



3 SITE AND SCHEME DESCRIPTION

3.1 Site Description

3.1.1 The site lies within the IAMP boundary, as identified in the IAMP Area Action Plan (AAP) 2017-2032 (adopted 2017). The majority of the site is designated as Green Belt and land for Ecological and Landscape Mitigation (ELMA), whilst a smaller part of the site is allocated for automotive and advanced manufacturing uses. The AESC Plant 2 gigafactory development (ref.21/01764/HE4) was granted planning consent in October 2021 and is currently under construction on adjacent land. Figure 1.1 illustrates the location of the site in the context of its surroundings and the wider IAMP development.

3.2 Site location and description

The site

- 3.2.1 The site lies wholly within the administrative area of Sunderland City Council (SCC).
- 3.2.2 The site comprises an area of agricultural land located directly to the west and to the north of the AESC Plant 2 development. The overall area within the application redline boundary of the site is 42.39 hectares (ha) in size.
- 3.2.3 The land is largely level, with only minor variations in elevation. The wider area comprises very gently undulating topography dropping gradually to the north. Further to the south, south of the River Wear, the land rises to a high point of 136m at the Penshaw Monument. The Usworth Burn is a minor watercourse that originates in south Washington, west of the site, and flows eastwards and northwards past the northern edge of the proposed development to a nearby confluence with the River Don before reaching Hylton Bridge.
- 3.2.4 The A1290 runs in an east-west direction to the south of the site, with two new junctions established to link with the new spine road ('International Drive'). Access to the site will be from International Drive. The site also incorporates an access track linking northwards to North Moor Farm, the demolition of which will be completed w/c 8th April 2024.
- 3.2.5 The site falls within Agricultural Land Classification¹ (ALC) Subgrade 3a (23.93 ha,

¹ Within the Agricultural Land Classification (ALC) system, Grade 1 (excellent quality), Grade 2 (very good quality) and Subgrade 3a (good quality) land are classed as 'best and most versatile' (BMV) land, with Subgrade 3b (moderate quality), Grade 4 (poor quality) and Grade 5 (very poor quality) land classed as non-BMV land.



56.5% of the site) towards the north of the site and ALC Subgrade 3b (17.31 ha, 40.8% of the site) in the south of the site, with smaller areas of Subgrade 3b present in the north and northeast of the site and a small area of non-agricultural land (1.15 ha, 2.7%). The proposed built infrastructure will be situated upon 11.18 ha of Subgrade 3a BMV land, 12.76 ha of Subgrade 3b non-BMV land and 0.42 ha of non-agricultural land.

Surrounding land uses

- 3.2.6 To the east of the site, construction is currently underway within the neighbouring IAMP sites, with three existing units present within IAMP ONE. Further within the immediate surroundings of the site, the existing Nissan works lie to the south of the A1290 and south-east of the proposed development, with agricultural land present to the west and to the north.
- 3.2.7 Whilst the closest residential property, North Moor Farm, is located within the site boundary, this is within the ownership of IAMP LLP and is currently vacant (demolition of North Moor Farm will be completed w/c 8th April 2024). Other individual and groups of properties are scattered across the wider area, mainly to the north, north-east and north-west along and off Follingsby Lane/ Downhill Lane, including Hylton Bridge and Hylton Grove Farms, Strother House Farm and East Farm, enclosed by the network of main roads encircling the site. Also within the wider area are the residential areas of Usworth and Sulgrave, within Washington new town, to the west, and Town End Farm and Hylton Castle, on the north-west edge of Sunderland, to the east.
- 3.2.8 A high voltage overhead transmission line on lattice steel towers runs from south-west to north-east beyond the site's north-western boundary having been diverted.

Transport network

- 3.2.9 The A1290 forms the southern boundary of the site. International Drive is located to the east of the proposed development, forming the eastern boundary of the AESC Plant 2 development. Further to the east of the site is the A19 (T), one of the region's key north-south routes. The A194 (M) runs from south-west to north-east, some 2.5-3km to the north-west of the site. Downhill Lane connects with the A184 to the north east of the site and leads onto Follingsby Lane to the north of the site. A network of 'A' roads and more minor roads also provide connections to and within the nearby settlements.

