Ford | energy from waste

# FORD ENERGY RECOVERY FACILITY AND WASTE SORTING AND TRANSFER FACILITY, FORD CIRCULAR TECHNOLOGY PARK

ENVIRONMENTAL STATEMENT

**NTS**

NON-TECHNICAL SUMMARY

Viridor

GRUNDON

# Non-technical summary

## Introduction

NTS.1 Viridor Waste Management Limited, Grundon Waste Management Limited and Ford Energy from Waste Limited (the latter a joint venture between Grundon Waste Management Limited and Viridor Waste Management Limited), is applying to West Sussex County Council for full planning permission to build and operate a conventional energy recovery facility (ERF) to treat non-hazardous, non-recyclable, residual waste at the Ford Circular Technology Park at Ford Road, Ford. Grundon Waste Management, the sole owner / operator of the existing waste transfer station (WTS) at the site, is also proposing to continue this operation in a new, purpose built waste sorting and transfer facility (WSTF) on site. Figure NTS.1 shows the site location and figure NTS.2 shows the application site boundary.

NTS.2 The proposed ERF will take a mixture of municipal solid waste and commercial and industrial waste, and this will be sourced principally from within the West Sussex county area, but also from the neighbouring counties of East Sussex, Hampshire and Surrey, including Portsmouth, Southampton, and Brighton and Hove. Waste for processing at the WSTF will be collected from local householders, businesses and industries in the same catchment.

## Background

NTS.3 The Ford Circular Technology Park site is identified in the adopted West Sussex Waste Local Plan (2014) as a Strategic Waste Site. In 2015, Grundon Waste Management Limited secured planning permission for an energy from waste facility and a materials recovery facility (application reference: WSCC/096/13/F). The application was subject to environmental impact assessment (EIA) and accompanied by an environmental statement (ES). The approved facilities have not been built, although the permission has been implemented and the site currently operates as a WTS that typically handles between 20,000 and 25,000 tonnes of waste per annum (tpa), although it is currently handling about 50,000 tpa. This is because a fire at another facility means that waste from there is being temporarily diverted to the Ford site whilst the damaged site is being repaired.

NTS.4 Planning permission was granted in August 2019 for a new access road that has replaced the previous one-way circulation system (application reference: WSCC/027/18/F). The associated Section 106 agreement also increases the permitted heavy goods vehicle (HGV) movements to / from the site and amends the approved waste delivery hours. Construction of the road was recently completed and vehicles are no longer using Rollaston Park Road to access the site or the private access road to the north of Rodney Crescent to egress onto Ford Road. The access road application was also subject to EIA and accompanied by an ES.

NTS.5 The ERF and WSTF will help to meet the need for sustainable waste management infrastructure and to divert waste away from disposal to recycling and recovery. This is in line with national and local policy, including the Waste Hierarchy, which ranks recycling and recovery above disposal methods such as landfill.

## Environmental impact assessment (EIA)

NTS.6 As part of the planning application to West Sussex County Council, a study of the potential environmental effects of constructing and operating the proposed facilities has been carried out. The scope of the EIA was the subject of consultation with West Sussex County Council and with a range of other organisations, including Natural England, the Environment Agency and Historic England (see section on *Environmental issues and scope of assessment work* for further details). The results of the study are reported in a document called an environmental statement (ES) and this is a summary of its key findings.

## The application site

NTS.7 The application site is located at the Ford Circular Technology Park (the former Tarmac blockworks site, which forms part of the former Ford Airfield) to the west of the village of Ford, as shown in figure NTS.1. An aerial photograph of the site is shown in figure NTS.3.

NTS.8 The 7.11 hectare site is currently partially used for the existing WTS operations and partially vacant. The existing WTS building is located towards the centre of the site, and portacabins, parking and containers associated with this operation are situated to the west of the WTS. There are also two vacant, derelict former hangar buildings towards the north of the site and a large area of hardstanding is situated towards the south and east of the site. The site also includes a small area of hardstanding to the north west of the main part of the site. The site is flat and approximately 6.7 m above ordnance datum (AOD).

NTS.9 Vehicular access to the site is provided by the existing access road that connects the site at its south east corner to Ford Road, just to the north of Climping / HMP Ford. The access road has recently replaced the previous one-way circulation system that saw vehicles using Rollaston Park Road to enter the site from the west, and the private access road to the north of Rodney Crescent to exit onto Ford Road to the east.

## The surrounding area

NTS.10 Yapton is situated approximately 1 km to the west of the site, Climping approximately 1 km to the south, Littlehampton approximately 2 km to the east, and Arundel approximately 3 km to the north east.

NTS.11 The site is currently surrounded by agricultural land to the north, east and west. An area of sports pitches and a sewage treatment works lie to the south. Ford Industrial Estate lies beyond the agricultural land to the west, beyond which is a residential area on the edge of Yapton. Ford Market and Viridor's materials recovery facility lies beyond the sewage treatment works to the south, beyond which there is another industrial estate, HMP Ford and the residential area of Climping. Ford village lies beyond the agricultural land to the north east, while Ford Lane and a small number of commercial premises lie beyond the agricultural land to the north. There is agricultural land and the Ford to Barnham railway line beyond these. Beyond the agricultural land to the east of the site is Ford Road, more agricultural land and the River Arun.

NTS.12 There are several public rights of way in the vicinity of the site to the north, including footpaths 366 and 366/1, which run north-south to Ford Lane, and footpath 200/3, which runs from Ford along the site's north eastern edge and joins footpath 363, which runs to Yapton.

NTS.13 Two planning applications have recently been submitted for development within the immediate vicinity of the proposed Ford ERF and WSTF development site. One application, by Redrow Homes Southern Counties and Wates Developments Ltd, is for a mixed use development including 1,500 residential dwellings and the other, by Ford Airfield Market, is for amending the layout of the existing market due to the proposed housing development (including the creation of a new car park and footpath and resurfacing of an existing access track). While decisions are not expected on these applications until later this year, granting permission for the mixed use development will clearly change the character of the surrounding area. (Both of the proposed developments are included in the cumulative impact assessment, along with other local proposals, see section Environmental issues and scope of assessment work for further details).

NTS.14 There are no environmental or cultural heritage designations on site. Figure NTS.4 shows the designations within 2 km of the site.

**The proposed development**

NTS.15 The proposed development will include two main buildings, as shown on the proposed layout of the site in figure NTS.5. The larger building will house the ERF and the smaller building, to the immediate west, will be the WSTF. The plant that will generate electricity for the National Grid will be included within the ERF building. Administration and welfare facilities will be included within both buildings and the ERF building will also include some visitor facilities.

NTS.16 There will also be other smaller buildings and structures on site that support the main ERF and WSTF. These include equipment to cool the steam from the turbine, maintenance workshops, parking areas, gatehouses to monitor access to and from the site, weighbridges and a substation for transferring the energy generated by the facilities to the National Grid. Figures NTS.6a-f are some of the architect's elevation drawings for the ERF and WSTF buildings.

NTS.17 The proposed development will lead to the loss of some of the existing vegetation around the edges of the site. However, new planting is proposed to assist in breaking up the proposed building mass and providing a degree of screening to the ground level activity. The site boundaries will also include security fencing, sections of flint wall, landscape bunds and acoustic timber fencing.

NTS.18 Figure NTS.7 is a flow diagram to show how the ERF process works and NTS.9 shows the key inputs and outputs from the ERF process. Waste for treatment at the ERF will be weighed (while still in the waste delivery vehicles) then tipped into a concrete bunker within the ERF building. A grab crane will transfer the waste from the bunker into the combustion chamber where the waste will be burnt at a high temperature (850°C). Ash from the burning process, known as bottom ash, will be collected, cooled and stored ready for

collection and export off site. 100% of the ash will be recycled into secondary aggregates which will be used for construction projects and road building.

NTS.19 The hot air from the ERF combustion chamber (known as the flue gases) will be drawn off and used to heat water and create steam. The steam will then be directed to a steam turbine that produces electricity. The process will generate approximately 31 MW of electricity, of which approximately 28 MW will be exported to the National Grid and the remainder will be used on site for the ERF. The proposals will also allow for the future export of heat should a practical off-site local user be identified.

NTS.20 Before they are released to the atmosphere the ERF flue gases will undergo a series of treatments that will clean the gas to a level that meets the strict legal standards set for the protection of both human health and the environment. The emissions from the stacks will be continuously monitored and records will be kept on site. These records can be made immediately available to West Sussex County Council and the Environment Agency on request.

NTS.21 The residue remaining from the ERF flue gas treatment process is called flue gas treatment (FGT) residue and all of this will be sent off-site for treatment and used to create a lightweight, high quality, carbon-negative aggregate that is used as a construction building material.

NTS.22 Waste for processing at the WSTF will be weighed in the vehicles they arrive in, then the vehicles are designated a tipping bay depending on the source and content of each load. Once the contents of each load have been deposited within a bay, site operatives, where possible and if required, will then manually sort through the waste in each bay to segregate different recyclable waste types, e.g. paper, plastic, cardboard, glass, textiles, waste, wood and metal, leaving only non-recyclable residual waste.

NTS.23 The different recyclable wastes recovered from each load will then be transferred into different bays for onward transfer to a suitable offsite recycling facility for further treatment. More specialised waste types, typically collected in smaller volumes (e.g. glass, metals, paper cups, textiles, rubber, etc) will be stored at the southern end of the WSTF. Once sufficient volumes of these waste types have been collected they will also be transferred to suitable recycling facilities.

NTS.24 The residual wastes from the WSTF (i.e. those items of waste that cannot be further re-used or recycled) will be collected and transferred to the adjacent ERF.

NTS.25 The WSTF will have an annual throughput of up to 20,000 tpa. It is anticipated that approximately one third of the waste processed at the WSTF will be transferred to the ERF as non-recyclable waste.

NTS.26 The ERF will operate 24 hours a day, seven days a week, though there will be periods of annual maintenance when waste processing is reduced. The majority of deliveries and collections will be received / made between 6am and 8pm Mondays to Fridays and 8am and 6pm on Saturdays. The WSTF will operate from 6am to 8pm Mondays to Fridays, 8am to 6pm on Saturdays.

NTS.27 The ERF will be operated and managed by suitably qualified and trained personnel. A total of 40 full-time staff will be employed, including facility, operations, engineering, health/safety and finance managers, mechanical and electrical engineers, shift team leaders, operators, mechanical and environmental technicians, administrators and industrial cleaners. The existing WTS operations employ a total of 24 full-time staff, including heavy goods vehicle drivers, site operatives and administration staff. The proposed WSTF will retain the existing 24 staff and provide a further 16 jobs, which are needed to cover the expanded heavy goods vehicle fleet, the new vehicle workshop, and additional site operatives and administration staff.

NTS.28 The average daily operational heavy goods vehicle movements are forecast to be 109 each way (i.e. 218 heavy goods vehicle movements in total). This includes waste deliveries to the ERF, waste deliveries to the WSTF, the delivery of materials used in the process (e.g. hydrated lime, ammonia, diesel, etc), the removal of residues from site (e.g. FGT residue, ferrous ash and bottom ash) and the transfer of recyclable waste for onward treatment. Peak heavy goods vehicle movements are forecast to be 120 each way (i.e. 240 heavy goods vehicle movements in total). The forecast movements are within the heavy goods vehicle limit set in the Section 106 agreement associated with the new access road that was approved in August 2019.

NTS.29 Maintenance activities, deliveries related to administration and welfare on site, and visitors and staff arriving at and leaving the site will also generate vehicle traffic, although the amount associated with maintenance and administration / welfare deliveries will be very small.

NTS.30 A range of nuisance control measures will be in place to ensure that problems with dust, odour, noise, pests and litter do not arise. The applicants will operate a good neighbour culture. A Local Liaison Committee has already been set up and will continue to meet on a regular basis to discuss the proposed development. It is intended that the group will meet during all stages of the proposed development, including: construction, commissioning and the start of operations and continue for as long as there is an interest. The liaison committee will provide the opportunity for those in the local community to raise any potential issues or queries. It will also provide a forum for community stakeholders to be informed and consulted regarding site operations and procedures. Liaison committee members will include parish councillors, locally elected representatives of the community, and representatives of the Environment Agency, West Sussex County Council, and Arun District Council, and other stakeholders if appropriate.

NTS.31 The construction of the proposed ERF and WSTF is likely to take approximately 61 months and would be phased as follows:

- Phase 1 – demolition of the westernmost existing building, construction of the northern half of the WSTF and any feasible enabling works for the southern half of the WSTF
- Phase 2 - demolition of the remaining existing buildings including the existing WTS
- Phase 3 - construction and commissioning of the ERF
- Phase 4 - construction of the southern half of the WSTF

NTS.32 Vehicle movements will increase over the construction and commissioning period, but this is for a temporary period only and will be managed through a construction traffic management plan. All heavy goods vehicle movements associated with the construction activities will be required to access and depart the site via the existing access road, from / to the south onto Ford Road and then onto the A259 and the wider network. No construction heavy goods vehicles will be permitted to leave or access the site to / from the northern stretch of Ford Road and measures will be put in place to enforce this.

NTS.33 Construction work will take place between the hours of 7am and 7pm Monday to Saturday, with no work on Sundays or public holidays. Delivery of oversize plant and equipment, internal fit out, internal works and other non-intrusive works may take place outside of these times. Extraordinary events such as concrete pours may also need to take place outside these hours as by their nature they need to be continuous.

NTS.34 The number of people employed on site at any one time during construction will vary considerably. During Phase 1 the workforce will range in number from approximately 8 – 35. During Phase 2 a constant workforce of 10 has been estimated. It is during Phase 3 (construction of the ERF) that the workforce will peak at up to 465 (although this will not be for full Phase 3 period). In Phase 4 the workforce will peak at 37.

NTS.35 More detailed information on both the construction and operation of the proposed ERF and WSTF can be found in Chapter 3 of the environmental statement.

**Alternatives**

NTS.36 A number of alternatives were considered during the development of the proposals, including alternative:

- Technologies
- Site layouts
- Building designs
- Building materials
- Drainage solutions

NTS.37 The alternative combustion solutions that were considered for the ERF are explained in Chapter 4 of the ES. The selected solution of a 'moving grate' incineration process is a leading technology with a proven track record for achieving compliance with high health, safety and environmental standards.

