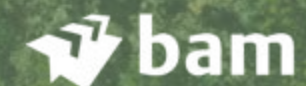




Proposed B8 Warehouse Development

Plot 2 Dunsbury Hill Farm

Design and Access Statement



Revision	Date	Status	Authorised
P1	14/09	Draft Review	JR
P2	23/09	Draft Review	JR
P3	07/10	Submission	JR

Plot 2 Dunsbury Hill Farm

Design and Access Statement

	1.0 Introduction		10.0 Access and Movement
	2.0 Plot 2 Development Brief		11.0 Addendum's
	3.0 Site and Context		12.0 Summary
	4.0 Design Response		13.0 Appendices
	5.0 Building Form		
	6.0 Building Appearance		
	7.0 Sustainable Design		
	8.0 Drainage		
	9.0 Secured by Design		

1

Plot 2 Dunsbury Hill Farm

1.0 Introduction

This Design and Access statement accompanies the Reserved Matters Application for Plot 2 at Dunsbury Hill Farm, Havant for proposed B8 development. The site, which is currently agricultural land, is located east of Junction 3 of the A3 (M) and west of Leigh Park and is under the ownership of Portsmouth City Council (PCC). This statement, together with accompanying drawings and technical documents should be read in conjunction with the Planning Statement prepared by Peter Brett Associates. Reference should also be made to the documents supporting the outline planning permission in relation to this application.

Dunsbury Hill has been identified in the Core Strategy as “a key strategic employment site for the borough and the wider sub-region, which will form a new business gateway to South Hampshire from the A3(M)”.

The Reserved Matters application relates to the Hybrid Planning Application ref no. APP/12/00338. The proposals granted permission in February 2014 show development completed in 2 phases:

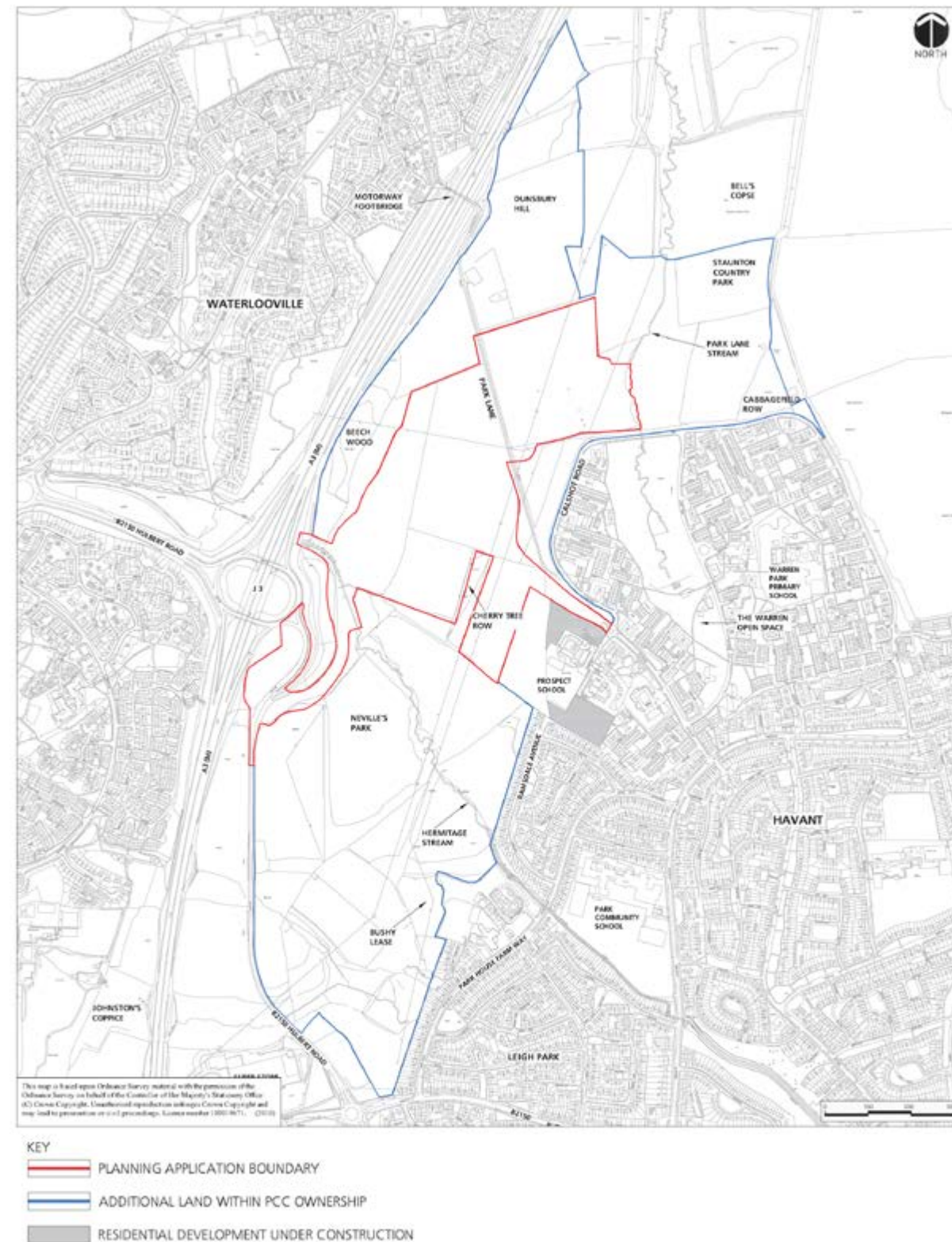
Phase 1 comprising :

- Employment uses totalling 46,450 m² (Mix of B1, B2 and B8) including an enterprise centre. (outline)
- Hotel and conference Centre 5,574 m² (outline)
- A new east west link road (detailed)
- Retention of existing trees and hedgerows (outline)
- 130-150 m wide landscape buffer to A3M boundary and infrastructure planting to the site (outline)

Phase 2 comprising :

15,329 m² B1, B2 & B8 floorspace (outline)

The proposed development encompasses transport infrastructure, consisting of a new access junction to connect the Site to the A3 (M) via Hulbert Road, a bus gate to connect the site to Leigh Park through a bus-only access point, a link road to define a primary circulation route through the Site and a dedicated transport link to maintain and improve circulation to and around the Site. The existing Park Lane bridleway which crosses the Dunsbury Hill Farm site will be maintained and improved.



Outline Planning Application Site Boundary for Dunsbury Hill Farm

1

This Reserved Matters application is for the development of Plot 2, located south of the access link road. Construction on the link road commenced in June 2015, with completion likely in early 2016. PCC is in advanced negotiations with the prospective occupier of the Plot 2 development, and subject to planning permission, work will commence in early 2016.

This D&A Statement follows guidance first issued by CABE in 2006 :

- The D&A Statement is a short report accompanying and supporting (a reserved matters) application to illustrate the process that has led to the development proposal.
- The D&A Statement will help to ensure that the development proposals are based on a thoughtful design process and a sustainable approach to access.
- D&A Statements enable the local development control authorities to better understand the analysis which has underpinned the design and how it has led to the development of the scheme.
- D&A Statements allow other stakeholders to involve themselves more effectively in the planning process without having to interpret plans and documents which can be technical and confusing.

