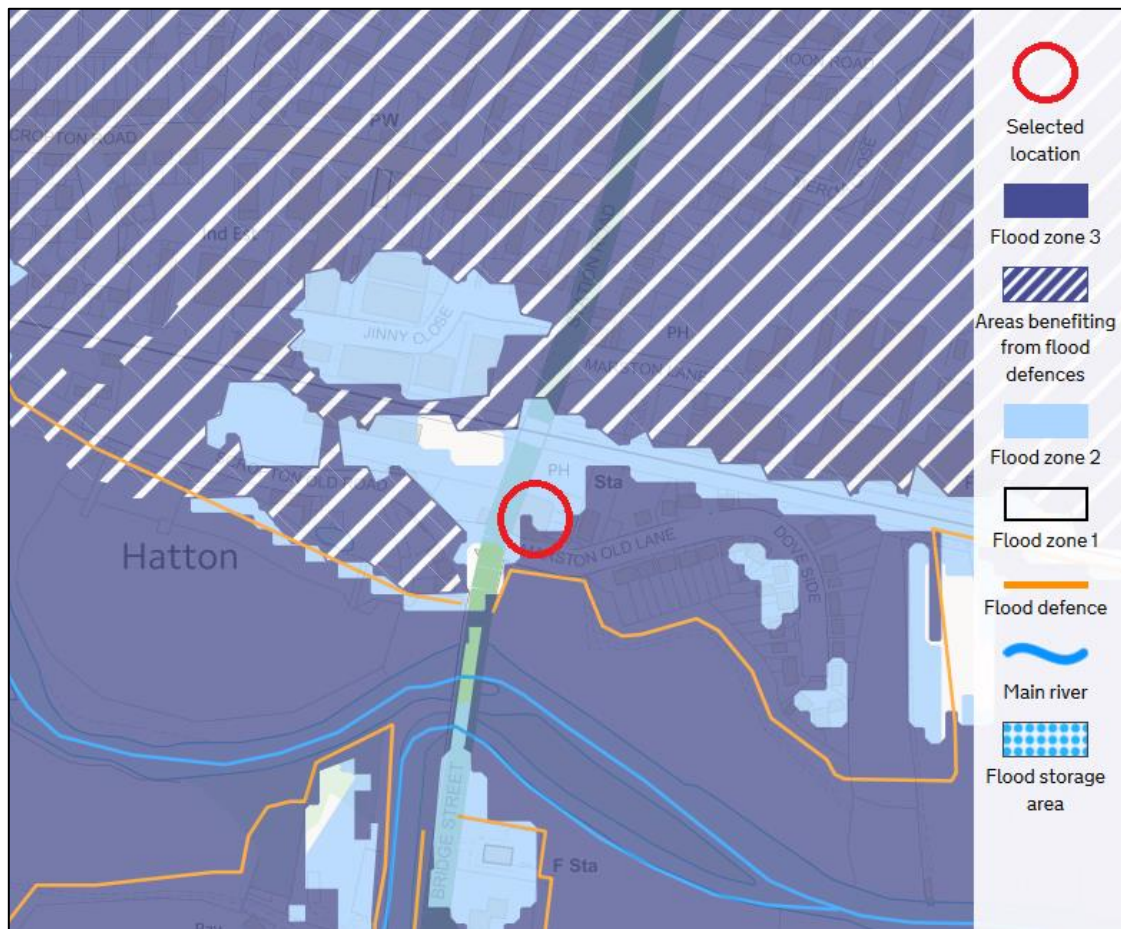


FIGURE 6: EXTRACT FROM THE ENVIRONMENT AGENCY'S FLOOD MAP FOR PLANNING ON 19/03/2019

Figure 6 shows the site is located approximately 75m from the River Dove and is located partially in Flood Zone 2 and partially in Flood Zone 3.

The Lower Dove Flood Risk Management Scheme was completed in 2013 which provides extensive flood protection throughout Hatton. The scheme includes an earth embankment which protects an area of land east of Bridge Street / Station Road and south of the railway line, which includes Marston Old Lane and Dove Side. While this area of land is not identified as benefiting from flood defences on the Flood Map for Planning, consultation advice from the Environment Agency states that this is an error on the map (Appendix B).

The Environment Agency has provided modelled in-channel 1D flood levels from hydraulic modelling studies undertaken in 2009, 2011 and 2012, with both defended and undefended scenarios (Appendix B). The 2011 study was specifically undertaken to provide flood levels on the tributaries of the River Dove and not the Main River itself. The results for the relevant node location (RD28D) of the relevant modelling studies (2009 and 2012) have been summarised in Table 3 below. Also, a defended 0.1% AEP level has been estimated for the 2012 model using a single term power function. In addition, peak flows have been added as determined by ReFH2 method at a location adjacent to the site.

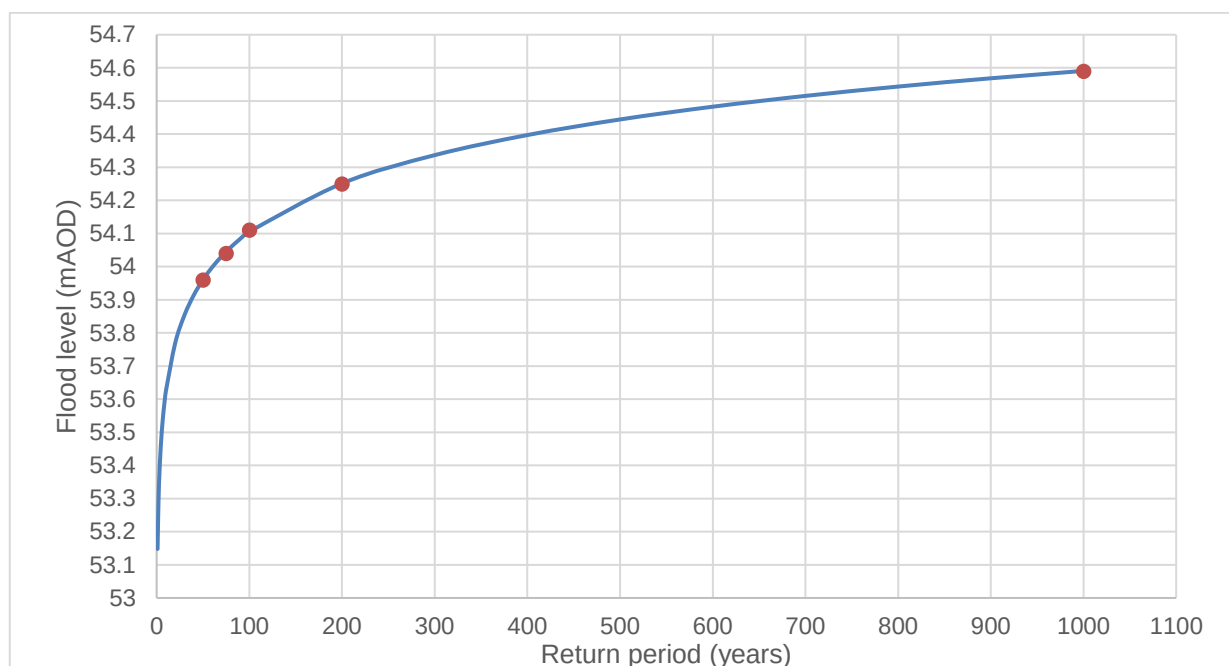


FIGURE 7: SINGLE TERM POWER FUNCTION EXTRAPOLATION OF 2012 HYDRAULIC MODEL TO ESTIMATE 0.1% AEP DEFENDED LEVEL

TABLE 3: SUMMARY OF MODELLED FLOOD LEVELS CLOSE TO THE PROPOSED SITE Ĩ NODE RD28D

	Peak flood levels (mAOD) for a range of annual exceedance probabilities (%)						
	5%	2%	1.33%	1%	1%CC	0.5%	0.1%
2009 model undefended				54.30			
2012 model undefended				53.74			
2009 model defended	53.78	53.96	54.02	54.06	54.16	54.16	54.41
2012 model defended	53.77	53.96	54.04	54.11	54.34		54.59 (extrapolated)
ReFH2 flow	238.0 m ³ /s	294.5 m ³ /s	324.5 m ³ /s	347.8 m ³ /s		409.7 m ³ /s	571.7 m ³ /s

A topographic survey was completed by SV Surveying Ltd (Appendix C) which shows ground levels around the building to be:

53.66 - 54.20mAOD along the south side (Marston Old Lane).

53.59 ĩ 54.24mAOD along the west side (Station Road).

53.59 ĩ 53.79mAOD around the north aspect (near the car park).

53.37 ĩ 53.79mAOD around the east side.

Finished floor levels are generally 53.70mAOD throughout the building and 54.00mAOD at the south-west corner.

Comparing ground and finished floor levels with the present day 1% AEP modelled flood level (2012 undefended) shows that shallow flooding is expected in the absence of flood defences. In this scenario flood depths of 0.0 – 0.04m are expected in the building and 0.0 – 0.4m around the building.

The site however benefits from flood protection afforded by an earth bank of crest level 54.40mAOD (Appendix B) which is located 10m south of the building.

3.3.1. Climate Change Impact on Fluvial Risk

The Environment Agency guidance document 'Flood risk assessments: climate change allowances' was released in February 2016 and included statistical increases in peak fluvial flows by river basin district and allowance categories based on epochs and development vulnerability classification. Referring to the NPPF PPG, the development is classified as 'more vulnerable' and has an expected lifetime of 100 years; therefore the 'Higher central' (HC) (30% increase of flow) and 'Upper end' (UE) (50% increase of flow) allowance categories apply for Flood Zone 3a in the Humber Basin.

The Environment Agency's modelled data does not include these new allowances. Given the small-scale of development it is beyond the scope of the project to re-model the flood levels taking account of the new climate change allowances. An approximation will therefore be made from the available data.

The defended 2009 model provides the most wide-ranging set of data from which flow-level interpolations can be made with any degree of confidence. This data will therefore be used and then the result adjusted to the less comprehensive 2012 data.

The flood levels from the 2009 model show the same value for both the 1%AEP +20%CC event and the 0.5% event. The ReFH2 flow estimation for a 0.5%AEP event is 17.8% higher than the 1%AEP flow estimate, therefore a 20% increase of input flow to the model seems to translate to a 17.8% flow increase adjacent to the proposed site. Assuming the same response to any input flow increase then the higher central 30% input flow increase is expected to produce a 26.7% flow increase by the site ($30 \times 17.8 / 20$), which equates to a 1%AEP+CC(HC) flow of 440.7m³/s (347.8×1.267). Similarly, the upper end 50% input flow increase is expected to produce a 44.5% flow increase by the site ($50 \times 17.8 / 20$) which equates to a 1%AEP+CC(UE) flow of 502.6m³/s (347.8×1.445).

Still working with the 2009 data – plotting modelled flood level against ReFH2 flow estimates (Figure 8) enables 1%AEP+CC(HC) and 1%AEP+CC(UE) flood levels to be calculated from the single term power function equation. The values of which are 54.24mAOD and 54.33mAOD respectively.

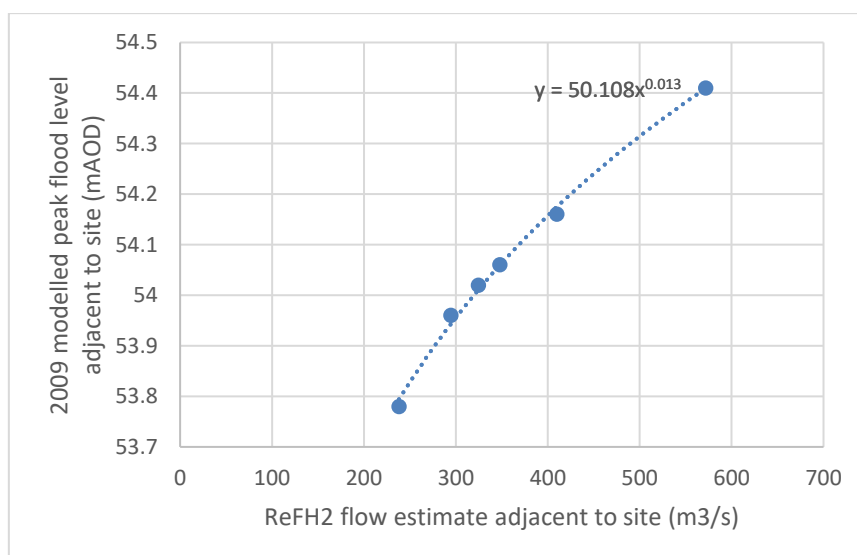


FIGURE 8: PLOT OF REFH2 FLOW ESTIMATE VERSUS 2009 MODELLED FLOOD LEVELS

Finally, comparing the 2009 and 2012 high flow data and estimates:

TABLE 4: SUMMARY OF MODELLED FLOOD LEVELS CLOSE TO THE PROPOSED SITE ĩ NODE RD28D

	Peak flood levels (mAOD) for a range of annual exceedance probabilities (%)				
	1%	1%CC (20%)	1%CC (30%)	1%CC (50%)	0.1%
2009 model undefended	54.30 (modelled data)				
2012 model undefended	53.74 (modelled data)	53.97** (@lef@0.37m)	54.05** (@lef@0.37m)	54.14** (@lef@0.37m)	
2009 model defended	54.06 (modelled data)	54.16 (modelled data)	54.24 (interpolated)	54.33 (interpolated)	54.41 (modelled data)
2012 model defended	54.11 (modelled data)	54.34 (modelled data)	54.42* (@2009@0.18m)	54.51* (@2009@0.18m)	54.59 (extrapolated)

The defended 2012 1%AEP+CC(20%) modelled level is 0.18m higher than the equivalent 2009 modelled level.

