

FLOOD RISK AND DRAINAGE
SOLUTIONS LTD

NPPF Flood Risk Assessment

No6 Clifton Drive, Blackpool

Report No: 2022-026

Client: Fabric Property Group

Date: 15/06/2022

144 NEW LANE
OSWALDTWISTLE
HYNDBURN
LANCASHIRE
BB5 3QW
TEL: 07961477330
EMAIL: INFO@FLOODRISK-DRAINAGE.CO.UK



WWW.FLOODRISK-DRAINAGE.CO.UK

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Contract

This report describes work commissioned by Fabric Property Group 19th March 2022. Chris Vose BSc of Flood Risk and Drainage Solutions Ltd carried out the work.

Disclaimer

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Executive Summary

Flood Risk and Drainage Solutions Ltd have been appointed by Fabric Property Group, to provide a Flood Risk Assessment in support of the planning application for the change of use of an existing hotel into self-contained holiday flats at No6 Clifton Drive in Blackpool, Lancashire.

The development site is shown to be located marginally within Flood Zone 3 on the current Environment Agency Flood Map and therefore has a high risk of fluvial flooding.

An initial assessment indicates that the primary flood risk at the proposed development is from tidal/coastal flooding associated with the shore from the Irish Sea.

Consideration has also been given to the site flooding from secondary sources such as pluvial, groundwater; artificial water bodies; infrastructure failure and ponding.

The application site comprises of the Daltan Hotel building with associated amenities spread over 4 levels: ground floor, first floor, second floor and third floor. The main entrance to the hotel is located at the east of the building at the junction of Clifton Drive and Burlington Road West. Car parking provisions are provided at the frontage of the building to the north, east and south, adjacent to Clifton Drive (north) and Burlington Road West (south).

At the time of writing a topographical survey was unavailable, therefore site levels were obtained from LIDAR Data, which determined that in general the site is relatively flat with an average level of 7.02m AOD, the finished floor level at the entrance on the ground floor level is set to approximately 7.22m AOD.

Development proposals comprise of retention of the existing building, with change of use from a hotel complex into self-contained holiday flats.

Pluvial Flooding

A review of the surface water flood depths and velocities from the Environment Agency's Surface Water Flood Maps is provided below for reference during a range of various 'risk' scenarios:

High Risk Scenario (1 in 30 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Medium Risk Scenario (1 in 100 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Low Risk Scenario (1 in 1000 Year Event)

- Depth = Between 300mm – 900mm
- Velocity = Over 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Following a review of the Environment Agency Surface Water Flood Maps, flooding from this mechanism is considered to be as a result of a topographical depression within the junction of Clifton Drive and Burlington Road West, where surface water accumulates as a result of either poorly maintained gullies or a lack of capacity within the public surface water network during a storm surge event. The hotel building itself is not shown to be encroached during all events including the extreme event i.e., low risk scenario.

Coastal Flooding

The Environment Agency Flood Data states that they do not possess any information regarding flood defences, however the site does benefit from sea defences. The levels provided show that the defended flood outlines are more extensive than when removed, therefore the defended scenario has been used when determining flood depths on-site.

1 in 200 Year & 1 in 1000 Year Defended Scenario

Following a review of the 1 in 200 year and 1 in 1000 year tidal flood levels during the defended scenario the site is expected to flood at spot height ref: 4 (south) and 12 (north) ranging from 0.07m to 0.01m.

1 in 200 Year + Climate Change Defended Scenario

Following a review of the modelled tidal flood levels with the various applications of climate change during the 1 in 200 year event resulted in the same levels throughout, even with the different application of additional depths (mm) to the model. Flood depths range from 0.07m at the north of the site, up to 0.12m centrally and to the south of the site.

The Environment Agency have provided new climate change guidance since the model was undertaken in 2014, which states that 1.01m for the Higher Central allowance should be applied to base flood levels.

The supplied EA Data shows no change to flood levels even with the application of 0.970m, therefore it is unlikely that the allowance of 1.01m would have any impact, however this could not be confirmed without inputting the data into the 2014 model, which would be considered to be over the required scope of works, taking into account the scale and nature of the proposed development.

Following a review of the available Environment Agency Flood Data it is concluded that the site will flood to depths of approximately 0.12m during the 1 in 200 year + climate change tidal event. The threshold of the existing building is set 150mm above existing ground and therefore is unlikely to be encroached, however further flood resilience/resistance measures are recommended to be retro fitted to the building to prevent ingress and reduce the potential damage in the event of a flood.

Mitigation Measures

Finished Floor Levels

Finished floor levels of the existing building are to be retained, which is marginally above the 200 year + climate change flood level.

- Existing Finished Floor Level = 7.220m AOD

To prevent ingress and reduce the potential damage in the event of a flood, resilience and resistance measures identified in Section 7.2 and flood prevention measures within Section 7.3 will be retro fitted to the existing building.

Flood Resilience/Resistance

In order to provide an extra element of safety it is recommended that flood resilience/resistance measures outlined within the table below are incorporated into the buildings design, set 0.600m above the existing finished floor levels of the property.

- Flood Resilience/Resistance Measures (no less than) = $7.220 + 0.600 = 7.820\text{m AOD}$

Feature	Considerations to Improve Flood Proofing
External Walls	Careful consideration of materials: use low permeability materials to limit water penetration if dry proofing required. Avoid using timber frame and cavity walls. Consider applying a water-resistant coating. Provide fitting for flood boards or other

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	temporary barriers across openings in the walls, alternatively fit flood specific doors/windows on all openings below the recommended level. Install airbrick covers to prevent ingress into the cavity.
Internal Walls	Avoid use of gypsum plaster and plasterboards; use more flood resistant linings (e.g. hydraulic lime, ceramic tiles). Avoid use of stud partition walls.
Floors	Avoid use of chipboard floors. Use concrete floors with integrated and continuous damp proof membrane and damp-proof course. Solid concrete floors are preferable; if a suspended floor is to be used, provide facility for drainage of sub-floor void. Use solid insulation materials.
Fitting, Fixtures and Services	If possible, locate all fittings, fixtures and services above design floor level. Avoid chipboard and MDF. Consider use of removable plastic fittings. Use solid doors treated with waterproof coatings. Avoid using double-glazed window units that may fill with flood water. Use solid wood staircases. Avoid fitted carpets. Locate electrical, gas and telephone equipment and systems above flood level. Fit anti-flooding devices to drainage systems.

Environment Agency Flood Warnings

The application site is not located within an area which is covered by the Environment Agency's Flood Warning's Direct Service.

It is advised that the staff contact the Environment Agency and ask them if they could extend the Flood Warning Service to cover the property.

Emergency Evacuation Route

It is recommended that persons on site are prepared to evacuate away from the property, if advised to do so by the emergency services and/or local authority, in the advance of the onset of any flooding.

Evacuation away from the site during flood events should be directed east along Burlington Road West then Bond Street into Flood Zone 1.

Business Flood Plan

It is also recommended that staff create a business flood plan. This is a simple document that assists the staff to prioritise actions required at the site before, during and following a flood event.

A copy of a business flood plan template has been provided within the appendices of this report.

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1.0 Introduction

1.1 Terms of Reference

Flood Risk and Drainage Solutions Ltd have been appointed by Fabric Property Group, to provide a Flood Risk Assessment in support of the planning application for the change of use of an existing hotel into self-contained holiday flats at No6 Clifton Drive in Blackpool, Lancashire.

The development site is shown to be located marginally within Flood Zone 3 on the current Environment Agency Flood Map and therefore has a high risk of fluvial flooding.

It is usual for the Environment Agency to raise an objection to development applications within the floodplain, or Zones 2 and 3 of the flood map, until the issue of flood risk has been properly evaluated. The Agency will also object to developments where the total site area is in excess of 1 Hectare until suitable consideration has been given to the management of surface water runoff.

1.2 Objectives

The objective of this assessment is to evaluate the following issues in regard to flood risk at the application site.

- Suitability of the proposed development in accordance with current planning policy.
- Identify the risk to both the proposed development and people from all forms of flooding.
- Provide a preliminary assessment of foul and surface water management.
- Increasing the risk of flooding elsewhere e.g. surface water flows and flood routing.
- Recommendation of appropriate measures to mitigate against flooding both within the proposed development, and neighbouring land and property.

1.3 Data Sources

This assessment is based on desk-top study of information from the following sources:

- National Planning Policy Framework (2021)
- Planning Practice Guidance at www.gov.uk
- Building Regulations Approved Document H
- Environment Agency Flood Mapping
- Lancashire Area Preliminary Assessment Report May 2011
- Blackpool Council Level 1 Strategic Flood Risk Assessment 2020
- British Geological Society – Historic Borehole Logs
- Cranfield University's Soilscape Viewer
- CIRIA C697 The SUDS Manual
- Chronology of British Hydrological Events (Dundee University)
- R&D Technical Report FD2320/TR2 (2005)

2.0 Planning Policy Context

2.1 Approach to the Assessment

An initial assessment indicates that the primary flood risk at the proposed development is from tidal/coastal flooding associated with the shore from the Irish Sea.

Consideration has also been given to the site flooding from secondary sources such as pluvial, groundwater; artificial water bodies; infrastructure failure and ponding.

The requirements for flood risk assessments are generally as set out in the 'Technical Guidance to the National Planning Policy Framework', updated in February 2021; and in more detail from the Environment Agency's 'Standing Advice on Flood Risk' available from <https://www.gov.uk/government/publications/national-planning-policy-framework-3>.

2.2 National Planning Policy Framework (NPPF)

The information provided in the flood risk assessment should be credible and fit for purpose.

Site-specific flood risk assessments should always be proportionate to the degree of flood risk and make optimum use of information already available, including information in a Strategic Flood Risk Assessment for the area, and the interactive flood risk maps available on the Environment Agency's website.

A flood risk assessment should also be appropriate to the scale, nature and location of the development.

2.2.1 Site Specific Flood Risk Assessment Checklist

The following checklist has been extracted from Flood Risk & Coastal Change Section available from www.gov.uk, updated in February 2021.

1. Development site and location

Provide a description of the site you are proposing to develop, including, or making reference to, a location map which clearly indicates the development site.

- A. Where is the development site located? (e.g. postal address or national grid reference)
- B. What is the current use of the site? (e.g. undeveloped land, housing, shops, offices)
- C. Which Flood Zone (for river or sea flooding) is the site within? (i.e. Flood Zone 1, Flood Zone 2, Flood Zone 3).

Check the Flood Map for Planning (Rivers and Sea) and the Strategic Flood Risk Assessment for the area available from the local planning authority.

2. Development proposals

Provide a general summary of the development proposals, including, or making reference to, an existing block plan and a proposed block plan, where appropriate.

- A. What are the development proposal(s) for this site? Will this involve a change of use of the site and, if so, what will that change be?
- B. In terms of vulnerability to flooding, what is the vulnerability classification of the proposed development?
- C. What is the expected or estimated lifetime of the proposed development likely to be? (E.g. less than 20 years, 20-50 years, 50-100 years?).

3. Sequential test

For developments in flood zones 2 or 3 only.

(If the development site is wholly within flood zone 1, this section can be skipped - go to section 4).

Describe how the sequential test has been applied to the development (if required, and as set out in paragraphs 101-104 of the National Planning Policy Framework); and provide the evidence to demonstrate how the requirements of the test have been met.

See paragraph 033 of the NPPF guidance for further information. (It is recommended that the Developer or Agent contacts the LPA to confirm whether the sequential test should be applied and to ensure the appropriate level of information is provided).

- A. What other locations with a lower risk of flooding have you considered for the proposed development?
- B. If you have not considered any other locations, what are the reasons for this?
- C. Explain why you consider the development cannot reasonably be located within an area with the lowest probability of flooding (flood zone 1); and, if your chosen site is within flood zone 3, explain why you consider the development cannot reasonably be located in flood zone 2.
- D. As well as flood risk from rivers or the sea, have you taken account of the risk from any other sources of flooding in selecting the location for the development?

Exception test

Provide the evidence to support certain development proposals in flood zones 2 or 3 if, following application of the sequential test, it is appropriate to apply the exception test, as set out in paragraphs 102-104 of the National Planning Policy Framework.

It is advisable to contact the local planning authority to confirm whether the exception test needs to be applied and to ensure the appropriate level of information is provided.

- A. Would the proposed development provide wider sustainability benefits to the community? If so, could these benefits be considered to outweigh the flood risk to and from the proposed development?
- B. How can it be demonstrated that the proposed development will remain safe over its lifetime without increasing flood risk elsewhere?
- C. Will it be possible for the development to reduce flood risk overall (e.g. through the provision of improved drainage)?

4. Climate Change

How is flood risk at the site likely to be affected by climate change? (The local planning authority's Strategic Flood Risk Assessment should have taken this into account). Further advice on how to take account of the impacts of climate change in flood risk assessments is available from the Environment Agency.

5. Site specific flood risk

Describe the risk of flooding to and from the proposed development over its expected lifetime, including appropriate allowances for the impacts of climate change. It would be helpful to include any evidence, such as maps and level surveys of the site, flood datasets (e.g. flood levels, depths and/or velocities) and any other relevant data, which can be acquired through consultation with the Environment Agency, the lead local flood authority for the area, or any other relevant flood risk management authority. Alternatively, you may consider undertaking or commissioning your own assessment of flood risk, using methods such as computer flood modelling.

- A. What is/ are the main source(s) of flood risk to the site? (E.g. tidal/sea, fluvial or rivers, surface water, groundwater, other?). You should consider the flood mapping available from the Environment Agency, the Strategic Flood Risk Assessment for the area, historic flooding records and any other relevant and available information.

- B. What is the probability of the site flooding, taking account of the maps of flood risk available from the Environment Agency, the local planning authority's Strategic Flood Risk Assessment and any further flood risk information?
- C. Are you aware of any other sources of flooding that may affect the site?
- D. What is the expected depth and level for the design flood? See paragraph 055 of the NPPF guidance for information on what is meant by a "design flood". If possible, flood levels should be presented in metres above Ordnance Datum (i.e., the height above average sea level).
- E. Are properties expected to flood internally in the design flood and to what depth? Internal flood depths should be provided in metres.
- F. How will the development be made safe from flooding and the impacts of climate change, for its lifetime? Further information can be found in paragraphs 054 and 059 (including on the use of flood resilience and resistance measures) of the NPPF guidance.
- G. How will you ensure that the development and any measures to protect the site from flooding will not cause any increase in flood risk off-site and elsewhere? Have you taken into account the impacts of climate change, over the expected lifetime of the development? (e.g. providing compensatory flood storage which has been agreed with the Environment Agency).
- H. Are there any opportunities offered by the development to reduce the causes and impacts of flooding?

6. Surface water management*

Describe the existing and proposed surface water management arrangements at the site using sustainable drainage systems wherever appropriate, to ensure there is no increase in flood risk to others off-site.

- A. What are the existing surface water drainage arrangements for the site?
- B. If known, what (approximately) are the existing rates and volumes of surface water run-off generated by the site?
- C. What are the proposals for managing and discharging surface water from the site, including any measures for restricting discharge rates? For major developments (e.g. of ten or more homes or major commercial developments), and for all developments in areas at risk of flooding, sustainable drainage systems should be used, unless demonstrated to be inappropriate.
- D. How will you prevent run-off from the completed development causing an impact elsewhere?
- E. Where applicable, what are the plans for the ongoing operation and/or maintenance of the surface water drainage systems?

7. Occupants and users of the development

Provide a summary of the numbers of future occupants and users of the new development; the likely future pattern of occupancy and use; and proposed measures for protecting more vulnerable people from flooding.

- A. Will the development proposals increase the overall number of occupants and/or people using the building or land, compared with the current use? If this is the case, by approximately how many will the number(s) increase?
- B. Will the proposals change the nature or times of occupation or use, such that it may affect the degree of flood risk to these people? If this is the case, describe the extent of the change.
- C. Where appropriate, are you able to demonstrate how the occupants and users that may be more vulnerable to the impact of flooding (e.g., residents who will sleep in the building; people with health or mobility issues; etc.,) will be located primarily in the parts of the building and site that are at lowest risk of flooding? If not, are there any overriding reasons why this approach is not being followed?

8. Residual risk

Describe any residual risks that remain after the flood risk management and mitigation measures are implemented, and to explain how these risks can be managed to keep the users of the development safe over its lifetime.

- A. What flood related risks will remain after the flood risk management and mitigation measures have been implemented?
- B. How, and by whom, will these risks be managed over the lifetime of the development? (e.g., putting in place flood warning and evacuation plans).

9. Flood risk assessment credentials

Provide details of the author and date of the flood risk assessment.

- A. Who has undertaken the flood risk assessment?
- B. When was the flood risk assessment completed?

Other considerations

* Managing surface water

The site-specific flood risk assessment will need to show how surface water runoff generated by the developed site will be managed. In some cases, it may be advisable to detail the surface water management for the proposed development in a separate drainage strategy or plan. You may like to discuss this approach with the lead local flood authority.

Surface water drainage elements of major planning applications (e.g., of ten or more homes) are reviewed by the lead local flood authority for the area. As a result, there may be specific issues or local policies, for example the Local Flood Risk Management Strategy or Surface Water Management Plan, that will need to be considered when assessing and managing surface water matters.

It is advisable to contact the appropriate lead local flood authority prior to completing the surface water drainage section of the flood risk assessment, to ensure that the relevant matters are covered in sufficient detail.

Proximity to Main Rivers

If the development of the site involves any activity within specified distances of main rivers, a flood risk activity permit may be required in addition to planning permission.

For non-tidal main rivers, a flood risk activity permit may be required if the development of the site is within 8 metres of a river, flood defence structure or culvert.

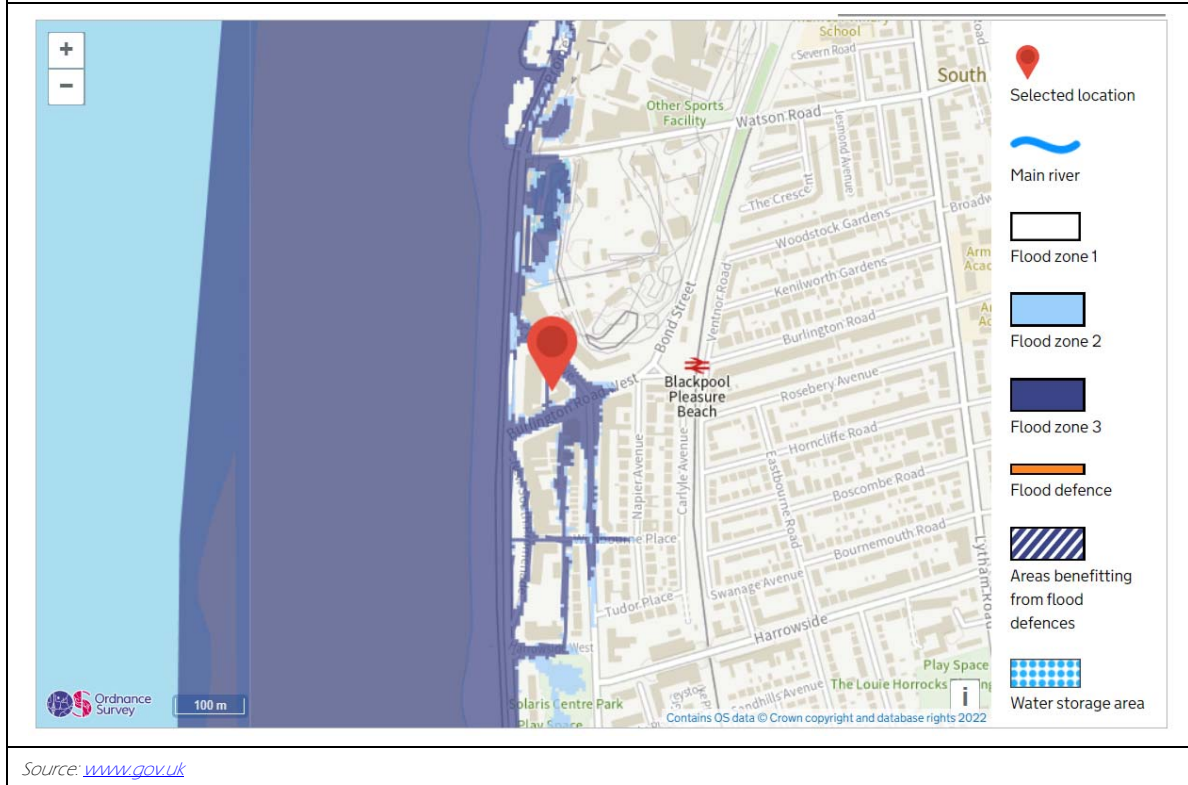
For tidal main rivers, a flood risk activity permit may be required if the development of the site is within 16 metres of a river, flood defence structure or culvert.

Details on obtaining a Flood Risk Activity Permit are available from the Environment Agency.

2.2.2 Sources of Flooding

- **Rivers (fluvial):** Flooding occurs when flow within river channels exceeds capacity; and the type of flood event experienced e.g. flash flooding; depends upon the characteristics of the river catchment.
- **The Sea (tidal):** Flooding at low lying coastline and tidal estuaries is caused by storm surges and high tides; with overtopping and breach failure of sea defences possible during extreme storm events.
- **Pluvial (surface flooding or overland flows):** Heavy rainfall, which is unable to soak away via infiltration or enter drainage systems can flow overland, resulting in localised flooding. Topography generally influences the direction and depth of flooding caused by this mechanism.
- **Groundwater:** Caused when ground water levels rise to the surface; and is most likely to occur in low lying areas underlain by aquifers.
- **Sewers and drains:** Generally occurs in more urban areas; where sewers and drains are overwhelmed by heavy rainfall or blocked pipes and gullies.
- **Artificial Sources (reservoirs, canals, lakes and ponds):** Reservoir and canal flooding may occur as a result of capacity exceedance or structural failure.

Figure 2.1: The Environment Agency Flood Map



2.2.3 Flood Zones

- **Flood Zone 1:** Low probability (less than 1 in 1000 year (<0.1% AEP) annual probability of river or sea flooding in any year).
- **Flood Zone 2:** Medium probability (between 1 in 100 year (1.0% AEP) and 1 in 1000 year (0.1% AEP) annual probability of river flooding; or between 1 in 200 year (0.2% AEP) and 1 in 1000 year (0.1% AEP) annual probability of sea flooding in any year).
- **Flood Zone 3a:** High probability (1 in 100 year (1.0% AEP) or greater annual probability of river flooding in any year or 1 in 200 year (0.5% AEP) or greater annual probability of sea flooding in any year).
- **Flood Zone 3b:** This zone comprises land where water has to flow or be stored in times of flood. Land which would flood with an annual probability of 1 in 20 (5% AEP), or is designed to flood in an extreme flood (0.1%) should provide a starting point for discussions to identify functional floodplain.

2.2.4 Vulnerability of Different Development Types

- **Essential Infrastructure:** Transport infrastructure (railways and motorways etc...); utility infrastructure (primary sub-stations, water treatment facilities; power stations; and wind turbines).
- **Water Compatible Development:** Flood control infrastructure; water and sewage infrastructure; navigation facilities.
- **Highly Vulnerable:** Emergency services; basement dwellings; mobile home parks; industrial or other facilities requiring hazardous substance consent.
- **More Vulnerable:** Hospitals; residential dwellings; educational facilities; landfill sites caravan and camping sites.
- **Less Vulnerable:** Commercial premises; emergency services not required during a flood; agricultural land.

2.2.5 Climate Change

The NPPF requires the application of climate change over the lifetime of a development. As of 6th October 2021, the guidance is as follows.

Sea level allowances show the anticipated changes to sea level by management catchments areas and sub-catchments of river basin districts.

The Higher Central and Upper End allowances based on the river basin district for the North West are identified below:

Table 1: North-West Sea-Level Rise Climate Change Allowances¹

Allowance Category	2000-2033 (mm)	2036-2065 (mm)	2066-2095 (mm)	2096-2125 (mm)	Cumulative Rise 2000-2125 (metres)
Higher Central	4.5 (158)	7.3 (219)	10 (300)	11.2 (33.6)	1.01
Upper End	5.7 (200)	9.9 (297)	14.2 (426)	16.3 (489)	1.41

Due to the site being located marginally within Flood Zone 3 and considered to be 'more vulnerable' development the Higher Central application of climate change should be applied.