2

Dunsbury Hill Farm 2.0 Plot 2 Development Brief

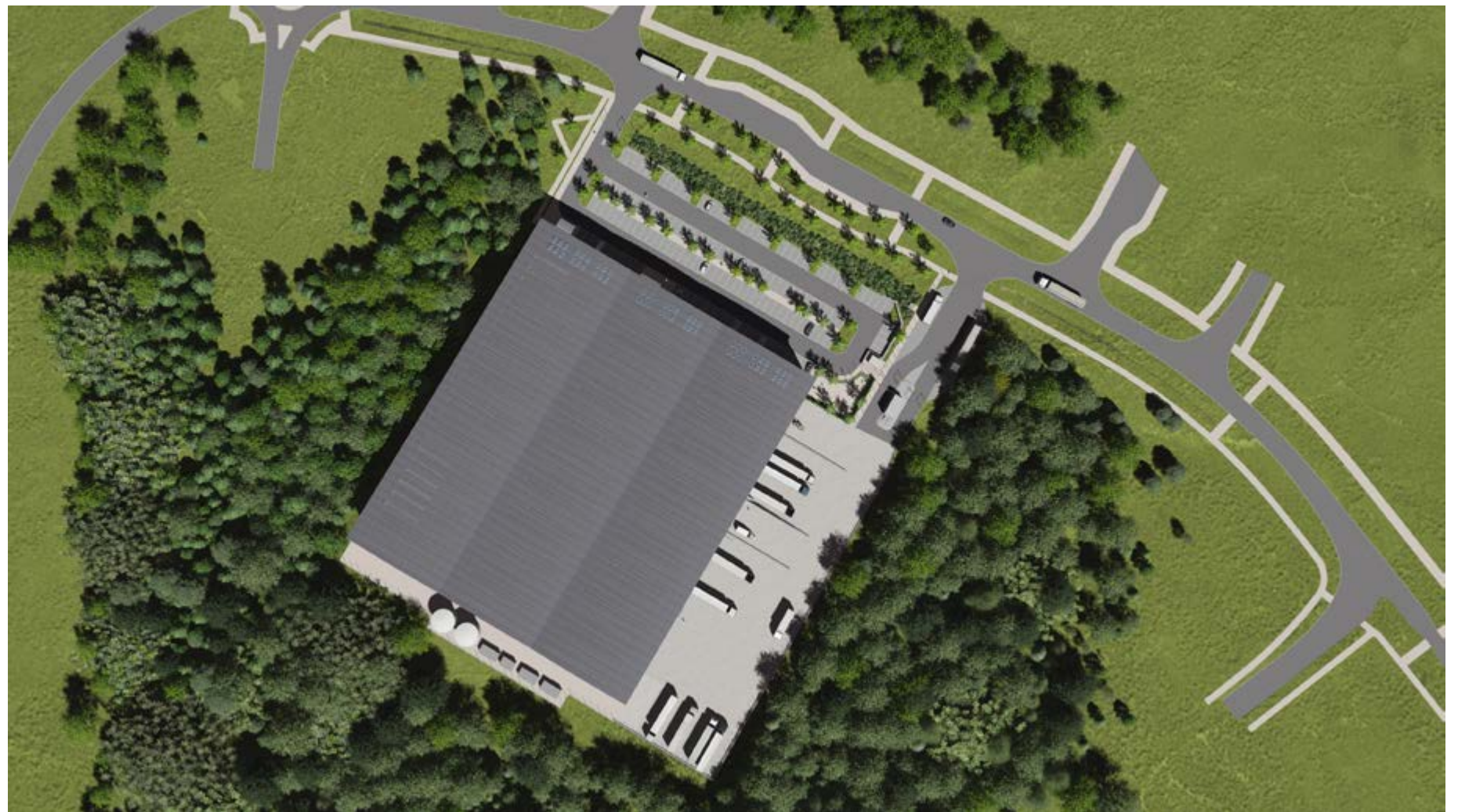
Under the recent Section 73 Application APP/15/00732, the proportion of B8 floorspace permitted at Dunsbury Hill Farm was increased from 12,356 sq. m as approved under the original hybrid permission to 18,534 sq m, an increase from 20% to 30% of the total site floorspace.

The proposed B8 Warehouse, associated offices and mezzanine accommodation will provide a total of 194,144 sq ft (18,037 sq m) to be constructed in 2 phases.

Phase 1 comprises 74,347 sq ft (6,907 sq m) of warehouse at ground level, ancillary office area of 5,524 sq ft (513 sq m) provided at first floor, 5,524 sq ft (513 sq m) at second floor level and 5,524 sq ft (513 sq m) at third floor and an external gatehouse of 192 sq ft (18 sq m). Mezzanine areas at first, second and third floor levels will provide a total floor area of 63,473 sq ft (5897 sq m).

Phase 2 comprises 36,849 sq ft (3,423 sq m) of warehouse at ground level, 2,710 sq ft (252 sq m) of ancillary office area at first floor providing a total of 39,559 sq ft (3,675 sq m).

Externally staff and visitor car parking accommodating 140 spaces, 10 no. of which are for disabled car users, secure cycle parking for 30 cycles, and a secure staff amenity area and soft landscaping will be delivered as part of Phase 1. A segregated lorry access serves a secure delivery and dispatch area, 35 m wide running the length of the building with 10 dock levellers, 3 level-access loading doors and parking for 8 lorries also within the Phase 1 works.



Aerial View of B8 Development



Plot 2 Dunsbury Hill Farm

3.0 Site and Context

3.1 Regional

3.2 Local

3.3 The Site

3.4 Key Landscape and Townscape Features

3.5 Transport

3.6 Public Rights of Way

3.7 Ecology

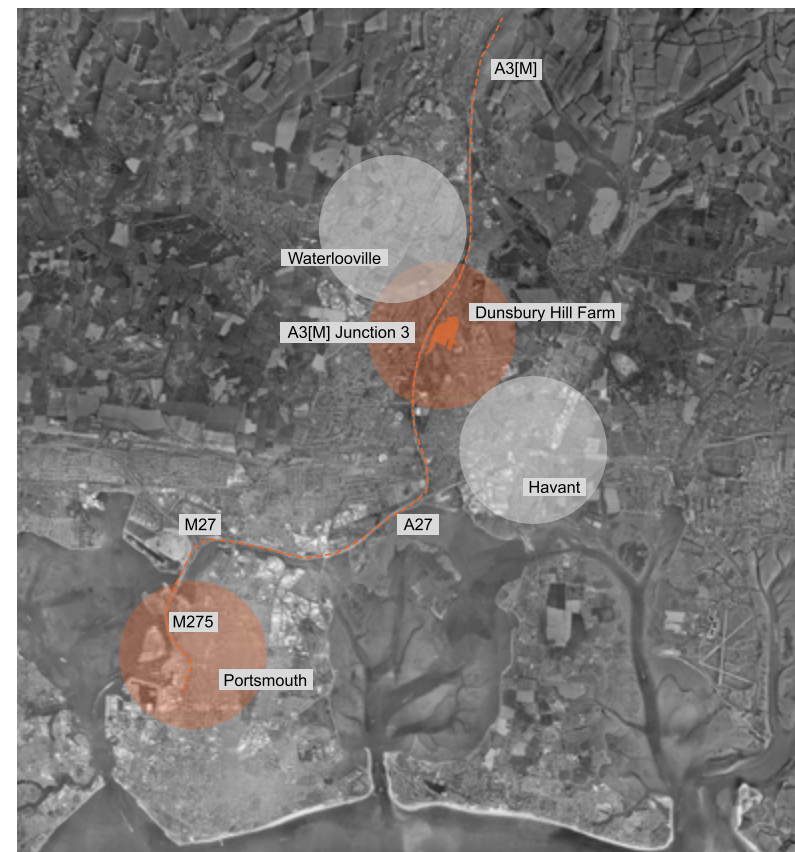
3.8 Flood Risk

3

3.1 Regional

The regional context comprises a mix of urban settlements and agricultural landscape with large areas of woodland and heathland across flat or gently sloping topography. The South Downs National Park is located to the north and the Chichester Harbour Area of Outstanding Natural Beauty to the south. The site is not visible from or forms part of either of these areas.

The closest city centre is Portsmouth on the coast to the south and Havant and Waterlooville provide the main urban settlements nearby. The main infrastructure runs north to south with the A3(M) connecting Portsmouth to London and the northern England via the M25 and motorway network. The M27 motorway and A27 run east-west to the south of the site.



Regional Context

3.2 Local

The local landscape is dominated by the A3 (M) road corridor with the large settlements of Waterlooville running along the western border and Leigh Park approximately 600m to the east. The A3 (M) road corridor is cut into the landscape and is further concealed by mature and densely planted embankments restricting any distant views of the road or out to the local area.

At Junction 3 of the A3(M) there are some local views from the elevated roundabout. The borders of Waterlooville are relatively contained and not visible due to the mature embankment vegetation along the A3 (M). The western side of Leigh park is topographically lower and the borders are wooded restricting any views.

Housing to Leigh Park is predominantly two and three storey public housing stock typical of the 1960's era.

Hermitage stream runs from north to south, emerging on the Dunsbury Hill Farm site from a culvert running east-west under the A3 (M) and continues in a south easterly direction through Leigh Park and further south eventually meeting Storehouse Lake to the south of the A27.



Local Context

3

3.3 The Site

The Dunsbury Hill Farm Site gently rises from 20m AOD in the south to approximately 45m AOD in the north. It falls away to the south west towards the A3 (M) embankment. An exposed high point coincides along the Park Lane Bridleway 123. Land to the east, adjacent to Calshot Road and prospect School is open and lies about 15m AOD.

Principle built features include the western settlement edge of Leigh Park, large pylons with overhead cables running north to south across the Site. The A3 (M), although not directly visible can be heard and becomes visibly and audibly more prominent at the raised roundabout at Junction 3.

To the south of the site are dense areas of ancient woodland. The northern part of the site is more open and woodland within the site connects with the field boundaries. The site is predominantly arable fields enclosed by mature hedgerows and wooded copses.

Hermitage Stream runs along the eastern border of the site and continues around to the south of the site following a wooded corridor under Junction 3 of the A3 (M). The arboriculturist's report details the conditions of the trees close to the Plot 2 and the proposed link road and an assessment of the existing vegetation and prominent trees within the wider master plan area.

The higher ground to the north of the site affords medium distant views to the south along the A3 (M) corridor. There are some views from the properties at the corner of Calshot Road that openly overlook the centre and the north part of the wider Dunsbury Hill Farm site.

Park Lane and adjoining designated and informal footpaths are popular with local walkers and cyclists and Park Lane connects across the A3 (M) to Waterloooville.



3D Terrain Model of Site

Site Photos



3.4 Key Landscape and Townscape Features

- Urban : Waterloooville and Leigh park are reasonably well screened from the Site by mature vegetation. The environmental value of the urban areas can be described as 'Medium'.
- Woodland : the environmental quality of the surrounding woodland can be described as 'High or Medium'. The watercourse of Hermitage Stream is concealed by woodland cover with access to the woodland limited to unmaintained informal routes.
- A3 (M) Corridor has steep embankments with mature vegetation which can be described as 'Low or Medium' environmental value.
- Sloping Arable Land: The fields are key to the strategic gap and they are generally well maintained and can be assigned an environmental value of 'Medium or High'.
- Undulating mixed grassland or woodland: to the south of the Dunsbury Hill Farm site area represents a natural amenity and has an environmental value of 'High or Medium'
- Hermitage Stream: flows through a series of wooded copses to the south of the site.