3.3 Description of the Development

3.3.1 The redline boundary of the proposed AESC Plant 3 development covers 42.39 ha and will include a factory building for the manufacture of batteries, an assembly and warehouse building for storage and distribution, AESC's office headquarter building, ancillary MEP² plant rooms, various ancillary structures, gatehouse, car parking provision, bicycle and motorcycle shelter, high voltage (HV) substation, landscaping and drainage.

Site Plans

3.3.2 A suite of technical drawings illustrating elevations, floor plans and sections for each of the various elements of the proposed development is provided within Appendix 3.1 of this ES. For ease of reference, key drawings are identified, below.

3.3.3 Drawing 204-P04-Proposed Site Layout illustrates the proposed development and proposed quantum of development and acts as the indicative masterplan for the scheme. Drawing 205-P01-Proposed Landscape Plan illustrates the development with the proposed landscape design. Drawings 239-P01 and 240-P01 both provide illustrative view of the proposed development, as illustrated by Figures 3.1 and 3.2, below.



Figure 3.1 Proposed Illustrative View 1 (courtesy RPS Group)

² Mechanical, electrical and plumbing (MEP).



Figure 3.2 Proposed Illustrative View 2 (courtesy RPS Group)

3.3.4 The standalone Design and Access Statement, prepared by the RPS Group, submitted alongside the planning application also provides further context for the proposed development, along with additional details in relation to proposed layouts and the means of access for HGVs, cars, cyclists and pedestrians for each asset onsite.

Land use and floorspace

3.3.5 This application seeks approval for 185,956 m² gross internal area (GIA) across the AESC Plant 3 Factory Building, Assembly and Warehousing Building AESC UK Office HQ Building, the MEP Plant Rooms and the Gatehouse. Additional floorspace (8,827 m²) is provided through provision of the ancillary bulk store canopies, waste canopies and mezzanine floors (which are to be used by plant and machinery).

3.3.6 A total of 780 car parking spaces are proposed, including 5% accessible spaces and up to 10% electric vehicle charging bays.

Heights and levels

3.3.7 The tallest part of the process is on the north east of the factory building and the roof height here has been set at 33m to ridge, with a small number of flues, perimeter handrails, and solar PV panels projecting beyond this point. The maximum height of associated flues is 40m located in the gantry area between the Plant Room and Plant 3 Building. The lower parts of the manufacturing plant roof are 26m and 18m to ridge



and smaller ancillary stores, canopies, and the goods out area project out beyond the main footprint to provide relief to the building elevations.

Building design

- 3.3.8 A Design and Access Statement (DAS) is provided as part of this full planning application for the site. This details the appearance, heights and scale of the proposed development.
- 3.3.9 It is generally intended that the same palette of materials and colours will be applied to the buildings within the proposed development to visually harmonise the wider site. The elevations of the proposed development have been developed to compliment the material palette of the surrounding facilities. The roof of the manufacturing plant is to be expressed as two low-pitched barrels with photovoltaic panel arrays incorporated into the design. The roof of the assembly and warehousing building will be expressed as a singular low-pitched barrel with photovoltaic panel arrays also incorporated into the design. Where possible, external plant and process equipment are to be contained within buildings / dedicated ancillary plant rooms.
- 3.3.10 Buildings will be operated over a 24-hour seven-day week period and it is likely that external operational areas will require to be lit during the hours of darkness to the minimum levels required for their safe operational use. Buildings will incorporate the latest design specifications for energy efficiency and the use of sustainable resources.

Access

- 3.3.11 The proposed development will be access from International Drive. International Drive connects to the A1290 at two locations: one in the south (to the west of the Nissan site access) and one in the north (to the south-west of the A19 Downhill Lane junction). Access to North Moor Farm is currently provided from the A1290 via Downhill Lane and Follingsby Lane; the existing farm track has also used by construction vehicles.
- 3.3.12 Access to the Environmental Landscape Management Area (ELMA) area would be obtained from the existing track at North Moor Farm.