¹ Extracted from Tables 1-4 of the Technical Guidance for flood risk assessments: Climate change allowances Document (May 2022)

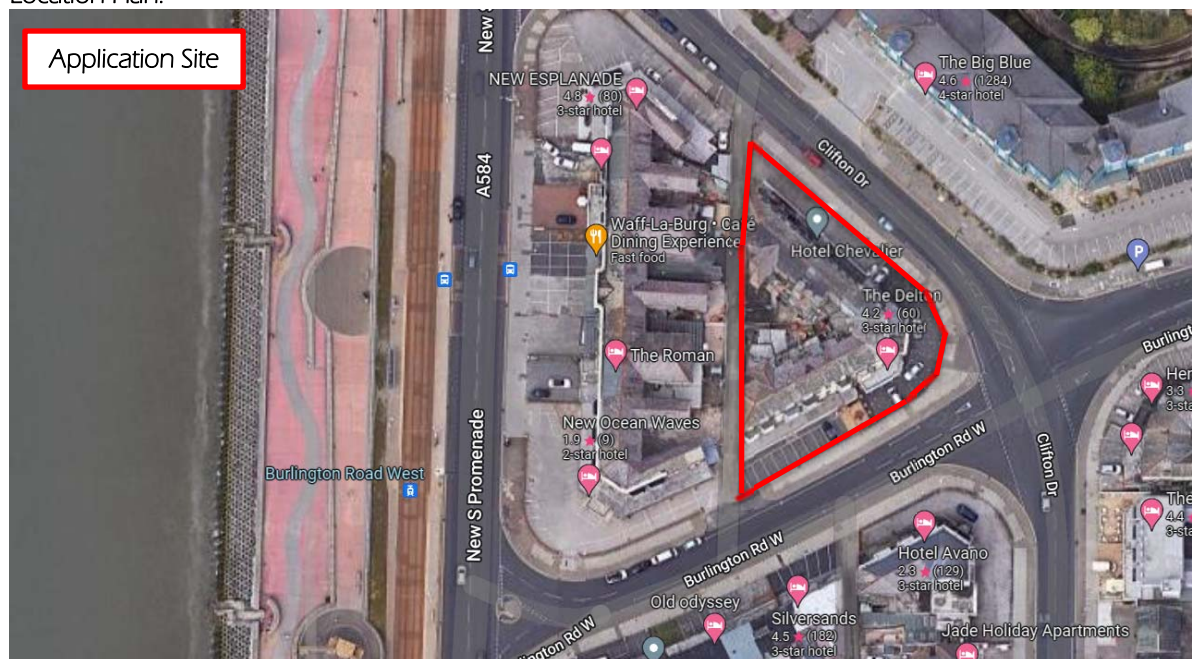
3.0 Details of the Site

3.1 Site Details

Table 2: Development Location

Site Name:	No6 Clifton Drive
Purpose of Development:	Self-Contained Holiday Lets
Existing Land Use:	Hotel
OS NGR:	SD3047032874
Country:	England
County:	Lancashire
Local Planning Authority:	Blackpool Council
Lead Local Flood Authority	Blackpool Council
Internal Drainage Board:	Not Applicable
Other Authority (e.g. British Waterways/ Harbour Authority)	Not Applicable

Location Plan:



Source: Google

3.2 Site Description

The application site comprises of the Daltan Hotel building with associated amenities spread over 4 levels: ground floor, first floor, second floor and third floor. The main entrance to the hotel is located at the east of the building at the junction of Clifton Drive and Burlington Road W. Car parking provisions are provided at the frontage of the building to the north, east and south, adjacent to Clifton Drive (north) and Burlington Road West (south).

At the time of writing a topographical survey was unavailable, therefore site levels were obtained from LIDAR Data, which determined that in general the site is relatively flat with an average level of 7.02m AOD, the finished floor level at the entrance on the ground floor level is set to approximately 7.22m AOD.

3.3 Proposed Development Details

Development proposals comprise of retention of the existing building, with change of use from a hotel complex into self-contained holiday flats.

4.0 Historic Flooding

4.1 Internet Search

Blackpool Gazette

In 1983, the sea defences were breached and at the height of the emergency, flood waters surged across the Promenade at South Shore, transforming Clifton Road into a lake. This image shows Clifton Drive at the junction with Burlington Road West.

Figure 4.1: Floods 1983 Clifton Drive/Burlington Road W



Clifton Drive, South Shore, at the junction with Burlington Road West, in 1983

Source: Blackpool Gazette

4.2 Blackpool Strategic Flood Risk Assessment Level 1: Updated Dec 2020

Section 18 Historic Flooding identified numerous flooding incidents within the Blackpool area, although they do not specifically mention the application site, it is known that the South Shore area has experienced flooding in the past, possibly the 1977 event, section 18.2 is provided below for reference:

Section 18.2

The most serious sea incursion in Blackpool in the last 50 years resulted from the storms of 11/12th November 1977. A combination of high tides, high winds, overtopping and heavy rainfall, estimated as a 1 in 100 year event, caused major inundation in the Anchorholme area of north Blackpool, with flooding up to one kilometre inland effecting hundreds of properties. This was in conjunction with serious flooding in the adjacent borough of Wyre in Cleveleys and Fleetwood. Major improvements to the sea defences have recently taken place to protect this area with Blackpool Council nearing completion of a twenty year coastal defence strategy, which involved rebuilding those sections of sea defence most in need, including a new 3.2km seawall.

4.3 Environment Agency

The Environment Agency have provided a Historic Flood Map which shows one incident of flooding in February 2022, the application site was not affected.

5.0 Initial Evaluation of Flood Risk

5.1 The Environment Agency Flood Map

The Environment Agency Flood Map illustrated within Figure 2.1, confirms that proposed development site is located within Flood Zone 3.

The definition for each of the flood zones highlighted above is provided for reference within Section 2.2.3 of this report.

5.2 Sources of Flooding

Table 3: Possible Flooding Mechanisms

Source/Pathway	Significant?	Comment/Reason
Fluvial	No	Flooding attributed to tidal/coastal rather than fluvial
Canal	No	Not Applicable
Tidal/Coastal	Yes	Coastline associated with the Irish Sea
Reservoir	No	EA Map shows that the site is located within the area potentially affected by reservoir flooding.
Pluvial (urban drainage)	No	Change of use will not require changes to surface water drainage regime.
Groundwater	No	Development proposals would be considered low risk of groundwater flooding
Surface Water Flooding	Yes	Site is located within an area that has a high risk of pluvial flooding
Overland Flow	Yes	High risk associated with surface water flooding
Blockage	No	Not Applicable
Infrastructure failure	No	Not Applicable
Rainfall Ponding	No	No areas of ponding identified within the boundary of the site.

From the initial assessment it is concluded that the primary sources of flood risk will be from tidal/coastal flooding and pluvial/overland flow routes.

Tidal/Coastal Flooding

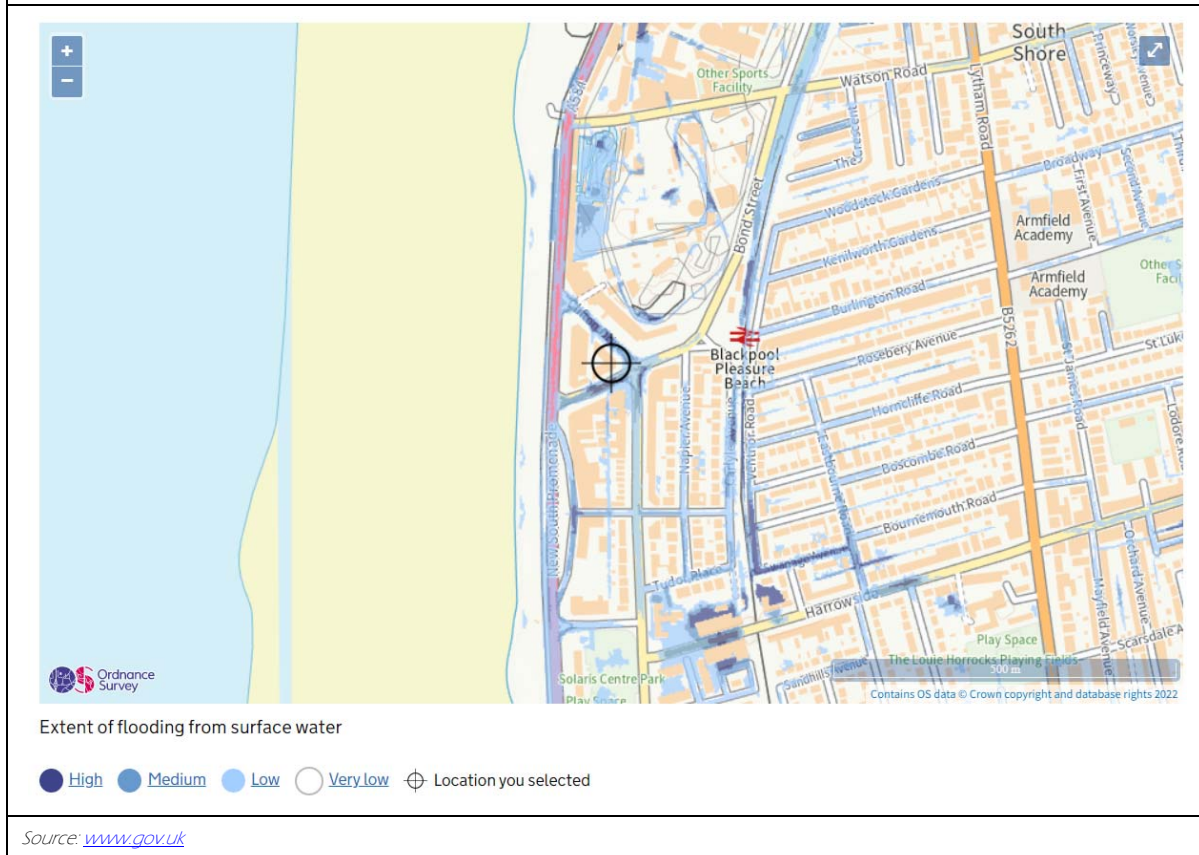
Due to the proposed development being located within marginally Flood Zone 3 the risk of fluvial flooding is considered to be high and therefore requires further evaluation, which has been undertaken Section 6 of this report.

Pluvial: Surface Water Flooding / Overland Flow

The Environment Agency's Surface Water Flood Map identifies that the application site is located close to a high-risk area associated with pluvial (surface water) flooding.

The area which is affected is considered to be contained within the highways of Clifton Drive and Burlington Road West located along the north, east and south of the site. It is noted that the car parking spaces located at the frontage of the building are elevated above the road levels, with the footprint of the building set at a higher level and therefore is not considered be affected.

Figure 5.1: Environment Agency Surface Water Flood Map



- **High risk** means that each year this area has a chance of flooding of greater than 3.3%. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.

A review of the surface water flood depths and velocities from the Environment Agency's Surface Water Flood Maps is provided below for reference during a range of various 'risk' scenarios:

High Risk Scenario (1 in 30 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Medium Risk Scenario (1 in 100 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Low Risk Scenario (1 in 1000 Year Event)

- Depth = Between 300mm – 900mm
- Velocity = Over 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Following a review of the Environment Agency Surface Water Flood Maps, flooding from this mechanism is considered to be as a result of a topographical depression within the junction of Clifton Drive and Burlington Road West, where surface water accumulates as a result of either poorly maintained gullies or a lack of capacity within the public surface water network during a storm surge event. The hotel building itself is not shown to be encroached during all events including the extreme event i.e., low risk scenario.

Groundwater Flooding

The Groundwater Flood Map provided within the Lancashire Area Preliminary Flood Risk Assessment does not identify the local vicinity in which the application site is located to be within an area defined as 'susceptible' to groundwater flooding.

Taking the above into account the risk of groundwater flooding at the site is considered to be low.

6.0 Quantitative Flood Risk Assessment

6.1 Tidal/Coastal Flooding

6.1.1 General

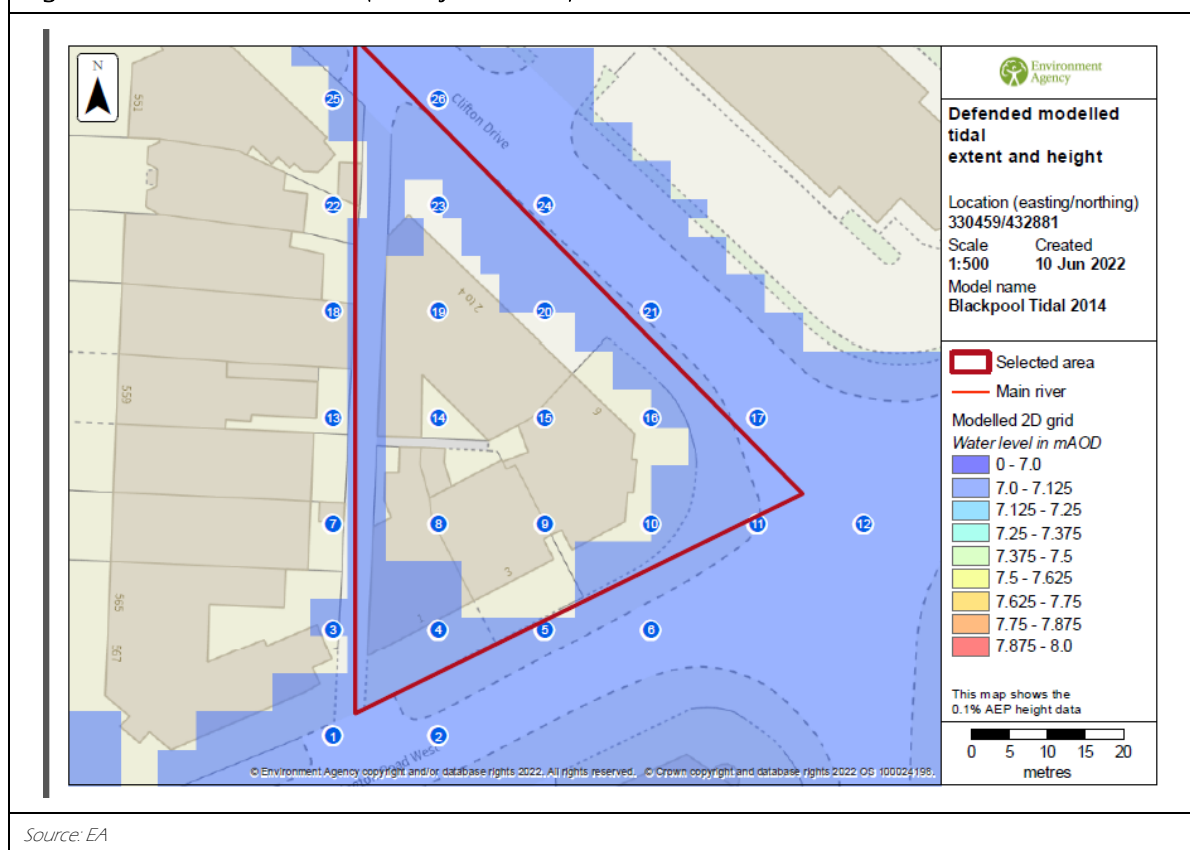
The application site is shown to be located marginally within Flood Zone 3 on current Environment Agency Flood Maps, as a result of tidal/coastal flooding. As such anticipated flood depths have been provided below based on Environment Agency Data taken from the Lancashire Tidal ABD study produced in 2014.

6.1.2 Environment Agency Data

The Environment Agency Flood Data states that they do not possess any information regarding flood defences, however the site does benefit from sea defences. The levels provided show that the defended flood outlines are more extensive then when removed, therefore the defended scenario has been used when determining flood depths on-site.

The modelled data shows various spot height levels for the site, these are represented within the figure below.

Figure 6.1: EA Node Locations (Vicinity of the Site)



6.1.3 Environment Agency Modelled Flood Levels

A total of 10 spot height levels were used to determine flood depths associated with the footprint of the existing building during the 200 year and 1000 year events.

The results are tabulated overleaf:

Table 4: Modelled Tidal Flood Levels Defended Conditions

Spot No	Spot Level	1 in 200 Year (Depth/Height)	1 in 1000 Year (Depth/Height)
4	7.03	N/A	0.07/7.09
8	-	N/A	N/A
9	-	N/A	N/A
10	7.07	N/A	N/A
14	7.03	N/A	N/A
15	-	N/A	N/A
16	-	N/A	N/A
19	-	N/A	N/A
20	7.08	0.01/7.04	0.01/7.09
23	7.08	N/A	N/A

Following a review of the tidal flood levels during the defended scenario the site is expected to flood at spot height ref: 4 (south) and 12 (north) ranging from 0.07m to 0.01m.

6.1.4 Application of Climate Change

The Environment Agency have provided modelled tidal flood levels associated with the 1 in 200 year + climate change events with additional depths of 370mm, 670mm and 970mm, there are tabulated below.

Table 5: Modelled Tidal Flood Levels 1 in 200 Year + Climate Change

Spot No	Spot Level	1 in 200 Year +370mm (Depth/Height)	1 in 200 Year +670mm (Depth/Height)	1 in 200 Year +970mm (Depth/Height)
4	7.03	0.12/7.15	0.12/7.15	0.12/7.15
8	-	N/A	N/A	N/A
9	-	N/A	N/A	N/A
10	7.07	0.08/7.15	0.08/7.15	0.08/7.15
14	7.03	0.12/7.15	0.12/7.15	0.12/7.15
15	-	N/A	N/A	N/A
16	-	N/A	N/A	N/A
19	-	N/A	N/A	N/A
20	7.08	0.07/7.15	0.07/7.15	0.07/7.15
23	7.08	0.07/7.15	0.07/7.15	0.07/7.15

Following a review of the modelled tidal flood levels with the various applications of climate change resulted in the same results even with the different application of additional depths (mm) to the model. Flood depths range from 0.07m at the north of the site, up to 0.12m centrally and to the south of the site.

The Environment Agency have provided new climate change guidance since the model was undertaken in 2014, which states that 1.01m for the Higher Central allowance should be applied to base flood levels.

The supplied EA Data shows no change to flood levels even with the application of 0.970m, therefore it is unlikely that the allowance of 1.01m would have any impact, however this could not be confirmed without inputting the data into the 2014 model, which would be considered to be over the required scope of works, taking into account the scale and nature of the proposed development.

6.1.5 Fluvial Conclusion

Following a review of the available Environment Agency Flood Data it is concluded that the site will flood to depths of approximately 0.12m during the 1 in 200 year + climate change tidal event. The threshold of the existing building is set 150mm above existing ground and therefore is unlikely to be encroached, however further flood resilience/resistance measures are recommended to be retro fitted to the building to prevent ingress and reduce the potential damage in the event of a flood.

6.2 Surface Water Runoff

6.2.1 General

Following the application of change of use at the site, the surface water drainage regime is to remain the same as existing.

7.0 Mitigation Measures

7.1 Finished Development Levels

Finished floor levels of the existing building is to be retained which is marginally above the 200 year + climate change flood level.

- Existing Finished Floor Level = 7.220m AOD

To prevent ingress and reduce the potential damage in the event of a flood, resilience and resistance measures identified in Section 7.2 and flood prevention measures within Section 7.3 will be retro fitted to the existing building.

7.2 Flood Resistance/Resilience Measures

In order to provide an extra element of safety it is recommended that flood resilience/resistance measures outlined within Table 6 are incorporated into the buildings design, set 0.600m above the existing finished floor levels of the property.

- Flood Resilience/Resistance Measures (no less than) = $7.220 + 0.600 = 7.820\text{m AOD}$

Flood proofing is a technique by which buildings are designed to withstand the effects of flooding. There are two main categories of flood proofing, which are dry proofing and wet proofing.

Dry proofing methods are designed to keep water out of the building, and wet proofing methods are designed to improve the ability of the property to withstand effects of flooding once the water has entered the building.

In addition, fixtures and fittings should be built to withstand immersion in water or designed to be easily replaced.

The differential pressures across load bearing walls and the flotation effect that will occur during flood events should be taken into account when considering dry proofing techniques.

For most existing properties this means that dry flood proofing should only be considered if the expected flood depth is under 0.900m.

The table below summarises recommendations for flood proofing measures which can be incorporated within the design for the proposed redevelopment works. Such measures are put forward in accordance with 'Development and Flood Risk Guidance for the Construction Industry' CIRIA C624.

It would be preferable to avoid external doors as this would remove a potential point of flood inflows. However, since free access and egress into the building will be required, flood resistant doors and/or the use of flood resistant stop logs or flood boards should be considered.

Full details of manufacturers or suppliers of flood protection equipment may be obtained from the Flood Protection Association (website: www.thefpa.org.uk).

Table 6: Flood Proofing Measures to be Retro Fitted into the Building

Feature	Considerations to Improve Flood Proofing
External Walls	Careful consideration of materials: use low permeability materials to limit water penetration if dry proofing required. Avoid using timber frame and cavity walls. Consider applying a water-resistant coating. Provide fitting for flood boards or other temporary barriers across openings in the walls, alternatively fit flood specific

	doors/windows on all openings below the recommended level. Install airbrick covers to prevent ingress into the cavity.
Internal Walls	Avoid use of gypsum plaster and plasterboards; use more flood resistant linings (e.g. hydraulic lime, ceramic tiles). Avoid use of stud partition walls.
Floors	Avoid use of chipboard floors. Use concrete floors with integrated and continuous damp proof membrane and damp-proof course. Solid concrete floors are preferable; if a suspended floor is to be used, provide facility for drainage of sub-floor void. Use solid insulation materials.
Fitting, Fixtures and Services	<p>If possible, locate all fittings, fixtures and services above design floor level.</p> <p>Avoid chipboard and MDF. Consider use of removable plastic fittings. Use solid doors treated with waterproof coatings. Avoid using double-glazed window units that may fill with flood water. Use solid wood staircases. Avoid fitted carpets. Locate electrical, gas and telephone equipment and systems above flood level. Fit anti-flooding devices to drainage systems.</p>

7.3 Flood Protection Equipment

Keeping water out of the building, or limiting the ingress of floodwater, is recommended when considering flood protection measures.

Excluding water will help to reduce damage to the internal fabric of the building and its contents. Such measures are referred to as dry proofing and include:

- Temporary flood barriers.
- Measures to reduce seepage through walls and floors.
- The installation of non-return valves on sewers.

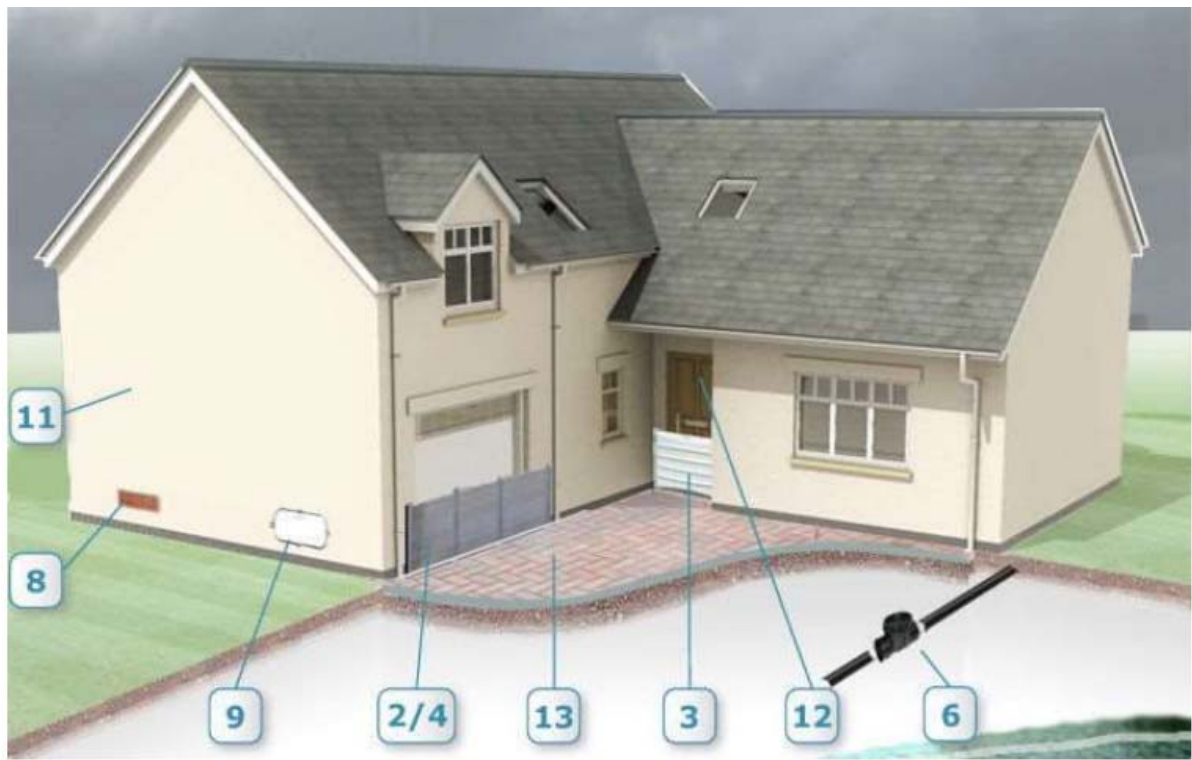
Movable flood barriers or flood specific doors can be very effective in preventing or reducing the volume of floodwater entering through doors and other external openings in walls, such as windows and airbricks, as long as a good quality product is installed in accordance with the manufacturer's instructions.

