

Construction Environmental Management Plan (CEMP)

North Wales Prison Project



Construction Environmental Management Plan (CEMP)

Corporate Revisions

APPROVALS			
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1 Introduction and Project / Site Details

This Construction Environmental Management Plan (CEMP) document has been produced to support the North Wales Prison project on site and also to discharge the related planning condition from Wrexham County Borough Council planning application P/2013 /0671 (Condition 11).

Lend Lease operates an Environmental Management System (EMS) which is certified to ISO14001. This Construction Environmental Management Plan (CEMP) forms part of our EMS operating on the North Wales Prison Project. This document will assist the project to manage environmental impacts and risks associated with activities being undertaken on site and ensure both best practice and high standards on-site by Lend Lease and our subcontractors.

The site at Wrexham Industrial Estate is located adjacent to Pentre Maelor housing estate and Spectrum Business Park. The industrial park is approximately 3 miles to the East of Wrexham town centre and is approximately 26.1ha in site. Bridge Road provides a main access and runs along the North-western perimeter of the site.

The site is situated on the former Firestone Factory Site. The site comprises a mosaic of species rich neutral grassland interspersed with areas of bare ground, dense and scattered scrub as well as two ponds and a drainage ditch.

Works will comprise of the construction of both traditional steel frame & precast concrete buildings:

- Support
- Energy Centre and Entry
- Kitchen
- Wellbeing
- Education
- Sports Hall
- Workshops
- Houseblocks
- Care and Separation
- Multifaith

Construction works are scheduled to take place from August 2014 to December 2017. Construction will be undertaken only during the normal defined working hours, unless otherwise agreed.

The standard agreed working hours are:

- 0730 to 1800 Monday to Friday
- 0800 to 1400 Saturdays

The project will provide 48 hours' notice where out-of-hours works may require consideration.

Notification will be through the Community Project Management Team, of which Sarah Kettle, Regeneration Project Manager for Wrexham Council will be a member. Notifications to local communities will be via mail drop letter.

Our Construction Traffic plan identifies Gate 1 as the main project point of entry and Gate 2 as the main exit point for vehicles and deliveries. The location of Entry gates is identified on the logistics overview in appendix A.

The location for Project Accommodation and Facilities, Parking areas for the Construction team and Material Storage Areas are identified on Project Logistics overview.

1.1 Receptors of Environmental Impact

The table below identifies the main potential receptors of any impacts and environmental constraints associated with this project.

Table 1 – Receptors

Environmental Issue	Designations and Sensitivities
Neighbouring land uses	The Pentre Maelor housing estate is situated on the far side of Bridge Road to the southern section of the western boarder of the site. The site borders the newly formed protected ecology area on the South East and South West borders Industrial units are located to the North East and North West borders.
General Public / Amenity	Centres of population in proximity to the proposals include Wrexham town located approximately 3 miles to the west of the site.
Ecological Designations and Sensitivities	The site wider supports protected and notable species, notably: - Great Crested Newts - Grizzled Skippers - Nesting Birds - Reptiles Translocation works have been undertaken under European Protected Species Licence by Ecologists TEP to clear the construction zone of vulnerable and valuable species and features. The European Protected Species Licence will remain in effect until the completion of construction activities. All Construction activities will be undertaken in line with the conditions detailed within the European Protected Species Licence.
Vulnerable Water Features	The River Clywedog runs adjacent to the North East of site on the far side of the protected ecology area; the River Clywedog subsequently joins the River Dee. The Environment Agency Ground Water Maps identify the site as underlain by a Minor Aquifer. The construction zone part overlies a Total Catchment and Outer Zone of a Groundwater Source Protection Zone. An Inner Zone and abstraction point exist on the Calypso factory to the North East of the boundary construction zone.
Landscape Features	The site is a mosaic of species rich neutral grassland interspersed with areas of bare ground, dense and scattered scrub as well as two ponds and a drainage ditch.
Public Highways and Rights of Way	Bridge Road provides a main access and runs along the North-Western perimeter of the site. The project site is located within an existing industrial estate and is well equipped for the regular movement of heavy goods vehicles.
Community/Local residents	The local residents in closest proximity to the project are located within The Pentre Maelor housing estate, which is situated on the far side of Bridge Road. Additional vegetation screening is to be installed within the enabling works.

1.2 Sources of Environmental Impact

The table below identifies the main potential sources of any impacts associated with this project during construction activities.

