

Decoy Farm Power Limited



Planning, Design and Access Statement (Including Heritage Impact Assessment)

Proposed Greenhouses with Associated Buildings, Surface Water Lagoons and Infrastructure.

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TABLE OF CONTENTS

1. Executive Summary.....	1
2. The Proposal.....	2
3. Design and Access Including Planning Justification for the Proposal Set Against Prevailing Policies in the Development Plan and National Guidance...	6
4. Conclusions	9

1. EXECUTIVE SUMMARY

- 1.1. Full Planning Permission is sought for the erection of 5.3ha of greenhouses, associated buildings, surface water lagoons and infrastructure to be constructed adjacent to an existing Anaerobic Digestion Plant and
- 1.2. This application essentially replaces the now expired permission for 5.3ha of glasshouses and associated infrastructure that was granted permission on the same site in April 2016 (H02-0161-16). An ecological assessment of the site has previously been carried out to assess the presence or otherwise of Protected Species and an archaeological survey undertaken which assesses the entire development site. There are no ecological or archaeological interests on the site and a new Flood Risk Assessment also demonstrates the proposal will be safe from flooding and will not cause flooding beyond the site to other land uses or users.
- 1.3. The proposal complies with the prevailing development plan policies and national planning guidance contained in the National Planning Policy Framework (NPPF) and represents a sustainable form of development. The extant permission is a material consideration of significant weight in the decision-making process.
- 1.4. The proposed greenhouse development at Decoy Farm by Decoy Farm Power Limited represents the most sustainable growing operation possible in commercial horticulture worldwide. The project is possible due to the closing of the circles with the other technologies on site, thus enabling a truly holistic approach to food production to be achieved. The project brings together a number of key technologies and growing strategies in order to fully achieve a sustainable model of production, which is more profitable than conventional operations. Although each element of the project is based on tried and tested technologies and developments from around the world, Decoy Farm Power Limited's operation will become the benchmark of what is achievable in the UK and the EU growing models for sustainable, nutritious, safe, locally-produced production for many years to come.

2. THE PROPOSAL

- 2.1. Decoy Farm has operated as a green waste composting facility for many years and, together with an Anaerobic Digestion (AD) plant and a solar farm, is now becoming a hub for green waste processing and the generation of renewable energy.
- 2.1. The AD plant consists of a series of digestion tanks, a feedstock clamp, associated buildings, plant and equipment. The plant uses agricultural feedstock to produce green electricity which is fed into the National Grid.
- 2.2. A solar farm is located to the south of the application site and this generates 5MW of green energy. In time, when the remainder of the solar farm is developed, it will produce 13.8MW of electricity sufficient to power 3100 homes. It is planned to be in place for 25 years, which will have the effect of saving 189,750 tonnes of CO₂ over the lifetime of the proposal.
- 2.3. It is now proposed to erect 5.3ha of greenhouses, a packhouse and associated infrastructure. The greenhouses will be used to grow 600,000 kgs of strawberries per annum, which will reduce the need to import soft fruit during the times of the year when they are not able to be grown in the UK. Electricity from the AD plant will be used to power LED lighting in the greenhouses for year-round production, and residual waste heat currently dissipated to atmosphere will also be used. The CO₂ that is produced during the anaerobic digestion process will also be used to enhance crop growth. It is the ability to use this cheap heat, power and CO₂ which makes the location of the proposal so desirable and also serves to significantly reduce its carbon footprint.
- 2.4. The new glasshouses will also utilise an innovative design of guttering to maximise floorspace and the use of as much rainwater as possible, which is recycled within the production process, results in a highly sustainable form of development. The close association with the AD plant also underpins the viability of the AD plant by providing a ready market for the use of heat, power and CO₂.

- 2.5. The proposal represents a £20M investment which will generate between 45-60 full-time employees working in the greenhouse and packing facility. As the production process is year-round, there is no seasonality and, therefore, labour demands are constant. A car parking area is proposed together with welfare facilities for the workforce and a dispatch area for produce leaving the site.
- 2.6. In addition to the employees, there will be in the region of 5-7 HGV vehicle movements per week taking the finished product to customers and this number will also include any vehicular movements involved with the necessary packaging. There will be no importation of compost/growing medium, as this is already being produced on site. Accordingly, traffic movements will be low and the associated impact on the local road network equally low.
- 2.7. The landscape character is flat and open and is punctuated by farmsteads, isolated dwellings and the A16. Views of the site will be generally distant and transient from moving vehicles and there are few public rights of way in the vicinity of the site.
- 2.8. Landscape appraisals have been submitted as part of previous applications at Decoy Farm and these have demonstrated that the various proposals have a very light touch on the landscape. Hedge planting to the exterior of the site will screen the majority of views.