NTS.38 A review of alternative site layouts, building designs, materials and colours led to the selection of a design that meets the operational requirements of the technical processes, is practical in terms of vehicle circulation, reflects the local history of the site and reduces potential noise and visual impacts where possible.

NTS.39 The review of alternative drainage solutions led to the selection of lined, below ground cellular storage tanks and rainwater harvesting for dealing sustainably with surface water at the site. The measures selected will ensure that clean

surface water is released gradually from the site and does not pose any flood risk.

### Environmental issues and scope of assessment work

NTS.40 The initial stage of the environmental assessment work involved 'scoping', i.e. identifying the range of significant issues likely to arise as a result of the proposed development. Scoping ensures that significant issues are addressed in detail, while those of less relevance are considered in less or no detail. A formal scoping exercise was undertaken with West Sussex County Council and various statutory consultees between January - March 2020 and as a result the following environmental topics have been considered within the environmental statement:

- Air quality, odour and dust
- Carbon and greenhouse gas emissions
- Health
- Community and social effects
- Cultural heritage
- Ground conditions and the water environment
- Landscape and visual effects
- Natural heritage
- Noise and vibration
- Traffic and transport

NTS.41 The various specialist assessments, which are discussed in more detail later, followed generally similar methodologies. Baseline desk and / or field studies were undertaken to establish the existing situation. The effects of constructing and operating the proposed facilities were then evaluated using a method that compares the sensitivity and importance of receptors with the likely magnitude of change, to establish the degree of effect or significance. The degree of an effect determines the amount of resource that should be put in place to avoid or reduce (mitigate) an adverse effect and identifies the actual value of a beneficial one.

NTS.42 The main focus of the environmental impact assessment is on the effects of the proposed ERF and WSTF development. However, the existing planning permission for an energy from waste facility and a materials recovery facility at the site (see paragraph NTS.3 above) represents a theoretical alternative development scenario or 'fall-back' position with its own potential effects. The environmental statement topic chapters therefore also summarise the potential effects of this existing approved scheme for comparative purposes.

NTS.43 The environmental assessment work has also looked at the potential for cumulative effects with other significant proposed and approved development projects in the area, together with some sites allocated in the Arun Local Plan that are close to the site. Figure NTS.9 identifies the 14 local projects and shows their location in relation to the proposed development.

NTS.44 The following sections summarise the findings of each of the environmental topics covered in the environmental statement, but for more detail please see the environmental statement and associated technical appendices.

## Environmental effects

### *Air quality, odour and dust*

NTS.45 The potential impact of the proposed development on air quality has been considered in detail. The main focus of the assessment was the process emissions from the operation of the proposed ERF (i.e. the content of the flue gas). However, impacts from dust during the construction phase, the emissions from traffic bringing materials in and out of the site during construction and operation, and potential dust and odour once the ERF and WSTF are both operational, have also been assessed.

NTS.46 Trends in national air quality monitoring show that generally pollutant concentrations have been decreasing and are projected to continue to decrease. The only local monitoring available is for nitrogen dioxide and this shows that existing concentrations in the area are fairly low and there are no instances where the government's air quality assessment levels (i.e. target and limit values for different air quality pollutants) are exceeded.

NTS.47 The site is situated close to Viridor's materials recycling facility and Southern Water's waste water treatment works site. The baseline odour in the local area therefore has the potential to be impacted by these neighbours. No other significant sources of odour or other waste sites have been identified in the local area.

NTS.48 There is the potential for increased dust generation from construction activities such as demolition, earth moving, and the transport and storage of materials. A range of best practice measures will be put in place to ensure that there will be no significant effects on sensitive receptors from increased dust generation. These measures will include the use of dust control equipment, covering or screening stockpiles, removing materials that have the potential to create dust from the site as soon as possible, covering vehicles entering and leaving the site, and a wheel washing system. These measures will be set out in detail in a construction environment management plan that will be prepared by the appointed site contractor. It is considered that with the implementation of these measures there would not be any significant effects.

NTS.49 Traffic levels during the operation of the proposed facilities will not exceed the heavy goods vehicle limit in the Section 106 legal agreement for the new access road (as referred to in paragraph NTS.4), i.e. up to 240 heavy goods vehicle movements per day (120 movements to the site and 120 movements from the site). This means that there will be no significant effects on air quality from operational traffic. Similarly, the number of heavy goods vehicle movements during construction will also adhere to this limit and therefore there will be no significant increase in the levels of traffic-related pollutants as a result of the construction period.

NTS.50 The assessment of the operation of the ERF included modelling the concentrations of a range of pollutants in the flue gas emissions. As discussed

in paragraph NTS.20, the flue gases will undergo a series of rigorous treatments that will clean the gases to a safe level before they are released to the atmosphere. The flue gas treatment system will be designed to comply with current stringent legislation, meeting the requirements of the Environment Agency guidance on risk assessments for environmental permits and the Industrial Emissions Directive. In accordance with this Directive, emission limit values must be based on 'best available techniques', which is enforceable in law through Environmental Permits that are issued by the Environment Agency. The flue gas treatment system will therefore be designed to ensure that the facility operates well within strict limits. The air quality modelling shows that there will be no significant effects on air quality, human health or designated nature conservation sites as a result of emissions from the ERF.

NTS.51 There is the potential for dust and odour to arise during operation of the proposed facilities due to the delivery and unloading of waste materials. However, the potential for nuisance to arise will be very limited due to the containment and mitigation measures embedded in the design of the ERF and WSTF.

NTS.52 The ERF building is totally enclosed except for the roll-up doors. All operations will therefore be conducted within an enclosed building, and vehicles would deposit waste into an enclosed tipping hall. The tipping hall would be held under negative pressure, with the air being used in the combustion process. This prevents the release of odours and dust from the building when the doors are opened for short periods for deliveries. With regard to the WSTF there will be a first in – first out approach applied to waste deliveries, therefore potentially odorous waste will not be permitted to deteriorate on site. When not in operation, all doors to the WSTF will be shut. No waste will be stored outside any of the buildings and there would be no release of odour from the stack emissions.

NTS.53 The fact that all ERF processes will be enclosed within the building will also ensure that dust emissions do not become a nuisance. Dust emissions from the WSTF will be minimal as all waste materials will also be contained within the WSTF building. Doors to the WSTF will be shut when the facility is not open and the movement of waste throughout the building will be minimised where possible. As a precaution, a rotary atomiser (water spray) will be installed within the WSTF to provide dust suppression. The site access road will be properly maintained and regular checks will be carried out on road conditions. Cleaning will be carried out as necessary. Vehicles will also be checked to ensure that they are clear of loose waste and that their loads are secure.

NTS.54 A qualitative assessment of potential cumulative effects has been undertaken and this has demonstrated that there is no risk of significant cumulative effects in relation to dust, odour or emissions. In conclusion, the proposed development is not predicted to give rise to significant environmental effects on air quality, human health and odour.

### *Carbon and greenhouse gas emissions*

NTS.55 An assessment of the carbon impact of processing waste at the proposed development was undertaken as part of the environmental impact assessment.

The assessment considered the following factors when determining the carbon impact of the development:

- Carbon dioxide emissions released from the combustion of fossil-derived carbon in the waste processed in the ERF
- Emissions of other greenhouse gases from the combustion of waste in the ERF
- Emissions from the combustion of auxiliary fuel in the auxiliary burners at the ERF
- Emissions from the transport of waste and reagents to the site and residues from the site associated with the operation of the ERF
- Emissions offset from the export of electricity from the development
- Emissions arising from the operation of and transport to / from the WSTF

NTS.56 With regard to the ERF the assessment showed that there will be a net carbon benefit of approximately 74,449 tonnes of carbon dioxide equivalent ($tCO_2e$) per annum when compared to the baseline. Therefore, over the lifetime of the development (assumed to be 25 years) the net carbon benefit of the proposed development will be approximately 1,861,225 $tCO_2e$ compared to the baseline.

NTS.57 Although a minor contributor to the benefits in comparison with the operation of the ERF, it is also worth noting that the ERF will have solar photovoltaic cells and all car parking spaces associated with the ERF will be provided with electric charging points. It has therefore been concluded that the development will have a significant positive contribution to reducing carbon emissions when compared to the baseline.

NTS.58 The existing WTS usually handles in the region of 20 - 25,000 tonnes per annum of waste from West Sussex and surrounding counties. The waste, primarily from commercial and industrial sources, is delivered in refuse collection vehicles. Currently, there is no treatment of the waste at the WTS, it is simply bulked up and then transferred to a number of outlets off-site.

NTS.59 Approximately one third of the waste processed in the WSTF (i.e. the residual waste left over after sorting of recyclables) will subsequently be treated within the adjacent ERF. The recyclates such as metals, glass, aggregate material, etc. will be transferred off-site for further recovery or recycling at a suitably licensed facility.

NTS.60 It is anticipated that there will be a carbon benefit associated with the development of the WSTF when compared to the existing WTS due to:

- Reduced transport requirements - the carbon emissions associated with the transport of 100% of the waste to other waste management facilities such as the Lakeside EfW or the Bishops Cleeve Landfill from the existing WTS will result in significantly higher carbon emissions compared to the transport of two thirds of the waste off-site with one third remaining on-site for treatment at the ERF, as would be the case for the proposed WSTF.
- The recovery of recyclates from the incoming waste at the WSTF - this will displace extraction of primary resources and the production of materials which would otherwise need to be produced. In addition, as recyclates will

be recovered from the incoming waste, the WSTF will reduce the quantities of waste which would otherwise potentially be transferred for disposal.

NTS.61 Aside from transport emissions, the day-to-day operation of both the existing WTS and the proposed WSTF will have minor carbon emissions such as those from power consumption, lighting, etc. The power consumed by both the existing WTS and the proposed WSTF will be similar in nature, although the latter may have a reduced operational impact through the use of newer and more efficient lighting. In addition, the use of solar photovoltaic cells on the roof of the WSTF and the provision of electric charging points in the car parking area associated with the WSTF will also contribute towards reducing the operational carbon impact of the proposed WSTF.

NTS.62 In conclusion, the operation of the proposed WSTF will have a carbon benefit when compared to the existing WTS and therefore a net positive significant effect when compared to the baseline.

***Health***

NTS.63 A detailed human health risk assessment was carried out as part of the environmental impact assessment. The key issue for consideration in the human health risk assessment was the release of substances from the ERF to the atmosphere that have the potential to harm human health. Some pollutants accumulate in the environment. This means that inhalation is only one of the potential exposure routes to these substances and impacts cannot be evaluated in terms of their effects on human health by simple reference to ambient air quality standards. An assessment was therefore made of the overall human exposure to the substances by the local population and the risk that this exposure causes.

NTS.64 The ground level concentrations resulting from emissions from the proposed ERF will be highest in the vicinity of the plant. To account for this, notional adult and child receptors were assessed at the point of maximum impact. The human health risk assessment also assessed the potential effects at a range of existing and future receptors in areas predicted to experience the greatest impacts.

NTS.65 The emissions from the ERF at the point of maximum impact for agricultural, allotment and residential receptors (both adult and child) were assessed. The agricultural receptor was assumed to experience direct inhalation and ingestion from soil, drinking water and home-grown eggs, produce, meat and milk. The allotment receptor was assumed to experience direct inhalation and ingestion from soil, drinking water and home grown eggs, produce and poultry. The residential receptor was assumed to be a person who lives at the point of maximum impact and consumes home-grown produce.

NTS.66 The human health risk assessment concluded that there will be no significant adverse health effects at any of the sensitive receptors considered, including farms, allotments, residential properties (existing and future) and schools (existing and future), as a result of the proposed development. No cumulative effects were identified either.

### *Community and social effects*

NTS.67 The scoping process determined that the community and social assessment should focus on the potential for effects on house prices and housing supply, education and local services, and tourism, as well as examining issues associated with public perception. Public concern regarding ERFs relates to a number of issues, including emissions, health impacts, transport issues, conflict with recycling, disposal of residues, local amenity issues, management and operational concerns, and property values.

NTS.68 Emissions from ERFs are tightly regulated and no significant adverse air quality or health effects are predicted as a result of the proposed development. Waste will be delivered to the site via the recently constructed access road that is already used to deliver waste to the existing WTS and no significant effects are predicted as a result of the transport of waste.

NTS.69 Examination of recycling levels in West Sussex showed that recycling and composting are well established in the area. The site is safeguarded in the adopted waste local plan, indicating that it forms an integral part of the county's waste management strategy and will not displace other management methods. All of the residues from the ERF will also be recycled.

NTS.70 A number of measures have been incorporated into the building design and operational procedures to minimise effects from dust, odour releases and noise. The ERF will be operated to stringent standards and no significant amenity issues are envisaged.

NTS.71 Studies of property values and the provision of local services and facilities before and after the construction of ERFs have not shown evidence of any significant adverse effects. As a result, the proposed development is not predicted to lead to significant effects on house prices and housing supply or education and local services. While tourism is an important contributor to the wider area's economy, the proposed development will be seen in the context of existing buildings and structures in the surrounding area and will not significantly alter the visitor experience to the area. It is therefore not predicted to significantly affect tourism.

NTS.72 As the proposed ERF is not predicted to lead to any significant community and social effects, there is no potential for cumulative effects with other consented and proposed developments in the area.

### *Cultural heritage*

NTS.73 The cultural heritage assessment considered the likely significant effects of the proposed ERF and WSTF on the historic environment, covering designated and non-designated heritage assets in the study area (see figure NTS.10), such as: archaeological remains, historic buildings, conservation areas and overall historic landscape character. The assessment was carried out following consultation with West Sussex County Council's archaeology officer. The assessment makes use of the viewpoints and visualisations produced for the landscape and visual effects assessment to consider potential change to the setting of designated heritage assets.

*Archaeology*

NTS.74 There are no scheduled monuments within the 1 km study area around the site. The site is located within part of a large Archaeological Notification Area, designated due to recorded evidence of early prehistoric settlement activity, predominantly of Bronze and Iron Age in date, and the east - west alignment of the former Portsmouth – Arundel canal.