Although barriers may not totally prevent the ingress of water into a building, they can provide valuable time in which to move people, expensive equipment and other essential items to higher levels before floodwater rises inside the building.

Flood barriers on wall openings can also reduce the amount of contaminated silt and debris entering the property. Water that seeps through the ground or walls is likely to be filtered to some extent and therefore is usually cleaner than floodwater entering larger openings such as gaps around doors and airbricks.

There are many suppliers and various types of flood doors, barriers and other flood protection equipment which may be utilised at the development site. A few examples of typical products that should be incorporated in the final design are provided below.

Figure 7.1: Typical Flood Protection Measures for Residential Buildings



2/4	Mountable/demountable flood protection for large opening such as doors and windows
3	Floodguard door barrier, alternatively flood specific doors
6	Non-return Valve – prevents backflow of sewage which can occur during flood conditions.
8	Smart airbrick – ‘fit and forget’ solution, requiring minimum maintenance
9	Air Brick Cover – covers are clipped to custom fitted frames, which are sealed to the wall. Covers must be removed once the danger of flooding has passed.
11	Wall Treatments – repointing mortar joints in brickwork; water resistant sealants; water proofing treatment etc...
12	Flood Alarm – notifies key holders of a potential flood
13	Porous Ground Surfacing

Source: www.floodsense.co.uk

7.4 Environment Agency Flood Warnings

The application site is not located within an area which is covered by the Environment Agency’s Flood Warning’s Direct Service.

It is advised that the staff contact the Environment Agency and ask them if they could extend the Flood Warning Service to cover the property.

8.0 Conclusions & Recommendations

Pluvial Flooding

A review of the surface water flood depths and velocities from the Environment Agency's Surface Water Flood Maps is provided below for reference during a range of various 'risk' scenarios:

High Risk Scenario (1 in 30 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Medium Risk Scenario (1 in 100 Year Event)

- Depth = Below 300mm
- Velocity = Less than 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Low Risk Scenario (1 in 1000 Year Event)

- Depth = Between 300mm – 900mm
- Velocity = Over 0.25m/s
- Coverage = Surface water flow route contained within highway, building not affected.

Following a review of the Environment Agency Surface Water Flood Maps, flooding from this mechanism is considered to be as a result of a topographical depression within the junction of Clifton Drive and Burlington Road West, where surface water accumulates as a result of either poorly maintained gullies or a lack of capacity within the public surface water network during a storm surge event. The hotel building itself is not shown to be encroached during all events including the extreme event i.e., low risk scenario.

Coastal Flooding

The Environment Agency Flood Data states that they do not possess any information regarding flood defences, however the site does benefit from sea defences. The levels provided show that the defended flood outlines are more extensive than when removed, therefore the defended scenario has been used when determining flood depths on-site.

1 in 200 Year & 1 in 1000 Year Defended Scenario

Following a review of the 1 in 200 year and 1 in 1000 year tidal flood levels during the defended scenario the site is expected to flood at spot height ref: 4 (south) and 12 (north) ranging from 0.07m to 0.01m.

1 in 200 Year + Climate Change Defended Scenario

Following a review of the modelled tidal flood levels with the various applications of climate change during the 1 in 200 year event resulted in the same levels throughout, even with the different application of additional depths (mm) to the model. Flood depths range from 0.07m at the north of the site, up to 0.12m centrally and to the south of the site.

The Environment Agency have provided new climate change guidance since the model was undertaken in 2014, which states that 1.01m for the Higher Central allowance should be applied to base flood levels.

The supplied EA Data shows no change to flood levels even with the application of 0.970m, therefore it is unlikely that the allowance of 1.01m would have any impact, however this could not be confirmed without inputting the data into the 2014 model, which would be considered to be over the required scope of works, taking into account the scale and nature of the proposed development.

Following a review of the available Environment Agency Flood Data it is concluded that the site will flood to depths of approximately 0.12m during the 1 in 200 year + climate change tidal event. The threshold of the existing building is set 150mm above existing ground and therefore is unlikely to be encroached, however

NPPF Flood Risk Assessment

No6 Clifton Drive, Blackpool

Report No: 2022-026

further flood resilience/resistance measures are recommended to be retro fitted to the building to prevent ingress and reduce the potential damage in the event of a flood.

Mitigation Measures

Finished Floor Levels

Finished floor levels of the existing building are to be retained, which is marginally above the 200 year + climate change flood level.

- Existing Finished Floor Level = 7.220m AOD

To prevent ingress and reduce the potential damage in the event of a flood, resilience and resistance measures identified in Section 7.2 and flood prevention measures within Section 7.3 will be retro fitted to the existing building.

Flood Resilience/Resistance

In order to provide an extra element of safety it is recommended that flood resilience/resistance measures outlined within the table below are incorporated into the buildings design, set 0.600m above the existing finished floor levels of the property.

- Flood Resilience/Resistance Measures (no less than) = $7.220 + 0.600 = 7.820\text{m AOD}$

Feature	Considerations to Improve Flood Proofing
External Walls	Careful consideration of materials: use low permeability materials to limit water penetration if dry proofing required. Avoid using timber frame and cavity walls. Consider applying a water-resistant coating. Provide fitting for flood boards or other temporary barriers across openings in the walls, alternatively fit flood specific doors/windows on all openings below the recommended level. Install airbrick covers to prevent ingress into the cavity.
Internal Walls	Avoid use of gypsum plaster and plasterboards; use more flood resistant linings (e.g. hydraulic lime, ceramic tiles). Avoid use of stud partition walls.
Floors	Avoid use of chipboard floors. Use concrete floors with integrated and continuous damp proof membrane and damp-proof course. Solid concrete floors are preferable; if a suspended floor is to be used, provide facility for drainage of sub-floor void. Use solid insulation materials.
Fitting, Fixtures and Services	If possible, locate all fittings, fixtures and services above design floor level. Avoid chipboard and MDF. Consider use of removable plastic fittings. Use solid doors treated with waterproof coatings. Avoid using double-glazed window units that may fill with flood water. Use solid wood staircases. Avoid fitted carpets. Locate electrical, gas and telephone equipment and systems above flood level. Fit anti-flooding devices to drainage systems.

Environment Agency Flood Warnings

The application site is not located within an area which is covered by the Environment Agency's Flood Warning's Direct Service.

NPPF Flood Risk Assessment

No6 Clifton Drive, Blackpool

Report No: 2022-026

It is advised that the staff contact the Environment Agency and ask them if they could extend the Flood Warning Service to cover the property.

Emergency Evacuation Route

It is recommended that persons on site are prepared to evacuate away from the property, if advised to do so by the emergency services and/or local authority, in the advance of the onset of any flooding.

Evacuation away from the site during flood events should be directed east along Burlington Road West then Bond Street into Flood Zone 1.

Business Flood Plan

It is also recommended that staff create a business flood plan. This is a simple document that assists the staff to prioritise actions required at the site before, during and following a flood event.

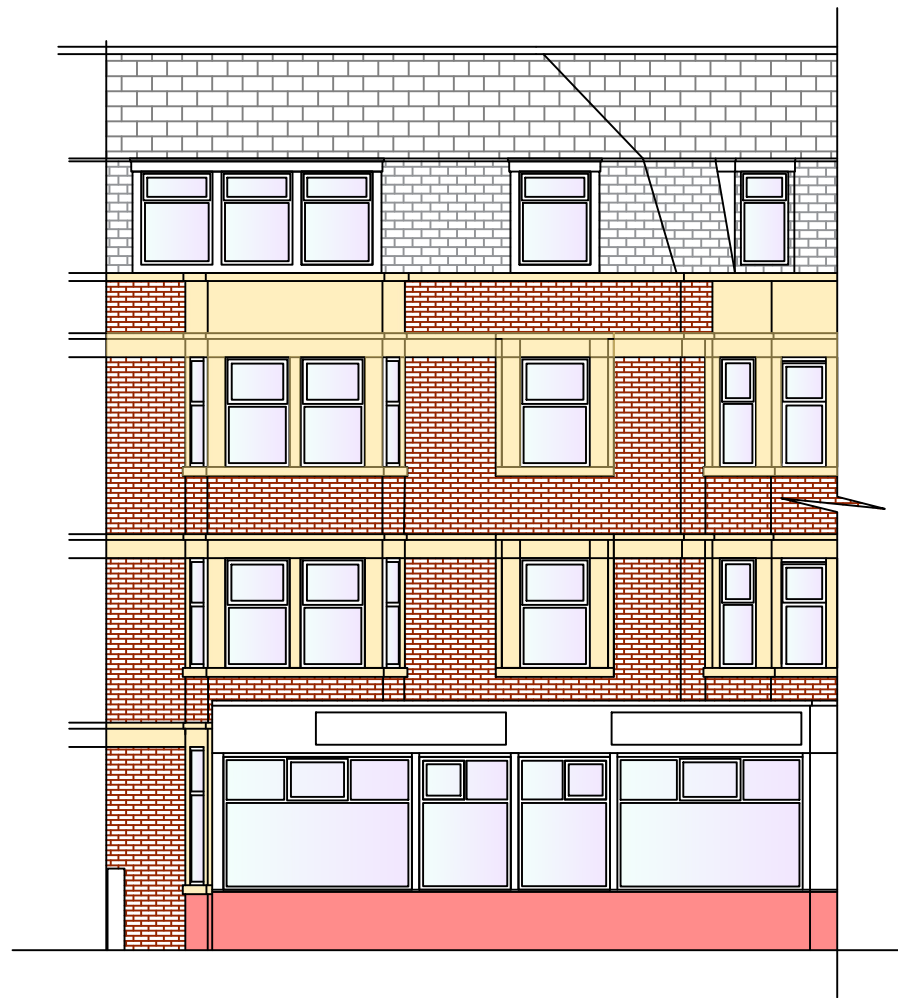
A copy of a business flood plan template has been provided within the appendices of this report.

APPENDICES

Appendix A: - Development Proposals

EX EXISTING FRONT ELEVATIONS

Scale: 1:100



EXN EXISTING SIDE NORTH ELEVATION
Scale: 1:100



EXW EXISTING FRONT WEST ELEVATION
Scale: 1:100



EXE EXISTING SIDE EAST ELEVATION
Scale: 1:100

GENERAL NOTES

CDM REGULATIONS 2015
The client must abide by the Construction Design and Management Regulations 2015. The client must appoint a contractor, if more than one contractor is to be involved, the client will need to appoint (in writing) a principal designer (to plan, manage and coordinate the planning and design work) and a principal contractor (to plan, manage and coordinate the construction and ensure there are arrangements in place for managing and organising the project).

Domestic clients
The domestic client is to appoint a principal designer and a principal contractor when there is more than one contractor, if not your duties will automatically transferred to the contractor or principal contractor.

The designer can take on the duties, provided there is a written agreement between you and the designer to do so.

The Health and Safety Executive is to be notified as soon as possible before construction work starts if the works:

- (a) Last longer than 30 working days and has more than 20 workers working simultaneously at any point in the project.
Or:
(b) Exceeds 500 person days.

PARTY WALL ACT
The owner, should they need to do so under the requirements of The Party Wall Act 1996, has a duty to serve a Party Structure Notice on any adjoining owner if building work on , to or near an existing Part Wall involves any of the following:
* Support of beam
* Insertion of DPC through wall
* Raising a wall or cutting of projections
* Demolition and rebuilding
* Underpinning
* Insertion of lead flashings
* Excavations within 3m of an existing structure where the new foundations will go deeper than existing foundations, or within 6m of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.
APart Wall Agreement is to be in place prior to the start of work on site

THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element. (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.
All dimensions are in millimetres unless otherwise stated. No dimensions to be scaled from this drawing.
It is the responsibility of the Contractor to check all sizes, site dimensions and positions of drains and services prior to setting out or shop work. Any discrepancies to be reported to the contact details below.
Liability shall not be taken for any defects in this drawing unless, prior to commencement,this drawing and all its dimensions have been so checked and verified
Proposed floor levels will be no lower than existing floor levels and flood protection measures in accordance with Environment Agency guidelines will be incorporated into the build.
Existing structure including foundations, beams, walls and lintels carrying new and altered loads are to be exposed and checked for adequacy prior to commencement of works and as required by the Building Control Surveyor.
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PR PROPOSED FRONT ELEVATIONS

Scale: 1:100



PRN PROPOSED SIDE NORTH ELEVATION
Scale: 1:100



PRW PROPOSED FRONT WEST ELEVATION
Scale: 1:100



PRE PROPOSED SIDE EAST ELEVATION
Scale: 1:100

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RDJ CREATIVE

133 WEST DRIVE
THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
Mob: 07494 905535 / 07743 871015
email:- info@krcadsolutions.co.uk
info@rdjcreative.co.uk

CLIENT: FABRIC PROPERTY GROUP

REV	DATE	AMENDMENT	DRN	CHKD	APP
A	23.03.22	DRAWING UPDATED	KR	-	-
-	21.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL

PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE: EXISTING AND PROPOSED
FRONT ELEVATIONS FOR A CHANGE OF
USE FROM C1 HOTEL TO SELF CONTAINED
HOLIDAY FLATS SUI GENERIS