The defended 2012 0.1%AEP extrapolated level is also 0.18m higher than the equivalent 2009 modelled level.

***It will therefore be assumed that the defended 2012 1%AEP+CC(30%) and 1%AEP+CC(50%) values will also be 0.18m higher than the 2009 equivalent.**

****The undefended 2012 1%AEP modelled level is 0.37m lower than the defended 2012 1%AEP modelled result. It will therefore be assumed that the undefended 2012 1%AEP+CC(30%) and 1%AEP+CC(50%) values will also be 0.37m lower than the defended 2012 equivalent.**

The values highlighted yellow in Table 4 summarise the peak flood level estimates that will be used to judge risk in this assessment.

3.4 Flood defence breach or overtopping

3.4.1. Breach risk

As discussed earlier, while the site is not identified as benefiting from flood defences on the Flood Map for Planning, consultation advice from the Environment Agency states that this is an error on the map.

Flood protection is afforded by an earth bank of crest level 54.40mAOD which is located 10m south of the building. Comparing with the highlighted flood levels in Table 4 shows that both the 1%AEP +CC higher central and upper end scenarios are expected to overtop the defence. The hazard arising from a breach with flooding to the top of the crest level of the defence will therefore be considered.

Breach and overtopping analysis have not been undertaken by the Environment Agency for this location. Undertaking detailed overtopping and breach modelling is beyond the scope of such a small development, therefore hazard will be estimated in line with the simple approach in FD2320/TR2.

The typical head above the floodplain at the front and west side of the building is 0.2 - 0.7m and the distance from the defence is <100m. This equates to a @anger for some@ and @anger for most@ category in line with Table 12.2 of FD2320/TR2, dependent upon which ground level is considered. Given the building

entrances are to the rear, in Flood Zone 2, sheltered from the direct impact of defence breach and quickly leading to ground above 53.9mAOD, an access route that maintains danger for some is judged feasible.

3.4.2. Overtopping risk

Comparing the 54.40mAOD crest level with the highlighted flood levels in Table 4 shows that both the 1%AEP +CC higher central and upper end scenarios are expected to overtop the defence. The hazard arising from overtopping will however be considered based on the extrapolated 2012 0.1%AEP level.

Again, using the simple approach in FD2320/TR2, the head above the crest is expected to be 0.19m during a 0.1%AEP event. The resulting flood hazard equates to danger for some in line with Table 12.1 of FD2320/TR2.

3.5 Coastal/tidal

The site is a considerable distance from the sea and is not at risk of coastal or tidal flooding.

3.6 Pluvial (Surface water)

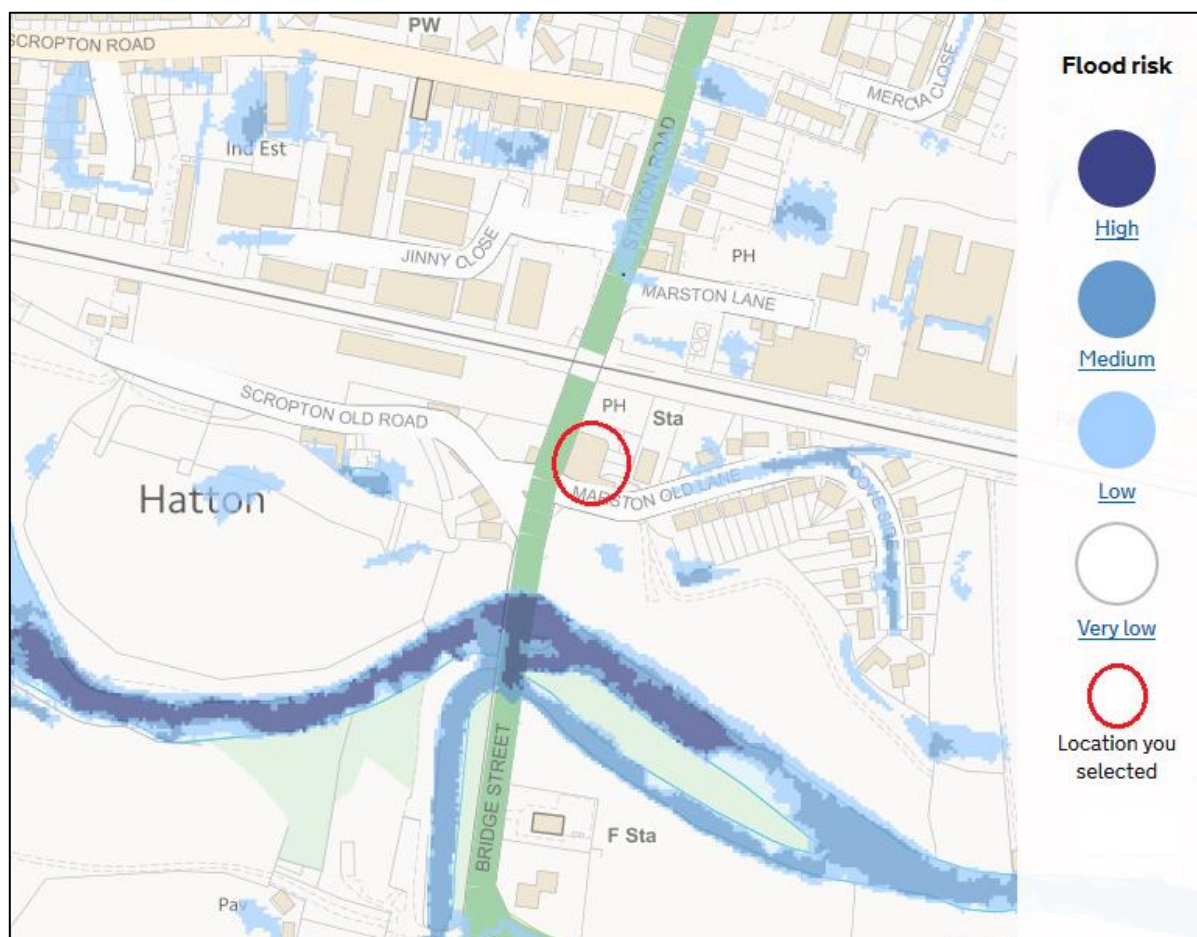


FIGURE 9: ENVIRONMENT AGENCY FLOOD RISK FROM SURFACE WATER Ĩ 19/03/2019

TABLE 5: ENVIRONMENT AGENCY SURFACE WATER RISK CATEGORIES

Surface Water Risk Category	Surface water flooding Annual Exceedance Probability
Very Low	< 0.1%
Low	Between 1% and 0.1% (1 in 100 years and 1 in 1000 years)
Medium	Between 1% and 3.3% (1 in 100 years and 1 in 30 years)
High	> 3.3% (1 in 30 years)

The Environment Agency's surface water flood map (Figure 8) shows the site and adjacent roads are at very low risk of surface water flooding.

3.7 Artificial water bodies

The Environment Agency's flood risk from reservoirs map (Figure 10) shows that the proposed site is at risk of flooding from a dam failure at Carsington Water.

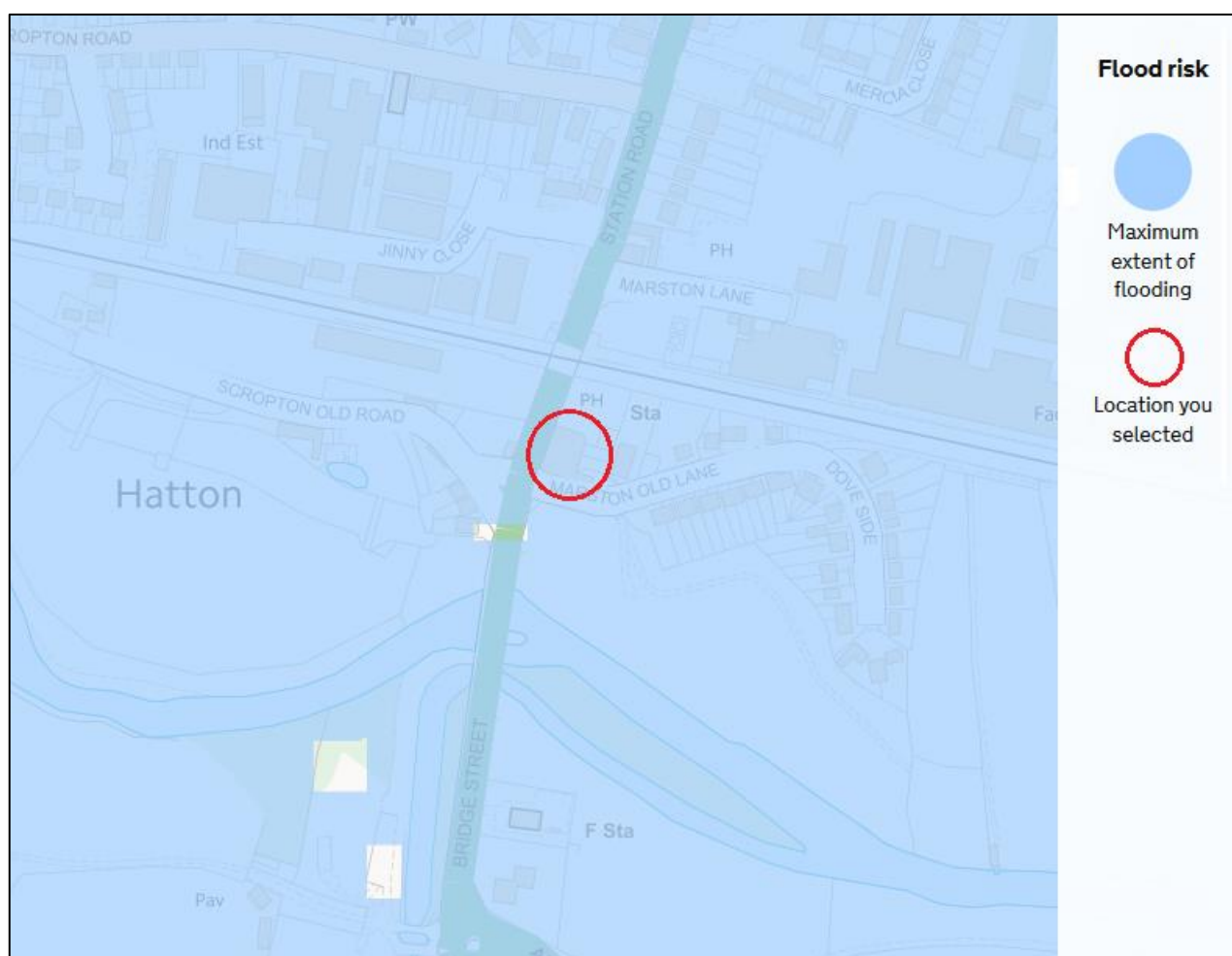


FIGURE 10: ENVIRONMENT AGENCY FLOOD RISK FROM RESERVOIRS Ĩ 19/03/2019

Reservoir flooding is extreme unlikely to happen. The Environment Agency as the enforcement authority for the Reservoirs Act 1975, ensures that reservoirs are inspected regularly, and essential safety work is carried out. The risk of flooding reservoirs is therefore considered to be lower than fluvial risk which has been assessed in Section 3.3.

There are no raised canals in the area to pose a risk.

3.8 Groundwater

British Geological Survey (BGS) records indicate that the proposed development site overlies bedrock composed of the Mercia Mudstone group, which has low permeability and therefore could provide a barrier to rising groundwater. This is overlain (superficial deposits) by alluvium; a mixture of clay silt, sand and gravel deposits which are permeable and therefore may not provide a barrier to rising groundwater.

The 2008 SRFA recorded no groundwater flooding events at this location.

With the site being within the flood extent of the River Dove, groundwater flooding is expected to closely match fluvial flooding. Fluvial flood levels for the River Dove will therefore be used to assess risk in this report.

3.9 Sewers

According to the 2008 SFRA, there have been no specific sewer flooding incidents recorded at the site. The site owner has no knowledge of sewer flooding. Given the available information, a detailed assessment of risk from this source is not appropriate.

4.0 Mitigation measures

4.1 Risk to buildings

4.1.1. Finished floor levels

In order to afford a level of protection against flooding it is normally recommend that finished floor levels are set 0.6m above the modelled 1% AEP plus climate change design flood level.

