Site Restoration Programme

Winfrith End State:
Construction Environmental Management Plan

Project report – ES(24)P404 Issue 1, December 2024

WINFRITH END STATE:
Construction Environmental Management Plan.

Review/Revision Register

A review/change of this document was carried out as follows:

Version	Date	Author	Amendments / Change
Issue 1	December 2024		Original for Application

Contents

Appendices

1. INTRODUCTION

1.1. Scope

This Construction Environmental Management Plan (CEMP) has been prepared by Nuclear Restoration Services Limited (NRS) in support of a planning application and Deposit for Recovery (Ref:1) Environmental Permit application for activities on the Winfrith Site to reach the End State (ES).

The CEMP supports the work defined as the Project in the Environmental Statement.

At the time of writing, neither the planning permission nor Environmental Permits have been issued for the work as defined in the Environmental Statement project description. Once they are obtained, NRS will update this CEMP with any additional requirements arising from those permissions.

This CEMP meets the requirements of NRS's Environmental Management System which is accredited to the environmental management standard ISO14001:2015.

1.2. Purpose of the CEMP

This CEMP sets out the roles, responsibilities, and environmental management, monitoring and review measures to ensure that the Project is delivered in accordance with all applicable environmental legislation and best practice in force at the time. This CEMP also ensures that the conditions and requirements of planning permission and Environmental Permit conditions in relation to environmental management are met at all times during delivery of the Project. The management of potential impacts upon nearby residents and businesses is also considered.

The CEMP is developed, implemented and will be managed in accordance with the NRS Environmental Management System which is compliant with ISO14001:2015. This CEMP includes an assessment of the environmental aspects and impacts of the Project, along with a summary of management and mitigation measures. Roles and responsibilities are outlined, along with information on response to environmental emergency procedures, training and awareness.

1.3. Implementation and Management of the CEMP

As the holder of the planning permission and Environmental Permits, NRS has ultimate responsibility for writing, reviewing and delivering the CEMP.

This CEMP will be delivered in the following ways:

- Issuing the CEMP with tender documentation to ensure that potential contractors are aware of, and make provision for, adequate and appropriate environmental management in accordance with the requirements of this CEMP and any additional environmental legislation and best practice in force at the time.
- NRS will ensure that all contractors have nominated person(s) responsible for environmental management as part of their works.
- NRS will require that all contractors' site staff and subcontractors are made aware of the contents of the CEMP as it relates to their work packages. Relevant aspects the CEMP will be included in contractors' Risk Assessments and Method Statements (RAMS) to ensure that work is planned with environmental management measures built in to Project delivery.

- Throughout delivery of the Project, NRS will periodically review and audit contractor performance against the requirements of the CEMP.

As a key project management document, the CEMP will be reviewed by NRS appropriately trained and qualified personnel, as a minimum every year, and / or in the following circumstances:

- Change to environmental legislation, guidance or best practice;
- Change to the requirements of planning permission or Environmental Permit;
- In response to any environmental accident or incident occurring during delivery;
- In response to change in the requirements of the NRS Environmental Management System.

Where changes are made to the CEMP during delivery, all contractors will be notified.

1.4. The Winfrith Site

There are two non-operational former nuclear reactors remaining on the Winfrith site: the Steam Generating Heavy Water Reactor (SGHWR) and Dragon reactor along with a series of associated office, storage and workshop buildings. The drainage network and effluent management system, collectively known as the Active Liquid Effluent System (ALES), was built to collect and treat effluent from around the site for management and discharge. The system consists of the on-site drainage network, the storage and treatment plant and the Sea Discharge Pipeline which extends off the Winfrith Site boundary.

The Winfrith Site is within the Dorset Heathland, which holds several important ecological designations. These include Ramsar site, a Special Protection Area (SPA) and a Special Area of Conservation (SAC). Parts of the site are designated as the Winfrith Heath Site of Special Scientific Interest (SSSI) and there is direct connectivity through surface water discharge to the River Frome SSSI. Whilst the SGHWR and Dragon reactor and associated buildings are located outside these designated sites, they are located adjacent to them (see Appendix A, Site Location and Key Environmental Constraints Plan). Protected species of bird, bat and reptile use the Winfrith Site and some structures for nesting, roosting and foraging.

To the east of the Winfrith Site is the Dorset Innovation Park, which is used by several businesses. To the north of the Site are four scattered residential properties and the Southwestern Main Line railway. To the west of the Site is an area of land outside the Site Boundary which is planted with conifer trees, and the Site entrance off Gatemore Road. A nature reserve is located to the west of Gatemore Road. To the south of the Site is open access land including Blacknoll Hill, and south of that are residential properties. There are bridleways adjacent to the west and north of the Winfrith Site boundary, used by walkers and horse riders.

All Project works associated with this CEMP will take place inside the Winfrith Site Boundary.

1.5. Winfrith End State

The Winfrith End State will see the decommissioning and demolition of the remaining structures on the Winfrith Site, with some on-site disposals of low level radioactive and recovery of non-radioactive wastes in basement structures beneath the SGHWR and Dragon reactor (Appendix B, Site Structures). Some localised reprofiling works will take place to form a natural drainage feature in the northeast of the Site and the excavated material will be used for localised landscaping in the area of the SGHWR and Dragon reactor.

In detail these activities include:

- Completion of decommissioning of almost all remaining structures and systems on the Winfrith Site, including the SGHWR and Dragon reactor, retaining and infilling their below ground basement structures;
- Retention and infill with cementitious grout of the below ground ‘mortuary holes’ adjacent to the Dragon reactor;
- The demolition of buildings including ancillary structures to 1 m below ground level in most cases;
- The removal of internal roads and either decommissioning or removal of drainage;
- The permanent disposal of radioactively contaminated residual basement structures at the Dragon reactor and SGHWR, identified as in-situ disposal;
- The infill of below ground structures beneath the Dragon reactor and SGHWR with low level radioactively contaminated (Disposal for a purpose) and inert demolition arisings (Deposit for Recovery), before capping the voids with an intrusion-proof layer;
- Reprofiling of the ground in the areas where the structures have been demolished to achieve a more natural landform and drainage; and
- Natural restoration of habitats over a 30-year period.

1.6. General Approach to Environmental Management

The Project will be delivered in accordance with the procedures and requirements of the NRS Environmental Management System (EMS). As a minimum, the EMS requires that all project activities comply with all environmental and related legislation in force at the time. The EMS encourages best practice and innovation, as well as a robust management approach based on the principles of Plan, Do, Check, Act and Review.

Implementation of the EMS at the Winfrith site will be monitored and audited by appropriately trained and qualified NRS and contractor personnel. Any non-conformances will be documented, and appropriate corrective actions issued and implemented.

The delivery of the Project will also be governed by the relevant planning permission and Environmental Permit conditions, as well as any other consents or licences required to deliver the works (for example protected species licensing). This CEMP is one of the key delivery management documents and will be issued to all contractors working on the Winfrith Site. Compliance with the CEMP will be a contract requirement, and contractors are required to make sufficient provision to provide suitably qualified and experienced personnel to deliver their works in accordance with the measures in the CEMP.