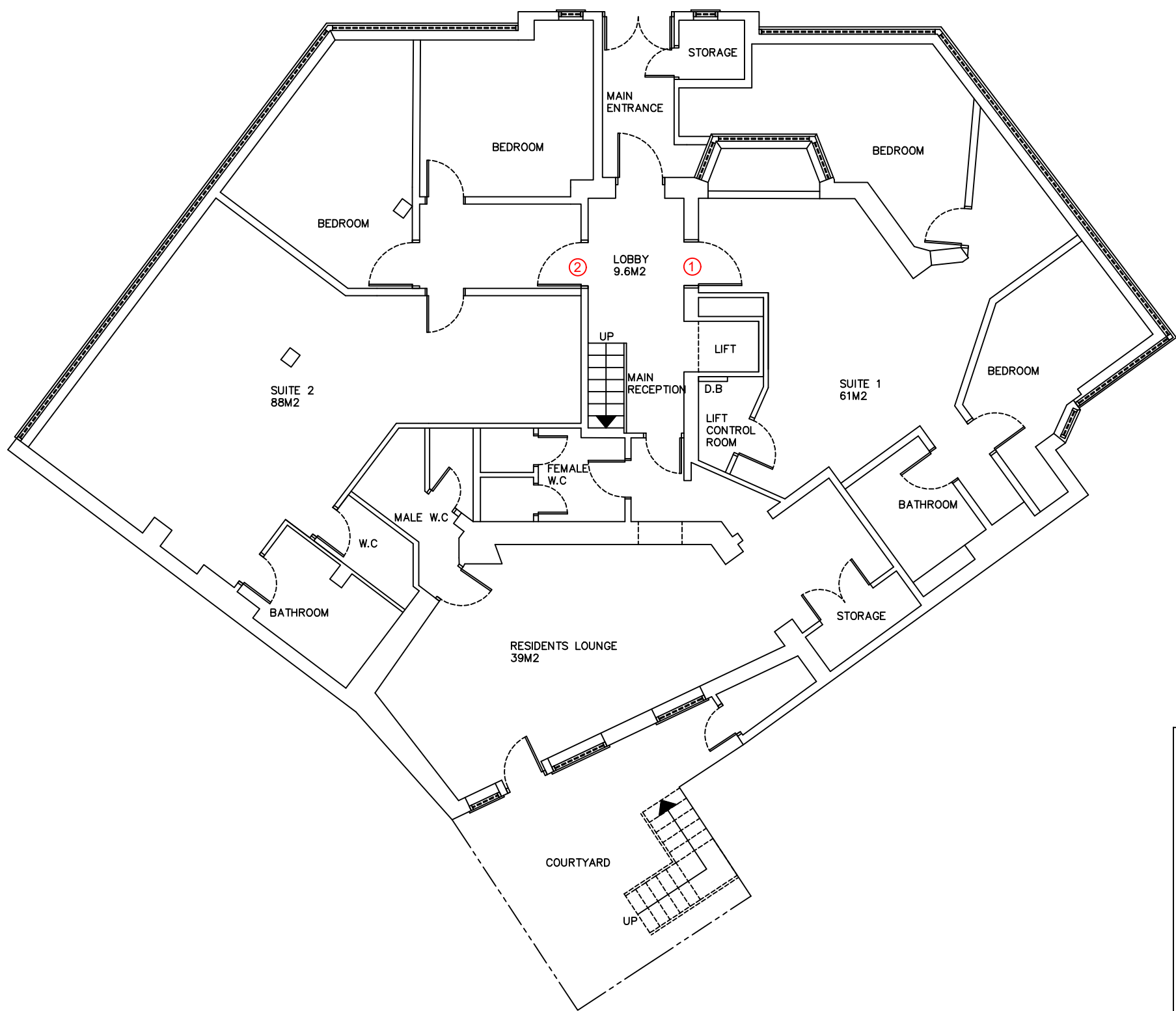
DWG NO. BBC-1110-21-12-010

DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A

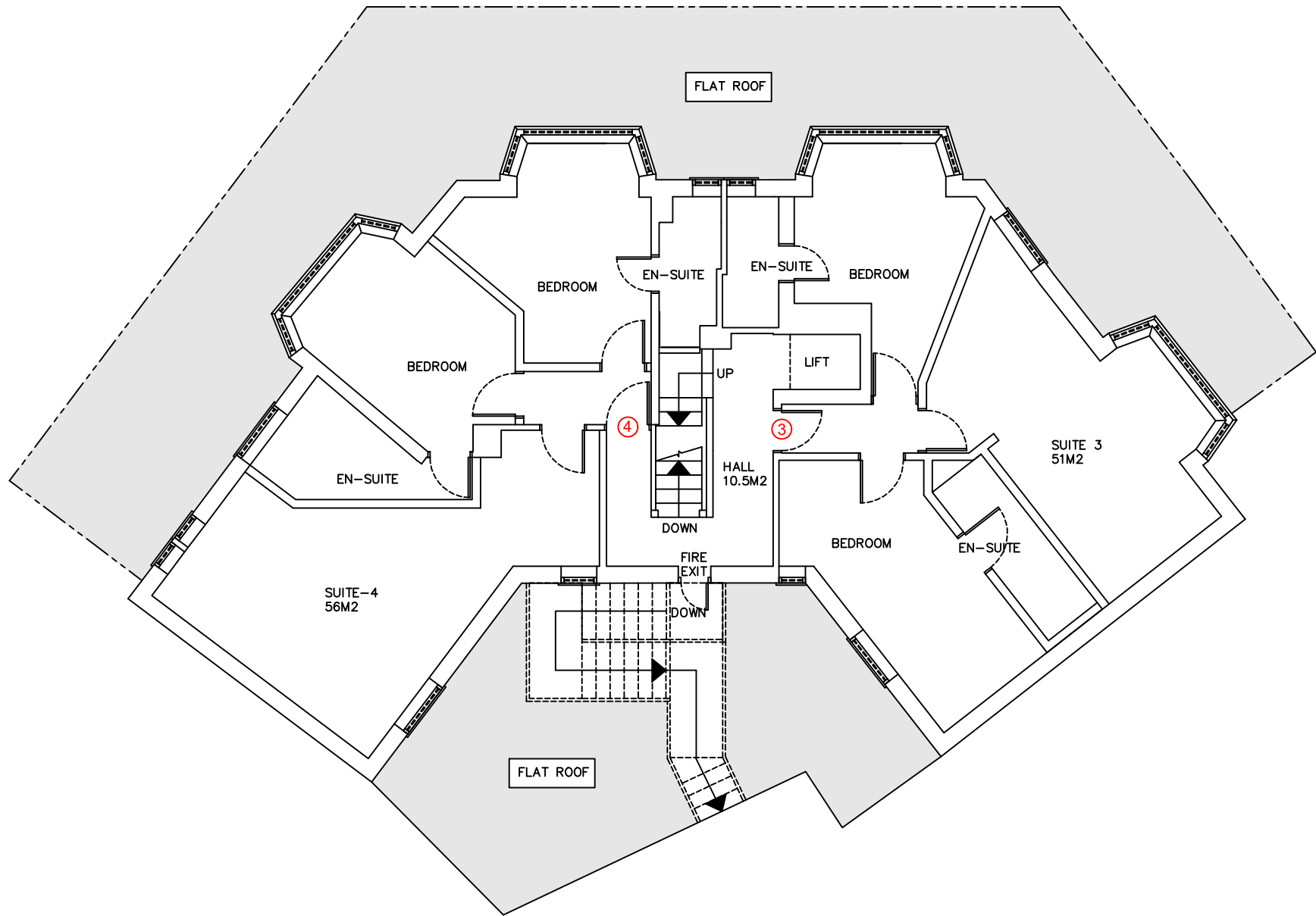
PROPOSED GROUND FLOOR PLAN VIEW

Scale: 1:100



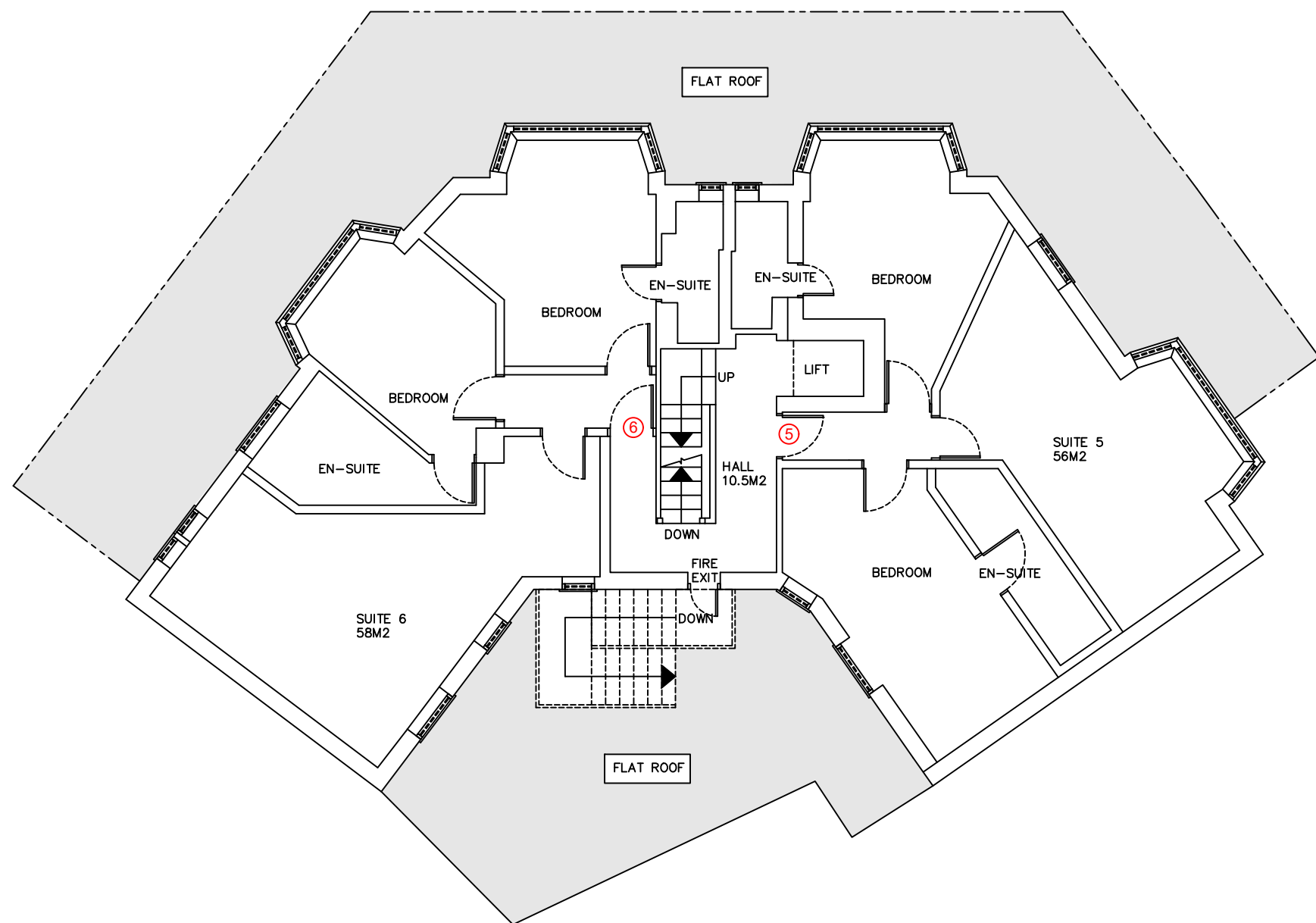
PROPOSED FIRST FLOOR PLAN VIEW

Scale: 1:100



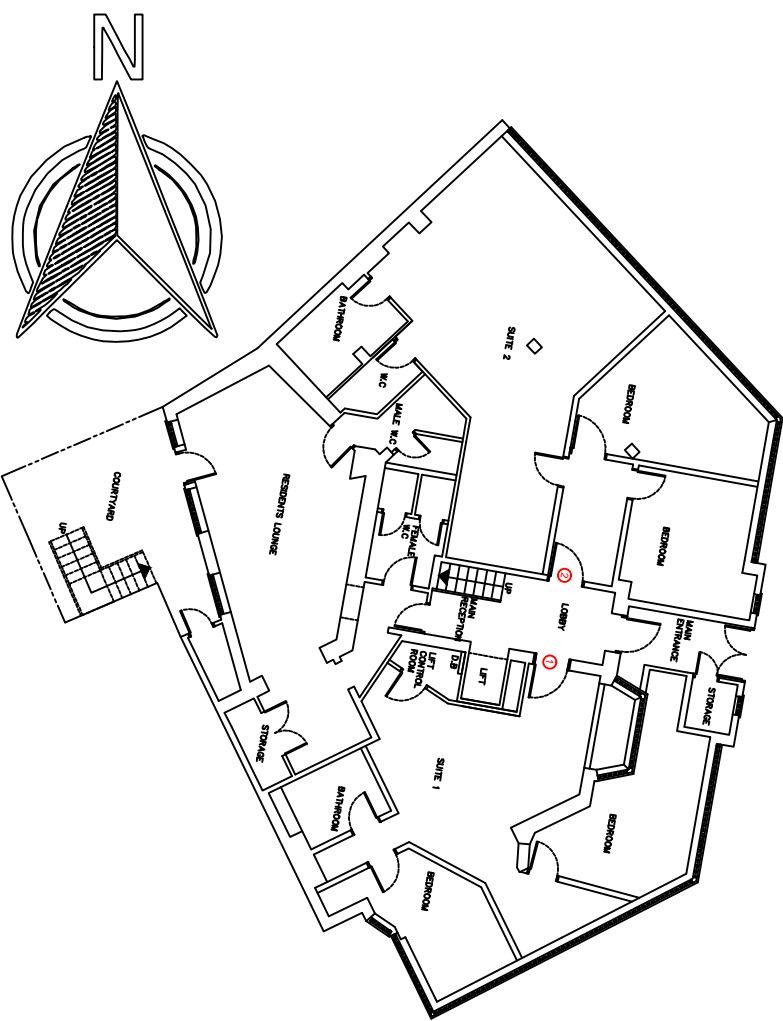
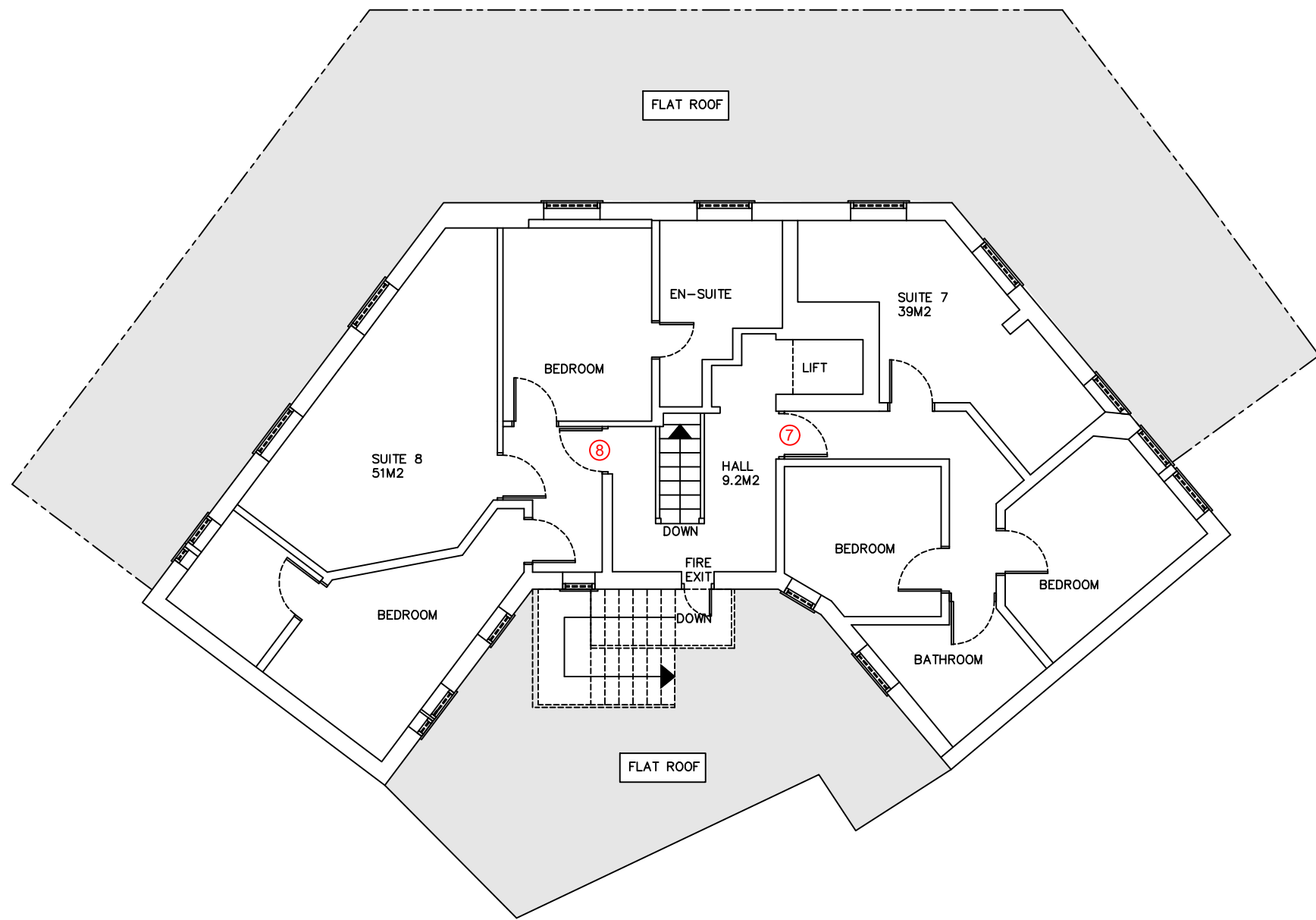
PROPOSED SECOND FLOOR PLAN VIEW

Scale: 1:100



PROPOSED THIRD FLOOR PLAN VIEW

Scale: 1:100



PROPOSED SITE PLAN

Scale: 1:200

GENERAL NOTES

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- * Excavations within 3m of an existing structure where the new foundations will go deeper than existing foundations, or within 6m of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

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133 WEST DRIVE
THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
Mob: 07494 905535 / 07743 871015
email:- info@krcadsolutions.co.uk
info@rdjcreative.co.uk

CLIENT: FABRIC PROPERTY GROUP

REV	DATE	AMENDMENT	DRN	CHKD	APP
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-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL

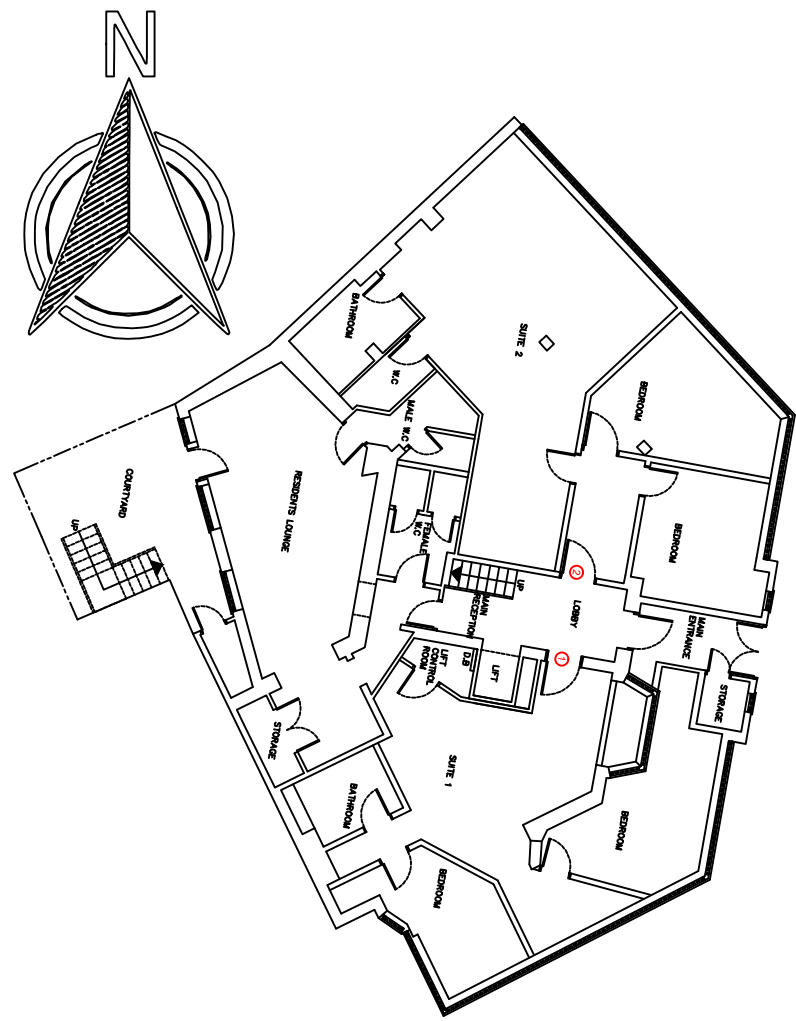
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
PROPOSED FLOOR LAYOUT FOR A CHANGE
OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-009

DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A



PROPOSED SITE PLAN
Scale: 1:200



PROPOSED THIRD FLOOR PLAN VIEW

Scale: 1:50

GENERAL NOTES

CDM REGULATIONS 2015
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* Demolition and rebuilding
* Underpinning
* Insertion of lead flashings
* Excavations within 3m of an existing structure where the new foundations will go deeper than existing foundations, or within 6m of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.
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THERMAL BRIDGING
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THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
Mob: 07494 905535 / 07743 871015
email:- info@krcadsolutions.co.uk
info@rdjcreative.co.uk

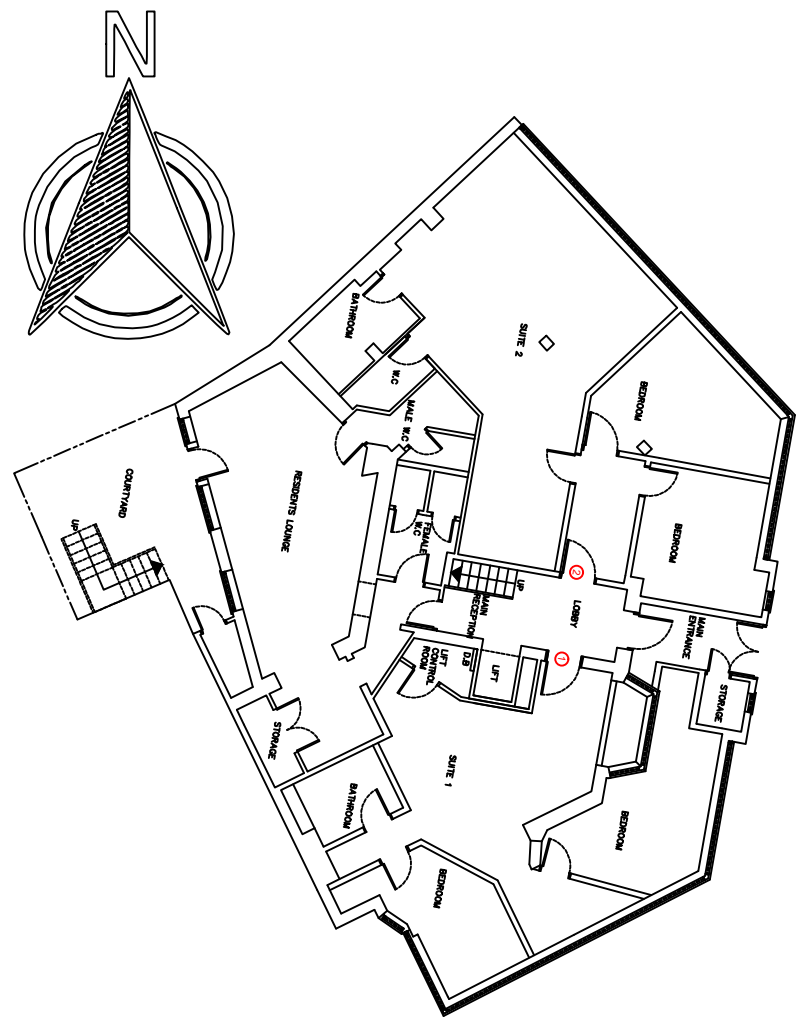
CLIENT: FABRIC PROPERTY GROUP

A	21.12.21	DRAWING UPDATED	UPDATED	KR	- -
-	17.12.21	ISSUED FOR COMMENT /	APPROVAL	KR	- -
REV	DATE	AMENDMENT		DRN	CHKD APP

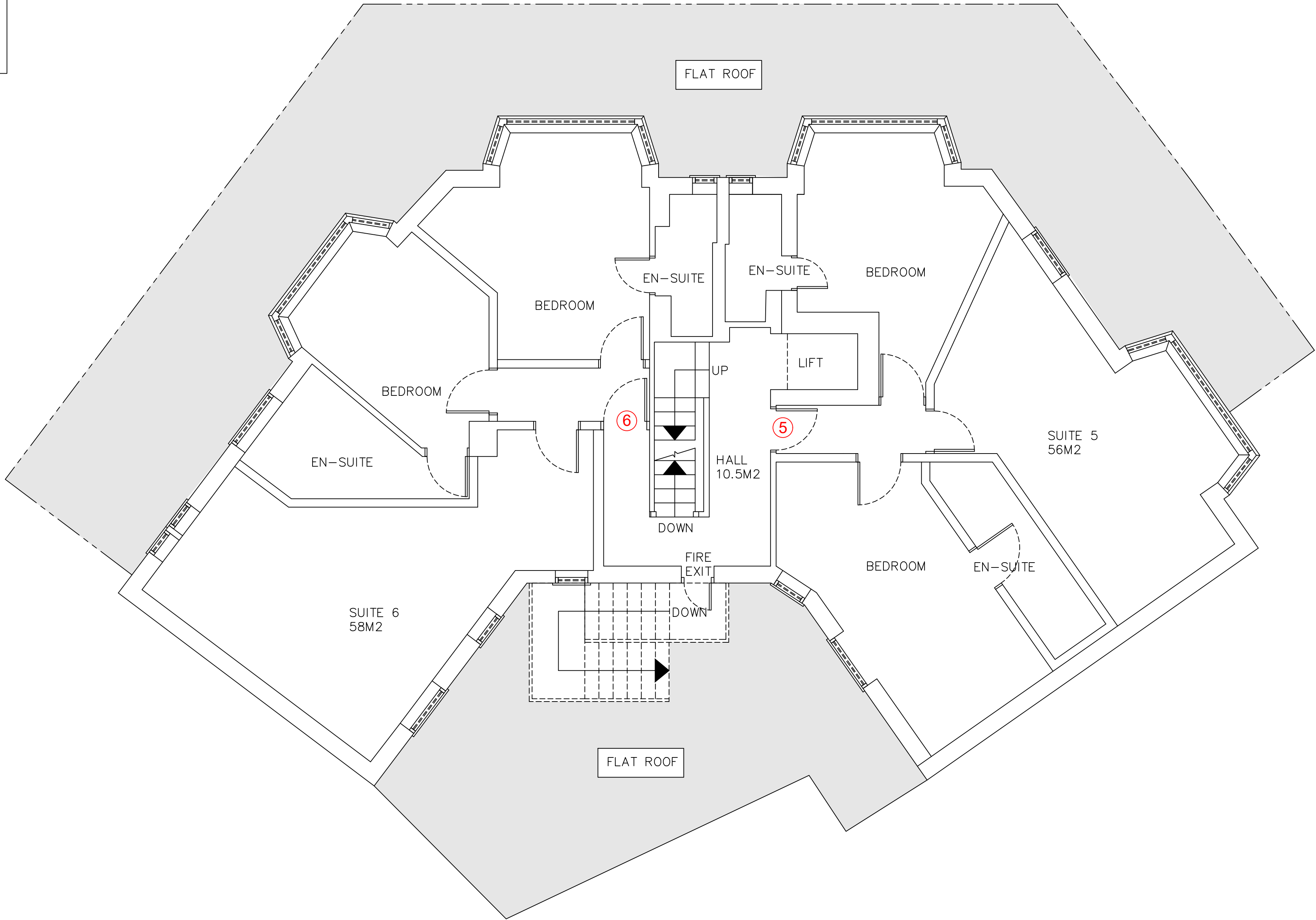
DRAWING STATUS:-
COMMENT / APPROVAL
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE
TITLE:
PROPOSED THIRD FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-008

DATE.	06.12.21	DRN: KR	CHK / APP: -
SCALE :	AS SHOWN @ A1	REVISION: A	



PROPOSED SITE PLAN
Scale: 1:200



PROPOSED SECOND FLOOR PLAN VIEW

Scale: 1:50

GENERAL NOTES

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THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
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email:- info@krcadsolutions.co.uk
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CLIENT: FABRIC PROPERTY GROUP

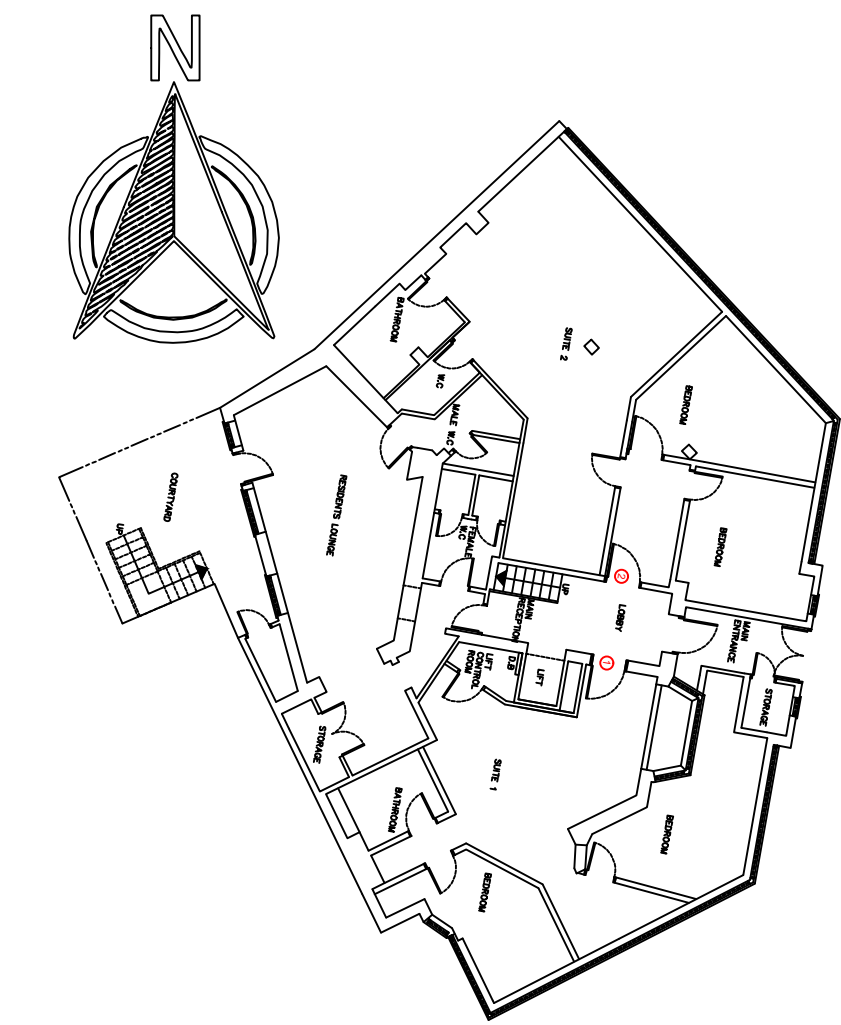
REV	DATE	AMENDMENT	DRN	CHKD	APP
A	22.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

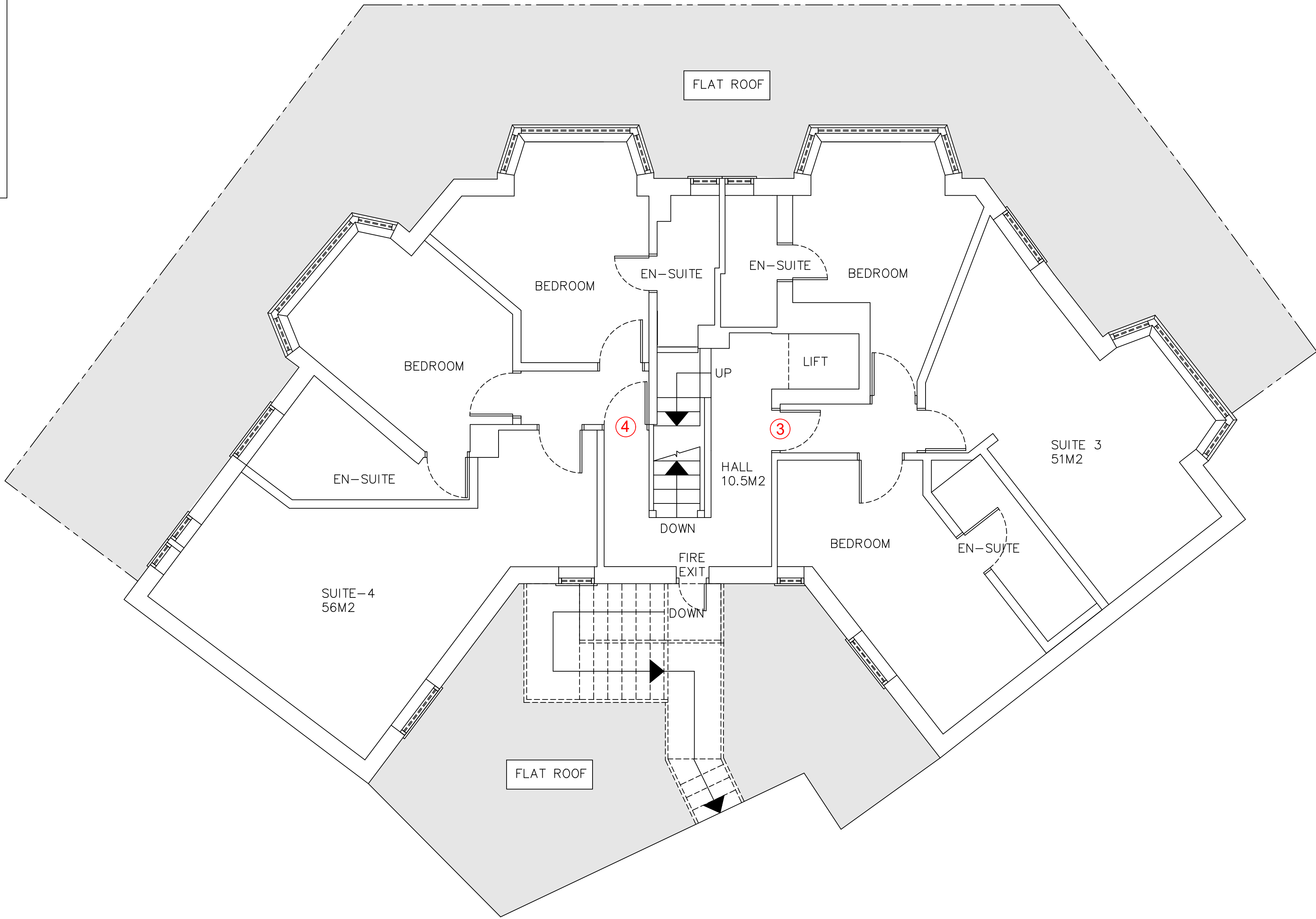
TITLE:
PROPOSED SECOND FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-007

