Assured Land-Based Contractor Scheme

Agricultural Operations:

Spreading Materials to Agricultural Land

December 2013

Representing Agricultural and Amenity Contractors

NAAC Assured Land-Based Contractors Scheme

(Agricultural Operations: Spreading Materials to Agricultural Land)

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1. Aim

An estimated 90 million tonnes of manure and slurry, between 3-4 million tonnes of sewage sludge and a further 6-7 million tonnes of industrial wastes like paper sludges, composts, and food processing wastes are applied to land each year (source: Environment Agency). These materials can reduce the requirement for manufactured fertilisers and can be used to improve the soil by increasing the organic matter content and improve soil structure. Spreading materials on agricultural land can provide significant benefits but there can be severe consequences for human and animal health as well as the environment if it is done incorrectly.

The requirements in this document have been developed to prevent endangering human or animal health, adversely affecting the environment or causing public nuisance. Contractors that achieve certification to the scheme standards are able to demonstrate their professional working practices to their customers and external bodies alike.

2. Requirements

This scheme module forms part of the NAAC Assured Land-Based Contractors (ALBC) scheme. To achieve certification and full assurance status to 'spread materials to agricultural land', contractors must comply with all of the standards in the NAAC ALBC Generic module, the standards in NAAC ALBC Agricultural Operations module (refer to annex two - reference 1) as well as the standards in this spreading materials to agricultural land module. All standards of each module must be met in full at all times for certification to be retained.

3.Scheme operating procedures

Full operating procedures are detailed in the Generic module (appendix one) and the Agricultural Operations module (page two section five and six).

4.How to use this document

The standards in this document have been constructed from nationally agreed good agricultural practice requirements. Where requirements in this document elaborate on standards in the NAAC ALBC Generic module or Agricultural Operations module the reference is specified. The

standards are organised in relevant sections, a contents list is included on page five. A glossary of terms and a list of abbreviations that are used are located at the end of the document. Guidance is provided within the sections to assist contractors with compliance to the standards and when preparing for the assurance inspection. Additional guidance notes are provided in annex one. Further information references are listed in annex two.

5. Scope

This module applies to contractors who spread materials to agricultural land. Agricultural by-products (slurry, dirty water and solid livestock manure), sewage sludge (when used in accordance to the Sludge (Use in Agriculture) Regulations 1989), materials classified as wastes by the Environmental Permitting (England and Wales) Regulations 2010 and Waste Framework Directive legislation as well as materials which have met specific criteria and achieved 'end of waste' or 'product' status are included in the scope.

To achieve 'end of waste' or 'product' status, compost must be BSI PAS 100 certified and in England and Wales it must also comply with the Compost Quality Protocol, although there is no regulatory requirement to comply with the Quality Protocol in Scotland. To be classified as a 'product', digestate must be BSI PAS 110 certified and comply with either SEPA's Regulatory Position Statement in Scotland, or the Digestate Quality Protocol in England and Wales. Waste materials that are permitted to be spread under Environment Agency U10, U12 and U13 registered waste exemptions and Environment Agency standard rule 2010No.4 and standard rule 2010No.5 (waste list A only for standard rule 2010No.5) for mobile plant operations are also included in the scope.

The scope is outlined in the diagram on page four.

6. Responsibilities and exchange of information

The land manager and the contractor each have distinct responsibilities but both could be held responsible for best practice and regulatory requirements if something goes wrong. In the event of a pollution incident due to poor operational practices, both the land manager and the contractor could be responsible and both can be prosecuted as a result. Case law examples show this to have happened. It is therefore an essential requirement of this scheme for the contractor and the land manager to agree each other's responsibilities before any work is carried out by the contractor (refer to standard 1.1).

This scheme identifies the land manager as responsible for the status and properties (for example, total and crop available nutrients) of any material to be applied to their land. The land manager must ensure the application of material to their land will be in accordance with the appropriate regulatory and best practice controls, as outlined in the diagram on page four and according to other protocols that they are required to follow. Production standards for organic farming, land in designated agri-environment management schemes, land in and around protected areas, farm assurance requirements, for example Red Tractor assurance and the specific requirements of the land manager's end customer may

define what and how some materials are applied. The land manager must ensure these requirements are adhered to; these requirements are not detailed in this scheme. The land manager must also ensure relevant regulatory and best practice requirements post application of the material are adhered to, for example incorporating the material applied into the soil within recommended timeframes, observing grazing intervals and observing harvest intervals (not exhaustive); these requirements are not detailed in this scheme.

It is also essential that the land manager and contractor effectively communicate (refer to standard 1.1). This scheme requires a regular (at least annual) exchange of essential information between the contractor and the land manager and the land manager must provide clearly defined, written work instructions to the contractor for each job (refer to standard 4.2). Where there are regulatory and best practice requirements that must be adhered to which both the land manager and contractor could be held responsible the land manager and contractor must agree how they will be met before the work activity begins.

The NAAC 'proforma declaration for information to be exchanged and responsibilities to be agreed' template may be completed by both the contractor and the land manager to help the contractor comply with this requirement. It includes the NAAC 'work instruction' template for the land manager to complete.

Where the land manager provides instructions to the contractor so regulatory and best practice requirements may be met, it is the contractor's responsibility to ensure they understand and follow them. Contractors must not proceed with work unless they fully understand the parameters in which they are to operate. Contractors, however, must note that they remain ultimately responsible for the spreading operation on the day, despite what the land manager may instruct and urge. The land manager may provide the contractor with all the information they need to know but due to the variables on the day (weather, soil conditions) that can only be assessed during the pre-spreading field inspection (refer to standard 8.2) and whilst the operation is underway (refer to standard 8.4), the contractor takes the ultimate decision to commence work or suspend operations if for example, weather conditions unexpectedly deteriorate.

The scheme standards are additional to any statutory requirements. Contractors therefore have responsibility to comply with national legislation relevant to the operations they undertake at all times. For example where contractors transport materials (both wastes and end of waste materials) derived from Animal By-Products, as required by the Animal By-Products (Enforcement) (England) Regulations 2011 [refer to annex 2 > reference 45] these requirements must be adhered to. Nitrate Vulnerable Zone rules as required by the Nitrate Pollution Prevention Regulations 2008 (as amended 2010 and 2013) [refer to annex 2 > reference 21] apply to contractors that spread materials and must be adhered to – these requirements are not detailed in this scheme.

