



Proposed Commercial Vehicle Repair and maintenance facility
(use class B2) with ancillary sales

Plot 3A Dunsbury Park
Design and Access Statement



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P3	19/02/2018	PLANNING REVISION	SL

Plot 3A Dunsbury Park

Design and Access Statement

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Plot 3A Dunsbury Park

1.0 Introduction

This Design and Access statement accompanies the Reserved Matters Application for Plot 3A at Dunsbury Park, Havant for a proposed Commercial vehicle repair and maintenance facility with ancillary sales area. The site, which was 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.

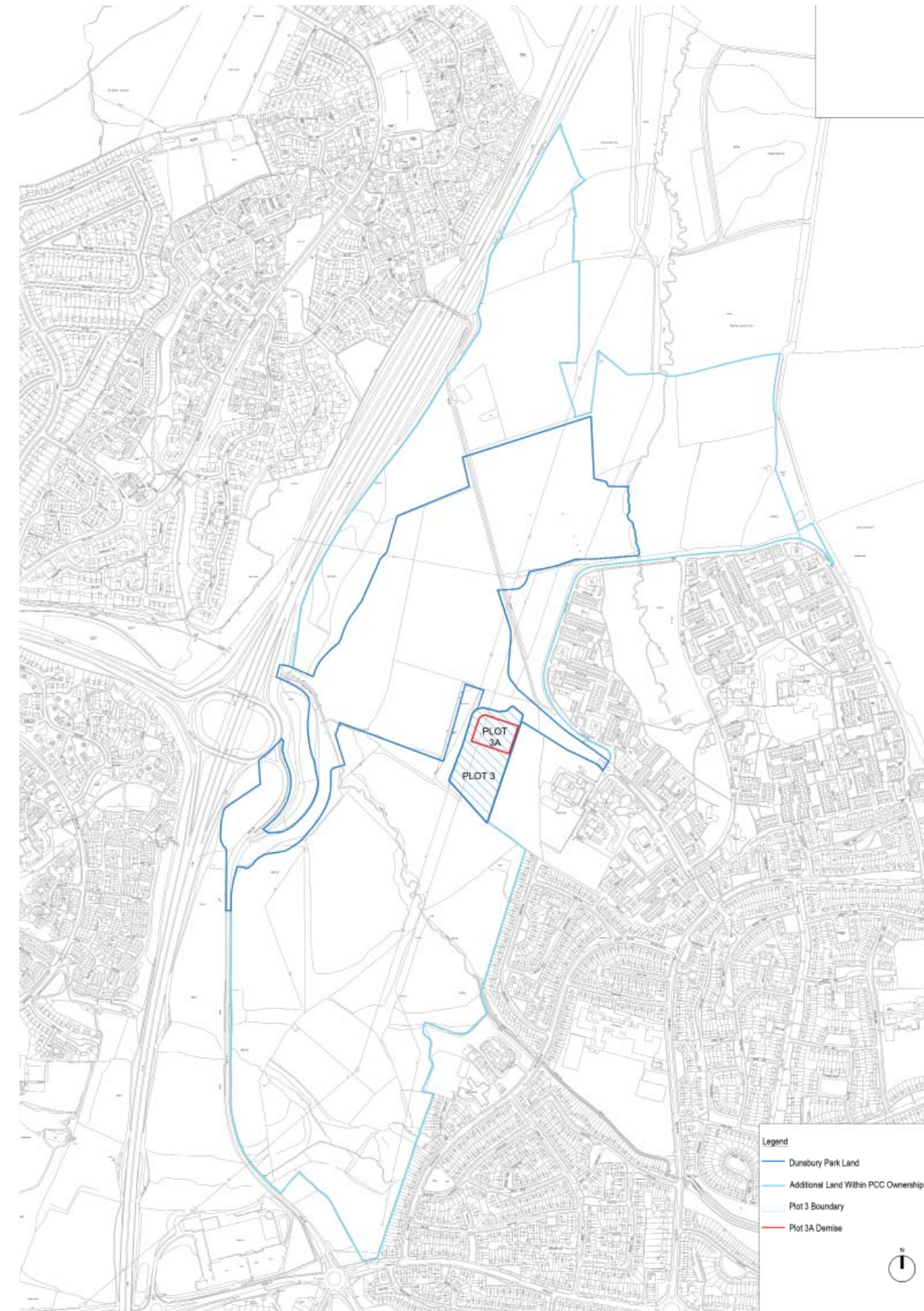
Dunsbury Park has been identified in the Core Strategy as “a key strategic employment site for the borough and the wider sub-region, which will form a new business gateway to South Hampshire from the A3 (M)”.

Planning permission was originally granted for Dunsbury Park in 2014 with a hybrid application (ref: APP/12/00338), providing full permission for the access link road (now constructed - Fitzwygram Way) and outline permission for the development plots totalling 61,779 square metres of B1/B2/B8 floorspace, plus a hotel of 5,574 sqm.

A subsequent Section 73 application (APP/15/00732) was permitted in October 2015 to increase the % of B8 on site from 20% (12,356sqm) to 30% (18,534sqm). This was followed by the first Reserved Matters application (APP/15/01156) for the development of a 120,000 sq. ft. B8 distribution centre for Fat Face Ltd. This was granted permission in December 2015 and has recently been completed with Fat Face now in occupation.

The site was formally launched at a marketing event in March 2017 and this has generated significant interest in further plots, with further Reserved Matters applications forthcoming in the early part of 2018. Submissions to approve the cut and fill strategy, layout, access and scale (APP/17/00866), together with the first internal estate road (APP/15/00732 - Discharge of Condition B9), were approved in November 2017. The works covered by these schemes represent the landowner making a multi-million pound investment in site wide infrastructure to prepare all development plots on Phase 1 of site, including Plot 3a which is subject of this application.

