



Proposed B2 Industrial Development

Plot 4A Dunsbury Park
Design and Access Statement



Applicant
Portsmouth City Council
Civic Offices
Guildhall Square
Portsmouth PO1 2AY
Contact David Ball: david.ball@portsmouthcc.gov.uk

Planning Consultant
Savills
2, Charlotte Place,
Southampton SO14 0TB
Contact ; James Brewer: james.brewer@savills.com

Architects
BAM Design
Centrium, Griffiths Way, St Albans
Herts AL1 2RD
Contact Jeff Carter : jcarter@bam.co.uk

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Plot 4A Dunsbury Park

Design and Access Statement

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Plot 4A Dunsbury Park

1.0 Introduction

This Design and Access statement accompanies the Reserved Matters Application for Plot 4A at Dunsbury Park, Havant for a proposed B2 Commercial unit, ancillary offices, car parking with hard and soft landscape works. The site, which was former 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 Savills. Reference should also be made to the documents supporting the outline planning permission in relation to this application.

Dunsbury Park 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 section 73 Hybrid Planning Application ref no. APP/17/01234. The proposals granted permission in December 2018 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)

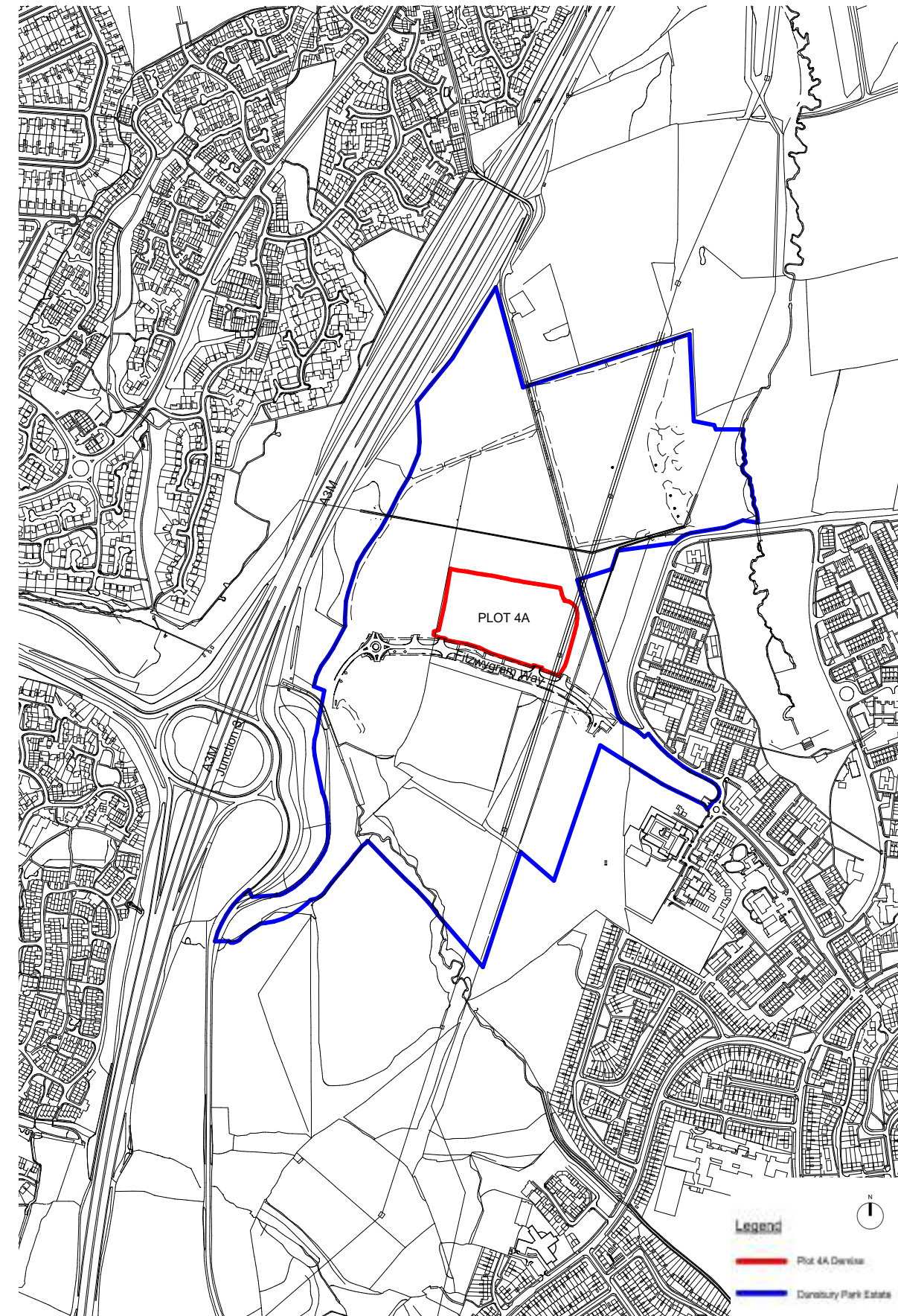
Phase 2 comprising:

- 15,329 m² B1, B2 & B8 floor space (outline)

The 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.

This Reserved Matters application is for the development of Plot 4A, located north of the access link road. The link road was completed in 2016 and is called Fitzwygram Way.

The proposed development of Plot 4A follows completion and occupation of 80,000 sq ft B8 warehouse and ancillary office development on Plot 2 for clothes retailer FatFace, 10,000 sq ft motor vehicle sales and servicing centre on plot 3A for Breeze VW and a 38,000 sq ft B8 warehouse on plot 3B, now occupied by DPD.



Site Boundary

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Plot 4A Dunsbury Park 2.0 Plot 4A DEVELOPMENT BRIEF



Site Plan Plot 4A

Phase 1 Plot 4A Unit 5 comprises 125,056 sq. ft. (11,617sq. m) including: storage, manufacturing and ancillary space at ground floor level of 109,082 sq.ft. (101,330sq. m); office space of 7,987 sq. ft. (742 sq. m) provided at first floor; and fallow office space of 7,987 sq. ft. (742 sq. m) provided at second floor level.

Externally staff and visitor car parking accommodating 230 spaces, 13 no. of which are for disabled car users and 14 no. designated for electric charging , as well as secure cycle parking. A segregated lorry access serves a secure delivery area, with 2 level-access loading doors.

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Plot 4A Dunsbury Park

3.0 Site and Context

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 northern England via the M25 and motorway network. The M27 motorway and A27 run east-west to the south of the site.