Contractors must only give advice on nutrient management and fertiliser use if they are a Fertiliser Adviser Certification and Training Scheme (FACTS) Qualified Adviser and a member of the BASIS professional Register (Fertilisers) or a member of the FACTS Annual Scheme. This is a requirement of the Agricultural Operations module, standard A 7.1.

NAAC ALBC - SPREADING MATERIALS TO AGRICULTURAL LAND

regulatory controls and best practice requirements for materials permitted to be spread to agricultural land

agricultural by-products - slurry, dirty water and solid livestock manure

- not considered a waste if used as a fertiliser
- good agricultural practice[1]
- NVZ rules[2]

sewage sludge - where Sludge (Use in Agriculture) Regulations 1989 (SUAs) apply

- not considered a waste if used as a fertiliser with SUAs
- good agricultural practice[1]
- NVZ rules[2] + SUAs regulations[3]
- Code of Practice + Safe Sludge matrix[3]

wastes - e.g. compost and digestate from source segregated biodegradable waste (list not exhaustive - other waste materials are permitted)

- 'waste management controls' apply to spread waste to agricultural land
- Environment Agency permit[4] SR2010No4/SR2010No5 (for SR2010No5 waste list A only) + deployment (England and Wales)

  Paragraph 7 Exemption (Scotland)
- registered exemption U10 - chalk, manure, soil, compost, digestate and biobed + biofilter material

  registered exemption U12 - mulch

  registered exemption U13 - plant matter
- good agricultural practice[1]
- NVZ rules[2] + ABP regulations[5]

materials that comply with specific critiera and achieve 'product' or 'end of waste' status

- materials permitted to be spread to agricultural land outside 'waste management controls'
- Compost:

  BSI PAS 100[6] (+ Compost Quality Protocol in England and Wales[7])
- Digestate:

  BSI PAS 110[6] + Digestate Quality Protocol (England and Wales[6]) or SEPA Regulatory Position Statement (Scotland[6])
- good agricultural practice[1]
- NVZ rules[2] + ABP regulations[5]

[1] **good agricultural practice:**
- Requirements of the Code of Good Agricultural Practice for farmers, growers and land managers (England and Wales) [ref. 24]
- Prevention of Environmental Pollution from Agricultural Activity (Scotland) [ref.25]

[2] **NVZ rules:**
The Nitrate Pollution Prevention Regulations 2008 (as amended 2010 and 2013) – similar legislation applies in Scotland and Wales [ref. 21]

[3] **Sewage Sludge:**
- Code of Practice for the Agriculture Use Of Sewage Sludge [ref. 20].
- The Safe Sludge Matrix [ref. 18].

[4] **Environment Agency Permit**
Required by the Environmental Permitting (England and Wales) Regulations 2010 – similar legislation applies in Scotland [ref. 31-39]

[5] **ABP regulations**
Required by the Animal By-Products (Enforcement) (England) Regulations 2011 – similar legislation applies in Scotland and Wales [ref. 45]

[6] **BSI PAS 100 / BSI PAS 110 / SEPA Regulatory Position Statement** [ref. 41/42/44]

[7] **'end of waste criteria'** Quality Protocols [ref. 43]

(References listed in annex two)

NAAC Assured Land-Based Contractors Scheme

(Agricultural Operations: Spreading Materials to Agricultural Land)

CONTENTS

NAAC Assured Land-Based Contractors Scheme

(Agricultural Operations: Spreading Materials to Agricultural Land)

1.0 Information exchange and responsibilities

► standard 1.1	The contractor must retain a written record of an exchange of information and the responsibilities agreed between them and the land manager before they begin work. The declaration must be regularly reviewed, at least annually and updated if necessary. The record must be signed by the contractor as well as the land manager.	The inspector will ask to see your records of the information exchanged and responsibilities agreed with the land manager.
🗁 guidance	It is essential for the contractor and the land manager to exchange certain information and agree their responsibilities before the contractor arrives at the land manager's premises to begin work. Without clear information exchange and agreed designated responsibilities, both the contractor and the land manager could be liable for problems that might result from an incident (case law examples show this to have happened). The contractor may use the NAAC proforma declaration template. Where contractors use their own recording system, it must include the information required by the NAAC template and must be signed by both the contractor and the customer. Documents exchanged over email are considered as 'signed'. The information and responsibilities must be reviewed at least annually. The contractor must not proceed with work unless they fully understand the parameters within which they are to operate (refer to standard 4.2). The Agricultural Operations module standard 12.1 requires contractors to obtain instructions on the operation to be undertaken, hazards that may affect them and agree responsibility for waste produced from the contractor's activities.	

2.0 Biosecurity

► standard 2.1	If contractors transport and spread material between farms (importing/exporting), they must take all necessary steps to minimise the risk of disease transfer. Contractors must use suitable, safe and well maintained equipment to transport material between farms so it can be securely contained. The exterior of any vehicles and equipment used must be cleaned to minimise disease transfer.	The inspector will make a visual check of available equipment. The inspector will ask to see written agreement from the land manager that facilities can be used at their premises (refer to standard 1.1).

	If it is necessary to clean a vehicle or equipment at the land manager's premises, the location and facilities to be used must have been agreed with them before work begins (refer standard 1.1).	
🗁 guidance	Livestock excrement in organic material can play an important role in disease transfer between grazing livestock. The Agricultural Operations module standard 13.1 requires contractors to enter and leave premises with clean machinery, clean clothing and clean footwear. Contractors must follow the latest Defra guidance (refer annex two – further information reference 2) on biosecurity as a minimum or the land manager's biosecurity requirements if they are more stringent. Contractors must make use of any facilities for biosecurity control that are provided on the farm.	