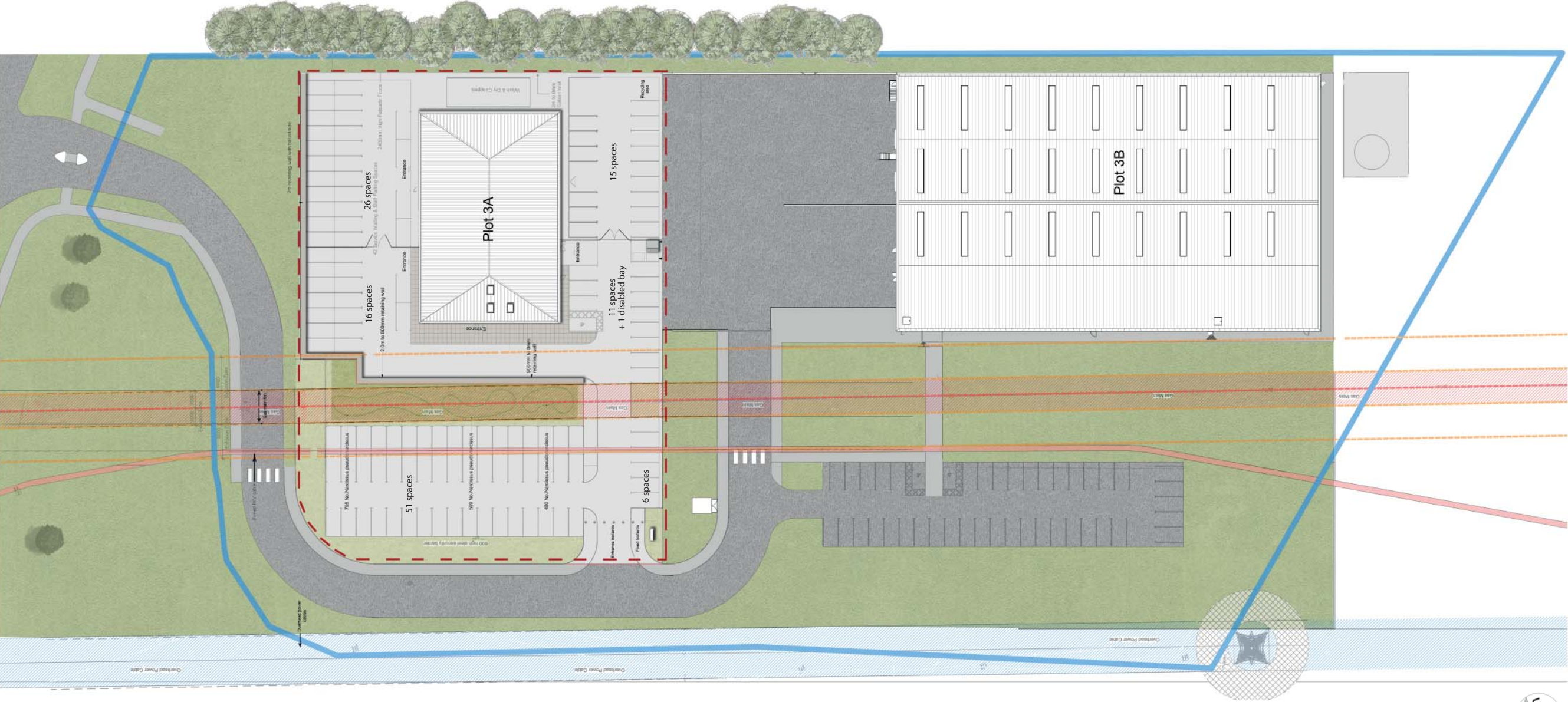
A second Section 73 application submitted in November 2017 is currently being determined by Havant Borough Council (APP/17/01324) which seeks to remove the B8 restriction on the site in line with the emerging Local Plan policy for Dunsbury Park.



Site Boundary

Plot 3A Dunsbury Park

2.0 Plot 3A Dunsbury Park



Site Plan Plot 3

The proposal is for a Commercial Vehicle repairing maintenance Facilities, service yard, staff offices and ancillary sales area, workshop, offices and external display parking for vehicles. The proposed development floor space will provide a total of 1190m sq. (12,809sq.ft) of Gross Internal Floor Area (inclusive of first floor and tenant's mezzanine area).

Externally there will be 121 parking bays, 17 will be for customer / visitor parking, 1 will be accessible bay, 16 will be secure parking relating to vehicles being sold / serviced, 36 will be for waiting spaces relating to servicing / staff parking and 51 at the front of the plot will be for display purposes. Cycle parking for 4 cycles, and soft landscaping will also be provided.

- Site Plan Legend
- Site Boundary
 - Plot Boundary
 - Gas Main - Centre
 - Gas Main - 3m Exclusion
 - Gas Main - 9m Exclusion
 - 33kV Electrical Main - Centre
 - 33kV Electrical Main - 4.5m Exclusion
 - Below Ground Electrical Main
 - Hedgerow
 - Pylon Exclusion Zone
 - 20-25C, Carpinus betulus "Streetwise"
 - Seeded grass areas
 - Wildflower meadow areas
 - Bulb planting

Plot 3A 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.

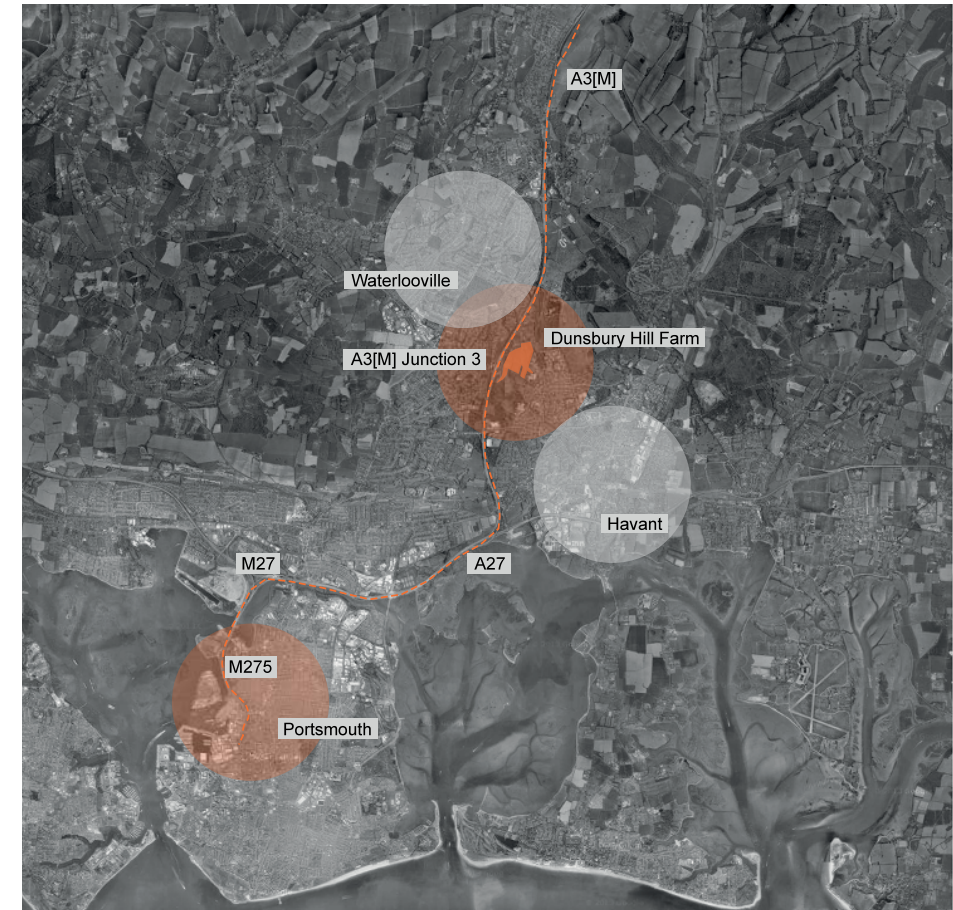
3.2 Local

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 A3 (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 Waterloooville.

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.