In this case, the proposed building is protected against flooding by the nearby earth bank. There remains a residual flood risk in the event of the flood defence failing.

The defended 1%AEP +CC higher central flood level is 54.42mAOD. This value reflects the raised water level held back by the flood defence. In the event of defence failure, the flood level that would actually reach the site is expected to be lower than this value. The undefended flood level estimate of 54.05mAOD for the higher central climate change scenario, provides a more realistic value.

The existing finished floor levels of 53.70mAOD and 54.00mAOD are 0.35m and 0.05m lower than the flood level estimate.

The applicant confirms that suitably raised ground floor levels are not feasible due to ceiling height restrictions and existing level changes. It is not feasible to increase the floor level in the lobby to flats 1, 2 and 3 due to a ceiling height restriction (2275mm existing headroom). There is already a step down from flat 1 to the lobby which restricts any further floor level increase in that flat. There are also ceiling height restrictions in flats 3, 4, 5 and 6 (2275mm, 2250mm, 2250mm and 2280mm respectively) that precludes floor raising. Only flat 2 has any scope for floor raising, which will be raised by 0.25m to 53.95mAOD.

Note: existing ceiling heights are included on the existing ground floor plans in Appendix A, which are the oval circled values that range from 2150mm to 2840mm.

Flood resilience will therefore be employed to mitigate the residual risk of defence failure.

4.1.2. Flood resistance

The ground level around the building perimeter ranges from 53.37mAOD to 54.24mAOD. Flooding at the building arising from a (undefended) 1%AEP +CC higher central flood could therefore reach 0.68m depth. This is greater than the 0.6m depth normally taken as a maximum for flood resistance. The use of flood resistance measures could therefore be considered for parts of the building, however this should be led by a detailed property flood resilience survey.

4.1.3. Flood resilience

It is recommended that flood resilience measures are incorporated in the ground floor conversion of the building to mitigate the residual risk of defence failure. Flood resilience measures are designed to reduce damage when flood waters enter a building. Examples of such measures include flood resilient building materials; raising electrical circuitry; flood resilient coverings (e.g. tiles). More detailed information about flood resilience can be found in the following documents:

- Environment Agency publication: [Prepare your property for flooding](https://www.gov.uk/government/publications/prepare-your-property-for-flooding)
<https://www.gov.uk/government/publications/prepare-your-property-for-flooding>
- Ciria publication: [Improving the flood performance of new buildings](http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf)
http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf
- RAB Consultants publication: [Homeowners guide to flood resilience](http://www.knowyourfloodrisk.co.uk/sites/default/files/FloodGuide_ForHomeowners.pdf)
http://www.knowyourfloodrisk.co.uk/sites/default/files/FloodGuide_ForHomeowners.pdf

4.2 Risk to occupiers

4.2.1. Safe access/egress

The site and access benefits from flood defences. There is however a residual risk of defence failure.

The undefended 1%AEP +CC higher central flood level estimate of 54.05mAOD suggests that a maximum flood depth of 0.3m is expected at all of the flat entrances, as raised walkways will be provided that are no lower than 53.75mAOD. These will then tie into ground that is 53.9mAOD and above (0.15m flood depth) along the access route onto Station Road.

The lowest point on the access drive is 53.9mAOD which equates to a flood depth of 0.15m. The lower part of the parking area will be raised so that no level is below 53.75mAOD, so that 1%AEP +CC higher central flood depths would be <0.3m.

The defence failure analysis in Section 3.4 of this report concludes: given the building entrances are to the rear, in Flood Zone 2, sheltered from the direct impact of defence breach and quickly leading to ground above 53.9mAOD, an access route that maintains danger for some is judged feasible.

The implementation of a flood warning and evacuation plan (Appendix D) will mitigate the residual risk.

4.2.2. Flood warning and evacuation plan

The upper floors of the building are set above the flood level and will therefore provide suitable refuge for those residents in the event of an emergency where evacuation is not possible.

No safe refuge is available for ground floor residents and so the flood warning and evacuation plan (Appendix D) will mitigate this residual risk. In a flood emergency, where prior evacuation was not possible,

an access route will still be available that provides a danger for some flood hazard rating, with flood depth no greater than 0.3m.

The Environment Agency operates a free flood information service which gives advanced notice of when flooding is likely to happen and time to prepare for a flood event. Property owners of the proposed development site can find out live information about the River Dove online. Occupants should sign up for flood warnings online using the channels identified in Table 6 and implement a flood warning and evacuation plan in Appendix D to mitigate the residual risk of flooding.

TABLE 6: FLOOD WARNING INFORMATION

Channel	Details
Live information	https://flood-warning-information.service.gov.uk/
Register for warnings	https://www.gov.uk/sign-up-for-flood-warnings
Floodline	0345 988 1188
Typetalk	0845 602 6340

4.3 Risk to others

4.3.1. Floodplain compensation

As the development is a change of use, with no change to the external footprint of the building, and benefits from flood defences, floodplain compensation is not required.

4.3.2. Surface water run-off

The 2008 SFRA promotes the use of strategic, integrated and maintainable SuDS in all flood zones.

Information surrounding potential methods to further reduce surface water run-off, such as through the incorporation of Sustainable Drainage Systems (SuDS), can be found within Table 7 below.

The SuDS Manual (2015), discusses the SuDS approach to managing surface water runoff which is intended to mimic the natural catchment process as closely as is possible. The approach sets out the design objectives in respect of SuDS:

- Use of surface water runoff as a resource;
- Manage rainwater close to where it falls (at source);
- Manage runoff on the surface (above ground);
- Allow rainwater to soak into the ground (infiltration);
- Promote evapotranspiration;
- Slow and store runoff to mimic natural runoff rates and volumes;
- Reduce contamination of runoff through pollution prevention and by controlling the runoff at source; and
- Treat runoff to reduce the risk of urban contaminants causing environmental pollution.

Depending on the characteristics of the site and local requirements, these may be used in conjunction and to varying degrees. Table 7 presents the functions of the SuDS components (from which a management train can be created) and their feasibility in respect of the site.

TABLE 7: FEASIBILITY OF SuDS TECHNIQUES AT THE DEVELOPMENT SITE

Technique	Description	Feasibility Y / N / M (Maybe)
Good building design and rainwater harvesting	Components that capture rainwater and facilitate its use within the building or local environment.	Maybe Ĩ A formal water-harvesting system is not feasible due to the scale of the development; however, water butts could be used on downpipes.
Porous and pervious surface materials	Structural surfaces that allow water to penetrate, thus reducing the proportion of runoff that is conveyed to the drainage system (green roofs, pervious paving).	Maybe Ĩ If there are any exterior alterations to the property then porous and pervious surface material could be considered.
Infiltration Systems	Components that facilitate the infiltration of water into the ground. These often include temporary storage zones to accommodate runoff volumes before slow release to the soil.	No Ĩ Given this is a change of use application it is not feasible within the scope of the development to introduce soakaways and infiltration components.
Conveyance Systems	Components that convey flows to downstream storage systems (e.g. swales, watercourses).	No Ĩ This is not feasible due to the change of use nature of the proposal.
Storage Systems	Components that control the flows and, where possible, volumes of runoff being discharged from the site, by storing water and releasing it slowly (attenuation). These systems may also provide further treatment of the runoff (e.g. ponds, wetlands, and detention basins).	No Ĩ This is not feasible due to the change of use nature of the proposal.
Treatment Systems	Components that remove or facilitate the degradation of contaminants present in the runoff.	No Ĩ This is not feasible due to the change of use nature of the proposal.

There are limited alterations proposed given this is a change of use application, therefore there is little opportunity for the incorporation of SuDS. Some benefit could be achieved by the incorporation of water butts for water reuse on site. No change is planned to the existing drainage system and as such no change to runoff rates and volumes will occur.

5.0 Conclusion

A change of use development is proposed for The Castle Hotel, Station Road, changing from a hotel and restaurant to 17 self-contained flats.

This site is partially located in Flood Zone 3 according to the Environment Agency's flood map, however the site benefits from flood defences. There is a residual risk of flood defence failure that would affect the site. It is not viable to suitably raise ground floor levels therefore flood resilience / resistance measures will be employed to mitigate residual risk to the building.

Residual risk to people will be managed by a flood warning and evacuation plan. Residents of the upper floors will be able to remain in their flats for safe refuge where evacuation is not possible. In a flood emergency, where prior evacuation was not possible, an access route will still be available that provides a danger for some flood hazard rating, with flood depth no greater than 0.3m.

Overall, the development will not change the vulnerability classification of the site, remaining more vulnerable in accordance with NPPF PPG.

Given this is a change of use application, there are no changes planned for the existing drainage system and as such no change to runoff rates and volumes will occur.

It is concluded that the proposed development is appropriate for the flood risk and is not expected to increase the flood risk elsewhere.

6.0 Recommendations

- Raise the floor level in flat 2 to 53.95mAOD.
- Provide flood resilience and resistance measures for the ground floor, led by a detailed property flood resilience survey.
- Provide a raised access walkway to all entrances with level no lower than 53.75mAOD.
- Raise the driveway and parking bays where needed such that the ground level is higher than 53.75mAOD.
- Residents should sign up for the Environment Agency's Flood Warning Service and implement the Flood Warning and Evacuation plan included in Appendix D.
- Consider the use of water butts on downpipes.