3.0 Health and safety

► standard 3.1	If contractors use gas concentration monitors or meters they must be used as part of a documented safe system of working procedure. Gas concentration monitors must be maintained and calibrated according to the manufacturer's instructions or at least annually. Maintenance and calibration records must be retained.	If you use gas concentration monitors or meters, the inspector will ask to see your safe system of working procedure and calibration records.
🗁 guidance	Hand held gas concentration monitors can provide an additional safety precaution if contractors may incur risk from substances such as slurry gas. Agitation of slurry to make pumping out easier when emptying a tank can significantly increase the rate at which slurry gas is given off. Slurry gas is a mixture of gases including methane, carbon dioxide, ammonia and hydrogen sulphide produced by bacteria during slurry decomposition. Some slurry gases are flammable and potentially explosive and by displacing air will create an atmosphere unable to support life. The most dangerous slurry gas is hydrogen sulphide. It is extremely poisonous, can cause difficulty in breathing, lead to disorientation, collapse and death after only a few breaths. At high concentrations, it is not possible to smell it. High concentrations of hydrogen sulphide dissolved in the slurry can be released straight away when mixing begins with the first 30 minutes being the most dangerous. Gas concentration monitors must only be used as part of a safe system of working procedure and under no circumstances as a substitute. Pocket-sized meters can be used to measure levels of hydrogen sulphide and can be a useful guide before entering a building after mixing an underground slurry store or where dangerous gases may be present, for example, in a 'restricted space' that is not enclosed but where air flow is poor. Some monitors and meters need to be calibrated every time they are used. Some monitors are required to be returned to the	

	manufacturer regularly to be maintained and calibrated. Some organic manure storage systems or part of the system may be classified as a 'confined space' or a 'restricted space' where there is risk of death or serious injury from hazardous substances including poisonous gas, fumes or vapour or dangerous conditions such as lack of oxygen from inside it or nearby. Slurry storage systems above and below ground, sumps, receptions pits, dirty water-treatment tanks, inspection chambers and spaces under slated floors as well as other liquid organic manure stores <u>all</u> present a high risk from dangerous gases. **IT IS CRITICAL THAT <u>ONLY</u> CONTRACTORS WHO ARE FULLY TRAINED, COMPETENT AND EXPERIENCED 'AGRICULTURAL CONFINED SPACE SPECIALISTS' ENTER AND WORK IN CONFINED SPACES**. → Refer annex one 1.1 for further information.	
► standard 3.2	If contractors or their workers are exposed to poultry dust (if they remove residual litter from poultry houses, load collection lorries or trailers), are exposed to spores and dust produced when moving compost, or sewage dust or any other dusts from handling materials, where RPE is required they must: - ensure adequate ventilation of the work area; - wear suitable filtering RPE which is FFP2 or FFP3 marked or; - wear a powered filtering hood or visor with a particle filter which is TH2 or TH3 classified. If the RPE relies on a good face seal to be effective (disposable dust mask, half and full face mask) the equipment must be face-fit tested every time it is worn and before the wearer is exposed to poultry dust. The RPE manufacturer's instructions should be followed on how to check pre-use fit. RPE must not be removed during the work activity where there is a risk of exposure to dust. Contractors must replace RPE filters as per the manufacturer's instructions, and throw away disposable RPE at the end of each day, or before if it is heavily soiled. Replacement equipment must be readily available.	The inspector will ask to see your records that demonstrate how RPE is selected and maintained and how workers are trained and instructed on how to use it correctly.

	Nuisance dust masks must never be used to provide protection against harmful dust particles. The contractor must retain records that demonstrate how the RPE used is selected, maintained and how workers are trained/instructed in its correct use and maintenance.	
🗁 guidance	The Personal Protective Equipment at Work Regulations 1992 (as amended) covers all equipment which is intended to protect individuals against one or more risks to their health and safety. This includes gloves, eye protection, high visibility clothing, and safety harnesses amongst others. Other regulations cover respiratory protective equipment (RPE) but if RPE is used it must be compatible with any other PPE that has to be worn. Generic module standard 4.7 requires suitable personal protective equipment (PPE) to be provided to all workers where risk assessment identifies it is required. PPE and RPE used by the contractors and their workers must be adequate and provide the wearer with effective protection. It must be suitable for the intended use, CE marked and selected properly. It must not introduce additional risks. Use of PPE and RPE must be backed up by training, supervision and maintenance if it is to provide the intended level of protection. Incorrect choice, fitting and insufficient use can render it ineffective. The equipment must be stored correctly in a clean area. RPE must be correctly examined and tested. Records of selection, maintenance and testing must be retained. The Control of Substances Hazardous to Health Regulations 2002 (as amended) (COSHH) requires employers to assess and prevent, or adequately control the risks to health from hazardous substances at work. Generic module standard 4.6 requires contractors to have written COSHH assessments prepared for all work undertaken with hazardous substances. COSHH also requires exposure to respiratory sensitisers (substances that have the potential to cause occupational asthma) to be reduced to as low a level as is reasonably practicable. Poultry dust contains asthmagens and exposure to it must be minimised. Exposure to the high dust levels and spores that can be produced when moving compost must also be controlled. PPE and RPE should be used to reduce exposure, in addition (but never as a substitute) to other good practice control measures. Where a substance is identified that is likely to cause significant risk to health, COSHH requires health surveillance of workers to detect early symptoms of ill health. → Further information > annex two reference 7, 8, 9, 10, 11, 12, 13, 14 and 15.	
► standard 3.3	Contractors and their workers must have access to suitable hygiene facilities. The contractor and their workers must leave equipment and work wear at the workplace	The inspector will ask to see the hygiene facilities available and/or written agreement from the land

	to avoid those who live with them from coming into contact with harmful substances or contracting a disease from soiled clothing.	manager that facilities can be used at their premises (refer standard 1.1). The inspector will ask to see where work wear is stored.
🗁 guidance	Contractors and their workers must practice strict hygiene procedures and use the necessary PPE and/or RPE determined by their risk and/or COSHH assessments (refer generic module standard 4.6 and 4.7). Contractors must include zoonoses (diseases that are passed from animals to humans) that are caused by infection from bacteria and other micro-organisms, for example in slurry and sewage in their COSHH assessment. There must be suitable access to hygiene facilities, at the land manager's premises (with prior agreement, refer standard 1.1), integral to the spreading vehicle or at the waste water treatment works. Hand wipes or waterless cleansing gel must be made available or portable facilities considered when hygiene facilities are not accessible.	
► standard 3.4	Individuals that work with sewage/bio-solids must have up-to-date Tetanus and Polio vaccinations. The risk assessment should determine whether Hepatitis B immunisation is required and/or if there is a risk of contracting Leptospirosis.	The inspector will ask to see your employee vaccination records. The inspector will ask to see your risk assessment.
🗁 guidance	Excrement is the major source of harmful microorganisms and whilst sewage treatment reduces water content and debris it does not kill or remove all the microorganisms present in it. Working with sewage/bio-solids therefore presents a greater risk to health relative to other organic materials. The most common route for harmful microorganisms including bacteria, viruses and parasites to enter the body is through hand to mouth contact as well as through cuts, scratches and wounds. → Further information > annex two reference 16 and 17.	
► standard 3.5	Contractors must have an operator decontamination procedure in place if severe contamination occurs during the work activity. The procedure must form part of the overall contingency plan (refer to standard 4.1). Before work begins, the contractor must agree the facilities that can be used at the land manager's premises if the contractor or their workers become severely contaminated with any material (refer standard 1.1).	The inspector will ask to see your operator decontamination procedure (as part of your contingency plan - refer to standard 4.1). The inspector will ask to see written agreement from the land