3.5 Transport

A new link road has been approved and is currently being constructed linking the site to the B2150 Hulbert Road at Junction 3 of the A3 (M). The road is programmed for completion by Spring 2016.

The B1250 Hulbert Road links the A3 (M) London Road in Waterloooville to the B2149 Bedhampton Road in Bedhampton, adjacent to Havant. Adjacent to the site the B2150 Hulbert Road is a single carriageway road with one lane in each direction with no footways or cycle routes along its length. The roads in Leigh Park are generally single carriageway with one lane in each direction.

The roundabout at the junction with Calshot Road and Woolston Road will provide a spur for the future bus access to Dunsbury Hill Farm to the east by means of a bus gate. There is an existing network of bus services with some stops located 400m from the site providing routes to Havant town centre and Portsmouth Harbour.

Havant and Bedhampton railway stations are located approximately 2.5km from the site.

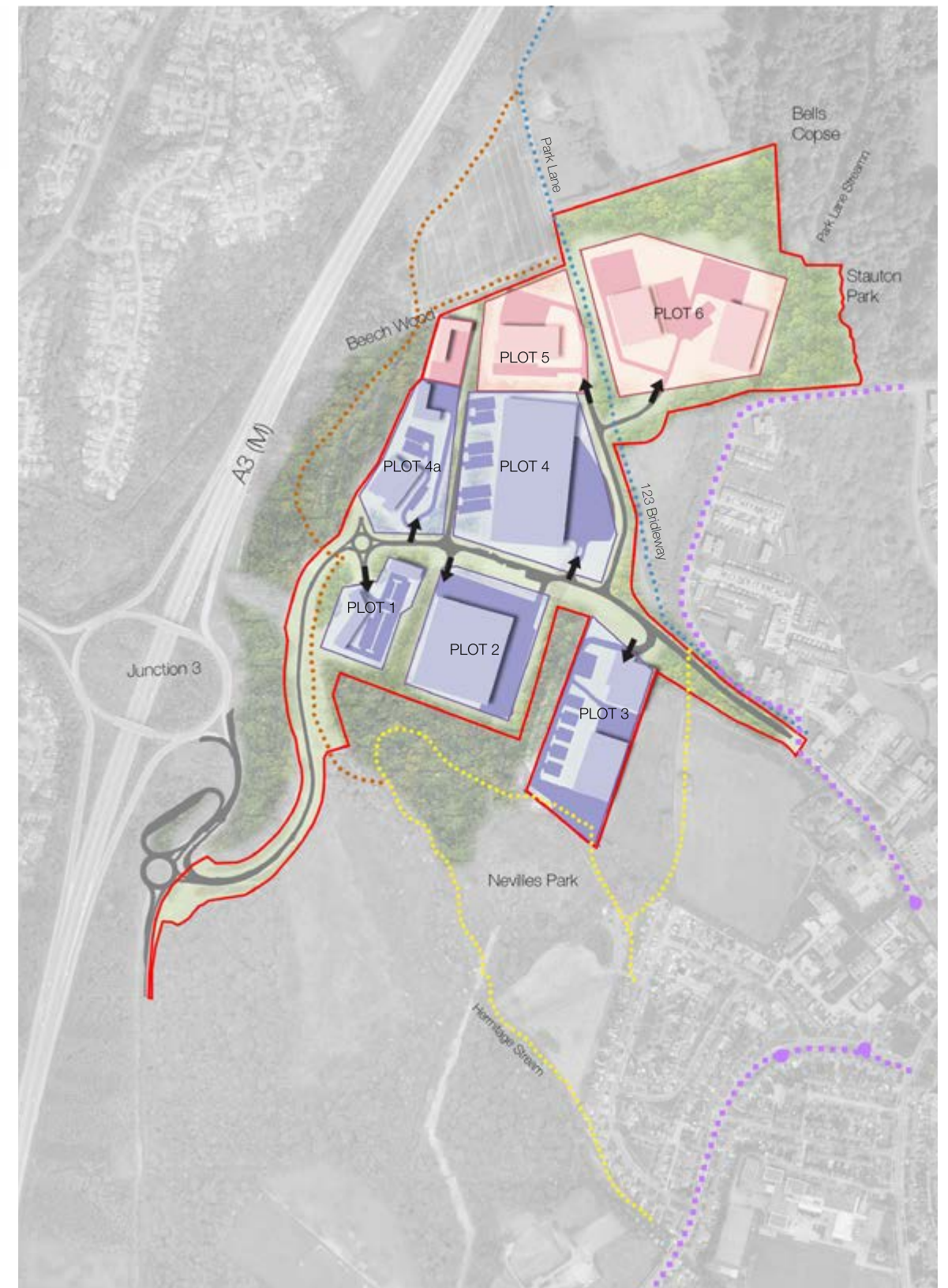
3.6 Public Rights of Way

A bridleway (Park Lane) crosses the site connecting Leigh Park across the A3 (M) to the north. A cycle way links the west of the A3 (M) to Middle Park Way via the elevated Junction 3 of the A3 (M). An off road cycle route southbound from Woolston Road links Middle Park Lane via the Hermitage Stream path to Havant town centre.

A network of footpaths to the south of the site connects to the Park Lane bridleway. The shared cycle /footway along the proposed link road will link into the existing network via Park Lane.

KEY

- Existing Pedestrian/ Cycle Routes
- Park Lane/ 123 Bridleway
- Possible Trim Trail/ Leisure Route
- Bus Routes



Local Transportation Infrastructure

3.7 Ecology

The design team have worked with the Ecologist to develop a design proposal which retains as much of the ecological value of the site as possible. A detailed study of the existing ecology and wildlife across the wider Dunsbury Hill Farm site identified a number of protected species, which are subject to specific planning conditions attached to APP/12/00338. Licences have been obtained from Natural England to carry out agreed works to deliver the access link road. A further Ecology Report accompanies this reserved matters application outlining the ongoing wider site survey work and specific impacts of development on Plot 2.

The design for Plot 2 sees the existing hedgerow and scrub running east-west on the northern boundary being replaced with a new hedgerow of species more suited to the ecological characteristics of the site.

The landscape at perimeter of the site will be retained and supplemented with indigenous planting to create an ecological buffer zone at ground level between the new build zone and the surrounding ancient woodland. For further details of the proposals please refer to the aforementioned Ecology Report accompanying this statement.

3.8 Flood Risk

A site wide flood risk assessment forms part of the outline planning consent. The development will satisfy the requirements of the NPPF and accompanying Technical Guidance note on the flood risk.

The surface water drainage and attenuation measures for this site are explained in more detail within section 9.1 of this report.



Dormouse *



Bat



Adder *



Plot 2 Dunsbury Hill Farm

4. 0 Design Response

4.1 Site Layout

4.2 Landscape Design

4.3 Access and Parking

4.4 Existing Vegetation

4.5 Planting

4.6 Hard Landscape Materials/ Street Furniture

4.7 Fencing and Boundary Treatment

4

Plot 2 occupies 2.672 ha (6.6 acres) of the proposed Dunsbury Hill Farm development. The plot is prominently located upon arrival to Dunsbury Hill Farm situated on the southern edge of the development with direct frontage facing on to the proposed new access road linking Hulbert Road with Calshot Road. A new bus stop / lay by will be located immediately outside the curtilage of the site.

4.1 Site Layout

The site is arranged with the building frontage and entrance located parallel with the estate access road set back from the curtilage by a soft landscape zone with car parking arranged in rows to the front of the building. Two vehicular access points are located one on either side of the site. The western access will be for cars and pedestrians. The second easterly access will be a dedicated lorry access.

The front of the site is terraced down from the estate road and provides 140 parking spaces, including 10 disabled parking spaces adjacent to the main entrance for staff and visitors. Access to the car park is via automated barrier, controlled from reception. Lorry access to the goods yard is controlled by barrier from a gatehouse located on the north east corner of the site. To avoid lorries backing up on the main estate road, stacking for four lorries is provided between the gatehouse and the main estate road boundary.

In line with the design code for the overall Dunsbury Hill development the front of the site will remain unfenced, while the service yard and remainder of the site south of the building line is secured by a 2.7m high colour coated metal Paladin security fence with two pairs of swing gates for lorry access and egress, together with a pedestrian access gate. A similar boundary treatment will be used to enclose the Phase 2 area prior to construction.