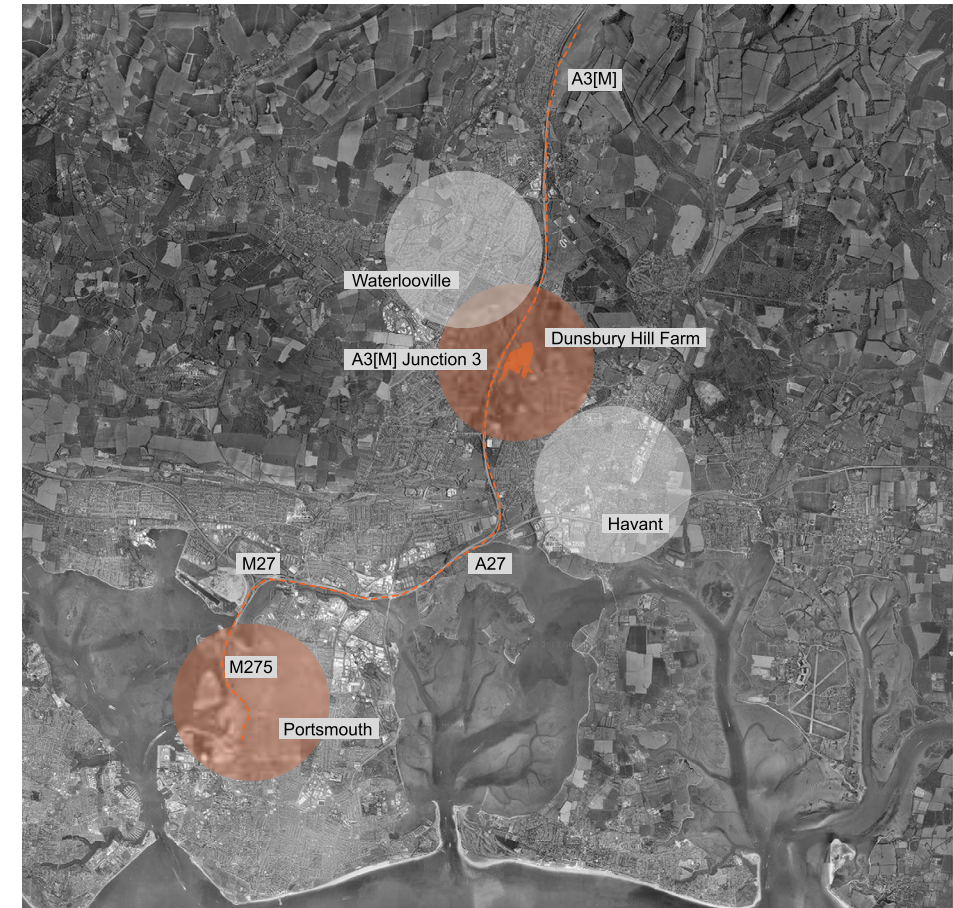
3.2 Local

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 Park 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.



Regional Context



Local Context

3.3 The Site

The Dunsbury Park 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 was arable fields and has recently been remodelled to create a number of level development plots in accordance with the overall Outline Planning consent for the site.

Hermitage Stream runs along the western 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 higher ground to the north of the site affords medium distant views to the south along the A 3 (M) corridor. There are some limited views from the properties at the corner of Calshot Road that overlook the access road (Fitzwygram Way) and the north part of the wider Dunsbury Park 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 Waterlooville.



3D Terrain Model of Site

Construction of the link road (Fitzwygram Way) connecting Hulbert Road / the A3(M) with Leigh Park was completed in 2016. The first development as part of the outline masterplan on plot 2, a Warehouse to the west of the site was completed in 2017. Further buildings were completed on Plot 3 in 2018 & 2019.

The location, height of the proposed building and access road has taken account of statutory clearances from the sub terrain services and overhead powerlines. Also all working methodologies in close proximity to underground services, have been agreed beforehand with the appropriate authorities.

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.
- Undulating mixed grassland or woodland: to the south of the Dunsbury Park 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

Fitzwygram Way connects Dunsbury Park to the B2150 Hulbert Road at Junction 3 of the A3 (M).

The B1250 Hulbert Road links the A3 (M) London Road in Waterlooville 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.

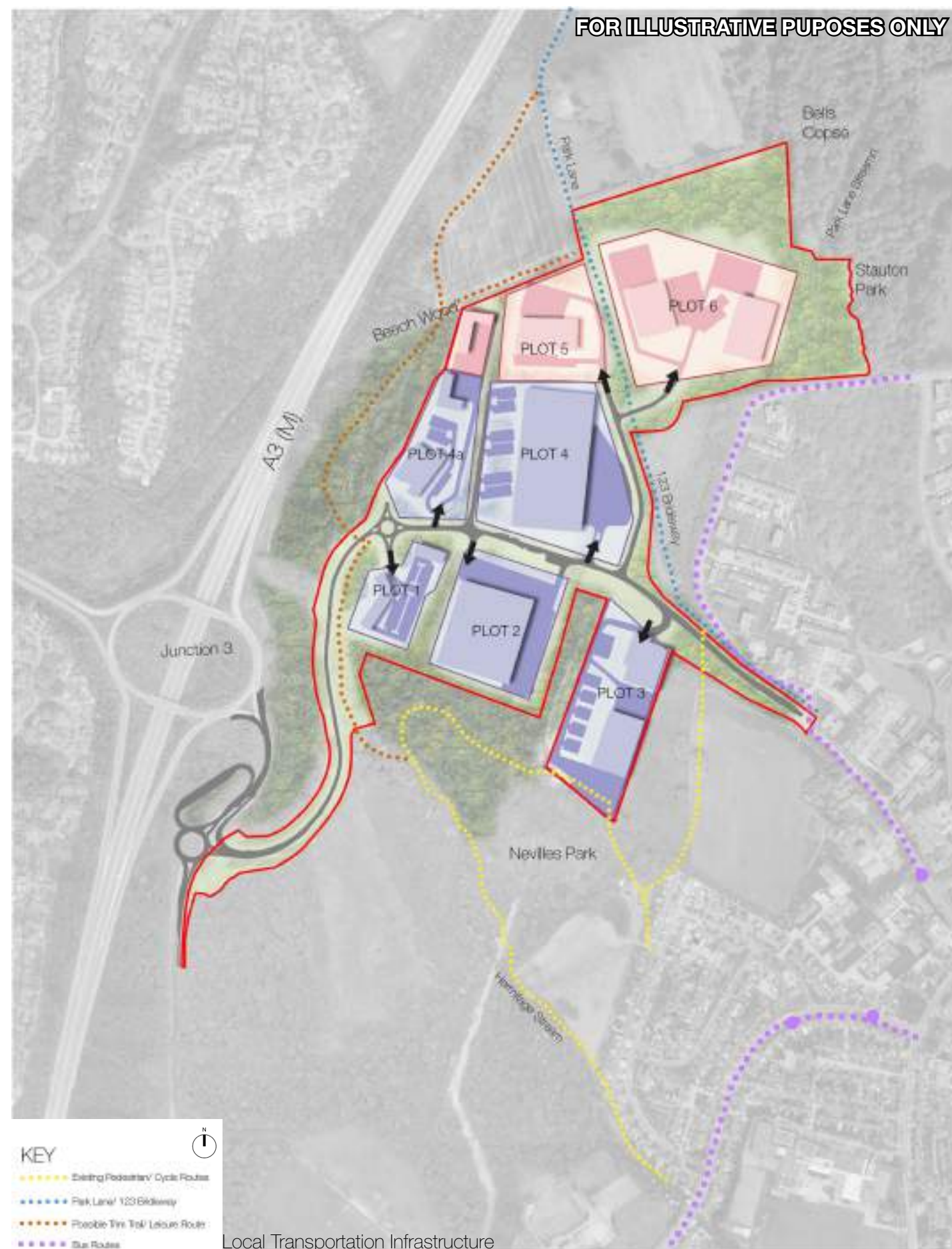
The roundabout at the junction with Calshot Road and Woolston Road will provide a spur for the future bus access to Dunsbury Park to the east by means of a bus gate. There is an existing network of bus services with some stops located 400m from the site providing routes to Havant town centre and Portsmouth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