	All workers must be aware of the operator decontamination procedure and must receive instructions on how the procedure should be followed.	manager that facilities can be used at their premises (refer to standard 1.1). The inspector will ask how the operator decontamination procedure is communicated to staff and will ask to see staff training records.
🗁 guidance	The COSHH assessment and precautions adopted as a result of it should conclude that exposure to an identified hazardous substance (including micro-organisms) is adequately controlled during the normal work activity. However, there may be circumstances when things go wrong and individuals become severely contaminated with material and there is increased risk of exposure to harmful microorganisms. The contractor must have a procedure for operator decontamination or a considered arrangement to mitigate the effects of an incident.	

4.0 Plans and records

► standard 4.1	The contractor must have a contingency plan in place which outlines what is to be done in the event of a pollution incident. The contractor must make the contingency plan known to the land manager as part of their information exchange before work activity begins (refer to standard 1.1). Before any work activity begins the contractor must agree and arrange with the customer access to, and use of, the equipment and materials that can be used in the event of an incident, for example where there is a requirement to plug drains, block ditches or contain spillages (refer 1.1). All workers must be aware of and receive instructions on how the contingency plan must be practiced. The contingency plan must include the Environment Agency's hotline number: 0800 807 060	The inspector will ask to see your contingency plan. The inspector will ask to see written evidence that the contingency plan has been made known to the land manager and equipment and facilities can be used at their premises in the event of a pollution incident (refer to standard 1.1). The inspector will ask how the contingency plan is communicated to staff and will ask to see staff training records.
🗁 guidance	The contractor must have a contingency plan in place which outlines what they will do in the event of a pollution incident, for example where groundwater or surface water is at risk of becoming polluted if forecasted weather conditions deteriorate during or immediately after	

	spreading, or if machinery or equipment were to fail. The Agricultural Operations module standard 2.1 requires contractors to have an emergency action plan in place for each site/depot and the contingency plan required for this module should form part of it. The contractor must make their emergency/contingency plan known to the customer and must also understand the customer's emergency procedure or instructions on what to do if something goes wrong. The operator contamination procedure (refer to standard 3.5) must be included in the emergency/contingency plan. The plan should include the existing procedures and safeguards that are in place all the time to avoid an incident, for example pressure activated controls that cease supply if pressure drops or rises above optimum levels and routine inspection of the equipment and machinery whilst field operations are underway (refer to standard 8.4).	
► standard 4.2	The contractor must obtain a written 'work instruction' from the land manager before the work activity begins and retain the instruction on record. A work instruction must be obtained and kept on record for each work visit. The work instruction record must include: i. the date the instruction was provided; ii. the land manager's name and business name; iii. the name, address and contact details of the individual/business supplying the material (where the material did not originate from the farm to which it is to be spread); iv. the type of material which is to be applied; v. the quantity of material to be applied, the application area and the application rate; vi. the location where the material is to be applied (the land manager should provide a farm map with field names – refer to standard 1.1); vii. where applicable, the quantity and type of material to be positioned in temporary field heaps;	The inspector will ask to see work instruction records provided to you by the land manager.

	viii. where applicable, the location where material is to be located in temporary field heaps (the land manager should provide a map with field names - refer to standard 1.1); ix. where applicable, any certain conditions and instructions that the contractor must comply with to ensure the requirements of an environment permit or registered waste exemption held by the land manager are met. A copy of the environmental permit or waste exemption should be attached to the work instruction record; x. where applicable, any certain conditions and instructions that the contractor must undertake to ensure the requirements of the Sludge (Use in Agriculture) Regulations 1989 and Nitrate Vulnerable Zone rules are met; xi. where applicable, any certain conditions and instructions that the contractor must comply with to ensure the requirements of specific 'end of waste' criteria are met; xii. where applicable, any actions required to minimise public nuisance that may arise from the spreading activity; xiii. any changes to the exchange of information and responsibilities agreed in advance which are relevant to the contractor's work activity (refer to standard 1.1).	
🗁 guidance	Before the contractor begins work, it is important that the land manager provides a written instruction to the contractor. The land manager can use the NAAC work instruction template to do this. This information is additional to the exchange of general information and agreement of responsibilities required by standard 1.1 and is specific to each individual job. The contractor must retain a copy of the instructions on record. Written instructions are acceptable in the form of a text message (where possible), email or letter signed by the land manager. If the contractor receives work instructions by telephone, they must request that the land manager confirms the instructions in writing before they begin the work activity. The Agricultural Operations module standard 12.1 requires contractors to obtain clear and detailed instructions on the operation(s) to be carried out by the contractor.	
► standard 4.3	The contractor must provide the land manager and/or material supplier with a signed record of the work they have completed and retain a copy for their own records. The record must include:	The inspector will ask to see a copy of a work completed record provided to the land manager and/or material supplier.