Table 2 – Sources of Environmental Impacts

Source	Description
Construction plant operation	Noise, dust, vibration, fuel combustion emissions.
Construction plant presence and use	Health and safety issues, soil damage, vegetation damage, fauna disturbance.
Construction materials and storage	Resource use (stone, concrete, timber, fuels etc.), stockpiles.
Fuels, oils and chemicals	Use of plant, site equipment and storage.
Working in proximity to sensitive areas/ receptors (see Table 1 above)	Damage to sensitive areas. Disturbance to sensitive receptors such as ecology.
Contaminated land	There is a risk that isolated pockets of contamination may be found. Also there is the potential for contamination due to the works (e.g. from oil/fuel spillages).
Water	Increased silt loads, leaching of contamination.
Waste	Waste from general construction activities, soils and green waste. Potential waste from contaminated land.
Traffic	Material deliveries and staff movements etc.
Site lighting	Compounds and Site areas will retain only the minimum required security lighting overnight.

1.3 Risks

The table below identifies the main potential risks of environmental pollution or harm that could occur in relation to the construction works based principally on the sources and receptors identified above and other environmental considerations. The table includes consideration of all activities to occur during construction.

Table 3 – Environmental Risks

Source	Receptor
Construction plant operation (emissions e.g. dust, noise etc.)	Potential disturbance to local residents, adjacent sensitive habitats, disturbance to fauna.
Construction plant presence (Health & Safety and damage)	Pedestrians and the general public (Rights of Way) (re; Health and Safety), disturbance to fauna, damage to soils.
Construction materials and storage	Resource efficiency, run-off from stockpiles causing

	potential siltation of watercourses, stockpiles causing damage to habitats, dust blow from stockpiles, concrete spillage.
Fuels, oils and chemicals	Potential for leaks and spillages, land contamination, pollution of groundwater and watercourses, damage to habitats, flora and fauna, health and safety issues.
Working in proximity to sensitive areas	Potential direct damage to, and disturbance of, sensitive receptors (e.g. disturbance of badgers, harm to reptiles etc).
Areas of contamination	Potential mobilisation of existing contamination leading to pollution of groundwater, damage to habitats, flora and fauna and risk to human health.
Surface Water	Potential mobilisation of silt and existing contamination leading to pollution of surface water.
Waste	Production of waste with polluting potential, use of landfill or other disposal options, opportunities for recycling or re-use, opening up of new areas for fly tipping.
Traffic	Potential congestion, road safety issues, air emissions, dust, noise, soil damage.
Site lighting	Potential light spillage into sensitive areas (residences and habitats).

1.3 Robust Controls

Lend Lease has effective procedures to ensure robust control on-site, discharge legal responsibilities and provide clear communication channels to both our workforce and our supply chain. Lend Lease also has in house Environment and Sustainability Managers to advise on all aspects of the site environmental management. A dedicated Lend Lease Environment and Sustainability Manager has been appointed to the North Wales Prison project in order to manage environmental impacts and drive best practice implementation. All Legal requirements, Environmental Aspects and Impacts, along with associated control measures, are identified via our 'Compass Onsite' assessment tool supported by Lend Lease Environmental Standard Operating Procedures (ESOPs).

Global Minimum Requirements and Environmental Standard Operating Procedures

During the planning, delivery and construction stages, in order to manage potential impacts upon the environment we will employ robust control measures in-line with our Global Minimum Requirements (GMRs) and Environmental Standard Operating Procedures (E-SOPs). All Lend Lease projects operate to Health, Safety and Environmental GMR's, which establish the minimum requirements for project activities. Our GMRs cover all of Lend Lease's operations including site, operations and our supply chain. Our E-SOPs are embedded into our Global Minimum Requirements and lay out environmental responsibilities and best practice on-site to the project delivery team. This will enable the North Wales Prison project to ensure legal compliance, control and minimise environmental impacts and to deliver best practice on-site and throughout our supply chain.

The following Lend Lease E-SOPs are directly applicable to the North Wales Prison, and will be adhered to throughout this project:

