

## SCHEDULE A: Applications with Recommendation

13/0331

Item No: 01

Date of Committee: 11/04/2014

**Appn Ref No:**  
13/0331

**Applicant:**  
Mr & Mrs Fisher

**Parish:**  
Arthuret

**Agent:**  
Edwin Thompson

**Ward:**  
Longtown & Rockcliffe

**Location:** Land to the North East of Scaurbank Wood, Longtown

**Proposal:** Formation Of Slurry Lagoon

**Date of Receipt:**  
02/05/2013

**Statutory Expiry Date**  
27/06/2013

**26 Week Determination**

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### REPORT

**Case Officer:** Richard Maunsell

#### 1. Recommendation

- 1.1 It is recommended that this application is approved with planning conditions.

#### 2. Main Issues

- 2.1 Whether The Principle Of Siting A Lagoon Is Acceptable In This Location
- 2.2 Whether The Scale And Design Of Proposed Slurry Lagoon Is Acceptable
- 2.3 The Impact Of The Proposal On The Living Conditions Of Neighbouring Residents
- 2.4 Impact Of The Proposal On Highway Safety
- 2.5 Impact Of The Proposal On The Environment And Biodiversity Issues
- 2.6 The Impact Of The Development On Human Rights And The Aarhus Convention
- 2.7 Whether Any Adverse Impact Would Occur To The Woodland

#### 3. Application Details

##### The Site

- 3.1 The application seeks Full Planning Permission for the formation of a slurry lagoon on land to the north east of Scaurbank Wood, approximately 0.85 miles (1.37 kilometres) from the centre of Longtown. The site is in open

countryside on land that is currently in agricultural use. To the north and west of the site is Stackbraes Wood which is designated as a Dedicated Woodland. To the east and south is agricultural land bounded by hedgerows. Adjacent and to the west is Powdrake Beck.

## **Background**

- 3.2 The main farm steading is located at Smalmstown, Longtown which is approximately 1.3 miles (2.1 kilometres) west of the application site as measured directly. The application was accompanied by a Design and Access Statement together with additional supporting information prepared by the applicant's agent which outlines the following:
1. Smalmstown Farm is a mixed farming business including grassland and arable production combined with livestock, predominantly sheep and cattle. Currently the stock levels stands at approximately 1000 dairy cows;
  2. the farm presently has 500,000 gallons of slurry storage which is inappropriate to the modern requirements of the herd;
  3. the proposal is for an excavated earth-banked slurry lagoon to provide the facility for the holding of approximately 2,000,000 gallons of slurry which is considered appropriate to the amount of agricultural land available for spreading. This also reflects the storage capacity for more than 5 months in line with both best agricultural practice and Nitrate Vulnerable Zone (NVZ) regulations, future proofing the scheme against potential regulator requirements;
  4. the proposed storage capacity generates greater flexibility in the application of slurry allowing it to be more accurately tailored to the requirements of the land and to derive maximum benefit to both agricultural production and the natural environment;
  5. the proposed slurry lagoon would facilitate the use of an umbilical slurry application system to the 600 acres occupied around the site, reducing the use of slurry tankers and agricultural traffic in the area.
- 3.3 The application was deferred at the meeting of this Committee in July 2013 to obtain additional information. Given the nature of the issues raised by residents and to give a proper assessment as to the potential impact of the proposal, the Council employed the Agricultural Development Advisory Service (ADAS) to produce a report. This document is reproduced in full in the schedule following this report.
- 3.4 ADAS was originally formed in 1946 as the National Agricultural Advisory Service (NAAS) advising the Ministry of Agriculture Fisheries and Food (MAFF) before becoming the Agricultural Development and Advisory Service in 1971. It became an executive agency of MAFF in 1992 and was privatised in 1997, since when the company has been just known as ADAS. The credentials of ADAS are suited to the issues involved with this application and why they were chose to provide the Council with an appropriate assessment and evaluation of the lagoon. Their website states that ADAS is the UK's largest independent provider of environmental consultancy, rural development services and policy advice with their consultants have a

“breadth and depth of expertise spanning the entire environmental sector together with crop and livestock research and our waste contracting and composting business.”

## **The Proposal**

- 3.5 The proposal seeks consent for the formation of an earth banked slurry lagoon that would be accessed along a permissive right of way, 310 metres to the east of the junction with Netherby Road.
- 3.6 The submitted drawings illustrate a quadrilateral slurry lagoon located adjacent to the northern boundary of the field. The lagoon would measure between 59 and 70 metres wide and 65 and 85 metres in length. The lagoon would be bounded by an earth bund measuring 15.7 metres in width and 2.8 metres in height from the external ground level around the lagoon. It would have a storage capacity of approximately 2,000,000 gallons (9,092,183.76 litres) and the depth of the lagoon would be 3.5 metres.
- 3.7 Adjacent to the northern end of the lagoon would be a graded vehicular access to allow the lagoon to be filled from agricultural vehicles.
- 3.8 A 1.8 metre high protective fence topped with barbed wire to an overall height of 2 metres would enclose the perimeter of the lagoon. The bund of the lagoon would be re-soiled and re-seeded with grass. The existing hedgerow to the east and west of the lagoon would be allowed to grow and thicken whilst a new landscaping belt is to be planted along its northern and western boundary.

## **4. Summary of Representations**

- 4.1 A total of 1409 responses have been received. This application was initially advertised by means of 2 site notices. In response, 358 letters of objection and a petition containing 232 signatures against the proposal have been received which included 32 letters from the same 2 individuals. The main issues raised are summarised as follows:
  - 1. the proposal will result in increased vehicle movements through Longtown;
  - 2. there is the potential that the vehicles transporting the slurry may overturn in Longtown which has happened recently;
  - 3. the vehicular access to the woods is inappropriate;
  - 4. children and young persons play in the lane and the across the adjoining agricultural land. The proposal may result in persons accessing the lagoon which may lead to a tragic accident;
  - 5. the storage of slurry in lagoon will lead to an odour nuisance to properties along Lovers Lane and other areas of Longtown;
  - 6. the area is prone to flooding and any slurry from the site may leak into adjoining watercourses and contaminate Powdrake Beck and the River Esk as well as the water table in the area. The River Esk is a SSSI;
  - 7. the site is in close proximity to a Public Footpath;

8. there is no provision for the lagoon to accommodate additional rainfall in addition to the planned 2 million gallons of slurry;
9. the lagoon could be located closer to the farm steading;
10. there are more than 150 pathogens in manure lagoons which have found to affect human health especially those with a weakened immune system which would affect the living conditions of occupiers of nearby properties contrary to the report;
11. an Ecological Assessment covering direct and indirect effects on protected species should have been submitted and Natural England consulted;
12. due to the amount of earth that would be moved, an assessment should be undertaken under EIS guidelines;
13. the development will affect people's human rights;
14. there has been enough airborne contamination in the area from Chapelcross and Sellafield without another source of pollution;
15. expert evidence should be provided regarding the impact of wind and direction of travel in the area.

4.2 Following the consultation of the report produced by ADAS for the Council, 1051 letters of objection have been received and the main issues raised are summarised as follows:

1. there is an unjustifiable risk of pollution to the water tables, the River Esk and Powdrake Beck;
2. there is no calculation for precipitation regarding overflow/ flooding;
3. there will be harmful emissions from the lagoon. Bio-aerosol and pathogens travel further depending on wind direction and the lagoon is too near a town of this size;
4. there will be an inevitable increase of disease spreading pests/ vermin/ rats/ flies and birds in an around homes and the river;
5. any development should conserve or enhance the character of the land. This is so near to a historic woodland and joining an ancient woodland as well as being close to the town;
6. emissions and pathogens will be emitted from a permanent structure rather than occasional spreading;
7. the development will raise concerns about highway safety as well as leave a mess on the road due to the number of vehicle movements;
8. the examples provided in the ADAS report are not as large as this one and were on or near to farms and not close to towns;
9. the ADAS report does not answer the questions raised by residents;
10. the development will adversely affect tourism in and around the Longtown area;
11. the proposal has resulted in a feeling of anger, worry and frustration for the people of Longtown;
12. the movement of tankers through Longtown increases the chances of an accident with the possibility of the slurry being spilt;
13. the existing smell of slurry is disgusting and a permanent lagoon would be worse;
14. there is a risk of children or wildlife getting in the lagoon;
15. the applicant doesn't own the land and he should build the lagoon on his own farm;

16. the lagoon will affect house prices and put people off moving to the area;
17. the Environment Agency and ADAS knew their role i.e. to be supportive of the applicant's slurry lagoon application;
18. actual data and detailed information regarding the pathogen dangers of the slurry lagoon has already been provided to the Council by objectors. That information has NOT been fully and correctly considered, by an expert with specialist dairy slurry pathogen knowledge, within either the Environment Agency or ADAS;
19. it is rubbish for the Environment Agency and ADAS to be so dismissive of the dire health dangers of the pathogens flowing, in various ways, from the slurry lagoon. We do not know the cause of a whole host of illnesses and diseases;
20. a high proportion of Longtown residents have low/lower immune systems;
21. the applicants need to confine their "1000+" cow trading activity so that the slurry consequences can be dealt with via lagoons on their own farms with high bunds, to protect against flooding, if necessary;
22. the desire of the applicants to make more money should not be at the expense of any pathogen health threats, of any extent at any time, to Longtown residents;
23. further research needs to be carried out to determine if the site is ancient woodland before a planning decision is made;
24. paragraph 118 of the NPPF requires planning permission to be refused unless the development outweighs the loss;
25. if the Council are minded to approve the application, a 30 metre buffer should be provided between the site and the woodland;
26. the Environment Agency stated that they did not view the test pits but still withdrew their objection disregarding EA guidelines and regulations on the word of the agent;
27. the applicant's own vehicles have been seen travelling through Longtown at night, contrary to the Environment Agency's own guidelines;
28. the application should not have been allowed to get this far. Common sense should have been applied and the application refused rather than seeming to opt to use Longtown as a dumping ground;
29. no alternative options have been explored such as siting the lagoon at one of the applicant's other farms or installing an anaerobic digester;
30. the lagoon could result in the release of gases and nitrates detrimental to the health of residents and visitors to the area.