	i. the date the work was undertaken; ii. the land manager's name and address; iii. where applicable, the name and address of the individual/business supplying the material (where the material did not originate from the farm it was spread on); iv. where applicable, the actions taken to minimise public nuisance and residential housing or recreational areas in close proximity to the spreading site (refer to standard 8.1); v. the findings from the field inspection including assessment of land slope, ground cover, proximity to surface water, weather conditions, soil type, soil condition (soil moisture deficit and soil structure) and the presence of land drains other than a sealed impermeable pipe (refer to standard 8.2); vi. field operation spot checks and where applicable, corrective action taken (refer to standard 8.4); vii. the type of material which was applied; viii. the quantity of material applied, the application location, the application area covered, the application rate; ix. the application equipment used; x. where applicable, the quantity and type of material positioned in temporary field heaps; xi. where applicable, the location of material positioned in temporary field heaps (the contractor must indicate where they have positioned temporary field heaps on the land manager's map) (refer to standard 1.1);	

	xii. where applicable, the certain conditions followed to ensure the requirements of an environment permit/deployment notification held by the contractor were met. A copy of the environment permit/deployment notification should be attached to the record of work completed; xiii. where applicable, the certain conditions followed to ensure the requirements of an environment permit or registered waste exemption held by the land manager were met; xiv. where applicable, the certain conditions followed to ensure the requirements of the Sludge (Use in Agriculture) Regulations 1989 and Nitrate Vulnerable Zone rules were met; xv. where applicable, the certain conditions followed to ensure the requirements of specific 'end of waste' criteria were met; xvi. unexpected decisions/actions taken and rationale for doing so.	
🗁 guidance	It is important that the contractor provides the land manager with an accurate record of the work activities they undertake so the land manager and/or material supplier can comply with relevant regulatory and best practice requirements post application of the material. The contractor should retain the information for their own records. A NAAC template is available to assist contractors with this requirement. The Agricultural Operations module standard 15.1 requires contractors to retain records for a minimum of 12 months.	

5.0 Regulatory controls

► standard 5.1	If the contractor holds an environmental permit for mobile plant, work activity must not begin until the Environment Agency has agreed a deployment notification for the site where the material will be spread. The land manager must be provided with a copy of the deployment notification before work commences and as part of the work completed record (see standard 4.3). The contractor must adhere to any certain conditions and instructions from the land manager if their work activities are covered by a registered waste exemption or	The inspector will ask to see work instruction records and work completion records which must include copies of deployment notifications, waste exemption and environmental permits and/or the certain conditions and instructions that the contractor must follow.

	environmental permit held by the land manager. The land manager must provide a copy of the waste exemption or environmental permit to the contractor as part of the written work instructions to them (refer to standard 4.2). If the contractor spreads sewage sludge/bio-solids, they must adhere to any certain conditions and instructions from the land manager as well as the water company and/or sludge supplier. The land manager must outline the specific conditions and instructions required of the contractor as part of the written work instructions to them (refer to standard 4.2).	
🗁 guidance	Depending on the type and status of the material, different regulatory controls and best practice requirements apply. Figure one (refer page four) sets out the regulatory controls and best practice requirements for the materials covered by this scheme module which must be adhered to by the land manager and the contractor. → Additional guidance > annex 1.2 → Further information > annex two > reference 18, 19 and 20.	

6.0 Equipment and machinery

► standard 6.1	The contractor must maintain the application equipment according to manufacturers' instructions and adjust equipment according to instructions from the land manager specific to the work instructions; importantly the application rate and appropriate bout width (refer to standard 4.2).	The inspector will make a visible check of available equipment.
🗁 guidance	Application equipment must be suitable for the type of materials being spread as it is important that it is evenly applied at a known application rate. Equipment must be maintained in good working order and regularly calibrated to ensure a uniform spread pattern is achieved at all times. The Generic module standard 3.1 requires contractors to conduct daily checks on all vehicles, machinery and equipment to ensure they are in a safe and serviceable condition and to keep a record that the check has been made. Generic module standard 3.3 requires contractors to service equipment in accordance with manufacturers' recommendations and retain all service records.	
► standard 6.2	Application equipment used for spreading liquid material must be equipped with a flow meter.	The inspector will make a visible check of available equipment.
► standard 6.3	If contractors use broadcast equipment to apply liquid material they must spread it at a	The inspector will ask if this

	trajectory as low as possible and with large droplets.	equipment is used, if so, the inspector will ask what steps are taken to ensure atomisation and drift are minimised.
🗁 guidance	Using 'precision equipment' including band spreading equipment with a trailing hose or shoe or injector equipment to apply liquid material reduces nitrogen loss in ammonia, increasing the amount of nitrogen available to the crop and reduces nuisance odour compared to broadcast spreading techniques. Precision application also increases the number of available spreading days and reduces grass and crop contamination. If broadcast spreading equipment is used, contractors must spread at a trajectory as low as possible and with large droplets to avoid atomisation and drift. If contractors apply liquid digestate they must use a band spreader with a trailing hose or shoe or shallow injector equipment.	
► standard 6.4	If contractors use open slot shallow injectors (up to 50 mm deep) or deep injectors (over 150 mm deep), where it is safe to do so they must inject across the slope as opposed to up and down. Contractors must not inject into porous backfill over field drains or below the active roots of the crop. Where deep injectors are used, the field must not be land drained, the soil should have a soil moisture deficit of > 20mm and it must not be severely cracked.	The inspector will ask if this equipment is used, if so, the inspector will ask how this is achieved.
► standard 6.5	If contractors use equipment such as a tank stirring device to break down formed crusts and stir sediment or an umbilical pipe system to pump liquid material directly to a tractor mounted applicator in the field they must ensure any residue inside it, or on it is contained and does not enter ditches and surface waters which might risk environmental pollution.	The inspector will ask if this equipment is used, if so, the inspector will ask how this is achieved.
► standard 6.6	If a testing service to determine the nitrogen content of organic material is offered by the contractor, the testing equipment must be calibrated on a regular basis, or at least annually. Each calibration must be recorded. A representative sample should be obtained for analysis. Where liquid materials are to be tested they should be mixed thoroughly before a sample is taken.	The inspector will ask to see calibration records and ask how the contractor would take a material sample for testing.