Community and Nuisance

E-SOP 1.1 Statutory Nuisance

E-SOP 1.2 Considerate Constructors Scheme

E-SOP 1.3 Handling Complaints and Statutory Authority Visits

E-SOP 1.4 Incident Reporting and Emergency Planning

Water Management

E-SOP 2.1 Dewatering and Water Abstraction

E-SOP 2.2 Water Discharges

Waste and Materials Efficiency Management

E-SOP 3.1 Waste Management and Disposal

E-SOP 3.2 Waste Exemptions and CLAIRE

E-SOP 3.3 Hazardous/Special Waste

E-SOP 3.4 Waste Management and Reduction Onsite

Pollution Management

E-SOP 4.2 Silt Management

E-SOP 4.3 Oil, Fuel and Chemical Storage and Handling

Emergency Response

E-SOP 5.2 Spill Response

Ecology

E-SOP 6.1 Biodiversity

E-SOP 6.2 Invasive Species

Materials Procurement

E-SOP 7.1 Timber Procurement

E-SOP 7.2 Materials specification

1.4 Environment and Sustainability Training

Training requirements will be identified during the project and delivered by the dedicated in-house Lend Lease Environment and Sustainability Manager when required. These will include:

- Site induction training;
- Health and Safety training;
- Toolbox talks on the environmental sensitivities of the area;
- Toolbox talks on environmentally friendly operation of plant and vehicles (careful driving etc.);
- One-to-one coaching from the Environmental Manager (as required);
- Presentations at team meetings;
- Mentoring.

The site induction will contain an in-depth review of environmental issues relating to the site, as well as an overview of how those issues are to be managed. It is expected that all appropriate site personnel will undertake environmental awareness training.

Environmental toolbox talks covering topics relating to site activities must be given to all site personnel and subcontractors at a period of no less than monthly.

Environmental bulletins and Sustainability Performance Certificates must be clearly displayed in all mess/office areas. Any actions relating to these must be implemented immediately, and all site personnel must be made aware of the changes.

2 Control Measures

Management control measures will be implemented by Lend Lease in order to minimise and control the construction impacts upon the environment. These have been identified under the following topic headings:

- Noise;
- Waste Management;
- Dust;
- Landscape;
- Ecology;
- Pollution Control.

2.1 Noise

Introduction

Lend Lease will manage potential noise impacts on the North Wales Prison site by identifying impacts, implementing appropriate control measures, undertaking monitoring and providing effective communication. We will manage construction works to reduce noise and minimise any disruption to local residents, businesses and ecology. In the first instance we will identify opportunities to reduce noise impacts and where this is not possible we will ensure stringent noise control measures and clear communication channels to notify sensitive receptors and minimise disruption.

Our noise controls will primarily focus on minimising the impact to the site occupants and fauna on the site. We recognise that a key part the management of noise is effective planning and on-site management.

As part of our mobilisation works we will commission a third party to undertake a background noise assessment at the site boundary and at any sensitive receptors. The results will be used to establish baseline noise levels against which we will measure any construction related noise impacts.

We will undertake continuous noise monitoring using an on-site noise meter to check and record any change in predicted noise levels. Where required we will review the control measures in place, update and amend according to any changes in activities.

Noise Mitigation

Noise Reduction

Lend Lease will adhere to best practice at all times to minimise the disturbance to local residents, site occupants and other potentially sensitive receptors. In the first instance we will aim to minimise noise impacts as far as possible by moving noise impacting activities away from sensitive areas and identify and implement appropriate control measures. These measures will include:

- Selection of construction methods and plant in consideration of BPM, including its location, to be used;
- Switching off plant when not in use;
- Regular maintenance and servicing of vehicles, equipment and plant;
- The use of temporary acoustic barriers where appropriate and the use of enclosures and screens around noisy fixed plant where required;

- Appropriate handling and storage of materials;
- Electrical powered plant will be used as a preference. Where practicable, rotary drills and busters actuated by hydraulic or electrical power will be used for excavating hard material. Items of plant in intermittent use will be shut down when not in use.
- As far as practicable, all stationary plant will be located so that the noise impact to all occupied commercial and residential buildings is minimised.
- We will retain full control over and responsibility for Trade Contractors working on the site. Trade Contractors will be required to submit full details of work programmes, plant and personnel and will be made fully aware of all control requirements
- Operatives' induction training will include the requirements to use best practice to limit noise/vibration

We detail below the control measures we will implement throughout construction along with details of the specific impacts we will mitigate during the construction of North Wales Prison.

Controlling Working Hours to Minimise Disruption

In order to manage the impact of potential construction noise, Lend Lease will operate within the site's normal working hours of **0730 to 1800 Monday to Friday, 0800 to 1400 Saturdays**. In exceptional circumstance such as the requirement for powerfloating noisy work may be required outside of the normal working hours. When these circumstances arise, the working hours will be agreed with the Local Authority. Additionally in order to minimise the noise impact of vehicle deliveries we will not accept deliveries outside of these hours except in exceptional circumstances and where agreed in advance.