There is a high pressure gas main that runs through Plot 3, from north to south (refer to site layout). The proposed layout of the buildings and design for the hard landscaping has been developed on advice from the HSE on distance of major accident hazard pipelines. There has been ongoing consultation with Southern Gas Networks (SGN) throughout the design to ensure that development will not adversely affect the main.

A redirected underground HV electricity main and overhead HV pylon also run through the site, these are indicated on the site layouts and have also contributed to the layout of hard landscaping and buildings.



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.
- 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

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.

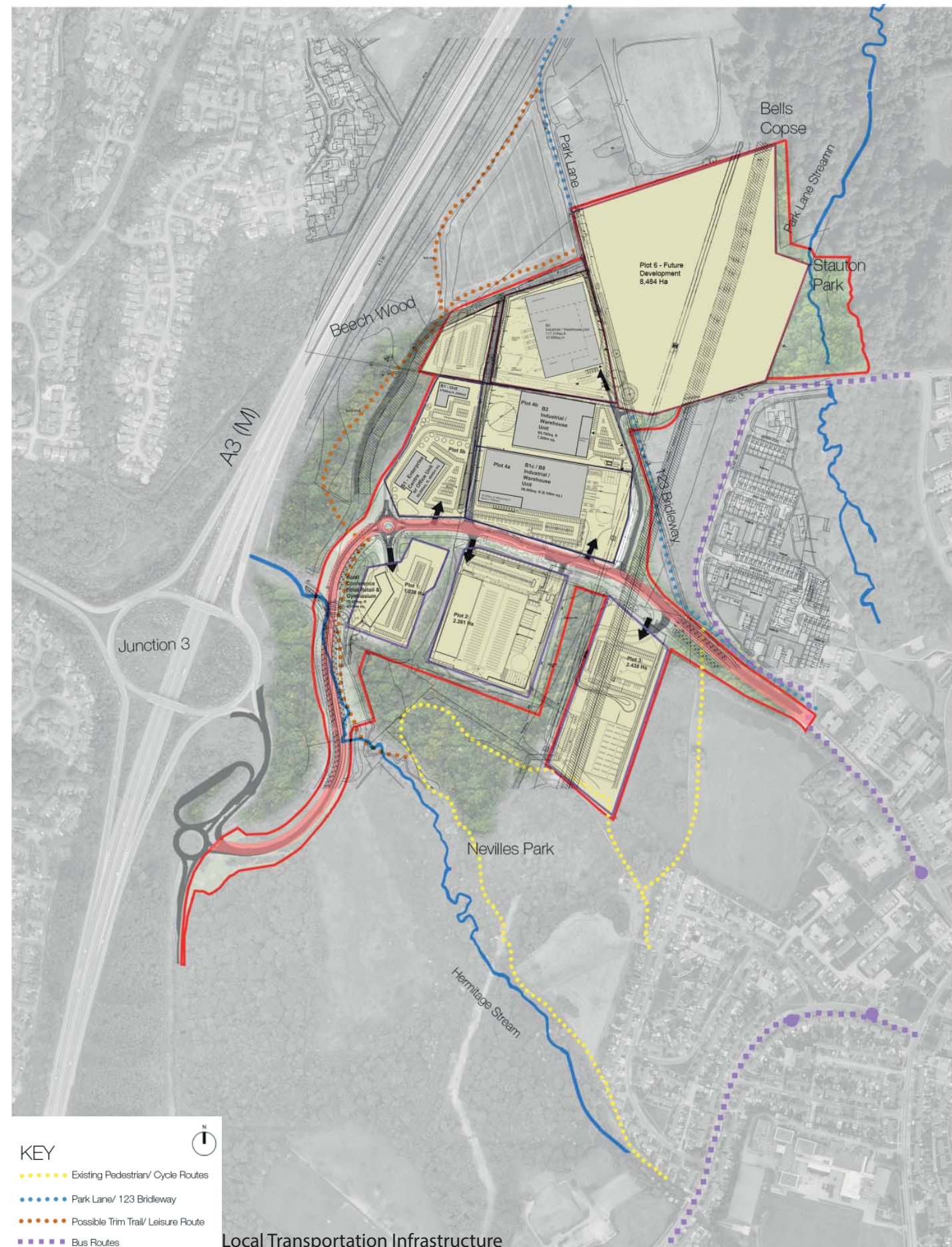
The roundabout at the junction with Calshot Road and Woolston Road will provide a spur for the future bus access to Dunsbury Park to the east by means of a bus gate. There is an existing network of bus services with some stops located 400m from the site providing routes to Havant town centre and Portsmouth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



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/12/00338. Licences were obtained from Natural England to carry out agreed works to deliver the access link road and development on Plot 2.

The landscape at the 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 and associated landscape plans.

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 9.1 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 petrol interceptors.



Dormouse *



Bat



Adder *

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Plot 3A Dunsbury Park

4.0 Design Response

Plot 3 as a whole occupies 2.438 ha (6.024 acres) of the proposed Dunsbury Park development. The plot is situated on the southern edge of the development joining onto one of the existing access spurs off Fitzwygram Way, in turn- linking with Hulbert Road. A new bus stop / lay by is located just west of the site outside of the Fat Face development.