DATE.	06.12.21	DRN: KR	CHK / APP: -
SCALE :	AS SHOWN @ A1	REVISION:	A



PROPOSED SITE PLAN
Scale: 1:200



PROPOSED FIRST FLOOR PLAN VIEW

Scale: 1:50

GENERAL NOTES

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THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
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email:- info@krcadsolutions.co.uk
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CLIENT: FABRIC PROPERTY GROUP

REV	DATE	AMENDMENT	DRN	CHKD	APP
A	22.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
PROPOSED FIRST FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-006

DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A



Scale: 1:50

GENERAL NOTES

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Or:

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APart Wall Agreement is to be in place prior to the start of work on site

THERMAL BRIDGING

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Tel: 01253 829957
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CLIENT: FABRIC PROPERTY GROUP

A	22.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-
REV	DATE	AMENDMENT	DRN	CHKD	APP

	DRAWING STATUS:-
	COMMENT / APPROVAL

PROJECT:	DELTON HOTEL 6 CLIFTON DRIVE BLACKPOOL FY4 1NE
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TITLE:
PROPOSED GROUND FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO.	BBC-1110-21-12-005
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DATE. 06.12.21	DRN: KR	CHK / APP: -
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SCALE : AS SHOWN @ A1	REVISION: A
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A	23.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-
REV	DATE	AMENDMENT	DRN	CHKD	APP

DRAWING STATUS:-	
COMMENT / APPROVAL	

PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
EXISTING FLOOR LAYOUT FOR A CHANGE
OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

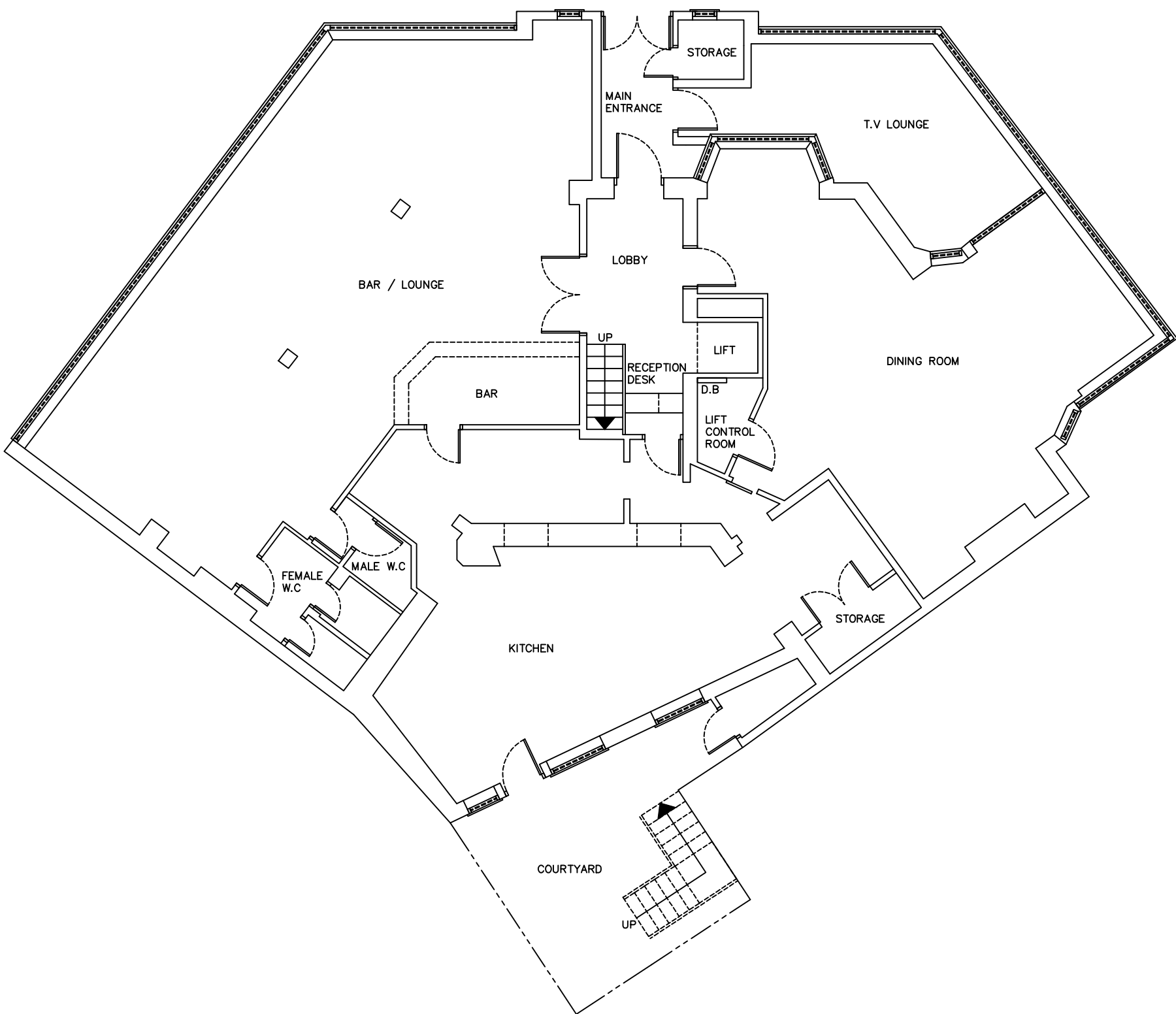
DWG NO. BBC-1110-21-12-004

DATE. 06.12.21	DRN: KR	CHK / APP:
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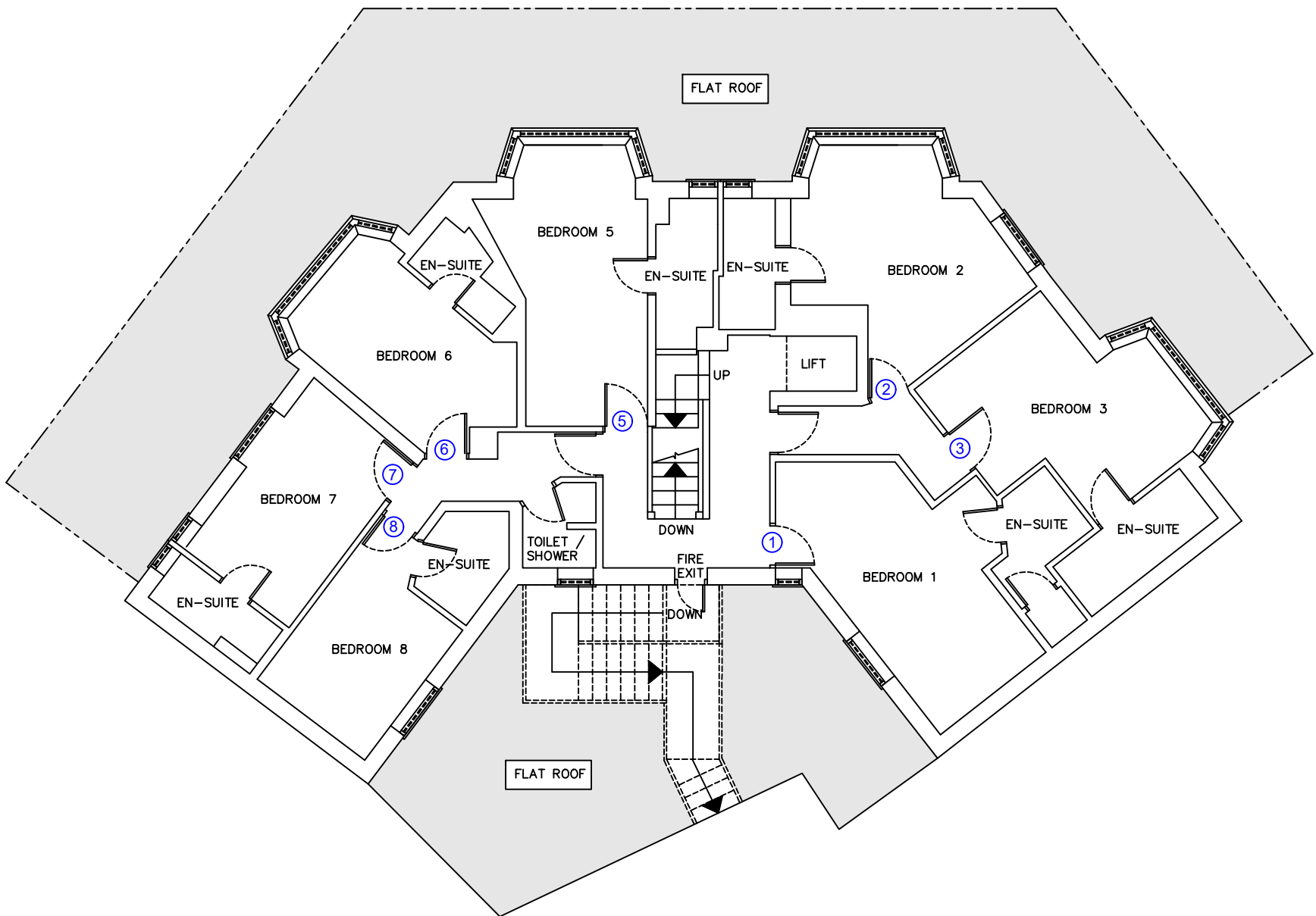
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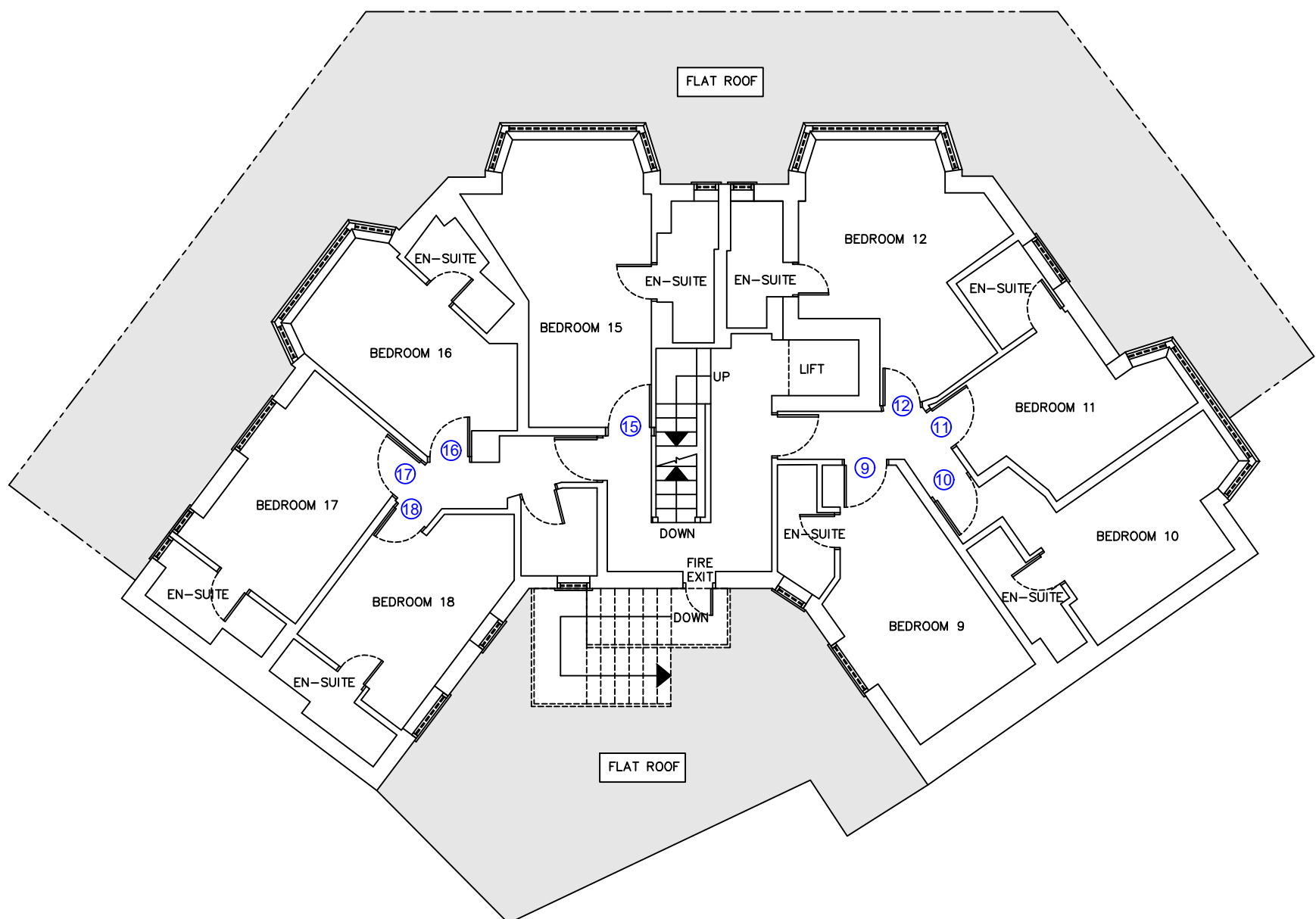
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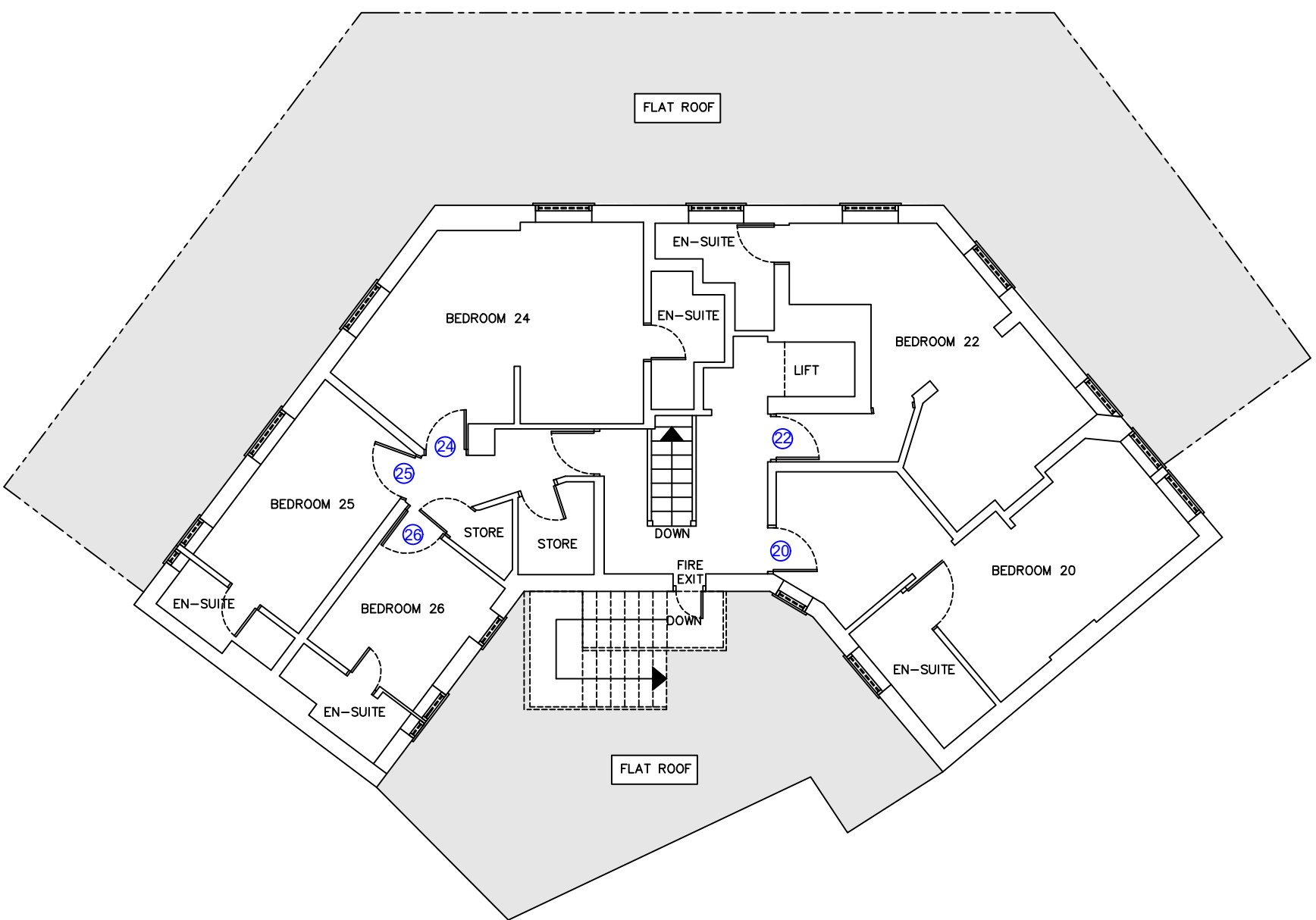
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Scale: 1:100



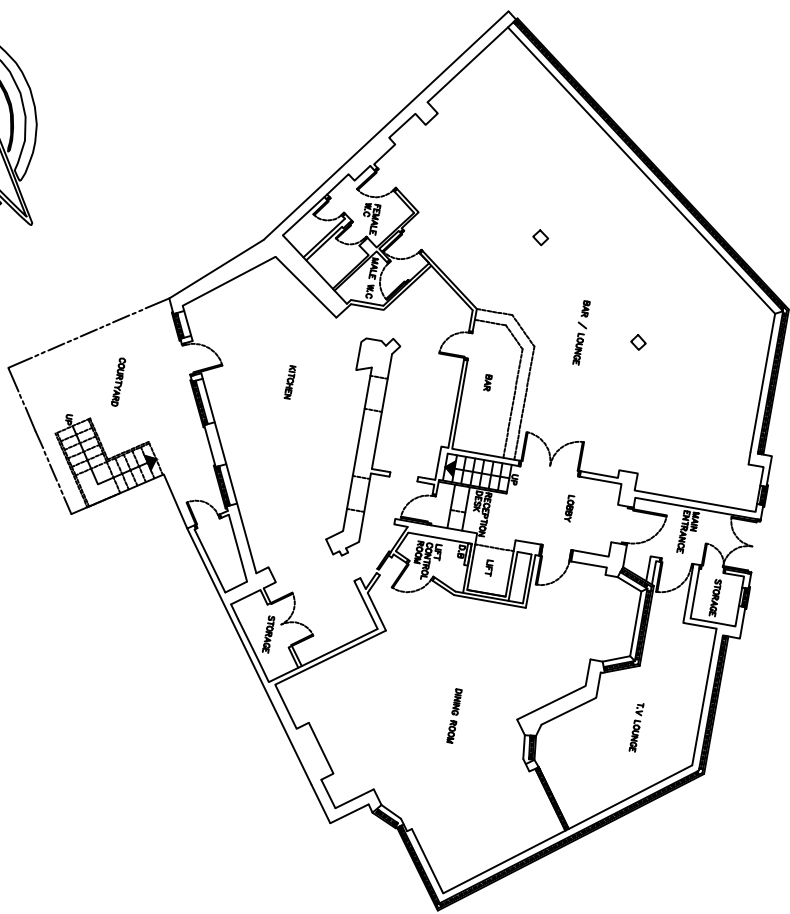
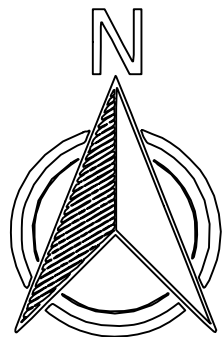
EX3

Scale: 1:100



X

Scale: 1:200



EXISTING SITE PLAN

Scale: 1:200



EXISTING THIRD FLOOR PLAN VIEW

Scale: 1:50

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FY5 2EG
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CLIENT: FABRIC PROPERTY GROUP

REV	DATE	AMENDMENT	DRN	CHKD	APP
A	23.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL

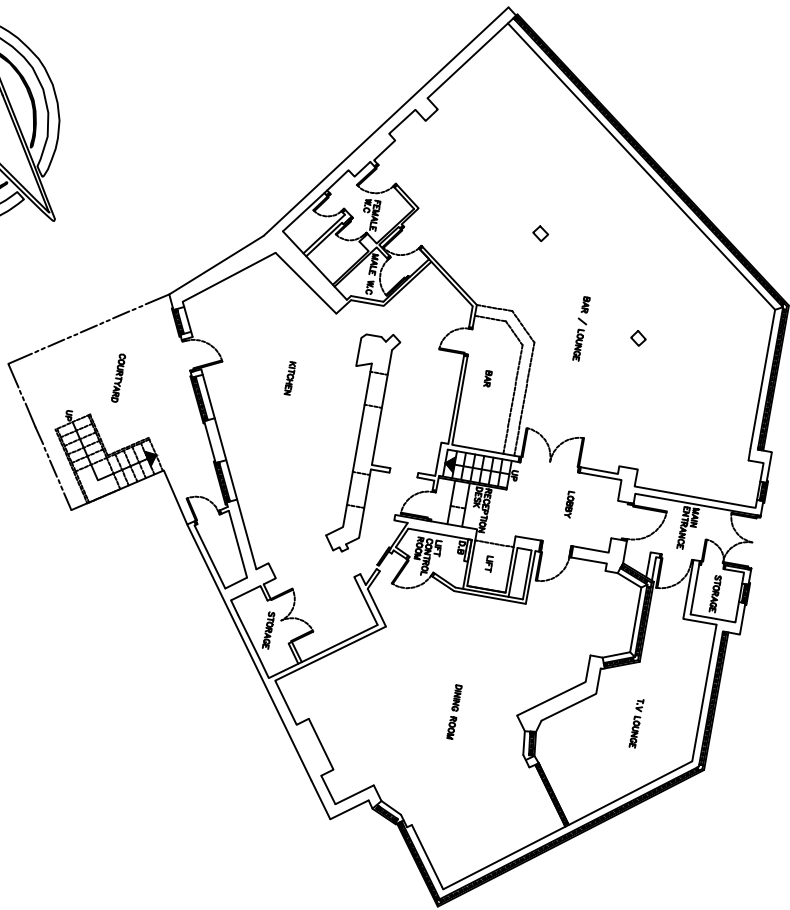
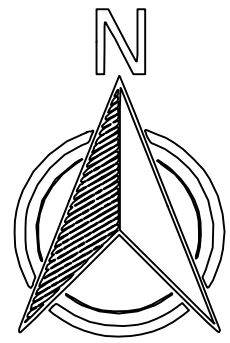
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
EXISTING THIRD FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-003

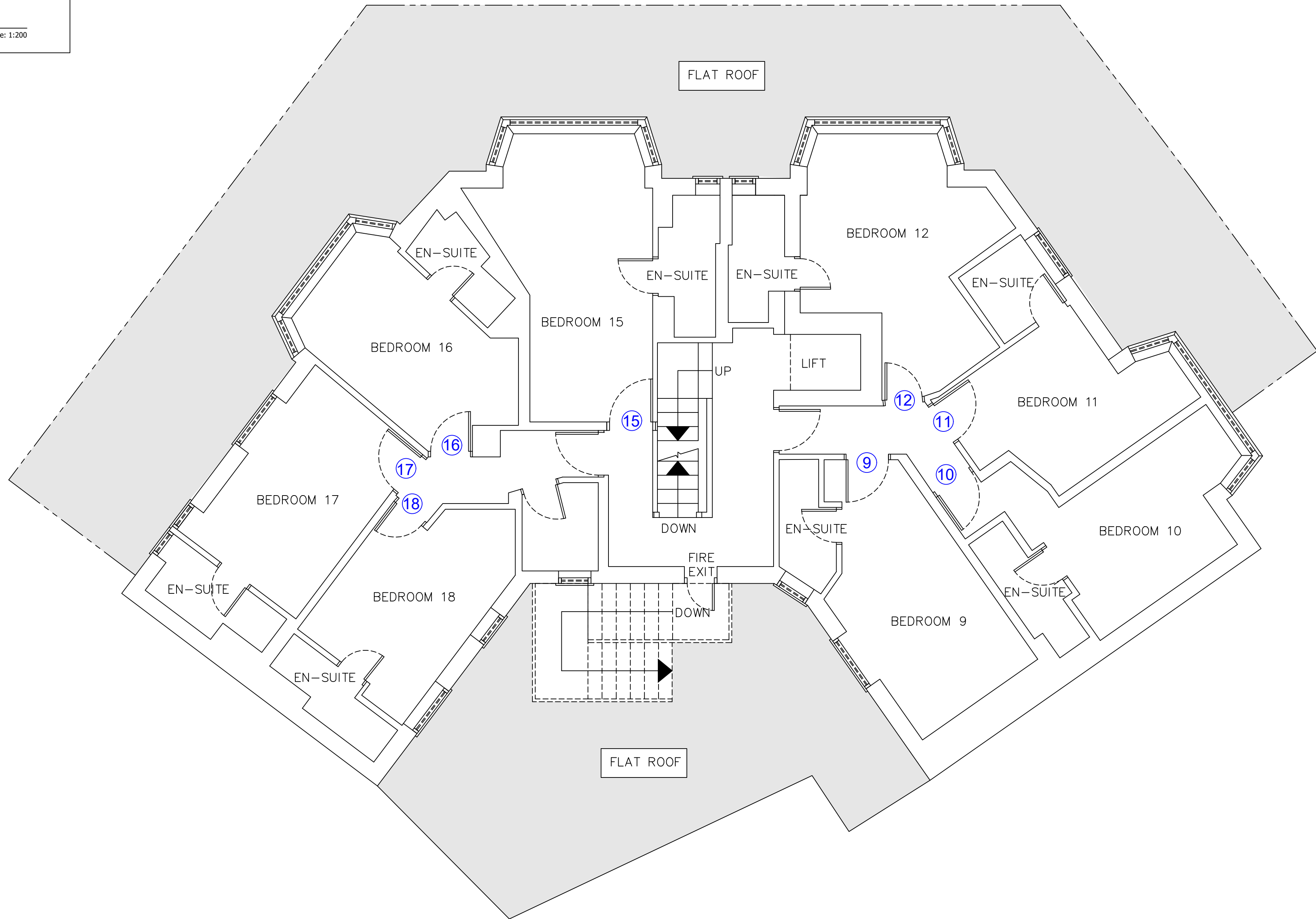
DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A