Controlling Vehicle Movements to Reduce Noise

We will reduce noise generated from material deliveries and waste management activities by controlling all site deliveries to the hours of **0730 to 1800 Monday to Friday and 0800 to 1400 Saturdays**. Delivery vehicles will not be permitted to stop or park in close proximity to the Pentre Maelor housing estate.

The use of a consolidation area will allow some works with potential for noise impact to be undertaken away from potential receptors. Our previous experience of using consolidation and waste management centres has shown a significant decrease in the volume of on-site traffic by bulking the deliveries of materials and waste movements.

Ensuring Use of Compliant Plant and Equipment

Only plant which complies with the relevant EU/UK noise limits applicable to that equipment will be used. We will mitigate noise from plant and equipment by reducing the requirements for temporary diesel generators, connecting to the mains electricity network as soon as possible. At the start of works we will check that all plant and equipment has valid and up to date maintenance records, where records are not complete or in the event they are found to be out of date, alternative plant will be arranged immediately. Visual spot checks will be regularly undertaken to ensure maintenance documentation is up to date and exhaust emissions or noise levels are not exceeded. Plant will not be re-used until it is appropriately maintained or repaired. Lend Lease will also enforce a 'no-idling' rule to ensure that machinery and vehicles are switched off when not in use.

Limiting Noisy Construction Activities

Power Floating

Power floating of concrete floors is required to provide a surface finish suitable for high quality floor finishes such as carpet. Power floating can be a noise impacting activity and continue over a number of hours. Therefore where possible we will specify a different compliant floor finish, such as for workshops, reducing the potential for noise. Additionally we have also specified modular buildings where the concrete surface of the module will be finished in the off-site facility, reducing noise impacting activities on-site. The use of modular build will also reduce noise impacts during construction as a result of craning modules into position as opposed to traditional build.

Control Measures for Specific Impacts at North Wales Prison.

In order to minimise noise impacts our delivery team including our supply chain partners will take a flexible approach to adapting our works.

We have identified below the following activities which have the potential to cause noise impacts at North Wales Prison and the control measures we will implement to mitigate disruption.

Ref	Activity	Control Measure
A	Earthworks across the site	Limited working hours Vehicle and Machinery minimum standards regarding condition and maintenance 'no idling' rule
B	Power floating of concrete floors	Limited works hours Use of modular buildings Using different floor finishes, where appropriate
C	Cutting of masonry materials	Use of consolidation centre for some works Use acoustic screens within dedicated areas Limited working hours
D	The use of diesel generators to provide temporary electrics	Connection to existing electricity supply Vehicle and Machinery minimum standards regarding condition and maintenance
E	The noise associated with the Lend Lease site set-up	Avoid using diesel generators Use of consolidation centre for materials and waste management centres Bulk transport of waste and materials Use of mini-buses and coaches for personnel Siting main set-up in 5 site Satellite set-up to be located away from sensitive receptors

Communication

Communication with the Local Community

As part of Lend Lease's commitment to good relations we will be registering the North Wales Prison project with the Considerate Contractors Scheme (CCS). Lend Lease will maintain a regular dialog with local residents and business to advise them of future noise generating works, and the control measures which will be in place to minimise any impact. Where we identify a potential risk of noise nuisance we will undertake additional letter drops informing the potentially affected areas of the type, timing and duration of the impact.

Minimising Disruption

Regular progress bulletins of intended operations will be posted and neighbours liaison sessions will be facilitated to ensure effective regular communication. In the event of any complaints of noise nuisance from the works we will take action immediately and review working practices, implement corrective action and follow up by providing feedback on the action taken. We will also apply lessons learnt in order to prevent any potential future complaints.

Planning

We have planned for noise management requirements for the site from the outset. We will carry out baseline noise assessments, review predicted noise for each phase of the works, and carryout on-going noise monitoring throughout the project. We will review our noise risk

assessments and where there is a potential for a noise nuisance we will review the delivery strategy to minimise disruption to the site operations..

Project Meetings

Activities with a potential noise impact will be discussed and any mitigation requirements agreed prior to start of works. Site logistics and delivery plans will be updated to accommodate any major movements and to minimise noise impacts to the project and the wider local community. Any required changes to noise control measures for the programme of works will also be identified and communicated.

2.2 Waste Management

Introduction

Waste will be managed in line with our Waste Position Statement (policy) and robust Standard Environmental Operation Procedures. All our waste management activities are to be managed in line with our ISO14001 certified Environmental Management System (EMS), ensuring waste legal compliance are both met and exceeded.

