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| **Source of Impact** | **Impact e.g.**  **odour, noise, dust, ammonia, run-off, spillage** | **Receptor**  **Air, water, land**  **Humans, plants** | **Description of Negative Impact**  **Nature of impact i.e. short term ST, medium MT or long term LT** | **Potential *s*ignificance of negative impacts:**  **major +++**  **moderate ++**  **minor +**  **nil 0** | **Mitigation / Management Measures**  **e.g. site planning, technical measures** |
| **Livestock housing** | Ammonia | Air  Land  Plants | Possible direct toxic effect on trees (ST)  Increased acidification of soil close to housing (MT)  Changes to sensitive ecosystems (LT) | +  +  ++ | * Dry manure maintained * No sensitive woodland or other ecological receptors close to housing * Appropriate soil pH maintained by liming |
|  | Odour | Humans | Nuisance (ST) | +++ | * Dry manure maintained * Hard standing areas kept clean and spillages prevented * Manure air dried to reduce odours |
|  | Dust | Humans  Plants  Land  Water  Air | Nuisance (ST)  Contributes to odours (ST)  Health issues - inhalation (LT)  Covers leaves stopping photosynthesis (ST)  Nutrient enrichment of water courses (MT)  Impacts on air quality (ST) | +  ++  +  +  +  + | * fans fitted with cowls and light filters * Regular clearing of dust to prevent build up on surfaces and around vents * No sensitive vegetation around sheds * Houses far enough away not to be affected * Hard standing cleaned to prevent dust being washed into water courses |
|  | Noise | Humans | Nuisance (ST) | + | * Feed delivery times restricted, vehicles well silenced * Doors in housing sited away from neighbours |

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|  | Used disinfectants | Water | Possible toxic effects on wildlife (ST)  Increased biochemical oxygen demand (BOD) of watercourses (ST) | ++  ++ | * Spent disinfectant disposed of into dirty water tank * Use of Defra/NOAH approved disinfectants |
|  | Zoonotic and notifiable diseases | Humans  Livestock | Biosecurity risks (ST)  Transmission of disease from birds to humans.(ST) | Nil to+++ | * Secure site with visitor policy * Livestock monitored for signs of disease, and incidents reported quickly * Defra biosecurity guidance followed by all staff, contractors and visitors * Public have no access to birds |
| **Disposal of carcasses** | Odour | Humans | Nuisance (ST) | ++ | * Good husbandry to minimise mortalities * Use of covered/sealed skips to store carcasses * Carcasses disposed of through fallen stock scheme. |
|  | Disease | Humans | Health risks (ST) | ++ | * Use of covered/sealed containers * No contact with people |
|  |  | Livestock | Biosecurity issues (ST) | + | * Use of covered containers * Carcasses disposed of regularly * Bait traps used |
| **Cleaning out** | Contaminated run-off | Land  Water | Increase in nitrogen and phosphorus levels in soil (MT)  Potential for increased mineral or metal content of soils (LT)  Increased biochemical oxygen demand (BOD) of watercourses (ST)  Nutrient leaching from soil to surface waters and groundwater (LT)  Nutrient enrichment (eutrophication) of watercourses and ground water (LT) | ++  +  ++  ++  ++ | * Dry cleaning system used * Any run-off diverted to waste water tank * Dirty water tanks are emptied as filled during clean out * All lightly contaminated run-off treated by swales when not cleaning out |

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|  | Noise | Humans | Nuisance (ST) | ++ | * Machinery operated at reasonable times, wherever possible * Equipment maintained to optimum standards * Need for scraping minimised due to reduced yard area * Machinery and equipment sited as far as possible from neighbours * Idling of machines avoided * Voices not raised unnecessarily * Roads and tracks maintained to minimise noise produced |
|  | Odour | Humans | Nuisance (ST) | ++ | * Cover loads * Load close to the shed door or inside * Outdoor heaps avoided * Yard areas cleaned at the end of each day * Dirty water tank emptied promptly |
| **Use of vehicles** | Soil, | Land | Soil compaction (ST)  Transfer of soil across and off the installation (ST) | +  + | * Trafficking avoided when soil conditions are not favourable * Careful selection of machinery & tyres * Tyres, operated at correct pressures * Wheel wash in place |
| Spillage of materials in transit | Water | Increased biochemical oxygen demand (BOD) of watercourses (ST)  Nutrient leaching from soil to surface waters and groundwater (LT)  Nutrient enrichment (eutrophication) of watercourses and ground water (LT) | Nil to +  Nil to +  Nil to + | * Dusty materials moved within sealed containers or covered vehicles * Integrity of vehicles checked for leakages |
| Odour, noise | Humans | Nuisance (ST) | ++ | * Type and size of vehicle suitable to task * Loads covered or closed * Wheels cleaned * Vehicles well maintained |
| **Manure spreading** | Ammonia and major nutrients (N:P:K) | Air  Land  Plants | Contributes to climate change (LT)  Contributes to odours (LT)  Nutrient enrichment or ‘fertilising’ effect on crops, plants and water. (LT)  Changes to sensitive ecosystems such as natural woodland, heathland or peatland. (LT)  Nutrient enrichment of soils, particularly phosphorus (LT)  Potential for increased mineral and metal content of soils  Eutrophication caused by run-off (MT)  Reduced biodiversity (LT) | +  +++  +++  +  +++  +  ++  + | * Spent litter applied in accordance with manure management plan * Balanced diets fed to reduce N & P in manure * Spent litter/Manure incorporated within 24 hours * Application in accordance with DARD codes of good practice * Only temporary field heaps used * No ecologically sensitive receptors near the site |
|  | Odours | Humans | Nuisance (ST) | +++ | * No spreading in adverse weather conditions * No spreading at weekends or on Bank Holidays * No spreading close to neighbours’ houses * Manure incorporated within 24 hours * Manure applied in accordance with manure management plan |
| **Storage of fuel, chemicals etc.** | Leakage | Water | Contamination of surface and groundwaters (ST)  Killing of animals, plants and aquatic life (ST) | +++  +++ | * All tanks are bunded and compliant with legislation * Use of chemicals least hazardous to the environment |