All personnel involved in site work will be required to follow NRS’s instructions and procedures as communicated to them by the NRS team. A mandatory Site Induction will be provided for all personnel which includes environmental sensitivities and risks involved in delivering the Project, as well as key local receptors.

Existing site welfare facilities, or appropriate temporary facilities will be available for the duration of the works. Existing welfare facilities are connected to mains water supply and the Transient Foul System for sewage. Any future welfare facilities will connect to this system rather than the main foul sewer.

2. ENVIRONMENTAL RESPONSIBILITIES

2.1. Roles and Responsibilities

NRS has overall responsibility for ensuring that the requirements of all relevant environmental legislation and best practice are implemented at all times. As the holder of the planning permission and Environmental Permits, NRS has additional responsibility for ensuring that all conditions and requirements of those permissions are met, and that relevant reporting requirements are fulfilled.

The NRS Environmental Management team are responsible for:

- Implementing the requirements of the NRS EMS during delivery of the project;
- Reviewing contractor risk assessments and method statements (RAMS) to ensure that environmental risks are appropriately identified and mitigated against;
- Advising the Winfrith Site delivery teams on environmental management and control measures;
- Auditing environmental aspects of the Project, raising matters of non-conformance and non-compliance, as well as best practice;
- Communicating the requirements of change to legislation or the NRS Environmental Management System to Site teams and contractors;
- Ensuring all relevant parties, including project teams, are aware of the requirements of the NRS EMS, including emergency procedures (for example action in the event of a vehicle fuel spillage), and emergency contact telephone numbers;
- Reviewing contractors' bid submissions and advising on the environmental suitability / competence of contractors to carry out works in relation to the Project.

The Winfrith Site Project delivery teams are responsible for:

- Providing suitably detailed information about environmental and ecological aspects of the Winfrith Site to contractors;
- Providing regular briefings and updates to contractors to ensure that environmental and ecological information is up to date and relevant for the works being undertaken;
- Ensuring that all operatives and regular Site attendees receive the NRS Winfrith Site induction which includes environmental and ecological risks;
- The periodic inspection and audit of Project works to ensure that environmental and ecological protection measures are being adhered to;
- Obtaining additional licenses and consents in a timely manner (for example protected species licensing).

The appointed contractors are responsible for:

- Ensuring that all relevant environmental and ecological information is briefed to all Site personnel, and that all operatives understand the requirements and constraints;
- Ensuring that all RAMS contain all relevant and required environmental and ecological information to allow works to proceed in a manner that minimises risk, and that these RAMS are reviewed and approved by NRS in advance of the commencement of works;
- Ensuring that all RAMS and project activities include the mitigation measures detailed in this CEMP;

- Carrying out daily pre-start briefings to personnel regarding likely environmental and ecological risk during planned activities;
- Completing periodic recorded environmental inspections;
- Notifying NRS immediately in the event of finding unexpected protected species or contamination in or in the vicinity of a work area;
- Following all NRS instructions with regard to environmental and ecological protection;
- Reassessing the environmental and ecological impacts of any changes to works packages prior to any commencement of work.

2.2. Training and Awareness

To ensure that the CEMP is delivered successfully, all NRS personnel and contractors' staff need to be aware of, and understand, the contents of the CEMP.

A suitably qualified NRS team will deliver CEMP training to the NRS Project delivery teams. These teams will request and review contractors' CEMP training records, with training being required for all Project personnel. Training will include:

- Introduction to the relevant construction site;
- Relevant construction site tour (if deemed appropriate, relative to the spatial and technical extent of works that the personnel will undertake);
- Key roles and responsibilities;
- Environmental objectives, targets, applicable improvement plans and key performance indicators.

All personnel will be required to undergo a safety and environmental based briefing as part of the site induction.

Training records for NRS and contractors will be maintained by NRS Project delivery teams.

2.3. Community liaison

NRS engagement with communities is managed through process document PD-02. Specifically for the Winfrith the site, the following measures are available:

- Phone numbers and email addresses for the site are available on the main gate and via the Parish Council. Additionally, local residents have contact information for the communications lead at the site;
- Complaints, observations and questions are routed to the communications lead for the site and shared to the appropriate responsible manager;
- The site routinely engages with the community through twice yearly meetings of the Winfrith Site Stakeholder Group (WSSG)1. NRS and regulators provide updates to the community on progress and highlight key issues relating to upcoming work;
- Where there will be unusual working, i.e. extended working times or large numbers of lorry movements, the communications lead will inform the WSSG in advance, who in turn place notices on local social media platforms.

[1] Site Stakeholder Groups - Winfrith Site

2.4. Site Environmental Documentation and Records

Environmental documentation and records for the works will be kept on site at all times and be available for inspection by internal and external auditors, the management team and regulators.

Where any document is amended, previous versions will be superseded, and documents transmitted to relevant personnel and contractors in line with EMS and document management procedures. Site personnel will be made aware immediately if any significant changes in works procedures are implemented.

Documentation will include the following:

- Project consents schedule, including environmental permit, planning consents and additional consents, such as protected species licenced, where there are required;
- Site Set-Up Checklist;
- Aspects and Impacts Matrix;
- Construction Environmental Management Plan;
- Training Programmes and Records (including Site Inductions);
- Plant Maintenance and Defect Records;
- Non-Compliance and Corrective Actions;
- Project Meeting Minutes (Management Reviews, environmental and ecological issues);
- Environmental Monitoring Records;
- Completed Programmes and Records for Environmental Audits/Inspections;
- Details of any site inspections by regulators.

Ongoing environmental inspections will take place on site by authorised personnel. The findings of these inspections and any associated actions will be appropriately documented in agreed format.

2.5. Reporting

Periodic compliance reports will be generated by NRS and their contractors as evidence of adherence to the requirements of the CEMP, environmental legislation and the requirements of planning and permitting permissions.

Site visits from regulatory bodies will be recorded, along with actions arising.

2.6. Auditing and Monitoring

In line with the NRS EMS, site environmental inspections will be conducted by suitably qualified and experienced NRS staff members. Where applicable, contractors' representatives will accompany the inspections. Inspection records will be kept and any issues arising will be reported to Site management.

Any failure to undertake such monitoring will be deemed as a non-conformance with procedure and appropriate corrective action will be implemented.

A regular environmental audit schedule in accordance with the NRS EMS requirements will be set up at Project start. This audit schedule will include both internal and external audits for the project. It is the responsibility of the Project Management to ensure all documentation and evidence required for audit purposes is kept up to date and freely available for inspection at all times.