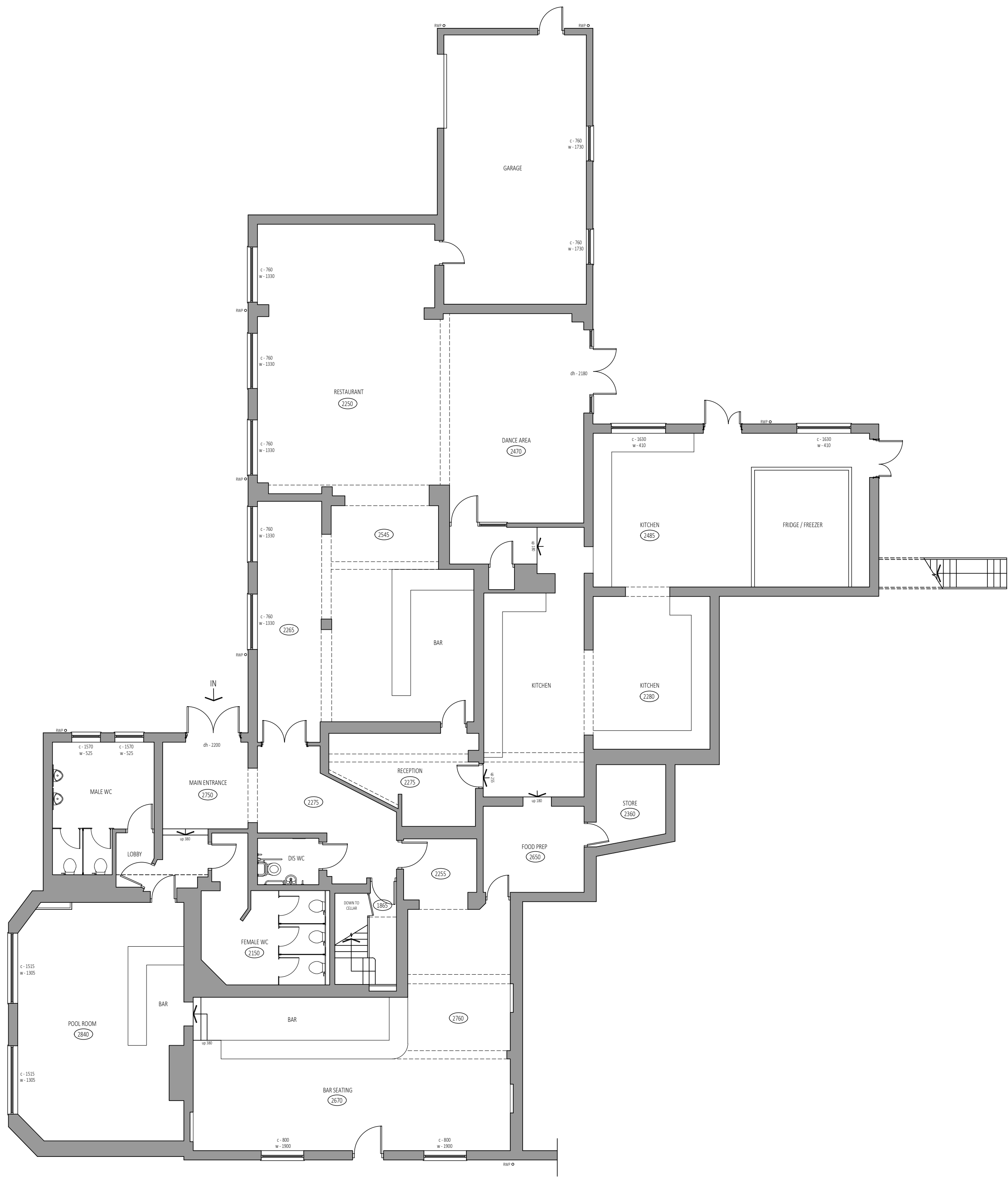
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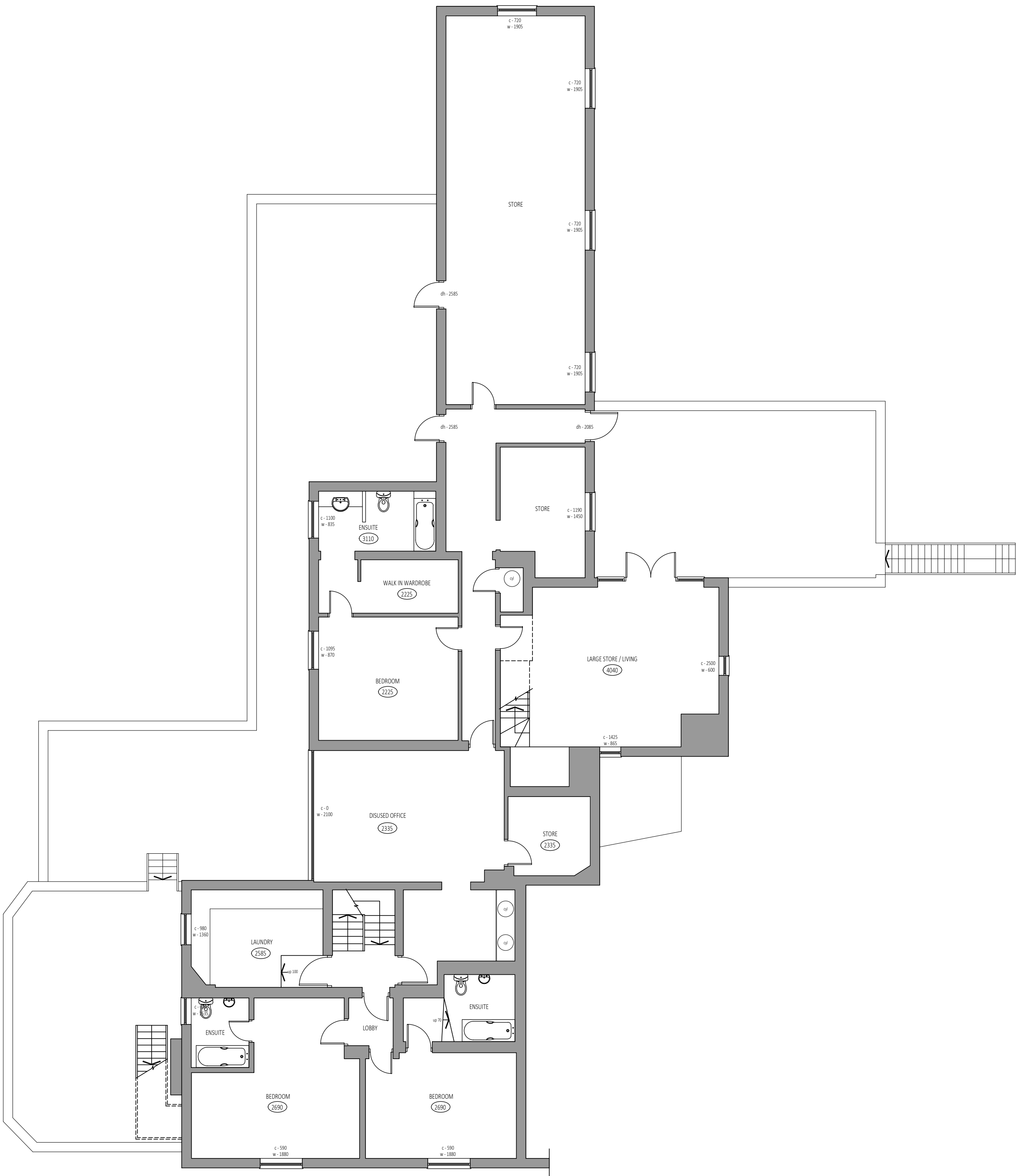
Appendix A ii Proposed Development Plans



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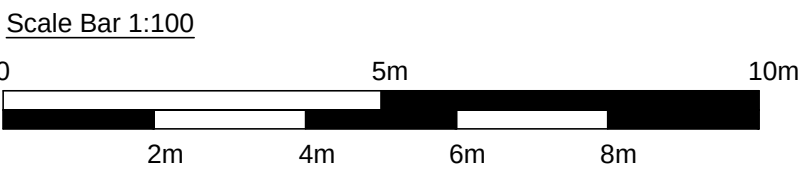
Ground Floor Plan
Scale 1:100



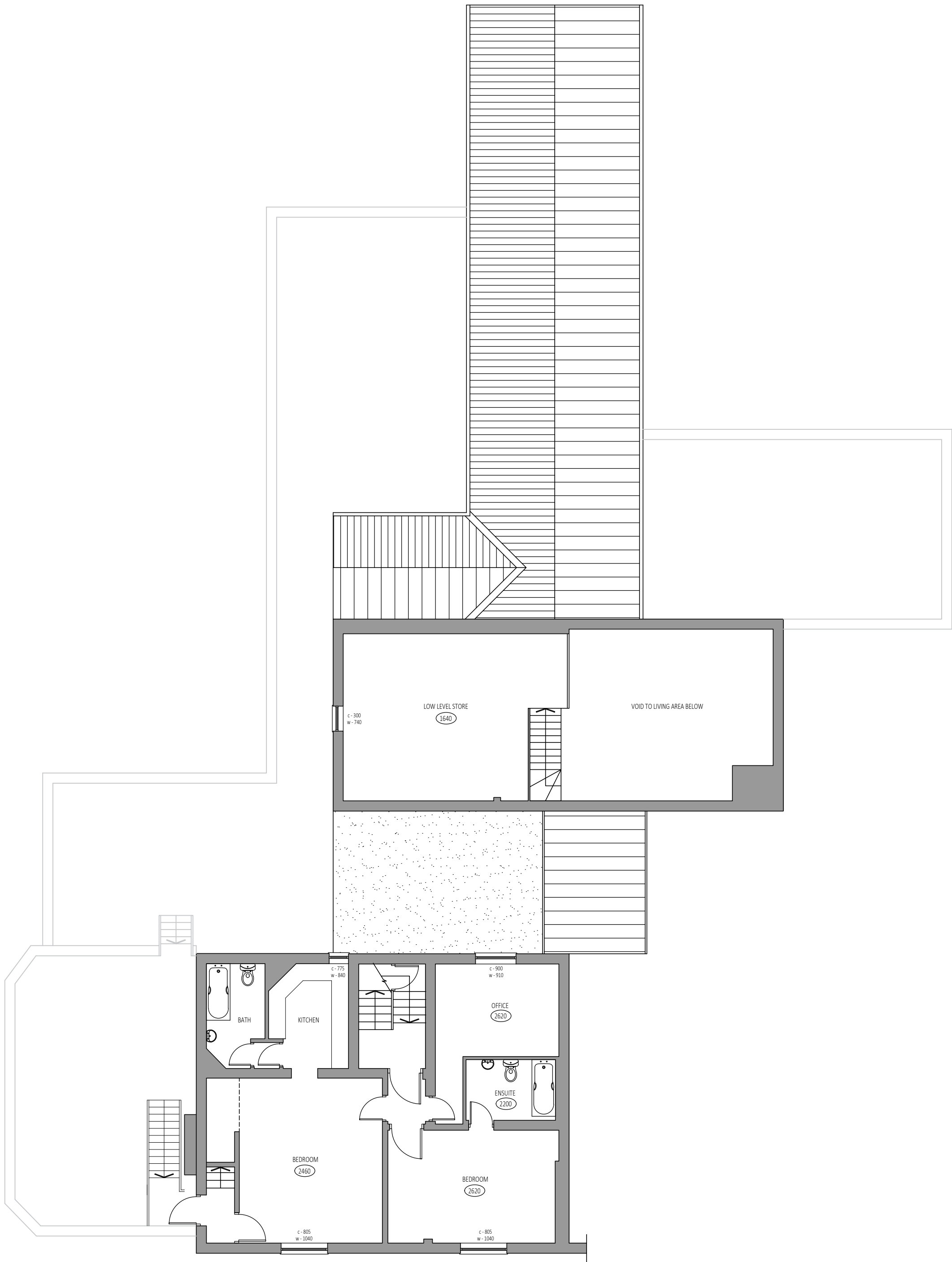
First Floor Plan
Scale 1:100

Schedule of Accommodation

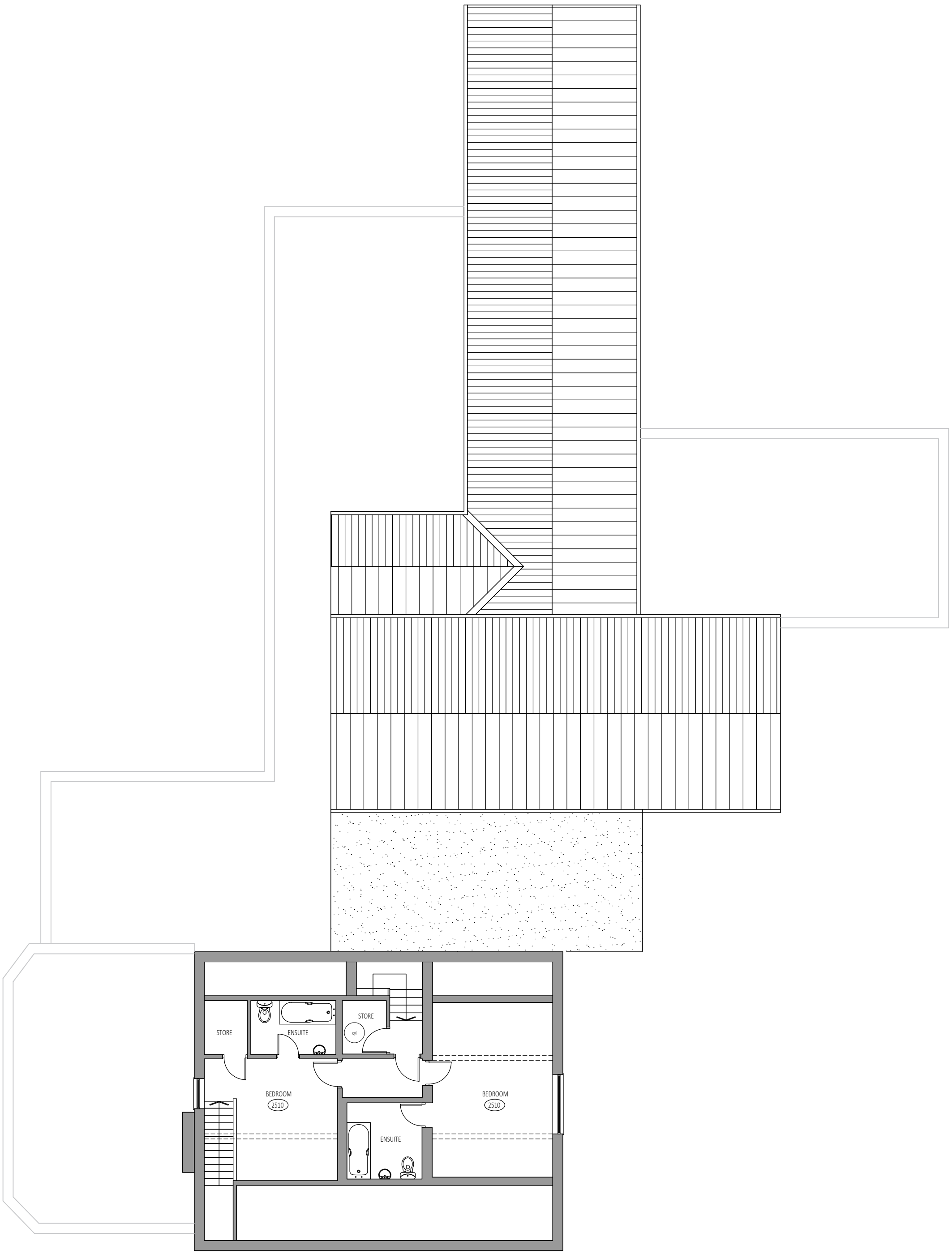
	sq.m	sq.ft
Ground Floor GIA	490	5,274
First Floor GIA	281	3,025
Second Floor GIA	85	915
Low level mezzanine	29	312
Third Floor GIA	54	581
Grand Total GIA	910	9,795
inc. low level mezz.	939	10,107



STATUS		Planning Application	
CLIENT		AH Group Ltd	
PROJECT		Proposed Development to The Castle Hotel, Hatton	
TITLE		Existing Ground and First Floor Plans	
SCALE		1:100 @ A1	
DRAWING NUMBER		18018-P-002	
REV		.	