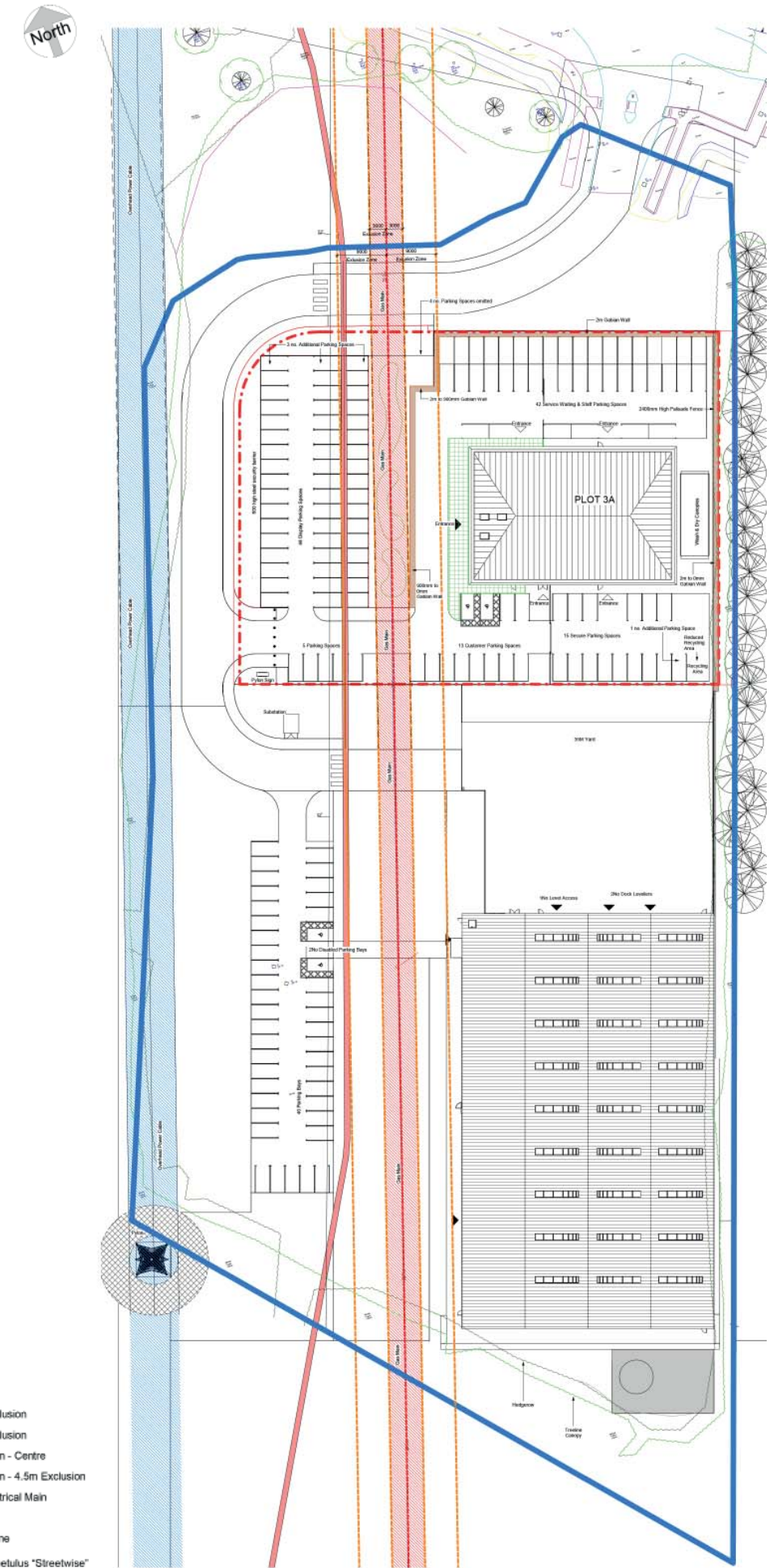
The building design principles and plot layout have been developed in line with the guidance within the 'Dunsbury Hill Farm - Design Code' report. Movement through the site and how the landscaping responds to both the ecology and sustainability requirements has been developed in line with the reports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

4.1 Site Layout

The site is split into two plots, Plot 3A to the North which this application relates, and Plot 3B to the South. Both the vehicular and pedestrian access to both plots comes in at a higher ground level from the north and then follows the site along the western edge. The site level changes will be accommodated through the use of retaining structures together with land batters terracing down. A soft landscape zone acts as a natural buffer between the access road and the carpark in-front of the building. Externally there will be 121 parking bays. 17 will be for customer / visitor parking, 1 will be an accessible bay adjacent the main entrance, 16 will be secure parking relating to vehicles being sold / serviced, 36 will be for waiting spaces relating to servicing / staff parking and 51 will be for sales display purposes. Cycle parking for 4 cycles, and soft landscaping will be provided.

The main elevation to the proposed building will face west. In line with the design code for the overall Dunsbury Park development the frontage of the plot will remain unfenced, while the service area to the north of the building and secure parking to the south will be enclosed by a 2.4m high palisade security fence.

The finished ground floor level of the building has been set at +23m AOD. This level has been arrived at as a response to site levels and gradients together with the requirement for ground cover over the existing HP gas main which is crossed by the site access road.



4.2 Landscape Design: General Site Arrangement

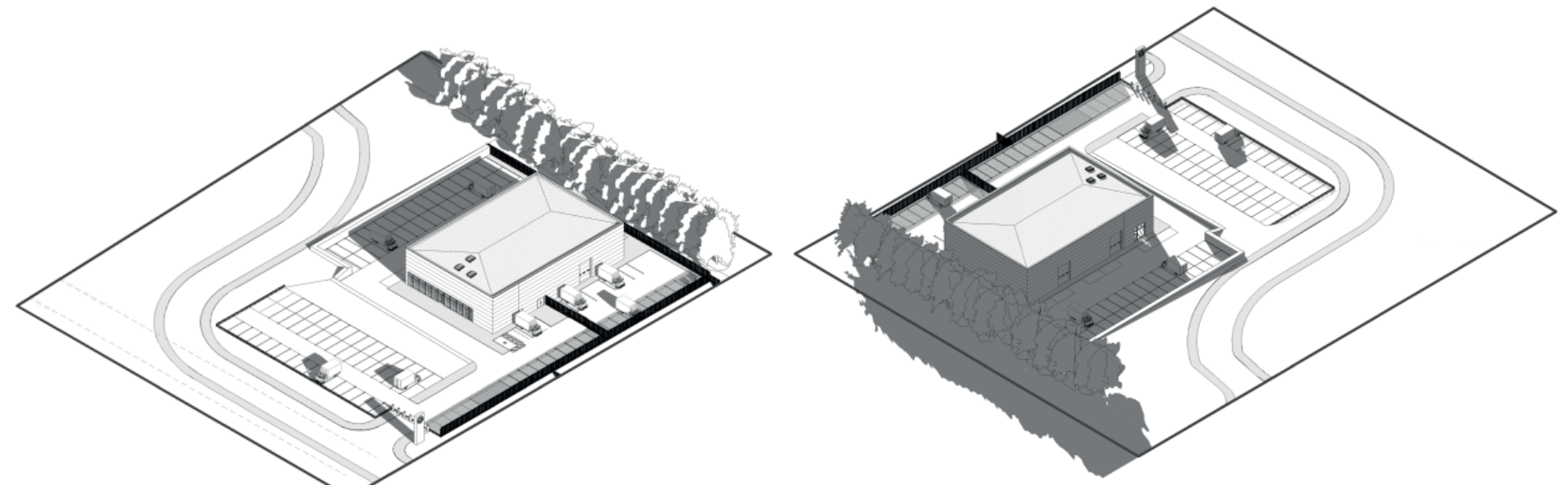
The Dunsbury Park greenfield employment site is situated to the east of the A3(M). Whilst the site has a rural setting, it lies between the residential areas of Waterloo and Leigh Park. The proposed Commercial vehicle facility is on plot 3A, which is on the south side of Fitzwygram Way that runs through the business park development.

The rectangular site has a mature woodland belt on the eastern boundary. A high-pressure gas main runs through the centre of the site. On the western side, on the other side of the access road within the plot, a mature woodland belt provides screening to the recently completed FatFace warehouse.