Energy

- 2.9. The existing AD plant at Decoy Farm has been operating successfully for a number of years producing renewable energy in the form of electricity from biogas. In the main, the electricity is exported to the National Grid and some is used to power the plant. It is proposed to use some of this electricity in the new greenhouse development to power energy efficient LED lighting. The application does include a biomass plant as part of the proposal; however, this is unlikely to be used but is being retained in case a need arises in the future such as when the AD plant shuts down for maintenance.

CO2

- 2.10. CO2 is one of the key 3 ingredients in plant growth (alongside water and light) and it is critical to optimise its use in a modern commercial greenhouse environment.

- 2.11. In a relatively low passively ventilated structure, the absorption of CO₂ by a mature crop can quickly reduce available levels of CO₂ to a level which compromises the growing potential.
- 2.12. The use of additional CO₂ in greenhouse operations has become standard best practice over the last 15 years, mainly as a consequence of the adoption of gas driven heating and power systems, which provide an abundant supply of relatively clean CO₂. The proximity of the AD plant provides an ideal opportunity to use waste CO₂ in the greenhouses, which is created as part of digestion and combustion process.

Water

- 2.13. Water is increasingly the single most important issue in food production worldwide. Part of the applicant company's business model is to ensure maximum water efficiency throughout the various stages of production.
- 2.14. Water supply - The project will utilise 100% rainwater harvesting for all water use on site, with all roof surfaces (greenhouse, packing areas, offices) used to capture water for re-use. There will be no requirement for ground water abstraction, although a connection to the mains water will be required as an emergency back-up.
- 2.15. The project will utilise the most up to date recirculating systems with ultraviolet sterilising units enabling the reuse of all irrigation water without any discharge to surrounding watercourses.
- 2.16. Waste-water – foul water will be treated via an electrochemical process.

Crop Waste

- 2.17. Greenhouse operations create a significant amount of plant waste. Because of synergies with the other processes on site, this material can be easily reprocessed via the existing composting and AD Plant facilities on site. This results in a waste footprint that is as small as possible.

Food Nutrition for UK Consumers

- 2.18. From day one, the project will implement a best-practice pesticide-free strategy that sits halfway between a commercial/intensive and totally organic method of production.

2.19. The applicant company is committed to further developing these strategies until all UK horticulture is grown in this way. Decoy Farm will be leading the way in such an important goal.

2.20. The combination of renewable energy, heat, CO2 and rainwater recycling will result in a highly sustainable production system.

Future Investment

2.21. To date, the majority of growing operations have been self-funded by growers, or utilising normal banking facilities. The significance of Decoy Farm Power Limited's development is such that it has attracted significant interest from the City and from international sources not normally interested in food production, with much better interest rates and terms such as investment bonds.

3. DESIGN AND ACCESS INCLUDING PLANNING JUSTIFICATION FOR THE PROPOSAL SET AGAINST PREVAILING POLICIES IN THE DEVELOPMENT PLAN AND NATIONAL GUIDANCE

- 3.1. Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that, "If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise."
- 3.2. The development plan consists of the South East Lincolnshire Local Plan (LP).

The Principle of Development

- 3.3. LP policy 1 – sets out that planning permission will only be granted for development in the countryside which is essential in the location and supports the economy of the area.
- 3.4. Having regard to the scale of the combined proposal coupled with the need to locate it adjacent to the existing AD plant and solar arrays, it would be neither possible nor feasible to find sufficient land within defined settlement limits. It would also be inefficient to disaggregate the various elements of the project, as there is a clear association between the constituent parts and the role of Decoy Farm as a waste and renewable energy hub.

Design and Visual Impact

- 3.5. The site has had the benefit of two planning permissions in the past.
- 3.6. The greenhouses measure 6m to the eaves with low pitched roofs and are a relatively common sight across the Lincolnshire landscape. The view of these will be set against the backdrop of the AD plant, which consists of similar sized buildings (12m) and tall tanks (17.3m). The greenhouses are located away from the main road that lies to the east and south of the site and the majority of transient public views of the development site are distant ones.
- 3.7. The proposal, therefore, complies with LP policy 2 in that there is no detrimental impact on landscape character. In addition, having regard to the flat topography of the area, the zone of influence of the development, is effectively zero.