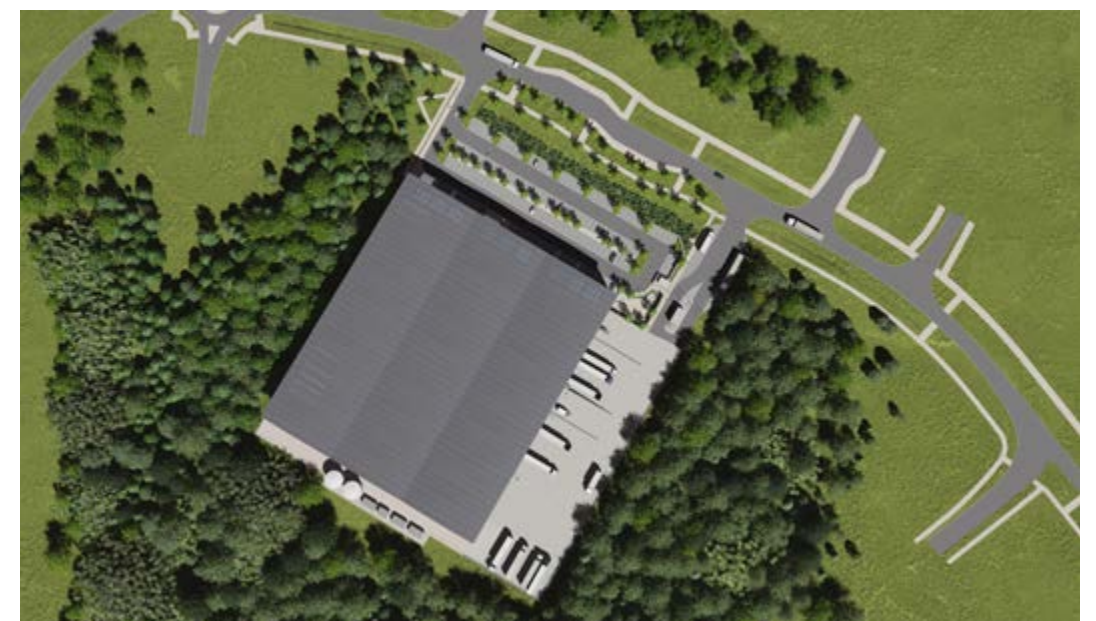
A small Staff Amenity area, fenced off and secured from the car park is proposed adjacent to the northeast corner of the building.

A service yard, 35m deep runs the length of the building on the eastern side of the site. Access and egress to the service yard is barrier controlled from a gatehouse on arrival at the yard.

10 dock levellers and 3 level access loading doors are arranged along the eastern elevation linking the warehouse and service yard. Parking for a further eight lorries is provided at the southern end of the service yard together with a turning circle to enable vehicles to manoeuvre and exit the yard in a forward direction. Two sprinkler tanks, each 11m diameter and 6 m in height together with oil storage and generator and pump set for emergency uninterrupted power are located behind the warehouse on the southern boundary of the site.

The finished ground floor level of the building has been set at +24m AOD. This level has been arrived at to enable lorry access from the estate road to and from the service yard to be no greater than a 1:15 gradient.

The proposed car park and landscape to the front of the building has been terraced to suit ground level changes and minimise retaining walls. Where necessary, retaining walls will be formed with rock-filled gabion cages.



4.2 Landscape Design: General Site Arrangement

The proposed warehouse building is sited in the centre of the plot, with staff parking to the north and the delivery yard to the east. The area for Phase 2 development runs down the western side of the site.

There is almost a 7m drop from the north of the site down to the south, which gives a 1 in 25 gradient. Due to the existing gradients, the site will be re-graded to create a level plateau for the building. To accommodate the re-grading, retaining walls will be required around the boundaries of the site, predominantly to the south.

A staff outdoor recreation space will be created on the north eastern corner of the building. This will be fenced and hedge planting will screen the space from the adjacent car park and service yard. Space will be provided for seating, with shade and shelter provided by additional tree planting. An activity zone will be developed for the staff and the final design is to be developed at a later stage.



Landscape Plan

4

4.3 Access and Parking

The proposed access road will link Hulbert Road to Woolston Road and is currently under construction with completion due in Spring 2016. Two access positions will be created, through the northern boundary of the warehouse plot, off the link road.

The western access road will lead into the staff and visitor car park, whilst the eastern access road will be for deliveries and collections, including waste. There will be 140 car parking spaces, including 10 accessible bays. This is below the maximum standard for the proposed level of B8 floorspace identified in adopted Havant Borough Council policy, however is in line with the use generated provisions as advocated in the NPPF which post-dates the aforementioned adopted policy.

A bus stop on the proposed link road, is located adjacent to the northern boundary. A pedestrian footpath link will be provided adjacent to the car park access road. A secondary footpath route will be provided adjacent to the delivery access.

Secure cycle parking for 30 cycles will be provided to the west of the building entrance, in the main car park. To accommodate the cycles within the available space, a two tier storage system will be used.

4.4 Existing Vegetation

Layout of the plot aims to optimise the available development area while minimising the impact on the surrounding ancient woodland. The hedgerow at the Northern boundary will be removed together with minimal areas of existing native shrubs at the South of the site which will be cut back to allow the construction of the embankments and retaining walls to support the plateau for the new building. The embankments will then be planted with a mix of native trees and shrubs to complement the existing woodland species. The retaining walls will be screened with additional native tree and shrub planting.

4.5 Planting

Site planting will be designed to complement the link road planting in line with the approved site-wide landscape strategy and respect the semi-rural location of the site. Species will be predominately native to reflect the retained vegetation and further enhance the biodiversity of the site. The hedgerow removed at the front of the site will be replaced in this manner.

The staff and visitor car park is located adjacent to the northern elevation of the building. Planting between and at the end of the bays and along the outer row of cars will soften this space.

Tree planting will be used to highlight the main entrance from the car park. Further tree planting in the staff outdoor recreation space will provide shade and shelter.

Beech hedging will be used to screen the staff recreation space from the car park and the delivery roadway.

4.6 Hard Landscape Materials and Street Furniture

The proposed materials will be selected to compliment the building and the semi-rural location. A restricted palette of materials will be used to provide a unified appearance across the site and blend with the whole development.

For the approaches to buildings and staff areas, a smooth tumbled concrete sett will be used to highlight these more important areas. Tarmac will be common material for footpaths and building maintenance routes.

The car park will be partly porous tarmac to help reduce the storm water run-off, with the access road and the western section of the car park in standard macadam. In-situ concrete will be used for the delivery yard to provide a robust and durable finish.

In line with the Design Code for Dunsbury Hill Farm, street furniture will be a mixture of timber and steel in a contemporary style. Depending on the location, the retaining walls will be clad in timber or have screen planting in front.

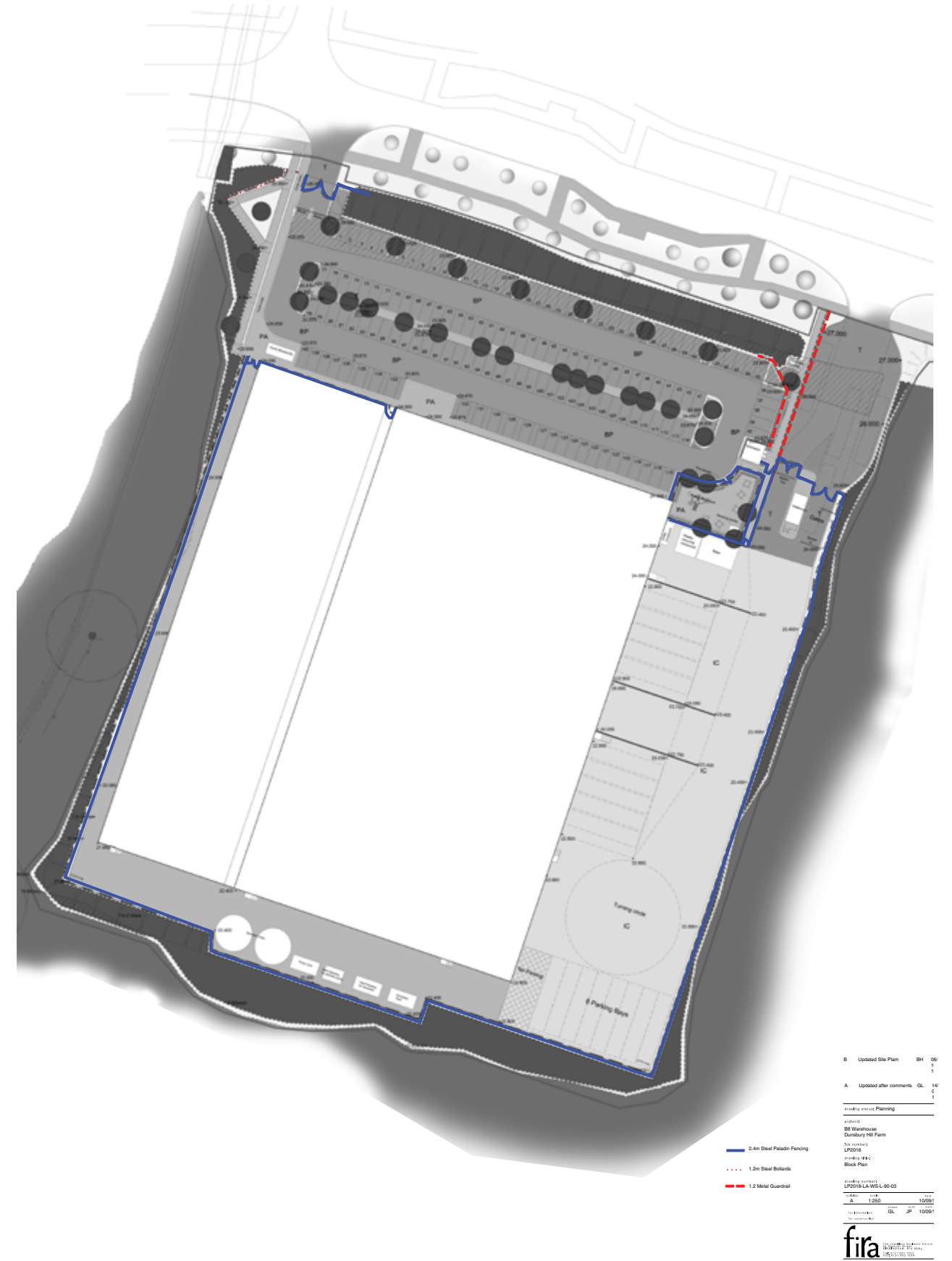


4

4.7 Fencing and Boundary Treatment

The site will be secured with a 2.7m high steel paladin type security fence to meet Secure by Design Standards. In more sensitive location the fencing will be screened with hedge planting.