7.0 Temporary storage of material in fields

► standard 7.1	Contractors must only deposit material in temporary field heaps that is solid enough to be	The inspector will ask to see a

	stacked in a free standing pile and where effluent does not freely drain from it. Organic manure material should be stacked in narrow densely packed A-shaped heaps. Field heaps must <u>not</u> be positioned: - within 10 metres of field drains; - within 10 metres of surface water; - within 50 metres of a spring, well or borehole; - near ruts of tracks that could provide a pathway for effluent to enter ditches, surface waters or damage habitats; - on land likely to become waterlogged or likely to flood; - in an area that would cause public nuisance. The contractor must record the quantity of material, the type of material and the location of material positioned in temporary field heaps (the contractor must indicate where they have positioned temporary field heaps on the land manager's map) (refer to standard 4.3).	copy of the work completed record that you provided to the land manager.
🗁 guidance	Organic material should only be stored in temporary field heaps if it is solid enough to be stacked in a free-standing heap and effluent does not freely drain from it. Alternative arrangements should be made for organic materials that are too wet to be stored in a field heap, for example they should be stored in a building or on an impermeable base. If wet material is allowed to drain sufficiently, it may be transferred to a field heap once solid. Any drainage or effluent should be treated as material and must be contained and stored correctly. Temporary heaps must be located and constructed in such a way that minimises the risk of run-off polluting groundwater or surface water or the leaching effect of rain. A narrow, densely packed, A-shaped heap allows rainwater to flow off the heap more easily and prevents the heap from becoming too wet, reduces ammonia emissions, reduces odour and alleviates public nuisance. Minimum distances are prescribed in standard 7.1 but greater distances may be required depending on the land slope and the risk of causing water pollution.	

8.0 Field operations

► standard 8.1	Before the work activity begins, the contractor must consider sensitive receptors at the spreading site including those identified in any risk assessment or deployment documents and take steps to minimise the risk of environmental pollution and public nuisance. The contractor must communicate any concerns that arise from their consideration of sensitive receptors with the land manager and record the outcome of any discussions in the work completed record (refer to standard 4.3). The contractor must record residential housing or recreational areas in close proximity to the spreading site and how they have taken steps to minimise public nuisance in the work completed record (refer to standard 4.3).	The inspector will ask how sensitive receptors are assessed. The assessment results and actions taken to minimise public nuisance and the effect on other receptors must be recorded in the work completed record (refer to standard 4.3).
🗁 guidance	Before spreading any materials, contractors must consider local 'sensitive receptors'. Spreading material must not pose a risk of polluting natural receptors including water (groundwater and surface waters), soil and air or cause public nuisance to near-by residents or recreational areas. The wind direction must be considered in relation to nearby housing and contractors must avoid spreading upwind of residential or protected areas (to avoid pollution risk from ammonia). If material is to be applied in close proximity to residential housing, contractors should avoid spreading at weekends, bank holidays or in the evening, unless thoroughly composted solid manure is being spread or liquid material is applied with a band spreader, injector or it has undergone prior treatment to reduce odour. Contractors should use forecasted weather information to determine suitable conditions for spreading. The best conditions typically are dry and windy days, followed by cloudy, windy nights. These conditions cause odours to be diluted quickly. Contractors must suspend work if weather conditions deteriorate and the operation risks causing public nuisance or pollution.	
► standard 8.2	Contractors must carry out a field inspection before spreading activity begins to assess the risk of pollution from run-off entering surface water or via drainage systems. Contractors must consider the slope of the land (particularly if it is greater than 12 degrees, equivalent to 20% or 1 in 5), ground cover, proximity to surface water, weather conditions, soil type, soil condition (soil moisture deficit and soil structure) and the presence of land drains (other than a sealed impermeable pipe).	The inspector will ask to see the results of a field inspection, this must be included in the work completed record you provide to the land manager.

	IF A SIGNIFICANT RISK OF WATER POLLUTION IS IDENTIFIED, MATERIAL MUST NOT BE SPREAD. The contractor must record the findings from the field inspection in a work completed record (refer standard 4.3).	
🗁 guidance	Where practically possible material that contains high readily available nitrogen content should be spread on a growing crop with a high nitrogen demand, for example to cereals in the late winter or spring, as this is the time of year when the greatest amount of nitrogen will be taken up by the grass or crops. Applications made during the autumn and early winter will add nitrogen to the soil that is unlikely to be used and therefore is at risk of leaching or lost through run-off and risks causing pollution incidents and contributing to diffuse pollution. Material that contains low readily available nitrogen content such as farmyard manure, sewage sludge cake and compost made from green waste may be spread at any time if field conditions are suitable. Contractors must conduct a field inspection before spreading activity begins to ensure materials can be applied without risk of causing pollution. The risk of run-off increases with the slope of the land and therefore it should be considered along with other factors. The contractor should use the land manager's 'risk map' to assist the field inspection (refer to standard 1.1). Material must not be applied: - within 10 metres of any field ditch, pond or surface water (in NVZs, spreading is permitted within 6 metres if defined precision spreading equipment is used); - within 50 metres of any spring, well, borehole or reservoir that supplies water for human consumption or for farm dairies; - when the soil is waterlogged, saturated or at field capacity, or flooded; - when the soil is frozen hard (when the soil is frozen for more than 12 hours in the previous 24 hours, days when soil is frozen overnight but thaws out during the day are not included; - when the field is snow covered; - when the soil is cracked down to field drains or backfill; - when the field has been pipe or mole drained or sub soiled over drains in the last 12 months; - when heavy rain is forecast within the next 48 hours; - on very steep slopes where run-off is a high risk throughout the year; - or if there is a significant risk of pollution from run-off entering surface water or via drainage systems. Contractors must take account of weather conditions, the slope of the land, ground cover, proximity to surface and ground waters, soil condition (soil moisture deficit and soil structure) and the presence of land drains (refer to standard 8.1). Contractors must suspend work if weather conditions deteriorate and the risk of run-off is increased.	
► standard 8.3	Contractors must not apply more than $50m^3$ of liquid material per hectare in a single	The inspector will ask to see a

	application, or less if the soil conditions (soil moisture deficit and structure) pose a risk of pollution.	copy of the work completed record that you provided to the land manager.
► standard 8.4	The contractor must conduct on-going monitoring whilst field operations are in progress to ensure the risk of pollution is minimised. The checks and corrective action taken, where applicable must be recorded in the work completed record (refer to standard 4.3). Equipment and machinery must be checked regularly to ensure an absence of splits or leaks. This will be of particular importance following the repositioning of machinery and equipment, for example umbilical system supply pipes. The field site where material is spread must be checked regularly to ensure that the application rate is appropriate to the soil conditions. Contractors must check for ponding or pooling of liquid material in the field whilst spreading and adjust application rates if required. Contractors must check watercourses, field drain outfalls, springs and boreholes (where possible) in close proximity to the spreading site to ensure they are free of the material being spread.	The inspector will ask to see a copy of the work completed record that you provided to the land manager.