NTS.75 The proposals will involve groundworks which will inevitably have an impact on any archaeological remains. The assessment concluded that the extent of disturbance at the site from the construction of the airfield has resulted in an archaeological resource that is considered to be of low importance. The physical change predicted to occur will be large, permanent and of moderate significance. However, this can be wholly mitigated through an agreed programme of targeted investigation and subsequent preservation by record. The knowledge gained in that process is predicted to result in a moderate, beneficial effect.

NTS.76 While the site does not have a rich resource of non-designated assets, it does possess elements that attest to its former use in two distinct periods of transport history. The heritage will be celebrated and its awareness increased by the implementation of a number of enhancement and heritage interpretation measures within the proposals. This will be a large change to an asset of low importance, resulting in a moderate, beneficial effect.

*Built heritage*

NTS.77 There are no designated heritage assets anywhere on site. The two former hangars on the site are both type B1 aircraft sheds, a Ministry of Aircraft Production pre-fabricated building constructed of steel stanchions with corrugated iron cladding. They were built in the immediate post-war period of reconstruction of the airfield, between 1948 and 1951, and functioned until the military use ended in 1958. The two B1 hangars are examples of a standard and common building type, have been extensively altered and are in the greatly changed setting of the redeveloped airfield. They are non-designated assets of low - negligible importance.

NTS.78 The closest listed building (grade II) to the site is the former Place Farm (sub-divided into four properties in 1964) approximately 210 m north - north east. The heritage value of the listed building lies principally in the architectural and historic value of the fabric and high status appearance of the buildings, and the immediate setting of the walled garden. The proposed development will lead to the alteration to some qualities and character of the south western portion of the setting of the house, which is considered to be a substantial significant effect.

NTS.79 St Andrew' Church at Ford lies approximately 725 m east of the site and is a grade I listed building. The immediately surrounding land (setting) includes areas of the former deserted medieval village, and the setting is of value in allowing appreciation of the church within its walled graveyard. The alteration to the qualities and character of the setting of the church as a result of the development are considered to be of substantial significance.

NTS.80 The group of designated heritage assets at Climping (grade I St Mary's Church, grade II rectory and scheduled monument earthworks) are approximately 1 km south of the site. There is not considered to be any visibility of the proposed development from St Mary's Church or its immediate setting, although the stack may be discernible in views north - west from this group of assets, in the context of HMP Ford and Rudford Industrial Estate. The presence of the completed development will not alter the qualities and character of the setting of these assets and no significant effects are predicted.

NTS.81 St Mary's Church, Yapton lies approximately 1.1 km west of the site and is listed grade I for the exceptional historic and architectural value of its fabric. The immediate setting of the walled churchyard allows appreciation of the aesthetic and scenic values of the church and is enclosed by mature trees and the high flint and cobble walls of the adjacent properties. The alteration to the qualities and character of the wider setting of the church are considered to result in an effect of slight - moderate significance.

NTS.82 The areas of agricultural land from which the completed development is predicted to be visible are a peripheral part of the setting of the Yapton Church Lane conservation area, which has few features of heritage value and where the development at the airfield is already an established presence at approximately 800m west of the site. The visual addition of the development will be perceptible primarily as a result of the stack. The alteration to the qualities and character of the setting of the conservation area are considered to result in a slight adverse effect.

NTS.83 For the built heritage assets beyond 1 km potential effects will result from visual intrusion of the ERF and stack in some views and the visible plume appearing as a new distant element in a wider landscape panorama, such as from the higher land around Arundel. There is sufficient distance, as well as intervening buildings, mature hedgerows, the railway line and existing road network, between the site and both Lyminster conservation area (approximately 3 km to the east) and Tortington with its scheduled monument earthworks of the former Augustinian priory (approximately 3 km to the north) that the proposals will not be considered a significant visual intrusion or detraction from the present setting of these designated heritage assets.

NTS.84 The ERF building will be sited approximately 4.4 km south of Arundel Castle and will appear as a distant structure that will occupy a very small part of a much wider view. The alterations to the qualities and character of the setting of Arundel Castle are considered to result in a slight adverse effect. There will be no significant visual intrusion within the registered parkland, and the character and appearance of the town's conservation area will remain unchanged.

***Ground conditions and the water environment***

NTS.85 A ground conditions and water environment assessment of the site has been undertaken based on a desk study, a water quality assessment and a flood risk assessment.

*Ground conditions*

NTS.86 The site has historically been used as an RAF airfield and a tarmacadam top block manufacturing plant (Tarmac Limited). Most recently the site has been partially in use as a WTS, with the northern portion of the site occupied by former RAF hangars, which are currently disused. Historical ground investigation information indicates the site to be underlain by Made Ground, River Terrace Deposits and Lewes Nodular Chalk Formation.

NTS.87 The nearest surface water feature to the site is the River Arun, 900 metres to the east. The site is not located in a groundwater source protection zone and no potable groundwater abstractions have been identified in the vicinity of the site. A minimum depth to groundwater of 2.45 m below ground level was recorded on site in February 2020.

NTS.88 A ground investigation undertaken by Enzygo in 2015 looked at potential contamination at the site. No contaminants were found to exceed human health generic assessment criteria levels for a commercial land use in the soil samples tested. However, organic compounds were noted to exist at a level that indicates the potential for migration into water supplies and groundwater samples did show elevated levels of some contaminants, particularly in the vicinity of a former above ground fuel storage tank.

NTS.89 Another site investigation (a walkover survey) was undertaken in December 2019 which identified several key features which could represent sources of contamination, including storage tanks, electricity substations and historic features (e.g. a bunker).

NTS.90 Based on the existing conditions at the site, the following potential effects during construction of the proposed development were identified:

- Accumulation and inhalation of gas / vapours in confined spaces / buildings / structures
- Permeation of contaminants into drinking water pipes
- Leaching and vertical migration of contaminants in groundwater
- Migration of contaminants via preferential pathways (i.e. piled foundations)

NTS.91 The potential effects post-construction with respect to ground conditions include:

- Accumulation and inhalation of gas / vapours in confined spaces in the new buildings
- Permeation of contaminants into drinking water pipes

NTS.92 However, with proposed mitigation measures in place (for example undertaking an intrusive ground investigation, completion of a foundation works risk assessment and remediation strategy, which will include groundwater and surface water monitoring and the implementation of a construction environmental management plan) no significant residual risks are predicted in relation to ground conditions. No cumulative effects are predicted on ground conditions either.

*Water environment*

NTS.93 The River Arun lies approximately 900 m to the east of the main part of the site. The River Arun is designated under the Water Framework Directive as a transitional heavily modified water body. It was classified as being of good status with respect to its chemical quality in 2016, but its ecological classification was of moderate potential. In addition, a number of small ponds are located around the site. None of the ponds are designated under the Water Framework Directive. There are several ditches within the vicinity of the site. The closest of these ditches runs is approximately 350 m from the south east corner of the main part of the site.

NTS.94 There are no drinking water protected areas in the immediate vicinity of the site, although the River Arun is classified as a surface water drinking water protected area.

NTS.95 Environment Agency mapping shows that the River Terrace Deposits underlying the site are classified as a Secondary A Aquifer (i.e. predominantly permeable layers that can store and yield limited amounts of groundwater) and the Lewes Nodular Chalk Formation is classified as a Principal Aquifer (i.e. a regionally extensive aquifer that has the potential to be used a s source of drinking water). The groundwater level at the site has been recorded at 2.45 m below ground level based on data available to date. Given the location of the River Arun to the east and the southerly direction of flow of the River Arun, it is anticipated that groundwater at the site is likely to flow in an easterly or south easterly direction.

NTS.96 The potential effects during construction related to the water environment have been identified as:

- Contaminants from sub-surface strata and surface soils getting into groundwater
- Rainfall infiltration, leaching and contaminant migration in areas of open excavation, stripped ground, etc. which may migrate into the water environment
- Creation of pathways for contamination via piling or other construction activities
- Accidental spillages and leaks of fuels, oils and chemicals that could affect groundwater quality

NTS.97 No significant effects are anticipated during the post-construction phase of development.

NTS.98 With the implementation of a detailed construction environment management plan and surface water and groundwater monitoring in place, no significant residual effects are predicted in relation to the water environment. No significant cumulative effects are predicted either.

*Flood risk*

NTS.99 Environment Agency indicative flood risk mapping shows that the proposed site is entirely located in Flood Zone 1, i.e. it is at low risk of flooding from rivers

and the risk of flooding from surface water within the site boundary is considered to be low.

NTS.100 The existing surface water drainage system on site will be abandoned with the exception of the final run of pipework leaving the site. The off-site surface water drainage connection to a land drain to the east of the site will be surveyed and cleaned to ensure that the new surface water drainage system will function well.

NTS.101 It is proposed that surface water runoff is temporarily held in large impermeable cellular storage tanks below ground, prior to being discharged gradually into the land drain to the east of the site. The proposed storage tanks will be located at the south western, northern and north eastern parts of the site and will collect surface water from rainwater pipes and external hardstanding areas. Rainwater harvesting is also proposed for the development and will be further detailed in future design stages.

NTS.102 If rainfall exceeds the storage capacity of the tanks, the site has been designed to allow for shallow ponding (approximately 150 mm average depth) within managed external hardstanding areas. This will ensure that there will not be an increase in flood risk downstream.

NTS.103 To aid in minimising the impact to the surrounding environment in terms of water quality as well as water quantity it is proposed to install “light liquid” separators as part of the proposed formal surface water drainage system.

NTS.104 No significant effects on flood risk are therefore predicted during the construction or post-construction stages of the development. Due to this no significant residual or cumulative effects are predicted.

***Landscape and visual effects***

NTS.105 The landscape and visual effects of the proposed development were considered in detail. Landscape effects arise either from direct changes as a result of development in the physical elements of the receiving landscape, or from indirect effects on the character and quality of the surrounding landscape. Visual effects arise from the changes in character and quality of people’s views resulting from a proposed development.

NTS.106 The proposed site is within an established area of industrial land uses, on a former airfield. There are no landscape or national natural heritage designations within the immediate local area. However, the South Downs National Park boundary does lie 2.2 km to the north of the site and there are listed buildings, two conservation areas (at Yapton) and a scheduled monument at Climping, within 1.5 km of the site. The older part of Arundel, defined by the conservation area and with a concentration of listed buildings and Arundel Castle (scheduled monument) lies approximately 4.4 km to the north east. While there are no public rights of way across the site, there are a number in the vicinity, with one adjacent to the northern boundary. There is no significant vegetation on the operational part of the site. Vegetation in the outlying area of the site to the north west will remain as existing. Vegetation outside the site, but located adjacent to the site boundary, is likely to be maintained.

NTS.107 The proposals replace a current industrial facility of low visual quality and approximately 20 m in height, with new, high quality buildings. The ERF will be up to 51.22 m in height with a stack of 85 m. The WSTF building will be 22 m in height, and there will also be other smaller scale ancillary buildings and structures.

NTS.108 The area from which the proposed development is likely to be seen can be modelled on a computer and is called a zone of theoretical visibility or ZTV (see figure NTS.11). The extent of this zone indicates that visibility will extend in all directions around the site and for a large distance, but that the pattern of topography, vegetation, (particularly the strong tree lines that are characteristic of the agricultural and horticultural landscape) can help to reduce the extent of visibility and to help screen the proposals.

NTS.109 A visual receptor is a particular person or group of people who would be likely to experience views of the proposals or are likely to be affected at a specific viewpoint. Following site visits and desktop studies 22 different visual receptors were identified for assessment. These include residents, recreational users of public rights of way, visitors to local heritage features, users of other transport routes, and people engaged in work. For residential receptors, the views from homes were not assessed, and the assessment focused on effects on residents using local streets, public rights of way and recreational areas. Recreational users were a particularly important receptor group in respect of people visiting the South Downs National Park.

NTS.110 Within a 1.5 km radius of the site, the proposals will be visible from some local housing areas, some public rights of way (some of which cross Ford Airfield, close to the site), local roads, some local workplaces, and some views in the settings of heritage features. The majority of the visibility from the wider area (between 1.5 and 4.5 km radius of the site) is from some public rights of way in the surrounding agricultural land, some transport links and some of the edges of some more distant settlements. It also includes views from rising ground at Arundel, 3.8 km to the north east. Visibility of the site beyond this 4.5 km radius is predominantly from elevated areas of the South Downs National Park and from parts of the A259 that bridge over the railway line near Bognor Regis.

NTS.111 The site layout and building design have been developed by the project architects in collaboration with heritage, landscape, ecology and noise professionals, and taking into account comments from pre-application consultation. The design respects local character and includes strong references to the local heritage of the site, including the form of the main ERF building, which reflects the aeronautical history of Ford Airfield, an earthy colour palette for the cladding, use of traditional flint walling panels inspired by the local landscape, and features that reflect the alignment of the Arundel-Portsmouth canal.

NTS.112 New native structure planting along the boundaries of the site and new tree planting within the site will be substantially greater than the current vegetation on site and will assist with screening some of the ground level activities at the proposed site.

NTS.113 The character of the site will remain industrial but the scale will be altered through the introduction of taller structures than the existing. However, the

quality of the design and materials will improve the overall character and distinctiveness of the site, which will be beneficial.

NTS.114 The proposals will influence the character of the wider landscape character area, within which Ford Airfield is located (North of Yapton Coastal Plain). Although the character area is already influenced by existing industrial development, the size and scale of the proposals will increase the extent of visual influence of industrial elements in the landscape into some areas with currently little or, in some cases, no view of industrial buildings. In those areas already influenced by existing industry, the scale of industrial elements will be greater than is currently experienced. The design is of high quality and although the appreciation of the design will be subjective, it strongly relates to the history of the site and may be regarded as a landmark feature of interest, contributing to a landscape that lacks distinctiveness.

NTS.115 The scale and height of the ERF building and stack will also result in some degree of influence on the other landscape character areas more distant from the site and also influence the setting of some parts of the South Downs National Park. These effects mainly arise from the introduction of an uncharacteristic feature of industrial character into landscapes that are predominantly rural, or landscapes that currently have only limited and smaller scale industrial influences.

NTS.116 The assessment of the significance of effects on the majority of landscape receptors concludes that for Bilsham Coastal Plain and Barnham Yapton Coastal Plain the effects will be slight to moderate. For North of Yapton Coastal Plain, adjacent Climping Lower Coastal Plain, West of Yapton Coastal Plain and Lyminster Arun Valley Sides, effects will be moderate and for Tortington Arun Valley Sides Middle Arun Valley Floor, Binsted Upper Coastal Plain / Binsted Park Wood / Withy Rife character area, the significance of effects will be moderate to substantial, as will effects on the South Downs National Park.