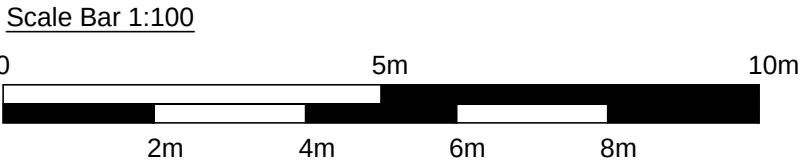
Second Floor Plan
Scale 1:100



Third Floor Plan
Scale 1:100

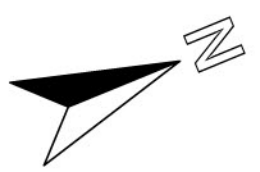
Schedule of Accommodation

	sq.m	sq.ft
Ground Floor GIA	490	5,274
First Floor GIA	281	3,025
Second Floor GIA	85	915
Low level mezzanine	29	312
Third Floor GIA	54	581
Grand Total GIA	910	9,795
inc. low level mezz.	939	10,107

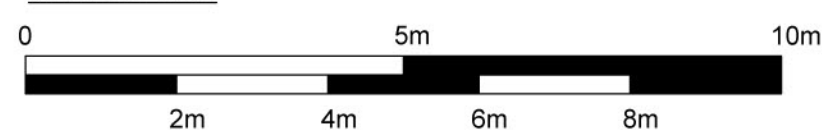


STATUS		Planning Application	
		Wilson Architects Ltd. 84 Grantham Road, Waddington, Lincoln, LN5 9NT 07914 177 321 adam@wilsonarchitects.co.uk www.wilsonarchitects.co.uk Registered company no: 11800541	
CLIENT		AH Group Ltd	
PROJECT		Proposed Development to The Castle Hotel, Hatton	
TITLE		Existing Second and Third Floor Plans	
SCALE		1:100 @ A1	
DRAWING NUMBER		18018-P-003	
REV		.	

rev.	revision	date
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Scale Bar 1:100



STATUS  Wilson Architects Ltd. 84 Grantham Road, Waddington, Lincoln, LN5 9NT 07914 177 321 adam@wilsonarchitects.co.uk www.wilsonarchitects.co.uk Registered company no. 1100061	
CLIENT AH Group Ltd	
PROJECT Proposed Development to The Castle Hotel, Hatton	
TITLE Proposed Site Layout	
SCALE 1:100 @ A1	
DRAWING NUMBER 18018-P-101	REV .

Proposed Site Layout

Scale 1:100

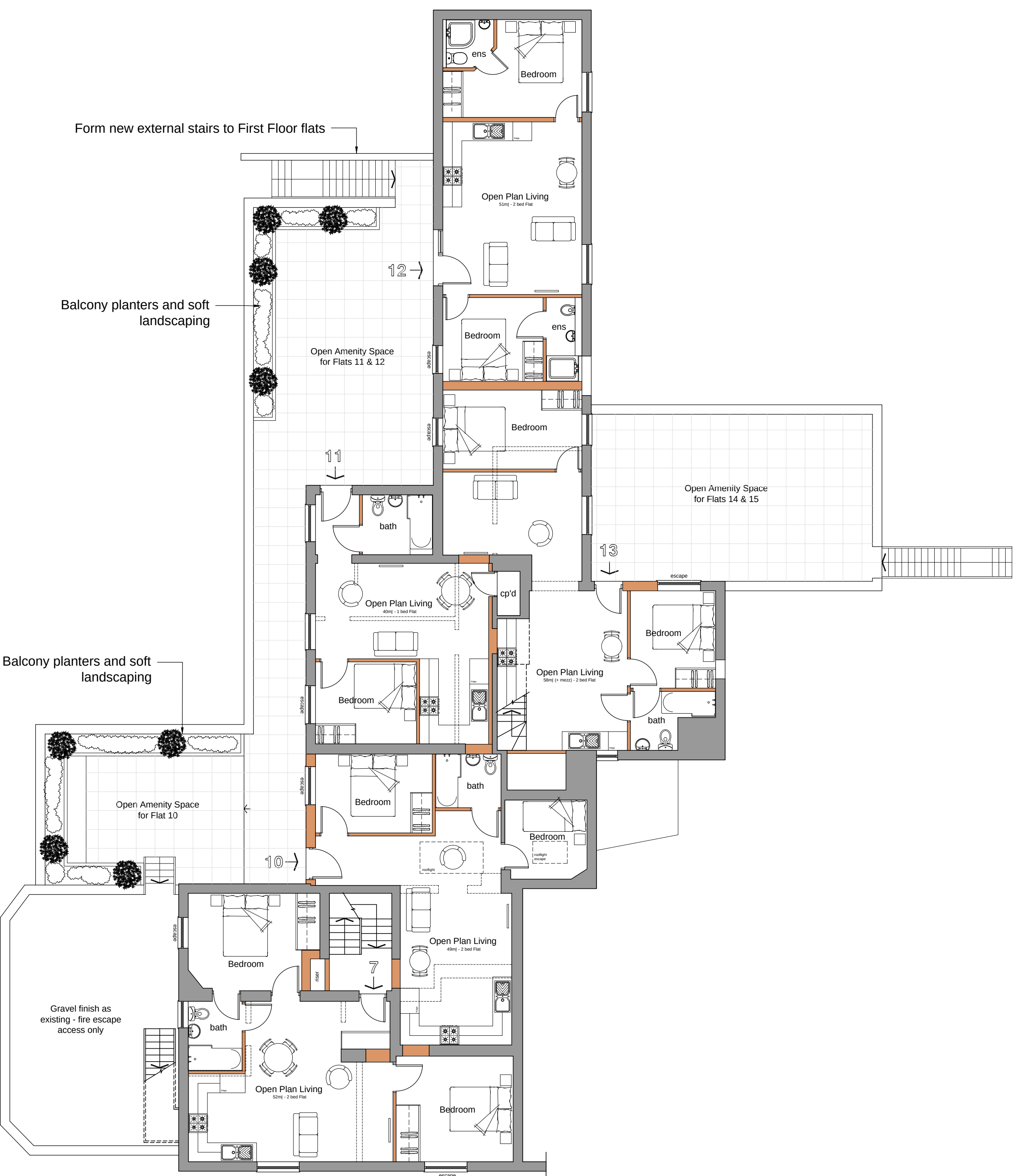
Schedule of Accommodation

		sq.m	sq.ft
Ground Floor			
Flat One	- 2 bed	68	732
Flat Two	- 2 bed	65	700
Flat Three	- 1 bed	45	484
Flat Four	- 2 bed	54	581
Flat Five	- 2 bed	69	743
Flat Six	- 2 bed	64	689
First Floor			
Flat Seven	- 2 bed	52	560
Flat Ten	- 2 bed	49	527
Flat Eleven	- 1 bed	40	431
Flat Twelve	- 2 bed	51	549
Flat Thirteen	- 2 bed	58	624
Second Floor			
Flat Nine	- 2 bed	72	775
Third Floor			
Flat Ten	- 1 bed	46	495

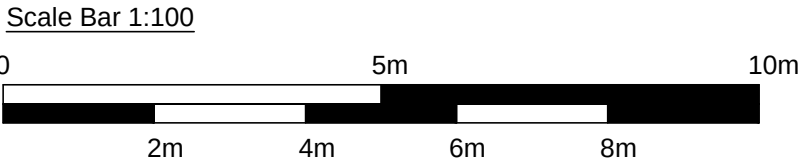
- Legend
- Dashed lines indicate walls to be demolished
 - Indicates proposed new walls



