SLOUGH MULTIFUEL EXTENSION PROJECT

Planning Inspectorate Ref: EN010129

The Slough Multifuel Extension Order

Land at 342 Edinburgh Avenue, Slough Trading Estate, Slough

Document Ref: 7.6 - 2020 Approved CEMP

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(q)

Applicant: SSE Slough Multifuel Limited

September 2022

Slough Multifuel

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Construction Environmental Management Plan

Land at Edinburgh Avenue, Slough Trading Estate, SL1 4TU

Applicant: SSE Generation Limited

Date: April 2020

Document Number	**50093769**
Revision	2.0
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CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 OVERVIEW

On 2 June 2017 Slough Borough Council ('SBC' or 'the Council') granted full planning permission under the Town and County Planning Act (1990) ('the TCPA') for two applications (refs. P/00987/024 and P/00987/025) associated with the construction and operation of a new Multifuel Generating Station ('Slough Multifuel') on the site of an existing power station at land off Edinburgh Avenue, Slough, SL1 4TU ('the Site').

Planning permission ref. P/00987/024 granted the demolition of redundant plant and buildings and development of a multifuel combined heat and power ('CHP') generating station of up to 50 megawatts including an enclosed tipping hall; fuel storage bunker and blending facility; boiler house with combustion; grate/s, boilers and auxiliary equipment; flue gas treatment ('FGT') plant; turbine hall with condensing steam turbine; ash and residue handling facilities; erection of a new south chimney stack (up to 90 metres height) or extension of existing south chimney stack (up to 85 metres height); plant, associated development and alterations to site access (the 'Multifuel Consent'). A Multifuel Consent was granted following completion of a Section 106 Agreement.

Permission was also granted by SBC on 2 June 2017 (ref. P/00987/025) for the demolition of existing fuel store and construction of a central site services building (containing staff facilities, stores/workshops and plant), installation of water treatment plant, provision of replacement car parking, and associated works.

The planning permissions are subject to a number of conditions, which are contained on the decision notices of each issued by SBC on 2 June 2017. The planning conditions attached to a planning permission granted under the Town and Country Planning Act 1990 are intended to secure the following:

- The approval of certain details of the authorised development prior to the commencement of development;
- The approval of certain details prior to the commissioning of the authorised development;
- The approval of certain details prior to the authorised development being brought into commercial use;
- That the works comprised within the authorised development are carried out in accordance with the details approved under the requirements; and
- The manner in which the authorised development is constructed, operated and decommissioned.

The applications (and accompanying details) to secure the necessary approvals under the conditions (i.e. to secure the discharge of the conditions) must be submitted to SBC as the 'Local Planning Authority' for the area in which the Proposed Development is situated.

1.2 PURPOSE

This Construction Environmental Management Plan ('CEMP') has been developed to demonstrate how the commitments in the Environmental Statement ('ES'), produced in support of the above planning application applicable to the construction phase of the development, will be implemented on site. This includes a description of the mitigation measures described in the ES and the monitoring and auditing activities designed to demonstrate that mitigation measures are carried out and are effective.

Condition 17 of Permission P/00987/024 states:

Prior to the commencement of development, a Construction Environmental Management Plan shall be submitted to, approved in writing by, and deposited with the Local Planning Authority. The statement shall include provision for:

(a) the parking of site operatives and visitors' vehicles;

(b) loading and unloading of plant and materials;

(c) management of construction traffic and access/haul routes and controlled hours of delivery including;

1) Any alterations to existing points of access between the application site and the highway shall be formed, laid out and constructed in accordance with specifications and with sightlines to be submitted in further detail and approved by the Local Planning Authority before the scheme commenced on site.

2) Specification of haul route(s) and of any temporary signage to be provided to identify the route and promote its safe use.

3) Identification of the times when major items of plant and equipment are to be transported to and from the site.

4) Identification of the routing strategy and procedures for the notification and conveyance of an abnormal or indivisible load authorised by the Highways Agency pursuant to the Road Vehicles (Authorisation of Special Types) (General) Order 2003.

5) Wheel washing facilities and arrangements for removal of mud from public highway.

6) Proposals for communicating information with its terms, subject to any variation which has prior written approval of the Local Planning Authority in conjunction with the Highways Agency and Thames Valley Police.

(d) Storage of plant and materials to be used.

(e) A scheme for recycling /disposal of waste from demolition and construction works.

(f) Before the site works and construction of the development commences, details of all temporary external lighting shall be submitted to and approved in writing by the Local Planning Authority and shall be carried out in accordance with the approved details.

(g) Noise and Vibration Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Noise monitoring locations and noise limits are required to be agreed with the Local Planning Authority prior to the construction phase to safeguard adjacent neighbouring properties from significance annoyances in accordance with British Standard:6472-1 and 5228.

h) Dust Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Dust monitoring locations and dust limits are required to be agreed with the Local Planning Authority prior to the construction phase.

A Framework CEMP was provided as part of the 2014 ES. This document is based on that framework and addresses the requirements both of the ES and Condition 17.

1.3 SCOPE

The CEMP covers the principal construction activities and includes the following key elements:

- an overview of the Proposed Development and associated construction programme;
- prior assessment of environmental impacts (as identified in the EIA);
- minimisation of potential impact through design and other mitigation measures;
- monitoring of the effectiveness of mitigation measures;
- corrective action procedure; and
- links to other complementary plans and procedures.

In summary, the CEMP identifies how the commitments made in the EIA are translated into actions on-site and includes a schedule for implementing the actions through allocation of key roles and responsibilities.

The construction of the Slough Multifuel Plant through the following key phases explained in greater detail in Section 2.2 of this document.

- Month 1 - Site Early Civils Works including soil improvement and potentially piling.

- Month 13 - Start of Mechanical Erection.
- Month 31 - Start of Commissioning Process.
- Month 34 - First Waste Fire.

All contractors will be responsible for working in accordance with the environmental controls documented in the CEMP. This CEMP is a living document that shall be revised at least annually to reflect the construction phase plans as the construction advances as well and the construction Health, Safety and Environmental ('HSE') Management System. The requirements of this plan apply to all activities carried out for the Contractor at the Slough Multifuel Site.

The CEMP has been designed with the objective of compliance with the relevant environmental legislation and the commitments for mitigation measures documented within the ES and other compliance requirements.

1.4 GUIDE TO THIS DOCUMENT

In order to allow reference to the requirements of Condition 17, the following table illustrates where the measures listed in that condition have been addressed in the CEMP and associated documentation.