NTS.117 The large scale of the building and stack means that there will be some effects for visual receptor groups in the local area up to 4.5 km away, effects will generally reduce over distance but where visual receptors are more sensitive to visual change, such as persons experiencing views from the South Downs National Park, then this will increase the degree of effect. For residential receptors and public rights of way users in the local area up to 1.5 km from the proposals, the visual effects will be mostly moderate-substantial. For receptors in the range 1.5 - 4.5 km from the proposals, the visual effects will be mostly moderate, except for those receptors located within the more sensitive and rural areas north of the site, including parts of the South Downs National Park in and around Arundel, where the significance of visual effects will be moderate-substantial.

NTS.118 For views from the South Downs National Park, the assessment focussed on the closer views from the Arundel area and from national footpath routes or viewpoints further afield, up to approximately 11 km distance. It was noted that the coastal plain that comprises the wider landscape setting of the South Downs National Park includes several large scale features, wide areas of urban development, and numerous large scale areas of greenhouses and polytunnels, and the effects of the proposals were assessed within this landscape context. Whilst the resulting change from the more distant

viewpoints within the South Downs National Park, such as Halnaker Hill, will be negligible, the landscape and visual impact assessment focusses the assessment of the effects on this receptor group on the medium changes experienced in views from the closer viewpoints, which, due to the high sensitivity of this receptor group, are assessed as moderate-substantial.

NTS.119 This assessment records several effects of moderate and moderate-substantial significance on landscape and visual receptors, but none of the effects are found to be substantial. Whilst the quality of the architectural appearance of the development is subjective, as a strong sculptural form in high quality materials that reflects its cultural context, it may be regarded as a positive, large scale landmark that can be accommodated in the expansive flat landscape and within the wider setting of the South Downs National Park.

***Natural heritage (ecology)***

NTS.120 The current nature conservation (or ecological) interest at the site was assessed, together with its potential to support protected species, such as badgers, bats, dormice, etc. The potential effects of the proposed development on the existing habitats and species has been assessed and mitigation measures have been incorporated into the design to offset losses wherever possible.

NTS.121 There are a couple of internationally and nationally important / protected sites in the area. The Arun Valley Ramsar, Special Area of Conservation and Special Protection Area which lie approximately 10.17 km north east of the proposed development, are designated due to the presence of the ramshorn snail, the overwintering population of Bewick's swan and over 20,000 waders and wildfowl which are present over the winter period. Duncton to Bignor Escarpment Special Area of Conservation is approximately 9.9 km north of the proposed development area. This site is designated for a steeply sloping area of broadleaved woodland and heathland noted for its beech forests.

NTS.122 Due to the distance of these sites from the proposed development site, no effects were considered to arise during construction. The potential for adverse effects on these sites post-construction through emissions from the ERF was considered in detail, however, the air quality modelling showed an extremely low contribution of pollutants at the distances involved and therefore no significant effects were identified.

NTS.123 Ford Ancient Woodland is a priority habitat (i.e. one that requires conservation under the UK Biodiversity Plan) and is located approximately 1.3 km to the north of the proposed development site. As for the aforementioned protected sites, the ancient woodland is sufficient distance from the site and main access routes for there to be no effects from the construction phase. With regard to potential effects post-construction, the air quality assessment found that there would be no significant effects on the woodland and in fact surrounding agricultural practises (through the application of artificial fertilisers) were causing impacts to woodland flora.

NTS.124 The development site itself largely comprises colonised hardstanding, with small areas of unconnected, poor, semi-improved grassland, scrub, a non-native hedgerow, scattered trees and buildings, all of which are considered to

be of low value ecologically. During ecological survey work, no evidence was found of badgers, bats, dormice, great crested newts or reptiles. A range of common invertebrate species are likely to be present and breeding birds may use the exiting scrub vegetation and hedgerows for nesting purposes. During survey work the following species were recorded on site: Blackbird, Black-headed gull, Dunnock, Herring gull, House sparrow and Wren.

NTS.125 The construction phase of the development will result in the loss of approximately 0.15 hectares of poor semi-improved grassland, 0.12 hectares of bramble scrub and 120 m of non-native hedgerow. This equates to a loss of 0.27 hectares of habitats and 120 m of hedgerow with biodiversity value. Loss of the limited habitats present on site also has knock-on potential to impact on foraging bats, breeding birds and invertebrates. However, the proposals include a landscape strategy that includes the planting of 0.56 hectares of conservation grassland, 0.21 hectares of scrub and 226 m of native, species-rich hedgerow. The proposed habitat mitigation planting scheme for the site, will result in the creation of an additional 0.508 ha of habitat compared to the existing levels. Furthermore, the habitats created will be of higher biodiversity value than the existing habitats.

NTS.126 In addition to the mitigation habitats to be created on site, additional habitat and species-specific features will be created and installed to provide enhancements for the site. These will include: 0.107 hectares of pollinator-rich grassland along the eastern boundary of the site, 396 m of ground-based green walls (i.e. gabion walls planted up with climbers), 10 pear trees, 14 English oaks, 27 standard oaks, a wildlife pond planted with native aquatic vegetation, five bat boxes integrated into the flint walls, 15 bird boxes to encourage nesting by swift, house sparrow and wagtails and five bug hotels (see figure NTS.12).

NTS.127 All mitigation and enhancement habitat is considered to ensure that, overall, there are no significant adverse effects in relation to ecology. The measures set out above will be included in a landscape and ecological management plan for the site, which will specify the long term management strategy for the proposed habitats and ensure they reach their target condition and are maintained at that condition.

NTS.128 Cumulative effects from the proposed development and other proposed developments nearby were assessed as having no significant effects on local ecological receptors.

***Noise and vibration***

NTS.129 The potential effects of the proposed development in relation to noise and vibration have been considered at the nearest existing noise sensitive receptors. Noise emissions during site preparation and construction activities (including site traffic) have been calculated based on a number of assumptions relating to construction methods and plant. The actual construction noise levels will vary depending on the type of activity, periods of operation and the distances between source of noise and receivers. However, conservative assumptions have been made regarding these parameters.

NTS.130 Noise levels from demolition, substructure and superstructure works have been calculated from the existing / proposed building footprints to the nearest receptor locations. Noise levels from earthworks and external works have been assessed from the site boundary. The results show that predicted demolition and construction noise levels will result in short-term, negligible effects. Similarly, it is expected that demolition and construction heavy goods vehicle traffic noise will result in short term, negligible effects.

NTS.131 A 3D computer noise model was prepared to calculate the plant and activity noise emissions from the proposed development at each noise sensitive receptor considered. The model generated predicted noise levels for the daytime and night time separately. The results showed that during daytime periods, long term negligible effects are predicted for all receptor locations. Negligible effects were also predicted for the majority of other noise sensitive receptors, with the exception of dwellings along Rollaston Park, which may experience slight effects during the night time, and the one residential dwelling that is set back from Ford Lane, which may experience a moderate effect during the night time. Negligible to slight effects are predicted on existing sensitive receptors between 6 – 7am when site-related heavy goods vehicles will be operational.

NTS.132 It should be noted, however, that the existing site experiences noise from the WTS activities, as well as noise from the arrival and departure of lorries and refuse collection vehicles. Therefore, it is considered that the predicted effects for the night-time periods may not occur due to the current context of the site, i.e. there are already impulsive characteristics to the noise present on site during the day and early morning (6 - 7am) when HGV movements and sorting of waste is occurring.

NTS.133 Best practicable means will be implemented during the demolition and construction phase of the development, to minimise the noise and vibration effects at receptors nearest to the construction works. Typical measures which will be considered will include:

- Programming noisy works so that, where possible, these do not occur during Saturday working hours of 13:00-19:00
- Planning working hours to take account of the effects of noise and vibration upon persons in areas surrounding site operations and upon persons working on-site
- Where reasonably practicable, adopting quiet working methods and using construction plant with lower noise emissions
- Where reasonably practicable, adopting working methods that minimise vibration generation
- Locating construction plant away from noise and vibration sensitive receptors, wherever feasible
- Using silenced and well-maintained construction plant that conforms to the relevant legislation relating to noise and vibration
- Avoiding unnecessary revving of engines and switching off equipment when not required
- Carrying out regular inspections of noise mitigation measures to ensure integrity is maintained at all times

- Providing briefings for all site-based personnel so that noise and vibration issues are understood and mitigation measures are adhered to
- Managing plant movement to take account of surrounding receptors, as far as is reasonably practicable.

NTS.134 Noise mitigation measures have been designed into the proposed development. The majority of equipment with potential to create noise will be housed inside the main ERF and WSTF buildings and will include measures to contain noise from the noisiest elements. Within the ERF high levels of acoustic insulation will be installed around the turbines and generator sets. Other potentially noisy equipment such as fans and motors will also be insulated. The site has been designed to provide sufficient distance between the low speed fans on the air cooled condensers that are situated in the south east corner of the site and surrounding noise receptors.

NTS.135 Surplus spoil following construction will be used to create bunds for noise and visual screening around the site's perimeter. The western boundary of the site is proposed to include a 2 m high bund (gabion supported) with a 3 m high acoustic timber fence on top. The bund / fence is replaced with a 5 m high flint faced concrete wall in the central area. A 3 m high acoustic timber fence is proposed along the entire length of the southern boundary. The southern half of the eastern boundary will have a 5m high concrete wall, flint faced on both sides and the northern half will have a 2 m high bund with a 3 m high acoustic timber fence on top. The northern boundary of the site will principally have a 2 m high bund and 3 m high acoustic fence on top, with the exception of the gated area, towards the north west corner, which will have 5 m high acoustic timber fence.

NTS.136 In addition, all unloading and loading of vehicles will be undertaken inside the ERF and WSTF buildings and vehicle access for delivery of waste or collection of ash or recyclable materials will be restricted to normal working hours. Both the ERF and WSTF have been designed to include one-way vehicle circulation systems, which also reduces the need for reversing vehicles and reversing alarms.

***Traffic and transport***

NTS.137 The traffic and transport assessment work considered the effects of the proposals during construction and operation on existing traffic flows and junctions, as well as the effects on public transport, public rights of way, pedestrians, cyclists and accidents / safety.

NTS.138 The construction traffic effects relate to the arrival and departure of construction workers, construction materials / equipment and waste. All vehicles will access the proposed ERF and WSTF from Ford Road. No construction-related heavy goods vehicles will be permitted to leave or access the site to / from the northern stretch of Ford Road. All heavy goods vehicles will come from / go to the south onto Ford Road and then onto the A259 and the wider network.

NTS.139 The existing WTS will continue to operate during the construction period until the replacement WSTF is ready for use, then operations will transfer across

and this will commence operations while construction on the ERF continues. This will provide continuity of existing waste management services at the site.

NTS.140 The traffic flow assessment work took into account the committed development likely to come forward in the local area in the near future (including the housing and mixed use development proposed immediately surrounding the site). The traffic modelling has identified a minimal percentage increase in heavy goods vehicles across the local highway network, with the exception of the site access road which will only impact on Viridor and Southern Water, who currently use this road.

NTS.141 There will be an increase in vehicle movements resulting from construction workers accessing the site. However, the percentage increase against the existing background traffic is considered to be minimal. Construction workers will be encouraged to car share and use sustainable travel to the site.

NTS.142 It is anticipated that there may be some delay to road users at times due to construction vehicles entering / exiting the site access road onto Ford Road. However, the detailed construction environment management plan to be prepared by the contractor prior to commencement of work will commit to ensuring deliveries are co-ordinated to avoid vehicles being held up on the local highway and that, wherever feasible, deliveries would be undertaken outside of peak hours. Effects are therefore considered to be slight and not significant.

NTS.143 During the construction phase there would be no anticipated change to access to local public transport services and construction workers will be encouraged to use public transport where feasible. The public rights of way in the local area will not be impacted on by the proposed construction traffic route and will not be affected. Access to the site for pedestrians would also remain unchanged.

NTS.144 There are no dedicated cycleways along the construction route, although cyclists will use the local highway network. During the construction peak there will be a short-term increase in heavy goods vehicle movements along Ford Road (up to 16%) and the percentage increase on the A259 Crookthorn Lane and A259 Grevatt's Lane is considered to be minimal. The overall significance of impacts for pedestrians and cyclists during construction is therefore considered to be slight.

NTS.145 As for construction traffic, all post-construction / operational heavy goods vehicle movements must access / depart the site via the existing access road, from / to the south onto Ford Road and then onto the A259 and the wider network. No operational vehicles will be permitted to leave or access the site from the northern stretch of Ford Lane.

NTS.146 The operational traffic flows will fall within the permitted heavy goods vehicle cap that was set for the new access road approved in August 2029 (i.e. up to 240 heavy goods vehicle two-way movements per day (i.e. 120 heavy goods vehicle movements to the site and 120 heavy goods vehicle movements from the site) between 6am to 8pm Monday – Friday and up to 120 heavy goods vehicle two-way movements per day (i.e. 60 heavy goods vehicle movements to the site and 60 heavy goods vehicle movements from the site) between 8 am to 6pm on Saturdays.

NTS.147 The traffic modelling undertaken has identified a minimal percentage increase in vehicles as a result of the proposed development across the majority of the local highway network. The exceptions to this are on the site access road, which is not considered to be a sensitive receptor, and Ford Road (south of the site access road). Ford Road (south of the site access road) currently carries around 549 heavy goods vehicles (two-way) over a normal day. With the proposed development this figure is estimated to be around 691 heavy goods vehicles (two-way) over a normal day, which is an increase of 142 heavy goods vehicles (two-way) per normal day. An assessment of the site access / Ford Road junction was also undertaken and this demonstrates that the site access / Ford Road junction will operate within capacity, with minimal delays during the morning and afternoon / evening peak periods.

NTS.148 It is anticipated that there may be some delay to road users at times due to vehicles associated with the proposed development entering / exiting the proposed development site. However, the associated junction assessment has demonstrated that the site access / Ford Road junction will operate within capacity and therefore the overall effect will be slight.