## **5. Summary of Consultation Responses**

Cumbria County Council - (Econ. Dir. Highways & Transportation): - no objection;

Arthuret Parish Council: - the application is not supported. The Parish Council are concerned about:

- the size of the lagoon close to a residential area;
- the increase amount of traffic to and from the lagoon through Longtown;
- Health & Safety concerns regarding flooding in the area and the possibility of pollution of the water course;

- reference to the drain on the plan is actually a ditch;
- the potential smell from the site would affect the community as the wind direction varies and is not always from the west;
- there are safety concerns for anyone children (in particular) as a crust forms over the top of the slurry that would appear safer than it actually is;

Environment Agency (N Area (+ Waste Disp & Planning Liaison Team): - the Agency has advised that all earth banked slurry lagoons need to provide an adequate thickness of low permeability deposits around their sides and base to provide containment, and to reduce the potential for the structure to pollute groundwater. It is therefore essential that the development follows the appropriate guidance and the agent has stressed that the lagoon will comply in their latest submission.

There is concern that there is not a sufficient in-situ thickness of clay in the location of trial pit 1, but we do not have a scale from the available photographs to confirm this. The agent has stated that they will ensure the appropriate thickness of clay for the lagoon and will import additional clay if necessary.

Given the above and the fact that the Agency's prior approval under the SSAFO regulations will be required before the lagoon can be used, the previous objection has been drawn and the proposal accepted subject to the imposition of a condition and an advisory note.

Following the further consultation regarding the ADAS report, no further comments have been made;

Public Health England: - in terms of other potential public health impacts of the proposed slurry lagoon, it is not envisaged that bioaerosol generation would be an issue to any of the nearby sensitive residential receptors. It is worth mentioning that there is very limited direct evidence of bioaerosol emissions from farming activities such as this. It is known that possible health effects from bioaerosol exposure may include exposure to infectious diseases, allergic reactions, respiratory symptoms and lung function impairment; however, bioaerosol levels generated from composting sites (which it is appreciated the proposed lagoon isn't), which have been found to be high close to the facility, have been shown to drop to background levels within 250m of the site and can be greatly reduced by good practice at the installation. At this time PHE is not aware of any research that would suggest that any bioaerosol generation from slurry sites would impact at greater distances. Given that the nearest residential properties are between 530m – 585m from the application site this would indicate that this is unlikely to be an issue. It should be said that PHE would expect that the design, construction and management of slurry storage will prevent or minimise emissions and that this will be controlled through planning and compliance with industry good practice.

Continuing Respiratory Care Education is currently trying to source some expertise with regard to bioaerosols and potential associated health implications on another matter. This may require seeking advice from other

organisations such as the Health and Safety Laboratory (HSL).

With regard to airborne releases from the slurry lagoon, it is likely that many volatile compounds may be released from the lagoon, the most prevalent being ammonia, hydrogen sulphide, methane and carbon dioxide, which may be released in varying quantities depending on the season and weather conditions and following particular procedures having been carried out e.g agitation. However, it seems likely that any exposure to such emissions at a level that may pose a risk to health would occur only in the immediate vicinity of the facility and not hundreds of metres away, thus is of more concern to farm workers as an occupational issue.

It should be said that such airborne releases may give rise to nuisance odours which we would expect to be investigated by local authority environmental health colleagues if reported to be an issue by local residents. PHE would recommend that the applicant has an odour management plan, including procedures to keep odour levels to a minimum and identified actions if odour complaints are identified to be an issue. Provided the site is well managed and maintained this should ensure that any odorous emissions are kept to a minimum.

Obviously there is the potential for release of slurry from the lagoon into local water courses, whether through leaching of slurry through the lagoon foundation into the water table or overspill of slurry during periods of heavy rainfall. However, it is understood that the applicant, following pre-application discussions with the Environment Agency, submitted plans which detail a lagoon design to include a 1.5m clay foundation which complies with appropriate Regulations and inclusion of a 0.75m freeboard, to enable the lagoon to cope with additional capacity demands following increased levels of precipitation.

Based on the information supplied in the planning application information, taking into account the comments you have already provided and on subsequent consideration of any gaseous emissions and bioaerosol generation, the proposal does not present any obvious cause for public health concern providing it is well managed and maintained and the relevant environmental legislation and guidance are complied with.

## **6. Officer's Report**

### **Assessment**

- 6.1 The relevant planning policies against which the application is required to be assessed are Policies CP1, CP2, CP5, CP6, CP11, CP13, LE1 and LE25 of the Carlisle District Local Plan 2001-2016. The National Planning Policy Framework (NPPF) is also a material planning consideration in the determination of this application. The proposal raises the following planning issues.

#### **1. Whether The Principle Of Siting A Lagoon Is Acceptable In This Location**

- 6.2 Criterion 1 of Policy LE25 of the Local Plan states that proposals for farm buildings and structures should be sited, where practical, to integrate with existing farm buildings and/or take advantage of the contours of the land and any natural screening.
- 6.3 The site is located in open countryside and on agricultural land. Although the structure would not be adjacent to existing agricultural buildings or structures, planning policies do not preclude the principle of development solely for this reason. Moreover, Policy LE25 accepts that agricultural development may not always occur adjacent to agricultural structures and the proposal must be considered against any potential impact that may occur as a result of the development. The principle of development is therefore acceptable.
- 6.4 Residents have suggested in their objections, that alternative siting or means of dealing with the slurry should be explored.
- 6.5 Residents have raised objections concerning possible increase in odour. The lagoon could not be resited as the majority of the 600 acres farmed is to the south of the River Esk and is also within a designated Flood Zone. The land is in agricultural use over which slurry is currently spread. Given that the majority of the residential properties nearest the site i.e. those along Lovers Lane, are over 585 metres from the lagoon and that the lagoon would be landscaped to minimise any visual impact, the lagoon would not create any additional adverse impact on the living conditions of the occupiers of these properties through noise or odours to those usually associated with the rural area to warrant refusal.

## **2. Whether The Scale And Design Of Proposed Slurry Lagoon Is Acceptable**

- 6.6 The economics of modern farming encourages increasing herd sizes requiring additional or improved slurry and manure stores. Slurry and manure are a source of valuable nutrients essential for crop needs. A well designed slurry system can help maximise these benefits. New larger stores can bring significant benefits to the farmer and better protect the environment. Slurry can be stored safely until conditions are right for spreading. These would include times of crop need and avoidance of wet weather and sensitive times to neighbours.
- 6.7 The NPPF together with Policies CP1 and CP2 of the Local Plan seek to ensure that proposals for development in the rural area conserve and enhance the special features and diversity of the different landscape character areas. Development proposals are expected to take advantage of the contours of the land and any existing natural screening and incorporate high standards of design including regard to siting, scale and landscaping which respect and, where possible, should enhance the distinctive character of the landscape.
- 6.8 The land is within an area designated as Urban Fringe Landscape; however, this designation has been superseded by the more recently introduced NPPF.



It is acknowledged that the lagoon would be in open countryside; however, any visual impact that the lagoon would have would be lessened by the bunds being reseeded with grass following completion. In addition, the site is adequately screened by Scaurbank Wood to the west and north of the site with hedgerows along the eastern and southern boundaries. Although there would be views of the lagoon from the permissive right of way, wider public views would be significantly limited and the development would not adversely affect the character or appearance of the area.

- 6.9 The application site does not fall within the newly enlarged NVZ, there is widespread belief that these zones will eventually be extended across the whole region. In addition to specific dates for non-spreading of slurry, the NVZ requirements ask each farm to show that it has the capacity to store 5 months production of slurry and a lagoon of this scale would achieve this requirement.
- 6.10 The Environment Agency initially objected to the application on the basis of the siting and construction method of the structure. Following discussions between the Agency and the applicant's agent, the objection has been withdrawn subject to the imposition of a condition and an advisory note.
- 6.11 When the application was previously considered, Members requested that the ground would be impermeable. The suggested planning condition requires the lagoon to be constructed from a 1.5 metre depth of clay and the advisory note states that lagoon must be controlled by the "Water Resources (Control Of Pollution) (Silage, Slurry And Agricultural Fuel Oil) (England) Regulations 2010 and as amended 2013 (SSAFO)". The construction of the lagoon is therefore enforceable under both the planning consent and moreover the Agency's legislation which will ensure that the lagoon is fit for purpose.