Table 1: Guide to this Document

Condition 17 Requirement	CEMP Section /Related Document
(a) the parking of site operatives and visitors' vehicles; *(b) loading and unloading of plant and materials;* *(c) management of construction traffic and access/haul routes and controlled hours of delivery including;* *1) Any alterations to existing points of access between the application site and the highway shall be formed, laid out and constructed in accordance with specifications and with sightlines to be submitted in further detail and approved by the Local Planning Authority before the scheme commenced on site.* *2) Specification of haul route(s) and of any temporary signage to be provided to identify the route and promote its safe use,* *3) Identification of the times when major items of plant and equipment are to be transported to and from the site.* *4) Identification of the routing strategy and procedures for the notification and conveyance of an abnormal or indivisible load authorised by the Highways Agency pursuant to the Road Vehicles (Authorisation of Special Types) (General) Order 2003.* *5) Wheel washing facilities and arrangements for removal of mud from public highway.* *6) Proposals for communicating information with its terms, subject to any variation which has prior written approval of the Local Planning Authority in conjunction with the Highways Agency and Thames Valley Police.*	Section 5.1 Traffic and Transport and Traffic Management Plan (Appendix 1 of this CEMP)
(d) Storage of plant and materials to be used.	Section 4: Site Layout
(e) A scheme for recycling /disposal of waste from demolition and construction works.	Section 5.2: Recycling and Disposal of Waste and Site Waste Management Plan (Appendix 2 of this CEMP)
(f) Before the site works and construction of the development commences, details of all temporary external lighting shall be submitted to and approved in writing by the Local Planning Authority and shall be carried out in accordance with the approved details.	Section 5.3 and Temporary Illumination Plan (Appendix 3 of this CEMP)

Condition 17 Requirement	CEMP Section /Related Document
(g) Noise and Vibration Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Noise monitoring locations and noise limits are required to be agreed with the Local Planning Authority prior to the construction phase to safeguard adjacent neighbouring properties from significance annoyances in accordance with British Standard:6472-1 and 5228.	Section 5.4: Noise and Vibration and the Noise, Dust and Vibration Management Plan (Appendix 4 of this CEMP)
h) Dust Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Dust monitoring locations and dust limits are required to be agreed with the Local Planning Authority prior to the construction phase.	Section 5.5 Air Quality and the Noise, Dust and Vibration Management Plan (Appendix 4 of this CEMP)

2.0 THE DEVELOPMENT AND CONSTRUCTION PROGRAMME

2.1 OVERVIEW OF THE PROPOSED DEVELOPMENT

The Slough Multifuel Project comprises all works associated with the construction and commissioning of an energy recovery facility that will convert pre-prepared fuel derived from selected processed waste into low carbon electricity and heat, with a design capacity of up to 480,000 tonnes per annum of Waste Derived Fuel.

2.2 CONSTRUCTION PROGRAMME

Construction is anticipated to commence from Q4 2020, with commercial operation anticipated to commence from Q2 2024 (see Appendix 5 for Project Schedule Summary). From the Civils phase through to the first waste fire is scheduled to be 34 months.

An overview of the construction programme with approximate timings is shown below:

From Month 1 – Start Civils Works

- Preparation of Site Offices / Welfare Area
- Preparation of ground for foundations
- Bulk earth removal
- Installation of services (electrical, water, drainage, fire water ring)
- Erection of Tower Cranes
- Pouring of concrete slabs
- Continuous pouring of concrete for the construction of waste bunker
- Installation of tanks
- Installation of roads and ramp
- Installation of temporary services
- Start of steel installation

From Month 14 - Start of Mechanical Erection

- Delivery of Abnormal loads
- Installation of incineration and boiler (including refractory)
- Installation of flue gas treatment equipment
- Installation of Steam turbine / Water Stream Cycle equipment
- Installation of e-houses
- Boiler pressure testing
- Energisations

From Month 29 - Start of Commissioning Process

- Commissioning electrical systems
- Signal tests
- Cold commissioning Balance of Plant / Process Systems
- Hot commissioning

From Month 34 - First Waste Fire

- First synchronisation steam turbine
- Performance tests
- Visual inspections before take over

2.3 WORKING HOUR RESTRICTIONS

Construction works maybe carried out 24 hours a day although:

- Deliveries shall avoid peak travel hours where possible (see Appendix 1 for more detail)
- Major shift changes shall take place outside peak rush hours (See Appendix 1 for more detail)
- Noisier activities such as jack hammers, ground compaction (if required), scabbling, impact wrenches used for steel erection or sheet piling (if required) with the potential to cause a nuisance to sensitive receptors will be restricted to daytime hours of Monday to Friday 07:00 – 18:00 unless otherwise agreed with Slough Borough Council (see Appendix 4 for more detail).

3.0 SITE CONTEXT

The location of the Site on which the Multifuel Plant was consented ('the Site') is shown in Figure 1 and the Layout in Figure 2.

The Site occupies a total area of approximately 1.9 hectares (ha). It is located in an industrial area on the Slough Heat and Power (SHP) site on the Slough Trading Estate (342 Edinburgh Avenue, Slough, SL1 4TU). The approximate National Grid Reference of the centre of the Site is SU 953 814.

The Site lies within the Thames Valley, approximately 4km north of the River Thames and is surrounded by the conurbation of Slough; Windsor is approximately 5km south of the site and Maidenhead is approximately 7km west of the Site. The topography at the Proposed Development Site is predominantly flat and approximately 30m above ordnance datum (AOD).

There are no protected habitats onsite or protected species known to inhabit the site, according to the ES. Peregrine falcon have been observed using a nesting box on an adjacent building, and appropriate mitigation measures for this species are outlined in the Protected Fauna Management Plan (see summary in Section 5.9).

There are no Special Areas of Conservation ('SAC'), Special Protection Areas ('SPA'), Ramsar sites, Sites of Special Scientific Interest ('SSSI') or National Nature Reserves ('NNR') within a 2km radius of the Site. The closest European Protected Site is Burnham Beeches SAC located approximately 2.9km north of the Proposed Development Site. The nearest statutory site – Haymill Valley Local Nature Reserve – is 0.88km west of the Site.

Ground conditions are considered of moderate sensitivity, due to the groundwater being classed as a Secondary A aquifer and the groundwater vulnerability zone classification of 'major aquifer high'. Borehole measurements onsite suggest resting groundwater lie between 4.1m and 4.7m below ground level (bgl). Appropriate mitigation measures are outlined in Sections 5.6 and 5.7.

There are no archaeological records onsite or other environmental sensitivities identified in the ES onsite.