NTS.149 Site workers will be encouraged to use car share or non-car modes where feasible. Overall, there is considered to be little change in severance, pedestrian delay, amenity or fear and intimidation resulting from the forecast change in traffic movements against the existing background traffic. The overall significance of impact for pedestrians post construction is therefore considered to be slight and not significant.

NTS.150 In addition to heavy goods vehicle movements remaining within the consented cap during construction and operation, a detailed construction environment management plan will be prepared once a contractor is appointed. The plan will outline measures to reduce the potential impacts from the construction traffic including:

- Preferred hours of deliveries and removals (out of peak hours)
- Agreed construction traffic routing
- Road cleaning facility provisioning
- Off-loading and storage areas
- Personnel and vehicle segregation
- Equipment e.g. temporary fencing, signage etc.
- Site inductions

NTS.151 Overall there would be no significant effects anticipated as a result of the construction phase of the proposed development. The completed proposed development will include a new ERF and WSTF, accessed via an existing road. No changes are proposed to the local highway network, footways / cycleways or access to public transport services. Whilst it is noted there will be an increase in heavy goods vehicle movements on Ford Road (south of the site access road) overall, there are no significant adverse effects anticipated as a result of the proposed development.

### Summary tables

NTS.152 A comprehensive assessment has been undertaken of the potential environmental effects arising from the proposed development. Where possible, measures have been incorporated into the development proposals to prevent or reduce the potential for adverse environmental effects. These primary mitigation measures are an integral part of the design and were considered in the impact assessments. Measures to help mitigate adverse effects identified during the assessment process have also been proposed for some of the environmental topics. The environmental statement includes a series of tables within Chapter 16 that summarise the primary mitigation measures, the secondary mitigation measures, the residual effects (i.e. those effects left over once all forms of design and mitigation have been considered) and the measures envisaged for monitoring any potential adverse effects.

### Conclusion

NTS.153 This non-technical summary has outlined the findings of the environmental assessment of the proposed Ford ERF and WSTF at the Ford Circular Technology Park, Ford that are contained within the environmental statement that accompanies the planning application. The proposed development will lead to a number of changes to the local environment, but a range of measures will be put in place to minimise potential significant adverse effects. The proposed mitigation measures and the significant effects of the proposals that are predicted to remain after mitigation are summarised in more detail in Chapter 16 of the environmental statement.

NTS.154 Copies of the full environmental statement and its technical appendices have been sent to West Sussex County Council and this, together with the rest of the planning application documents, will be available for public inspection (subject to COVID-19 restrictions) during the consultation period at the council's offices at the address below:

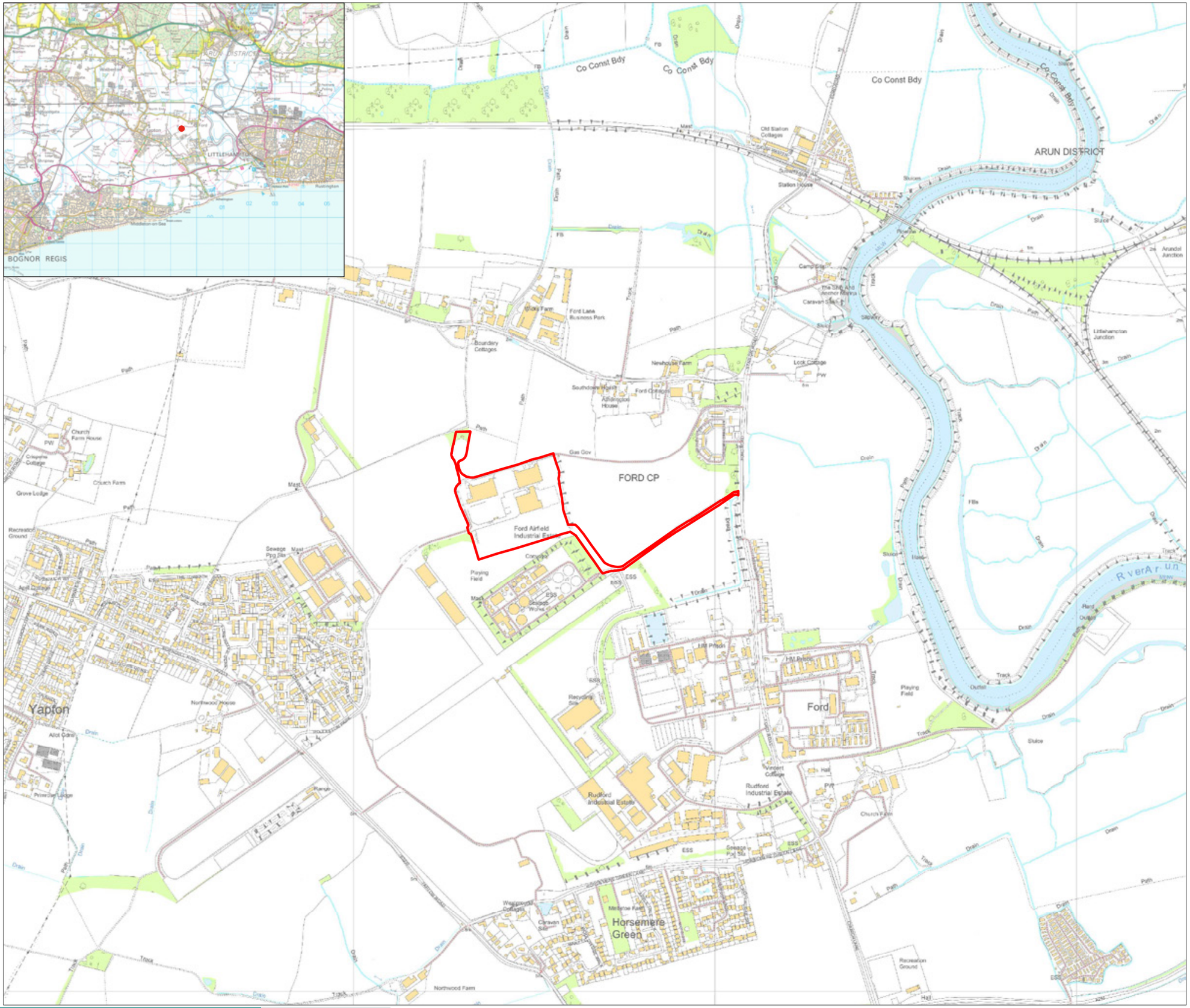
West Sussex County Council
Planning Services
Ground Floor Northleigh
County Hall
Chichester, PO19 1RH

NTS.155 The application documents will also be available to view on the council's website: www.westsussex.gov.uk.

NTS.156 Copies of the environmental statement on memory stick or DVD can be purchased from Terence O'Rourke Ltd at a price that reflects the time and production costs. Paper copies may also be available (at printing cost) from Terence O'Rourke Ltd at the following address:

Terence O'Rourke Ltd
Everdene House
Deansleigh Road
Bournemouth, BH7 7DU

Tel: 020 3664 6755 Email: maildesk@torltd.co.uk




Site Boundary

0 250 m

N

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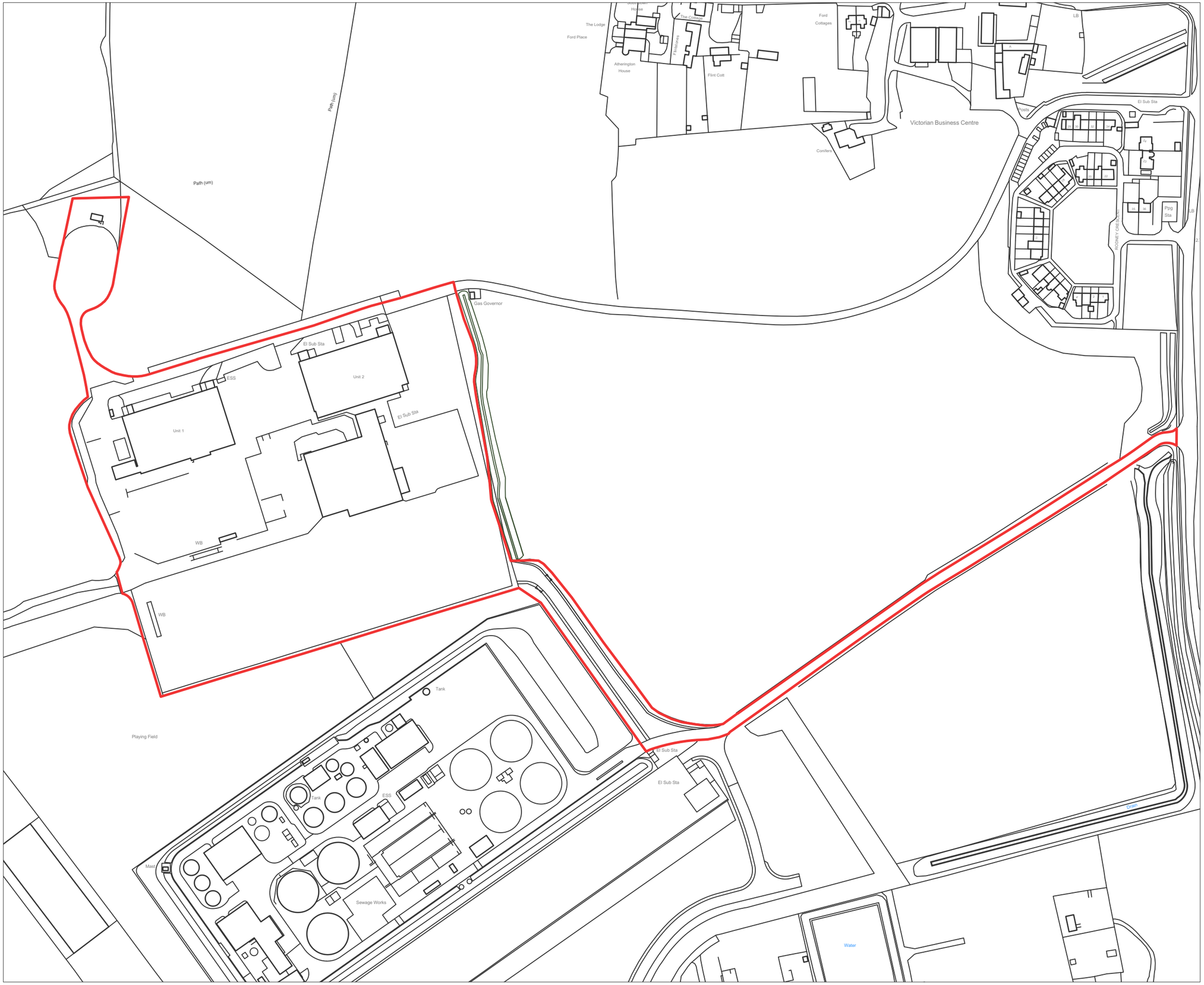