The Waste Hierarchy will be applied to all materials utilised on North Wales Prison Project in order to prevent waste arising, and then maximise the quantity of the remaining waste diverted from landfill. We will apply government and industry best practice, such as implementing WRAP tools, the CL:AIRE Code of Practice and our bespoke version of the BRE Smart Waste tool. Our waste strategy's primary aim is to maximise designing out waste opportunities and prevent waste generation. Where we are unable to prevent waste we will segregate waste on-site in order to achieve high levels of re-use and recycling.

Construction - Reducing Excavated Material

Excavated Material Re-Use

Lend Lease have identified opportunities to maximise the re-use of material through the cut and fill balance to level the site and reduce materials requiring removal to a minimum.

Use of the CL:AIRE Code of Practice

We will use the Contaminated Land: Applications In Real Environments CL:AIRE Code of Practice in order to maximise the re-use of excavated material on-site, manage any unexpected contamination and provide cost savings. In line with Code requirements we will ensure appropriate material testing and agree suitable end uses in consultation with statutory authorities. We will follow all the requirements of the Code including appointing a competent person, implement a Materials Management Plan and by submitting both a CL:AIRE Code of Practice Declaration and a final Verification Plan to Natural Resources Wales.

Construction Waste - Segregation and Recycling

Waste Management Centres

Lend Lease will provide individual skips for key waste streams such as general waste, inert waste, timber, metals and plastics etc., which will be tailored to phase of works undertaken on the site to enable effective segregation and increase recycling rates. We will work with suppliers to minimise packaging at source and investigate packaging take back schemes allowing packaging waste to be returned for re-use and recycling. Once received to site, construction materials and fittings will be stripped of all non-essential packaging prior to movement to the construction zone.

Segregated waste skips will have clear signage using colour coding and European Waste Catalogue Codes for both on-site skips and at the waste management centres to assist with efficient segregation. We will carry out regular inspections to ensure waste is secured at all times. Whilst on-site the project will operate a waste collection system from the workface with waste transported to the waste consolidation area. Once received at the waste consolidation waste will be transferred to skips and roll on/roll off waste containers to be removed from site. The benefits of operating this system will be to increase segregation efficiency. Waste materials will not be permitted to be stored on open ground.

Site Waste Management Plan

The management of construction waste will be detailed within our Lend Lease Site Waste Management Plan (SWMP) on 'Minimise', our on-line SWMP template, in accordance with credit Wst01 Construction Waste Management. Minimise, the Lend Lease version of the Building Research Establishment (BRE) SMARTWaste tool, will be used to manage the live Site Waste Management Plans.

The SWMP will record Duty of Care requirements such as copies of waste contractors and disposal site licenses. Copies of licences will be retained online for audit purposes on completion of the project. We will review the SWMP and undertake a comparison of actual quantities against estimates on project completion.

Communication and Training

We will communicate waste requirements to the project team via our on-site inductions, toolbox talks, posters, one-to one coaching and in-house training courses. Training and project support will be provided by the Lend Lease Environment and Sustainability Manager.

Monitoring and Measuring - Key Performance Indicators

In line with the Lend Lease EMS, the North Wales Project will monitor and measure all waste, through the Lend Lease Minimise system. The record detailing all waste generated will be maintained to monitor performance and enable the project to identify problematic waste streams and further opportunities reduce waste arising from site activities.

Waste performance will be reported to the Ministry of Justice on a monthly basis via the WRAP MeasuRE portal (formally the WRAP Waste to Landfill Reporting Portal).

Internal Audit

We will complete a monthly environment and sustainability checklist, to ensure compliance with our Environmental Management System processes and control on-site. Completion of the monthly checklist will include waste legal requirements, implementation of waste management procedures and a review of waste performance on-site. We will also complete a programme of planned internal compliance audits, carried out by the Lend Lease Environment and Sustainability Manager. Internal audits will be undertaken in line with our ISO14001 certificated Environmental Management System and client requirements.

2.3 Dust

Introduction

To minimise disruption on site and to the surrounding areas caused by dust, Lend Lease will implement comprehensive and robust control measures.

Dust Strategy - Minimising Dust

Our dust management and control measures on-site identify potential dust sources and receptors and implementing appropriate control measures to reduce and control any potential dust pollution. Lend Lease has effective procedures to ensure the discharge of legal responsibilities in relation to dust pollution prevention and provide clear communication channels to workforce and supply chain.