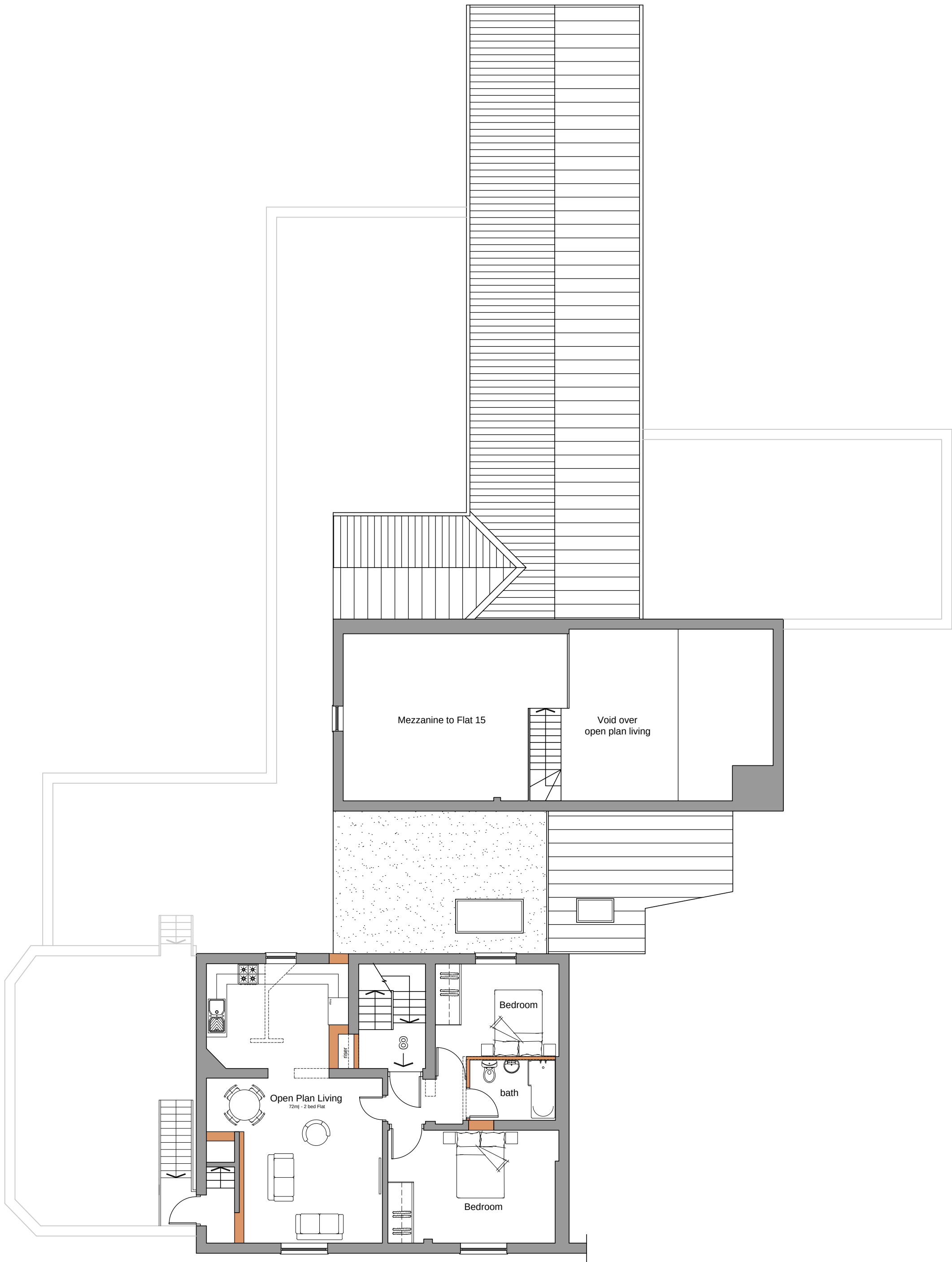
Ground Floor Plan
Scale 1:100



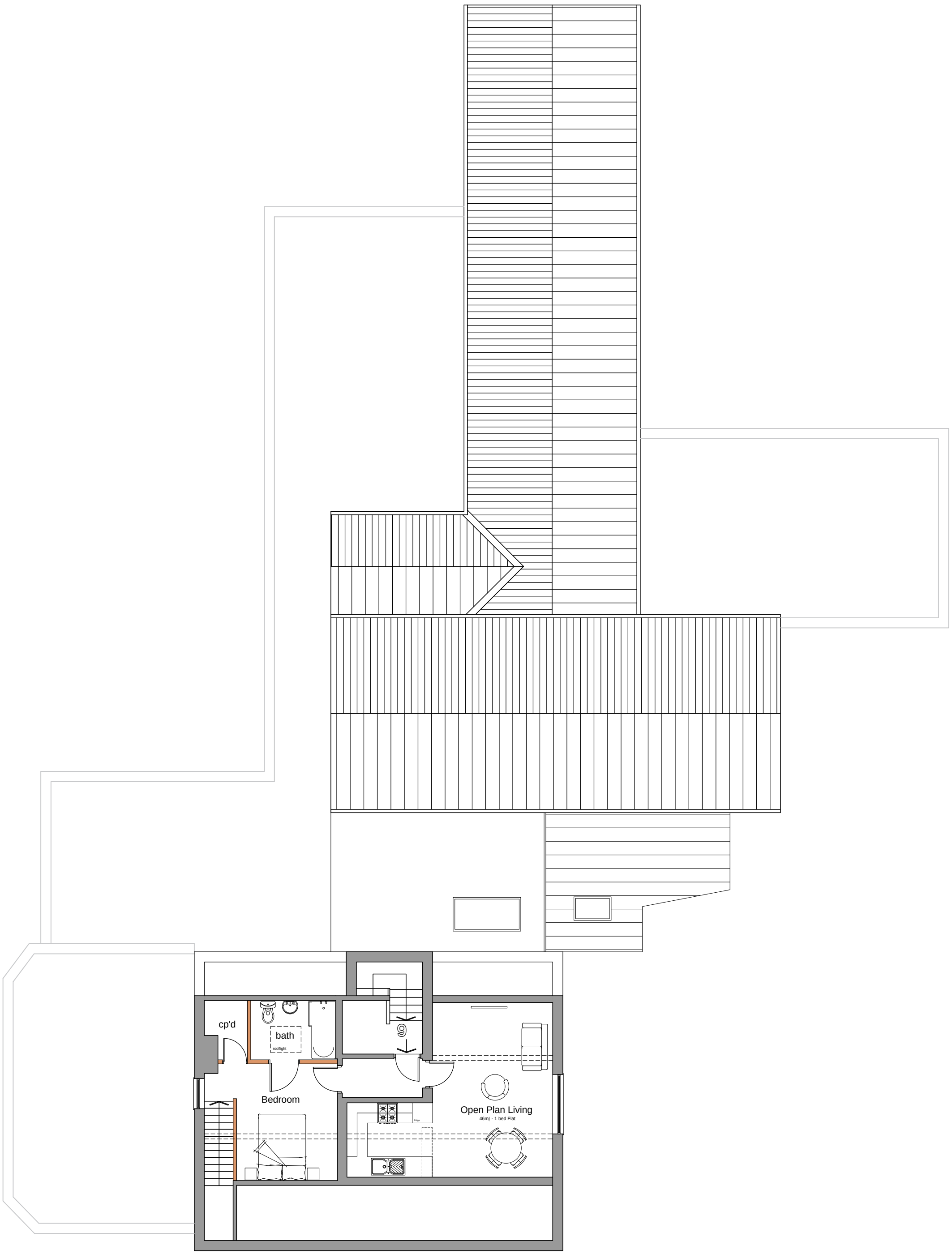
First Floor Plan
Scale 1:100



STATUS		Planning Application	
CLIENT		AH Group Ltd	
PROJECT		Proposed Development to The Castle Hotel, Hatton	
TITLE		Proposed Ground and First Floor Plans	
SCALE		1:100 @ A1	
DRAWING NUMBER		18018-P-102	
REV		A	



Second Floor Plan
Scale 1:100

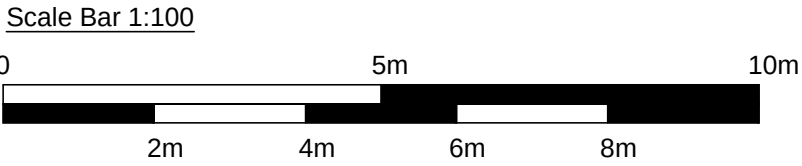


Third Floor Plan
Scale 1:100

Schedule of Accommodation

		sq.m	sq.ft
Ground Floor			
Flat One	- 2 bed	68	732
Flat Two	- 2 bed	65	700
Flat Three	- 1 bed	45	484
Flat Four	- 2 bed	54	581
Flat Five	- 2 bed	69	743
Flat Six	- 2 bed	64	689
First Floor			
Flat Seven	- 2 bed	52	560
Flat Ten	- 2 bed	49	527
Flat Eleven	- 1 bed	40	431
Flat Twelve	- 2 bed	51	549
Flat Thirteen	- 2 bed	58	624
Second Floor			
Flat Nine	- 2 bed	72	775
Third Floor			
Flat Ten	- 1 bed	46	495

- Legend
- Dashed lines indicate walls to be demolished
 - Indicates proposed new walls



STATUS		Planning Application	
 Wilson Architects Ltd. 84 Grantham Road, Waddington, Lincoln, LN5 9NT 07914 177 321 adam@wilsonarchitects.co.uk www.wilsonarchitects.co.uk Registered company no: 11809541			
CLIENT			
AH Group Ltd			
PROJECT			
Proposed Development to The Castle Hotel, Hatton			
TITLE			
Proposed Second and Third Floor Plans			
SCALE		1:100 @ A1	
DRAWING NUMBER		18018-P-103	
REV		.	

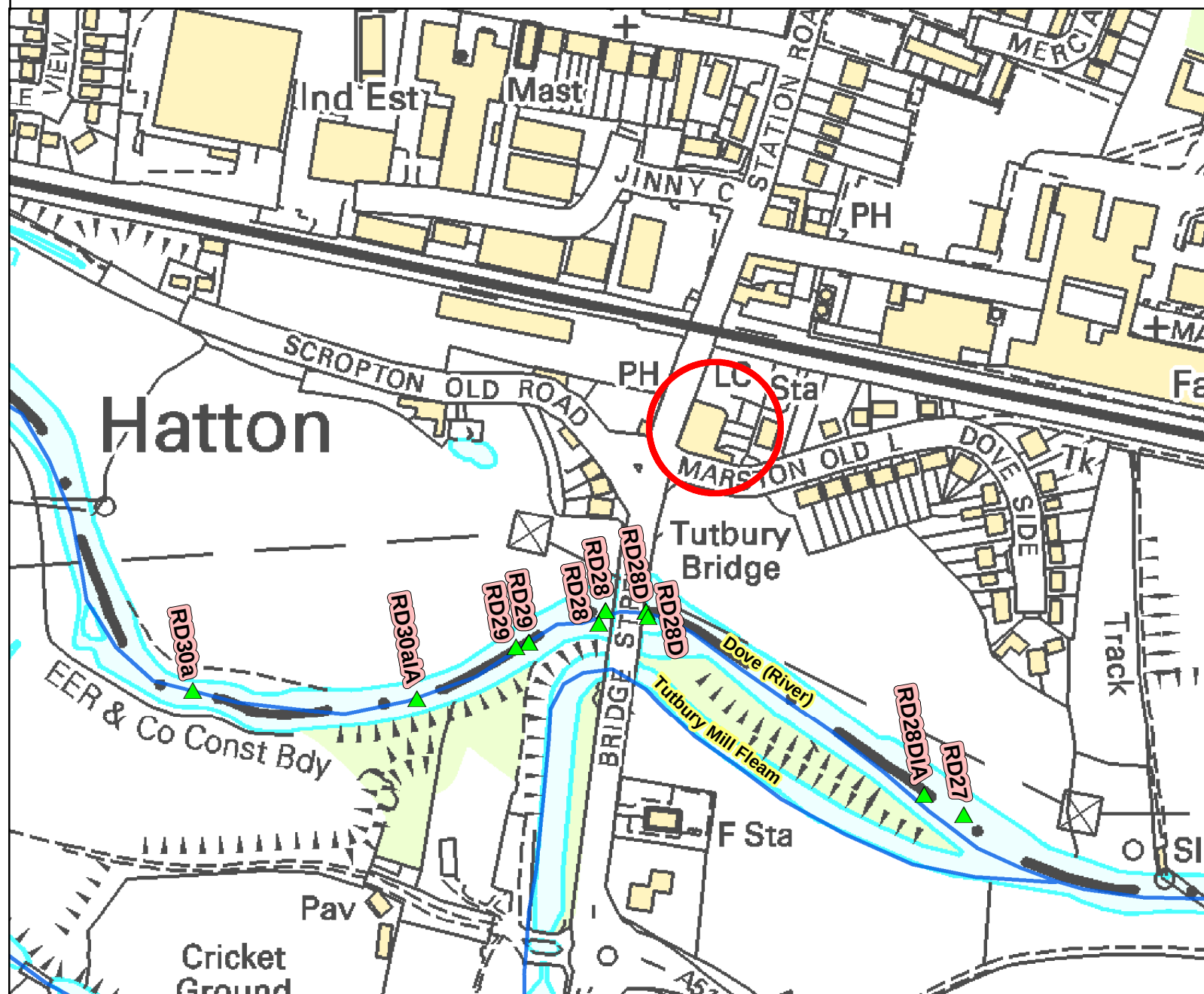


Appendix B i Environment Agency Data



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Node Point Location Map. Centred on Grid Ref 421491, 329619. Created 26 February 2019.



Legend

- ▲ Modelled Levels selection
- Main Rivers
- Approximate location of site

Scale 1:3,000



Product 4 (Detailed Flood Risk Data) for The Castle Hotel, Station Road, Hatton, Derby DE65 5DW.

Reference number: [116974]

Date of issue: 27 February 2019

Flood Map for Planning (Rivers and Sea)

The Flood Map for Planning (Rivers and Sea) indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood event with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring in any year for fluvial (river) flooding (Flood Zone 3). It also shows the extent of the Extreme Flood Outlines (Flood Zone 2) which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater. The Flood Zones refer to the land at risk of flooding and **do not** refer to individual properties. It is possible for properties to be built at a level above the floodplain but still fall within the risk area.

This Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered that flooding may occur from other sources such as surface water, sewers, road drainage, etc.

To find out which flood zone a location is in please use: <https://flood-map-for-planning.service.gov.uk/>

Definition of flood zones

- **Zone 1** - The area is within the lowest probability of flooding from rivers and the sea, where the chance of flooding in any one year is less than 0.1% (i.e. a 1000 to 1 chance).
- **Zone 2** - The area which falls between the extent of a flood with an annual probability of 0.1% (i.e. a 1000 to 1 chance) fluvial and tidal, or greatest recorded historic flood, whichever is greater, and the extent of a flood with an annual probability of 1% (i.e. a 100 to 1 chance) fluvial / 0.5% (i.e. a 200 to 1 chance) tidal. (Land shown in light blue on the Flood Map).
- **Zone 3** - The chance of flooding in any one year is greater than or equal to 1% (i.e. a 100 to 1 chance) for river flooding and greater than or equal to 0.5% (i.e. a 200 to 1 chance) for coastal and tidal flooding.

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](#) when considering location and potential future flood risks to developments and land uses.

Areas Benefitting From Defences

Where possible we show the areas that benefit from the flood defences, in the event of flooding:

- from rivers with a 1% (1 in 100) chance in any given year, or;
- from the sea with a 0.5% (1 in 200) chance in any given year.

If the defences were not there, these areas would flood. Please note that we do not show all areas that benefit from flood defences.

The associated Dataset is available here: <https://data.gov.uk/dataset/flood-map-for-planning-rivers-and-sea-areas-benefiting-from-defences>

Node Data/ Modelled Levels

The attached map will show a selection of 1D/2D model node points near to your site. The fluvial levels for these node points are shown below.

Fluvial Flood Levels (m AOD)

The modelled levels are given in m AOD (N), m AOD indicates metres Above Ordnance Datum (Newlyn).

The information is taken from the model referenced above and does not include the updated climate change figures.

Annual Exceedance Probability -Maximum Water Levels (mAOD) Un-Defended															
Node Label	MODEL	EASTING	NORTHING	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	
RD28	Dove Tribs Study 2011	421438	329524	0	0	0	0	0	0	0	53.79	0	0	0	
RD28D	Dove Tribs Study 2011	421460	329524	0	0	0	0	0	0	0	54.41	0	0	0	
RD28DIA	Dove Tribs Study 2011	421606	329427	0	0	0	0	0	0	0	53.67	0	0	0	
RD29	Dove Tribs Study 2011	421398	329507	0	0	0	0	0	0	0	53.91	0	0	0	
RD30a	Dove Tribs Study 2011	421221	329482	0	0	0	0	0	0	0	0	0	0	0	
RD30aIA	Dove Tribs Study 2011	421339	329478	0	0	0	0	0	0	0	0	0	0	0	
RD27	River Dove Design Model 2012	421627	329417	0	0	0	0	0	0	0	53.90	0	0	0	
RD28	River Dove Design Model 2012	421435	329517	0	0	0	0	0	0	0	54.15	0	0	0	
RD28D	River Dove Design Model 2012	421461	329521	0	0	0	0	0	0	0	53.74	0	0	0	
RD29	River Dove Design Model 2012	421391	329505	0	0	0	0	0	0	0	0	0	0	0	
RD28	River Dove Flood Risk Mapping Study 2009	421438	329524	0	0	0	0	0	0	0	53.78	0	0	0	
RD28D	River Dove Flood Risk Mapping Study 2009	421460	329524	0	0	0	0	0	0	0	54.30	0	0	0	
RD29	River Dove Flood Risk Mapping Study 2009	421398	329507	0	0	0	0	0	0	0	0	0	0	0	
Annual Exceedance Probability -Maximum Water Levels (mAOD) Defended															
Node Label	MODEL	EASTING	NORTHING	50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	
RD28	Dove Tribs Study 2011	421438	329524	0	0	0	53.95	0	53.96	53.97	53.97	53.98	53.98	54.00	
RD28D	Dove Tribs Study 2011	421460	329524	0	0	0	53.84	0	53.85	53.86	53.86	53.87	53.87	53.88	
RD28DIA	Dove Tribs Study 2011	421606	329427	0	0	0	53.84	0	53.85	53.85	53.85	53.86	53.86	53.88	
RD29	Dove Tribs Study 2011	421398	329507	0	0	0	54.22	0	54.23	54.24	54.24	54.25	54.25	54.27	
RD30a	Dove Tribs Study 2011	421221	329482	0	0	0	54.49	0	54.50	54.51	54.51	54.52	54.52	54.54	
RD30aIA	Dove Tribs Study 2011	421339	329478	0	0	0	54.37	0	54.38	54.39	54.39	54.40	54.40	54.43	
RD28	River Dove Flood Risk Mapping Study 2009	421438	329524	0	0	0	53.88	0	54.08	54.15	54.19	54.31	54.31	54.59	
RD28D	River Dove Flood Risk Mapping Study 2009	421460	329524	0	0	0	53.78	0	53.96	54.02	54.06	54.16	54.16	54.41	
RD29	River Dove Flood Risk Mapping Study 2009	421398	329507	0	0	0	54.12	0	54.37	54.45	54.50	54.64	54.63	54.92	
RD29	River Dove Design Model 2012	421391	329505	0	0	0	54.11	0	54.37	54.48	54.58	54.88	0	0	
RD28	River Dove Design Model 2012	421435	329517	0	0	0	53.87	0	54.09	54.17	54.25	54.53	0	0	
RD28D	River Dove Design Model 2012	421461	329521	0	0	0	53.77	0	53.96	54.04	54.11	54.34	0	0	
RD27	River Dove Design Model 2012	421627	329417	0	0	0	53.60	0	53.75	53.80	53.84	54.03	0	0	

Modelled Flood Extents

Available modelled flood outlines produced as part of the detailed modelling have been provided to you in GIS format. These show modelled flood extents, not/taking into account flood defences. Climate change will increase flood risk due to overtopping of defences.