Key

Planning Application Boundary 7.11 ha

0 m 50 m 100 m

N



**FORD ENERGY RECOVERY FACILITY AND WASTE SORTING AND TRANSFER FACILITY, FORD CIRCULAR TECHNOLOGY PARK**

ENVIRONMENTAL STATEMENT

Viridor GRUNDON Ford energy from waste

**Figure NTS.2**
Application site boundary

TERENCE O'ROURKE


Aerial imagery © Getmapping plc

0 100 200 300 m

N



**Figure NTS.3**
Aerial photograph of the site

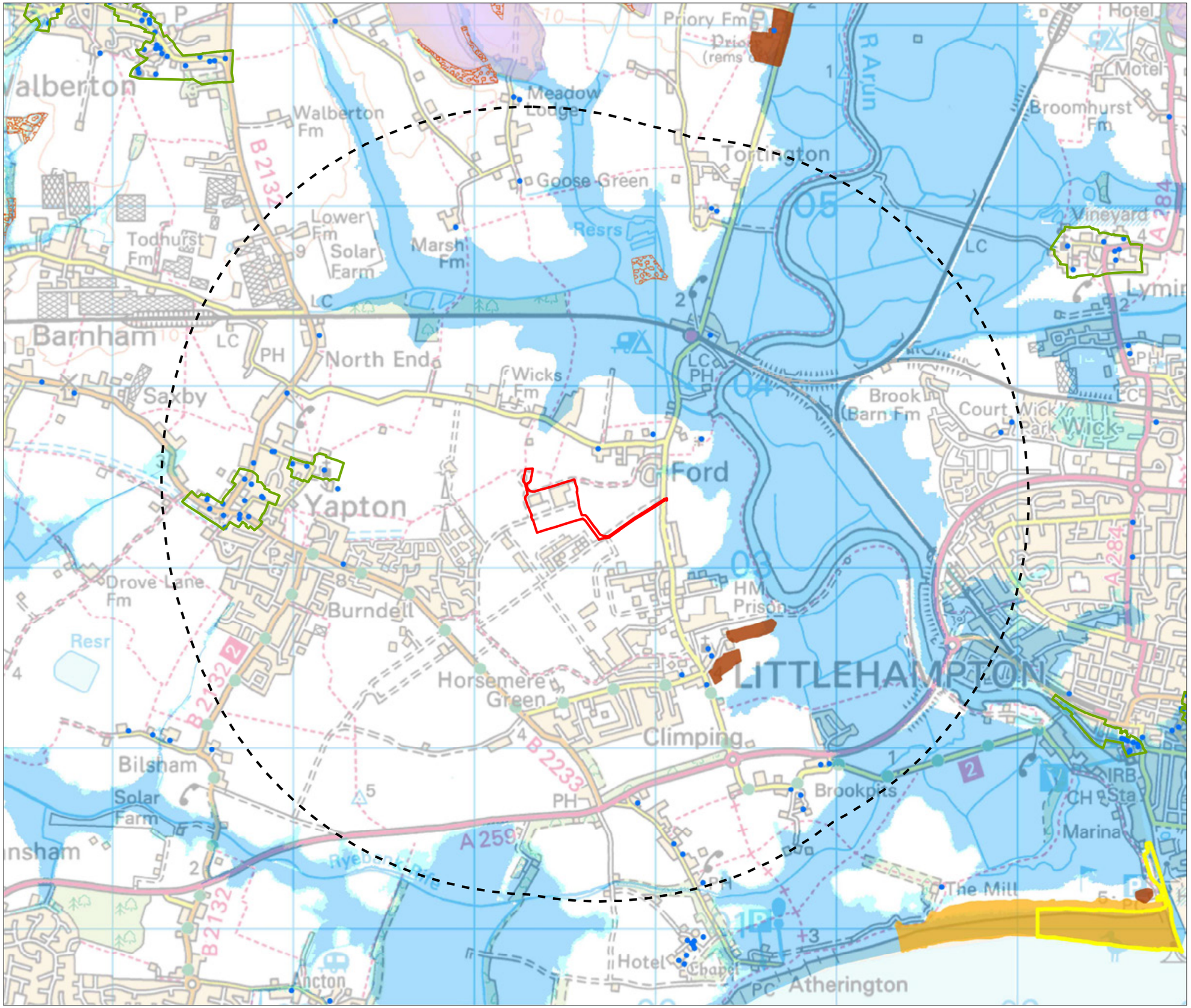


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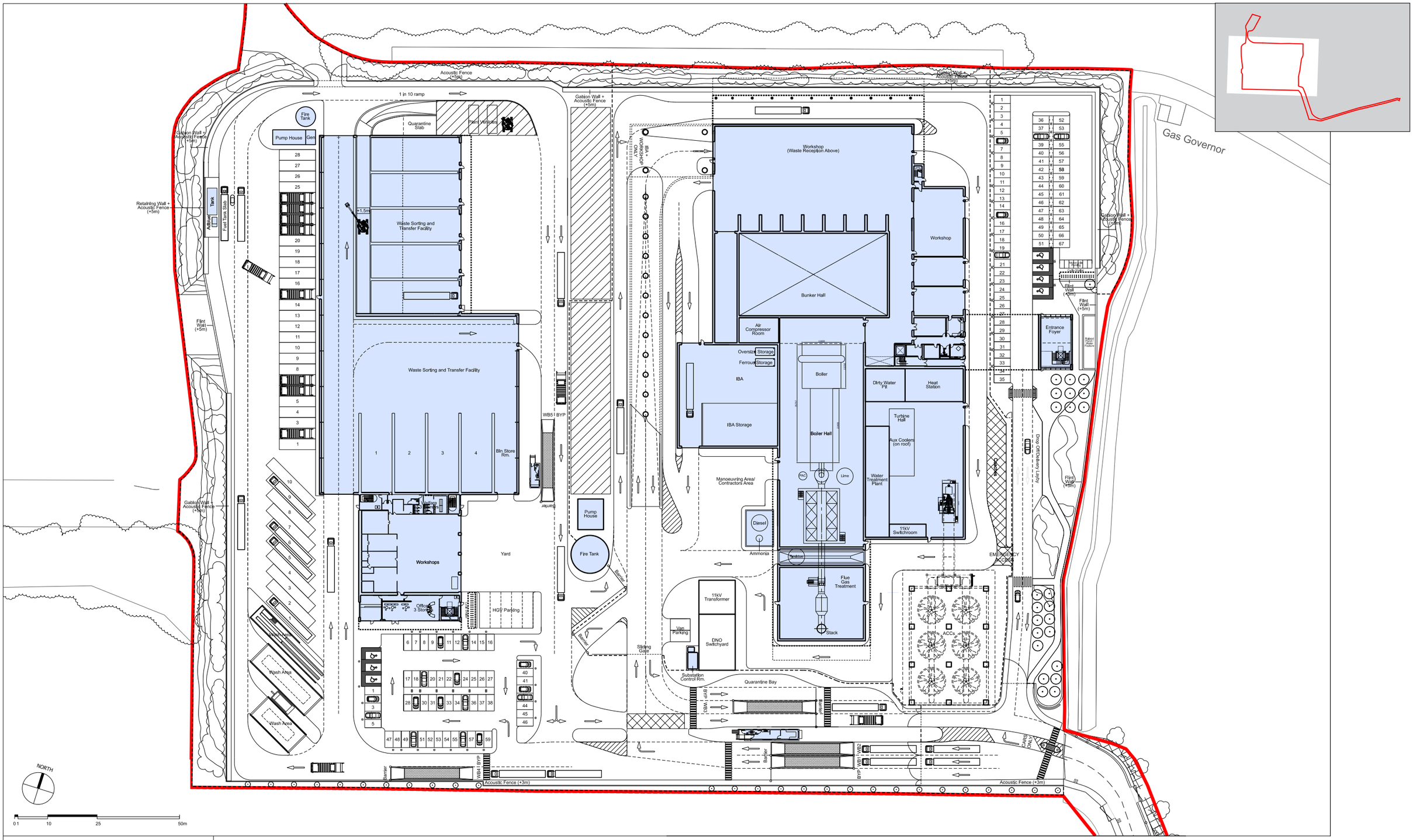
**Figure NTS.4**
Key designations within 2km of the site

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4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

**Key**

- Fencing Line
- Red Line Boundary

**FORD ENERGY RECOVERY FACILITY AND WASTE SORTING AND TRANSFER FACILITY, FORD CIRCULAR TECHNOLOGY PARK**

ENVIRONMENTAL STATEMENT

Viridor GRUNDON Ford energy from waste

**Figure NTS.5**
Site layout

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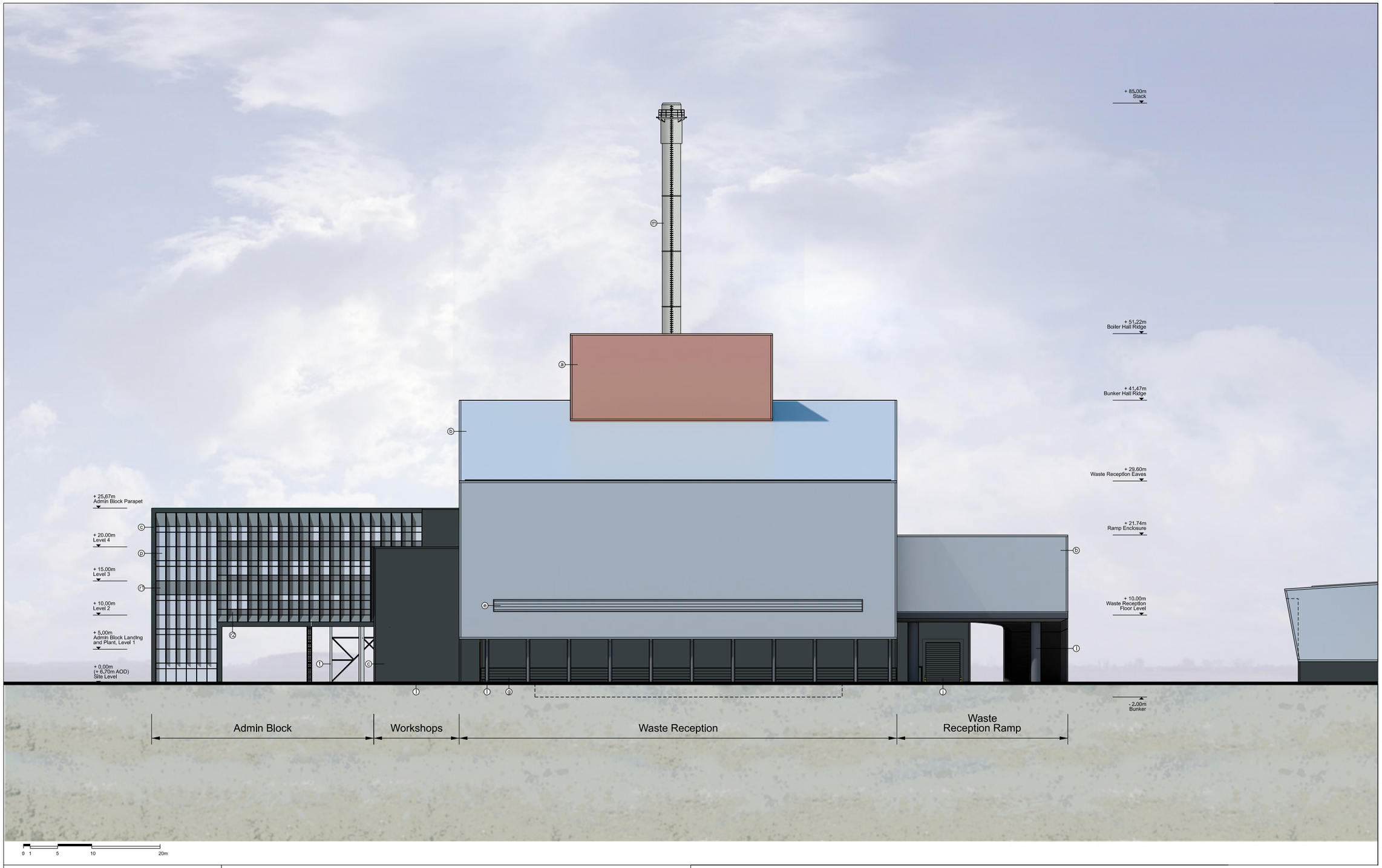


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LEGEND

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- (v) Metal trapezoidal profile roof cladding Colour: Goosewing Grey (RAL 7038)
- (w) Flat roofing - Single ply membrane system. Colour: Lead Grey
- (x) Flat roofing - Single ply membrane system. Colour: Light Grey
- (y) Profilit glass cladding system
- (z) Rooflights
- (a1) Polycarbonate wall and roof panels Colour: Clear
- (a2) Galvanised steel

Note: All materials, finishes and colours will be as stated or similar approved.



**Figure NTS.6a**
Proposed north elevation – ERF building


NOTE

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- (a2) Galvanised steel

Note: All materials, finishes and colours will be as stated or similar approved.



**Figure NTS.6b**
Proposed east elevation – ERF building


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(y) Profilit glass cladding system
(z) Rooflights
(z1) Polycarbonate wall and roof panels Colour: Clear
(z2) Galvanised steel
Note: All materials, finishes and colours will be as stated or similar approved.



**Figure NTS.6c**
Proposed south elevation – ERF building

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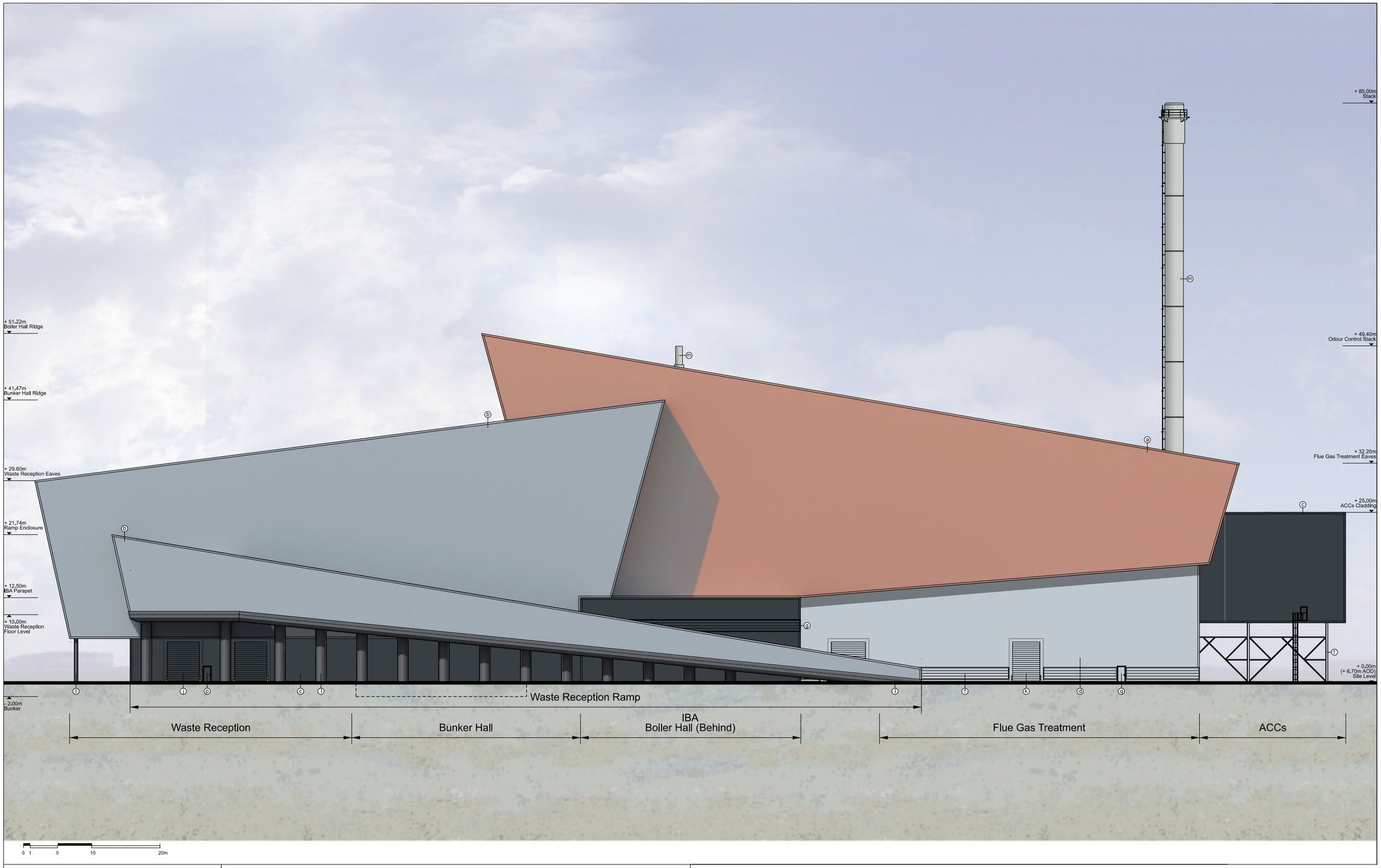


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- (z) Rooflights
- (z1) Polycarbonate wall and roof panels Colour: Clear
- (z2) Galvanised steel

  Note: All materials, finishes and colours will be as stated or similar approved.



**Figure NTS.6d**
Proposed west elevation – ERF building

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South Elevation


West Elevation

0 1 5 10 20m

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- (z) Rooflights
- (a1) Polycarbonate wall and roof panels Colour: Clear
- (b1) Galvanised steel

Note: All materials, finishes and colours will be as stated or similar approved.