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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 Park site identified a number of protected species, which are subject to specific planning conditions attached to APP/17/01324. Licences have been obtained from Natural England to carry out agreed works to deliver the access link road. A further Ecology Report will be submitted against conditions A17 & A18 of APP/17/01324 outlining the ongoing wider site survey work and specific impacts of development on Plot 4.

The design for Plot 4A retains the existing hedgerow running north-south on the western and eastern boundary adjacent to the new access road.

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 Ecology Report accompanying this statement.

3.8 Flood Risk

A site wide flood risk assessment formed part of the outline planning consent and a site wide drainage strategy was approved in 2015. The development will satisfy the requirements of the NPPF and accompanying Technical Guidance note on the flood risk as well as adhering to the site wide drainage strategy for Dunsbury Park.

The surface water drainage and attenuation measures for this site are explained in more detail within section 8.2 of this report.

3.9 Site Drainage

A new surface water drain will connect the site to the Hermitage Stream via the recently installed retention ponds to the south of the site. Run off from car parking areas will be via SUDS.



Dormouse *



Bat



Adder *

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Plot 4A Dunsbury Park

4.0 Design Response

Plot 4A occupies a site 2.230 ha (5.51 acres) and is prominently located upon arrival to Dunsbury Park situated in the centre of the development fronting onto Fitzwygram Way linking Hulbert Road with Calshot Road. A bus stop / lay by is located immediately outside the curtilage of the site.

The building design principles and plot layout have been developed in line with the guidance within the 'Dunsbury Hill Farm – Design Code' report. Movement through the site and how the landscaping responds to both the ecology and sustainability requirements has been developed in line with the reports guidance.

4.1 Site Layout

Plot 4A has been plateaued to a general level of (+30.000 AOD) as part of the on-going enabling works package and occupies a frontage to the north of the main estate road of approximately 200m which defines the southern boundary of the site. To the north a further B2 / B8 development plot has been plateaued approximately 4m higher than this application site. The western edge of the site is enclosed by an historic hedgerow and drainage ditch which is protected due to its ecological significance to the surrounding wildlife. The eastern side is defined by a new eastern access road running north south to the east of Park lane bridle way which forms the eastern extent of the Dunsbury Park development.

The site is arranged with the 13.5m high building frontage running 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 and sides of the building. Two storey glazed offices with the main entrance occupying the prominent south east corner of the site provides a visual focus to the development on arrival to the site via a new access road from Fitzwygram Way.

There is also a dedicated commercial vehicle access point located on eastern side of the building from the new estate road to provide segregated access to the site. On the southern side of the building will be two separate access roads for cars, each with electronic access control. On the same side of the building there will be a separate access for pedestrians.



Landscape Masterplan

The southern curtilage to the front of the site is terraced down to the estate road and provides 230 parking spaces, including 13 disabled spaces along the main building frontage and to each side of the site. The main staff and visitors car park is on the eastern side of the building with over-spill parking to the west and south.

In line with the design code for the overall Dunsbury Park development the front of the site will remain unfenced, while the service yard is secured by a 2.4m high galvanised palisade fence with a pair of swing gates for lorry access and egress. The development includes 2 level access loading doors arranged along the eastern elevation within the service yard. Lorries are able to access the service yard utilising a 25m turning circle to enable vehicles to manoeuvre and exit the yard in a

forward direction. Access is also provided for fire brigade access along the northern boundary of the site.

The finished ground floor level of the building has been set at +30.000m 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 southern and western boundaries have been terraced to suit ground level changes and include retaining walls.

4.2 Landscape Design: General Site Arrangement

The proposed manufacturing building is sited in the centre of the plot, with car parking to the south, east and west boundaries. A separate delivery yard is located on the eastern boundary with access from the new estate road.

4.3 Access and Parking

Fitzwygram Way connects Dunsbury Park to the B2150 Hulbert Road at Junction 3 of the A3 (M). A new main vehicle access will be created off Fitzwygram Way, through the southern boundary of the plot, with service access off the new estate road on the east.

The southern site access road will lead into the staff and visitor car park, whilst the eastern access road will be for commercial deliveries and collections, including waste. There will be 230 car parking spaces, including 13 accessible bays. This is below the maximum standard for the proposed level of B2 floor space 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. Please see the parking statement accompanying this application for more information.

A future bus stop location on Fitzwygram Way is located adjacent to the southern boundary of Plot 4A. A pedestrian footpath link / compliant accessible ramp has been provided at the front of the site to link the bus stop / perimeter footpath to the entrance of the building.

Secure cycle parking for 30 cycles will be provided to the west of the building entrance.