General Site Arrangement

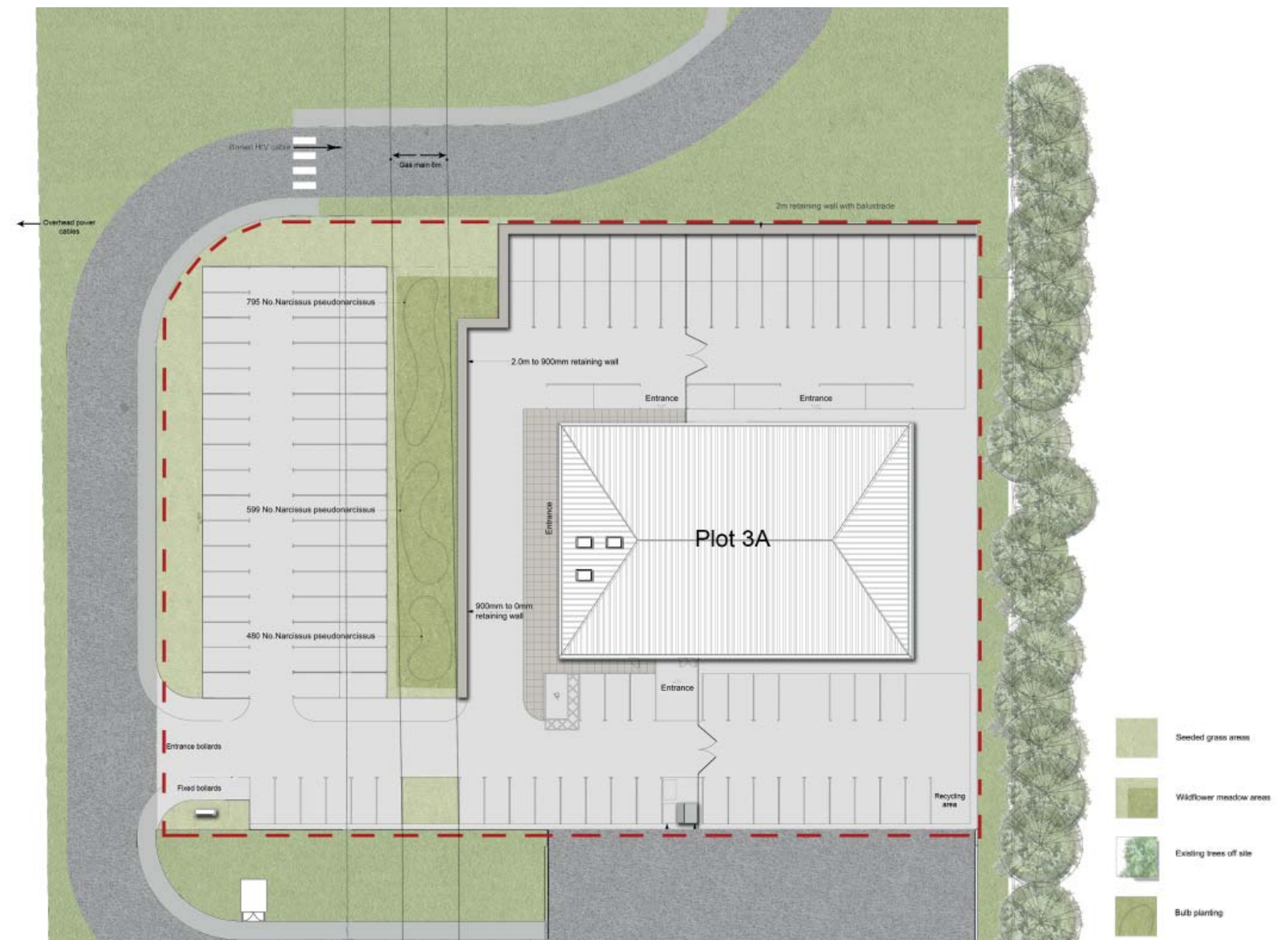
The proposed Commercial Vehicle building is located on the eastern portion of the site, due to the restrictions of the high-pressure gas main that runs north-south through the plot.

Due to the drop-in level across the site, a 2m high gabion retaining wall will be required on the northern site boundary. This will be extended down both sides of the building to allow the ground to grade into the existing levels.



South West Axonometric view

North East Axonometric view



Landscape Plan

4.3 Access and Parking

Fitzwygram Way runs through the Dunsbury Park site, linking Hulbert Road to Woolston Road. The spur for the access road to Plot 3A has been created and this will be extended down the western side of Plot 3A and terminates at Plot 3B to the south. These estate road works will be subject of a separate discharge of condition application (Condition B9).

There are 17 visitor parking spaces, including an accessible bay, on the southern boundary to the site. This is within easy access to the building, with entrance on the south and western elevations.

A secure compound, on the south eastern corner of the site will accommodate 16 parking spaces. Forty two spaces will be created on the northern side of the building for vehicles awaiting servicing and also provide staff parking.

On the western boundary, adjacent to the access road, there will be 51 display parking spaces.

Covered cycle parking for 4 cycles will be provided on the southern boundary, in the paved area, over the high-pressure gas main. The cycle shelter will be clearly visible from the showroom. Two motor cycle spaces will be created, adjacent to the cycle shelter.

4.4 Existing Vegetation

The plot was formerly agricultural land, but has been used as a storage area for spoil over the last 2 or 3 years. Re-grading of the site, approved as part of the cut & fill reserved matters scheme, has created the plateaux for the plot 3A building.

The existing mature woodland on the eastern and western boundaries has not been disturbed by the excavation works and the intention is not to alter the levels within the root protection zones of the retained trees.

4.5 Planting

Due to the tight, linear nature of the plot and the restrictions imposed by the high-pressure gas main and underground electricity cables, the proposed planting is minimal on the eastern boundary. This addresses to the approved landscape strategy for the site which did not propose any buffer planting on this boundary given the constraints.

General amenity grass will be used around the strip of land over the gas main will be planted with wildflower seeding to match other areas of Dunsbury Park along Fitzwygram Way and the internal estate road heading north parallel to Park Lane Outside of Plot 3a, along the western edge of Plot 3 as a whole, seeded grass will be introduced to tie in with the approved landscape strategy for the wider site.



4.6 Hard Landscape Materials

It is proposed to use tarmac for the access roads around the building. Porous light grey concrete blocks will form the parking bays for the visitors, the display area and the service waiting space. Light grey porous concrete blocks will form the display area.

The secure parking area, with the adjacent wash space, will be tarmac.

A textured concrete flag will be used for the pedestrian areas, such as the perimeter of the building and the cycle shelter area. The cycle shelter will be 2m x 2m and will be constructed from curved polycarbonate and powder coated steel. This will accommodate 4 cycle spaces.

The gabion wall to the northern boundary will be approximately 2m high tapering out to nothing on the east and west boundaries. The gabions will be hand packed on the front face, with durable local stone and reflect the gabions used for the realignment of Hermitage Stream within Dunsbury Park.



Gabion wall



Marshall's Mistral block paving in 'Graphite'. For use on display roadways, marking out parking bays, and at service entrances.