**Figure NTS.6e**
Proposed south and west elevations – WSTF building


North Elevation


East Elevation

0 1 5 10 20m

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**Figure NTS.6f**
Proposed north and east elevations – WSTF building

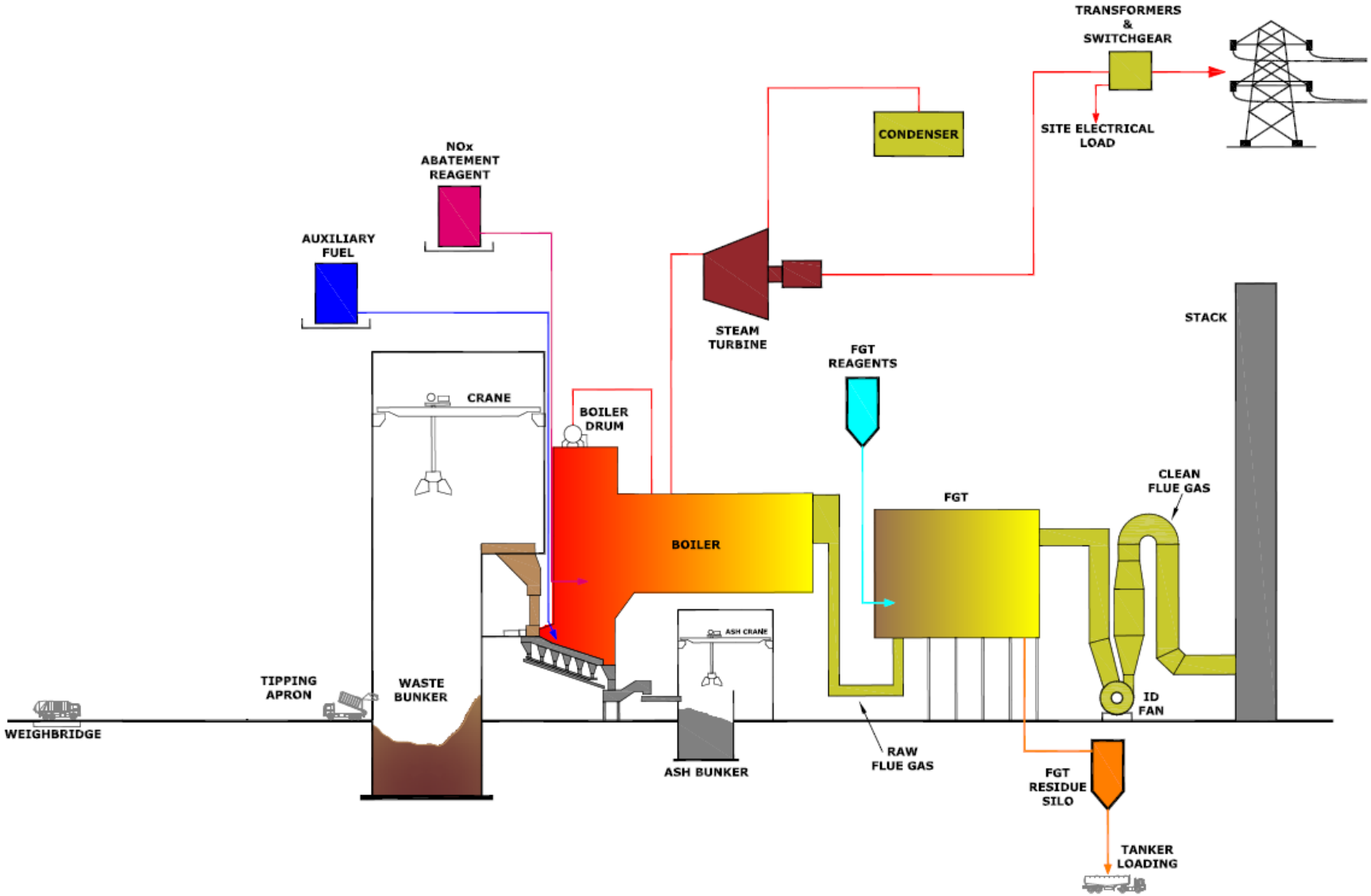
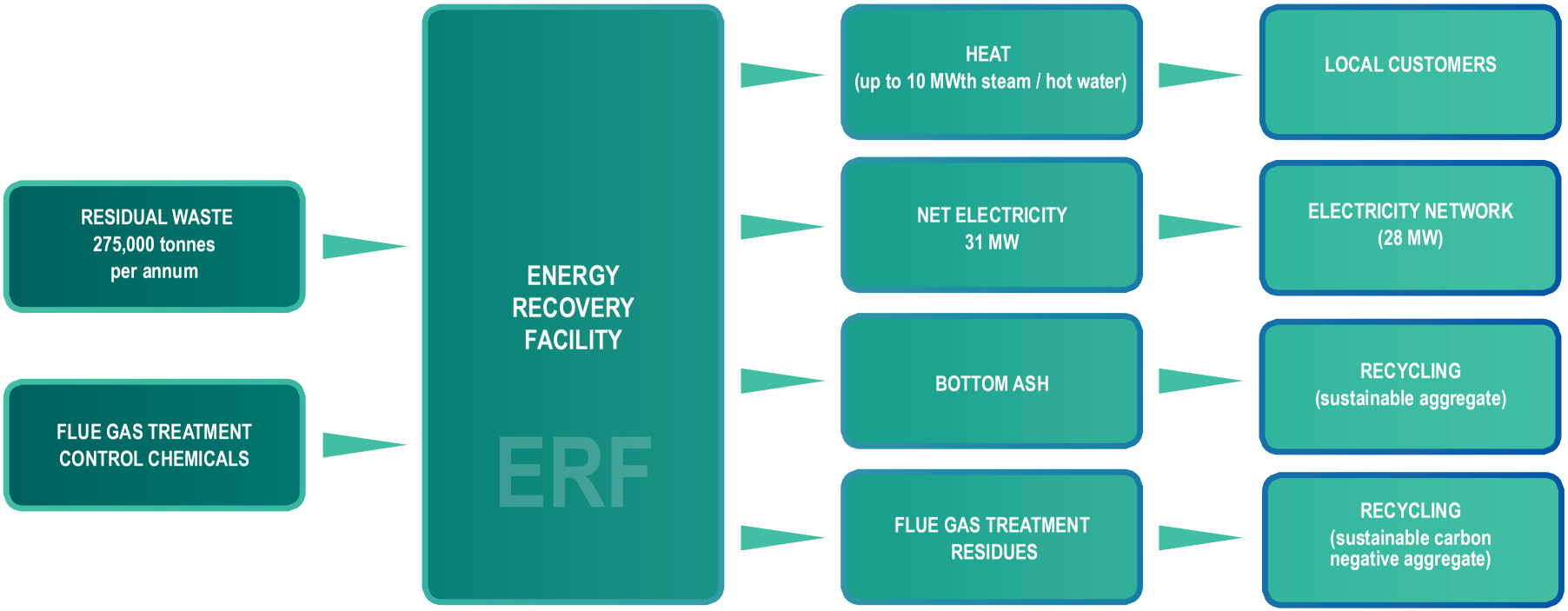





Figure NTS.7
Indicative ERF process flow diagram




* Quantity may vary depending upon waste composition



**Figure NTS.8**
ERF inputs and outputs flow diagram

1. F/4/20/OUT (part of SD8 allocation)

Land at Ford Airfield, Ford – current planning application (F/4/20/OUT (part of SD8 allocation) for up to 1,500 dwellings, 60-bed care home, up to 9,000 sqm of employment floorspace, local centre including retail, commercial, community /leisure facilities, land for a primary school, public open space, allotments, new sports pitches and associated facilities, drainage, parking and associated access, infrastructure, landscape, ancillary and site preparation works

2. Remaining part of SD8 allocation

Remaining part of SD8 allocation only - remaining part of the Ford strategic housing allocation (site SD8 in policy H SP2c of the adopted Arun Local Plan)

3. F/5/20/PL

Ford Airfield Market, Ford – current planning application (F/5/20/PL) for the reconfiguration of Ford Market, including revised market access, hardstanding for replacement vehicular parking and associated infrastructure, landscape, ancillary and site preparation works

4. CM/1/17/OUT

Land West of Church Lane and South of Horsemere Green Lane, Climping – permission (CM/1/17/OUT) for up to 300 dwellings, open space, a non-residential Institution, a building for shops, open space, car parking and drainage arrangements

5. Y/91/17/OUT

Land at Bilsham Road, Yapton – permission (Y/91/17/OUT) for the development of up to 250 residential dwellings, vehicular access, public open space, ancillary works and associated infrastructure

6. Y/92/17/OUT

Land east of Drove Lane Yapton – permission (Y/92/17/OUT) for up to 300 dwellings, link road, surface drainage, open space and landscaping

7. Option/Site F

Supported by Arun DC as the preferred option for a 10 form entry secondary school to support the local plan strategic allocations

8. WSCC/037/19

T J Waste, Burndell Road, Yapton, Arundel - Proposed Inert Waste Recycling Facility, with new building, hardstanding, car parking, boundary treatment and re-aligned access to the agricultural unit. Includes variation to approved site landscaping and use of internal spaces within the existing MRF

9. WSCC/049/18/LY

East of Lyminster village and between Toddington Nurseries and A284 Lyminster Road, Lyminster, Littlehampton - Creation of a 1.1km highway, with shared cycleway and footway, Pegasus crossing, viaduct, culvert, wetland areas, balancing pond and swales, street lighting and associated works.

10. A/122/19/OUT

Land off Arundel Road Angmering - Outline application with some matters reserved for the erection of up to 160 dwellings with public open space, landscaping and sustainable drainage systems (SuDs), vehicular access point from Arundel Road; together with up to 1,393 square metres (15,000 square feet) of B1/B2 units with associated parking provision and vehicular access point from Arundel Road and land made available for expansion of current sports pitch provision (following the demolition of existing commercial units and one bungalow) (re- submission following A/36/18/OUT).

11. F/30/18/PL

Wicks Farm Ford Lane Ford - The proposal is on existing open arable land in a single field (9 ha) and includes: a balancing pond 4m deep, 2 large multispan polytunnels / greenhouses of approximately 2.5 ha in size and 7.5m high, 2 ancillary buildings 54m x 30m in size, 21 car parking spaces within the site to the south east corner, 3 HGV turning circles serving the ancillary buildings and a further 22 spaces, including 10 cycle parking spaces. The proposed use of the multispan tunnels are for the growing of strawberries and raspberries and the site would have 20 employees.

12. WA/44/17/OUT

Land east of Tye Lane Walberton - Outline application for the erection of 175 No. dwellings, car parking including garages, internal access roads, footpaths, parking & circulation areas, hard & soft landscaping, allotments, play areas/equipment & community orchard & other associated infrastructure & engineering works. This application may affect the character & appearance of the Walberton Village Conservation Area.

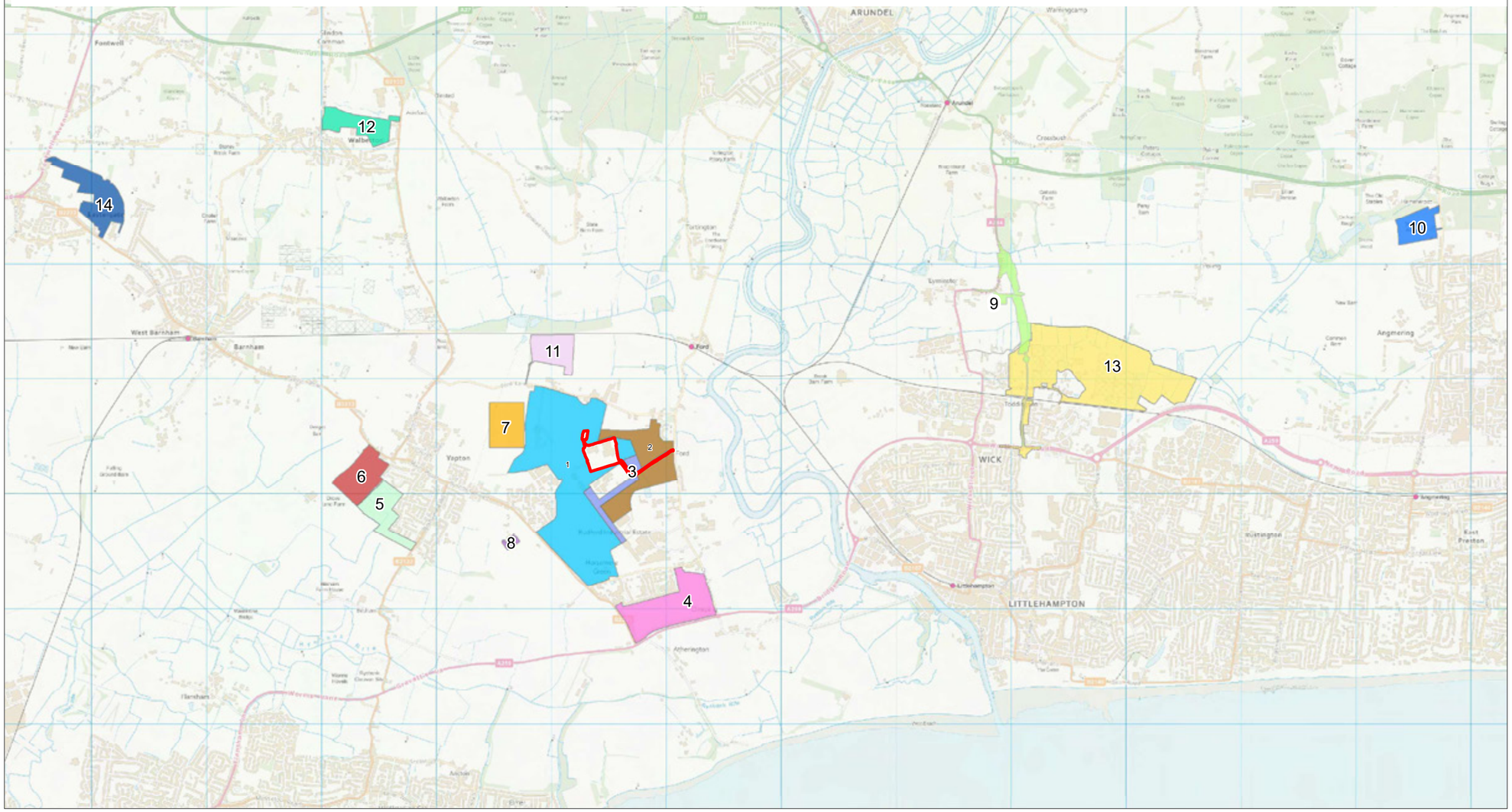
13. LU/47/11 and LU/121/17/RES

Land north of Toddington Lane Littlehampton - Outline permission with some matters reserved for mixed use development comprising: demolition of existing buildings and structures, up to 1,260 residential dwellings (out of a potential 1,460 dwelling masterplan), up to 13,000 sqm of B1 employment floorspace (including 3,000 sqm Enterprise Centre), up to 3,500 sqm of Class A local facilities, a 100 bed hotel, 60 bed care home, a new 2 Form Entry primary school, community centre, youth and leisure facilities, combined heat & power plant, extension to existing household recycling centre, landscaping, replacement and additional allotments, multi-functional green infrastructure including sports pitches (& associated changing facilities), informal open space, children's play areas, primary vehicular access from a new access from the A259 bridging over the railway line with additional access from Mill Lane & Toddington Lane. This application is the subject of an Environmental Impact Assessment and a departure from the development plan. This application affects a public right of way.
Land North of Toddington Lane Parcel C1 & part Parcels B2, B4 & C2 - Approval of reserved matters following outline consent LU/47/11/ for construction of 126 No. dwellings together with internal road network, car parking & landscaping.