END

09.0 Glossary of terms

Anaerobic Digestate	Digestate is the final output from anaerobic treatment of biodegradable waste. The outputs from anaerobic digestates might be whole digestate (similar to livestock slurry), separated fibre or separated liquor. Both anaerobic digesters and anaerobic digestate are often abbreviated to 'AD'. Occasionally the digestate process can be aerobic, producing an aerobic digestate. This is not the same as compost, although the process is sometimes referred to as 'wet composting'.
Buffer strips	Riparian buffers are areas of vegetation (usually grass) next to watercourses which provide a physical barrier that helps trap pollutants such as sediment, nutrients, bacteria and pesticides and prevent them from being washed from field to watercourse.
Biofertiliser	Biofertiliser is a generic term, typically used to describe any organic manure with a valuable nutrient content that can be used to fertilise crops. The certification of anaerobic digesters to the BSI PAS 110 specification and the Anaerobic Digestate Quality Protocol is delivered by the Biofertiliser Certification Scheme, and consequently digestate is often referred to as 'biofertiliser'.
Compost	Produced by aerobic decomposition of biodegradable organic materials.
CE	The CE mark on RPE tells you that the equipment has met the minimum requirements laid down in the law for its design and manufacture. It appears as the letters 'CE' and a four-digit code that identifies the body responsible for checking manufacturing quality. CE marking does not indicate that it is automatically suitable for your use in your workplace. It is the contractor's responsibility to select the correct RPE to meet the requirements for the wearer in the workplace (HSE).
Environment Agency (EA)	The Public Body responsible for Environment and Sustainable Development in England. Wales: Natural Resources Wales (NRW). Scotland: The Scottish Environment Protection Agency (SEPA). Northern Ireland: The Northern Ireland Environment Agency (NIEA).
Farmyard manure (FYM)	Livestock excreta that is mixed with straw bedding material that can be stacked in a freestanding heap without slumping.
Frozen hard	The term used when the soil is frozen for more than 12 hours in the previous 24 hours. Days when soil is frozen overnight but thaws out during the day do not count.
High readily available N content	Where more than 30 per cent of the total N content of the organic manure is present in molecular forms that can be immediately taken up by the plant. Examples include cattle and pig slurry, most poultry manure, and liquid digested sludge.
Imported organic manure	Organic manure to be spread on a farm which it did not originate
Livestock manure	Dung and urine excreted by livestock or a mixture of litter, dung and urine excreted by livestock, even in

	processed organic form. It includes farmyard manure, slurry, poultry litter, poultry manure, separated manures, granular or pelletised manures.
Low readily available N content	Where less than 30 per cent of the total N content of the organic manure is present in molecular forms that can be immediately taken up by the plant.
Organic manure	Any nitrogen fertiliser (solid and liquid forms) derived from animal, human or plant sources. It includes livestock manure, dirty water, slurry as well as sewage sludge, digestate, composts and other organic materials. The Nitrate Regulations and therefore published guidance uses the term 'organic manure' to include nitrogen fertiliser derived from animal, plant or human sources even where the materials do not contain any livestock manure.
Precision equipment	This includes band spreaders (trailing hose and trailing shoe), shallow injectors (which inject the manure no deeper than 10cm below the surface of the soil) and dribble bar applicators.
Readily available nitrogen	The amount of nitrogen in organic manure that is present in molecular forms that can be immediately taken up by plants.
Slurry	Excreta produced by livestock (other than poultry) while in a yard or building, (including any bedding, rainwater and washings mixed with it), that has a consistency that allows it to be pumped or discharged by gravity. The liquid fraction of separated slurry is also defined as slurry.
Spreading	All techniques that may be used to apply material to land including band spreading (trailing hose or trailing shoe), injection and broadcast (splash plate) application methods.
Surface water	Surface water includes coastal waters, estuaries, canals, lakes, ponds, rivers, streams, and ditches which contain free water and also temporarily dry ditches and blind ditches.

10.0 Abbreviations

ALBC	Assured Land Based Contractors Scheme
GAECs	Good Agricultural and Environmental Conditions
N	Nitrogen
NIEA	The Northern Ireland Environment Agency
NVZ	Nitrate Vulnerable Zone
SEPA	The Scottish Environment Protection Agency
SMR	Statutory Management Requirements
SSSI	Site of Special Scientific Interest

Annex one – Additional guidance notes

🗁 1.1 Health and safety

⇨ Health and safety at work - The Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999 place duties on companies and individuals to ensure that adequate provision is made for health and safety at work. Contractors must manage health and safety to ensure that their workers, including family members, themselves and everybody involved in the business is kept safe in their work. Contractors should establish a positive health and safety culture in their business. Health and safety should be ingrained in the thinking of every worker, only individuals that constantly consider potential risks and hazards during their work are able to reduce consequent dangers.

Further information > annex two reference 3.

All workers including self-employed individuals and employed individuals are regarded as 'employees' for the purposes of health and safety requirements, irrespective of their tax and National Insurance status. If the individuals mainly work for the contracting business, work in an agreed way, use tools and materials supplied by the contractor, and are under control from the contracting business then they must be regarded as employees for health and safety purposes.

⇨ Confined spaces - **It is critical that only contractors that are fully trained, competent and experienced 'agricultural confined space specialists' must enter and work in confined spaces**. Specialist contractors that work in confined spaces must have a safe system for working in it which must be documented in a method statement and have a procedure for emergency rescue. The confined space specialist must wear breathing apparatus which has its own air supply and whilst working in the confined space must be connected by harness and lifeline to at least two people outside of it.

A confined space is any place which is completely or partly enclosed where there is risk of death or serious injury from hazardous substances including poisonous gas, fumes or vapour or dangerous conditions such as lack of oxygen from inside it or nearby. Slurry storage systems above and below ground, sumps, receptions pits, dirty water-treatment tanks, inspection chambers and spaces under slated floors as well as other liquid organic manure stores present a high risk from dangerous gases. A number of people are killed or injured in confined spaces each year. Those killed include the people working in confined spaces and those who try to rescue them.