Automatic barriers will be used on the access to the car park and service delivery roadway, the latter being controlled from within the Gate House at the northern end of the service yard.



Security Line Strategy



Plot 2 Dunsbury Hill Farm

5.0 Building Form

5.1 Massing

5.2 Levels

5.3 Structural Dimensions

5

5.1 Massing

The building has been designed to reflect its function as a modern logistics, distribution and storage facility with flexible ancillary office space located at the front of the scheme.

Phase 1 comprises two equal bays with a third identical bay providing future expansion space side of the Phase 1. The site for Phase 2 will be left cleared, levelled and finished in granular finish with the area secured with a 2.7m colour coated steel Paladin fence to match other fencing within the site.

When fully complete the proposed building will form three equal bays, each approximately 30m wide, and 114 m long arranged to run north–south direction. Each bay has a minimum clear height to underside of structure of 15.0 m from ground FFL and each has a curved roof profile with eaves at 16.5 m with an overall height of 18m to the apex of the roof.

5.2 Levels

The building has been grounded at +24m AOD as a result of careful consideration of a number of competing factors. These include :

- Safe lorry access from the new estate access road and in service area

Lorry access has been modelled using computer software to ensure the largest permitted vehicles can access the site and service area from the link road at an acceptable gradient, providing access to and from the loading docks and load and unload in a safe manner. The access link road sits at a significantly higher level than this plot, with the plot further sloping away to a degree of 7 metres height difference from front to back.

- Provide inclusive access for pedestrians of all abilities. Segregation between pedestrians and vehicles is provided from arrival at the site to entrance.
- Impact of height and mass of the building on surrounding development.

The level of the floor slab enables the building eaves line to be set at +40.5m AOD. The curved profile of the roof avoids a constant roof line when viewed from a distance. The surrounding mature woodland canopy ensures there is no loss of visual amenity from surrounding development, or indeed from wider views to the south and east.

The parameter plan accompanying the hybrid permission (APP/12/00338) proposed a building height of 4 storeys on this plot, with a +40.0m AOD roofline. Whilst the apex of the curved roof sits at +42m AOD, the building is 4 storeys in height and provides a standard commercial warehouse internal clearance of 15 metres. The plot location surrounded on three sides by mature landscaping at a similar height to the building, in some cases higher, ensures there will be no material change to the visual impact assessed as part of the EIA accompanying the hybrid permission.

- Optimise cut and fill on site to reduce environmental impact of bulk removal from site.

Through careful analysis of the level difference across the site from north to south, it was evident a ground floor level of +24.0m AOD also allowed the designers to optimise the cut and fill balance reducing the amount of bulk material to be moved on site while enabling existing levels at the perimeter of the site to be maintained, thereby reducing the negative impact on the exiting surrounding ecology.

- Coordinate surface water storm drainage to existing infrastructure.

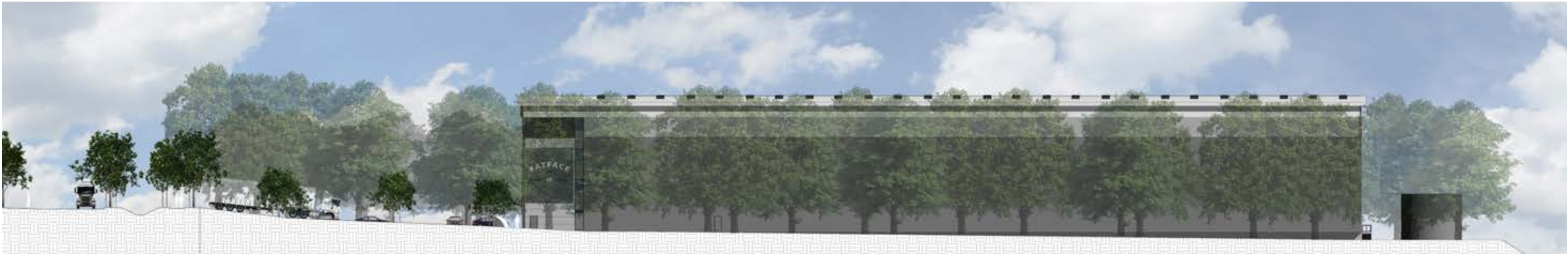
The levels of external hard standing have been carefully considered to enable the retention of storm water on site in order to regulate the flow so as to reduce the environmental impact on local water courses during periods of heavy rainfall. (Refer to Drainage Strategy section of the report for details of storm water retention proposals)



Contextual Elevation - North



Contextual Elevation - South



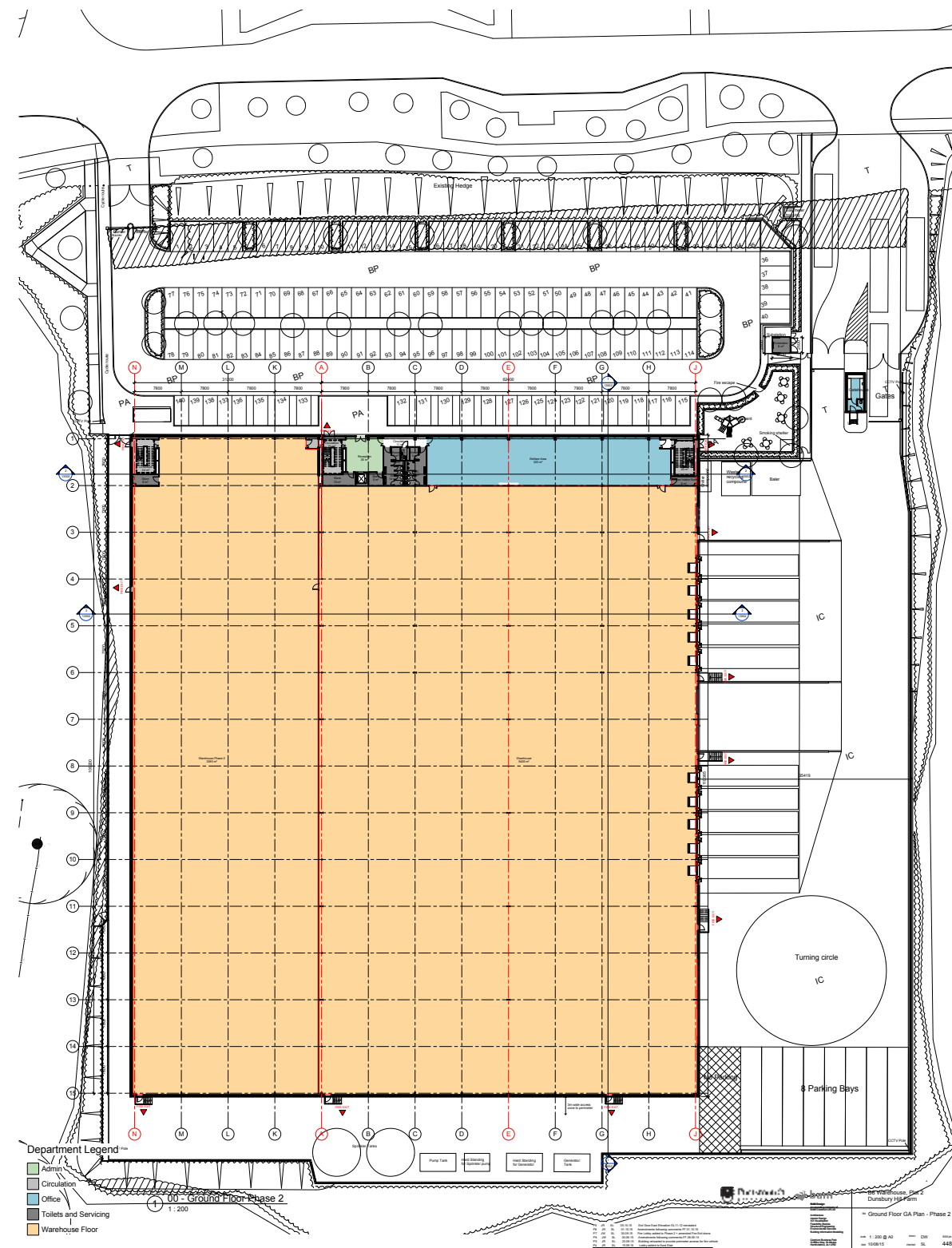
Contextual Elevation - West

5.3 Structural Dimensions

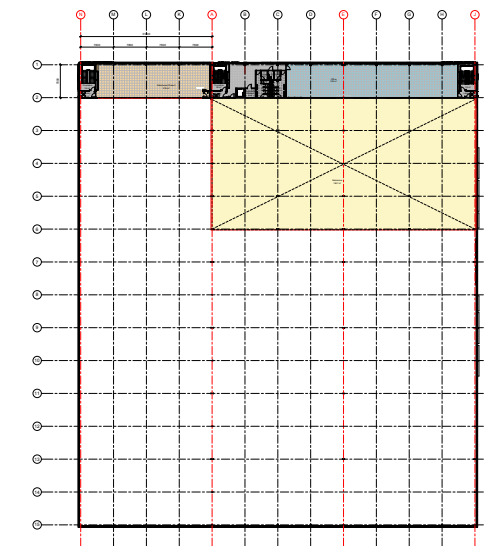
The building is arranged on a 7.8m x 7.8m structuring grid with offices and staff amenity space running along the northern elevation at first and ground floor respectively.