South East view



South West view

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4.4 Existing Vegetation

The layout of the plot has been planned to retain the existing vegetation wherever possible. The remainder of the hedgerow will be protected

Layout of the plot aims to optimise the available development area while minimising the impact on the surrounding ancient woodland.

4.5 Planting

The planting will be predominantly native species to match the recent developments on the opposite side of the access road. The existing trees on the access road are a mix of *Carpinus betulus* and *Quercus robur*.

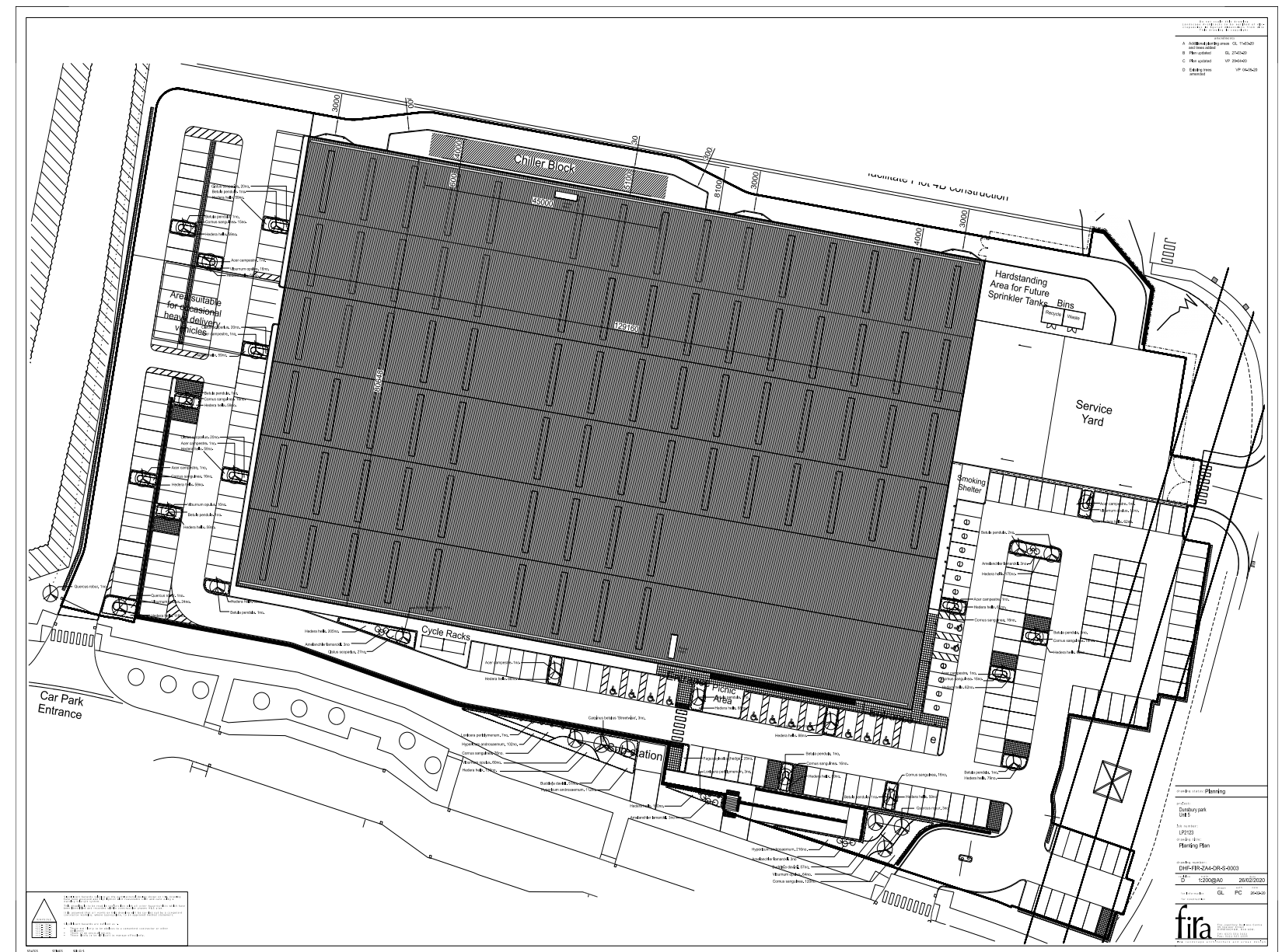
These species will be used in the tree planting to the front of the site. Through the car park, medium sized trees, such as *Betula pendula* and *Acer campestre* will be used to break up the space at a rate of planted area every 6-7 parking spaces as advocated by the Havary Borough Council Landscape Team on other plots within Dunsbury Park.

All the trees will be 20-25cm girth standard, with a clear stem up to 2.1m, to provide clear sightlines across the car park.

The shrub planting will include *Cornus sanguinea*, *Hedera helix*, *Viburnum opulus* and *Lonicera periclymenum*. Underplanting with wild daffodil, *Narcissus pseudonarcissus* will provide extra interest in the late winter.

The existing wildflower grass margin to the existing hedge will be retained. A close mown grass margin will provide a neat edge to the car park.

Areas under the overhead electricity cables will also be close mown grass, with bulb planting,



Planting Layout

4.6 Hard Landscape Materials and Street Furniture

The proposed materials are 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.

Where local plot levels permit storm water will enter the drainage system via porous car parking bays. Porous surfaces capture silts and improve water quality before it enters the piped drainage network. Access roads around the plot will be 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 Park, street furniture will be a mixture of timber and steel in a contemporary style as a natural response to the rural site.

It is proposed to use tarmac for the access roads around the building. Lightly textured silver grey slab paving will be used adjacent to the building by the main entrances and on the steps to the public footpath.

Dark grey tactile paving slabs will be used at the road crossing and on the steps. The service yard will be constructed from reinforced in-situ concrete.