Identifying Receptors and Sources

We will minimise potential dust pollution from construction activities around the North Wales Prison site with specific focus on areas occupied by site personnel, local residents on the Pentre Maelor housing estate, the ecology protection area, the surrounding industrial facilities and the public highway. We will ensure that control measures are implemented on-site to protect these areas.

The following activities have been identified as having the potential to create dust pollution on the North Wales Prison site:

- a) Earthworks and levelling activities;
- b) Movement of material - principally soil;
- c) Movement of waste material off-site;
- d) Temporary storage of top and sub soil;
- e) Storage, cutting and grinding of aggregate based materials;

Dust Reduction Measures relating to Site Activities

The outline in the table below a selection of the reduction and control measures we will implement where appropriate in order to mitigate potential dust pollution, in addition to those specified for high risk sites.

Reference	Site Activity	Reduction and Control Measure
a)	The earthworks and levelling exercise	Retain existing vegetation Vehicle wheel cleaning Water suppression
b)	The movement of material - principally soil and road arisings	Consolidation centre for waste and materials Sheeting/Covered vehicles Vehicle wheel cleaning Road sweepers
c)	The movement of waste material off the site	Consolidation centre for waste and materials Sheeting/Covered vehicles Bulking of waste Road sweepers
d)	The temporary storage of soil	Covering or battering surface Seeding of surface
e)	The storage, cutting and grinding of aggregate based materials	Consolidation centre for waste and materials Screening Water suppression

Activity Mitigation Measures

Vehicle movements around the site

Permanent roads around the site are to be brought to base course in order to reduce the potential for dust pollution, while ensuring the roads are laid only once and it is then *in situ* for the remainder of the project.

Minimising and Managing Earth Works

In order to reduce the potential for dust creation during earthworks, we have minimised earthworks where possible by reviewing cut and fill balances and retaining existing vegetation. In dry periods during earth works we will damp down any exposed areas of material where required with a fine mist spray in order to prevent potential dust generation. We will compact the surface in stockpiles of material in order to prevent dust.

In the event that any stockpiles of earth works material will be *in-situ* for longer than 2-3 months we will seed the material as part of the rolling process. Seeding the material will enable binding of the top layer and prevent dust pollution.

During the works the Lend Lease Construction Manager will be responsible for monitoring the roads on and around the project. In the event mud or silt is noted on the road, a road sweeper will be dispatched immediately in order to sweep the road. The Lend Lease Project Manager will also be informed so that a review of site activities can be undertaken and any potential further impacts minimised.

Vehicle cleaning facilities

We will install vehicle cleaning facilities at fixed locations within the construction zones, which will be in place throughout the works to provide cleaning facilities for site vehicles. Vehicle cleaning facilities will be in accordance with the Bio-Security Risk Assessment, and meet the requirements identified in European Protected Species Licence 53419:OTH:EPS:2014.

In order to minimise dust entering the wider site we will implement clear separation between tarmac hard standing areas which are linked to the site roads and the working areas. Vehicles moving from the working areas onto the wider site will only enter the tarmacked areas when vehicles have been cleaned via the wheel washes.

Whilst there will be some temporary dust on limited areas of the site roads, this will stop any dust being transited onto the public highway.

Remediation of Any Dust Nuisance

In the event that nuisance dust is noted on the site, Lend Lease will clean the dust as soon as practicable. We will have a local road sweeper on stand-by for use as required.

Dust on the Public Highways

All of the dust reduction measures that Lend Lease will be undertaking on the site will significantly reduce the probability of dust exiting the site onto the public highways. It will be the responsibility of the appointed Lend Lease representatives on the site gates to monitor the traffic leaving site for dust on the vehicles.

If vehicles are found to be carrying mud they will be sent back to the nearest vehicle cleaning facilities and cleaned. In addition the gate staff will monitor the public highway outside the site gate and ensure no mud is tracked onto the highway. If mud is found the local on-call road sweeper will be called in to clean the road as soon as possible, and an investigation into the failure of procedures identified.

Communication with Stakeholders

Communication

In order to effectively manage any potential dust impacts, Lend Lease will communicate control measures to all operatives as part of the project induction. In order to minimise potential dust impacts our delivery team, including our supply chain, will take a flexible approach to adapting our works.

Considerate Constructors Scheme

Lend Lease will register the North Wales Prison project under the Considerate Constructors Scheme (CCS) and implement the Code of Considerate Practice at all times.

The CCS requirements also ensure that we will have a project contact board on public display to ensure that the public have a route to contacting the site directly.