The main entrance is prominently located at the North West corner of Phase 1 and provides stair and lift access to the first floor offices 4.60 m above ground FFL and two further upper floors at 8.5m and 12.5m above ground FFL respectively.

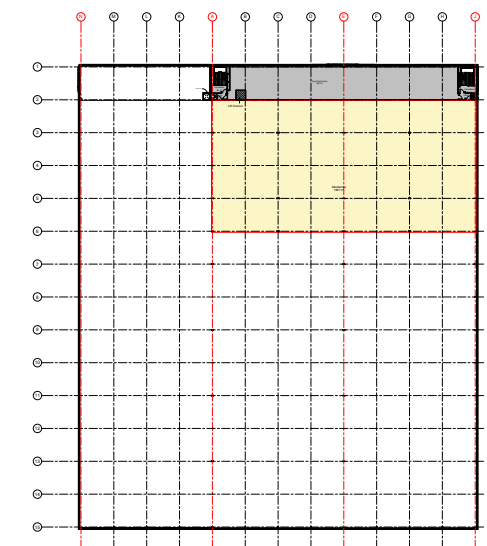
Three steel mezzanine structures will run the entire width of the Phase 1 building from Grid Line 2 to Grid Line 6 at each floor level. Each mezzanine level will be served by a four pallet goods lift. The remainder of the warehouse will be a single volume high bay structure with a row of central columns at 15.6 m centres and will be fitted out with high bay racking.



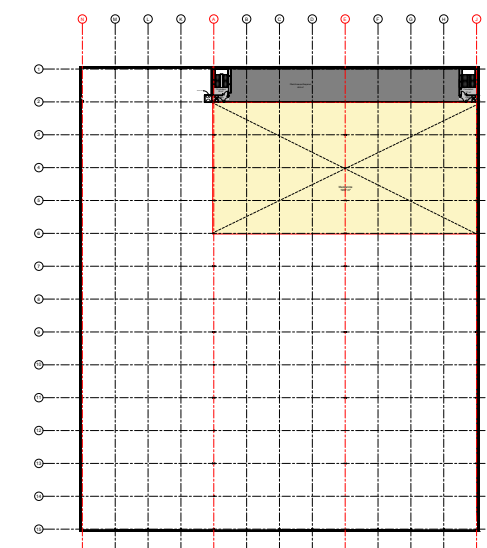
Ground Floor Plan



First Floor Plan



Second Floor Plan



Third Floor Plan



Plot 2 Dunsbury Hill

6.0 Building Appearance

6.1 Elevations and Materials

6.2 Clean Rooflines

6

6.1 Elevations and Materials

The building materials have been selected to portray a crisp contemporary architectural aesthetic that reflects the function of the buildings through the use of a limited palette of high quality, low maintenance materials. The front elevation uses modular curtain walling to reflect the overall structural grid, while the vertical mass of the scheme has been carefully broken down by grouping windows together as larger elements to help reduce the apparent visual scale.

Locations for branding have been designed integrally into the cladding treatment on the front of the building and side elevations of the offices where they are visually prominent on approach to the site via the main estate access road.

The main reception/ staircase is clad in glazed curtain walling and the main entrance is announced by a feature glass canopy with a branding opportunity inside the curtain walling glazing above. The elevation to the front of the building reflects the office use using flat metal cladding panels with integral curtain wall glazing to the first and second floors.

Dark coloured louvres run the entire width of the front elevation and return 7.8m around the east and west side elevations from third floor FFL to eaves level to conceal grilles serving air handling plant at third floor. The segment of front elevation, above the louvres the area defined by the eaves line and the curved apex will be clad in light coloured flat panel.

The main warehouse accommodation is clad in horizontal curved metal profile cladding in a combination of silver and grey hues with feature contrast coloured highlights to loading doors. Low level retaining structures below ground level and the surrounds to the dock levellers will be fair-faced pre-cast concrete.

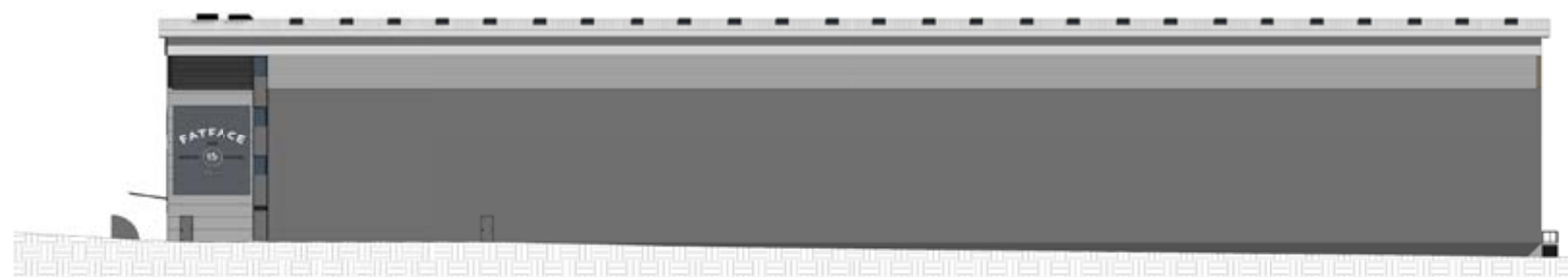
Brightly coloured loading doors punctuate the grey elevations to the service yard elevation.



Phase 1 / Phase 2 North Elevations



East Elevations



West Elevations

6

6.2 Clean Rooflines

The roof line and eaves treatment of developments involving large high bay structures require careful attention especially in rural locations. In order to soften the visual appearance the proposed roof structure is expressed as a series of curved bays running front to back clad in standing seam aluminium with well distributed polycarbonate triple-skin roof lights. The roofs have clean lines and are kept free of externally mounted plant.

At eaves level, the gutter and supporting steelwork have been designed and sized to accommodate future expansion through the construction of a third identical bay on the western side of the site.





Plot 2 Dunsbury Hill Farm

7.0 Sustainable Design

7.1 Design Strategy

7.2 LEAN

7.3 CLEAN

7.4 GREEN

7.5 BREEAM

7

7.1 Design Strategy

The following statement sets out the sustainable design strategy for the proposed warehouse to be constructed on the Dunsbury Hill Farm site, Havant. The strategy will highlight the “Lean”, “Clean”, and “Green” measures that will be adopted to achieve Building Regulations compliance; and to follow the general principles of the site wide strategy for sustainability and energy reduction. Our approach to providing an energy efficient building has enabled the development of a solution, which will achieve an EPC rating of A.

For the proposed warehouse building we have mapped out our sustainable design strategy for the design of the building form, fabric and the environmental services to ensure we are providing a well-considered sustainable design solution that aims to maximise the energy efficiency of the building and thus reduces both carbon dioxide emissions and the energy demand and ultimately operating/running costs.

The strategy can be summarised be :

- Be Lean (use less energy)
- Be Clean (supply energy efficiently)
- Be Green (consider renewable energy)

7.2 LEAN

We have adopted a ‘fabric first’ approach to maximise energy and CO2 savings using passive design measures. This includes the following;

- High performance U-values for the walls, roof, floors and glazing
 - o Walls 0.20W/m²K
 - o Roof 0.15W/m²K
 - o Windows 1.60W/m²K
 - o Ground Floor 0.15W/m²K
- High air tightness value of 3m³/h/m² @50Pa
- Glazing g value of 0.4 to limit solar gain

High air tightness and U-values reduces energy lost from the building fabric, especially in winter, and gives a subsequent reduction in CO2 emissions.

There are a number of physical site constraints that limit the ability to optimise the orientation of the building with respect to energy consumption so focus has been on the internal planning of the spaces to maximise energy efficiency. All the occupied areas are concentrated to one end of the building, with WCs stacking vertically, to ensure that environmental systems (heating, cooling, lighting etc.) can be designed in zones. This allows efficient control of the environmental systems.

7

7.3 CLEAN

Further to the 'lean' measures outlined above we have developed the building design based upon a 'clean' design principle. This ensures that we minimise the use of energy in the building, and what energy we do use it is used efficiently and minimising waste.