Landscaping

- 3.3.13 A proposed landscape plan (RPS Drawing 205-P01-Proposed Landscape Plan) has been produced that balances the need to provide open habitats for farmland birds with the

need to minimise impacts on landscape character and visual amenity. As part of the landscape design, the following are proposed:

- Existing hedging and trees will be retained (where possible) and protected against damage during construction. Additional planting using native hedgerow tree and shrub species will be implemented along the south-western, western and northern boundaries, supplementing existing planting.
- Clusters of individual native trees and wildflower meadow will be created along a portion of the south-western boundary in order to optimise onsite biodiversity.
- Wader scrapes will be created in the north-western extent of the site and flood meadow will be created at the north-eastern area of the site. The ecological enhancement area to the north of the site will include a wet woodland buffer.
- Within the site, areas of species-rich neutral grassland and areas of shade-tolerant neutral grassland will be sown.
- Wildflower meadow and mown verge will be planted along the access road.

3.3.14 As part of the proposed development, a Landscape and Ecological Management Plan (LEMP) will be prepared that will include details of how the landscaping scheme will be managed and maintained in the future.

Ecology

3.3.15 Further ecological mitigation to address site-specific losses associated with the development of the site for the AESC Plant 3 development has been identified and is set out in Chapter 12 of this ES. A range of new habitats are proposed as part of the landscape strategy (RPS, 2023), including species-rich neutral grassland along the perimeter of the site, with standard (rural trees), an area of wet woodland and hedgerow planting between new buildings. In addition, such retained habitats as sections of hedgerow and associated ditches shall be enhanced. In terms of local fauna species, the retention of a wide buffer around the peripheral western and northern boundaries shall maintain a corridor of foraging opportunities for bat species. The retention of a wide buffer zone along the Usworth Burn shall provide a safe movement corridor for otter and water vole. The proposed areas of neutral grassland (managed by a late summer hay cut), areas of arable land supporting spring sown cereals and areas of wide grassy margins will benefit brown hare. The enhanced hedgerow network (onsite and within the mitigation areas) will benefit hedgehog. the neutral grassland buffer strips included along the hedgerows and managed as tussocky / rough



grassland will improve foraging opportunities for barn owl by encouraging high populations of small mammals.

Flood risk and drainage

Surface drainage strategy

3.3.16 A surface water design strategy has been established for the proposed development that will rely upon below ground gravity drainage networks to convey runoff to below ground attenuation tanks. The water will then be pumped in order to lift it to the level of the outfall and to manage discharge from the site at greenfield runoff rates.

3.3.17 As the underlying clay soils at the site prevent the use of infiltration to discharge surface water to ground, it is necessary to discharge surface water runoff to watercourse. All runoff will be directed to the River Don via Usworth Burn, situated to the north of the site. Prior to discharge to the water courses, proprietary treatment systems will be used to treat the runoff and achieve the required water quality.

3.3.18 Where appropriate, surface level 'green' SuDS features have been proposed.

Public surface water sewers

3.3.19 As detailed within the 2023, there are no public surface water sewers within the site.

Foul drainage

3.3.20 A new drainage system will be provided for foul water originating from domestic flows from staff welfare and catering facilities, condensate from cooling plants and process effluent. At this stage, it is proposed that foul water from the proposed development will discharge into the existing foul water sewer situated beneath International Drive, which connects to a sewage pumping station that transfers sewage from IAMP ONE to a Northumbrian Water Limited (NWL) public sewer located to the west of Nissan. Should the system be unable to accept flows from the proposed development in its current state, the potential to upgrade will be considered. Should the system have insufficient spare capacity to, a dedicated onsite pumping station and a new offsite rising main, required to transfer the flows from the proposed development to a suitable location for discharge into the NWL network, will be considered.

Sustainability

3.3.21 The Applicant aims to minimise the consumption of energy and use of fossil fuels. Appropriate building design will help minimise heat loss and maximise solar gain,



natural lighting and passive ventilation to reduce energy requirements, whilst electrical appliances and fittings are becoming increasingly energy efficient.

3.3.22 It is intended that energy efficiency and sustainability will form an intrinsic part of the development proposals, with a proportion of the development's energy requirements addressed through the provision of onsite generation of renewable energy, by roof-mounted photovoltaic (PV) panels.

3.3.23 The proposed development has been designed to include a high level of fabric efficiency and to use energy efficient technologies, where possible, to minimise energy use and carbon emissions. The installation of roof-mounted solar PV panels upon the factory building and the assembly and warehousing building will help achieve emission reductions. Given the large roof area available, the proposed deployment of solar PV panels aims to substantially exceed minimum requirements in relation to carbon emission reductions.