Marshall's 'Conservation' textured flag paving slabs in 'Silver Grey'. For use around building and at main entrance



Anchor Vertica retaining anchor wall system in 'Basalt' colour. For use at the front of the site



Cycle shelter for staff and visitors

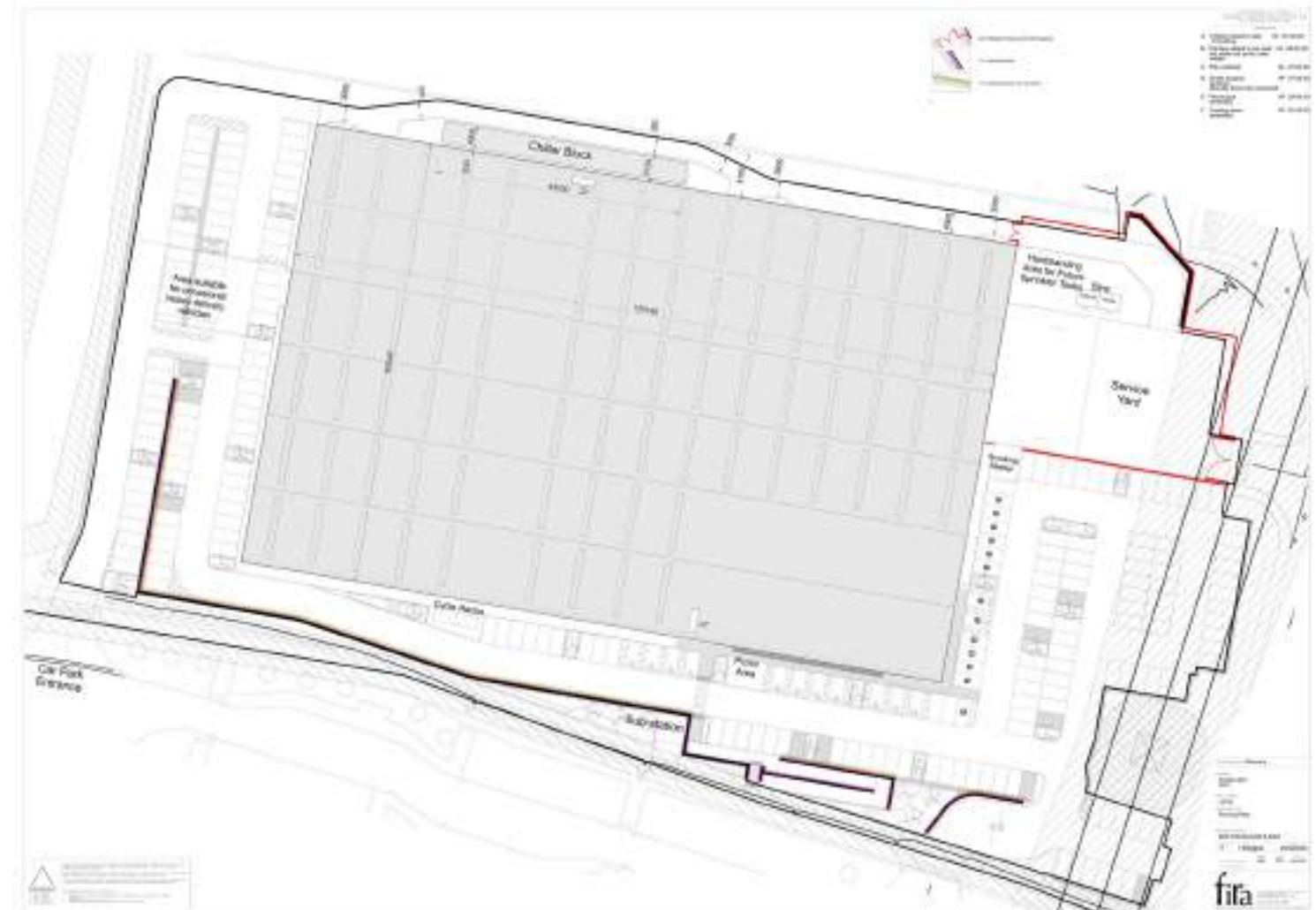
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4.7 Fencing and Boundary Treatment

The service yard will be secured with 2.4m high galvanised palisade fence. Matching double gates will provide access into the service yard.

A second set of double gates will be positioned on the north east corner of the building. This will provide access to the maintenance route along the northern elevation of the building.

The retaining walls will be fitted with 1.1m balustrade. Any retaining wall adjacent to the access roads and car parking bays will be fitted with crash barriers.



Fencing Layout

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Plot 4A Dunsbury Park

5.0 Building Form

5.1 Massing

The building has been designed to reflect its function as a modern manufacturing facility with flexible ancillary office space and located in the centre of the development.

Phase 1 Plot 4A Unit 5 comprises of three equal portal bays, each spanning approximately 24m x 128m long running east-west direction.

Each bay has a minimum clear height to underside of structure of 12.000 m from FFL with an overall height of 15.800m to the top of the of roof parapet. This provides an overall building size of 81,500m wide x 128,500m long x 15,800mm high.

Similarly the office element will be constructed and completed with welfare facilities at ground floor level with first floor offices, however the second floor will be left as a shell for future expansion

5.2 Levels

The building has been grounded at +30.000m AOD as a result of careful consideration of a number of competing factors. These include:

- The plot is located in the centre of the development with hedgerow and bridleway on two sides, Fitzwygram Way to the south and plot 5 to the north.
- Lorry access has been modelled using autotrack 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 bays and load and unload in a safe manner.
- Provide inclusive access for pedestrians of all abilities. Segregation between pedestrians and vehicles is provided from arrival at the site to entrance.
- The impact of the building height and mass on the surrounding development for plot 4A follows the Dunsbury Park Design Code with a building form up to 3 storey's.
- A building FFL has been set at +30.000 AOD with a roof line of +45.000 AOD in line with the approved parameter plan accompanying the hybrid permission (APP/17/01324).



South East Axonometric view

- Optimise cut and fill on site to reduce environmental impact of bulk removal from site.
- Coordinate surface water storm drainage to existing infrastructure.