2.4 Ecology

Introduction

The Ministry of Justice has contracted Ecological Consultant TEP to implement the works within the ENVIRON Ecological Mitigation Strategy and Habitat Management Plan, and the ENVIRON Addendum to the Ecological Mitigation Strategy and Habitat Management Plan.

TEP have undertaken translocation of all species and features of ecological value in the construction zone under European Protected Species (EPS) Licence 53419:OTH:EPS:2014.

The EPS Licence 53419:OTH:EPS:2014 will remain in effect until the completion of construction activities. The project will adhere to the condition detailed in the EPS licence 53419:OTH:EPS:2014.

Ecology Management

Ecological Control and Protection Measures

In collaboration with our appointed ecological specialist partner the project will undertake the following measures in order to effectively manage any potential ecological risks.

- Ensure all persons undertaking works on behalf of land lease are briefed on the ecological controls required on the project, and their associated responsibilities.
- Installation of vehicle cleaning points
- Maintain an ecological watching brief; we will have a licenced ecologist on call at all times
- Undertake a daily visual assessments of semi-permit amphibian fence and entry gullies to ensure no breaks or holes in the fence occurs.
- [Maintain a demarcation fence line with signage within the project site to maintain a 1.5 metres buffer between the existing amphibian fence line along the border with the Wrexham CBC Ecology Area. This demarcation fencing is to ensure construction traffic cannot enter the ecology area.](#)
- Facilitate regular Independent checks and audits through our licenced ecologist and the WYG independent auditor.
- Quarterly review with Natural Resource Wales and Wrexham County Borough Council
- Specification of plants.

In the unlikely event that herptofauna are found within the secure perimeter of site, or damage is noted to the semi-permanent amphibian fence works in the area will be suspended and licenced ecologist contacted. Works will recommence only once suitable clearance is provided by our licenced ecologist.

In the event that the progression of construction works necessitates alterations to the semi-permanent amphibian fencing encompassing the site, then this will be agreed in advance with our licenced ecologist, and if appropriate, in consultation with Natural Resource Wales, as an amendment to EPS Licence 53419:OTH:EPS:2014

Where construction activities are required to take place outside of the semi-permanent amphibian fence line, all appropriate Ecological Method Statements, Supervision and appropriate amendments to EPS Licence 53419:OTH:EPS:2014 will be agreed in advance with our licenced ecologist, and where appropriate, in consultation with Natural Resource Wales.

The semi-permit amphibian fence will only be removed once all construction activities which are likely to impact on Great Crested Newts have been completed.

Nesting Birds

Where removal or pruning is required to be undertaken within the defined Bird Breeding Season, prior to any works commencing we will ensure the inspection of the area by our Qualified Ecological Specialist immediately prior to commencement of works in order to confirm the absence of nesting birds.

In the event that a nest is formed within the construction zone, an exclusion area will be established to prevent disturbance and we will consult our Qualified Ecological Specialist. An exclusion zone will be maintained until the fledglings have vacated the nest.

Invasive Species

All persons undertaking works on behalf of Lend Lease will be brief on the ecological controls required on the project, and their associated responsibilities.

Training – to Ensure Operatives Follow the Ecological Method Statement

In order to ensure each operative is aware of site requirements for the protection of fauna we will include a Flora and Fauna section within our site induction before site access is granted.

As a result the North Wales Prison site induction will detail:

- Species present in the wider area, and how to recognise these
- The current known location of each species
- Control measures and permitted construction activities
- The fauna warning signs and posters to be used
- Legal implications surrounding protection of fauna present on-site
- The process to follow where an operative believes there is a risk of harm to any species on the North Wales Prison Project.

The site induction will be reinforced through regular Toolbox Talks, Construction method statements including flora and fauna control measures, and the inclusion of operatives' key duties in relation to the European Protected Species Licence. We will also ensure the Ecological Working Method Statement requirements are communicated within the daily works briefing with their supervisor. In addition all operatives undertaking high risk activities related to Great Crested Newts will be required to undertake training prior to completion of the Lend Lease site induction to provide information on working in proximity to Great Crested Newts and within a Bio-secure Environment.

2.5 Pollution Control

Water

Wastewater Discharges

Lend Lease will ensure that the surrounding watercourses, including the River Clywedog, Redwither Brook and the River Dee, are not impacted by construction activities. The treatment of construction zone water discharged will meet the requirements of the project discharge consent. Water will only be discharged to the surface water drainage system once treatment to remove all contaminants and suspended solids has been completed.

The North Wales Project will hold emergency response kits in case of fuel and/or chemical spill, and appropriately sized drain closure units which allow drain connections to be closed quickly from the surface.