The following lean design measures have been targeted;

- Natural ventilation – Where possible areas will be naturally ventilated to minimise energy consumption without compromising occupant comfort.
- Heat recovery on mechanical ventilation – Where mechanical ventilation is required, heat recovery on the extract air will be used to pre-heat supply air. This significantly reduces energy consumption in heating fresh air for occupants.
- High efficiency LED lighting systems
- High efficiency condensing gas boilers and radiant heating systems to reception, circulation and warehouse areas
- High efficiency heat pump heating and cooling to office and staff areas – High COP (coefficient of performance) refrigerant based heat pumps used to provide heating and cooling via fan coil units.
- Inverter driven fans and pumps – inverters provide speed control of fans and pumps to ensure no energy is wasted in over provision of heating and ventilation. Controls will be linked to occupancy to maximise efficiency.

7.4 GREEN

The third and last design strategy in the design hierarchy is to implement renewable or low carbon technologies, where appropriate, to improve the sustainable credentials of the building further.

Whilst the 'lean' and 'clean' measures outlined above would provide the necessary improvements in energy efficiency to meet the relevant requirements of the Building Regulations (Part L2A), it is unlikely that an EPC rating of A would be achieved without the implementation of renewable or Low carbon technology. As such a number of technologies have been appraised, with the summary table below outlining the most appropriate for this building.

Based on initial thermal modelling an EPC rating of A is achievable with approximately 50m² of PV panels mounted on the roof of the building.

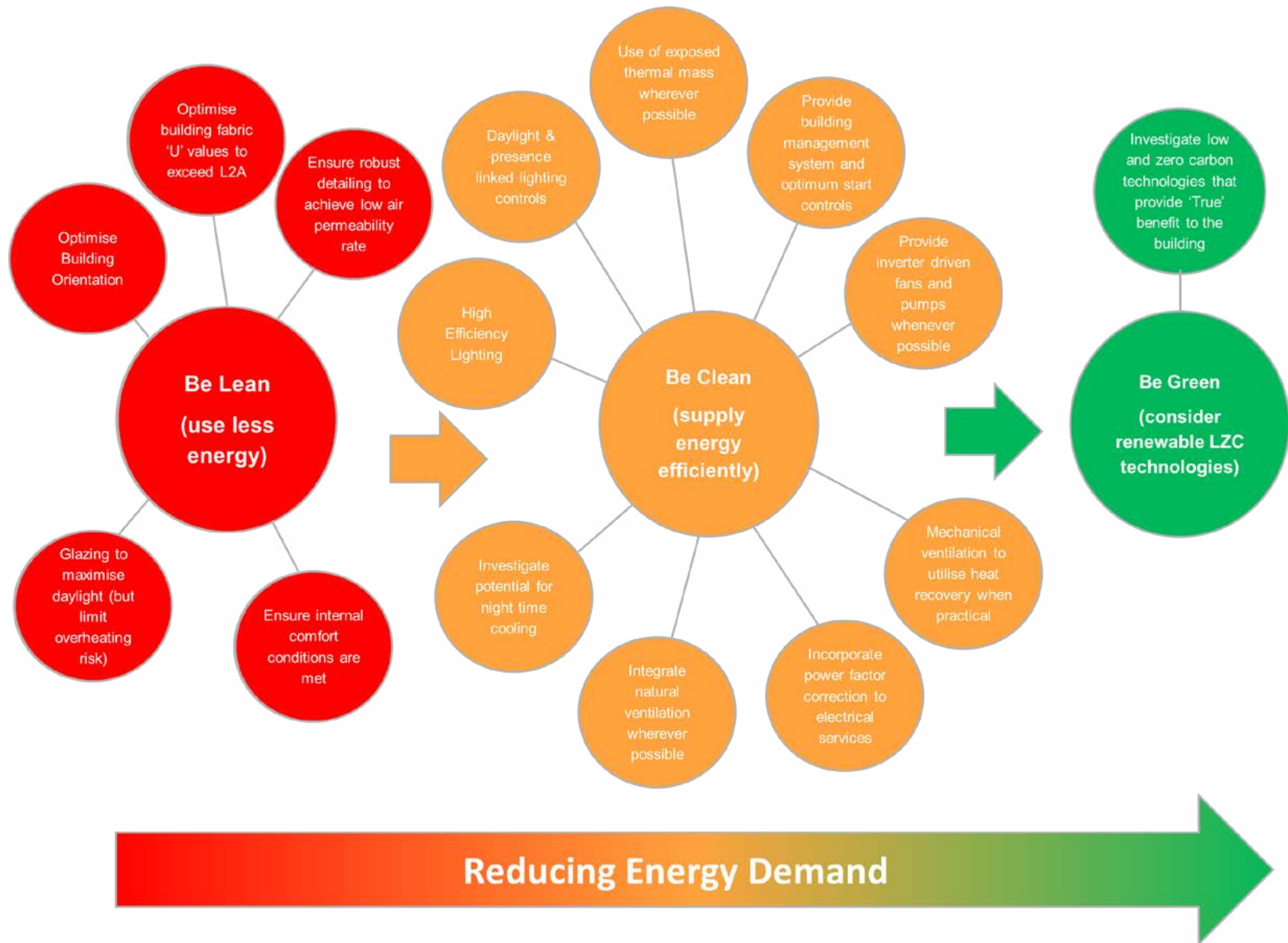
7.5 BREEAM

In addition to the sustainable design strategy the building is also subject to a requirement to try and achieve a BREEAM "Excellent" rating defined in Condition B5 (d) of permission APP/12/00338. A pre-assessment has been undertaken and demonstrates that a "Very Good" rating is achievable.

The BREEAM pre-assessment report appended to this D&A Statement illustrates why it will not be viable for a B8 warehouse building on a greenfield site in this location to achieve BREEAM "Excellent".

The following summary explains where the credits cannot be achieved:

- **Health and Well-being:** Hea 02 Indoor air quality - Credits for natural air ventilation and intake/ extract separation are not available for this project.
- **Transport:** Tra 01 Public transport accessibility - Site specific credits in relation to public transport not achievable. Tra 02 Proximity to amenities - Site specific credit with no readily available amenities.
- **Waste:** Wst 02 Recycled aggregates - Not achievable due to nature of construction and material content. Wst 05 Adaptation to climate change - New onerous which are ill-defined.
- **Land use and Ecology:** LE 01 Site Selection - Credits not achievable due to greenfield site and no requirement for contamination remediation.
- **Pollution:** Pol 01 Impacts of Refrigerants - Specialist coolants required which are not industry standard. Pol 03 - Surface Water Run-off - Credit not available due to ground conditions.



Technology	Capital Cost	Functionality/ suitability	Reliability	Maintenance Requirements	CO ₂ Saving	Overall Rating
Ground coupled air system	Medium – dependant on excavation costs	High – can pre-heat and pre-cool fresh air thus reduces energy demand – limits on summer cooling capacity due to ground temperature	Medium – minimal moving parts, but high level of workmanship required to ensure water tightness	Medium - regular replacement of filtration. Water tightness can be problematic	Medium – potential to reduce winter heating load and to reduce ventilation rates to minimum due to free cooling of air during summer	* No space to implement due to requirements for SUDs drainage and limitations on site area
Ground source systems (water)	Medium to High dependant of drilling & infrastructure costs	High – can provide free cooling during summer and low grade heating (up to 55°C) in winter when used in conjunction with GSHP	High – although subject to suitability of boreholes - open loop can be susceptible to blockages	Low for closed loop systems – Medium for open loop systems and may require specialist maintenance contractor	Medium – dependant on whether used for heating as well as cooling	** Low water temperatures in heating not conducive to warehouse environment
Ground source heat pumps	As ground source water	High – can be utilised to provide low temperature cooling and low grade heating – best suited for underfloor heating and pre-heating of mechanical ventilation systems	Medium – regular inspection in line with F Gas regulations. Proven technology	Low for GSHP and as above for open/closed loop system	Medium – operational efficiency dependant on low heating temperature	** Low water temperatures in heating not conducive to warehouse environment
Biomass	Low – however higher cost than conventional boiler Cost of fuel to be taken into account in life cycle	High – can be utilised to supply 100% of required heating demand	High – dependant on stringent maintenance regime and quality of fuel	High – requires specialist maintenance for boilers and associated fuel delivery system – if poor quality fuel then risk of fault will increase. Large area for bulk storage required coupled with frequent deliveries, especially in winter.	High	** subject to fuel availability (recommend back up gas boiler due to implications with fuel delivery). Negative impact on BREEAM NOx credits
Solar thermal panels	Medium – roof may need structural enhancement due to weight and wind load	Medium – although requires consistent HWS demand	High	Low – requires regular cleaning and annual glycol checks (medium for vacuum tubes)	Medium	* Needs a high, and consistent hot water demand for viability
Photovoltaic panels	Medium	High – with optimum positioning	High	Low	Medium	**** The cost of PVs is continually reducing and with Feed in Tariffs these are now financially viable
Wind turbine	High – potential structural implication for building mounted turbines	Best suited for non-urban location with high average wind speed- high risk of planning refusal for large scale schemes	Low /medium – dependant on wind conditions	Medium - specialist maintenance required	Low – unlikely to provide major savings in isolation (unless high wind speeds)	* Not suitable due to location of surrounding residential areas. Also insufficient space for citing of turbine
Micro -CHP	Medium – initial cost of CHP engine and commissioning	High – provides consistent base load	High	Medium - specialist maintenance required. Regular maintenance schedule	Medium	*** Requires Clean Air Act calculation and flue that may not be desirable wrt planning



Plot 2 Dunsbury Hill Farm

8.0 Drainage

8.1 Flood Risk

8.2 Plot 2 Description

8.3 Summary



A Below Ground Drainage Statement, description and Calculation for the proposals accompanies this statement, a summary of which is as follows :

8.1 Flood Risk

A Flood Risk Assessment has been produced by Atkins Ltd for the complete Dunsbury Hill Farm development. This document was submitted and accepted as part of this original planning application. The document advises that the site is not at risk of flooding from outside sources and will not subject other properties to flooding providing green field run-off discharge rates are adhered to.