Climate Change

In February 2016 the '[Flood Risk Assessments: Climate Change Allowances](#)' were published on GOV.UK. This is in replacement of previous climate change allowances for planning applications. The data provided in this product does not include the new allowances. You will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding. The fluvial climate change factors are now more complex and a single uplift percentage across England cannot be justified.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it remains the applicant's responsibility to demonstrate through their proposal and flood risk assessments that new developments will be safe in flood risk terms for its lifetime.

Recorded Flood Outlines

Following an examination of our records of historical flooding we do hold records of flooding for this area, please find tabulated information below for these recorded flood events.

Flood Event Code	Flood Event Date	Source of Flooding
2650	01/08/1957	Fluvial

The corresponding recorded flood outline/s can be accessed here:

<https://data.gov.uk/dataset/recorded-flood-outlines1>

The Recorded Flood Outlines take into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It includes flood extents that may have been affected by overtopping, breaches or blockages. Any flood extents shown do not necessarily indicate that properties were flooded internally. It is also possible that the pattern of flooding in this area has changed and that this area would now flood or not flood under different circumstances.

Please note that our records are not comprehensive and that the map is an indicative outline of areas which have previously flooded, not all properties within this area will have flooded. It is possible that other flooding may have occurred that we do not have records for.

You may also wish to contact your Local Authority or Internal Drainage Board (where relevant), to see if they have other relevant local flood information.

Flood Defences

Flood defences do not completely remove the chance of flooding. They can be overtopped by water levels which exceed the capacity of the defences.

If flood defences are located in your area, you can access this data here:

<https://data.gov.uk/dataset/spatial-flood-defences-including-standardised-attributes>

Planning development/s

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments. You can also request pre application advice:

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

Supporting Information

Surface Water

Managing the risk of flooding from surface water is the responsibility of Lead Local Flood Authorities. The 'risk of flooding from surface water' map has been produced by the Environment Agency on behalf of government, using information and input from Lead Local Flood Authorities.

You may wish to contact your Local Authority who may be able to provide further detailed information on surface water.

It is not possible to say for certain what the flood risk is but we use the best information available to provide an indication so that people can make informed choices about living with or managing the risks. The information we supply does not provide an indicator of flood risk at an individual site level. Further information can be found on the Agency's website:

<https://flood-warning-information.service.gov.uk/long-term-flood-risk>

Flood Risk from Reservoirs

The Flood Risk from Reservoirs map can be found on the Long Term Flood Risk Information website:

<https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs>

Flood Alert & Flood Warning Area

We issue flood alert/warnings to specific areas when flooding is expected. If you receive a flood warning you should take immediate action.

You can check whether you are in a Flood Alert/Warning Area and register online using the links below:

<https://www.gov.uk/check-flood-risk>

<https://www.gov.uk/sign-up-for-flood-warnings>

If you would prefer to register by telephone, or if you need help during the registration process, please call Floodline on 0345 988 1188.

The associated dataset for flood warning areas is available here:

<https://data.gov.uk/dataset/flood-warning-areas3>

The associated dataset for flood alert areas is available here: <https://data.gov.uk/dataset/flood-alert-areas2>

Flood Risk Activity Permits

We now consider applications for works, which may be Flood Risk Activities, under Environmental Permitting Regulations. This replaces the process of applying for a Flood Defence Consent. You may need an environmental Permit for flood risk activities if you want to do work:

- in, under, over or near a main river (including where the river is in a culvert)
- on or near a flood defence on a main river
- in the flood plain of a main river
- on or near a sea defence

Please go to this website to find out more about how to apply:

<https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Please be aware that Bespoke and Standard Rules permits can take up to 2 months to determine and will incur a charge.

Further details about the Environment Agency information supplied can be found on the GOV.UK website:

<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

Mr Adam Wilson
Wilson Architects
84 Grantham Road
Waddington
Lincoln
LN5 9NT

Our ref: LT/2019/124338/01-L02
Your ref: Email 28 May 2019
Date: 01 July 2019

Dear Mr Wilson

**PROPOSED CONVERSION TO RESIDENTIAL ACCOMMODATION (14 ONE BEDROOM AND 3 TWO BEDROOM FLATS) AND COMMERCIAL UNIT - REQUEST TO REVIEW FRA
THE CASTLE HOTEL, HATTON, DERBY.**

I refer to your request to review the submitted Flood Risk Assessment (FRA, dated 08 April 2019, ref. RAB 2167L) prior to formal submission to the Local Planning Authority. I sincerely apologise for the delay in providing the following detailed comments on the FRA:

The FRA appears to be an amended version of the RAB FRA V1.0 dated 20 July 2015, Ref: RAB:1106_L. The differences are that the current FRA excludes some of the necessary detail in terms of breach and overtopping analyses, but retains the following deficiencies. (These deficiencies were only accepted for the previous proposals due to the small scale nature of the development and because no bedrooms were located on the ground floor (one new build dwelling)).

1. Sections 3.2 and 3.3 fail to mention the Lower Dove Flood Risk Management (FRM) Scheme completed in 2013, which significantly improved the flood defences to the south of this site. In addition, as the embankment to the south was part of the above scheme, the author should have sought clarification from us as to why this area is not also classified as benefitting from the new defences. The Flood Zone 2 (FZ 2) portion of the site would be above the design flood level used to establish the area benefitting from the FRM scheme, as shown for other FZ 2 areas on the west side of Station Road.
2. Section 3.3 should provide text on the suitability of the modelled flood level information provided. This is because the 2011 study was specifically undertaken to provide flood levels on the tributaries of the River Dove and not this Main River itself, and therefore the 2011 levels should have been excluded from the body of

the FRA.

3. Section 3.3 (continued). The topographic survey used is inadequate as OS Bench Marks have not been maintained since the 1970's. In order to compare it with the modelled flood level and any flood defence crest level information provided, the topographic survey must be to GPS Ordnance Datum (Adjusted to Ordnance Survey GPS, where traditional surveying methods are used). Any other topographic level information provided must also be corrected to OS GPS.
4. Section 3.3.1. The extrapolated 0.1% level proposed to be used to assess flood risk in the Higher Central and Upper End conditions is deemed over conservative; and all three missing values need to be estimated and used in this assessment of flood risk along with the 100 year plus 20% for climate change flood level.
5. Section 3.4.1 and 2. The Breach and Overtopping analysis needs to be undertaken in accordance with the simple approach detailed in Sections 12 and 13 of FD2320/TR2. The information currently provided within this section is lacking in detail as it does not use the 4 flood levels stated above, nor the defence crest level, nor detail flood depths under each scenario or what the table 12 result would be. The suggestion that this has been assessed under point 3.3.1 is incorrect, as that section merely stated the conservative design flood level proposed to be used, and not any results from these assessments. Breach and Overtopping assessments are required to confirm the likely impacts, safety and access issues at each site. Where a site falls within either the ~~D~~anger for most or ~~D~~anger for all categories as shown in tables 12.1 and 12.2 of FD2320/TR2, a more detailed assessment of the likely depth and velocity (in this case at each entrance to the building) will also be required in accordance with Section 13. The crest level of the embankment protecting this site is 54.40m AOD, and so is above the 100 year plus 20% (for climate change) flood level shown in Table 3 of this FRA.
6. Section 4.1.1 should include a discussion as to why setting the finished floor level of the conversion at 600mm above the Higher Central flood level is not appropriate, and be based on the findings of the depths from the overtopping assessment, and the defence crest level. In addition, the ground floor ceiling level should also be included as evidence as to why the internal ground floors cannot be raised. Do ground floor levels and ceiling heights differ in the various elements of the ground floor, therefore allowing some areas to be raised? Flood avoidance should be the first priority, with flood resistance and resilience measures only being considered when the sequential test has confirmed that there are no other suitable alternative sites available for the development and when the internal site layout has been sequentially undertaken.
7. Section 4.1.2 should re-state the likely flood depths to be experienced under the 4 levels stated above, and explain why flood resistance measures are therefore not appropriate. Guidance on this aspect is available on [.gov.uk](http://www.gov.uk).
8. Section 4.2.1. Safe access and egress should be assessed against the flood depths to be experienced under the 4 levels stated above as well as existing car park ground levels. Flood depths in excess of 300mm can float a car and so any development proposal will need to ensure cars are removed from the site during a flood and or prevented from floating off of the site.

9. Section 4.2.2. If a flood event reached the level where the area behind the defences will be at risk of inundation then a Severe Flood Warning will be issued to the media and our professional partners. Emergency services would then make arrangements to evacuate occupiers of homes and business premises within the areas at risk of flooding, to land outside of the floodplain. Therefore at some point in the future this site may also be required to evacuate, and the safe routes away from the site should be appropriate and clearly documented within Appendix D (and include a plan of the recommended route); for instance, an evacuation route across the river bridge to Tutbury would be less appropriate than to the north, because the river bridge could fail. For health and safety reasons there is a preference to evacuate, as to not do so would put occupiers and others (e.g. rescuers) at risk of injury. Should evacuation not be possible then occupiers of all premises proposed at this site should be able to evacuate to a safe place, however the proposal to evacuate ground floor residents to the first floor level is not appropriate because it is not documented how access to the first and possibly second and third floor stair wells would be secured for the residents of the ground floor apartments for the lifetime of the development. This is because some of the ground floor apartments have their own front doors and our understanding is that it is normal practice for door entry systems to be used on shared areas preclude access to all except the residents of the apartments needing access by those stairs.
10. Drawing number GN/LDDD/DD/204C and 215C show the design of the flood defence embankment to the south of this site. Flood defence design drawing information is available on request via Enquiries_Westmids@environment-agency.gov.uk.

Yours sincerely

Mr Nick Wakefield
Planning Advisor

Direct dial 02030 253354

Direct e-mail nick.wakefield@environment-agency.gov.uk

Mr Adam Wilson
Wilson Architects
84 Grantham Road
Waddington
Lincoln
LN5 9NT

Our ref: LT/2019/124338/02-L01
Your ref: Email 060819
Date: 16 August 2019

Dear Mr Wilson

PROPOSED CONVERSION TO RESIDENTIAL ACCOMMODATION (14 ONE BEDROOM AND 3 TWO BEDROOM FLATS) AND COMMERCIAL UNIT THE CASTLE HOTEL, HATTON, DERBY.

Thank you for your email dated 06 August 2018, including two attachments.

Having reviewed the submitted information we have the following comments to make:

1. There are no rule of thumbs available; it is for the applicant to justify their estimation; all available river Dove modelled flood level data should be reviewed to establish a more appropriate estimation of risk at this site, for all return periods over the lifetime of the development. However if the estimation suggests an unacceptable level of risk, then the development may not be appropriate in accordance with NPPF guidance.
2. We believe there may be an error in the defended area ABD outline on the flood map, as the whole of Hatton was to be defended to the same standard, and we are not currently aware of any low spot. Site specific FRA's supersede both SFRA and Flood map for Planning information and so if the defence drawings show a defence crest level providing a design standard of 100 year or more and no other relevant topographic evidence challenges this, then that is what the site is deemed as defended to. Assuming this is the case, we recommend the applicant lodge a flood map challenge in order for the Environment Agency to correct the error on the ABD layer (but unlikely any change would be implemented in the next few months/years).