### **3. The Impact Of The Proposal On The Living Conditions Of Neighbouring Residents**

- 6.12 Policies CP5 and LE25 of the Local Plan both seek to ensure that there would be no adverse effect on the living conditions of the occupiers of residential amenity of adjacent properties. Within the immediate vicinity of the lagoon there are a number of residential properties, the closest of which being Crofthead which is 530 metres to the north-west, Moor Cottage which is 570 metres to the south-east of the site together several dwellings along Lovers Lane the closest of which is number 21 that is 585 metres from the application site.
- 6.13 Residents are highly concerned about potential emissions from the lagoon including odour and bioaerosols and the general adverse effect that the development would have on the residents and visitors of Longtown.
- 6.14 Following the deferral of the application and in light of the concerns from residents, Officers have visited the site with representatives from Public Health England (PHE) and a response has been received in this respect. PHE have provided a detailed response which is reproduced in the

Consultation Responses of this report; however, it is useful for Members to note the salient points, namely:

- PHE does not envisage that bioaerosol generation would be an issue to any of the nearby sensitive residential receptors;
- there is very limited direct evidence of bioaerosol emissions from farming activities such as this;
- given that the nearest residential properties are between 530m – 585m from the application site this would indicate that this [bioaerosol generation from slurry] is unlikely to be an issue;
- with regard to airborne releases from the slurry lagoon, it is likely that many volatile compounds may be released from the lagoon; however, it seems likely that any exposure to such emissions at a level that may pose a risk to health would occur only in the immediate vicinity of the facility;
- provided that the site is well managed and maintained this should ensure that any odorous emissions are kept to a minimum;
- based on the information supplied in the planning application information, this facility does not present any obvious cause for public health concern providing it is well managed and maintained and the relevant environmental legislation and guidance are complied with.

6.15 In addition, ADAS were consulted to provide an assessment of the proposal. In summary, the following assessments are contained within the report:

#### Bioaerosols

- The proposed development will in our opinion very likely constitute a potential source of bio-aerosols and in this regard the consultation responses are valid.
- For a risk [from bioaerosols] to be posed to human health there would need to be a clear pathway for bioaerosols to be carried to sensitive receptors and a mechanism for a human health response to be caused. In this regard we would suggest that the opinion expressed by Public Health England is valid and is made with due account of the evidence available. There is very little information contained in the cited references supplied by objectors which would conflict with this opinion.
- Studies have been undertaken measuring bioaerosol emissions from an intensive pig farm. In general, no elevated emissions were found at distances greater than 200m, though one study noted measurements of bacteria at 477m from a mechanically ventilated poultry house.
- One of the main sources of bioaerosols in the UK is commercial composting and hence much of the available research relates to this sector. We would therefore suggest that in the absence of guidance relating specifically to bioaerosols in agriculture that it is appropriate to refer to research from the composting sector when assessing this proposal. A report prepared by the Health and Safety Laboratory for the Health and Safety Executive in 2010 (*Bioaerosol emissions from waste composting and the potential for workers' exposure. Research Report:*

RR786) showed that at some commercial composting sites, bioaerosol levels were higher in a minority of samples between 100m and 250m downwind of the processing areas. The report concluded that the composting operations studied affected bioaerosol concentrations up to 250m from the site.

### Odour

- No significant new odour emissions related to land applications would be introduced by the proposed lagoon.
- The higher rates of applications that are facilitated by the use of an umbilical hose and low level tractor mounted application bars should mean that slurry would be spread more quickly, so that the duration of odour emissions is reduced. The capability to spread slurry at higher rates should also provide the applicants with more discretion about the timing of slurry applications, and therefore greater opportunity to avoid spreading when adverse wind conditions could carry odours towards sensitive receptors.

### Emissions

- Dispersion modelling of other agricultural developments with a similar emission rate indicates a likely acceptable odour footprint radius of around 400m. Orientation in relation to prevailing winds and experience from elsewhere suggests that under normal conditions there would be minimal odour impact from the proposed lagoon on residential receptors to the south of the lagoon even if no natural crust forms on the proposed lagoon.
- The Odour Management Plan should include a provision to ensure that the lagoon is completely emptied of potentially biologically active settled solids at least once each calendar year. With such precautions in place the lagoon is unlikely to have any significant off-site impact in the residential areas of Longtown.

### Comparison with common practice elsewhere in the UK

- the operational and practical benefits of the proposed slurry lagoon store on land at Scaurwood and Netherby in combination with spreading slurry to land are as follows:
  1. Slurry could in future be transferred to the lagoon by tankers over a longer time period because slurry currently has to be transported and spread with tankers all in one operation in limited time windows when soil, crop and weather conditions are appropriate. The lagoon will provide the opportunity for lower rates of tractor/tanker movements per day over longer time periods than the current intense transport activity at times when weather, soil and crop conditions are suitable for slurry spreading;
  2. The lagoon will allow the use of low level boom-based spreading

equipment fed from umbilical pipelines, which will generate lower levels of odour and “aerosols” emissions during slurry applications than otherwise currently arise from spreading with tankers with nozzles and splash plate systems which spray slurry up into the air;

3. Land applications of slurry will be able to be made at higher rates from a local lagoon, and therefore will be of shorter duration. The applicant will thus have more flexibility about the timing of spreading with regard to both crop/soil conditions and weather conditions. This could well mean that the operator will be able to postpone or delay spreading on land close to housing and therefore more sensitive to odours, if the wind conditions are adverse, until the wind changes direction, whereas currently the time pressures caused by lower work rates will not allow this discretion;
  4. Higher rates of slurry applications through the umbilical application equipment will mean that spreading operations will be of shorter duration, and therefore that odour emissions from land applications of slurry will be of shorter duration than currently.
- 6.16 Having consulted on these findings, the letters of objection continue to raise concerns about the effect of the development on the health of residents of Longtown and people using the footpath adjacent to the site.

#### **4. Impact Of The Proposal On Highway Safety**

- 6.17 It is acknowledged that agricultural vehicles will travel through Longtown from the applicant's farm to the application site to fill the lagoon; however, these same vehicles already have to make the same journey to spread the slurry on the land. In the further information received from the applicant, it details that the number of vehicle movements to the site would reduce from on average 7 a day to 5 day of the working week and would negate the need for any vehicles to travel along Swan Street, Mary Street and Lovers Lane; however, the size of the tankers would increase from 2,400 gallons to 3,000 gallons or larger.
- 6.18 The proposal would utilise an umbilical cord system which would pump the slurry onto the adjoining land. The applicant has provided additional information which is reproduced following this report, which shows the reduced number of vehicle movements that would result in the immediate locality as a result of using this system. Despite the potential for movement of larger slurry tankers along Netherby Road, the Highway Authority has raised no objection to this application.

#### **5. Impact Of The Proposal On The Environment And Biodiversity Issues**

- 6.19 As the report has outlined, planning policies recognise the important varied roles of agriculture and its need to become more competitive, sustainable and environmentally friendly whilst complying with changing legislation and associated guidance.

- 6.20 As previously stated, under the Water Framework Directive, areas of land are being designated as NVZs. Although, currently not within an NVZ it is envisaged that within the next ten years, the land farmed, together with the rest of the UK will be included with the NVZ, in order to meet the increased demands of European Legislation on Nitrates.
- 6.21 Part of NVZ legislation, imposes a closed period when no spreading of slurries are allowed. This period is from 1st August to 31st December for arable land or 1st September to 31st December for grassland. In addition, from the 1st January until the last day of February the maximum amount of slurry that can be applied at any one time is 50 cubic metres per hectare with at least three weeks between each individual application. Farms, therefore, have to ensure that they have a minimum of five months storage capacity to meet NVZ requirements.
- 6.22 The applicant's agent has outlined in the Supporting Statement that Smalmstown Farm currently has storage for 500,000 gallons of slurry which is inadequate for their needs; therefore, there is an overriding need, essential for the farming business, for additional slurry capacity to be provided.
- 6.23 Objections have been received on the basis that there is the potential for slurry to leach from the lagoon into the surrounding water table and watercourses and pollute Powdrake Beck and the River Esk. The lagoon has been designed such that it will be formed with a minimum depth of 1.5 metres of clay with an appropriately sized earth bank with a clay core. Pre-application discussions took place between the applicant and the Environment Agency with regard to the siting and construction of the lagoon. The lagoon was resited in accordance with the Agency's advice and the formal consultation response to this application raises no objection. Notwithstanding this, there is a separate requirement for the applicant to comply with the proposal is required to comply with the 'Code of Good Agricultural Practice', the 'Silage, Slurry and Fuel Oils Regulations' and 'CIRIA Report 126: Farm Waster Storage Guidelines for Construction'.
- 6.24 All work must be carried out in accordance with "Water Resources (Control Of Pollution) (Silage, Slurry And Agricultural Fuel Oil) (England) Regulations 2010 and as amended 2013 (SSAFO)". Under this Legislation farmers are required to give 14 days prior notification to the Environment Agency. The Agency will then carry out an assessment of risk. If they consider that the lagoon has not been properly constructed, under the aforementioned legislation they can serve a "works notice" which can prevent or forestall commissioning of the lagoon; however, this further inspection by the Agency should not preclude planning permission being granted.
- 6.25 A further point raised by the objectors about the lack of provision to accommodate any rainfall within the lagoon. The structure has been designed with a 0.75 metre freeboard which is an area between the potential height of the slurry and the embankment. This area would be sufficient to cope with any additional capacity demands placed on the lagoon and is an industry standard.