2.7. Environmental Emergency Response

The emergency arrangements are in accordance with the requirements of the Nuclear Site Licence and current Environmental Permit requirements. The emergency arrangements, including environmental emergency response, are documented in the company management system Manual 0038 (MAN-0038). The arrangements and key staff appointed under the arrangements are tested on a routine basis through exercises. Some exercises are observed by the regulator and joint exercises with the Dorset Council Local Resilience Forum and Environment Agency are also undertaken. The emergency arrangements include requirements for:

- Provide details of the emergency response plan to all parties routinely working on-site. This includes details of the arrangements in the mandatory site induction;
- Each site has an emergency response team that includes Emergency Controllers, Local Incident Controllers, Duty Engineers and first aiders. Those appointed to the emergency response scheme are given additional training and assessed to be appointed into their roles;
- Site staff, including the environment and waste teams, are trained in the use of spill kits;
- The emergency response arrangements include detailed plans for environmental events, including fuel and oil spills;
- The emergency arrangements include details of communication requirements in the event of an emergency, including contact details for the Environment Agency, Dorset Council, the Officer for Nuclear Regulation;
- Emergency contact numbers for EA and DC in the event of fuel spill or noise / dust complaint;
- Emergency response training procedures and who will be trained.

3. GENERAL REQUIREMENTS

3.1. Working Hours

Normal site working hours are:

- 07:30 to 18:00 Monday to Friday;
- 07:30 to 13:00 Saturday; and
- No working on Sundays or bank holidays.

Working outside of these hours will be by exception and in emergency situations.

If the need arises for critical work to be completed outside of these hours, consent under Section 61 of the Control of Pollution Act 1974 will be applied for in advance from the Local Authority (Dorset Council).

3.2. Site Security

The Winfrith Site is clearly defined by security fencing and access to the Site is controlled at the main entrance off Gatemore Road. Entry to the site must be booked in advance in accordance with NRS's Site security procedures.

Contractors will install additional appropriate barriers / access controls to prevent inadvertent access by unauthorised personnel to specific working areas within the site boundary. All

personnel are required to stay within their designated work areas to ensure that environmental risks are minimised and to avoid personnel entering protected habitat areas on the Site.

4. TOPIC-SPECIFIC MANAGEMENT MEASURES

4.1. Environmental Aspects and Impacts

NRS's EMS requires that all activities on NRS sites are assessed for their environmental aspects and impacts. At the time of writing this CEMP, neither the planning permission nor the Environmental Permitting requirements have been issued, and it is proposed to complete an environmental aspects and impacts assessment once these permissions are in place.

4.2. Environmental Management Measures

The Environmental Statement that accompanied the planning application for the Project includes a series of specific measures to mitigate the impact of the Project on aspects of the environment and neighbouring communities.

These mitigation measures are included in this CEMP and are presented on a topic by topic basis.

There are a number of sensitive receptors both on site and in the immediate vicinity of the Winfrith Site. These include local residents (notably to the north of the Site), and a range of protected ecological habitats and species. Additionally, recreational users of the bridlepaths adjacent to the west and northern boundaries of the Winfrith Site could be impacted by certain aspects of the Project.

4.3. Air Quality and Dust

The escape of dust outside the Site boundary is a potential source of statutory nuisance, and works can be stopped by the Local Authority if dust is being emitted beyond the site boundary and considered to be a nuisance. Dust emissions beyond site can also give rise to complaints, health and ecological impacts.

Several sensitive receptors surround the site which may be susceptible to raised levels of airborne dust. The receptors include:

- Nearby residential properties; and
- On-site and nearby protected terrestrial and aquatic ecological habitats.

Potential sources of dust emissions are:

- Earth moving operations;
- Site clearance and demolition activities;
- Vehicle movements on Site (especially on unpaved surfaces);
- Vehicle movements on Site during dry periods;
- Vehicle exhaust emissions;
- Wind blowing across the Site over potentially dusty materials during dry periods;
- Stockpiling of excavated materials;
- Spillage and loss of load from vehicles carrying loose material;
- Cutting, grinding and drilling operations;
- Deep excavations;
- Accidental loss or spillage of load from vehicles carrying loose materials; and

- Tipping of dry or dusty materials.

The generation of this fugitive dust requires consideration of additional factors such as:

- Prevailing wind (speed, direction);
- Prevailing climate, including rainfall; and
- Location of sensitive receptors outlined above.

Prevailing winds are important when considering fugitive dust. The speed of winds can determine the dispersion of dust; high winds can increase the initial generation of dust, in addition to carrying the dust over greater distances. This should be accounted for in RAMS.

4.3.1. Management Measures

In accordance with The Environmental Protection Act 1990, Part III concerning prevention of statutory nuisance due to emissions from demolition/construction site activities by using Best Practicable Means, and the Dust Management Plan (DMP) the following dust and air quality control measures will be implemented, where required:

Source	Management Measures
Site Traffic	• All Site traffic will follow designated routes on Site to avoid passing over unpaved areas. • Speed limits will be put into place on site for all vehicular movements of 5 mph on unsurfaced areas and work areas and 20 mph on properly surfaced and maintained site roads. • All vehicles carrying loose potentially dusty material will be covered. • Vehicles will not travel over unsurfaced areas of the Site prior to exiting onto the highway. • Plant and machinery required for earthworks activities will be delivered to and removed from the Site via transport on a flat bed HGV, avoiding the risk of machinery tracking directly from disturbed ground onto the highway. • No idling of vehicles or plant will be permitted on the Site. • Delivery vehicles shall be collected from the Main Gate by their escort as soon as possible to reduce vehicle emissions. • Machinery and dust causing activities will be located away from receptors where practicable. • Surface runoff will be minimised and mud controls will be in place to minimise dust generation.

Site roads	• Roads will be damped down with water if necessary.
Earth Stockpiles	• Stockpiles of excavated soils arising from the creation of the mire will be sprayed with water to prevent wind entrainment of dust if required. • Stockpiles to be located away from any sensitive receptors where possible.
Dust Suppression	• Mobile water bowsers to be deployed on site at regular intervals in dry and windy weather, if necessary. • Deliveries of significantly dusty materials to be sprayed to reduce dust potential if necessary. • All cutting, grinding and size reduction operations to be conducted in ways to reduce the risk of dust migration (for example the use of wet cutting techniques).

4.3.2. Monitoring

Ongoing visual monitoring to be undertaken by NRS and contractors on regular basis, both on and off site to ensure no migration of dust. Monitoring will check for visible signs of dust emissions and deposition originating from site.

Daily visual monitoring of dust emissions will be undertaken by NRS or their contractors for each activity which is deemed to pose a risk, with records maintained. Records will include date, site activity, weather conditions (including wind direction and speed), photographs and any dust suppression methods implemented.

4.4. Noise and Vibration

The Site is in close proximity to several noise sensitive receptors, including:

- On-site and adjacent ecologically designated areas and protected species including nesting birds at certain times of the year;
- Nearby residential and commercial properties; and
- Users of the bridleways adjacent to the northern and western boundaries of the Site.

Potential noise impacts associated with the Project are typical of any demolition operation and consistent with those operations that have previously been carried out at the Site. These include the use of machinery and equipment for breaking structures, as well as size reduction of concrete and bricks. The use of plant and machinery that is fitted with noise reversing beepers can be a source of noise nuisance.

There are no planned operations that would give rise to vibration impacts.

4.4.1. Management Measures

All Project activities will be carried out in accordance with good practice as described by BS 5228 'Code of practice for noise and vibration control on construction and open sites', Part 1: Noise (+A1:2014), and Part 2: Vibration (+A1:2014), BRE Pollution Control Guide: Part 1 – Pre-

project planning, and effective management. As well as current best practice (Best Practicable Means as defined under Section 72 of the Control of Pollution Act (COPA) 1974).