EXISTING SITE PLAN

Scale: 1:200



EXISTING SECOND FLOOR PLAN VIEW

Scale: 1:50

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REV	DATE	AMENDMENT	DRN	CHKD	APP
A	23.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-

COMMENT / APPROVAL

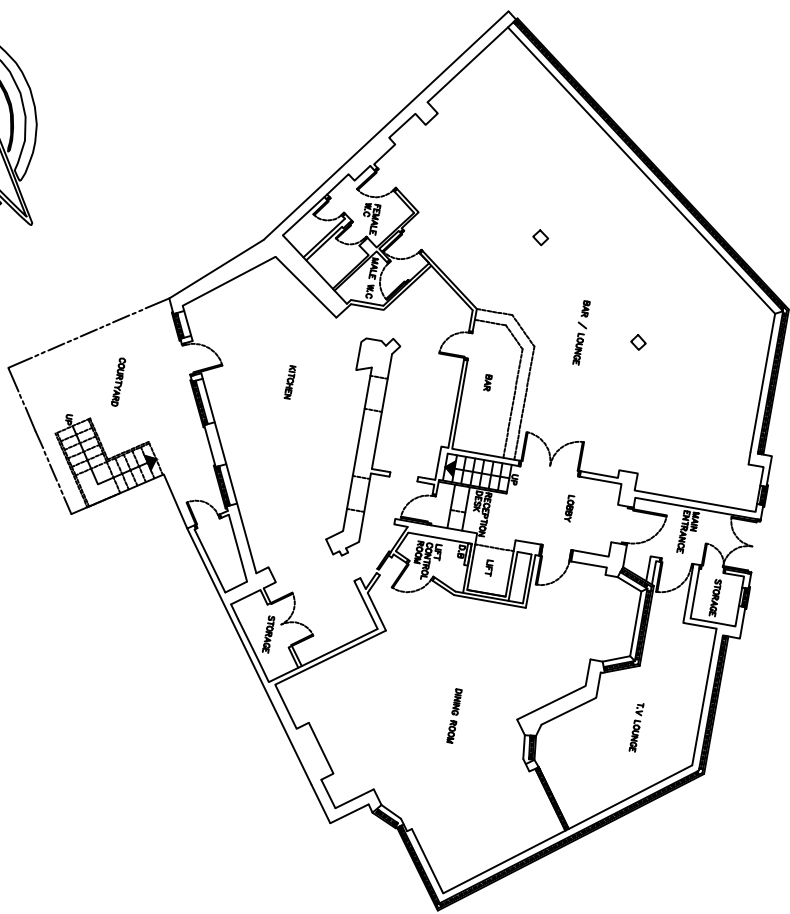
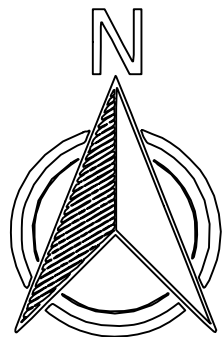
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
EXISTING SECOND FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-002

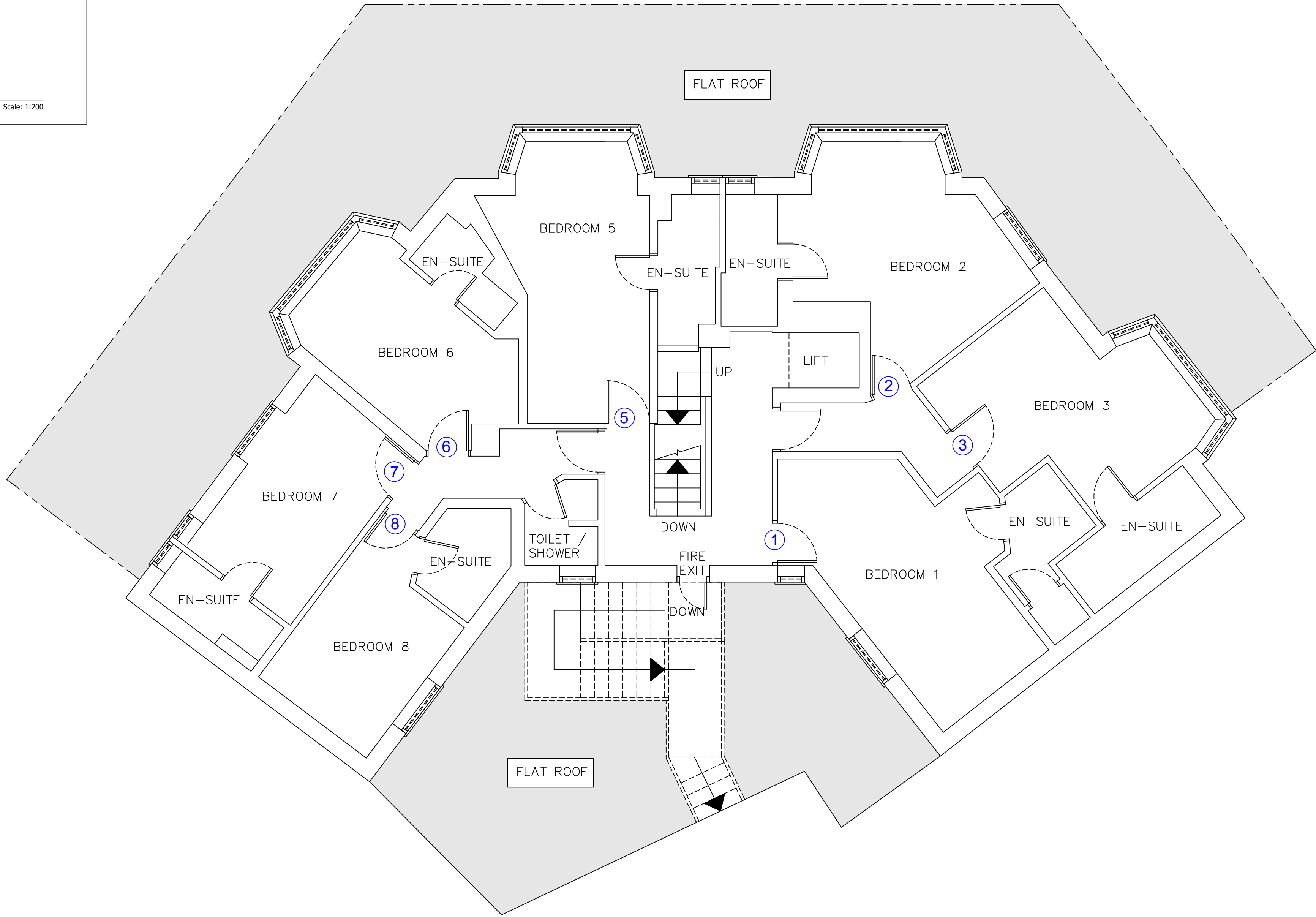
DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A



EXISTING SITE PLAN

Scale: 1:200



EXISTING FIRST FLOOR PLAN VIEW

Scale: 1:50

GENERAL NOTES

CDM REGULATIONS 2015
The client must abide by the Construction Design and Management Regulations 2015. The client must appoint a contractor, if more than one contractor is to be involved, the client will need to appoint (in writing) a principal designer (to plan, manage and coordinate the planning and design work) and a principal contractor (to plan, manage and coordinate the construction and ensure there are arrangements in place for managing and organising the project).

Domestic clients
The domestic client is to appoint a principal designer and a principal contractor when there is more than one contractor, if not your duties will automatically transferred to the contractor or principal contractor.

The designer can take on the duties, provided there is a written agreement between you and the designer to do so.

The Health and Safety Executive is to be notified as soon as possible before construction work starts if the works:

- (a) Last longer than 30 working days and has more than 20 workers working simultaneously at any point in the project.
Or:
(b) Exceeds 500 person days.

PARTY WALL ACT
The owner, should they need to do so under the requirements of The Party Wall Act 1996, has a duty to serve a Party Structure Notice on any adjoining owner if building work on , to or near an existing Part Wall involves any of the following:
* Support of beam
* Insertion of DPC through wall
* Raising a wall or cutting of projections
* Demolition and rebuilding
* Underpinning
* Insertion of lead flashings
* Excavations within 3m of an existing structure where the new foundations will go deeper than existing foundations, or within 6m of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

APart Wall Agreement is to be in place prior to the start of work on site

THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element. (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.

All dimensions are in millimetres unless otherwise stated. No dimensions to be scaled from this drawing. It is the responsibility of the Contractor to check all sizes, site dimensions and positions of drains and services prior to setting out or shop work. Any discrepancies to be reported to the contact details below.

Liability shall not be taken for any defects in this drawing unless, prior to commencement,this drawing and all its dimensions have been so checked and verified Proposed floor levels will be no lower than existing floor levels and flood protection measures in accordance with Environment Agency guidelines will be incorporated into the build.

Existing structure including foundations, beams, walls and lintels carrying new and altered loads are to be exposed and checked for adequacy prior to commencement of works and as required by the Building Control Surveyor.

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IN ASSOCIATION WITH
RDJ CREATIVE

133 WEST DRIVE
THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
Mob: 07494 905535 / 07743 871015
email:- info@krcadsolutions.co.uk
info@rdjcreative.co.uk

CLIENT: FABRIC PROPERTY GROUP

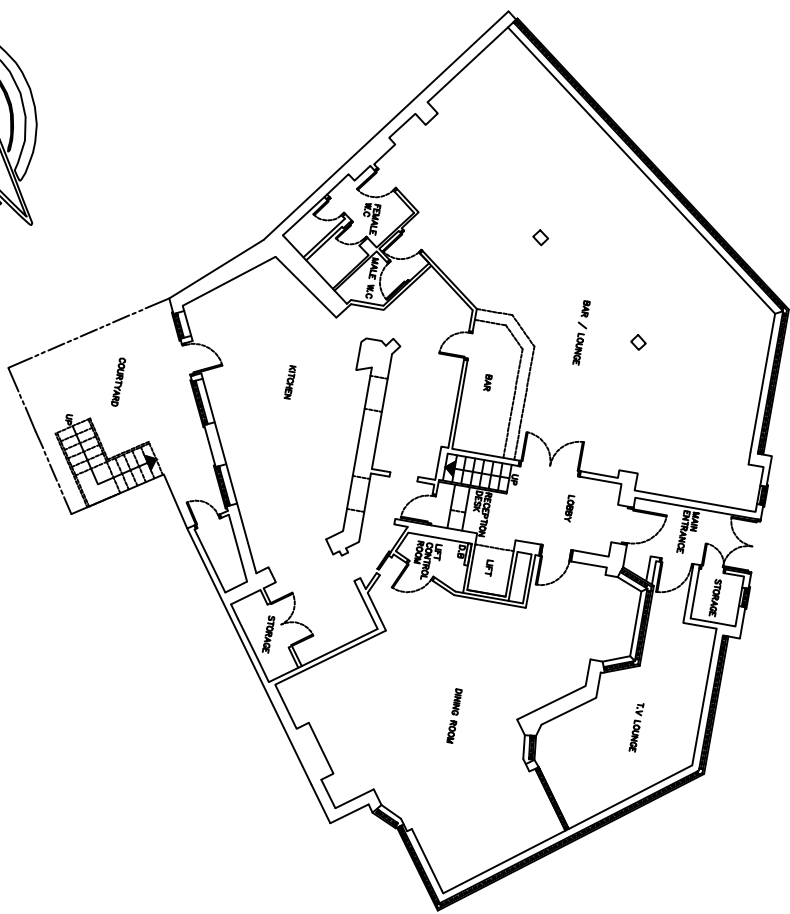
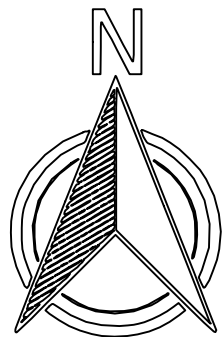
REV	DATE	AMENDMENT	DRN	CHKD	APP
A	23.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL
PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE
TITLE:
EXISTING FIRST FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLAT SUI GENERIS

DWG NO. BBC-1110-21-12-001

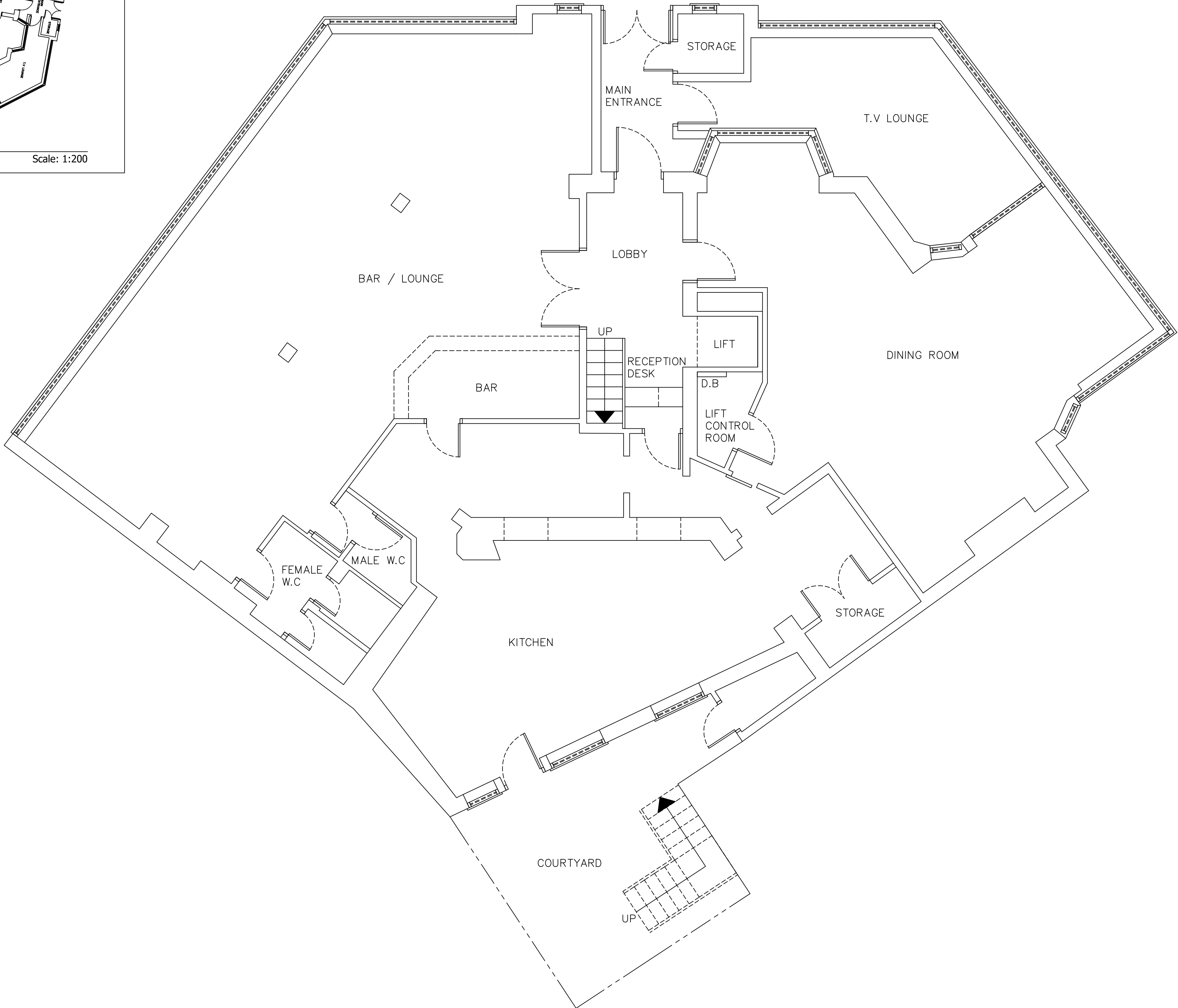
DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A



X EXISTING SITE PLAN

Scale: 1:200



EX0 EXISTING GROUND FLOOR PLAN VIEW

Scale: 1:50

GENERAL NOTES

CDM REGULATIONS 2015
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The designer can take on the duties, provided there is a written agreement between you and the designer to do so.

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Or:
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PARTY WALL ACT
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- * Support of beam
- * Insertion of DPC through wall
- * Raising a wall or cutting of projections
- * Demolition and rebuilding
- * Underpinning
- * Insertion of lead flashings
- * Excavations within 3m of an existing structure where the new foundations will go deeper than existing foundations, or within 6m of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

A Part Wall Agreement is to be in place prior to the start of work on site

THERMAL BRIDGING
Care shall be taken to limit the occurrence of thermal bridging in the insulation layers caused by gaps within the thermal element. (i.e. around windows and door openings). Reasonable provision shall also be made to ensure the extension is constructed to minimise unwanted air leakage through the new building fabric.

All dimensions are in millimetres unless otherwise stated. No dimensions to be scaled from this drawing. It is the responsibility of the Contractor to check all sizes, site dimensions and positions of drains and services prior to setting out or shop work. Any discrepancies to be reported to the contact details below.

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133 WEST DRIVE
THORNTON CLEVELEYS
FY5 2EG
Tel: 01253 829957
Mob: 07494 905535 / 07743 871015
email:- info@krcadsolutions.co.uk
info@rdjcreative.co.uk