- 6.26 Planning Authorities in exercising their planning and other functions must have regard to the requirements of the EC Habitats Directive (92/43/EEC) when determining a planning application as prescribed by regulation 3 (4) of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Such due regard means that Planning Authorities must determine whether the proposed development meets the requirements of Article 16 of the Habitats Directive before planning permission is granted. Article 16 of the Directive indicates that if there is reasonable likelihood of a European protected species being present then derogation may be sought when there is no satisfactory alternative and that the proposal will not harm the favourable conservation of the protected species and their habitat.
- 6.27 The Councils GIS Layer has identified that the site has the potential for bats and breeding birds to be present on or in the vicinity of the site. As the proposed development would be located on agricultural land and would not involve disturbance of any related habitats, the development would not harm a protected species or their habitat.
- 6.28 Some of the objectors have suggested that an assessment under the Environmental Impact Assessment (EIA) is required. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 contain lists of Projects under Schedule 1 and Schedule 2. If the project is listed in Schedule 1, an EIA is mandatory.
- 6.29 Schedule 2 of the EIA regulations describes certain types of development where EIA may be required if the development has the potential to give rise to 'significant' environmental effects. 'Applicable thresholds and criteria' and 'indicative thresholds and criteria' are provided in Schedule 2, which help determine the need or otherwise for an EIA.
- 6.30 The only agricultural project is for "projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes" where the threshold for requiring an EIA is when the area of development exceeds 0.5 hectares. Projects which are described in the first column of Schedule 2 but which do not exceed the relevant thresholds, or meet the criteria in the second column of the Schedule, or are not at least partly in a sensitive area may not be Schedule 2 development. Such projects do not usually require further screening or an EIA. In this instance, the site area exceeds 0.5 hectares, however, the relevant trigger is whether the site falls within the first column and is therefore classed as uncultivated or semi-natural land.
- 6.31 Cultivated land includes land that has been subject to ploughing, rotavating, harrowing, tining, discing and re-seeding. The land has previously been ploughed and re-seeded and can't therefore be considered to be uncultivated land. The proposal does not fall within Schedule 2 of the regulations and no further requirement or an EIA are required.

## **6. The Impact Of The Development On Human Rights And The Aarhus Convention**

- 6.32 The objectors have raised concerns about the impact of the development on

the Human Rights of the residents of Longtown.

- 6.33 The human rights of the occupiers of the neighbouring properties have been properly considered and taken into account as part of the determination of the application. Several provisions of the Human Rights Act 1998 can have implications in relation to the consideration of planning proposals, the most notable being:

**Article 6** bestowing the "Right to a Fair Trial" is applicable to both applicants seeking to develop or use land or property and those whose interests may be affected by such proposals;

**Article 7** provides that there shall be "No Punishment Without Law" and may be applicable in respect of enforcement proceedings taken by the Authority to regularize any breach of planning control;

**Article 8** recognises the "Right To Respect for Private and Family Life".

- 6.34 Article 1 of Protocol 1 relates to the "Protection of Property" and bestows the right for the peaceful enjoyment of possessions. This right, however, does not impair the right to enforce the law if this is necessary, proportionate and there is social need.

- 6.35 Article 8 and Article 1 Protocol 1 are relevant but the impact of the development in these respects will be minimal and the separate rights of the individuals under this legislation will not be prejudiced. If it was to be alleged that there was conflict it is considered not to be significant enough to warrant the refusal of permission.

- 6.36 In addition, an objector has also raised the issue that the proposal would conflict with the Aarhus Convention. The following explanation of the Convention is taken from the European Commission website:

"The United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters was adopted on 25 June 1998 in the Danish city of Aarhus (Århus) at the Fourth Ministerial Conference as part of the "Environment for Europe" process. It entered into force on 30 October 2001.

The Aarhus Convention establishes a number of rights of the public (individuals and their associations) with regard to the environment. The Parties to the Convention are required to make the necessary provisions so that public authorities (at national, regional or local level) will contribute to these rights to become effective. The Convention provides for:

- the right of everyone to receive environmental information that is held by public authorities ("**access to environmental information**"). This can include information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment. Applicants are entitled to obtain this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged, under the Convention, to actively disseminate environmental information in their

possession;

- the right to participate in environmental decision-making. Arrangements are to be made by public authorities to enable the public affected and environmental non-governmental organisations to comment on, for example, proposals for projects affecting the environment, or plans and programmes relating to the environment, these comments to be taken into due account in decision-making, and information to be provided on the final decisions and the reasons for it ("**public participation in environmental decision-making**");
- the right to review procedures to challenge public decisions that have been made without respecting the two aforementioned rights or environmental law in general ("**access to justice**")."

6.37 The application together with the revised information has been subject to public and transparent consultation and there is no conflict with the Aarhus Convention.

## **7. Whether Any Adverse Impact Would Occur To The Woodland**

6.38 Adjacent to the site is a Dedicated Woodland and an objection has been received from the Woodland Trust. The Trust cites paragraph 118 of the NPPF which states:

“planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;”

6.39 The development of the lagoon does not infringe into the woodland area. The Trust acknowledge that the woodland is not included on the ancient woodland inventory but that further research is required. Paragraph 118 advises that there should be no loss of ancient woodland unless this is outweighed by the development. As stated, there would be no loss of woodland and this requirement under the NPPF is misapplied.

6.40 The Trust has advised that a 30 metre buffer area is provided between the woodland and the lagoon. Currently a distance of 10 metres would exist between the woodland and the proposed development. In order to achieve this distance, the lagoon would have to be made narrower but to retain the capacity would have to be made longer thereby meaning that it will be closer to the residential properties. This is an issue raised very recently and as such the applicant has been sought for his views. It is anticipated that an update will be available to Members at the Committee meeting.

## **8. Other Matters**

6.41 Concern has been raised in regard to the prevention of unauthorised access to the lagoon from children and animals. The lagoon will be enclosed by a



1.8 metre high non-climbable fence topped with barbed wire together with lockable gates. The height of which will be in excess of the Health & Safety Executive requirements under their legislation "Construction (Design and Management) Regulations" (2007). It is therefore considered that these will reduce any possible risks to human and animal welfare.

- 6.42 Although the lagoon would be sited away from the farm steading, the practical reasons in relation to the 600 acres farmed in the immediate vicinity have already been discussed. In addition, the lagoon could not be sited at Smalmstown as the land is within Flood Zone 3.
- 6.43 Objectors have raised concerns that the site is prone to flooding. Whilst the land may be subject to some localised flooding, it is not within a designated flood zone. As discussed in the earlier paragraphs, the scale and method of construction would ensure that the development would not result in pollution of the surrounding watercourses.
- 6.44 The application site is located adjacent to a footpath which is not a Public Footpath but rather it is a permissive right of way. The development would not prohibit the right of access along the right of way and whilst the development would be visible, it would be well related to the boundaries of the site and the adjacent woodland and would not be detrimental to the character of the area.
- 6.45 Residents have raised concerns that the development would be detrimental to house prices in the area. Members will be aware that this issue has been proven through planning case law not to be a material consideration in the determination of application.

## **Conclusion**

- 6.46 The proposal is for a large slurry lagoon in the undeveloped open countryside and unrelated to the applicant's farm. It is, however, well related to the land which the applicant farms and would ideally be positioned for the application of the slurry. Planning policies do allow for agricultural development to take place in the countryside provided that no adverse impact would occur on the character or appearance of the area. The report has demonstrated that given the scale and design of the lagoon together with the topography of the land and additional landscaping, no such adverse impact on the character of the area would occur. The principle of development is therefore acceptable.
- 6.47 The economics of modern farming encourages increasing herd sizes requiring additional or improved slurry and manure stores. Slurry and manure are a source of valuable nutrients essential for crop needs. A well designed slurry system can help maximise these benefits. New larger stores can bring significant benefits to the farmer and better protect the environment. Slurry can be stored safely until conditions are right for spreading. These would include times of crop need and avoidance of wet weather and sensitive times to neighbours.
- 6.48 The proposal to develop a large slurry lagoon on this site has generated

a significant number of objections from residents who are concerned about the potential impact on their health and overall living conditions. In light of this, the Council has undertaken extensive and valuable consultation with Public Health England and employed a consultant to advise and to allow Officers to properly evaluate such issues. The responses show that there are organisms and pathogens in the lagoon; however, given the orientation with the residential properties and the distance from the houses, no adverse impact on the health of residents would occur from the lagoon. In terms of users of the footpath, even short term exposure when passing the site would not be detrimental to an individual's health.

- 6.49 The Highway Authority has raised no objection.
- 6.50 The Environment Agency have raised no objection to the proposed lagoon subject to the imposition of a planning condition and an advisory note. The applicant is required to comply with the regulations enforced by the Agency in terms of the construction and commissioning of the structure who in turn will ensure that it is fit for purpose. Consequently, there should be no adverse impact on any nearby watercourse.
- 6.51 In all aspects, the proposal is compliant with current planning policies and is recommended for approval.