3.3.24 Where viable, other sustainable aspects intended to ensure energy efficiency and facilitate the reduction of CO₂ emissions will be considered. Potential examples of these include the following:

- Water efficiency, reducing water demand via low usage/water-efficient fittings;
- Water recycling systems;
- Energy conservation, adopting a 'fabric first' approach to achieving an efficient building fabric with a high thermal mass;
- Use of low energy light fittings; and
- Energy metering and auditing.

Drainage

3.3.25 The surface water drainage strategy for the proposed development will rely upon below ground gravity drainage networks to convey runoff to below ground attenuation tanks. The water will then be pumped in order to lift it to the level of the outfall and to manage discharge from the site at greenfield runoff rates. In terms of foul water, at this stage it is proposed that foul water from the proposed development will discharge into the existing foul water sewer situated beneath International Drive, which connects to a sewage pumping station that transfers sewage from IAMP ONE to a Northumbrian Water Limited (NWL) public sewer located to the west of Nissan.

Waste



- 3.3.26 In order to minimise waste during the construction, a construction Site Waste Management Plan (SWMP) will be prepared that details good practice measures, waste reduction, reuse, recycling and disposal options. Waste reduction will be a key objective of the waste management practices at the development. Where waste cannot be prevented, recycling and reuse will be encouraged. Where materials ultimately require disposal, these will be securely stored prior to disposal and only be removed from site by registered waste carriers. Waste movements will be accompanied by a Duty of Care Controlled Waste Transfer Note or Special Waste Consignment Note, if appropriate, and copies of these will be stored onsite. Waste permits will be obtained for any facilities used for offsite recovery, recycling or disposal of waste, and copies of these also kept onsite. Any hazardous waste materials will be handled by appropriate licensed operators.
- 3.3.27 In order to minimise waste during operation, an operational SWMP will be prepared that details the management of wastes generated by the operation of the proposed development. As part of this, all waste materials will be segregated and stored separately. Appropriate outlets will be identified for each recycling and waste stream, with the proximity principle applied to minimise transportation impacts. Suitable collection frequencies will be agreed with the collection contractor / local authority and the storage containers sized appropriately to ensure provision of adequate storage capacity to optimise the collection frequency and to avoid waste materials being stored onsite for prolonged periods. This includes suitable collection methods and duty of care (Hazardous Waste Transfer) for hazardous wastes generated by the battery production process, ensuring wherever possible materials are reused and recycled through the most efficient means.

Travel

- 3.3.28 Provision for pedestrians and cyclists will be incorporated into the overall layout of the development area, and facilities for cycle storage will be incorporated into the site layout. A Travel Plan will be prepared in order to reduce the number of employees commuting by single occupancy car. This includes measures relating to encouraging walking, cycling and public transport, encouraging greener car travel (i.e. car sharing, ultra-low emissions vehicles and car clubs), encouraging smart business travel and minimising the need for travel by sourcing locally.

Accessibility



3.3.29 Developments within the site will be fully compliant with the requirements of the Disability Discrimination Act. All entrances to and exits from buildings will be designed with level thresholds and appropriate vertical access to all levels will be provided. Accessible parking areas will be located adjacent to the main circulation points to minimise travel distances.

3.4 Construction Methodology

Construction Phasing

3.4.1 Construction of the development is currently dependent on planning permission. The first phase of work will comprise the removal of topsoil from the areas proposed for built development. Where possible, topsoil removed from within the development areas will be retained for use onsite in bunding and landscaped areas. The hours during which construction (not including deliveries, see below) is anticipated as occurring onsite are:

- Mondays to Fridays, 07:00 – 18:00 hours;
- Saturdays, 08:00 – 17:00 hours; and
- No working on Sundays and Bank or Public Holidays.

Construction Site Access

3.4.2 Access onto the site will be via the existing International Drive.

Construction Compounds

3.4.3 During the construction and fit out of the proposed development, a temporary site compound(s) will be required that will include cabins to provide offices, welfare facilities and to house equipment. The welfare facilities will include toilets, showers and a canteen. Temporary parking will also be required for the staff. The location of the site compound and parking area(s) has not yet been established. Given the size of the site, they could be moved around the site as work progresses.