Figure 1: Location of Proposed Development Site

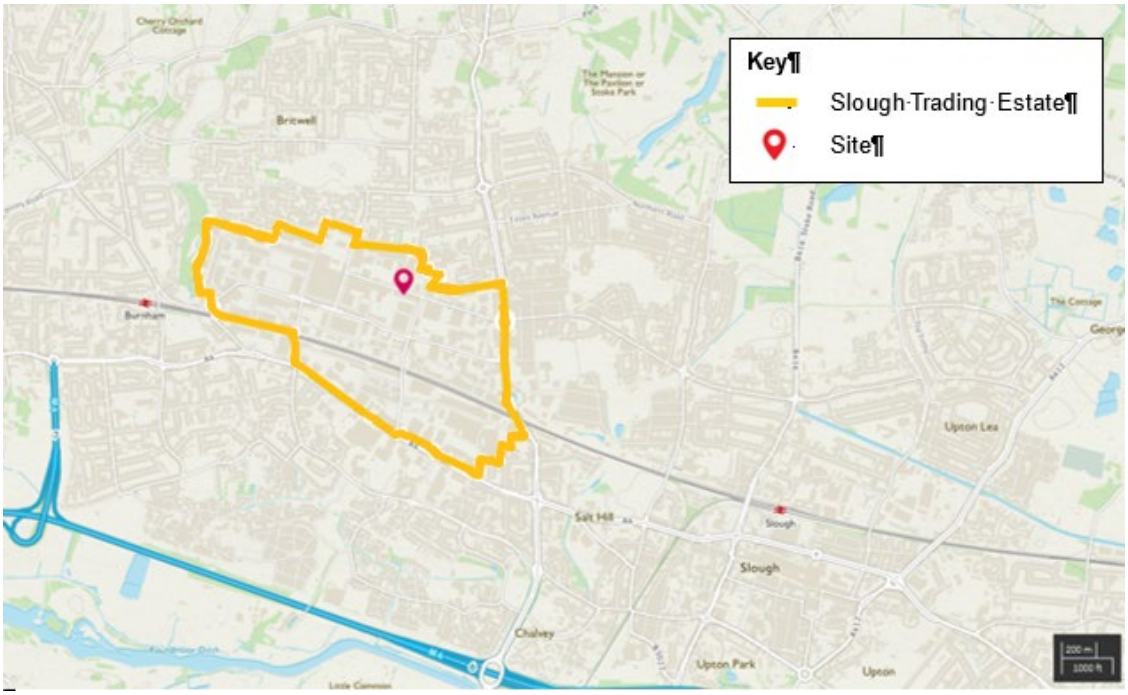
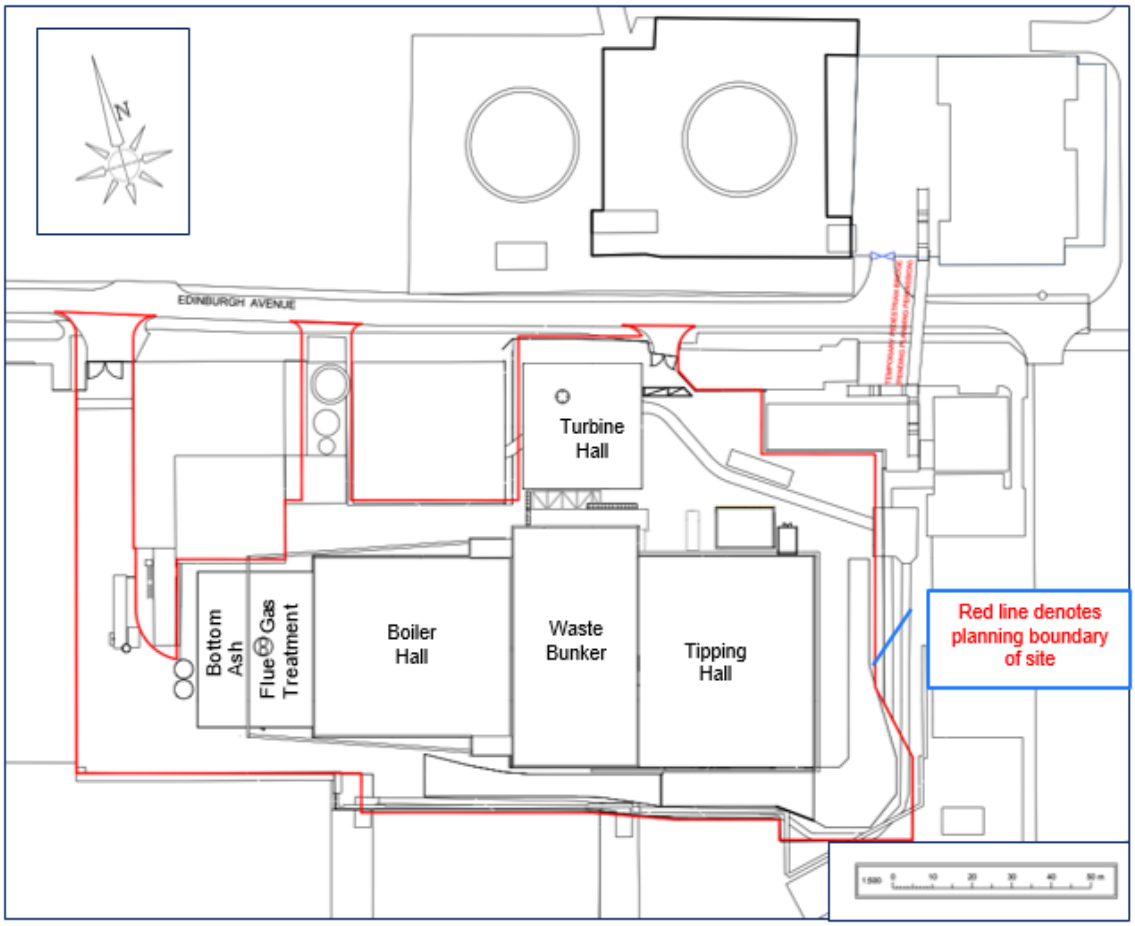