5.3 Structural Dimensions

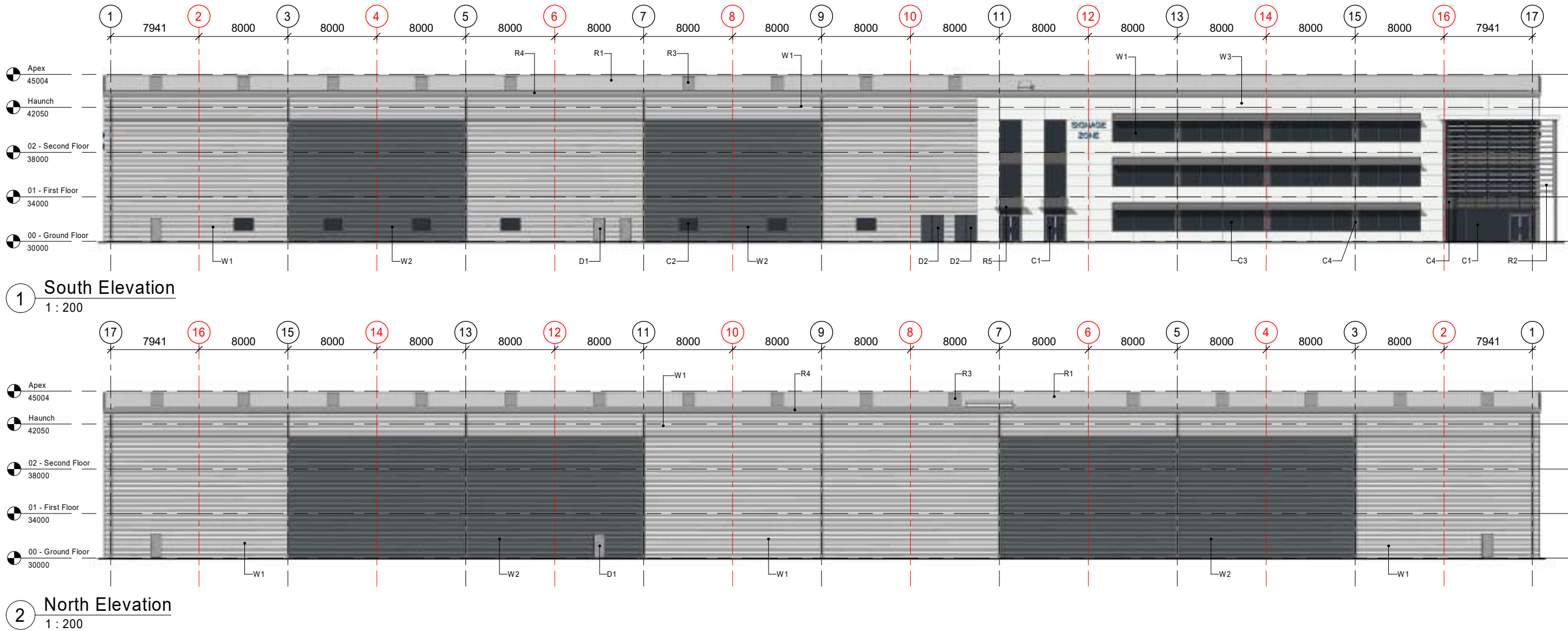
The building is arranged generally on an 8.m x 26.4m structural grid. The building is designed as a portal structure with 3 sets of 26.4m wide portals every 8m along the length of the building (note that the end grid dims are slightly shorter at 7.8m).

Offices and staff amenity space is located to the south east corner of the floor plan where the main entrance is located. At this point stair and lift access is provided to the first floor and second floor offices 4.60 m and 8.5m above ground FFL respectively.

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Plot 4A Dunsbury Park

6.0 Building Appearance



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.

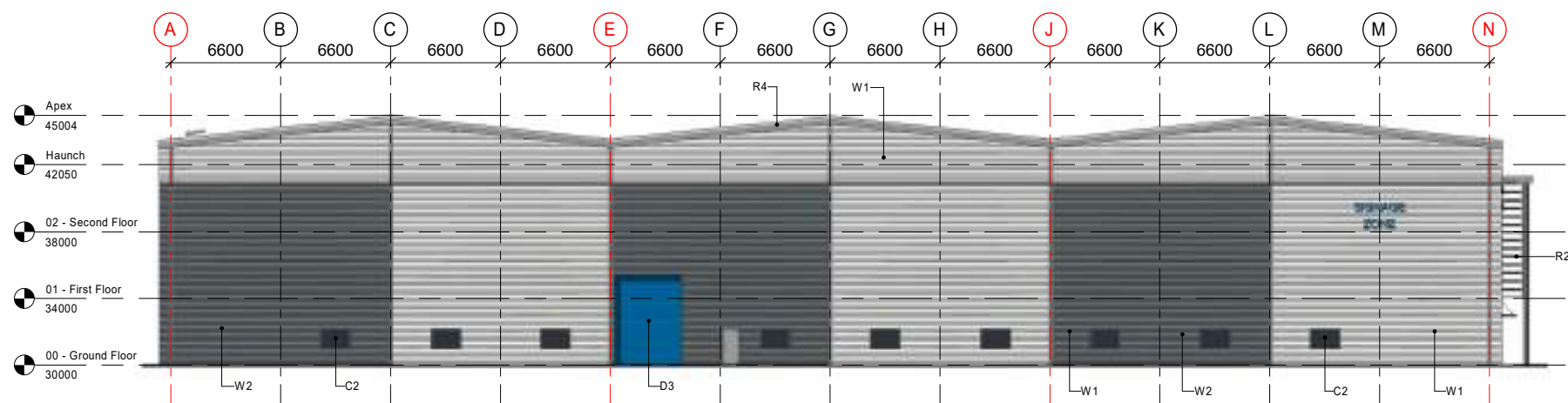
The front elevation uses modular curtain walling to reflect the overall structural grid, while the vertical mass of the scheme has been carefully broken down by grouping windows together as larger elements to help reduce the apparent visual scale.

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.