14. BN/122/19/EIS

Land North of Barnham Road Eastergate- Request for a formal scoping opinion for a residential development of up to 500 homes and a dedicated care home, public open space, associated infrastructure and works

Site Boundary




0 1,000 m

N





**Figure NTS.9**
Location of projects considered in the assessment of cumulative effects

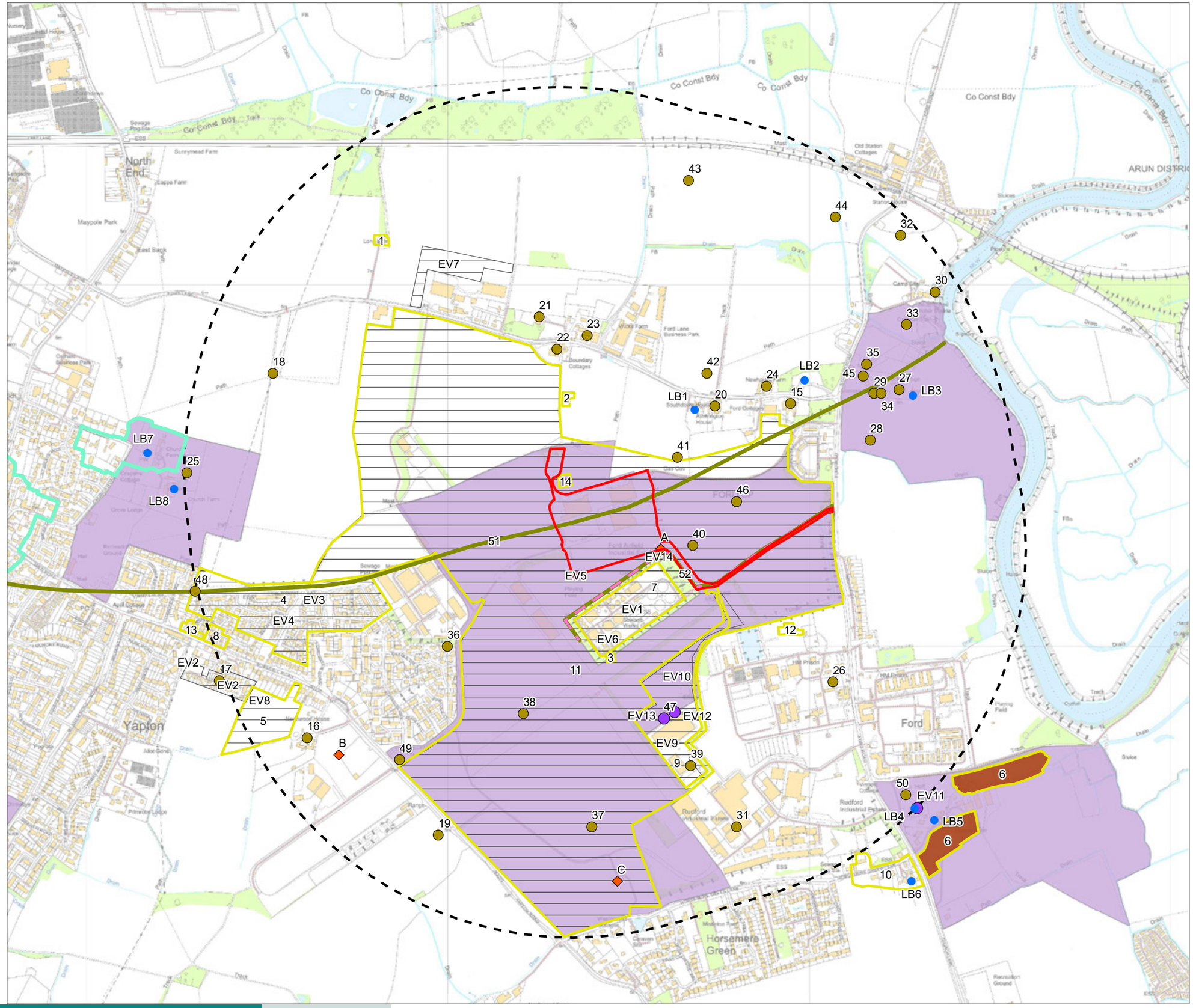



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**Figure NTS.10**
Designated and non-designated heritage assets in the study area

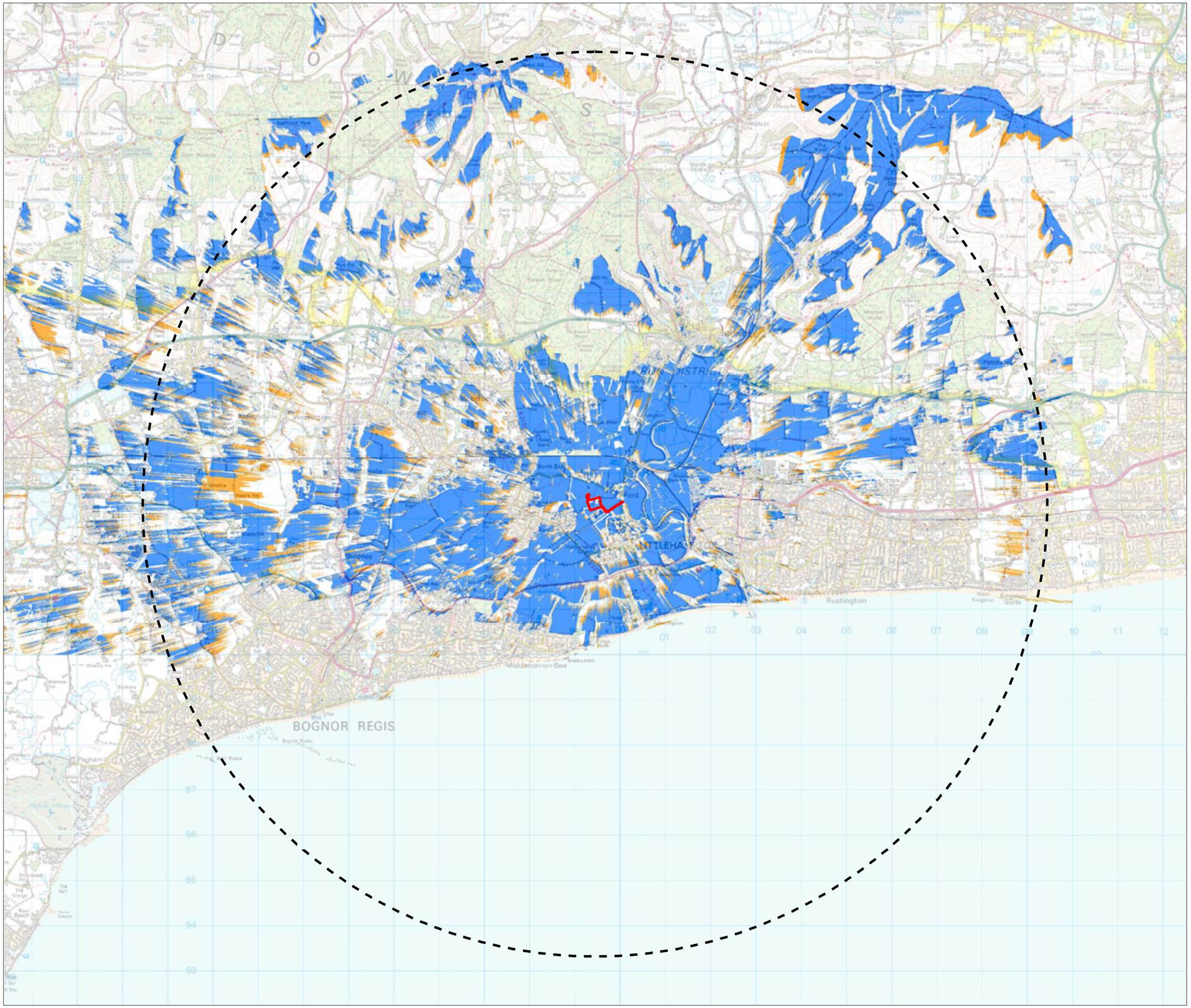
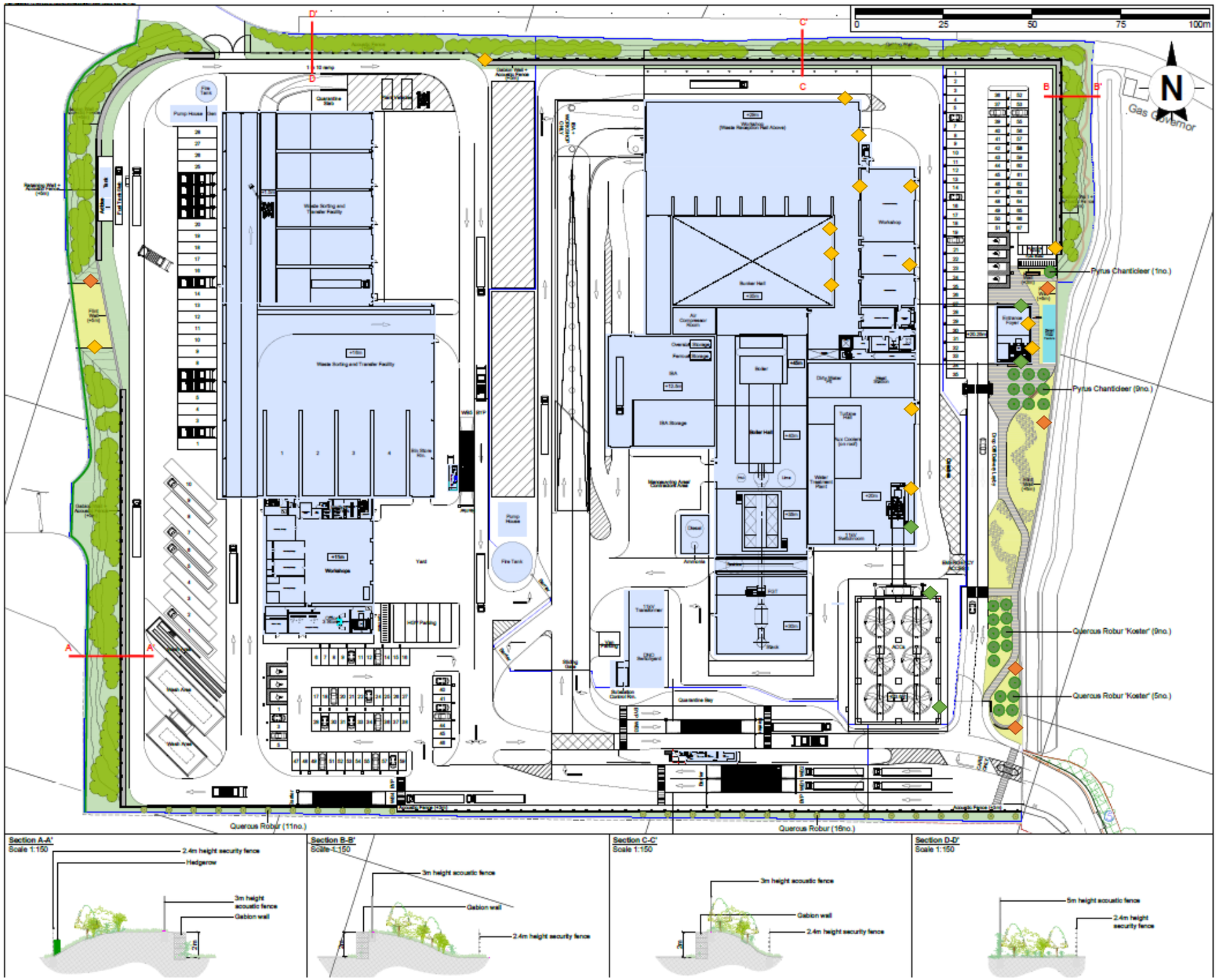


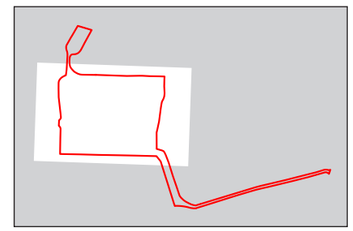





**Figure NTS.11**
Zone of Theoretical Visibility




- Fastigiate Specimen Trees
- Specimen Trees
- Scrub Mix
- Conservation Grassland
- Conservation Grassland / Pollinator Meadow
- Drifts of Flint Gravel (or Seashell Mulch)
- Paving
- Flint Wall
- Gabion Wall
- Acoustic Fence
- Hedgerow
- Ornamental Pond (Designed to support wildlife)
- Nature Trail Path
- Bug hotels x5
- Bat boxes x5
- Bird boxes x15



landscape scheme by

axis

based on site layout by

GSDA



**Figure NTS.12**
Location of proposed habitat and species-specific enhancement features