Figure 2: Layout of Development Site



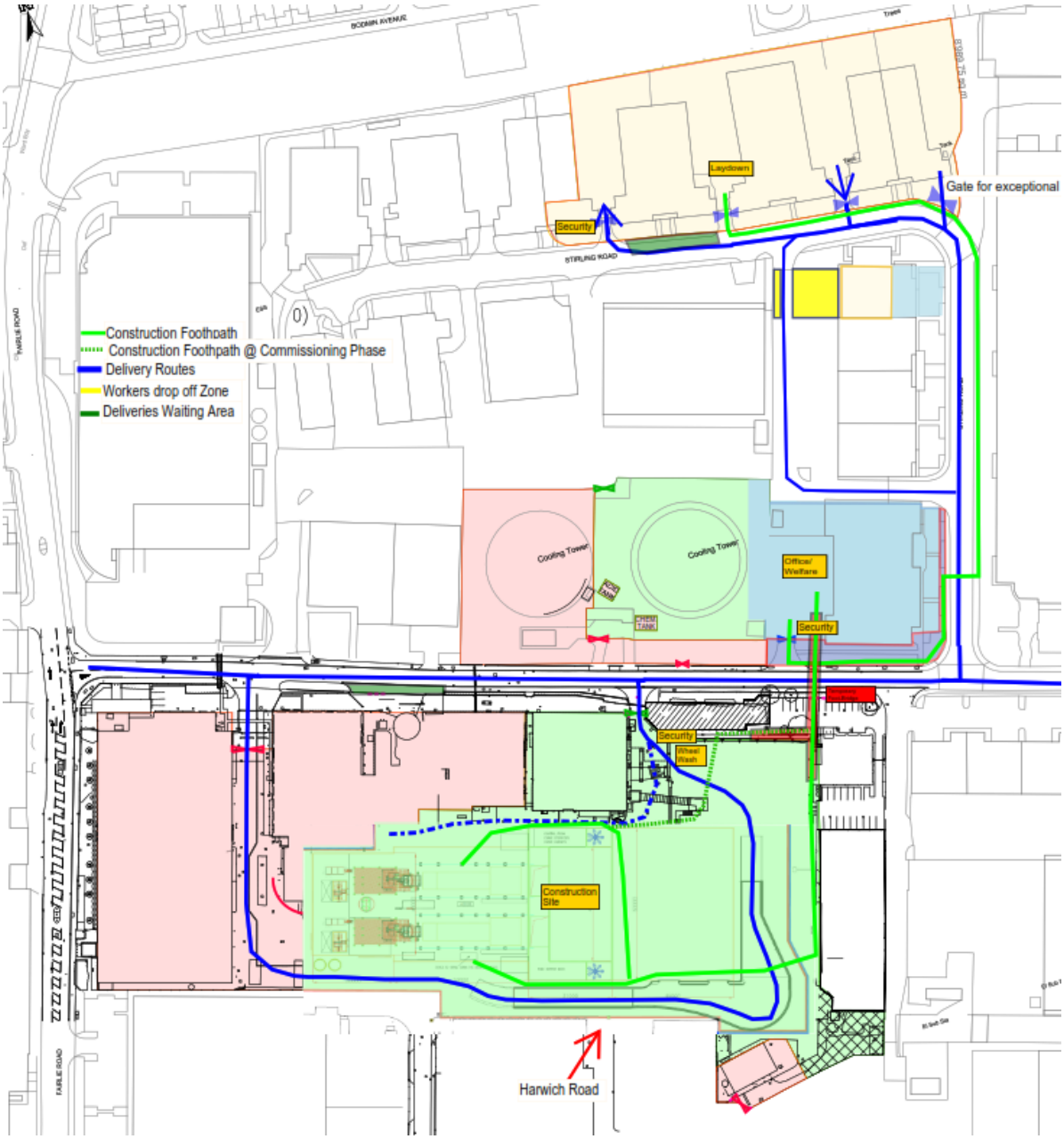
4.0 SITE LAYOUT

Figure 3 illustrates the layout for the Site, including:

- Location of the Welfare Area.
- Location of the Construction Area.
- Location of the Material Storage Area (for materials not being delivered directly to Site).
- Wheel Washing Facilities (early works only).

Construction workers shall come to site by public transport or will be brought to the drop off point at Building 689, Stirling Road by works bus. Until Month 8, up to 50 parking spaces may be available at the Pre-Assembly / Laydown Area on Stirling Road for construction workers. (see Appendix 1: Construction Traffic Management Plan). Traffic flows, pedestrian flows and restrictions are also covered in Appendix 1: Construction Traffic Management Plan.

Figure 3: Site Layout



5.0 MANAGEMENT AND MITIGATION MEASURES

Table 1 below sets out the mitigation and management measures identified from the ES together with other compliance requirements for the various environmental aspects of the Site.

Table 1: Management and Mitigations

5.1 Traffic and Transport		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Impact of increased traffic in the local highways network	Put a car-sharing scheme or minibus scheme in place and encourage use of public transport	Green Travel Plan. See Appendix 1: Construction Traffic Management Plan
	Take measures to minimise travel during peak hours, both for HGVs and workers vehicle movements e.g. by starting work shifts before 07:30 and finishing/changeover shifts before 16:30 or after 18:30.	See Appendix 1: Construction Traffic Management Plan
	Closely control and manage all demolition / construction traffic entering and leaving the Site via designated routes.	
Mud on roads	Provide wheel wash facilities and arrangements for removal of mud from public highway	
5.2 Waste		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Non-compliance with Waste Legislation and Project Compliance Obligations	Compliance with waste hierarchy	See Appendix 2: Site Waste Management Plan
	Storage of waste in line with Site Waste Management Plan	
	Carriage and disposal of waste in line with Duty of Care requirements	
5.3 Light		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Light spill causing nuisance to receptors off site	Minimise lighting, use directional lighting and switch off when not required	See Appendix 3: Temporary Illumination Plan

5.4 Noise and Vibration		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Adverse noise effects on nearby sensitive receptors	Various mitigations to reduce noise and vibration in line with Project compliance obligations and best practice, and associated monitoring measures are detailed in Appendix 4:	See Appendix 4: Noise, Dust and Vibration Management Plan
5.5 Air Quality		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Temporary impact in air quality due to the generation of dust from construction and construction vehicles.	Various mitigations to reduce dust in line with Project compliance obligations and best practice, and associated monitoring measures are detailed in Appendix 4	See Appendix 4: Noise, Dust and Vibration Management Plan
Temporary impact on air quality due to emissions of construction vehicles	All HGVs used for delivery / removal of materials shall comply with Euro VI regulations where possible. No HGVs complying with less than Euro V will be permitted on site.	Periodic checks
	Mobile plant will adhere to the appropriate EU emission standards as specified in the Non-Road Mobile Machinery (NRMM) Practical Guide	Declarations of conformity for NRMM required prior to NNRM being brought to Site
5.6 Ground Conditions		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Ground contamination resulting from spills of hydrocarbons / COSSH items	Areas of oil / fuel / chemical storage and permanent refuelling located at least 10m away from watercourses or drains. Where not possible, a minimum distance and appropriate additional spill controls will be agreed with the Employer. Such storage areas will be sited on a bunded impervious base (110% capacity) to prevent percolation of contaminants to ground.	Regular and recorded inspections of oil/fuel storage areas and plant
	Valves and trigger guns protected from vandalism and kept locked when not in use.	
	Fuel transfer / refuelling undertaken by specifically trained and competent staff or undertaken under competent supervision. All refuelling carried out at a designated refuelling area.	
	Collision protection measures shall be in place to prevent accidental damage to static fuel or chemical storage tanks.	

	Wherever possible, plant and machinery kept away from drains and has drip trays beneath oil tanks/engines/gearboxes/hydraulics which are checked and emptied regularly via a licensed waste disposal operator.	Appendix 6 – 'Spill Response Information'.
	All materials ordered or brought to site listed as hazardous under the COSHH Regulations are accompanied with a Safety Data Sheet (SDS).	
	A risk assessment is carried out for the use and storage of each substance and ensures that all appropriate storage, protective equipment and if necessary, emergency procedures are in place on site.	
	All COSHH materials are stored in appropriate containers, indelibly and legibly labelled to identify the contents, hazards and precautions required.	
	Spill Response Plan produced and communicated to Site staff. On-Site provision to contain a serious spill or leak through the use of booms, bunding and absorbent material. As part of the existing drainage system, a penstock valve, existing on the entry point from the SHP site to the Edinburgh Avenue culvert, to be used to contain a spill within the Site. (See Appendix 6 – 'Spill Response Information').	
	Spill kits at strategic locations across the site (e.g. fuel storage areas).	
Impacts on soil and groundwater resulting from the mobilisation of previously unidentified ground contamination	In the event that contamination is discovered, work will stop immediately, and measures will be taken to prevent disturbance and mobilisation of contaminants, until the contamination has been treated in-situ or removed for off-site disposal or treatment. Existing soakaways will be sealed off or barriers installed to prevent surface water entering them. Suspected contaminated material will be segregated from non-contaminated material, covered, and stored away from water courses or drainage system. Material will then be tested and either re-used, treated or disposed as appropriate.	Incident Report
5.7 Water Resources and Flood Risk		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Impacts on groundwater resulting from piling activities	Development of a piling risk assessment in accordance with the Environment Agency (EA) guidance based on the final pile design and prior to the commencement of intrusive work.	To be determined dependant on whether piling is carried out