Access

- 3.8. The application site is associated with an existing green waste composting site and an AD plant with access onto the old A1073.
- 3.9. It is anticipated that up to 60 workers will be employed in the greenhouses. A car parking area will be provided and there is ample space within the site to accommodate all the necessary vehicles.
- 3.10. The HGV movement of product from the site and associated packaging into the site will be in the region of 5-7 HGV movements per week, which by any reasonable assessment is low and will therefore have a negligible impact on the local highway network, especially when compared to those movements generated by the existing facilities on site.
- 3.11. There will be the initial construction phase where traffic movements will be significantly greater, however, this will be for a limited period only.
- 3.12. The previous planning permissions for glasshouse development have been considered in combination with the other development on the site and in terms of highway impact, have been found to be acceptable.
- 3.13. It can be seen, therefore, that the traffic levels generated by the proposal will be low, especially when compared to the current operations on site. The proposal therefore complies with LP policy 2, 4).

Flood Risk and Drainage

- 3.14. The site lies within Flood Zone 3a and, accordingly, a Flood Risk Assessment has been carried out in accordance with the requirements of the NPPF.
- 3.15. The FRA concludes that the development is not at risk from tidal or fluvial flooding and that the surface water from the greenhouses and buildings will be collected and reused within purpose made surface water lagoons, the capacity of which is designed to accommodate a 1 in 100 year storm event to include an allowance for an allowance for 40% climate change. The reuse of surface water will result in a significant saving in the use of valuable water resources and obviate the need for abstraction during the winter months, which would be the case if the land was to continue in normal arable production.

- 3.16. The proposal, therefore, accords with LP policy 2, 7) and paragraph 163 of the NPPF.

Ecology

- 3.17. The application site is currently agricultural land with limited ecological value due to intensive methods employed to ensure the land is used as productively as possible.
- 3.18. Crops are routinely grown in rotation on the fields and there are few hedges or trees on the site and no other landscape features of any interest.

Heritage Impact Statement

- 3.19. Paragraph 189 of the NPPF requires applicants to describe the significance of any heritage assets including the contribution made by their setting and that the level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance.
- 3.20. The application site lies in open countryside away from any Listed Buildings, Scheduled Ancient Monuments, Conservation Areas or preserved trees.
- 3.21. The nearest Listed Building is 2.6km to the south west within the settlement of Crowland and is not visible from the application site and vice versa.
- 3.22. There are no preserved trees on the application site or in its vicinity.
- 3.23. When considering the archaeological implications of the original greenhouse application, the County Council's Historic Environment Department confirmed that there is known archaeological interest in the area and, accordingly, an archaeological desk-top assessment was carried out and this included the land that forms this latest planning application.
- 3.24. The assessment concluded that the site has some archaeological sensitivity with prehistoric and Roman remains identified on higher ground to the southwest. It is envisaged that a condition requiring a scheme of archaeological work that will involve monitoring of groundwork and the investigation and recording of any uncovered archaeological remains will be appended to the grant of permission, which was the case with previous permissions.

4. CONCLUSIONS

- 4.1. Decoy Farm consists of a green waste and renewable energy 'hub' comprising a windrow composting business, an AD plant which produces electricity from biogas and a solar farm.
- 4.2. This planning application will see the erection of 5.3ha of greenhouses which will use electricity from the AD plant for LED lighting, together with waste heat and CO₂.
- 4.3. The proposal will have limited visual impact when considered in the context of the existing development on site and the propensity of the flat open landscape to accommodate large development. The site has had two previous (now expired) planning permissions for greenhouse development on the site.
- 4.4. A Flood Risk Assessment that accompanies the proposal indicates that the proposal is safe from flooding and will not result in flooding of neighbouring land uses or users.
- 4.5. The archaeological interest in the area will be assessed through an agreed scheme of archaeological work with the County Council secured through an appropriate condition.
- 4.6. The highway impact arising from the proposal is negligible and benefits from the economies of scale arising from the use of electricity, waste heat and CO₂ generated by existing development on the site.
- 4.7. The project complies with the prevailing Development Plan policies together with national guidance contained within the NPPF and represents a sustainable form of development.
- 4.8. The production of soft fruit under glass will replace an equivalent amount of produce that ordinarily would have to be imported from warmer climates. This will reduce 'food miles' and accordingly represents a sustainable form of food production.
- 4.9. The proposal represents a multi-million pound investment in the district and which will contribute towards putting South Holland at the forefront of the UK and worldwide horticulture industry.

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