| **Flooding** | Contaminated run-off | Water  Land | Increase in nitrogen and phosphorus levels in soil (MT)  Potential for increased mineral or metal content of soils (LT)  Increased biochemical oxygen demand (BOD) of watercourses (ST)  Nutrient leaching from soil to surface waters and groundwater (LT)  Nutrient enrichment (eutrophication) of watercourses and ground water (LT) | ++  +  ++  ++  ++ | * The Environment Agency flood hazard map depicts the northern half of the proposed site within Flood Zone 1. The southern half of the site is in Flood Zones 2 and 3. Nevertheless, the application site has not been subject to localised flooding or drainage problems attributed to surface water discharge. * The site includes a comprehensive surface water drainage scheme designed to avoid adverse impacts upon surface water flow. This will be achieved through the discharge of roof and surface water into a substantial drainage attenuation PVC crate soakaway with restricted flow into an adjoining ditch. * The landscaping and site design deliver some protection to the buildings and associated tanks from the risk of flooding * Rainfall and flooding risk will be monitored on an ongoing basis and, in the event of flooding being likely, additional measures would be employed to either a) protect the site and/or tanks from flood water incursion or b) remove birds and risk of contamination. * Infrastructure will be well maintained. * Weather forecasts and weather warnings will be closely monitored. * Flood Risk & Drainage Assessment Report, prepared by George Shuttleworth Ltd (consulting engineers) in July 2021, provides the information required to demonstrate a strategy for dealing with surface water run–off in a sustainable way such that the on and off site impacts are minimal * Within Section 5.0 of this report it is demonstrated that the site is in Flood Zones 2 and 3 but the floor levels can be set above the estimated flood level from a breach or overtopping on a 1 in 200 year plus climate change event. Higher peak rainfall intensities may increase the risk of surface water flooding from the surface water drainage systems in the vicinity of the site. Although the frequency of the flooding may increase provided exceedance flow paths are provided then there will be minimal effect on surface water flooding. It is proposed in the report that the surface water collection and attenuation system for the development site is designed to take into account the potential effects of climate change. The information shows that the site is not currently at risk from a breach or overtopping of the defences. However, as sea levels rise in the future, the risk of flooding increases but this can be managed with appropriate mitigation. The site is not shown at risk of flooding from surface water. Ground levels are graded to the southern boundary,  with no artificial hollows created, minimising the risk of internal flooding. There are shut off valves on the clean water drains to enable capture of wash water in to tanks. These would be employed in the unlikely event that flood/rainwater was at risk of contamination. * minimum floor level of 2.80m AOD which is 300mm above the estimated flood level from a breach of the coastal defences on the 2115 1 in 200 year event. This involves cutting the northern poultry unit into the hillside and elevating the floor of the southern poultry unit a maximum of around 1.3m. * stepped access, providing some protection against inflow of flood waters/surface flow to the building * bunded generator and chemical store ( generator fuel tank is not kept full, for security purposes, holding only enough fuel to kick in when required in an emergency) * raised and sealed feed bins, securely fixed * registration to Flood Alerts and access to sandbags in the unlikely event that flooding of the site is possible * Based on the Flood Risk and Drainage Assessment Report, the site design and the accident management plan, the risk of contamination of local watercourses in the event of a flood appears to be negligible. This risk will be routinely reevaluated as part of ongoing reviews of Climate Change risk and adaptation. |
| **Fire and firewater containment** | Dust/bio-aerosols  Odour  Contaminated run-off | Humans  Plants  Land  Water  Air | Nuisance (ST)  Contributes to odours (ST)  Health issues - inhalation (LT)  Covers leaves stopping photosynthesis (ST)  Nutrient enrichment of water courses (MT)  Impacts on air quality (ST)  Increase in nitrogen and phosphorus levels in soil (MT)  Potential for increased mineral or metal content of soils (LT)  Increased biochemical oxygen demand (BOD) of watercourses (ST)  Nutrient leaching from soil to surface waters and groundwater (LT)  Nutrient enrichment (eutrophication) of watercourses and ground water (LT)   * Toxic smoke and other pollutants, * Dust and fibres from sheet building material * Surface run-off from firefighting water, * Surface run-off from failed storage tanks, pipes and stores * Increased numbers of dead animals for disposal | +  ++  +  +  +  +  +  ++  ++  ++ | * Fire alarm system * Security systems in place to deter and prevent arson * Minimal flammable materials stored on site * Electrics are checked continuously by our own electrician. * Fire extinguishers available in the control rooms. * Sheds constructed in steel and rock wool insulation . * Escape doors at each end of the sheds and halfway down at each side. * The sheds are surrounded by either concrete or hardcore which is kept free of vegetation, reducing risk of fire spread from outside. * In the event of a fire, firewater falling on to concrete areas would be collected to the wash water tanks and would be emptied by slurry tankers and removed before risk of overflow. * Any water falling from roofs or on to stone areas surrounding the building would normally be piped to the attenuation soakaway before eventual release in to the ditch to the South. This drainage pathway could be shut off and water piped direct to slurry tanker * Deadstock collector would be informed immediately. * Alternative poultry housing available within the wider group in case emergency housing required |