Impacts on ground and surface water as a result of construction activities	If perched groundwater is encountered during construction of the bunker, dewatering may be required. The most appropriate methods to dewater excavations will be selected in agreement with the EA.	To be determined dependant on site specific circumstances
	Water arising from excavations will need to be discharged to the local surface water sewer(subject to an EA issued discharge licence) or to the local foul sewer network (subject to agreement with TWUL) if uncontaminated and following the removal of silt via settlement ponds or alternative measures;	To be determined dependant on site specific circumstances Drainage Method Statement[1]
	The bunker, and any other structure built below ground level (bgl) to a maximum of 4m bgl, will be constructed with a coarse gravel drainage layer (at least 300mm thick) around and beneath that part of the construction below the perched groundwater table, following EA guidelines and recommendations.	As built drawing
Impacts as a result of the disturbance of existing drainage systems and water supply network	All existing utilities identified and marked prior to works commencing.	-
	Any damage to the drainage network will be immediately repaired	Emergency Response Plan
	Seal off or install barriers to prevent surface water flowing to the existing soakaways	
	An emergency response plan will be produced to ensure spillages and leakages are immediately contained.	
Impacts on ground and surface water resulting from the mobilisation of previously unidentified ground contamination		As per Section 5.6
Contamination of surface and groundwater as a result of leaks and spills of oils and other hydrocarbons		

[1] Drainage Method Statement to be developed based on to be developed based on detailed construction programme, results of hydrogeological assessment and remediation strategy

Contamination of surface water as a result of run-off contaminated with suspended sediments	Cut-off ditches and/or geotextile silt-fences, where practicable, will be installed around excavations or exposed ground and stockpiles to prevent the uncontrolled release of sediments from the Site.	Drainage Method Statement
	Site access points will be regularly cleaned to prevent build-up of dust and mud	See Appendix 1: Construction Traffic Management Plan
	Earth movement will be controlled and monitored to reduce the risk of construction silt combining with the development site run-off	Method Statement
	All stockpiled materials stored in designated areas and isolated from any surface drains.	
Impacts on controlled waters as a result of uncontrolled release of cement and concrete products	The majority of concrete used will be pre-mixed and delivered from an off-site source, thereby negating the need to mix concrete on-site and reducing the creation of alkaline wastewater	N/A
	Wherever possible, any mixing and handling of wet concrete on-site will be undertaken in designated impermeable areas, away from any drainage channels or surface water.	Regular and recorded inspections
	A designated impermeable area will be used for any washing down or equipment cleaning associated with concrete or cementing processes and wastewater will be discharged to the foul drainage system, provided it meets discharge requirements, or contained and removed by tanker to a suitable discharge location via a licenced waste operator.	
Impacts on the environment resulting from increased water demand	Consideration of a number of measures to reduce water consumption, including: - Selection and specification of equipment to reduce the amount of water required; - Implementation of staff-based initiatives such as turning off taps, plant and equipment when not in use both on-site and within site offices; - Use of recycling water systems such as wheel washes, site toilets hand wash; and - Use of a rainwater harvesting system for use in equipment and vehicle washing.	-
5.8 Soil Management		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
	Minimise the movement of soil wherever practicable and seek to utilise soils in the location from which they were originally excavated.	Site specific Materials Management Plan (MMP) developed in accordance

Mixing of contaminated and non-contaminated soils / waste generation	Dispose any suitable layers of subsoil that cannot be integrated with the Works off-site to a licensed or exempted facility	with the CLAIRE Development Industry Code of Practice: Definition of Waste.
	Provide certification of suitability for any imported soils. Any soils that are proposed to be imported are such that they do not detrimentally impact on the existing soils, drainage or substrata in the area.	
	No contamination of soil from one work area to another	
5.9 Ecology		
Potential Effect	**Mitigation/Enhancement Measure**	**Monitoring Requirement**
Impacts on peregrine falcon and other protected species	Detailed in the Protected Fauna Management Plan	As per the commitments contained within Protected Fauna Management Plan.