## **7. Planning History**

- 7.1 There is no planning history associated with this land.

## **8. Recommendation: Grant Permission**

- 1. The development shall be begun not later than the expiration of 3 years beginning with the date of the grant of this permission.

**Reason:** In accordance with the provisions of Section 91 of the Town and Country Planning Act 1990 ( as amended by Section 51 of the Planning and Compulsory Purchase Act 2004).

- 2. The approved documents for this Planning Permission comprise:
  - 1. the Planning Application Form received 24th April 2013;
  - 2. the Site Location Plan received 29th April 2013 (Drawing no. F203/SL004 Rev B);
  - 3. the Site Plan received 24th May 2013 (Drawing no. F203/SL002 Rev B);
  - 4. the Identification Plan received 24th April 2013 (Drawing no. F203/SL003 Rev B);
  - 5. the Environment Agency Flood Risk Maps: Smalmstown Steading received 24th May 2013;
  - 6. the Agricultural Land Occupied With Proposed Slurry Lagoon received 29th April 2013;

7. the Existing Tanker Movements For The Spreading Of Slurry Over Holding received 24th May 2013;
8. the Proposed Tanker Movements For The Spreading Of Slurry Over Holding received 24th May 2013;
9. the Design And Access received 24th April 2013;
10. the Soil Report Slurry Lagoon, Scaurbank, Longtown received 24th April 2013;
11. the Notice of Decision; and
12. any such variation as may subsequently be approved in writing by the Local Planning Authority.

**Reason:** To define the permission.

3. The 2 metre high protective fencing and gates around the lagoon detailed on Drawing no. F203/SL002 Rev B received on 24 May 2013 shall be completed prior to the lagoon being brought into use. The fencing and gates shall not be altered or removed without the prior written approval of the Local Planning Authority.

**Reason:** To ensure compliance with Policy CP5 of the Carlisle District Local Plan 2001-2016.

4. The development hereby approved shall proceed in accordance with the approved plans and a clay liner to a minimum depth of 1.5 metres below the base of the lagoon and through the bank of the lagoon must be provided.

**Reason:** To protect groundwater quality from pollution accordance with Policy CP12 of the Carlisle District Local Plan 2001-2016.

5. The lagoon hereby approved shall not be brought into use until an Odour Management Plan has been submitted to the Local Planning Authority and approved in writing. The approved plan shall be reviewed and formally re-submitted for written approval by the Local Planning Authority every three years or within 21 days of an odour related complaint being received by the Council. The agreed Odour Management Plan shall be implemented and retained thereafter prior to the first use of the development.

**Reason:** To ensure that the proposal does not adversely affect the living conditions of the occupiers of residential properties in accordance with Policy CP6 of the Carlisle District Local Plan 2001-2016.

6. No agitation or stirring of slurry in the lagoon shall take place at weekends or on bank holidays.

**Reason:** To ensure that the proposal does not adversely affect the living conditions of the occupiers of residential properties in accordance with Policy CP6 of the Carlisle District Local Plan 2001-2016.

7. No development shall take place until details of a landscaping scheme have

been submitted to and approved in writing by the Local Planning Authority.

**Reason:** To ensure that a satisfactory landscaping scheme is prepared in accordance with Policy CP5 of the Carlisle District Local Plan 2001-2016.

8. All planting, seeding or turfing comprised in the approved details of landscaping shall be carried out in the first planting and seeding seasons following the occupation of the building or the completion of the development, whichever is the sooner, and maintained thereafter to the satisfaction of the Council; and any trees or plants which within a period of 5 years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority gives written consent to any variation.

**Reason:** To ensure that a satisfactory landscaping scheme is implemented and that it fulfils the objectives of Policy CP5 of the Carlisle District Local Plan 2001-2016.

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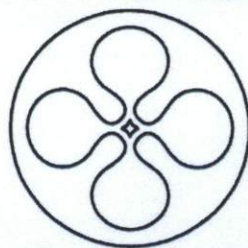
# SITE LOCATION PLAN SCALE 1:5000



Full Grid Reference:  
338785.09, 569869.226  
100m Grid Reference:  
NY 387 698  
Latitude, Longitude:  
55.02, -2.96



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Project & Client  
Messers R M Fisher -  
Proposed Slurry Lagoon Smalmstown  
Longtown, Carlisle, Cumbria, CA6 5LH

Drawing no. F203/SL004

Drawn by JPT

Date  
05.04.12

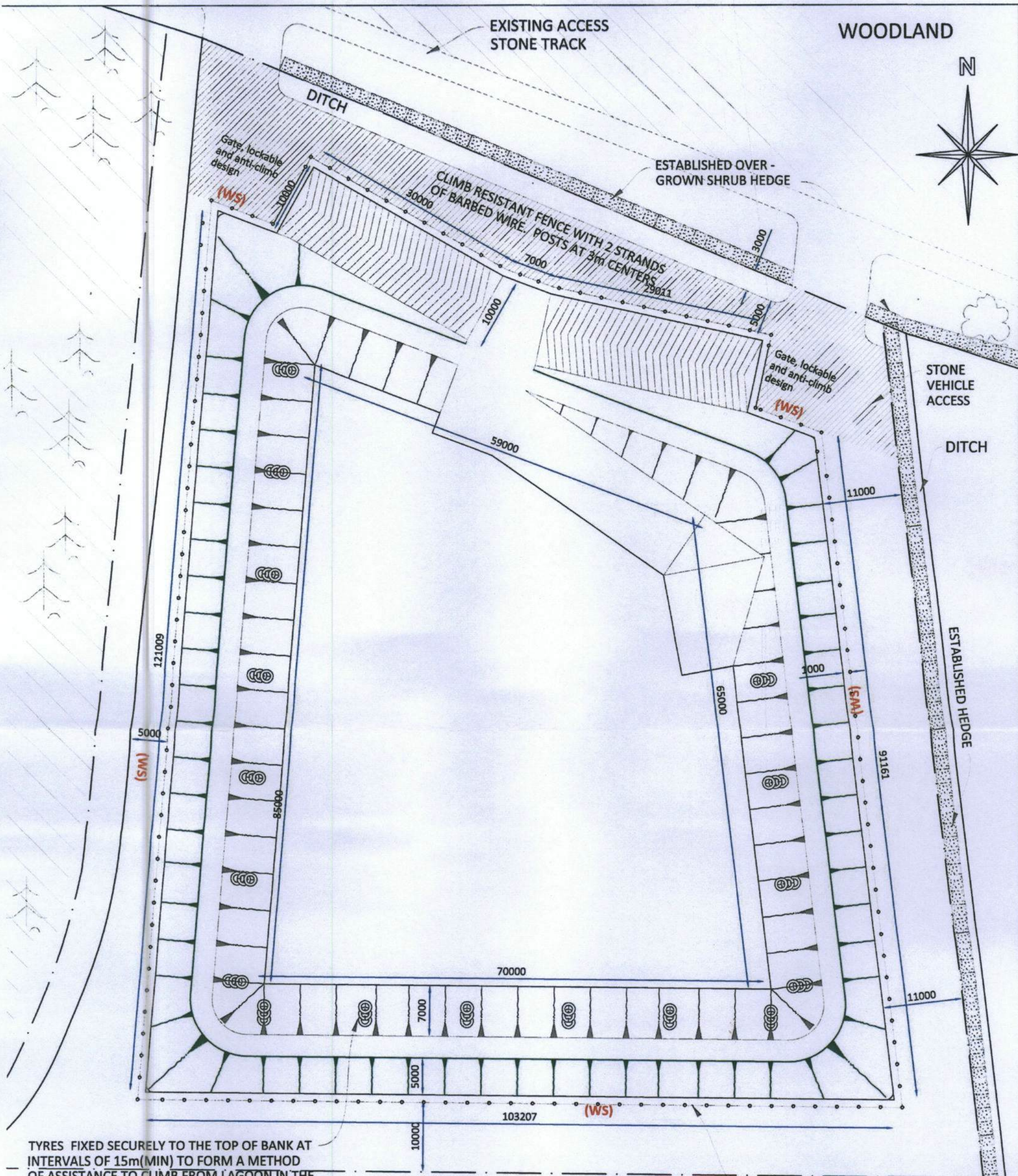
Scale As shown @ A3

Rev.  
**B**

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DO NOT SCALE FROM DRAWING: All dimensions are to be checked and verified on site. Any discrepancies are to be brought to the immediate attention of the Contract Administrator.