CLIENT: FABRIC PROPERTY GROUP

REV	DATE	AMENDMENT	DRN	CHKD	APP
A	23.03.22	DRAWING UPDATED	KR	-	-
-	17.12.21	ISSUED FOR COMMENT / APPROVAL	KR	-	-

DRAWING STATUS:-
COMMENT / APPROVAL

PROJECT: DELTON HOTEL
6 CLIFTON DRIVE
BLACKPOOL
FY4 1NE

TITLE:
EXISTING GROUND FLOOR LAYOUT FOR A
CHANGE OF USE FROM C1 HOTEL TO SELF
CONTAINED HOLIDAY FLATS SUI GENERIS

DWG NO. BBC-1110-21-12-000

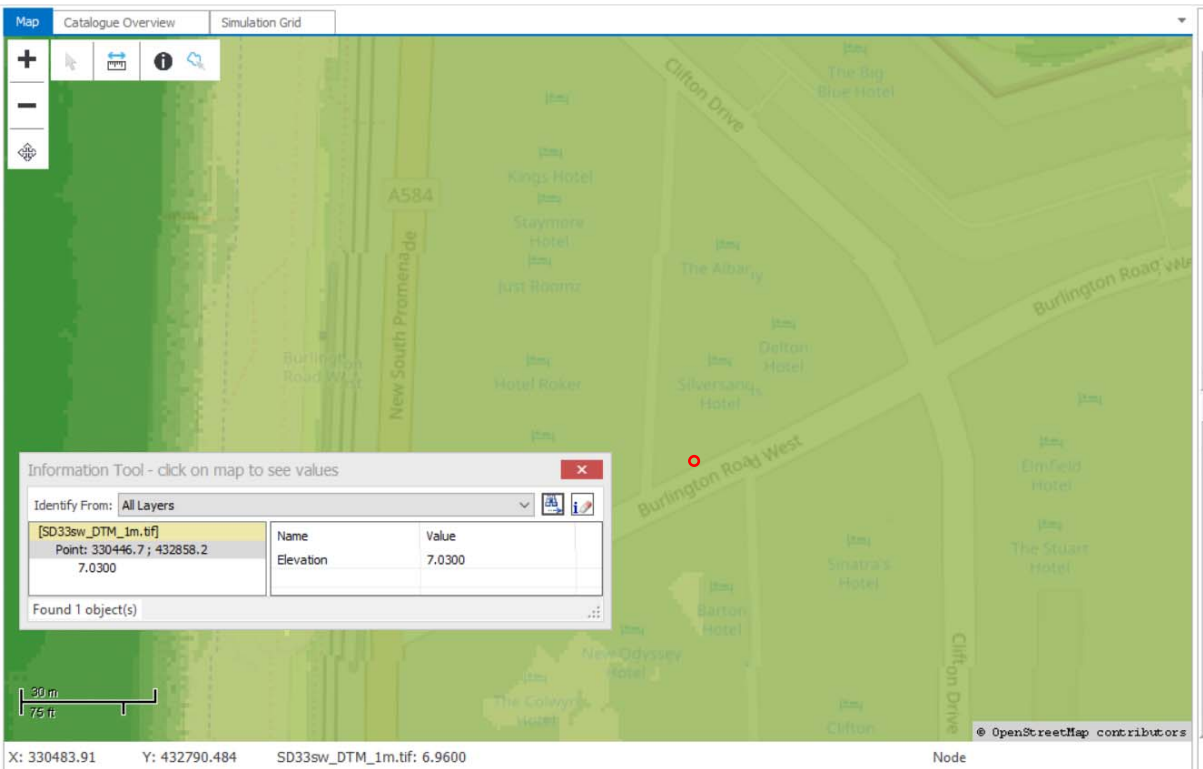
DATE. 06.12.21 DRN: KR CHK / APP: -

SCALE : AS SHOWN @ A1 REVISION: A

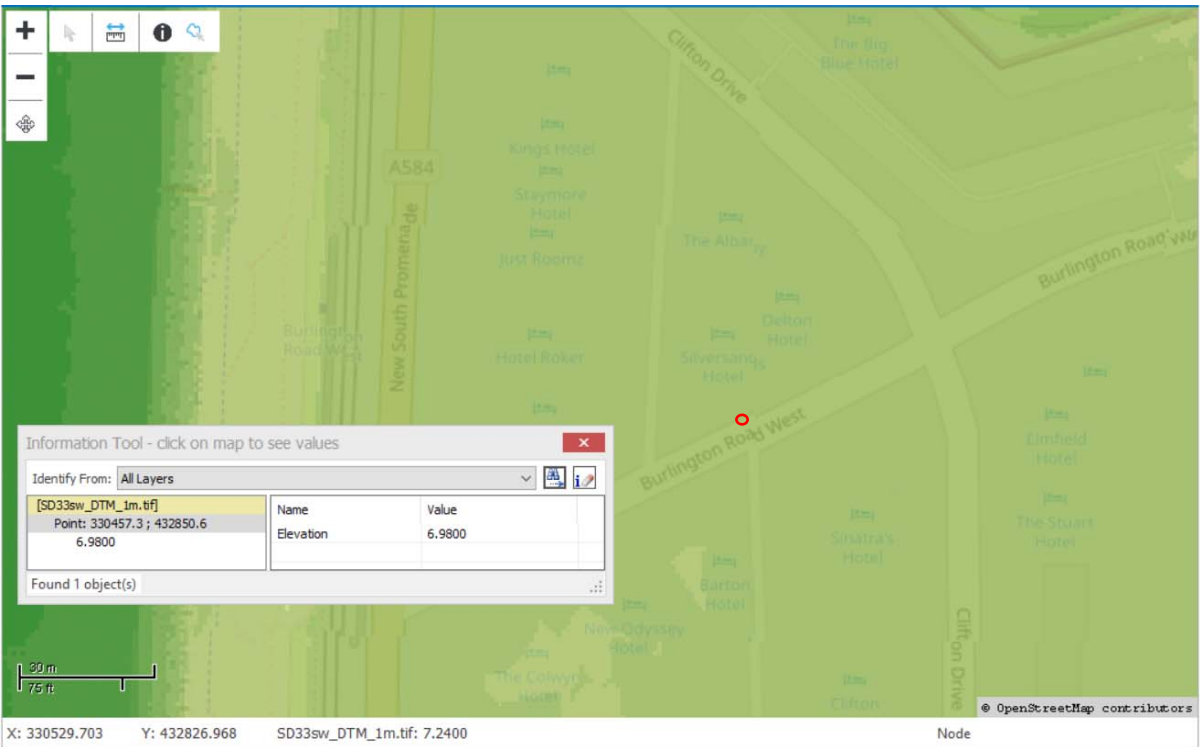
Appendix B: - LIDAR Data

LIDAR DATA

SPOT 4

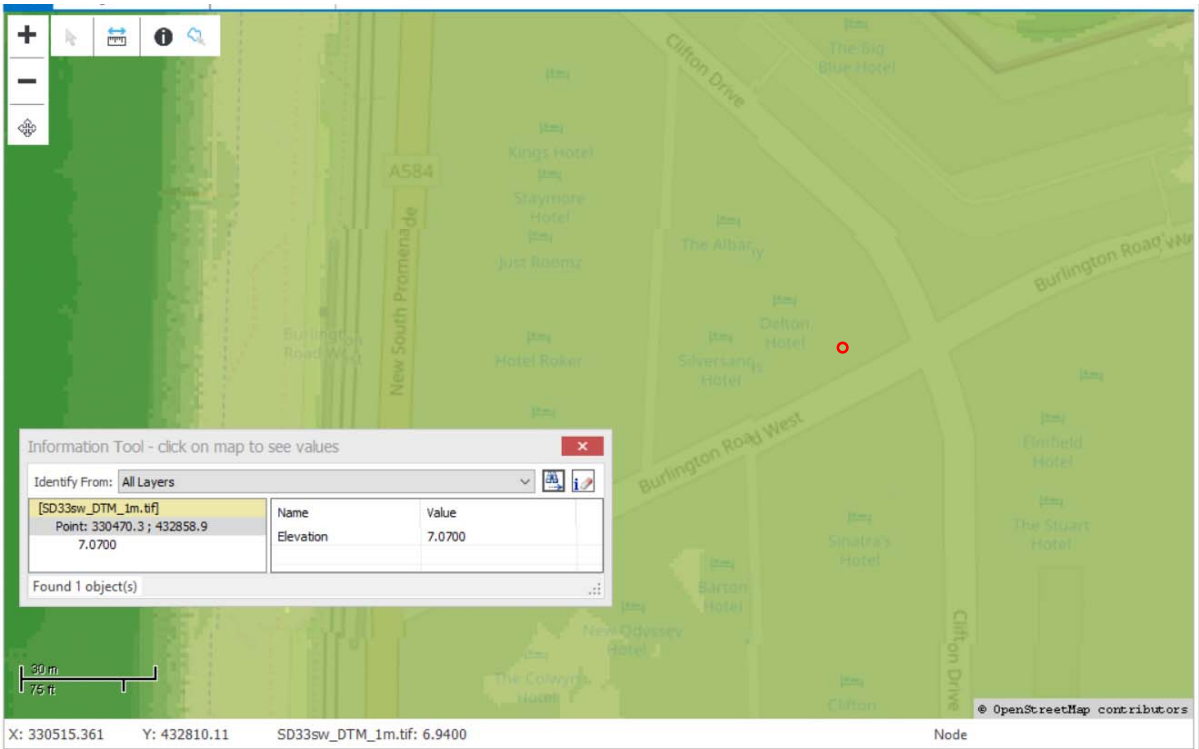


SPOT 5

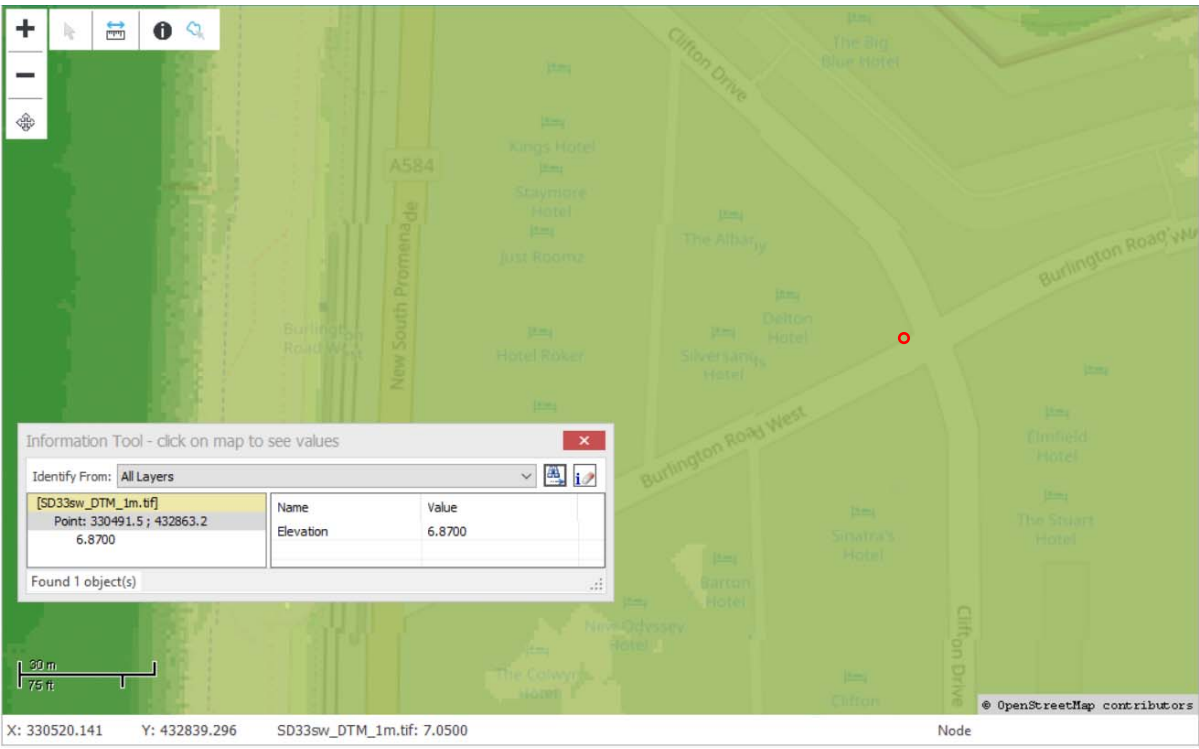


LIDAR DATA

SPOT 10

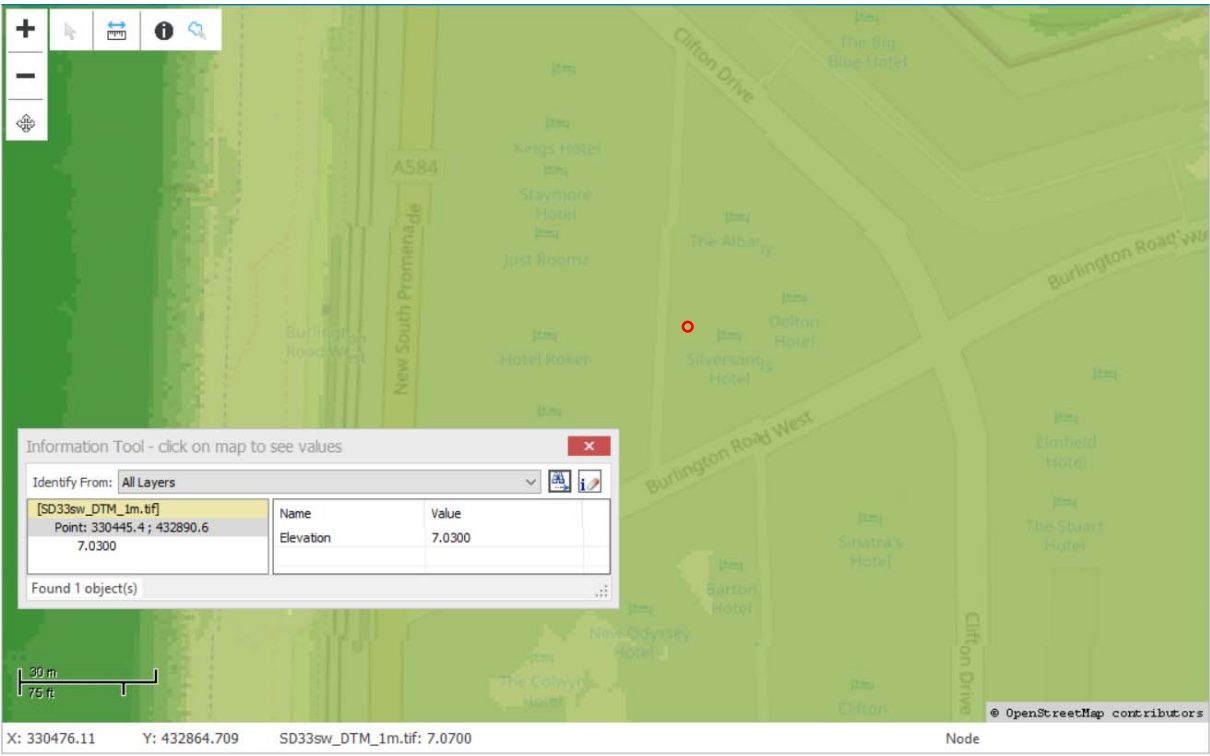


SPOT 11

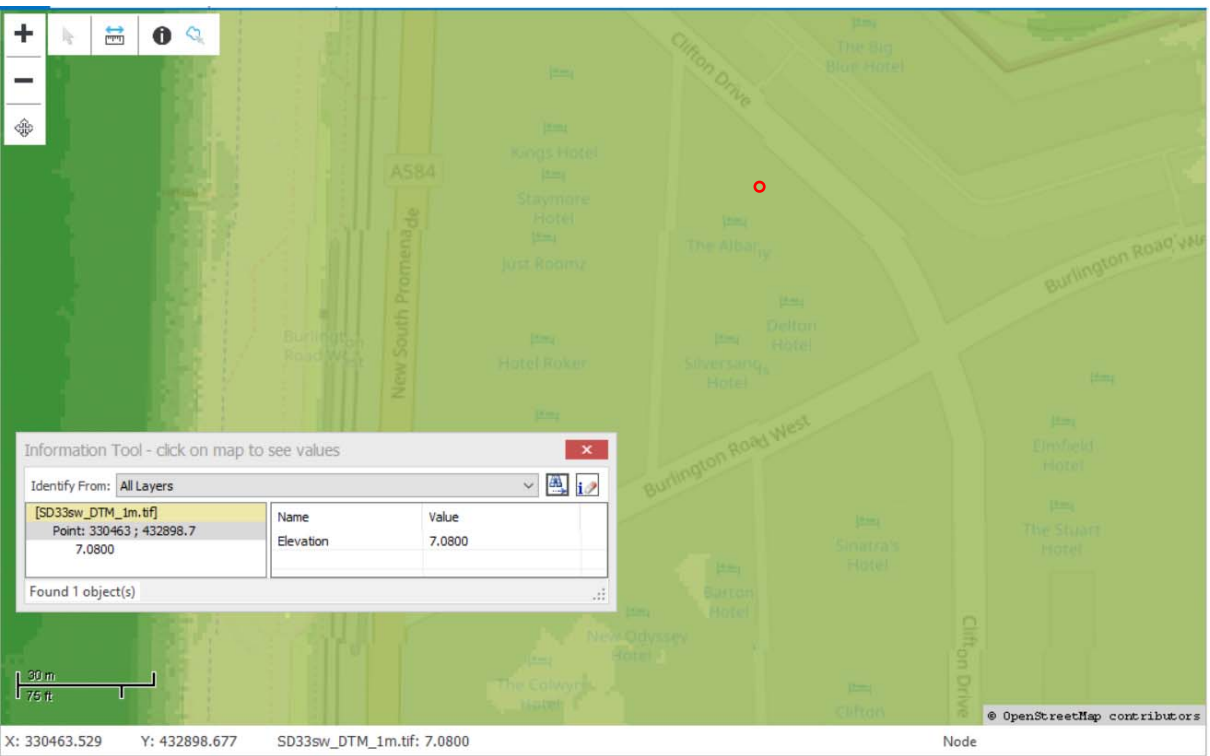


LIDAR DATA

SPOT 14

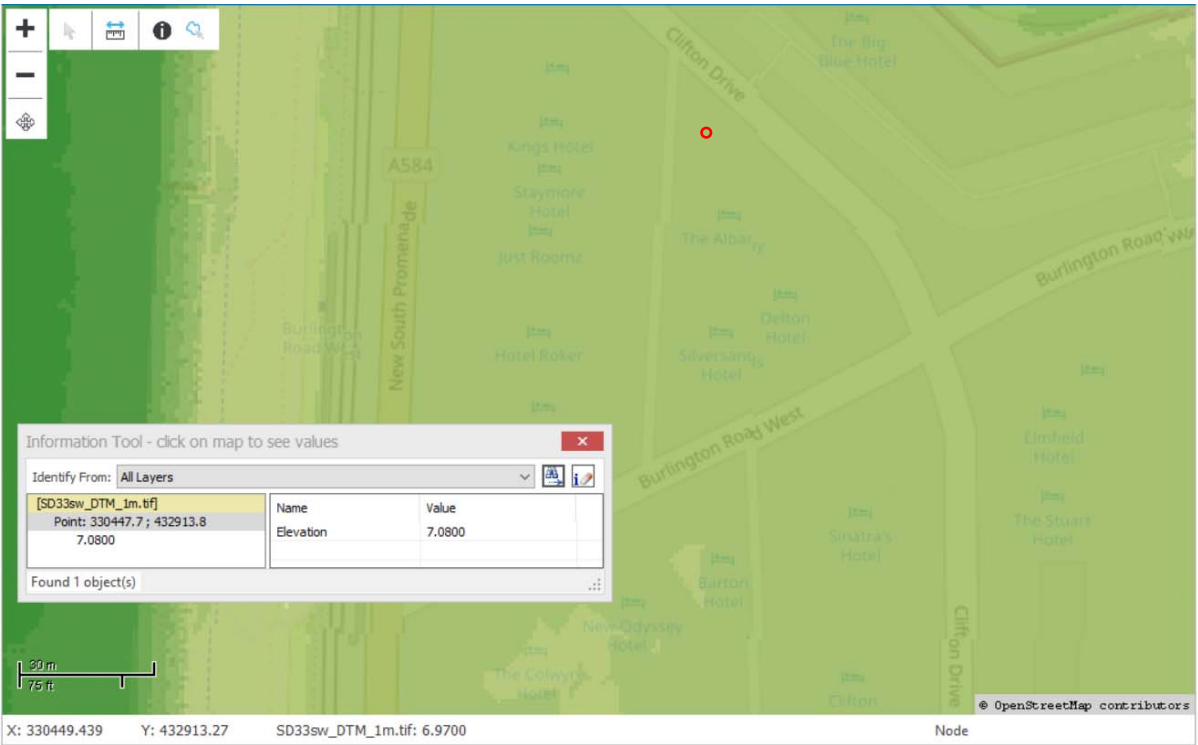


SPOT 20



LIDAR DATA

SPOT 23



Appendix C: - Environment Agency Flood Data

Flood risk assessment data

Location of site: 330459 / 432881 (shown as easting and northing coordinates)

Document created on: 10 June 2022

This information was previously known as a product 4.

Customer reference number: FNKR76T29B1A

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- historic flooding
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- flood defences and attributes

We aren't able to display flood defence locations and attributes. There are coastal defences managed by Blackpool Council at this location that we don't hold any information on but you will be able to contact them to obtain the information.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Blackpool_Tidal 2014

Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal

Date: 30 July 2014

This model contains the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.






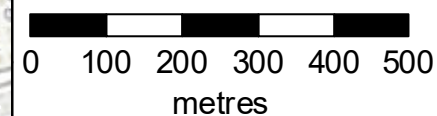
Flood map for planning

Location (easting/northing)
330459/432881

Scale
1:10,000

Created
10 Jun 2022

-  Selected area
-  Flood zone 3
-  Flood zone 2



Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

[Download recorded flood outlines in GIS format](#)






Historic flood map

Location (easting/northing)
330459/432881

Scale
1:10,000

Created
10 Jun 2022

-  Selected area
-  Main river
- Date of flood event
-  February, 2002



Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
1 February 2002	2 February 2002	other	overtopping of defences	No

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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

Modelled scenarios

The following scenarios are included:

- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea where flood defences have been removed
- Defended climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change








Defended modelled tidal extent

Location (easting/northing)
330459/432881


Scale Created
1:10,000 10 Jun 2022

Model name
Blackpool Tidal 2014

 Selected area
Modelled flood extent

 1.33% AEP
 1% AEP
 0.5% AEP
 0.1% AEP

Flood extents may not be
visible where they overlap
other return periods


0 100 200 300 400 500
metres








Defences removed modelled tidal extent

Location (easting/northing)
330459/432881


Scale Created
1:10,000 10 Jun 2022

Model name
Blackpool Tidal 2014

 Selected area
Modelled flood extent

 1.33% AEP
 1% AEP
 0.5% AEP
 0.1% AEP

Flood extents may not be
visible where they overlap
other return periods


0 100 200 300 400 500
metres



Defended climate change modelled tidal extent

Location (easting/northing)
330459/432881

Scale Created
1:10,000 10 Jun 2022

Model name
Blackpool Tidal 2014

 Selected area

 Main river

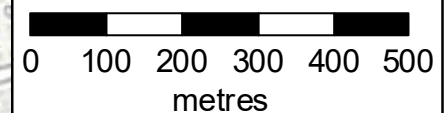
Modelled flood extent

 0.5% AEP (+370mm)

 0.5% AEP (+670mm)

 0.5% AEP (+970mm)

Flood extents may not be
visible where they overlap
other return periods





Defences removed climate change modelled tidal extent

Location (easting/northing)
330459/432881

Scale Created
1:10,000 10 Jun 2022

Model name
Blackpool Tidal 2014

 Selected area

 Main river


Modelled flood extent

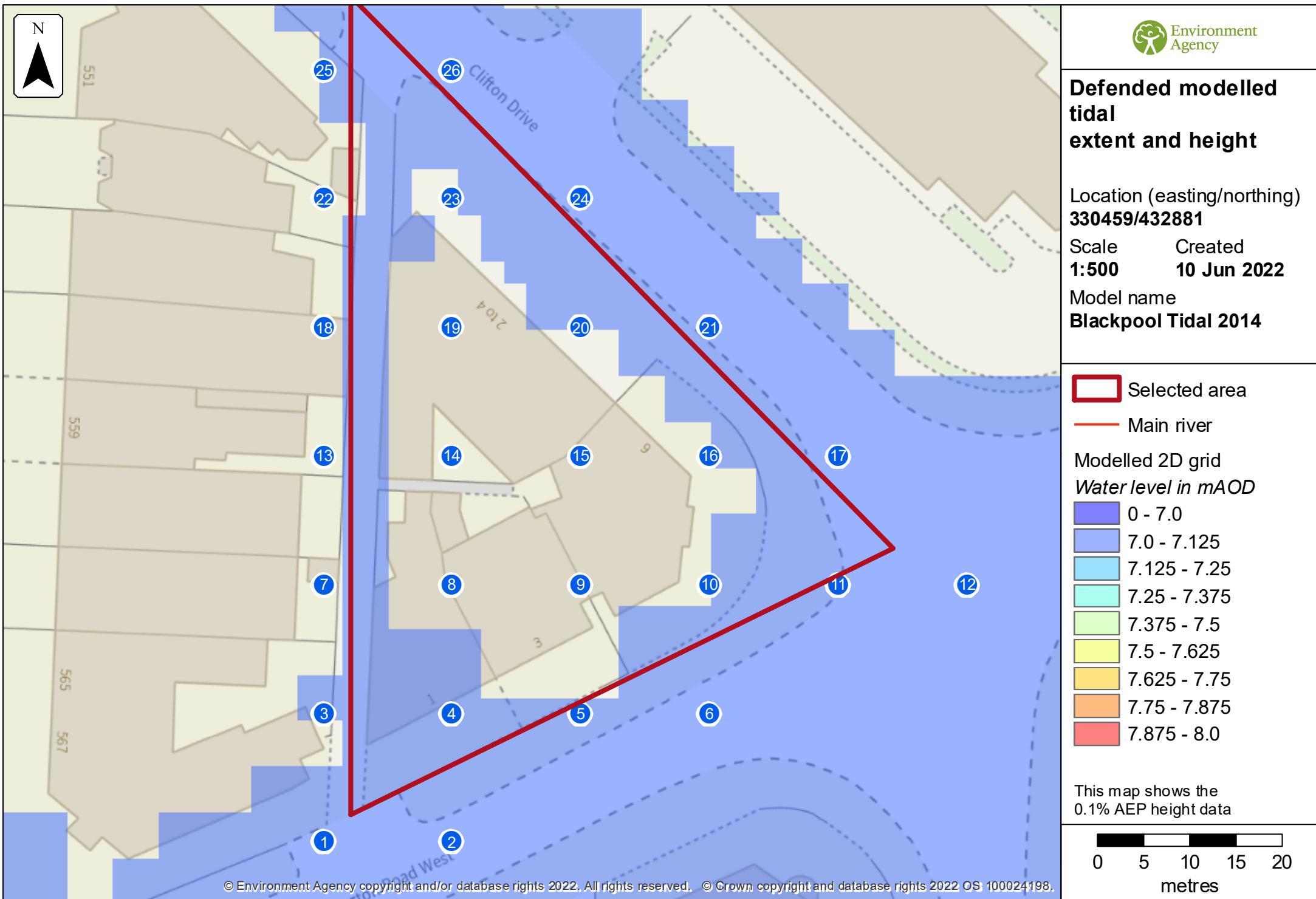
 0.5% AEP (+370mm)

 0.5% AEP (+670mm)

 0.5% AEP (+970mm)

Flood extents may not be
visible where they overlap
other return periods


0 100 200 300 400 500
metres



Sample point data

Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	330437	432839					0.10	6.94	0.12	6.96	0.19	7.04	0.25	7.09
2	330451	432839					0.19	6.94	0.21	6.96	0.29	7.04	0.34	7.09
3	330437	432853					NoData	NoData	NoData	NoData	0.06	7.04	0.10	7.09
4	330451	432853					NoData	NoData	NoData	NoData	NoData	NoData	0.07	7.09
5	330465	432853					0.04	6.94	0.04	6.96	0.09	7.04	0.12	7.09
6	330479	432853					0.12	6.94	0.13	6.96	0.21	7.04	0.26	7.09
7	330437	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	330451	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	330465	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	330479	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	330493	432867					0.08	6.94	0.10	6.96	0.17	7.04	0.23	7.09
12	330507	432867					0.02	6.94	0.03	6.96	0.11	7.04	0.17	7.09
13	330437	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	330451	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	330465	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	330479	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	330493	432881					0.08	6.94	0.09	6.96	0.17	7.04	0.22	7.09
18	330437	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	330451	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	330465	432895					NoData	NoData	0.00	6.96	0.01	7.04	0.01	7.09
21	330479	432895					0.13	6.94	0.14	6.96	0.22	7.04	0.28	7.09
22	330437	432909					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	330451	432909					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	330465	432909					0.13	6.94	0.15	6.96	0.23	7.04	0.28	7.09
25	330437	432923					NoData	NoData	NoData	NoData	0.06	7.04	0.11	7.09
26	330451	432923					0.15	6.94	0.17	6.96	0.24	7.04	0.30	7.09
27	330437	432937					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Blackpool Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Defences removed modelled tidal extent and height

Location (easting/northing)
330459/432881

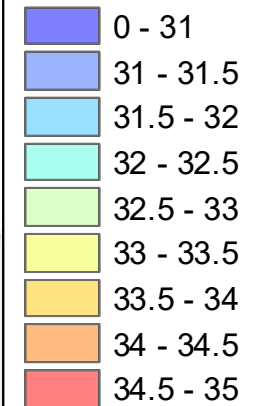
Scale Created
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Model name
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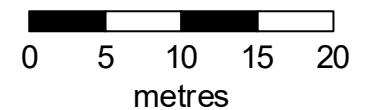
 Selected area

 Main river

Modelled 2D grid
Water level in mAOD



This map shows the
0.1% AEP height data



Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	330437	432839					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	330451	432839					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	330437	432853					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	330451	432853					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	330465	432853					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	330479	432853					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	330437	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	330451	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	330465	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	330479	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	330493	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	330507	432867					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	330437	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	330451	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	330465	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	330479	432881					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