Hours of work are controlled to ensure that there is no night-time working and limited weekend working. If works are required outside these hours they will only be in exceptional circumstances and only with the advance approval of Dorset Council and pre-notification of local residents.

The following control measures will be considered during the development and implementation of detailed method statements for Project activities:

- Selection of quiet and low noise working methodologies;
- Selection of inherently quiet plant and low noise equipment.

All plant and machinery such as generators, compressors and pumps shall be positioned so as to cause minimum noise disturbance, i.e. furthest from receptors or behind acoustic enclosures and/or shielding. Where possible, loading and unloading will also be carried out away from nearby noise sensitive areas.

Acoustic barriers for noise-generating static activities will be considered for use if necessary. Additionally the following measures shall be taken, where required:

- All construction plant and equipment shall comply with European Union noise emission limits;
- Electric vehicles or solar powered plant and machinery will be used where possible;
- Solar generators will be used where appropriate;
- All vehicles and mechanical plant to be fitted with effective exhaust silencers;
- Reversing alarms will be limited to industry-accepted ‘quiet’ bleepers;
- All major compressors, such as generators, fitted with properly lined and sealed acoustic covers which shall be kept closed whenever machinery is in use;
- All ancillary pneumatic percussive tools where possible, be fitted with silencers of the type recommended by the manufacturers;
- Machines in intermittent use may be shut down in the intervening periods between working or throttled down to a minimum;
- No plant, machinery or vehicles will be left running unnecessarily;
- All plant and machinery will be regularly maintained in accordance with manufacturers instructions. This will reduce the potential of noise from machinery. Regular maintenance will form part of an effective housekeeping management programme;
- Materials will be handled as carefully as possible when loading lorries and skips to minimise noise generation;
- The drop heights of materials will be minimised as much as possible, to minimise noise generation;
- The use of vehicle horns will not be permitted (except in an emergency);
- Adverse noise effects will be minimised with the use of localised acoustic screening at optimal locations, if required;
- Operations will be monitored, and method statements and approaches reviewed as necessary;
- The hours of operation of all plant and vehicles will be limited to the normal site working hours and any use of equipment outside of these hours will be avoided; and

- Construction contractors will be required to adhere to the codes of practice for construction working given in BS 5228 and the guidance given therein minimising noise emissions from the site.

4.5. External Lighting

During winter months or poor weather conditions there will be a potential requirement for task or area-specific external lighting, especially around the office complex and active work areas or transport routes on the Site.

There is the potential for poorly aimed or poorly controlled lighting to cause intrusion or irritation to nearby residents from light trespass or glare. Poorly aimed or controlled lighting could also disturb nearby sensitive ecological species.

Due to the location of properties nearby to the site, lighting will be positioned and set to ensure minimum potential for disturbance to local residents and wildlife.

Because of the security status of the site, lighting for security purposes during sunset and sunrise may be required in certain areas of the site.

4.5.1. Management Measures

Lighting will be where appropriate:

- Safe and suitable for the task;
- Directed away from neighbouring properties and ecologically sensitive areas;
- Switched off when not required – including at the end of each working day, unless required for security reasons;
- Regularly assessed for need and appropriateness; and
- Bat sensitive lighting will be used if required.

4.6. Waste Management

The Project will generate quantities of waste, predominantly arising from the demolition of buildings and structures on the Site. This will comprise various building materials, such as metals, demolished concrete, brick, timber and rubble. Some wastes will be hazardous wastes, for example asbestos which was used extensively as a building material in the time of the Sites' construction. Some of the waste demolition materials will be radioactive. For the purposes of this CEMP, these wastes are called Site-derived.

Additionally, the presence of a number of contractors, plant and machinery on Site will generate wastes including office waste and waste associated with the maintenance of plant and machinery. For the purposes of this CEMP, these wastes are called contractor-derived.

4.6.1. Management Measures – Site-derived wastes

The planning and permitting applications contain detailed measures for the management of site-derived wastes. In summary, these wastes will be characterised in order to determine their suitability for either permanent retention on the Winfrith Site as part of the planned waste disposals, or for removal off site for recycling or landfill.

Site-derived wastes for retention / disposal on the Winfrith Site will be strictly managed in accordance with the NRS Site Wide Materials Management Plan (SWMMP) (Ref. 2) and both

Waste Recovery Plan (Ref. 3) and Waste Management Plan (Ref. 4). Contractors will provided relevant instructions in line with these plans for the appropriate work areas.

Site-derived wastes for off-site management will be segregated at source to ensure that the maximum amount of waste possible is recycled. This will include residual timber and metals from the demolished buildings and any concrete or brick rubble that is not being retained for disposal on the Winfrith Site.

Site-derived wastes which contain hazardous properties will be removed from Site for disposal in appropriately licensed landfill sites. This includes asbestos. All applicable waste management and Duty of Care requirements will be followed, and appropriate records kept. All hazardous waste will be stored on site in appropriately covered or locked skips. No mixing of hazardous and non-hazardous waste is authorised.

Separate clearly labelled skips will be made available for all types of waste to be removed from the Site. Site personnel will be informed of waste management procedures and contractors will undertake weekly monitoring to ensure that correct waste management procedures are followed at all times.

4.6.2. Management Measures – Contractor-derived wastes

Contracts will be established with suitably licensed waste contractors for the provision of waste collection and recycling services for non-hazardous contractor derived wastes, such as office and canteen waste. Only waste management companies on the NRS Company Register of Approved Non-Radioactive Waste Facilities can be used as these companies have been appropriately audited and are routinely assessed for compliance.

Where contractors generate potentially hazardous wastes (such as empty line marker aerosol canisters or oil / grease contaminated materials associated with the maintenance of vehicles and machinery required for the works), contractors will be required to ensure that they have suitably compliant waste management and disposal procedures in place. All hazardous waste must be stored on site in appropriate, cover or locked skips. No mixing of hazardous and non-hazardous waste is authorised.

All wastes to be removed from the Site will adhere strictly to all relevant waste legislation and including Duty of Care requirements.

Prior to any agreed use of hauliers or waste disposal sites, the appropriate licences or exemptions will be checked to ensure that waste streams can be accepted and carrier licences are valid. This can only be undertaken by authorised personnel and copies of all necessary licences must be retained on Site at all times and reviewed for expiry.

No waste will leave site without appropriate Waste Transfer documentation. NRS and their contractors will carry out periodic audits to ensure correct procedures are being followed.

4.7. Surface Water

The River Frome flows to the north of the Site in a west-east direction. The River Win flows to the south/southeast of the Site in a southwest-northeast direction. The River Win discharges into the River Frome at a confluence downstream of the site to the northeast.

Surface water runoff from the south and southeastern part of the Site flows into the River Win. No works are planned for this area. Surface water runoff from the remainder of the Site flows generally towards the north and east and is directed towards the River Frome via Flume 1 which discharges into a culvert beneath the South West Main Line (See Appendix C, Winfrith Surface Water & Rubble Drains). There is a risk during the works that substances, such as silt, could become entrained in surface water flows and be discharged to the River Frome via Flume 1, resulting in a pollution event. This risk is higher during the earthworks required to excavate the mire.