TYRES FIXED SECURELY TO THE TOP OF BANK AT INTERVALS OF 15m(MIN) TO FORM A METHOD OF ASSISTANCE TO CLIMB FROM LAGOON IN THE EVENT OF FALLING IN

**WARNING SIGN**  
(WS) FIXED EACH  
SIDE TO FENCE.  
Size: 600mm x 200mm  
minimum



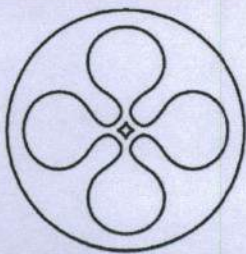
**SLURRY STORE**  
No unauthorized  
entry  
Toxic Gas Danger  
of Drowning

CLIMB RESISTANT FENCE WITH 2  
STRANDS OF BARBED WIRE.  
POSTS AT 3m CENTERS

RECEIVED  
24 MAY 2013  
13/0331

## PROPOSED SLURRY LAGOON: SITE PLAN: SCALE 1:500

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Proposed Slurry Lagoon Smalmstown  
Longtown, Carlisle, Cumbria, CA6 5LH

Drawing no. F203/SL002

Drawn by JPT

Date  
05.04.12

Scale As shown @ A3

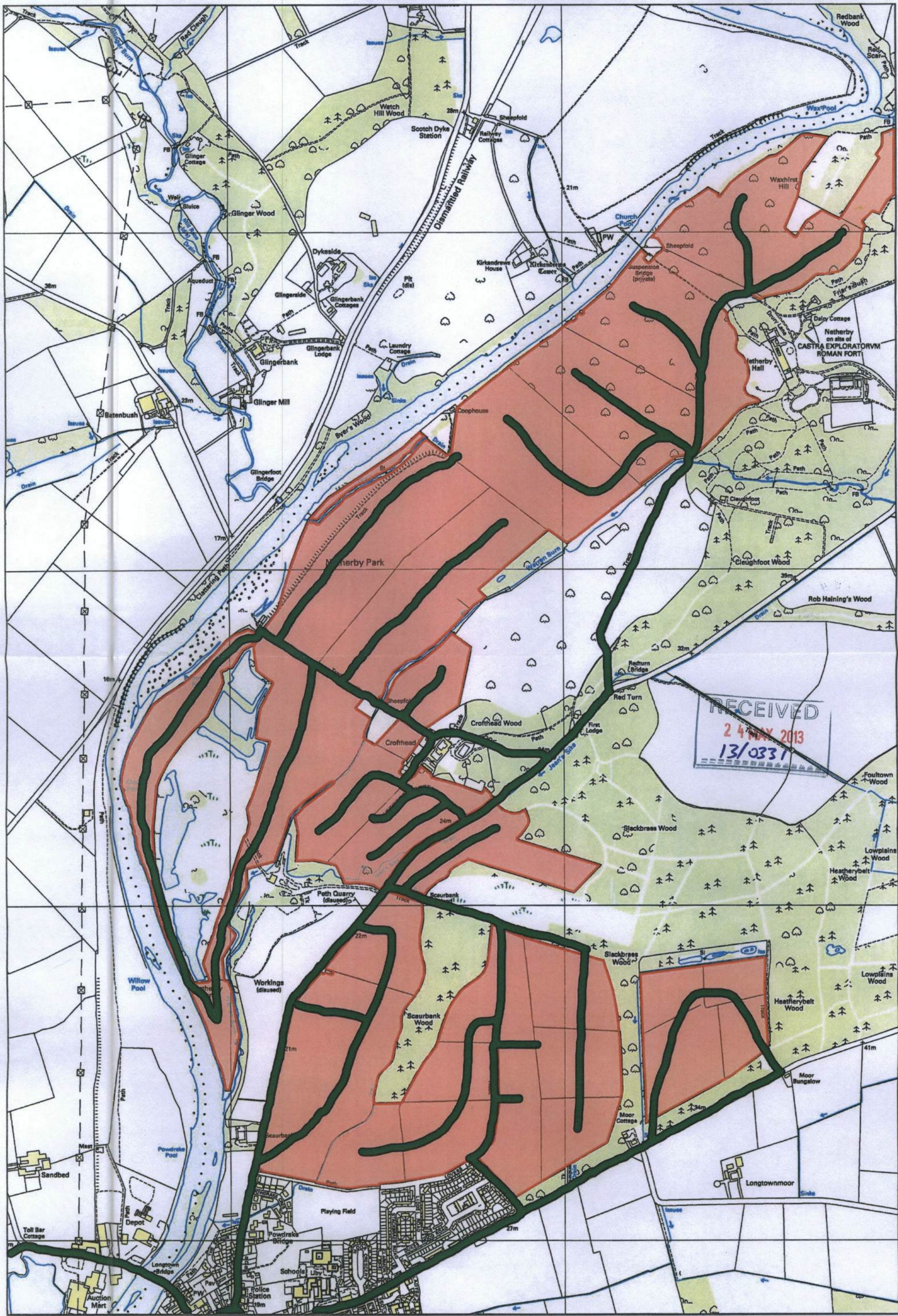
Rev.  
B

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NOT SCALE FROM DRAWING: All dimensions are to be checked and verified on site. Any discrepancies are to be brought to the immediate attention of the Contract Administrator.