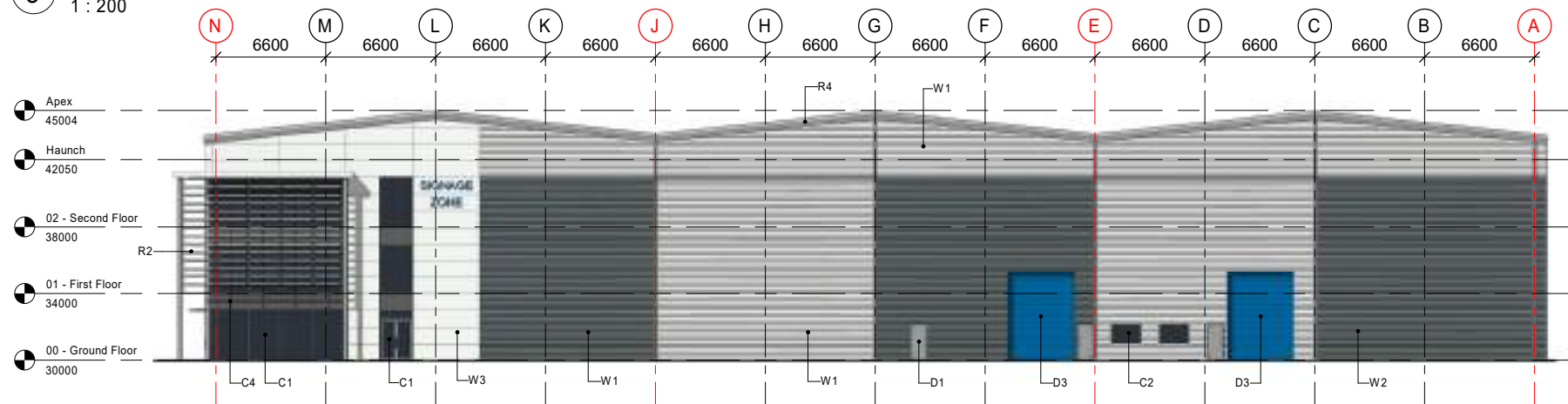


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Plot 4A Dunsbury Park



3 West Elevation
1 : 200



4 East Elevation
1 : 200



External Material Legend	
Code	Material
C1	PPC aluminium curtain wall system RAL 7016
C2	PPC aluminium windows RAL 7016
C3	PPC aluminium ribbon windows RAL 7016
C4	Opaque glass spandrel panels
D1	Solid core steel door RAL 7016
D2	Metal louvered doors RAL 7016
D3	Metal roller shutter doors RAL 5017
R1	Euroclad Elite Plus 2 Tapezoidal Profile Metal Roofing RAL 7038
R2	PPC aluminium brise soleil RAL 7035
R3	Integral polycarbonate rooflights
R4	PPC aluminium flashing RAL 7035
R5	Glazed entrance canopy
W1	Euroclad Elite 60 built up curve wall profile cladding system RAL 7035
W2	Euroclad Elite 60 built up curve wall profile cladding system RAL 7012
W3	Euroclad F5 flat panel cladding system RAL 7035

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 ground, first and second floors. Dark coloured louvres accentuate the main entrance on the south facing elevation and return 7.8m around the east elevation to align with the second floor window head. The main manufacturing accommodation is clad in profiled

horizontal metal cladding in a combination of silver and grey hues with feature contrast coloured highlights to loading doors. Low level retaining structures below ground level will be fair-faced pre-cast concrete.

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

The building for plot 4A is a large manufacturing facility designed as a portal structure with 3 sets of 26.4m wide portals every 8m along the length of the building (note that the end grid dims are slightly shorter at 7.8m).

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Plot 4A Dunsbury Park



Plot 4A Dunsbury Park

7.0 Sustainable Design

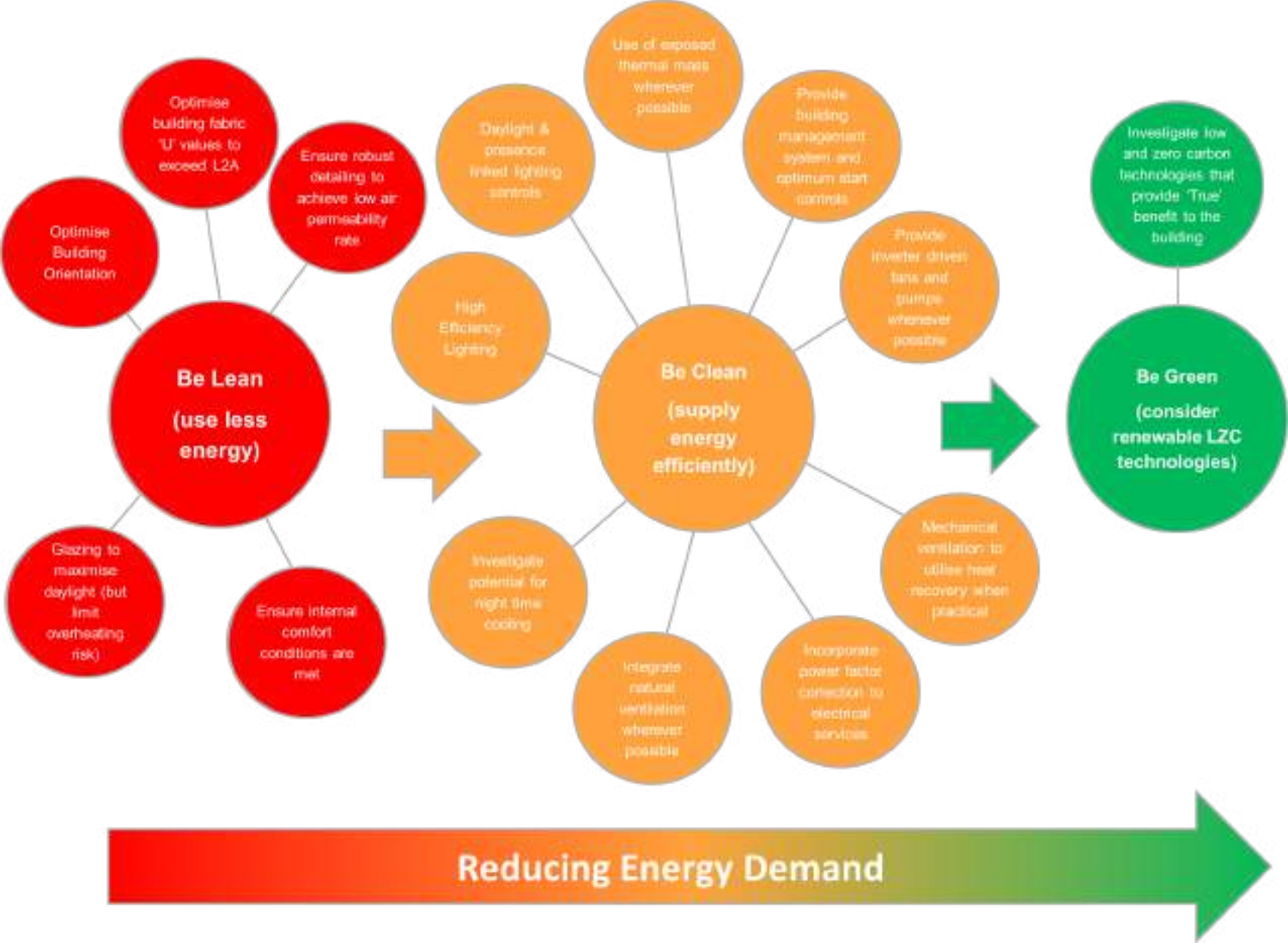
7.1 Design Strategy

The following statement sets out the sustainable design strategy for the proposed warehouse to be constructed on the Dunsbury Park 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 target achieving 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 0.26W/m²K
 - o Roof 0.18W/m²K
 - o Windows 1.60W/m²K
 - o Ground Floor 0.15W/m²K

- High air tightness value of 3.5m³/h/m² @50Pa
- Glazing g value of 0.4 to limit solar gain
- 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.