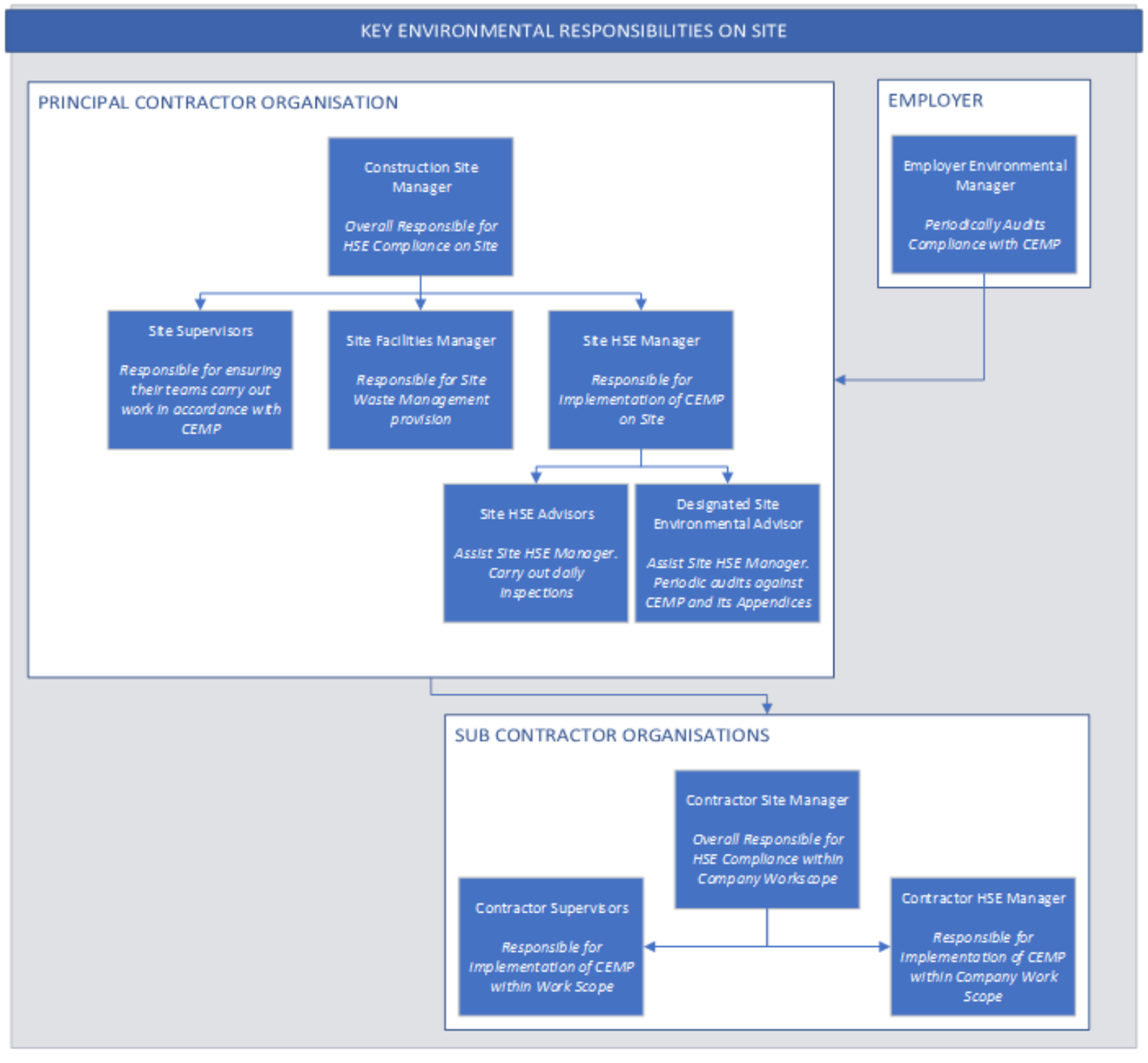
6.0 ROLES AND RESPONSIBILITIES

Figure 4 summarises the roles, responsibilities outlined in the CEMP.

As part of the monitoring process a designated Site Environmental Advisor will be present on site throughout the construction process. The Environmental Advisor will observe site activities and report and record any deviations from the CEMP, along with the action taken and general conditions at the time. The Environmental Advisor will undertake audits of compliance against CEMP and will inform the Employer of any non-compliances as soon as possible following identification of such issues. The Environmental Advisor would also act as day-to-day contact with SBC and other regulatory agencies such as the EA.

A brief report will be produced and submitted to SBC at the end of construction. This will summarise the monitoring process, incidents, non-compliances from the CEMP and the corrective actions taken.

Figure 4: Site Organigram (Showing Key Environmental Responsibilities)



APPENDIX 1: CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Slough Multifuel

Document Ref No: 50092840 Rev 2.0

Appendix 1: Construction Traffic Management Plan

Land at Edinburgh Avenue, Slough Trading Estate, SL1 4TU

Applicant: SSE Generation Limited

Date: April 2020

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Revision	2.0
Author	HZI
Approved By	SSE Generation Ltd.
Document Owner	SSE Generation Ltd.

CONTENTS

1. INTRODUCTION

1.1. Introduction & scope

1.1.1. The Construction Traffic Management Plan ('CTMP') (Appendix 1 to the Construction Environment Management Plan ('CEMP')) details how traffic associated with the Slough Multifuel Project ('the Project') shall be managed. It shall also provide the details required by Planning Condition 17 (a) - (c):

a) the parking of site operatives and visitors' vehicles;
b) loading and unloading of plant and materials;
c) management of construction traffic and access/haul routes and controlled hours of delivery including;

1) Any alterations to existing points of access between the application site and the highway shall be formed, laid out and constructed in accordance with specifications and with sightlines to be submitted in further detail and approved by the Local Planning Authority before the scheme commenced on site.

2) Specification of haul route(s) and of any temporary signage to be provided to identify the route and promote its safe use,

3) Identification of the times when major items of plant and equipment are to be transported to and from the site.

4) Identification of the routing strategy and procedures for the notification and conveyance of an abnormal or indivisible load authorised by the Highways Agency pursuant to the Road Vehicles (Authorisation of Special Types) (General) Order 2003.

5) Wheel washing facilities and arrangements for removal of mud from public highway.

6) Proposals for communicating information with its terms, subject to any variation which has prior written approval of the Local Planning authority in conjunction with the Highways agency and Thames Valley Police."

1.1.2. This CTMP shall be read and followed by all Contractors, and their sub-contractors, in conjunction with the CEMP and other associated project documentation.

This document has been structured to allow easy reference to the Planning Condition requirements as follows:

- Section 2: Parking - provides details of parking arrangements in compliance with Condition 17(a).
- Section 3: Loading and Unloading of vehicles.
- Section 4: Construction Traffic Management.
- Section 5: Workforce Traffic from Home to Office/Welfare area.
- Section 6: Workforce Movement between Welfare, Construction and Laydown area.

In conjunction with the Planning Condition 17 (c) (6), any material changes to the CTMP will be agreed with the local planning authority, Slough Borough Council ('SBC') and then communicated to all relevant parties (e.g. contractors and suppliers).

2. PARKING

2.1. On-site Parking

Use of cars by workers to get to site will not be allowed except in emergency cases or for a special reason, approved by Site Manager. Parking on public roads and streets around the site will not be allowed. A strict disciplinary procedure shall be in place for any construction staff/workers found to be breaching this rule, which will be communicated to all workers at the time of site HSE induction.

A limited amount of parking spaces (10) shall be available for visitors in the front of the welfare building, which shall be managed by the Travel Co-ordinator.

Between the months 1 and 8 and 35 and 42 of construction, up to 50 parking spaces could be made available at the pre-assembly / laydown area (Stirling Road 690 - 695) as temporary parking for workers.

2.2. Off-site Parking

Contractors will be encouraged to find other means of transport to site for workers rather than car. However, this will not be possible for all workers. For those unable to come to site by public transport, bicycle or foot, parking will be provided at a designated location off-site. The Applicant is currently exploring with the Principal Contractor a number of potential sites for off-site parking. It is predicted that 75% (375) of workers will travel to site by car. Car-sharing with 3 persons per car shall be planned, and therefore approximately 125 parking spaces (1,875 m^2) are required off-site. The Principal Contractor confirms it will require the off-site parking spaces to be secured by Q1 2021, when the main civil works are expected to commence. The parking sites selected will be as close as possible to the site.

Car sharing will be contractually required within subcontractor agreements. A permit system, managed by the Principal Contractor's Travel Co-ordinator, will be put in place and only cars with this permit shall be given entry to the parking facilities.