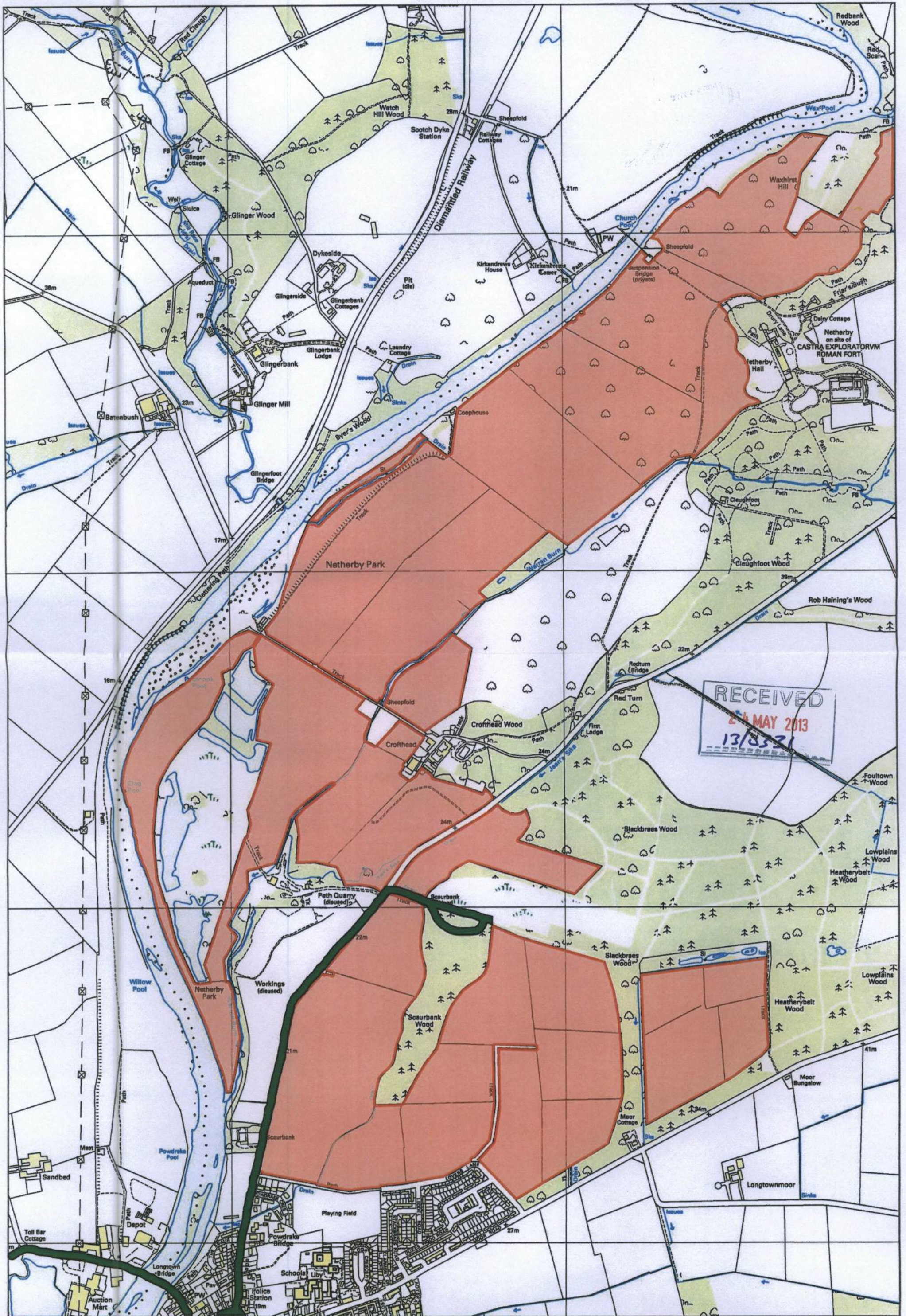


A1) Existing: tanker movements for the spreading of slurry over holding





A2) Proposed: tanker movements for the spreading of slurry over the holding



Agricultural land occupied with proposed slurry lagoon

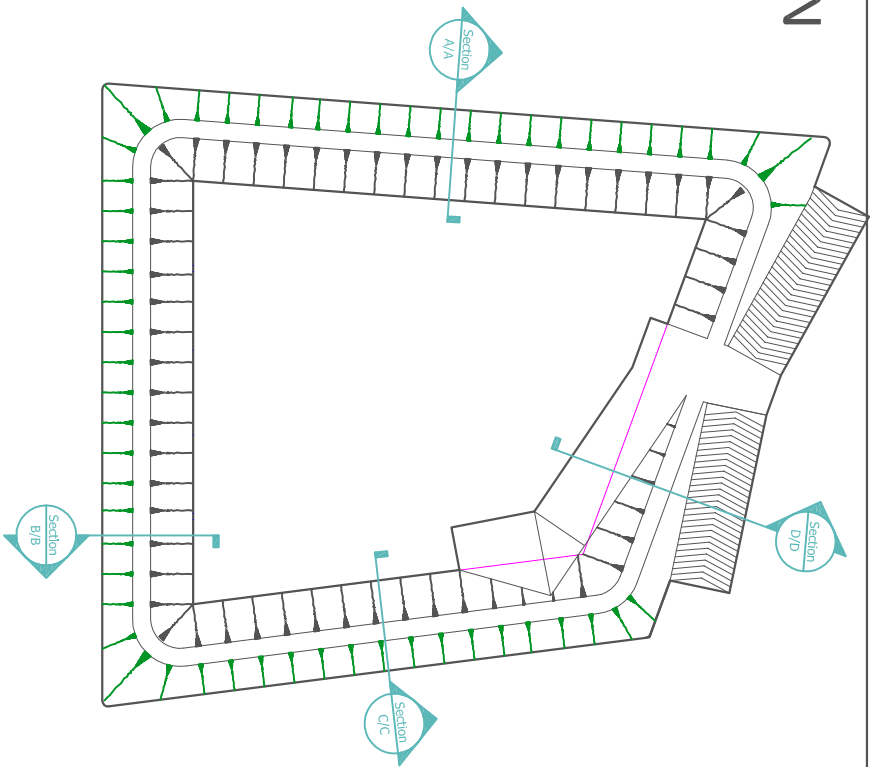
Indicative tanker routes







IDENTIFICATION  
PLAN

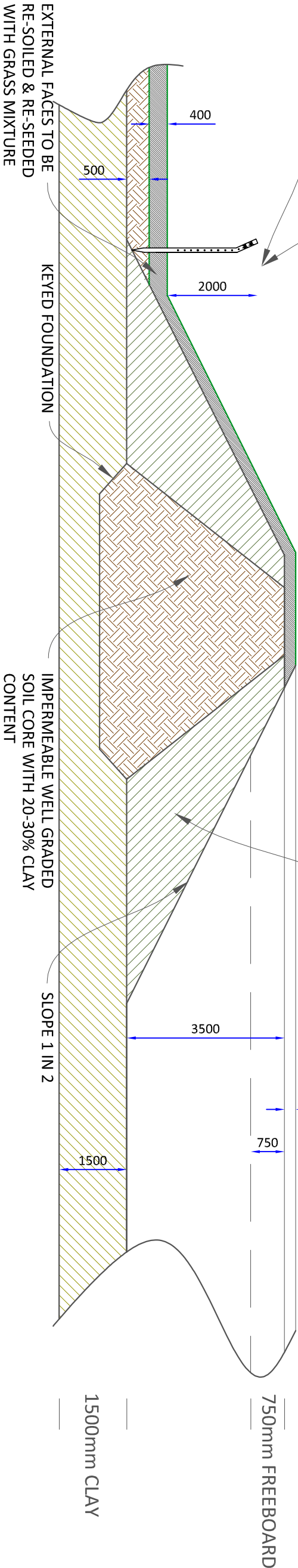


**WARNING SIGN**  
**(WS) FIXED EACH SIDE TO FENCE.**  
Size: 600mm x 200mm minimum

**SLURRY STORE**  
**No unauthorised entry**

**Toxic Gas Danger of Drowning**

CLIMB RESISTANT FENCE WITH 2 STRANDS OF BARBED WIRE. POSTS AT 3m CENTERS



SECTION A-A / B-B / C-C SCALE 1:100

ACCESS RAMP CONSTRUCTED FROM IMPERMEABLE WELL GRADED SOIL WITH 20-30% CLAY CONTENT WITH 250mm TOPSOIL SOWN WITH A GRASS MIX. OVERLAY WITH REINFORCED PLASTIC MESH.

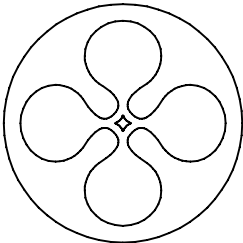
PERMEABLE WELL GRADED SOIL SAND GRAVEL MIX

ACCESS RAMP CONSTRUCTED FROM IMPERMEABLE WELL GRADED SOIL WITH 20-30% CLAY CONTENT WITH 250mm TOPSOIL SOWN WITH A GRASS MIX. OVERLAY WITH REINFORCED PLASTIC MESH.

SECTION D-D SCALE 1:100

IMPERMEABLE WELL GRADED SOIL CORE WITH 20-30% CLAY CONTENT

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**Proposed Slurry Lagoon** Smalmstown  
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Drawing no. F203/SL003

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Drawn by JPT

Date  
05.04.12

Scale As shown @ A3

Rev.  
**B**



Richard Maunsell  
Economic Development  
Carlisle City Council  
Civic Centre  
Carlisle  
CA3 8QG

ADAS UK Ltd  
1 Rubicon Square  
4205 Park Approach  
Thorpe Park  
Leeds  
LS15 8GB

24<sup>th</sup> February 2014

Dear Richard

**Planning Application 13/0331 – Proposed 2M galloon slurry lagoon on land to the North East of Scaurbank Wood, Longtown**

Thank you for your recent instruction in connection with our independent review of submissions relating to the above planning application. I am pleased to present the findings of our work.

Our terms of instruction were to address the following issues, which are dealt with in turn in the remainder of this letter.

- A review of objector comments and consultee responses relating to emissions to air;
- A review of the reference sources cited by objectors in respect of emissions to air and potential impacts on public health;
- Independent opinion of the risk presented to health and amenity;
- Overview of the agricultural justification for the proposal and comparison with common practice in the UK; and
- Recommendations for further information from the applicant or planning conditions for Carlisle City Council as appropriate.

As agreed, the main focus of our work has been on emissions to air potentially associated with the proposed development. We have briefly reviewed responses relating to other areas but have not assessed these in detail.

Review of objector and consultee responses relating to emissions to air

The statutory consultee responses of greatest relevance to emissions to air are those from the Environment Agency and Public Health England.

The Environment Agency objected to the proposal for design reasons (relating to the specification of the clay lining) but did not raise any issues relating to emissions to air.

Public Health England submitted a detailed response which concluded that the proposal *“does not present any obvious cause for public health concern providing it is well managed and maintained and that the relevant environmental legislation and guidance is complied with”*.

Arthuret Parish Council objected to the scheme, raising several concerns including *“the smell from the site would affect the community, wind direction varies and is not always from the west”*.

A number of additional objections have also been received from local residents. These raise a range of issues but those relating to emissions to air generally fall into two categories; odour and health risks presented by airborne pathogens and micro-organisms. The latter for the remainder of this letter are referred to as bioaerosols.

#### Review of reference sources cited by objectors in respect of emissions to air

A number of reference sources have been provided by local objectors, which it is stated support their reasons for objection. It is not within the remit of our instruction to provide a full rebuttal to this information although we have completed a high level review of the main content and relevance of the references provided. We have accessed at least the abstract for all but one of the cited references.

In general, the main theme of the references relate to the presence of pathogens in livestock waste, the potential for release or transmission of these pathogens and the resultant risk to health. Many of the references deal with the release of organisms to water and are therefore outside the scope of our instruction.

Some of the research cited describes scenarios where humans are in direct contact with land on which slurry has been spread (such as through camping) or direct contact with livestock (such as occupationally as a farmer or vet, or recreationally as a visitor to a petting farm). These scenarios are not comparable to what is being proposed at the application site but nevertheless would indicate that even direct exposure to slurry or with diseased animals results in a very low risk of infection to humans.

Other references confirm the fact that cattle slurry or other animal manures are potential sources of pathogens. This is an acknowledged fact and therefore it is not surprising that an evidence base of scientific literature exists to support this. However, the key issue when assessing the proposal is whether it would present a pathway for these pathogens to affect humans, and if so then what human health responses may result. We have found that there is very little of substance in the quoted references which would help to address this question and therefore in general these references should be regarded as being of no more than indirect relevance to the application.

#### Independent opinion of the risk presented to health and amenity

In addressing this area of instruction we set out our opinions separately for odour and bioaerosols, as whilst the two are related, bioaerosols present a potential health issue whilst odour is primarily an amenity matter.

#### **Bioaerosols**

The proposed development will in our opinion very likely constitute a potential source of bio-aerosols and in this regard the consultation responses are valid. This is in common with many other types of agricultural activities, including slurry spreading which already takes place locally. However, for a risk to be posed to human health there would need to be a clear pathway for bioaerosols to be carried to sensitive receptors and a mechanism for a human health response to be caused. In this regard we would suggest that the opinion expressed by Public Health England is valid and is made with due account of the evidence available. There is very little information contained in the cited references supplied by objectors which would conflict with this opinion.

There has been limited research into the emission of bioaerosols from intensive livestock operations. A report published by the Environment Agency in 2008 (*Bioaerosols, dust and particulates potentially emanating from intensive agriculture and potential effects on human health. Science Report – SC040021/SR4*) summarised the results of bioaerosol studies at a number of intensive pig and poultry farms. A number of these studies measured bioaerosol emissions at varying distances from the source. In general, no elevated emissions were found at distances greater than 200m, though one study noted measurements of bacteria at 477m from a mechanically ventilated poultry house. In this instance, it should be noted that air and potentially “light” air borne dusts would be forced out of

the poultry house at roof height at an accelerated rate and such conditions would not be found with the proposed development.