4.7.1. Management Measures

All aspects of the Project, and in particular the earthworks, will be planned to ensure that the risk of any potentially contaminated runoff resulting from demolition activities to surface water is reduced. All foreign matter entering surface water systems has the potential to pollute, therefore the risk of silt-laden, or chemically contaminated water passing to the culvert in the River Frome need be controlled and minimised. Planning and management measures include:

- Where possible, timing the earthworks to avoid the wettest times of year, avoiding rainwater derived surface water runoff;
- Prior to the commencement of earthworks, an assessment for the requirement of installation of temporary low-level silt trap measures in the vicinity of Flume 1 and the culvert. These measures may include the temporary use of straw bales and / or silt fencing to intercept potentially silt-laden surface water runoff;
- Careful planning around the phasing of earthworks, prioritising the decommissioning of on-site buried drainage to promote surface water infiltration and reduce the flows of surface water in advance of earthworks to create the mire;
- If required, installation of a temporary settlement pond during the mire excavation works, directing surface water flows into this pond for a limited time period to allow settlement of potential silts prior to discharge to the culvert;
- Consideration to determine if there is a requirement for the replacement of Flume 1 with the new proposed drainage arrangement to limit the period of time required for temporary drainage arrangements;
- During times of rainfall the Site will be monitored for the risk of silt laden runoff and all management measures will be checked to assess their effectiveness. Monitoring will be recorded and if required photographic record kept to demonstrate compliance with the management measures proposed;
- Stockpiles of excavated materials will be located a minimum of 10 m away from Flume 1 and the culvert, and situated as far as possible from any potential high velocity surface water runoff;
- Fuels required for plant and machinery on the Site shall be located on hard surfaced areas and as a minimum 10 m away from drains and watercourses. Fuels shall be stored in Oil Storage Regulations compliant equipment/bunds and kept locked when not in use;
- Hydrocarbon-grade spill kits (to include drain cover protection mats) shall be located alongside fuel storage areas and within the cab of each item of plant or machinery on the Site;
- Refuelling of vehicles will only be undertaken by trained personnel, and those trained in the use of spill kits;

- Regular inspections will be undertaken by contractors and NRS to ensure that fuel storage is in compliance with the Regulations and requirements of this CEMP;
- Daily recorded inspections of the discharge to the culvert will be carried out during the earthworks to ensure that there is no discolouration or turbidity of water being discharged;
- All plant and machinery on the Winfrith Site will be inspected daily before use to ensure that there is no leak or spillage of fuel or oil;
- Site staff will review the weather forecast on a daily basis. If heavy rain is forecast measures to reduce the risk of silt-laden run-off will be implemented.

4.8. Ground Water

Flows of water within the ground are susceptible to pollution via the release of contaminating substances to ground, or the mobilisation of existing contaminants into ground water.

It is not expected that there will be any contamination in the ground in the vicinity of the proposed mire. There is a risk of contamination during the Project arising from the spillage of fuels or oils that are required for the plant and machinery to deliver the Project.

4.8.1. Management Measures

Whilst it is not expected that there will be contamination present in the ground that will be excavated for the mire, contractors will immediately cease work and report to NRS if unexpected contamination is found.

All fuels and oils required for plant and machinery for the Project will be stored on hard surfaced areas in containers which comply with the Oil Storage Regulations. These will be locked when not in use. No generators or liquid fuelled lighting sets will be placed on anything other than hard standing, and where placed on hardstanding drip trays will be placed beneath them.

All refuelling will be carried out by trained personnel with the use of drip trays and spill kits nearby. Personnel will be trained in the use of spill kits and spillage reporting procedures.

If new concrete or grout batching activities are required, these activities would be strictly controlled to mitigate the potential for pollution events to occur. The design of grouts and / or concrete used during infilling will take account of the groundwater chemistry (e.g. consider sulphate aggression on concrete).

No discharges to ground or groundwater via soakaways are planned at the site other than for rainwater management.

4.9. Storage of Fuels and Oils

As with any project utilising plant and machinery there is the potential for spills and leaks from Site vehicles and equipment as well as vehicles fuel and oil storage that could lead to pollution events occurring.

4.9.1. Management Measures

The works will be conducted in accordance with the relevant standards, the company EMS, relevant regulations and best practice.

Guidance on Pollution Prevention (GPP) documents are applicable in Scotland and Wales, but the Environment Agency in England has removed them from its guidance library. However,

NRS consider these GPPs as good practice guidance on its sites in England and continues to refer to them within relevant procedures in the EMS. Any fuels and oils will be stored in compliance with The Control of Pollution (Oil Storage) (England) Regulations 2001.

The following management measures will be applied, where appropriate:

- Volumes of materials held on site will be kept to a minimum;
- Equipment will be maintained and inspected regularly;
- Containers will be protected against theft, vandalism and impact;
- Containers will be clearly marked;
- Stockpiles (such as soil) will be protected to ensure they are not blown or washed away;
- Spill kits will be kept in the vicinity of storage and use areas for fuels and oils;
- Emergency response procedures will be put in place. These will include as a minimum the capture of contaminated run-off, cessation of works until spills in that area are cleared, and closure of discharge points if there is the risk that the spillage could make its way into the drainage system;
- No washing or cleaning of vehicles or plant will take place on Site;
- Suitable site staff will be trained in dispensing materials, spill control, and spill response.
- In addition, oils and fuels will be managed as follows:
    - Fuel tanks will be double skinned, properly maintained and kept in good condition and protected by suitable anti-collision barriers unless the tank is situated in a position where it cannot be struck by vehicles;
    - If used, IBCs will be stored indoors wherever possible but if stored outside will be covered to prevent ingress of rainwater to bunds and be protected from extremes of temperature and sunlight;
    - Drums and cans will have sufficient strength and structural integrity so that they will not leak or burst in normal circumstances and will be stored in a bunded area away from gullies, drains or boreholes; and
    - All storage will be secure to prevent unauthorised use.

Bunds or double skinned tanks will be used for any storage over 200 litres. Bunds must have the capacity to contain 110% of the volume of the largest container within the bund. Additionally, when more than one container is stored within a single bund, it must also be able to contain at least 25% of the combined volume of the containers (whichever is the greater volume.

4.9.2. Management measures for mobile plant.

Mobile plant will, where appropriate:

- Be specified to have an integrated bund or drip tray, but where this is not possible an appropriate bund or drip tray will be placed beneath the item of plant;
- Will carry a spill kit;
- Will be subject to daily pre-start checks;
- Will be stored and used away from drains, gullies or boreholes, but where this is not possible drain covers will be used;
- Will be sited on a hard standing where practical;
- Funnels and drip trays will be used during refuelling of mobile plant; and
- Any tools requiring fuel to be placed on drip trays when not in use and stored in containers or buildings overnight.