All work in confined spaces must comply with the Confined Spaces Regulations 1997. The main obligations of the regulation include avoiding work in confined spaces by considering alternative means, following a safe system of work where entry is unavoidable and to have an adequate emergency arrangement in place before the work begins.

Some organic manure storage systems or part of the system may be classified as a 'confined space' or a 'restricted space' where there is risk of death or serious injury from hazardous substances including poisonous gas, fumes or vapour or dangerous conditions such as lack of oxygen from inside it or nearby

→ Further information > annex two reference 5 and 6.

1.2 Regulatory controls

Waste is the subject of EU wide legislation to protect the environment, human, animal and plant health and ensure it is recovered or disposed of safely but used efficiently. The classification of substances as wastes is important because it forms the basis of waste management policy and the application or otherwise of regulatory controls. Waste ceases to be waste when waste material complies with 'end of waste' criteria and end of waste status is achieved. This means the material may be applied to land outside waste regulation controls.

The Environmental Permitting (England and Wales) Regulations 2010 requires operators to obtain a permit, and for mobile plant permits submit deployment notifications for separate sites or register an exemption. The following links to the Environment Agency's webpages provides further information.

Background:
Spreading waste on land
Environmental permitting
Do I need to apply for a permit or register an exemption?
Making the steps to permitting

Guidance notes:
Technical Guidance Note: EPR 8.01 – How to comply with your landspreading permit

Standard rules for mobile plant permits:
Standard rules SR2010No4 mobile plant for land treatment resulting in benefit to agriculture or ecological improvement
Standard rules SR2010No5 mobile plant for the reclamation, restoration or improvement of land

Waste exemptions:
U10 – spreading waste to agricultural land to confer benefit
U12 – spreading mulch
U13 – spreading plant matter to confer benefit

End of waste criteria for digestate and compost:
BSI PAS 100
BSI PAS 110
Quality protocols and End of waste
SEPA's Regulatory Position Statement

Annex two – Further information

1. NAAC Assured Land Based Contractor Scheme - Generic and Agricultural Operations modules

2. Biosecurity Guidance to prevent the spread of animal diseases [Defra]

3. NAAC health and safety pack
   NAAC members can access a web-based health and safety pack which includes guidance on health and safety topics covered in this module. Members can also obtain support from a qualified health and safety professional online or via the telephone helpline.

4. Safety on farms – A shared responsibility: industry guidance for farmers, growers, drivers, contractors and other commercial visitors [industry collaboration]

5. Confined spaces: A brief guide to working safely [Health and Safety Executive]

6. Managing confined spaces on farms [Health and Safety Executive]

7. Working Safely with Slurry [Health and Safety Executive Northern Ireland]

8. A toolbox talk on poultry dust: preventing occupational respiratory disease in poultry farm workers [Health and Safety Executive]

9. Controlling exposure to poultry dust – guidance for employers [Health and Safety Executive]

10. Working with substances hazardous to health – a brief guide to COSHH [Health and Safety Executive]

11. A step by step guide to COSHH assessment [Health and Safety Executive]

12. COSHH essentials for farmers - webpage [Health and Safety Executive]

13. COSHH essentials for farmers – Composting [Health and Safety Executive]

14. Respiratory Protective Equipment at work – a practical guide [Health and Safety Executive]

15. A short guide to the Personal Protective Equipment at Work Regulations 1992 [Health and Safety Executive]

16. Clear Water 2010 – Guidance on the health hazards of work involving exposure to sewage in the water industry [Water UK]

17. Working with sewage – the health hazards: a guide for employers [Health and Safety Executive]
18. The Safe Sludge Matrix – guidelines for the application of Sewage Sludge to Industrial Crops [ADAS, British Retail Consortium and Water UK]
19. The Safe Sludge Matrix – guidelines for the application of Sewage Sludge to Agricultural Land [ADAS, British Retail Consortium and Water UK]
20. Code of Practice for the Agriculture use of Sewage Sludge [Department of the Environment]
21. Nitrate Vulnerable Zones [Defra] | Nitrate Vulnerable Zones [Scottish Government] | Nitrate Vulnerable Zones [Wales]
22. Legal definition of waste guidance - webpage [Defra]
23. Farmwise – your essential guide to health and safety in agriculture [Health and Safety Executive]
24. Protecting our Water, Soil and Air. A Code of Good Agricultural Practice for farmers, growers and land managers [Defra] (England and Wales)
25. Prevention of Environmental Pollution from Agricultural Activity [Scottish Executive] (Scotland)
26. The Guide to Cross Compliance in England - 2013 edition [Defra/Rural Payments Agency]
27. Government Response to Stakeholders' Views on the Consultation on Implementing the Nitrates Directive August 2012 [Defra]
28. Fertiliser Manual – RB209 8th edition [Defra]
29. Spreading waste on land [Environment Agency]
30. Environmental permitting [Environment Agency]
31. Do I need to apply for a permit or register an exemption? [Environment Agency]
32. Making the steps to permitting [Environment Agency]
33. Standard rules SR2010No4 mobile plant for land treatment resulting in benefit to agriculture or ecological improvement [Environment Agency]
34. Standard rules SR2010No5 mobile plant for the reclamation, restoration or improvement of land [Environment Agency]
35. Standard rules SR2010No 6 mobile plant for land spreading of sewage sludge [Environment Agency]

36. U10 – spreading waste to agricultural land to confer benefit [Environment Agency]
37. U11 – spreading waste to non-agricultural land to confer benefit [Environment Agency]
38. U12 – spreading mulch [Environment Agency]
39. U13 – spreading plant matter to confer benefit [Environment Agency]
40. Technical Guidance Note: EPR 8.01 – How to comply with your landspreading permit [Environment Agency]
41. BSI PAS 100 [WRAP and Association for Organics Recycling]
42. BSI PAS 110 [WRAP, Renewable Energy Association and Association for Organics Recycling]
43. Quality protocols and End of waste [Environment Agency]
44. SEPA's digestate regulatory position statement [Scottish Environment Protection Agency]
45. Animal by-products [Animal Health and Veterinary Laboratories Agency]
46. Using quality digestate to benefit crops [WRAP]
47. Using quality compost to benefit crops [WRAP]