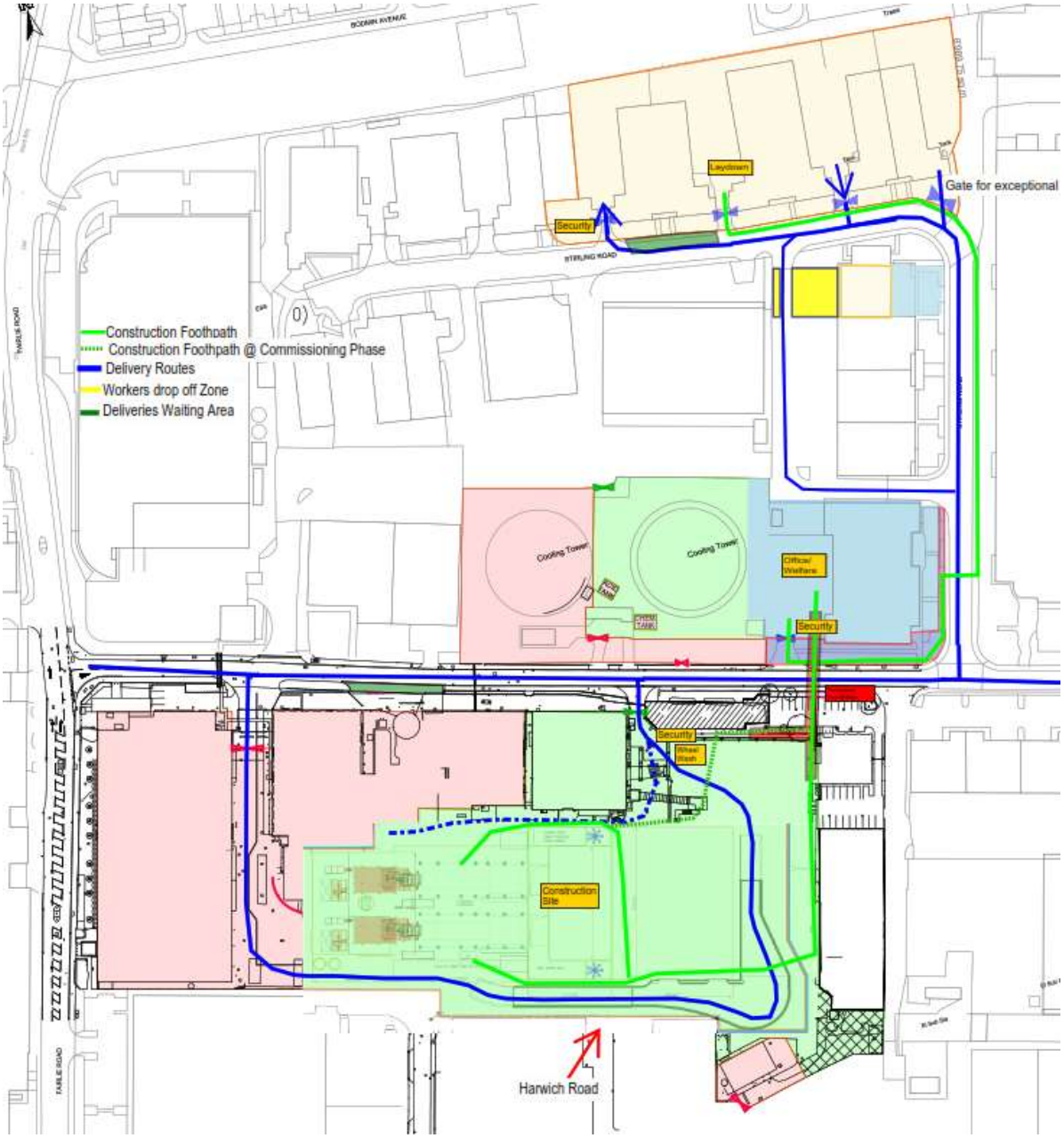
Shuttle buses will be organised to run between the off-site parking facilities and the site drop-off point (to the rear of Building 689 Stirling Road marked in yellow "Worker's drop off zone" on Stirling Road – see Figure 1. The Building also includes office and welfare facilities for use by workers additional to those provided in the construction compound area. It is currently assumed that a maximum of 5 to 8 minibuses with a capacity of 10 to 15 persons, or up to 3 buses with a capacity of 50 to 70 persons will wait at the drop-off point at the same time. From the drop-off point, construction staff will walk on the pavement, around Building 689, to access the office/welfare facilities.

At the beginning and end of shifts, shuttle buses will run between the site drop-off point and the off-site parking facilities. Outside of normal working hours drivers will be available upon demand.

Construction shifts will be staggered, grouped by erection contractor, to prevent congestion on Stirling Road or Edinburgh Avenue with buses. Main shift start / finish / handover will be scheduled where possible outside of the peak traffic hours of 07.30 – 9.30 hrs and 16.30 to 18.30 hrs (Monday to Friday).

Buses will leave the area after dropping off workers and therefore no dedicated parking will be required. It is anticipated that at the end of the shifts, or at the change of shifts, buses may stand for a short time, in the drop-off zone. Engines will be turned off when waiting (no idling permitted). Close monitoring and co-ordination will be required to minimise congestion or inconvenience to neighbours. Traffic marshals will be employed to manage traffic and ensure no congestion at busy times.

Figure 1: Overall View – Site



3. LOADING/UNLOADING OF MATERIALS

A risk assessment detailing the procedure for loading and unloading will be developed by all contractors and shall be specific to their deliveries. This shall be approved by the Principal Contractor prior to the delivery arriving to site.

On arrival at the construction deliveries waiting area along Edinburgh Avenue, see above Figure 1, delivery drivers shall report to the security hut and complete the HSE induction and personal protective equipment check to allow them entry to the site. A vehicle banksman will escort them on to site to the designated loading / unloading area. Unloading will then be supervised by a Contractor's representative. Delivery drivers will be accompanied at all times.

Before the start of unloading / loading, the load will be assessed in accordance with the risk assessment. If a crane is required, then a suitable lift plan will have been created and approved prior to arrival of the delivery on site.

The unloading / loading areas will be temporarily designated as exclusion zones protected by barriers. This, together with a safe zone for the driver, will be controlled by the vehicle banksman.

The same procedure will apply to deliveries to the laydown area and to the intermediate storage area, each of which will have a security hut and waiting area.

4. CONSTRUCTION TRAFFIC MANAGEMENT

4.1. Delivery Information

All normal delivery vehicles (non-Abnormal or Indivisible Loads ('AILs')) will report to one of the three main security huts as shown in Figure 1 before being allowed entry to the site, the laydown or the office/welfare area. Details of the delivery will be taken by security and relayed to the relevant person to enable co-ordination of unloading (see Section 3). A layby near the main construction area and welfare area security hut (see Figure 1) is provided for drivers to park immediately prior to proceeding to unloading area. The layby may only be used for short time periods for scheduled deliveries. No other waiting or parking shall be permitted on Edinburgh Avenue or in the vicinity of the site.

Engines will be switched off whilst waiting. At this point, the driver will be given details of the site rules in a brief driver induction and informed of the location of the delivery. Abnormal loads shall be handled differently (as described in Section 4.4). For the loading / unloading activities, refer to Section 3.