In addition, all tanks and bowsers will:

- Be clearly labelled identifying the contents, volume and owner;
- Be stored and used in compliance with GPP 26;
- Be provided with a suitable emergency spill kit;
- Be inspected on a regular basis with a record maintained of all inspections.

All static tanks, bowsers, drums and cans used for the storage of fuels or other potentially polluting substances will:

- Comply with Guidance on Pollution Prevention GPP 2 (where relevant) and GPP 26;
- Be positioned in an area approved by the NRS Site Environment Team;
- Have any valves/taps etc. kept locked to ensure that the contents are not discharged without authorisation;
- Be marked to show any hazards present; and
- Be managed to ensure that no cross contamination can occur.

4.10. Storage of plant and materials

Plant and materials will be stored within designated restricted access areas, adjacent to or within the project working area.

Materials will be stored in compliance with all regulatory requirements, for example, suitable and sufficient fire safe stores or COSHH cabinets. Drip trays will be utilised where required.

Storage will be sited at least 10m away from watercourses, drains, gullies, unsurfaced areas or porous areas, wells, springs or boreholes. Storage must be locked and bunded where necessary, and protected from theft, vandalism and impact.

Loading and unloading will take place in suitable areas, and a spill kit will be kept in the vicinity.

4.11. Ecology

Pre-planning application baseline ecological surveys have identified a number of protected and rare species and habitats on and around the Site. Winfrith End State TR2 Ecology v0.1 (Ref:5).

Whilst the Project does not require work within the protected habitats (with the exception of a small section of the Winfrith Heath SSSI for the mire excavation), contractors will be made aware of the boundaries and entry into these areas will be strictly forbidden (See Appendix A Site Location and Key Environmental Constraints Plan).

Protected species on the Site include a range of nesting birds including Nightjar and Dartford Warbler and reptiles including Great Crested Newt, Smooth Snake and Sand Lizard. Badgers use the Winfrith Site for foraging.

4.11.1. Management Measures

NRS and its contractors will adopt an overarching early planning approach to ensure that all works are programmed to avoid the most sensitive species at the most sensitive times – for example, limiting, controlling or avoiding prolonged external noisy works during the bird nesting season. NRS will seek advice from suitably qualified and experienced ecologists where required.

NRS will require its contractors to ensure that their site teams are familiar with the protected species at the Site. If species are found within working areas then works will cease immediately

and the NRS Site manager will be informed. Works will only recommence once suitable and appropriate measures have been planned and implemented, in accordance with advice from suitably qualified and experienced ecologists and protected species licensing from Natural England if and where necessary.

Additional management measures include, where appropriate:

- Vegetated areas within the designated sites present within Winfrith Site (Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar and Winfrith Heath SSSI) will be avoided during the demolition stages of the Project;
- Hydraulic methods will be used for the demolition of external parts of above ground buildings and would be confined to winter months wherever possible;
- The works would be managed such that the loss of any existing woodland, scrub, grassland and isolated trees and shrubs, not affected by permanent works, is limited as far as practicable;
- RAMS will include ecological protection measures where required;
- If large scale demolition of structures (i.e. Dragon reactor and the SGHWR) are likely to occur during the bird breeding season, works would commence before the breeding season to increase the likelihood of habituation and to minimise the risk of nest abandonment;
- For the protection of nesting birds, general good practice measures as described by the Environment Agency (2022)[2] and CIRIA (2023)[3] would be followed to reduce disturbance as far as is reasonably practicable;
- Plantation woodland on the Winfrith Site will be thinned 2-3 years in advance of the works to demolish the Dragon reactor building to provide additional breeding habitat for birds which may be disturbed by these activities taking place in close proximity to their usual breeding areas on the Winfrith Site;
- Where possible, mire excavation works will be undertaken outside of the breeding bird season. Where this is not possible, a suitably qualified and experienced ecologist will provide a watching brief of the works to ensure that no nests are disturbed and where this does not conflict with mitigation measures for other protected species;
- 3-6 months prior to the demolition of buildings and structures that had confirmed bat roosts during the baseline ecological surveys, updated surveys for the presence of bats will be completed. If bats are still present the appropriate A13 bat mitigation licences will be obtained from Natural England in advance of the works being started. All licence requirements will be incorporated into RAMS to ensure that the licences are being adhered to;
- To reduce the potential impacts on bats, any necessary licenced demolition of roosts will be completed during seasonal periods when bats are least likely to be present and / or following the exclusion of bats;
- Training for all Site personnel on protected species to ensure that teams have the correct levels of awareness;

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[2] Environment Agency (2022) Wild Birds: Advice for making planning decisions. Available at: Wild birds: advice for making planning decisions - GOV.UK.

[3] CIRIA (2023). Environmental good practice on site guide (fifth edition) (C811)

- Low-level reptile fences will be utilised around demolition areas, where necessary;
- An A46 mitigation licence will be obtained for smooth snake and sand lizard in advance of the commencements of mire excavation works, and an A14 mitigation licence for Great Crested Newt will be obtained for the same purpose;
- Any trapping or translocation of reptiles will be undertaken under appropriate license by a suitably qualified and experienced ecologist;
- At least 3-6 months before the commencement of works a survey will be carried out to determine whether areas of the Site to be affected by the works, or within the required radius of the works areas, show the presence of badger setts. If badger setts are found within these areas, mitigation measures and advice will be taken from Natural England under any required licences;
- Areas of deep excavation or trenches will be fenced until the excavation is filled to prevent access by mammals. Shallow excavations should provide a means of egress for mammals;
- Any other construction related temporary fencing will be raised 180 mm above ground level to allow badgers to pass beneath;
- A suitably qualified and experienced Ecological Clerk of Works (ECoW) will be retained to advise on, or oversee, Project works which may impact protected ecological species or habitats;
- Buildings will be checked for nesting birds prior to any works being carried out, and suitable measures will be put in place if nests are identified;
- Whilst invasive non-native species of plant (for example Himalayan balsam, Japanese Knotweed and cotoneasters) were not found to be present on the Site during baseline ecological surveys, if they are discovered works will cease in that area until management and removal advice is sought and implemented from suitably qualified and experienced ecologists;
- Site personnel will be made aware of any sensitive ecological issues associated with the site and specific requirements will be incorporated into method statements where necessary;
- Where any unexpected species are identified by any personnel on site, all works within that area will cease. Site management will be informed in accordance with the company reporting process. Work can only re-commence once an ecological assessment has been undertaken and advice provided on how to proceed.
- Work is not permitted within protected habitats (with the exception of a limited area of the Winfrith Heath SSSI and Site of Nature Conservation Interest (SNCI) to the southern extent of the mire. Intrusion into this area is required for the mire excavation). Intrusion and disturbance into the SSSI and SNCI have been assessed and deemed acceptable through the Habitats Regulation Assessment (Ref. 8). The extent of the projected areas and trees will be briefed to contractors and RAMS will clearly show areas where entry is not permitted. The extent of the earthworks areas will be bordered by temporary low-level pegs inserted into the ground with high visibility tape. Regular recorded inspections will be made of the boundaries of protected habitats to ensure that no intrusion occurs. Works surrounding the excavation of the mire are to be assessed in the planning application only.