We recommend a meeting is held at our Lichfield office to discuss the above in detail, in order for the issues to be addressed and enable the applicant to provide an acceptable FRA. We would like to state at this stage, however, that such a meeting would likely fall within our chargeable pre-application advice service.

Environment Agency
Trentside Offices Scarrington Road, West Bridgford, Nottingham, NG2 5FA.
Customer services line: 03708 506 506
www.gov.uk/environment-agency

Cont/d..

Yours sincerely

Mr Nick Wakefield
Planning Specialist

Direct dial 02030 253354

Direct e-mail nick.wakefield@environment-agency.gov.uk

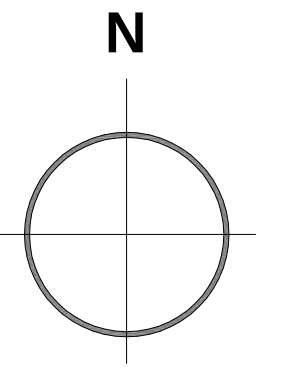
End



Appendix C i Topographic survey



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Notes :

This plan should only be used for its original purpose. SV Surveying Ltd accepts no responsibility for this plan if supplied to any other party other than the original client.

All dimensions / levels should be checked on site prior to design and construction.

Drainage information (where applicable) has been visually inspected from the surface and should be treated as approximate only.

Tree information (where applicable) has been surveyed from ground level and therefore should be treated as approximate only.

Contours are drawn at 0.2m intervals

The survey has been fixed to GPS OSGB 1936 using the active GPS network.

Legend:

	Building Canopy / Overhang	Trig	Trig Pillar
	Buildings / walls	RD	Ridge Level
	Kerb line	Esse	Esse Level
	Concrete edge	Esse	Esse Level
	Centre Line	DFC	FL Floor Level
	Barriers	Soft	Soft
	Security Fence	Tlbb	Control Line
	Panel Fence	LP	Lamp Post
	Open Fence	SP	Sign Post
	Overhead Powerline	post	Post
	Chambers	FS	Flag Staff
	Styl	MS	Gas Marker
	Survey Station & Name	EP	Electric Post
	Bench Mark	TP	Telegraph Post
	Temporary Bench Mark	IM	Pipe Invert
	Well	Gu	Gully
	Roof	RP	Rodding Point
	Tree / Sapling	BT	Bit Cover
	Area Of Undergrowth	CO	Cover Unknown
	Electricity Cover	EC	Electricity Cover
	Fire Hydrant	FH	Fire Hydrant
	Gas Cover	GAS	Gas Cover
	Ty Cover	TV	Ty Cover
	Stop Valve	SV	Stop Valve
	Water Meter	WM	Water Meter
	Bellisha Beacon	BL	Bellisha Beacon
	Bollard	bol	Bollard
	Bus Stop	BS	Bus Stop
	Earthling Rod	ER	Earthling Rod
	Box Post	Box	Post Box
	Mix Stone	MS	Mix Stone
	Traffic Light	TL	Traffic Light
	Gas Valve	GV	Gas Valve
	Peg	PQG	Peg



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Tel 01530 560837

Fax 01530 560123

Project

WILSON ARCHITECTS
CASTLE HOTEL HATTON

Drawing

TOPOGRAPHIC SITE SURVEY

Scales

1:200

Drawn/Paper Size

KM/A1

Survey Date

15/07/2019

Drawing No

19197-19-01

DO NOT SCALE

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Appendix D i Flood Warning and Evacuation Plan

The Castle Hotel is located approximately 80m to the north of the River Dove, which is described in the NPPF as land having a 1 in 100 or greater annual probability of river flooding (1% or greater Annual Exceedance Probability, AEP); or land having a 1 in 200 or greater annual probability of sea flooding (0.5% AEP or greater).

A number of flooding events have occurred previously, however not since the construction and improvement to the flood defences in Hatton.

How Flood Warnings will be provided

The Environment Agency provides a free flood warning dissemination service Floodline Warnings Direct for this area of Hatton, which offers a minimum 2-hour flood warning lead time before the onset of flooding at the site. Residents will need to contact the Environment Agency to register to this service by calling Floodline on **0345 988 1188**.

After a receipt of a flood warning, you are recommended to call the Environment Agency Floodline dial and listen service to hear further information. After dialling **0345 988 1188** you will be given the option of entering a quick dial code for the flood warning area that relates to you.

The quick dial code that relates to you is **05214132**. This will give you an automated response regarding any flood warnings that have been issued for this area. If you wish to speak to someone about flooding in relation to this area you need to state that it is the **River Dove at Hatton including Hatton village and Uttoxeter Road area**.

Future residents will be able to choose how they are contacted by the Environment Agency in the event of a flood, such as an automated telephone call, fax or email



FLOOD ALERT
FLOODING IS POSSIBLE. BE PREPARED.

FLOOD ALERT

Definition: *Flooding is possible, and you need to be prepared.*

What this means for The Castle Hotel.

The River Dove is rising but the risk of flooding at The Castle Hotel is considered to be very low.

What you should do:

- Be prepared to act on your flood plan.
- Monitor local news and weather forecasts. Be aware of water levels near The Castle Hotel and adjacent roads to the north and south. You can now see river levels on the Environment Agency's website. This information will show you what's happening to water levels in your area - <https://flood-warning-information.service.gov.uk/warnings>
- Call Floodline on 0345 988 1188.
- Prepare a flood kit of essential items.



FLOOD WARNING
FLOODING IS EXPECTED. IMMEDIATE ACTION REQUIRED.

FLOOD WARNING

Definition: *Flooding is expected, and you should take immediate action. You should take action when a flood warning is issued and not wait for a severe flood warning.*

What this means for The Castle Hotel.

The River Dove is still rising, and flooding of roads near The Castle Hotel is expected. You should implement your flood warning and evacuation plan now.

What you should do:

- Evacuate the site as advised to do so by the emergency services.
- If flooding has occurred and evacuation is not possible, residents should stay in a high place with means of an escape.
- Ring Floodline and monitor water levels.
- Turn off gas, electricity and water supplies if it is safe to do so. If you lose utility services, evacuate to the designated rest centre.
- Avoid walking or driving through floodwater, there could be hidden dangers, such as raised manhole covers (so have the potential to fall down a manhole).
- If in danger call 999 immediately.

Listen to emergency services.



SEVERE FLOOD WARNING

SEVERE FLOODING. DANGER TO LIFE.

SEVERE FLOOD WARNING

Definition: *There is severe flooding and danger to life. These are issued when flooding is posing **significant** risk to life or disruption to communities.*

What this means for The Castle Hotel.

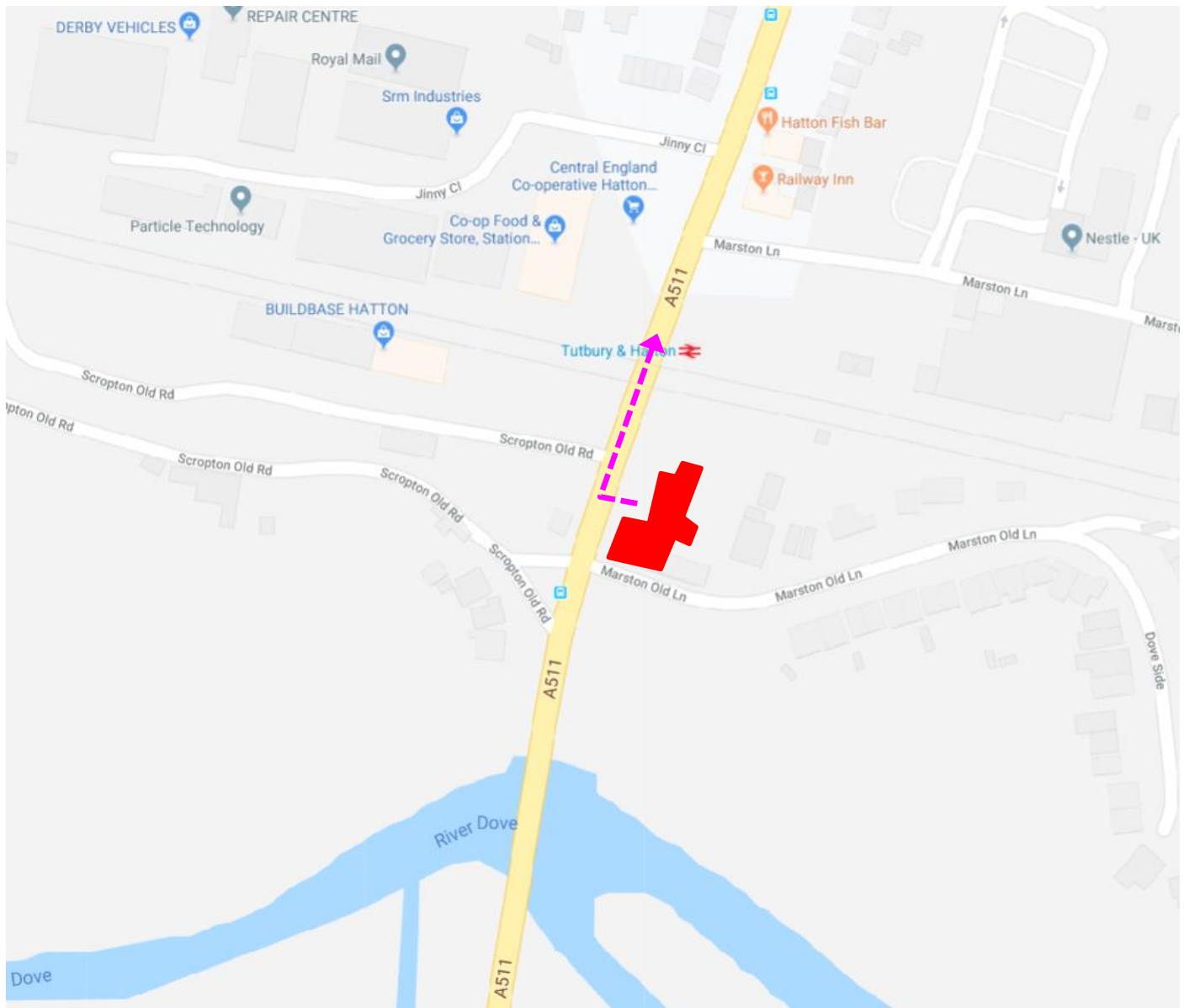
Flooding from the River Dove is now posing a significant risk to life or disruption to the local community. Flooding of roads near Hatton is expected.

What you should do:

- Act as with a Flood Warning.
- Evacuate the site as advised to do so by the emergency services.
- If flooding has occurred and evacuation is not possible, residents should stay in a high place with means of an escape.
- Ring Floodline and monitor water levels.
- Turn off gas, electricity and water supplies if it is safe to do so. If you lose utility services, evacuate to the designated rest centre.
- Avoid walking or driving through floodwater, there could be hidden dangers, such as raised manhole covers (so have the potential to fall down a manhole).
- If in danger call 999 immediately.
- Listen to emergency services.

Preferred evacuation route:

Leave the building and turn right (north) on Station Road, away from the River Dove heading north toward Tutbury & Hatton railway station.



(Google Maps)



Emergency Flood Plan for The Castle Hotel, Hatton

A list of useful telephone numbers:	Environment Agency:	
	Floodline	0345 988 1188
	Environment Agency – General Enquires	(08708) 506506
	Emergency Services:	
	Derbyshire Fire and Rescue Service, Derby Office	01332 777850
Personal numbers (for owners to include):	Derbyshire Constabulary	101
	East Midlands Ambulance Service	0115 884 5000
	In an emergency, dial 999	
	South Derbyshire District Council	01283 595795
	Insurance Company	
A Flood Kit: (This should be collected and stored in a place where it can be easily accessed).	Neighbours	
	<i>This should include:</i>	
	Any key personal documents (Register, Insurance details, etc);	
	Torch (with spare batteries);	
	Battery or wind-up radio;	
Medication:	A mobile phone (with the useful telephone numbers already stored and a full battery);	
	Rubber gloves;	
	Wellington boots;	
	Waterproof clothing;	
	First aid kit;	
Valuable belongings:	Blankets.	
	Do you need regular medication?	
	Get into the habit of storing these in a high place.	
	Have a few flood boards and sandbags prepared to block doorways and airbricks.	
	Ensure that you know how to turn these off, be aware that you may need to do this in the dark.	
Flood boards / sandbags:	Is there anywhere that vehicle(s) could be stored (garage?) so that they do not cause any damage if they are moved by floodwaters?	
Gas, Electricity and Water:		
Motor Vehicles:		



Evacuation:	If flooding is severe, you may be evacuated. Think about what you need to take with you.
DON'T WAIT FOR A FLOOD TO SEE IF YOUR FLOOD PLAN WORKS <u>TEST IT NOW!</u>	