Construction Access Routes

3.4.4 Construction vehicles will be contractually obliged to follow an agreed route to and from the site, as set out in a CTMP. It is anticipated that Heavy Goods Vehicles (HGVs) accessing the development site will do so via the A19 (north or south) and then travel via the A1290 to access the site via International Drive. This routing is intended to avoid, as far as possible, sensitive areas such as schools, hospitals, built-up residential areas and sections on the existing road network that experience notable congestion.



Construction Delivery Timing

3.4.5 To minimise disruption to the immediate surrounding area, including avoiding potential conflict with times when shift changes take place within the adjacent Nissan factory, the CTMP will set out those times when construction deliveries to the site will be permitted. These would typically be restricted to Mondays to Saturdays, between 08:00 hours and 14:30 hours. There would be no deliveries on Sundays, Bank Holidays or public holidays.

3.4.6 Where appropriate, for the delivery of specific elements of equipment or materials, any large construction vehicles will be required to adhere to an allocated delivery time slot, to be agreed with the local highway authority.

Wheel Washing

3.4.7 Any new construction site entrances will be kept clear of mud, debris and materials at all times. Deposition of mud or soils onto the public road will be minimised, including through the reuse of excavated topsoils onsite, as far as practicable. All loads leaving the site will be sheeted. Wheel wash facilities will be available for all vehicles leaving the site and roads will be inspected on a daily basis, with the additional implementation of a road sweeper, if required

Onsite Parking

3.4.8 The expectation is that the daily movement of construction staff will, wherever possible, take place via multi-occupancy trips using car sharing. Given the nature of the working patterns in the construction industry, these trips can be anticipated as occurring outside of the typical peak 'commuting' periods. A specific, hard-surfaced parking area for construction staff vehicles accessing the site will be developed. This will be able to be shared with visitors to the site and delivery vehicles. Signage will be provided to direct vehicles to the correct areas.

Site Security and Contact Details

3.4.9 Security at the site entrance will control access to the site area, which will be restricted to authorised vehicles, only. Adequate turning provision will be provided within the site enabling vehicles to enter and exit in a forward gear. Contact information, including mobile phone number(s) will be provided to all people anticipated as requiring access to the site. This contact information will also be made available to the local community so that direct liaison with the site can be facilitated, should there be a requirement for issues to be resolved.



Site Waste Management Plan

3.4.10 A Site Waste Management Plan (SWMP) will be prepared that will include details of the types and volumes of excavations and construction waste arising anticipated for the proposed development site.

3.4.11 The SWMP will identify where materials can be reused, recycled or otherwise recovered, in preference to sending waste to landfill, which will only occur where no other alternatives are available. This will take into consideration factors such as any potential hazards presented by the waste type, estimated volumes of waste, benefits of reuse and whether local markets exist to receive these waste streams.

Construction Environmental Management Plan

3.4.12 A Construction Environmental Management Plan (CEMP) will be prepared prior to the commencement of works onsite. This will include any mitigation identified within this ES, in relation to construction activities, including measures to minimise construction noise and control dust emissions from the site.

3.4.13 Industry good practice will be implemented to minimise construction noise, including:

- Use of modern and well-maintained plant and equipment;
- Switching off plant when this is not being used; and
- Scheduling of noisy works outside of sensitive times i.e. avoiding the early morning and weekend periods.

3.4.14 The Dust Management Plan (DMP) will be included within the CEMP that will, in turn, include a range of site-specific mitigation measures to control dust emissions, such as:

- Locating machinery and activities likely to generate dust, including stockpiles of soils, as far as possible from sensitive receptors;
- Fully enclosing the site, or specific operations, where possible, particularly where there is high potential for dust and particles to be produced;
- Avoiding runoff from site, of water or mud;
- Keeping site fencing, barriers and scaffolding clean, using wet methods;
- Removing materials with the potential to produce dust from site as soon as practicable, unless these are proposed for re-use on site;
- Stockpiles to be covered and any long-term stockpiles of topsoil or subsoil to be seeded, to prevent wind stripping;



- All stationary vehicles to have engines turned off;
- Dust suppression techniques, including water sprays, to be used during extended dry conditions;
- Use of bonfires or burning of waste materials on site;
- Use of water-assisted road sweepers on access and local roads, to remove any material tracked out of the site;
- Implementation of a wheel wash on site; and
- All loaded vehicles entering or leaving the site to be sheeted to prevent escape of materials during transport.

3.4.15 With the implementation of all of the above it is considered that construction can take place with minimal impact on the local environment.