4.12. Transportation and Traffic Management

The Project does not require any change to the current levels of traffic that access the Winfrith Site for the ongoing decommissioning works. A Decommissioning and Demolition Traffic Management Plan (DDTMP) (Ref:6) has been produced.

Once the End State is achieved, traffic levels associated with the Winfrith Site will significantly reduce and be limited to those associated with recreational visitors to the Site and periodic inspections by NRS.

4.12.1. Management Measures

The following management and best practice measures will be implemented:

- Routing of HGV vehicles off-site will be chosen to minimise disturbance to the local community. This is detailed in the Demolition and Decommissioning Traffic Management Plan (Ref. 6);
- 40 mph speed limit to be adhered to by demolition and decommissioning vehicles travelling on Gatemore Road, 20 mph limit to be adhered to travelling along Monterey Avenue;
- Drivers of demolition and decommissioning vehicles will be advised of this speed limit and be reminded with signage located at the Winfrith Site access point;
- Priority will be given to non-motorised users who are travelling on, and crossing Gatemore Road and Monterey Avenue if it is safe to do so. If safe, works vehicles will be instructed to pause movements when encountering such users, waiting for the other user to pass the vehicle before proceeding. Similarly, works vehicles will only overtake non-motorised users travelling in the highway in the same direction where it is safe to do so;
- Contractors driving works vehicles will be reminded to be aware of their surroundings at all times, remaining vigilant of any non-motorised users they may encounter;
- The Winfrith Site works decommissioning manager will be responsible for advising drivers of procedure to be followed in line with the above;
- Daily monitoring and visual inspections of the highway along Gatemore road will be undertaken, with the use of road sweeper if necessary;
- Should the movement of an Abnormal Indivisible load (as prescribed by the DfT in the UK) be required, NRS will notify the following:
    - Relevant Local and National Highways Authorities;
    - The police; and
    - Relevant bridge and / or structure owners, for example, Network Rail.
- Once the need for an Abnormal Load movement has been identified, the contractor will be required to share the following information with all above listed parties;
    - Exact time and date of proposed Abnormal Load movement;
    - Proposed routing of Abnormal Load movement; and
    - Any mitigation measures proposed to ensure the safe movement of the Abnormal Load and to ensure that the operation of all travelled routes, on both the strategic and local road networks are impacted as minimally as possible.
- Site security arrangements will remain in place throughout the project to prevent unauthorised access;
- Regular reviews will be carried out to ensure there are no emerging issues;

- Contact details for the Site will be made available for local residents to make Site aware of any transport-related issues;
- Staff and visitor parking will be available on the site;
- Car sharing will be promoted.

4.13. Ground Conditions and Contamination

It is assumed that there are no elevated levels of contamination present in the ground where Project works will be taking place. Measures are outlined below for instances where unexpected contamination is found. Due to the machinery and equipment required there is also the potential for the creation of new contamination which could adversely affect the ground, due to direct leaks or spills of oils or fuels from equipment required for the Project.

4.13.1. Management Measures

The works will be conducted in accordance with the relevant standards and the NRS EMS as well as the requirements of conditions in the planning permission and Environmental Permits. These requirements will be incorporated into the CEMP once the permissions are received.

The following management and best practice measures will be implemented where required:

- Prior to the commencement of earthworks in relation to the excavation for the mire, contractors will confirm with NRS that no elevated levels of contaminants are present in the working area;
- Once earthworks are ongoing, operators will cease work and immediately notify NRS if visual or olfactory signs of ground contamination are encountered. Works will not recommence until NRS has identified and removed or remediated the contamination;
- Excavations will be left open and exposed for as little time as possible;
- Daily recorded pre-start checks of plant and machinery in contact with the ground will be required, including checks for condition of hydraulic hoses;
- Accidental spillages of fuels or oils to ground from plant and machinery required in connection with the works (for example due to burst hydraulic hose) will be immediately cleaned up and notified to NRS;
- Measures in line with the SWMMP and the DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites will be applied to minimise impacts on soil quality through appropriate stripping and storage of topsoil and subsoil;
- Subsoil and topsoil to be replaced in the same order as removed to avoid double handling;
- Before re-instating topsoil, a subsoiler may be used if compaction has occurred;
- Once remediation is completed, topsoil will not be tracked over or disturbed.

4.14. Visual Amenity

During the proposed project activities, there may be temporary adverse impacts on the landscape. These may be due to the machinery and plant in use. In addition, there could be temporary impacts due to excavation and reprofiling activities.

4.14.1. Management Measures

The works will be conducted in accordance with the relevant standards including the DEFRA Construction Code of Good Practice for the Sustainable Use of Soils on Construction Sites and the company EMS and TR 5 - Landscape and Visual Impact Assessment (Ref:7).

The following management will be implemented where required:

- Housekeeping will be assessed and monitored to ensure a tidy site will be maintained to reduce visual clutter;
- Compounds will be appropriately located to reduce impact on the landscape and visual disturbance, and away from visually sensitive receptors;
- Remediation works will be carried out as soon as practical once decommissioning and demolition works are complete.
- Screening plantation woodland along Gatemore Road will remain in place until the works to Dragon and SGHWR are complete.