It is considered that the original Flood Risk Assessment covers the requirements of plot 2 and a new plot specific Flood Risk Assessment will not be required.

8.2 Plot 2 Description

The plot 2 site is approximately 2.672 hectares in area. The site is currently used for grazing and can be considered to be 100% green field. There are numerous hedges and trees around the perimeter which have various protection orders. Portsmouth City Council Arboriculturalist department have been involved with all aspects of design on this plot and will continue to offer advice for the duration of the project.

8.3 Summary

The site specific Flood Risk Assessment and Atkins site wide drainage report, both require storm water run-off to be restricted to green field run off rates. The remainder of the water generated by rainfall onto hard standing areas is to be attenuated on site until the storm has receded. The attenuation volumes are to be calculated for a 100 year return period storm + 30% for future climate change. Safe egress from all buildings needs to be maintained for this storm event.

The attenuation is to be achieved via a proportion of “on plot” attenuation and a centralised balancing pond. This effectively provides two forms of treatment to the storm water prior to discharge to the Hermitage Stream.

The Plot 2 drainage proposal offers a porous car park SUDs drainage technique which will improve water quality prior to discharge off site.

The remainder of the plot storm drainage discharges to below ground attenuation tanks which have a restricted outfall to the Hermitage stream. This is a temporary measure until the centralised balancing pond is constructed following ecology surveys. Once the pond is completed, the plot 2 outfall will be diverted into this pond.

The Plot 2 storm water drainage design therefore meets with the requirements of the Flood Risk Assessment and the Atkins Drainage Strategy.

Low flow water fittings will be specified to reduce water consumption and foul water discharge volumes.



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Plot 2 Dunsbury Hill Farm

9.0 Secured by Design

The design team have consulted with Hampshire Police Crime Prevention Officer and a full audit of the proposed design to reduce opportunities for criminal activity. These will include:

- The proposed site layout and design of the building has been carefully considered to reduce opportunities for crime and provide passive and active visual surveillance. This has been addressed from first principles in the design process starting with site layout.
- The building has been located on the site to create clearly defined public and private secure zones which are unambiguous and can be readily supervised and enforced.
- The building line when fully complete forms a clearly defined public zone at the front of the site with secure segregated entrances for cars and lorries controlled through electronically operate barriers from the office reception and gate house respectively, and both locations have clear uninterrupted views of the barriers on arrival.



- Landscape to the front of the building uses clear stemmed trees and planting selection will ensure uninterrupted views across the site.
- The service yard and expansion area for Phase 2 are secured from the building edge to the perimeter of the site using 2.7m high steel Paladin fencing.
- Access to and from the delivery service area is controlled from the manned gatehouse with all lorries on arrival and parked up in the service yard clearly visible at all times.
- CCTV cameras have been distributed to ensure all elevations of the building are covered by CCTV which is linked to the main office reception. CCTV will have infra-red cameras to give good facial recognition even in low light conditions.



- External lighting will ensure lux levels are achieved which will provide safe and secure movement of staff around the perimeter of the site, whilst also respecting the ecologically sensitive location adjacent to bat corridors.
- Access to amenity areas is from inside the security line.
- All windows will have high performance hardware and elevations will be free of recesses to deter unauthorised access.
- The perimeter to the warehouse area at low level is constructed from pre-cast concrete panels to withstand impact from vehicles.
- Doors will be located within the building to reduce unauthorised access to and from the warehouse areas.
- The design of ceilings and plumbing will deter unauthorised concealment of goods by staff.



Plot 2 Dunsbury Hill Farm

10.0 Access and Movement

10.1 Audit

10.2 External Access

10.3 Internal Access

10.4 Design for Impairment

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10.1 Audit

The design of the new B8 Warehouse and ancillary offices and grounds will be fully compliant with Part M of the Building Regulations and designed to be fully inclusive to enable the building to be used by employees and visitors of all abilities.

A full access audit will be carried out on the final design stage to ensure compliance is achieved with the Building Control authority.

10.2 External Access

The site layout and design of the external hard and soft landscape areas has been carefully considered to ensure people of all ages and abilities can move safely and securely around the site with step free access provided throughout all internal areas at ground and first floor level.

Approaches to external doors and access into the building will be suitable for wheelchair use and will take into account the age and abilities of all building users.

For ease of access disabled parking is located adjacent to the main entrance which will have automated doors and with controls located beneath the covered entrance canopy to provide shelter prior to entry.

The site is sloped so ramps will be provided at gradients, landings and hand rails which are fully compliant with Part M of the Building Regulations. Where required all external doors will have thresholds which are step-free and level throughout.

It is considered the gatehouse operative will be required to carry out a security guard role which may involve detailed inspection of lorry vehicles which may rule out a person with mobility impairment to carry out the role. As such, an ambulant disabled step access has been considered to be adequate provision for access to the raised gate house level.

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10.3 Internal Access

First floor office areas will be served by a DDA compliant platform passenger lift.

Staircases will be designed to incorporate disabled refuges which will include alarms on upper levels in line with a pre-agreed evacuation strategy.

The reception will incorporate part of the desk at a height appropriate for wheelchair users.

10.4 Design for Impairment

For people with hearing difficulties a hearing loop will be provided at the main reception desk.

For staff and visitors with sight impairment appropriate tactile signage will be provided in the lifts and on lift landings and the selection of colours will provide contrast between walls and floors and at key points such as around door openings and light switches.

The appropriate number and location of accessible toilets, shower and welfare facilities for staff and visitors will be provided. Call alarms in disabled toilets and fire alarm warning light will be provided in toilets.



Plot 2 Dunsbury Hill Farm

11.0 Addendum's

11.1 External Lighting

11.2 Waste Storage

11.3 Acoustic Impact

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11.1 External Lighting

In order to minimise the visual impact from light pollution on neighbouring properties on Leigh Park and on bat roosts in the surrounding mature woodland the external lighting design will follow the recommendations published by the Institute of lighting engineers (ILE), limiting emission of upward light to ensure the majority of useful light is directed downwards and to control undesirable spillage in other directions.

External lighting will be installed to serve the main entrance and emergency exits and perimeter escape routes. Lighting levels will be adequate to deter unauthorised access at ground level around the perimeter of the building.

Service yard lighting luminaires will be mounted both on the building and on columns along the perimeter, directed downwards to achieve a general lighting level of 20 lux and 50 lux in vehicle turning and loading areas for safe movement of vehicles and warehouse operatives in accordance with BS EN 12464-2.

Car park lighting will be provided mainly by column mounted luminaires although building mounted luminaires will be utilised wherever practical. Self-illuminated branding will be located internally behind the glazing above the entrance canopy. In addition graphic signage will be used at branding locations on the front side elevations as indicated on the elevation drawings.

11.2 Waste Storage

A fully considered waste storage and recycling strategy will be prepared by the building occupiers prior to occupation of the building.

11.3 Acoustic Impact

An ambient acoustic noise survey has been carried out on the site by Peter Brett Associates and is included within this application.

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Plot 2 Dunsbury Hill Farm

12.0 Summary

The proposed B8 development of Plot 2 has been considered holistically within the wider Dunsbury Hill Farm development. The site benefits from mature woodland boundaries which provide a clearly defined setting and as well as a dense visual screen to three sides.

The plot is visually prominent from the new estate access road, while the south-sloping topography supports the requirement for a high bay warehouse by grounding the building approximately 3.0m below the road level adjacent to the site.

Structural planting to the access road along the northern boundary together with the supplementary planting between the car parking and the northern boundary of the site provides a visual foil to the site when viewed from the wider site locations to the north of the application site. The elegant curved roof profile also divides the mass into three equal bays, reducing the visual impact of the mass in its natural surroundings.

The car parking and public realm at the front of the building has been carefully considered using a mixture of tarmacadam and small unit paviers to provide a high quality robust environment which is softened through the use of soft landscape, gabion retaining walls and timber and steel street furniture and coordinated signage.

The visual impact of the service yard and lorry movements has been reduced by concealing it behind the staff amenity area providing a fully integrated design for the security gatehouse which complements the architecture of the main building.

Existing landscape features have been retained and supplemented to reinforce the natural setting. The site is left deliberately open and inviting to the front with effective security at the building line.

The use of well detailed, high performing materials with good U-values and long life expectancy will ensure a sustainable solution for the future. Careful consideration of structural frame will enable flexible use of the site in the future.

Efficient plant and low energy highly efficient lighting and flexible controls will ensure energy use remains low.



Plot 2 Dunsbury Hill Farm

13.0 Appendices

Appendix:

1.0: Drawings

2.0: BREEAM Pre-assessment



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