Marshall's Mistral block paving in 'Charcoal'. For use on parking bays



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



Cycle shelter for staff and visitors



Area of wildflower meadow to the centre of the site



Hooped tubular rail to boundary of display parking spaces and entrance



Naturalised drifts of native daffodils to the centre of the site

4.7 Fencing and Boundary Treatment

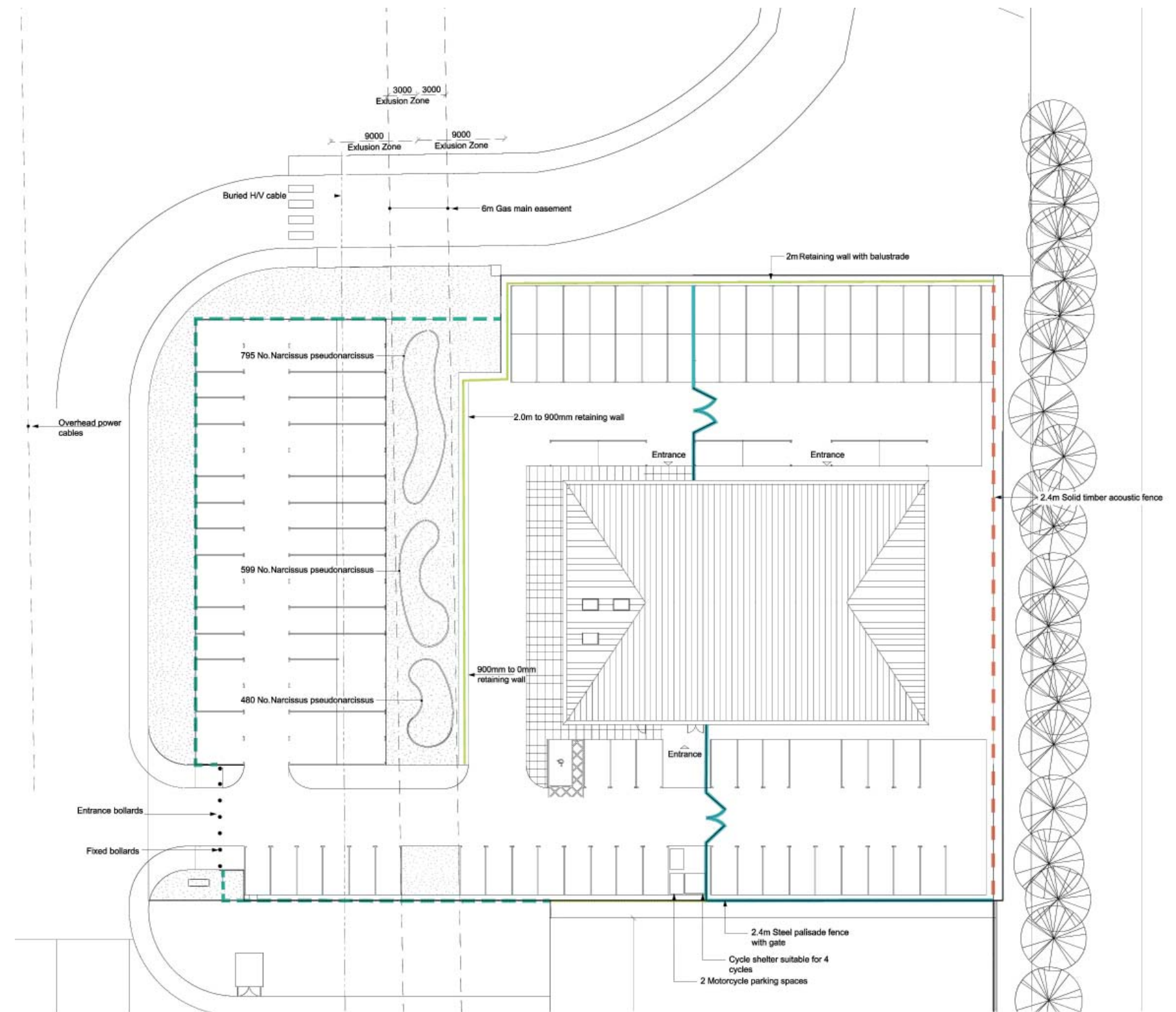
The entrance into the site will be secured with 3 hydraulic bollards. The footpaths to each side of the entrance will be secured with 150mm dia cast steel bollards, 900mm high. The display area will be secured with 1.5m long, 0.6m high tubular rails. They will be set at 1.4m apart to prevent vehicle access. The bollards and the rails will be finished in RAL9002 (light grey/white).

Steel palisade fencing, 2.4m high will be used to form the secure parking area. A sliding gate will be used on the southern elevation, due to restricted space. A double gate with a 4m wide clear opening will be used on the north end of the wash and dry area to provide flexible use of the space. The palisade will be finished in RAL9005, jet black, the same as on Plot 2.

To reduce the impact on the wildlife using the woodland on the eastern boundary, a 2.4m high acoustic timber fence will be used on the eastern boundary. This will limit light spill and noise disturbing the wildlife in the mature woodland. The wood will be allowed to colour naturally.

The gabion wall on the northern edge of the site will have a simple vertical bar 1.1m high steel balustrade. This will be finished in RAL9005, jet black.

- 1.1m Timber balustrade to top of retaining wall
- 2.4m Solid timber acoustic fence
- 2.4m Steel palisade fence
- Metal security hoop fence



Security Line Strategy

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Plot 3A Dunsbury Park

5.0 Building Form



5.1 Massing

The building has been designed to reflect its function as a commercial vehicle showroom/repair and maintenance facility with ancillary office space at first floor level and ancillary sales area at the ground floor entrance. Behind this is the double height workshop space for the maintenance and repair of vehicles.

The building will be rectangular in plan, 37.6m in length by 25.1m in width. The height to the parapet will be 9.02m (+32.26 AOD) and to the ridge of the roof 10.2m (+33.2 AOD). This sits comfortably within the parameter plan height limit for this plot of +40.0m AOD.

5.2 Levels

The building has been grounded at +23.00m AOD as a result of careful consideration of a number of factors. These include:

- Vehicular access from the estate access road to plots 3A and 3B

Lorry access has been modelled using computer software to ensure permitted vehicles can access the site and service the building from the link road at an acceptable gradient as Fitzwygram Way. The access link road sits at a significantly higher level than this plot