5. CONCLUSION

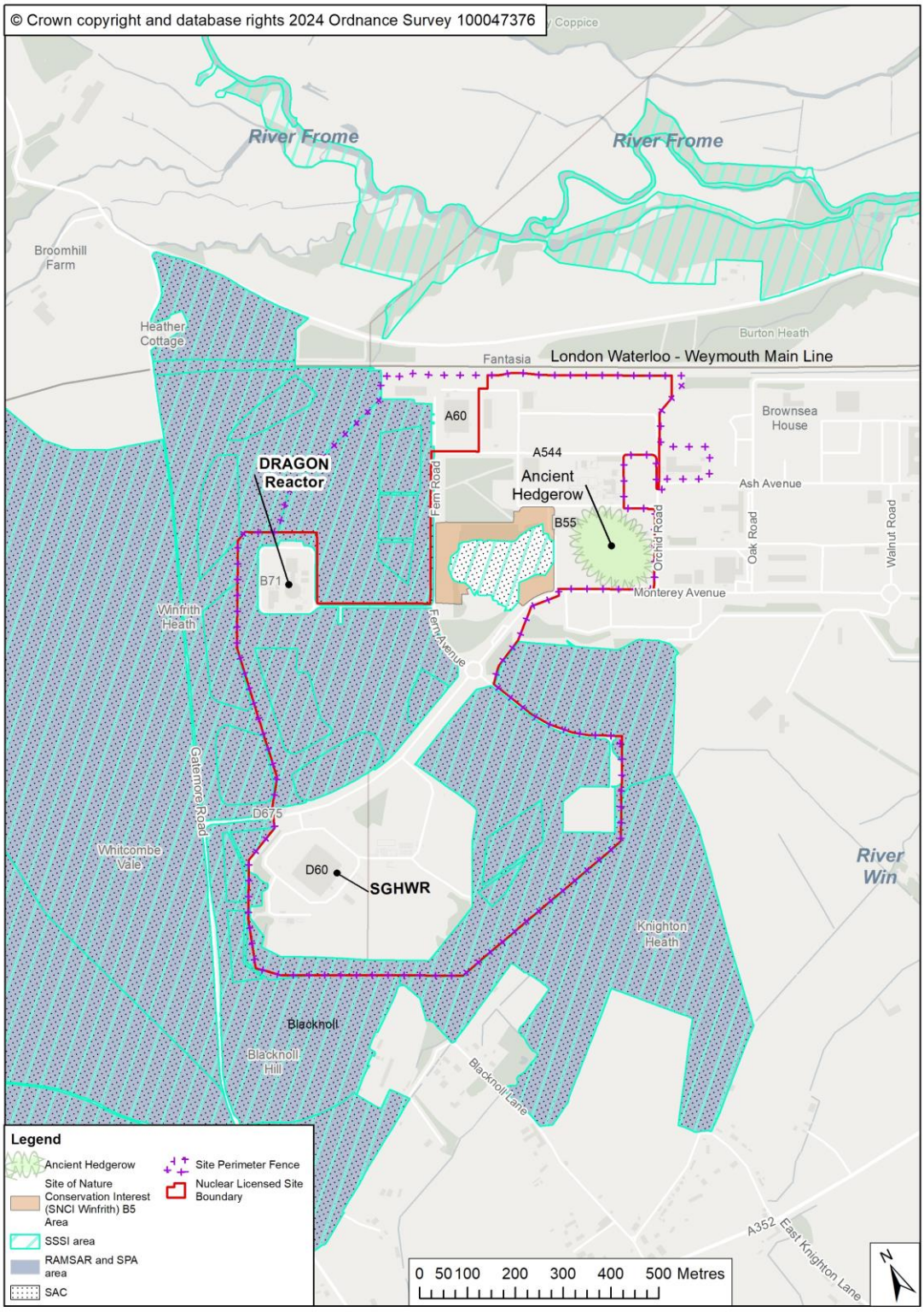
This CEMP establishes the mechanisms, management systems, plans and procedures appropriate to the control of environmental effects during the proposed Project. As an outline document it will be updated with additional detail once permissions are granted and the appointed Contractor(s) is/are engaged and the exact methods and means by which the proposed Project will be undertaken is confirmed.

6. REFERENCES

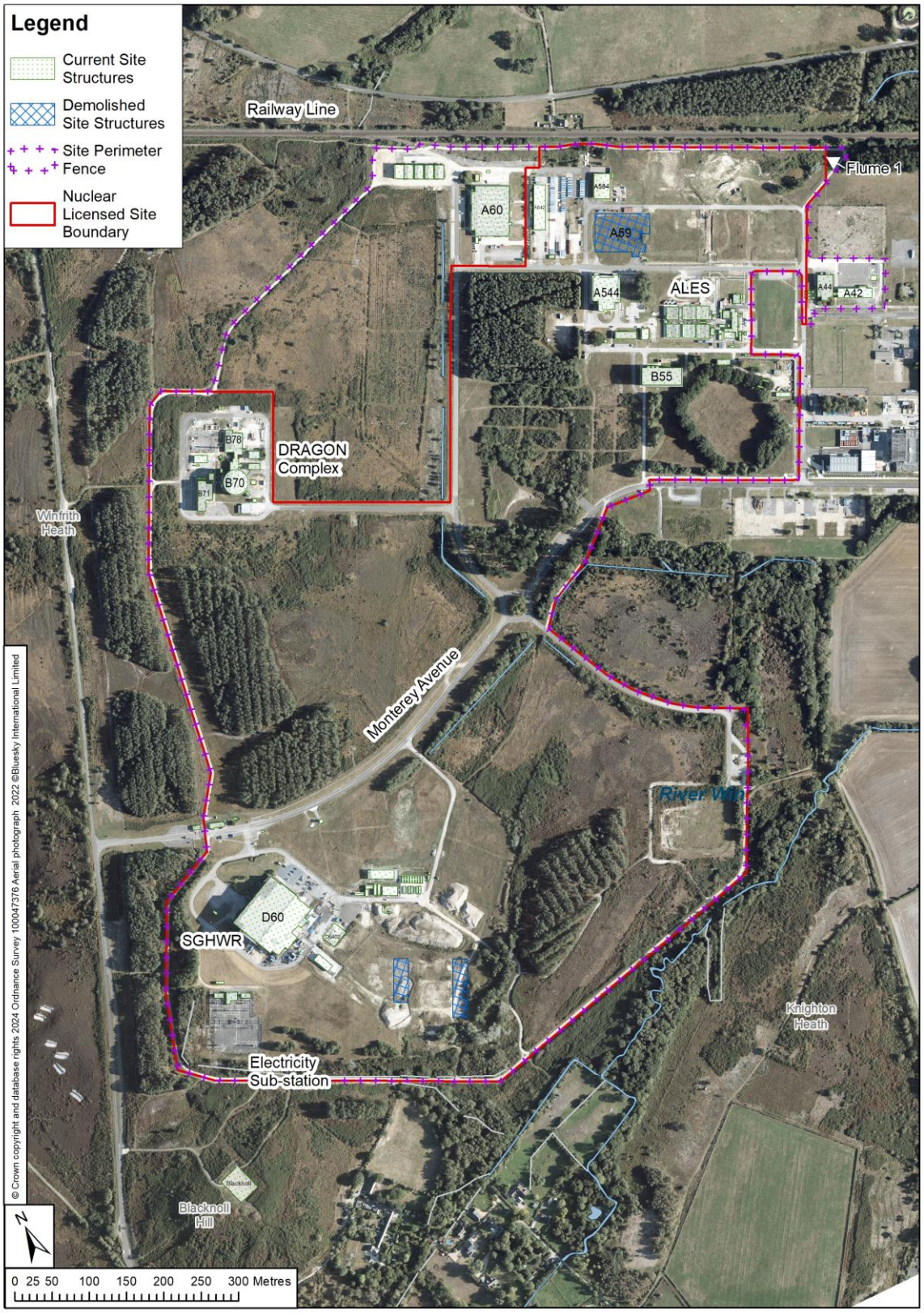
1. Supporting Document to the Winfrith Deposit for Recovery Permit Application, ES(24)P407, Issue 1, December 2024.
2. Winfrith End State Project: Site Wide Materials Management Plan, ES(19)P324, Issue 4, August 2024
3. Winfrith End State: Waste Recovery Plan, ES(19)P285, Formal Draft 3, March 2021
4. Winfrith End State: Waste Management Plan, ES(23)P378, Issue 3, December 2024
5. Winfrith End State TR2 Ecology v0.1
6. Winfrith Interim End State Project – Demolition and Decommissioning Traffic Management Plan. WSP, April 2024.
7. Winfrith End State TR 5 Landscape and Visual Impact Assessment.
8. Winfrith Interim End State Project – Information to support Habitats Regulation Assessment Screening and Appropriate Assessment, 70089718, Issue 1-Draft, October 2024.

7. APPENDICIES

Appendix A:Site Location and Key Environmental Constraints Plan



Appendix B: Site Structures



Appendix C: Winfrith Surface Water & Rubble Drains