7.3 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 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.
- High efficiency LED lighting systems
- High efficiency condensing gas boilers and radiant heating systems to reception and circulation
- 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), further energy savings could be achieved with 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. However there is currently no proposal to incorporate additional renewable or low carbon technology on the project.

7.5 BREEAM

In addition to the sustainable design strategy above the building is also subject to a requirement to achieve a BREEAM Excellent rating as defined in Condition B5 (d) of permission APP/17/01324. This further demonstrates the sustainable credentials of the proposed building.

A BREEAM pre-assessment report appended to this Design & Access Statement has been undertaken and demonstrates that only a 'Very Good' rating is achievable, in line with the other approved developments at Dunsbury Park.

The following summary explains where the credits cannot be achieved:

- Health and wellbeing
Hea 02 Indoor air quality - Credits for air natural ventilation and intake / extract separation are not available for this project.
- Transport
Tra 01 Public transport accessibility - Site specific credits relation to access 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 Adaption to climate change - New onerous credits which are ill-defined
- Land Use and ecology
LE01 Site Selection – Credits not achievable due to greenfield site and no requirement for contamination remediation.
- Pollution
Pol 01 Impact of refrigerants – Specialist coolants required which are not industry standards
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 siting 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 4A Dunsbury Park

8.0 Drainage

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 Park 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 4A and a new plot specific Flood Risk Assessment will not be required.

8.1 Storm Water Attenuation

Storm Water balancing ponds have been provided to attenuate storm water run-off from plots 1, 3, 4 and 5. The ponds are located on the southern boundary near the Hermitage Stream. They were designed to provide adequate storage for a 1 in 100 year storm event + 30% for future climate change. The outfall from the ponds discharges to the Hermitage Stream at previously agreed green field run-off rates. The flow is controlled via a vortex.

The ponds provide huge biodiversity benefits and help “polish” the water prior to discharge off site.

8.2 Plot 4A Drainage

Whilst storm water attenuation is centralised, plot 4A drainage will still be provided with some SUDS features such as porous car parking bays and filter trenches. These will intercept silt, reduce run-off times and assist the cleanliness of the Dunsbury site wide storm water drainage network. However the run-off from the plot will not be restricted to green field rates. This is done further downstream on the outfall of the attenuation ponds.

The granular fill sub base below porous surfaces will have a 30% voids ratio. These voids provide a volume within which storm water can be stored for the duration of rainfall. The complete granular fill and all perforated inlet / outlet pipes will be wrapped with Inbitex Geotextile fabric. This is a polypropylene and polyethylene non-woven fabric. During the manufacturing process, small dishes are created on the surface of the hairs from which the Geotextile is manufactured. This allows an early establishment of a microbial biomass which is responsible eating and degrading hydrocarbons suspended within the water. It is also important during dry periods that the microbial population can retreat into the dishes where moisture can still be found. Thus when it rains again the microbial biomass is quickly re-established. This negates the need for traditional petrol interceptors. Silt removal at porous surface level provides two trains of improvement in water quality prior to discharge.

Plot 4A will be provided with a complete system of storm water drainage receiving discharges from all roofed and hardstanding areas. Porous surfaces and if required, Petrol interceptors in accordance with Environment Agency advice note PPG3 will be used to ensure that pollution is retained, controlled and treated on site.

Foul water drainage will be provided to all toilets, wash basins, sinks, showers etc. The foul drainage will discharge to the site wide foul water infrastructure. This connects to the Southern Water foul sewer located near the Hermitage stream. Low flow water fittings will be specified to reduce water consumption and foul water discharge volumes. A section 106 application will be made to Southern water for an indirect new connection.

8.3 Summary

The Atkins site wide drainage report, require storm water run-off to be restricted to green field run off rates. This has been achieved by the construction of centralised attenuation ponds. Some “on-plot” SUDS features and attenuation will also be provided to improve water quality prior to discharge off plot.

The plot 4A drainage will be simulated for the 1 in 100 year + 30% climate change storm event. Any flooding will be retained on site. Safe egress from the building off the plot will be maintained during this storm event.

The on plot SUDS feature and the centralised attenuation ponds provide two forms of water treatment prior to discharge to the hermitage stream as required by the NPPF.



Plot 4A Dunsbury Park

9.0 External Lighting, Waste and Acoustic Impact

9.1 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 will be mounted on the building and on columns, directed downwards to achieve lighting levels suitable for safe movement of vehicles and warehouse operatives.

Car park lighting will comprise column mounted luminaires, directed downwards to achieve lighting levels suitable for safe movement of vehicles and pedestrians. Non-illuminated branding will be used at branding locations on the front side elevations and above the main entrance canopy behind the curtain walling as indicated on the elevation drawings.

9.2 Acoustic Impact

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

9.3 Waste Storage

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

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Plot 4A Dunsbury Park

10.0 Security and Reduction in Crime Risk



- 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 clearly defined public zone at the front of the site with secure segregated entrances for cars controlled through electronically operate barriers from the office reception and manually operated gates for lorries.
- Landscape to the front of the building uses clear stemmed trees and planting selection will ensure uninterrupted views across the site.
- CCTV will be 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.
- All windows will have high performance hardware and elevations will be free of recesses to deter unauthorised access.
- 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 4A Dunsbury Park

11.0 Access and Movement

11.1 Audit

The design of the new B2 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.

11.2 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, first and second 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. All external doors will have thresholds which are step-free and level throughout

11.3 Internal Access

First and second 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.

11.4 Design for Impairment

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.



The proposed B2 development of Plot 4A has been considered holistically within the wider Dunsbury Park development. The site benefits from mature hedgerow boundaries which provide a clearly defined setting and as well as a visual screen to east the and west.

The plot is visually prominent rising up from the new estate access road in the centre of the development. The more elevated location supports the requirement for a lower height building, restricting to 3 storey's following the agreed site wide design code.

Landscaping provides a means to integrate the new building within the development. Retaining historic hedgerow, the addition of Fitzwygram Way landscaping, including landscaping within car parking, and the northern boundary retaining structure, all help to provide a visual break when viewed from wider site locations.

The car parking and public realm at the front of the building has been carefully considered using tarmacadam to provide a high quality robust environment which is softened through the use of soft landscape, 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 locating it towards the rear of the site with manual gate access.

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 with Plot 4B behind left cleared and levelled for future development. 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.



Contact:

BAM Design
Centrium, Griffiths Way, St Albans, Herts AL1 2RD
Telephone: 01727 892 200