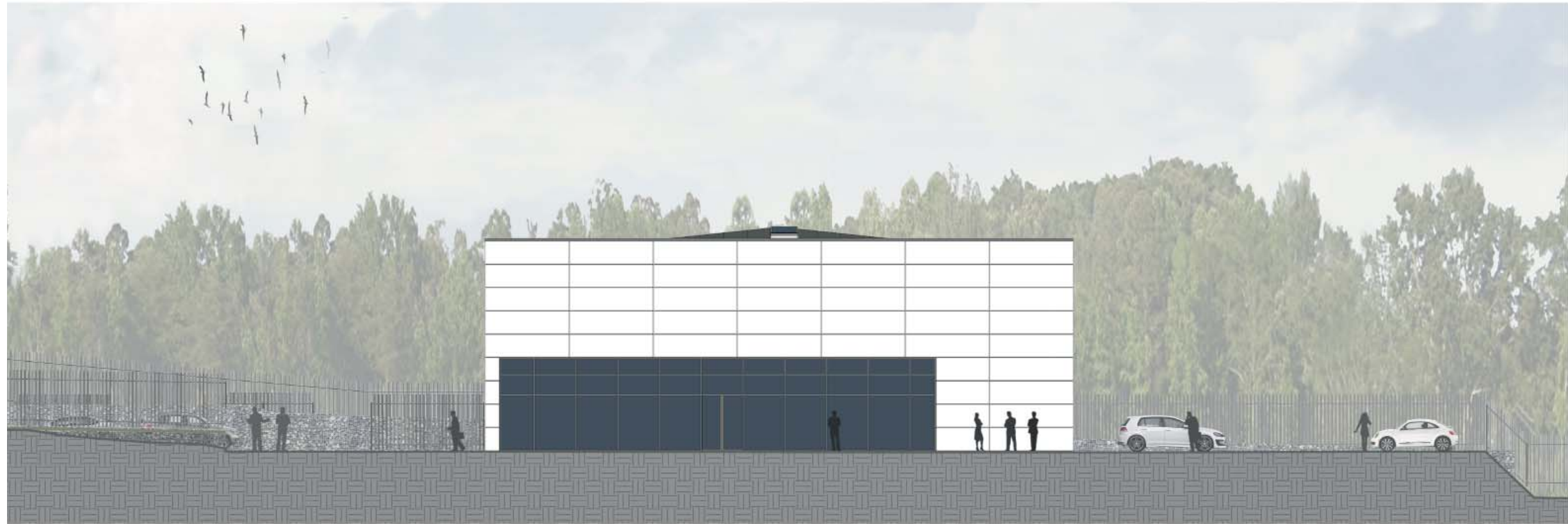
- Provide inclusive access for pedestrians of all abilities. Segregation between pedestrians and vehicles is provided from arrival at the site to entrance.
- Impact of height and mass of the building on surrounding development.

The level of the floor slab enables the building eaves line to be set at +32.05 AOD. 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.

- 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 +23m 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 existing surrounding ecology.

- Coordinate surface water storm drainage to existing infrastructure.



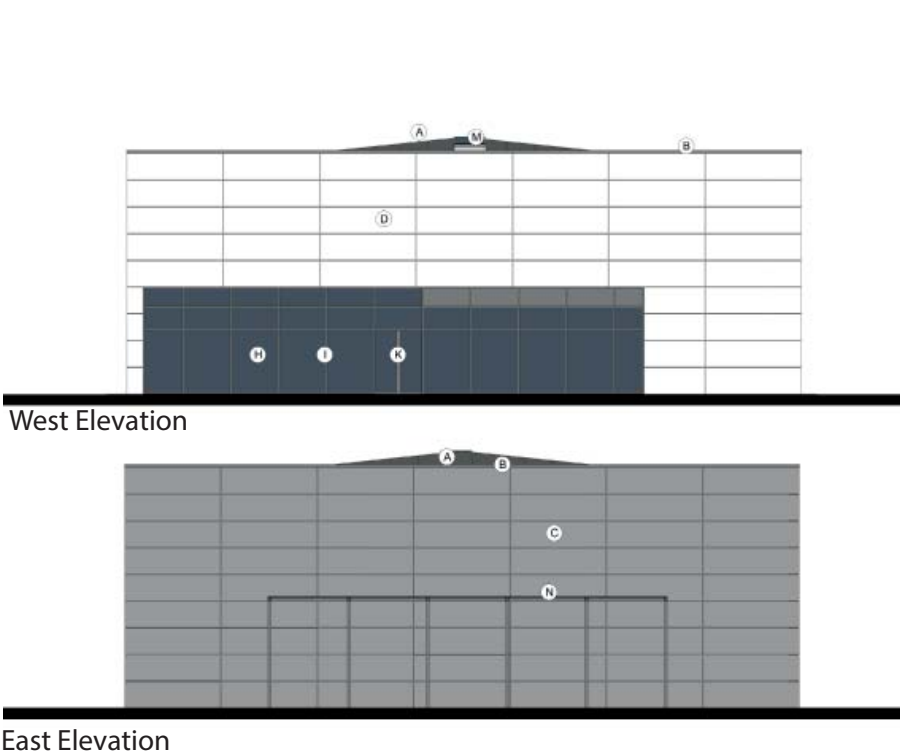
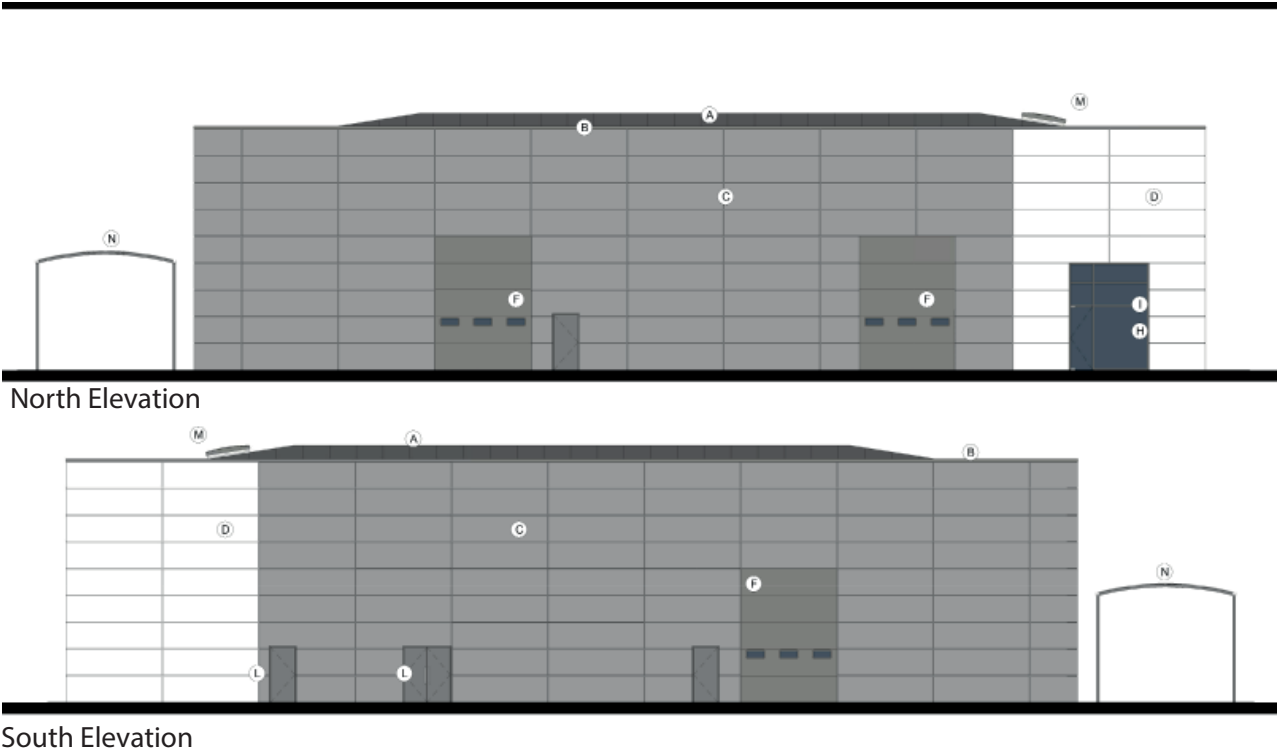
Contextual Elevation - West



Contextual Elevation - South

Plot 3A 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 open up views into the showroom space.