One of the main sources of bioaerosols in the UK is commercial composting and hence much of the available research relates to this sector. We would therefore suggest that in the absence of guidance relating specifically to bioaerosols in agriculture that it is appropriate to refer to research from the composting sector when assessing this proposal. Commercial composting is predominantly a dry process which requires mechanical agitation of wastes and hence would in most cases be expected to be a more significant source of bioaerosol emissions than would a slurry lagoon.

A report prepared by the Health and Safety Laboratory for the Health and Safety Executive in 2010 (*Bioaerosol emissions from waste composting and the potential for workers' exposure. Research Report: RR786*) showed that at some commercial composting sites, bioaerosol levels were higher in a minority of samples between 100m and 250m downwind of the processing areas. The report concluded that the composting operations studied affected bioaerosol concentrations up to 250m from the site. This has since become reflected in Environment Agency and Association for Organics Recycling (AfOR) guidance (*Composting and potential health effects from bioaerosols: our interim guidance for permit applicants*, EA, 2010 and *Standardised protocol for the monitoring of bioaerosols at open compost facilities*, EA and AfOR, 2011) that assessment of bioaerosols should be undertaken when sensitive receptors are located within 250m of a potential source.

The EA and AfOR guidance does not imply that proposals at less than 250m of sensitive receptors will automatically be unacceptable, only that a detailed assessment should be undertaken in such circumstances. In this case the nearest properties in Longtown are more than 500m distance from the application site. Therefore with reference to the above research and guidance, detailed assessment of bioaerosols would not usually be a requirement for a proposal of this nature, nor would it be expected that the proposal would present unacceptable risks to human health.

Slurry spreading is likely to occur on land between the proposed lagoon and Longtown and at times may take place within less than 250m of sensitive receptors. Slurry spreading however already takes place in the area around Longtown and there is nothing to suggest that the proposal would increase the risk to residents. Indeed, slurry spreading is a widespread activity in rural areas throughout the UK, often within 250m of sensitive receptors, and there is very limited evidence that this poses a threat to human health.

## **Odour**

### **Emissions from Slurry Spreading**

In terms of odour emissions the lagoon will not introduce any new slurry spreading or land application operations. Our understanding from the site visit is that the proposed lagoon is intended to improve the efficiency with which slurry can be transported to, and applied on, land at Netherby and Scaurbank. To that extent no significant new odour emissions related to land applications would be introduced by the proposed lagoon.

In relation to odour emissions from land on which slurry is spread, the higher rates of applications that are facilitated by the use of an umbilical hose and low level tractor mounted application bars should mean that slurry would be spread more quickly, so that the duration of odour emissions is reduced. The capability to spread slurry at higher rates should also provide the applicants with more discretion about the timing of slurry applications, and therefore greater opportunity to avoid spreading when adverse wind conditions could carry odours towards sensitive receptors. The low level spreading equipment that can be used with umbilical systems also provides an opportunity to reduce odour emissions from the spreading/application operation in comparison with traditional tanker spreading arrangements.

### **Emissions from the Lagoon**

The location of the lagoon is relatively remote in relation to potentially sensitive residential receptors. Slurry lagoons are not in our experience normally the cause of significant odour complaints, and in the case of dairy farms even more rarely because natural crusts usually form a natural “biofilter” which reduce odour emissions. In this case the bedding and feeding systems at Smalmstown are such that formation of a crust is less likely, so that odour emissions are less likely to be mitigated by a crust.

Odour impact can be assessed by analogy and even assuming a relatively biologically active effluent, data taken from other sites would indicate that odour emissions from the surface of the lagoon are unlikely to exceed 30 European odour units per second per square metre ( $\text{ou}_\text{E}/\text{s}/\text{m}^2$ ) of lagoon surface. With a lagoon surface area of approximately 5,250  $\text{m}^2$ , total odour emissions could thus amount to around 157,500  $\text{ou}_\text{E}/\text{s}$ . Dispersion modelling of other agricultural developments with a similar emission rate indicates a likely acceptable odour footprint radius of around 400m. Orientation in relation to prevailing winds and experience from elsewhere suggests that under normal conditions there would be minimal odour impact from the proposed lagoon on residential receptors to the south of the lagoon even if no natural crust forms on the proposed lagoon.

Higher rates of odour emissions may arise during the short periods when the lagoon is stirred and mixed prior to emptying, so these activities would have to be managed using an agreed Odour Management Plan and taking account of wind and weather conditions. The Odour Management Plan should include a provision to ensure that the lagoon is completely emptied of potentially biologically active settled solids at least once each calendar year. With such precautions in place the lagoon is unlikely to have any significant off-site impact in the residential areas of Longtown.

#### Assessment of agricultural need and comparison with common practice elsewhere in the UK

We understand that the dairy farming enterprise at Smalmstown Farm is based on land at Smalmstown and two further parcels of land at Netherby Estate and at Howend. The Netherby land is most relevant to this proposal due to the proximity to residents of Longtown. This land is used to grow fodder and crops to feed the dairy herd and other stock at Smalmstown Farm and the agricultural cycle is completed by returning slurry and manure from the dairy unit as fertilisers for the land over which the crops and forage are produced.

The Farm Waste Management Plan provided by the Applicant shows that approximately 518 acres are available and used for land spreading at Smalmstown Farm and Howend and approximately 575 acres of land at Netherby. The proposal is to build a slurry lagoon at Scaurbank Wood to service the land at Netherby, which represents in excess of 50% percent of the land fertilised by manure and slurry from the dairy herd.

We understand that current practice is for slurry to be transferred by tractor and tankers/spreaders to the land at Netherby at times when the land is available for spreading. Thus for example when silage has been cut there is the opportunity to apply slurry to fertilise re-growth of grass, but the imperative is currently to get slurry applied as soon and as quick as possible to minimise the potential for scorch and slurry contamination of the grass re-growth. The fact that the same machinery (tankers with a rear nozzle/splash plate broadcasting outlet) has to be used to both transporting and spreading slurry inevitably limits the rate at which slurry can be transported and spread. The proposed slurry lagoon would provide a buffer storage capacity at Netherby so that slurry can be transported more efficiently without the need to both transport and spread slurry with the same tanker/spreader.

In our opinion the operational and practical benefits of the proposed slurry lagoon store on land at Scaurwood and Netherby in combination with spreading slurry to land are as follows:

- a) Slurry could in future be transferred to the lagoon by tankers over a longer time period because slurry currently has to be transported and spread with tankers all in one operation in limited time windows when soil, crop and weather conditions are appropriate. The lagoon will provide the opportunity for lower rates of tractor/tanker movements per day over longer

time periods than the current intense transport activity at times when weather, soil and crop conditions are suitable for slurry spreading.

- b) The lagoon will allow the use of low level boom-based spreading equipment fed from umbilical pipelines, which will generate lower levels of odour and “aerosols” emissions during slurry applications than otherwise currently arise from spreading with tankers with nozzles and splash plate systems which spray slurry up into the air.
- c) Land applications of slurry will be able to be made at higher rates from a local lagoon, and therefore will be of shorter duration. The applicant will thus have more flexibility about the timing of spreading with regard to both crop/soil conditions and weather conditions. This could well mean that the operator will be able to postpone or delay spreading on land close to housing and therefore more sensitive to odours, if the wind conditions are adverse, until the wind changes direction, whereas currently the time pressures caused by lower work rates will not allow this discretion.
- d) Higher rates of slurry applications through the umbilical application equipment will mean that spreading operations will be of shorter duration, and therefore that odour emissions from land applications of slurry will be of shorter duration than currently.

It is for the applicant to demonstrate compliance with regulation and best practice. However, we would note that the construction of slurry lagoons of this nature is broadly consistent with the objectives of Nitrate Vulnerable Zones (NVC) regulations. Three recent examples of similar approved applications (albeit with a smaller storage capacity) in the north of England are:

- 1,700,000 gallon slurry lagoon at Demesne Farm, Clitheroe;
- 1,200,000 gallon slurry lagoon at Marton Hall Farm, Skipton; and
- 1,500,000 gallon slurry lagoon at Whinnymire Farm, Clapham.

#### Recommendations for further information from the applicant or planning conditions

An atmospheric dispersion modelling study of the proposal would help to quantify odour and other emissions and would likely provide greater certainty and transparency in terms of assessing the impact and communicating this to third parties. However there would be a significant cost and time implication for the applicant and the question has to be asked whether this is a proportionate or reasonable requirement given the nature of the development proposed. Our suggestion would be that it is not although ultimately this is for the planning authority to decide.

If the decision is taken to grant planning permission then we would recommend that a condition be set to ensure that an Emissions Management Plan is submitted and approved by your authority prior to the commencement of development. This should detail the measures proposed to manage and maintain the site such that the risk of emissions to air are minimised, and to allow that operations unavoidably giving rise to emissions, such as slurry spreading, are planned and implemented in such a way as minimises the risk of harm to amenity of residents.

I trust that this response meets your requirements. Please do not hesitate to contact me should you require any further information.

Yours Sincerely

Robert Edwards  
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**ADAS UK Ltd**  
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