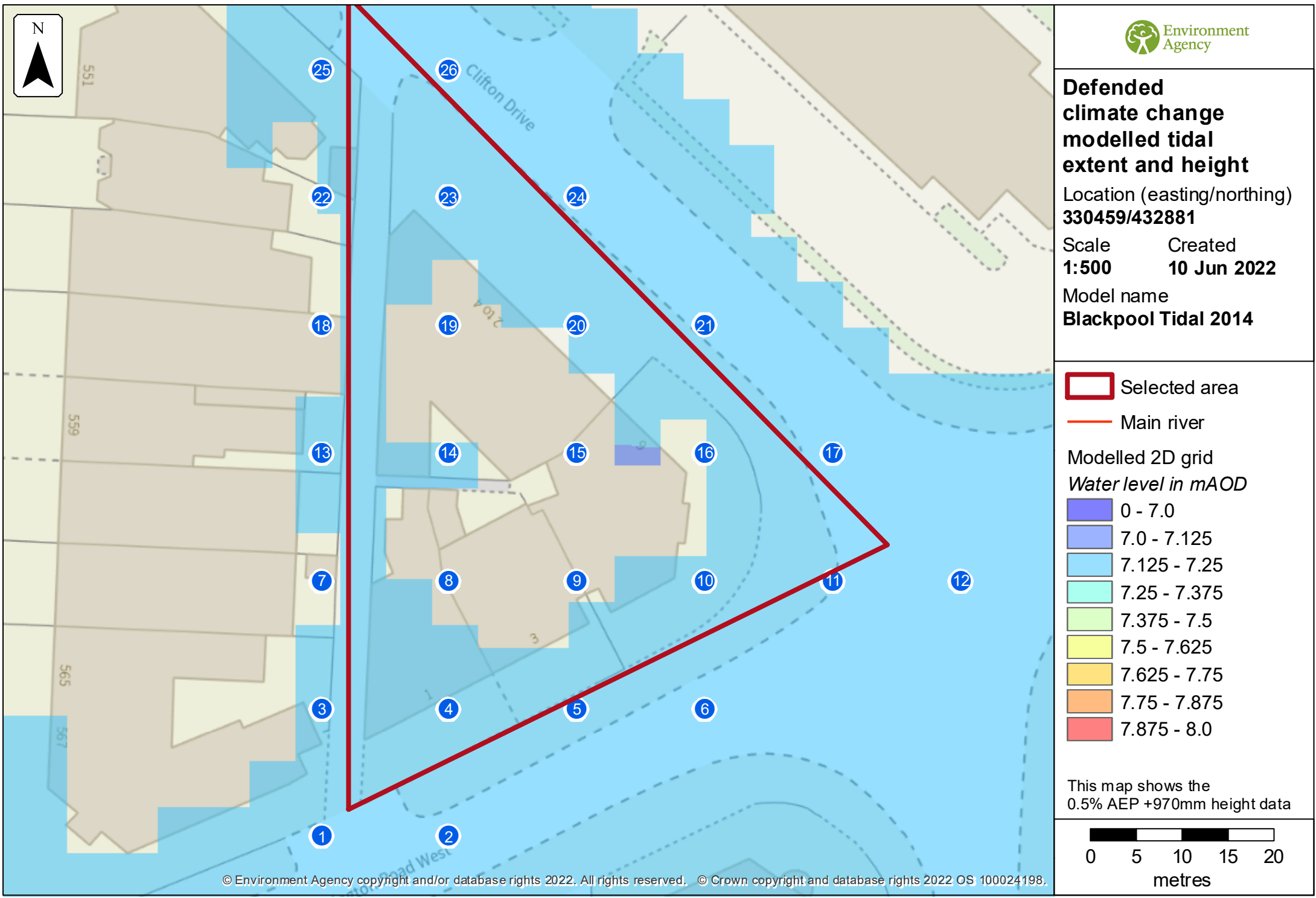
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			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
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18	330437	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	330451	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	330465	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	330479	432895					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	330437	432909					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	330451	432909					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	330465	432909					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	330437	432923					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	330451	432923					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	330437	432937					NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Blackpool Tidal 2014 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



Sample point data

Defended climate change

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
1	330437	432839	0.30	7.15	0.30	7.15	0.30	7.15
2	330451	432839	0.40	7.15	0.40	7.15	0.40	7.15
3	330437	432853	0.14	7.15	0.14	7.15	0.14	7.15
4	330451	432853	0.12	7.15	0.12	7.15	0.12	7.15
5	330465	432853	0.17	7.15	0.17	7.15	0.17	7.15
6	330479	432853	0.32	7.15	0.32	7.15	0.32	7.15
7	330437	432867	NoData	NoData	NoData	NoData	NoData	NoData
8	330451	432867	NoData	NoData	NoData	NoData	NoData	NoData
9	330465	432867	NoData	NoData	NoData	NoData	NoData	NoData
10	330479	432867	0.08	7.15	0.08	7.15	0.08	7.15
11	330493	432867	0.28	7.15	0.28	7.15	0.28	7.15
12	330507	432867	0.22	7.15	0.22	7.15	0.22	7.15
13	330437	432881	0.12	7.15	0.12	7.15	0.12	7.15
14	330451	432881	0.00	7.15	0.00	7.15	0.00	7.15
15	330465	432881	NoData	NoData	NoData	NoData	NoData	NoData
16	330479	432881	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
17	330493	432881	0.28	7.15	0.28	7.15	0.28	7.15
18	330437	432895	NoData	NoData	NoData	NoData	NoData	NoData
19	330451	432895	NoData	NoData	NoData	NoData	NoData	NoData
20	330465	432895	0.07	7.15	0.07	7.15	0.07	7.15
21	330479	432895	0.33	7.15	0.33	7.15	0.33	7.15
22	330437	432909	0.09	7.15	0.09	7.15	0.09	7.15
23	330451	432909	0.07	7.15	0.07	7.15	0.07	7.15
24	330465	432909	0.33	7.15	0.33	7.15	0.33	7.15
25	330437	432923	0.16	7.15	0.16	7.15	0.16	7.15
26	330451	432923	0.35	7.15	0.35	7.15	0.35	7.15
27	330437	432937	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Blackpool Tidal 2014 model.

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Defences removed climate change modelled tidal extent and height

Location (easting/northing)
330459/432881

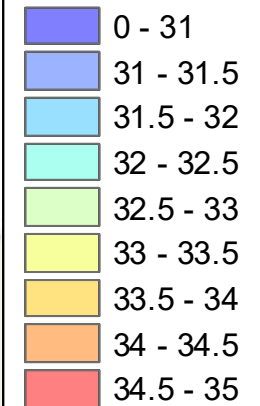
Scale Created
1:500 10 Jun 2022

Model name
Blackpool Tidal 2014

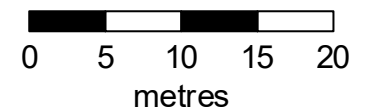
 Selected area

 Main river

Modelled 2D grid
Water level in mAOD



This map shows the
0.5% AEP +970mm height data



Sample point data

Defences removed climate change

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
			Depth	Height	Depth	Height	Depth	Height
1	330437	432839	NoData	NoData	NoData	NoData	NoData	NoData
2	330451	432839	NoData	NoData	NoData	NoData	NoData	NoData
3	330437	432853	NoData	NoData	NoData	NoData	NoData	NoData
4	330451	432853	NoData	NoData	NoData	NoData	NoData	NoData
5	330465	432853	NoData	NoData	NoData	NoData	NoData	NoData
6	330479	432853	NoData	NoData	NoData	NoData	NoData	NoData
7	330437	432867	NoData	NoData	NoData	NoData	NoData	NoData
8	330451	432867	NoData	NoData	NoData	NoData	NoData	NoData
9	330465	432867	NoData	NoData	NoData	NoData	NoData	NoData
10	330479	432867	NoData	NoData	NoData	NoData	NoData	NoData
11	330493	432867	NoData	NoData	NoData	NoData	NoData	NoData
12	330507	432867	NoData	NoData	NoData	NoData	NoData	NoData
13	330437	432881	NoData	NoData	NoData	NoData	NoData	NoData
14	330451	432881	NoData	NoData	NoData	NoData	NoData	NoData
15	330465	432881	NoData	NoData	NoData	NoData	NoData	NoData
16	330479	432881	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	0.5% AEP (+370mm)		0.5% AEP (+670mm)		0.5% AEP (+970mm)	
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20	330465	432895	NoData	NoData	NoData	NoData	NoData	NoData
21	330479	432895	NoData	NoData	NoData	NoData	NoData	NoData
22	330437	432909	NoData	NoData	NoData	NoData	NoData	NoData
23	330451	432909	NoData	NoData	NoData	NoData	NoData	NoData
24	330465	432909	NoData	NoData	NoData	NoData	NoData	NoData
25	330437	432923	NoData	NoData	NoData	NoData	NoData	NoData
26	330451	432923	NoData	NoData	NoData	NoData	NoData	NoData
27	330437	432937	NoData	NoData	NoData	NoData	NoData	NoData

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Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for

Appendix D: - Business Flood Plan



Environment
Agency

would your business stay afloat?

A guide to preparing your
business for flooding



Flooding is the most common and widespread natural disaster in the UK. Since 1998 there has been at least one serious flood every year. Businesses like yours are more likely to be flooded than destroyed by fire. As our climate changes we can expect to see more extreme weather – and more floods.

We aim to reduce the likelihood of flooding by managing land, rivers, coastal systems and flood defences. While we do everything we can to reduce the chance of flooding, it is a natural process and can never be completely eliminated.

By taking action to prepare in advance for flooding, most businesses can save between 20 and 90 per cent on the cost of lost stock and movable equipment, as well as some of the trouble and stress that goes with such an event.

This is a simple guide to some of the easy actions that you can take to make sure that your business is as well prepared as possible.

It tells you about how to find out if your business is at risk, our flood warning service and what our flood warning codes mean. It also has a simple template to use to design a flood plan for your company.

For more information about flooding, visit our website at **www.gov.uk/flood** or call Floodline on **0345 988 1188**.

Make sure that your business is prepared for flooding.

How do I find out if my business is at risk from flooding?

There are two quick and easy ways for you to find out if you're at risk.

call us on
0345 988 1188

Our Floodline service is open 24 hours, calls are charged at local rate. By taking your postcode, our operators will check and see if your business is in a flood risk area.

Look at our website
www.gov.uk/flood

You need to be aware of flooding and keep an eye on the water levels and weather situation at all times. You can do this by checking the flood forecasts and the river and sea levels on our website.

Our online flood map uses the latest technology and data gathered over many years to give the most accurate view of flooding in your area.

By entering your postcode you can find out if your business is at risk. Areas at risk from flooding are shown in dark blue and areas at risk from extreme flooding in light blue.

My business is at risk from flooding. What should I do now?

Start preparing now. If the weather conditions are right, flooding can happen at any time.

Remember, floods can happen at any time and any day – make sure you provide a number that can be contacted at all times – even out of working hours.

Sign up for flood warnings.

The first thing you should do is find out if you can receive flood warnings. In areas of high flood risk, we offer a service called Floodline Warnings Direct. This is a free, 24 hour service that sends automated flood warnings by telephone, SMS text, email, fax or pager.

To find out if you can receive this service, call Floodline on 0345 988 1188.

If your business isn't in an area covered by our warnings you can still check the latest flood warnings in force on our website.

When the situation is serious, flood warnings will also be broadcast on local television and radio news.

What practical steps can I take to protect my business?

Now that you've checked your risk and found out about flood warnings, it's time to start thinking about preparing a flood plan specifically for your business.

Taking simple steps can go a long way to protecting your business from flooding. Preparing a flood plan could:

- Significantly reduce financial losses, damage to property and business interruption;
- Help compliance with regulatory requirements (for example, Occupier's Liability Act 1984);
- Reduce exposure to civil or criminal liability;
- Enhance your company's image and credibility with employees, customers, suppliers and the community;
- Help fulfil your moral responsibility to protect employees, the community and the environment;
- Help you to obtain insurance cover.

What is a flood plan?

Just as many businesses have health and safety policies and contingency plans for an emergency, they should also have flood plans.

A flood plan is a written document that outlines how your business will respond to a flood.

This might include a list of steps you will take in case of a flood and the order you will take them in. It could also include the purchase of flood products and insurance.

A written plan can make information **easy** to access during a flood, **easy** to communicate to staff, and **easy** to remember.

Small businesses should make sure there is a plan of action in case of flooding. As the business owner, this may be your responsibility.

If your business is **medium sized**, flood preparation might be the responsibility of a team of people from different areas of the business.

If your business decides to have a flood planning team, this could be led by the business owner or Managing Director.

The leader of the flood planning team will need to let staff know about the plan once it is finished.

All members of the team should also keep a copy of important flood contacts at home for easy access.

Key areas to consider in your flood plan are:

- human resources;
- maintenance/facilities;
- finance and purchasing.

Once you have completed your plan don't forget about it. Look at it regularly and make sure it is up to date and in the event of a flood **use it**.



business flood plan



A written flood plan is recommended for businesses.

It should include:

- A list of important contacts, including Floodline, building services, suppliers and evacuation contacts for staff;
- A description or map showing locations of key property, protective materials and service shut-off points;
- Basic strategies for protecting property, preventing business disruption and assisting recovery;
- Checklists of procedures that can be quickly accessed by staff during a flood.

If a flood is imminent, your main priority is to make sure that your staff are safe. However there may be other actions that you can take to prepare your building and it's contents to minimise damage and post-flood repair and restoration costs.

Business flood plan

Flood plan for _____ dated _____

Registered address _____

Postcode _____

Staff contact list

Name	Address	Telephone/mobile	Emergency contact	Emergency telephone and address

Note staff who may require assistance in the event of a flood.

Name	Office location

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Answer the following if applicable

	Description of location	How to protect from a flood (for example, move, cover, tie down)
First Aid Kit		
Oil based products (gasoline, oil, cooking oil etc.)		
Chemicals (including cleaning products)		

Protective actions

Identify stock, equipment and possessions that may need special protective measures, and describe the actions you will take to prevent damage in the event of a flood. We have suggested items and ways to protect them, but make sure you follow through on your plans.

think about:

- Computers;
- Tables / heavy furniture;
- Vehicles;
- Paper files;
- Electrical items;
- Chairs / stools;
- Databases;
- Soft furnishings;
- Computer files;
- Staff files.

ways to protect items

- Make a copy of important documentation and store in safe location;
- Raise items above ground level;
- Buy flood protection products;
- Buy new flood-resistant items;
- Move items to a safer location if possible – to an upper level of the building or off site.

Valuable item	Protective action	New location (if applicable)	Done
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Suggested basic building materials to help protect your property

If materials are not needed, leave the relevant section blank

Materials	Used for	Items to protect / where to use	Storage location	Done
Sand and sand bags (unfilled), shovel	Creating flood barriers (used with plastic sheeting)			<input type="checkbox"/>
Tools – hammer, nails, saw	Boarding up doors, windows and openings, creating shelves			<input type="checkbox"/>
Wood – plywood, blocks of wood	Boarding up doors, windows and openings, creating shelves			<input type="checkbox"/>
Sturdy plastic sheeting	Sandbag barriers, pulling up around furniture and appliances			<input type="checkbox"/>
Strong plastic bags	Putting around legs of tables and chairs			<input type="checkbox"/>
Pallets	Raising stored stock above flood level			<input type="checkbox"/>
Emergency power generator	Maintaining function of air conditioning units (can help dry out a building), running fridges and freezers, medical equipment if appropriate			<input type="checkbox"/>

Identify people who can help you before, during and after a flood, and what they can do.

We have suggested ways they might be able to help, but you'll need to discuss this with them.

Name	Address	Telephone day	Telephone evening	Mobile

Ways people can help

- assistance with installing flood products;
- assistance with transporting stock/materials to new location if possible;
- provision of emergency storage;
- provision of emergency supplies or medical support if required.

discussion guide

This discussion guide sums up the key areas of flood planning. Some of this information can be found in this pack to help get you started.



Research

- Look at your existing business policies, and think about whether they are appropriate in the event of a flood.

Staff

- Make a list of **employees' contact details in the event of an evacuation**. This might include mobile telephone numbers, or numbers for their home or the home of a friend or relative;
- Think about staff who **may need special assistance** in the event of a flood (for example, elderly, deaf, blind etc.)

Security procedures

- **Locking windows, doors and setting the alarm**. You might need more than one person to help do this;
- Insurance policies – **Are you insured for flood damage**, business interruption and lost revenue?
- Employee manuals – You might **add flood safety to staff information packs**, or adapt job descriptions to include flood warden duties;
- Hazardous materials plan – You must ensure that **chemicals, oils and other substances in your possession are kept safe** and do not contaminate flood water;
- Health and safety assessment – Plan to **check the functioning of flood products and flood warning systems regularly**, just as you do for fire safety equipment.

Check codes and regulations that might apply to your business in the event of a flood. The following could provide guidance on the right actions to take:

- Occupational health and safety regulations;
- Environmental regulations.



Important contacts

Make a list of important telephone numbers, including contacts for gas, electricity, water and telephone providers.

Key locations

- **Know the location** of cut-off points for gas, electricity and water. Ideally, these should be marked on a map that is stored with your flood plan;
- Know the location of chemicals, oils or other materials that could be dangerous or contaminate flood water. These should be stored safe from floods and other damage.

Protective actions

- Note key stock, equipment and possessions that may need special protection from flood water;
- Consider things you may need during or after a flood (for example, sandbags, plastic sheeting, loudspeaker);
- See if it's **possible to move key operations**, such as shipping or customer services, to another building.

Suppliers and external links

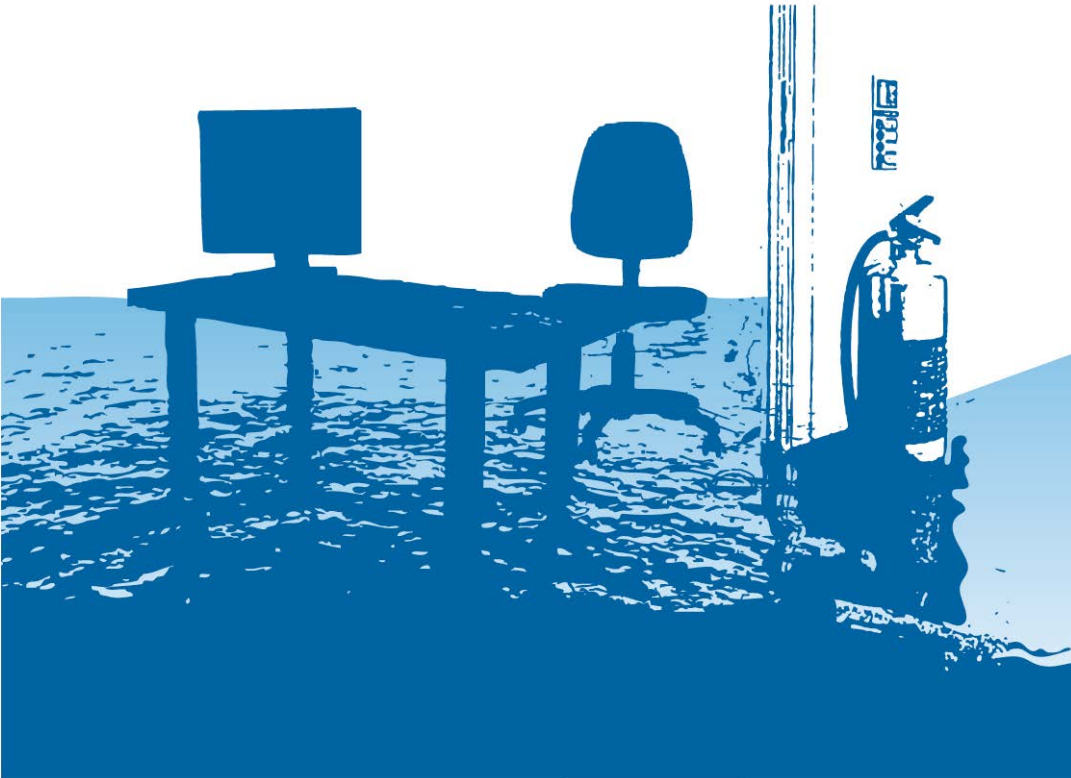
- Identify products and services you won't need in the event of a flood, or which suppliers may not be able to provide. **Make back-up plans** or arrangements for short-notice cancellation of deliveries;
- Consider contracting in advance with companies whose help you may need after a flood.

business checklist

Are you prepared for flooding?

If you answer no to any of the questions overleaf, there may be more you can do to protect your business.

The individual sections will give you valuable information on effective actions you can take to prepare for a flood.



If you can answer yes, please ☒, otherwise leave blank for no.

Know if you're at risk

- ☐ Do you know if you're at risk of flooding?
- ☐ Are flood warnings available in your area?
- ☐ Do you know how you can receive flood warnings?

Preparing a flood plan

- ☐ Do you know how your business will respond to a flood?
- ☐ Do you have a list of useful numbers including Floodline, local authority and insurance company?
- ☐ Do you know how to shut off your gas/electric/water supplies?
- ☐ Are your stock, fittings and valuable equipment stored above flood level?
- ☐ Have you developed flood contingency plans with suppliers and/or clients?
- ☐ Can you call someone to help you in the event of a flood?

Staff training and evacuation

- ☐ Are you aware of correct flood safety procedures for you and your staff?
- ☐ Have you trained your staff on flood safety procedures?
- ☐ Can your staff work quickly and efficiently to protect your business in the event of a flood?

Protecting your property

- ☐ Have you installed flood protection products?
- ☐ Do you have a stockpile of useful materials including plywood, plastic sheeting, sandbags (unfilled), sand, nails, hammer, shovel, blocks of wood and a saw?
- ☐ Have you installed non return valves in your toilets and drains?
- ☐ Do you and your staff have high ground where you can park your cars?
- ☐ Are your electrical sockets above flood level?
- ☐ Do you have computer equipment in the basement?

Flood insurance

- ☐ Do you have sufficient insurance cover in the event of a flood situation?
- ☐ Do you know what information your insurer will require to support a claim?

Evacuation

- ☐ Do you have an easy way to let your staff know about an evacuation?
- ☐ Do you know which roads will stay open in your area during a flood?
- ☐ Have you identified where staff can shelter in the event of a flood?
- ☐ Could you control staff panic during a flood?

understand your flood warning codes

Our warning service has three types of warnings - Flood Alert, Flood Warning and Severe Flood Warning - that will help you prepare for flooding and take necessary actions.

ONLINE FLOOD RISK FORECAST

What it means

Be aware.
Keep an eye on the weather situation.

When it's used

Forecasts of flooding on the Environment Agency website are updated at least once a day.

What to do

- Check weather conditions.
- Check for updated flood forecasts on our website.



FLOOD ALERT

What it means

Flooding is possible.
Be prepared.

When it's used

Two hours to two days in advance of flooding.

What to do

- Be prepared to act on your flood plan.
 - Prepare a flood kit of essential items.
 - Monitor local water levels and the flood forecast on our website.
-



FLOOD WARNING

What it means

Flooding is expected.
Immediate action required.

When it's used

Half an hour to one day
in advance of flooding.

What to do

- Move staff, stock and valuables to a safe place.
 - Turn off gas, electricity and water supplies if safe to do so.
 - Put flood protection equipment in place.
-



SEVERE FLOOD WARNING

What it means

Severe flooding.
Danger to life.

When it's used

When flooding poses a
significant risk to life.

What to do

- Stay in a safe place with means of escape.
 - Be ready should you need to evacuate.
 - Co-operate with the emergency services.
 - Call 999 if you are in immediate danger.
-

WARNING NO LONGER IN FORCE

What it means

No further flooding is
currently expected in
you area.

When it's used

When river or sea
conditions begin to
return to normal.

What to do

- Be careful. Flood water may still be around for several days.
 - If you've been flooded, ring your insurance company as soon as possible.
-

useful contacts

Fill in the contact details you may need if your business floods.
Keep it in a safe place, where you can hold of it quickly.

	Company name	Telephone number/s
Environment Agency Floodline		0345 988 1188
Electricity supplier and meter number		
Gas supplier and meter number		
Water supplier and meter number		
Telephone provider		
Local authority emergency services		
Insurance company 24-hour number and policy number		
Insurance agent		
Local radio station for news alerts and weather updates		
Companies that may be able to help you after a flood		
Electrician		
Plumber		
Builder		
Equipment repair/suppliers		
Security services		
Water pumping services		
Emergency power suppliers		

**Would you like to find out more about us,
or about your environment?**

Then call us on

08708 506 506* (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.gov.uk/environment-agency

incident hotline 0800 80 70 60 (24hrs)

floodline 0345 988 1188 (24hrs)

*** Weekday Daytime calls cost 8p plus up to 6p/min from BT Weekend Unlimited. Mobile and other providers' charges may vary.**



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