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.

Signage within these areas will be subject of a separate advert application that will also include the indicative totem sign shown on the contextual images.

The building will be clad in a metal micro-rib composite panel system running horizontally. This will have a white coated finish to the front elevation facing west. The remaining elevations will be in a silver / grey coated finish. The roofing will be in a profiled metal deck with a grey coated finish.

There will be 3 level access doors in a dark grey finish providing access to the workshop spaces.

Material Legend

- (A) Kingspan KS1000 RW Profiled Composite Roof Cladding [Anthracite Grey RAL 7016]
- (B) Powder Coated Aluminium Parapet Profile [Anthracite Grey RAL 7016]
- (C) Kingspan MicroRib horizontal cladding [White Aluminium RAL 9006]
- (D) Kingspan MicroRib horizontal cladding [Traffic White RAL 9016]
- (E) Composite Pre-cast Concrete Plinth Wall
- (F) Loading Bay Doors
- (G) Powder Coated Aluminium Louvre Panel Units [Grey Aluminium RAL 9007]
- (H) PPC Aluminium Cassette Panel/ Curtain Wall [Grey Aluminium RAL 9007]
- (I) PPC Aluminium Curtain Wall Stick System [Grey Aluminium RAL 9007]
- (J) Glazed Spandrel 'Lookalike' Panel [Grey Aluminium RAL 9007]
- (K) Fully Glazed Entrance Doors & Powder Coated Aluminium Frame [Grey Aluminium RAL 9007]
- (L) Solid Core Steel Door [Grey Aluminium RAL 9007]
- (M) Rooflight [Grey Aluminium RAL 9007]
- (N) Canopy [By Tenant]

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Plot 3A 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.

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
 - Walls 0.20W/m²K
 - Roof 0.15W/m²K
 - Windows 1.60W/m²K
 - 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.

7.3 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 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.

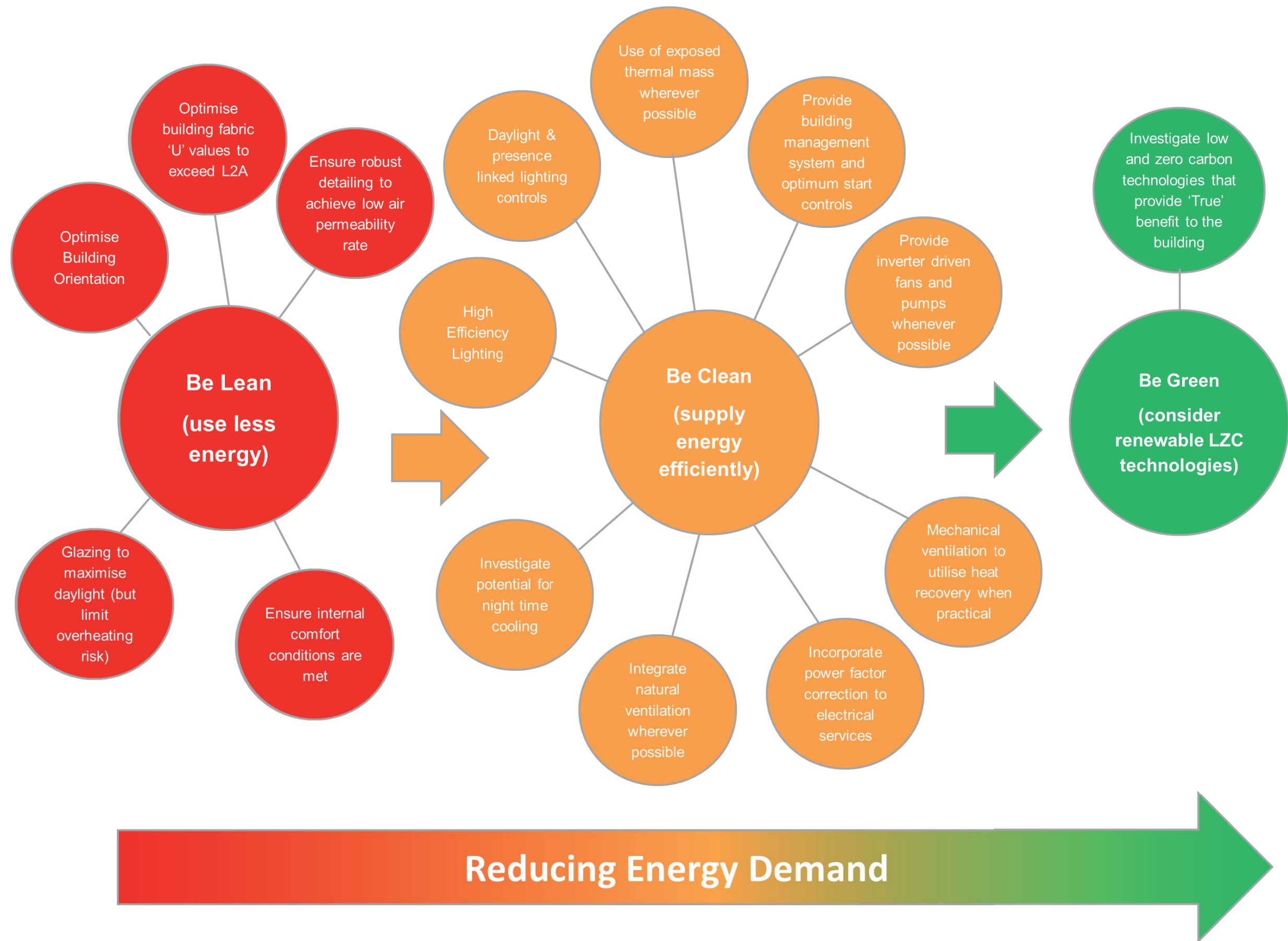
7.5 BREEAM

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 B2 commercial 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.
- **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 3A Dunsbury Park

8.0 Security and Reduction in Crime Risk



During the development of the design the team have referred to guidance in the document 'Safer Places the Planning System and Crime Prevention', the advice of which has been incorporated 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.
- 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 workshop areas.

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Plot 3A Dunsbury Park

9.0 Summary

The proposed B2 commercial vehicle facility on Plot 3A has been considered holistically within the wider Dunsbury Park 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 building form, mass and appearance is a direct response to its functional requirements whilst following the overall guidance set within the 'Dunsbury Park – Design Guide'. Existing landscape features have been retained and supplemented to reinforce the setting. The site is left deliberately open and inviting to the front with effective security at the building line.

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 steel street furniture with coordinated signage.

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.

As part of the ongoing Dunsbury Park Development, this proposal will provide a high quality development in line with the outline permission and emerging local planning policy from Havant planning department.



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