All members of the Lend Lease project delivery team, and key members of our supply chain, will also be trained in emergency response, which will include practical exercises.

Toilets within the site Welfare units will either be self-contained and drain foul water to a septic tank to be tankered away from site by a licensed waste carrier or discharged to the existing drainage system and thereby to public sewer.

Soils

Lend Lease will ensure that best practice is incorporated from the onset in order to mitigate the risks of compaction, soil layer mixing and erosion during construction. Specific measures to be implemented at the North Wales Prison site will include:

- Where plant movements are required over particularly wet soils, temporary surfaces will be laid to minimise ground disturbance.
- Subsidence of the ground can occur after construction as the replaced soil settles but this will be minimised by proper compaction control during the backfilling operation.
- The topsoil will be stripped and stockpiled separately. Excavated soil will be segregated into stockpiles dependant on material type. On completion of the works the material will be backfilled in the same stratigraphic sequence;
- During periods of dry windy weather, any stockpiled and exposed soils which are at risk of wind erosion will either be sealed or dampened (this will also minimise nuisance caused by dust – see above);
- Appropriate surface water management measures will be used during construction to minimise risk of water erosion, for example sealing stockpiles and protection of surface water drains close to the construction site.

In order to mitigate for the risk of mobilisation of soil contaminants, the following measures will be undertaken:

- Any contamination identified during additional investigations or site works will be assessed to determine the risk posed to human and environmental receptors and, if necessary, will be remediated as appropriate;
- Stockpiling of potentially contaminated soils will be avoided wherever possible. Where it is not possible to avoid stockpiling of known contaminated soils, these will be stored on impermeable surfaces with appropriate control of surface water to ensure that contaminated surface run-off is removed for off-site disposal in accordance with the Hazardous Waste Regulations;
- Contaminated soil stockpiles will be covered to prevent wind-blown dispersal of potentially contaminated dusts and also to prevent the ingress of water;

- Only staff who have been appropriately trained and who have reviewed risk assessments for dealing with contaminated land will be allowed to work with potentially contaminated soils;
- As a last resort, appropriate personal protective equipment (PPE) will be worn by staff at all times when they are at risk of coming into contact with contaminated materials;
- Any excavated soils removed from site for disposal to a landfill will undergo Waste Acceptance Criteria (WAC) testing in order to correctly classify the material in terms of waste disposal.

Oil/Fuel/Chemical/Cement Pollution

Lend Lease will ensure that best practice pollution prevention measures will be incorporated from the onset and all works will adhere to our Global Minimum Requirements, Environmental Standard Operating procedures and the relevant Pollution Prevention Guidance. Specific measures to be implemented at the North Wales Prison Project will include:

- Storage and handling chemicals and hazardous substances will be in accordance with The Control of Pollution (Oil Storage) Regulations and best practice guidelines, such as those provided by CIRIA (2005) and the Environment Agency (2010). All chemicals and hazardous substances will be stored at least 10m away from the ecology protection area and drains in a contained, bunded containers which can hold 110% of the capacity of the tank (or in the case of IBCs ,drums or multiple containers, 25% of the aggregate volume or 110% of the largest container, whichever is the greatest);
- Ensuring that refuelling does not occur close to the drainage channels or on bare ground;
- Ensure that spill kits, drip trays and shovels are readily available to deal with spillages and are located in clearly marked areas;
- Designated areas for oil and fuel storage and refuelling away from sensitive or areas at risk of pooling water, with the use of drip trays to prevent minor spills from delivery hoses;
- Ensuring that equipment is free from fuel and oil leaks (daily plant inspections);
- All tanks and stores to be locked when not in use;
- Provision of a site oil, chemical and product inventory COSHH Register;
- Control of concreting operations to prevent the release of concrete to watercourses and drains;
- Washing of vehicles and plant away from sensitive areas and discharges to be intercepted,
- A list of emergency procedures (responsive to a risk assessment) including a Pollution Incident Response Plan;
- Provision of appropriate secure storage for any hazardous materials (away from any sensitive receptors) and avoidance of bulk storage on-site wherever possible;
- Site induction of personnel on emergency spillage procedures and staff to be regularly trained in emergency procedures, including the use of using spill kits and spill drills should a pollution incident occur;
- Provision of a Surface Water management Plan to include a construction site drainage plan (identifying areas of particular sensitivity);
- Provision of a contact list for the emergency services, the Natural Resource Wales, Welsh Water, HSE and the local utilities provider.