For construction traffic Routes 1 and 3 shall only be used by standard HGV trailers (Maximum Dimensions: 18.75 x 3.00 x 4.50 m –max. 44'000 kg), while the Route 2 can be used by the standard HGV trucks or for the abnormal deliveries. Traffic movements during peak hours (Monday to Friday 07:30 to 09:30hrs and 16:30 to 18:30hrs) will be minimised by scheduling delivery arrival and departures outside of these times, whenever possible. In addition, night-time deliveries (23:00 hrs to 07:00 hrs) will be limited to those with no noise impact expected during the unloading process, refer to Noise, Dust and Vibration Management Plan (Appendix 4 of CEMP / Doc Nr: 50096848).

However, in exceptional circumstances, such as during slip forming which needs continuous concrete deliveries over an approximately 16-week period, deliveries may have to take place during peak hours.

Figure 2: Delivery Routes

In order to avoid construction vehicles queuing in the vicinity of site, a 'Control Tower' information platform will be used to steer just-in-time and sequence deliveries to site, such that parts or materials deliveries will be provided to the construction site / laydown and pre-assembly area at or near the time they are needed for assembly in line with the erection sequence. The Control Tower will ensure arrival of transport in the agreed time window at the site, in coordination with the project logistics team and the carriers and service providers. Traffic marshals will be on duty in the Edinburgh / Stirling Road area as needed.

Until the deliveries to site are allowed by the Control Tower, deliveries will be required to wait at the nearest off-site truck parking locations such as:

- Heston Services (M4): TW5 0EP (13 miles east of site on M4)
- Reading Services (M4): RG30 3UQ (21 miles west of site on M4)
- BP Chequers Connect Service Station (Colnbrook By Pass (A4) Westbound): SL3 0EH (c. 7 miles south-east of site)
- Beaconsfield Services (M40) HP9 2SE: (6 miles north of site, however during day time, only access to site is via M4 – to the south – see Section 2.0)

All requirements (e.g. type of material, loading requirements, packaging information, transport minimum requirements (e.g. Euro V or higher), etc.) will be communicated to suppliers in the Delivery Information document.

An intermediate laydown / storage area will be located within a range of one driving hour of the site (e.g. in Reading). This will enable timely deliveries to be scheduled as well as full utilisation of transport equipment. This shall enable transport movement to be kept to a minimum to avoid any congestion around site.

4.1.1. Transfer from Intermediate Laydown / Storage Area to the Site

Transfer of deliveries from the intermediate laydown / storage area to the site will, as far as possible, take place outside peak hours to avoid congestion on Edinburgh Avenue. This may, subject to any noise constraints applicable to the site, also involve movements overnight and at weekends. The aforementioned restrictions in Section 4.1 on the number of standard or abnormal HGV deliveries (per day / total / per night) will not apply to the deliveries between the intermediate laydown / storage area and site.

One of the two access points to the site from Edinburgh Avenue will be used, depending on the size of the delivery and other activities in progress on site at that time.

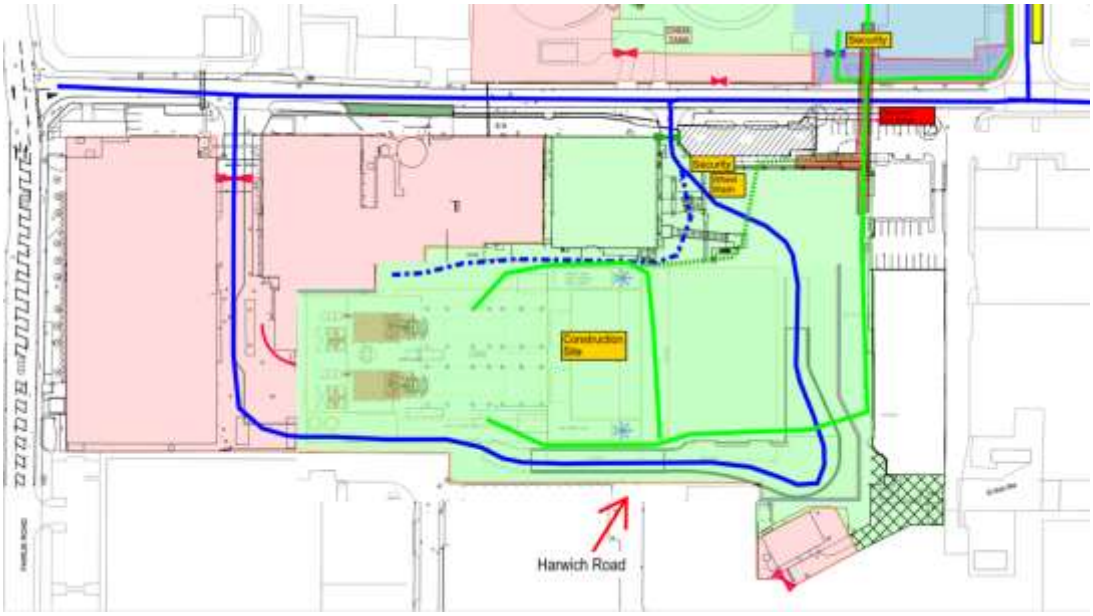
4.1.2. Deliveries to office / welfare area

The main HGV traffic to the office welfare/area will be for the setting up of the container compound at the start of the construction and removal of the compound at the end of the construction. Canteen and office supply deliveries will also be required to be delivered directly to the office / welfare compound.

4.2. Early site access phase

During the early phase civil construction, the access to site may also be via Harwich Road (red arrow in Figure 3 below). Once construction of the tipping hall access ramp starts, the Harwich Road entrance will be blocked by the ramp itself and will no longer be used. Access will then be via the two access points to the site from Edinburgh Avenue.

Figure 3: Early Phase Construction Area Access



4.3. Construction materials delivery route Identification

Traffic signage will be provided from the A4 and A355 to site as well as in the vicinity of the site to indicate different delivery and waiting areas. These will be subject to relevant approvals from SBC and Highways England as required. All signage shall be in line with guidance in applicable 'Traffic Sign Manual' (2018) produced by the Department for Transport. Signs shall be fixed securely to ensure they do not become detached. Regular maintenance checks to clean and re-secure signs as appropriate will be carried out by Principal Contractor.

4.4. Abnormal Indivisible Loads

An Abnormal Indivisible Load ('AIL') is a vehicle that[1]:

- carries more than 44 tonnes;
- has an axle load of more than 11.5 tonnes;

[1] http://www.slough.gov.uk/business/licences-and-permits/abnormal-loads.aspx

- is more than 3 metres wide; and
- is more than 18.75 metres long.

Deliveries of AILs directly to the site will be notified in advance to SBC, Highways England and the Police as required by the Principal Contractor. An agreed delivery schedule will be implemented, and a specific traffic plan communicated to the relevant parties for each AIL.

Figure 4 shows the simulated swept paths of the AILs as they enter the site.

AILs will be delivered to site via Route 2 and there are expected to be between 50 and 80 AILs arriving to site mainly between months 13 and 25. The routes to the M4 from some ports, e.g. Southampton, have been assessed (refer to Annex 4 of this CTMP) and indicated that the main motorway/trunk roads do not currently show any restrictions. While the majority of the AIL deliveries can be completed using the western Edinburgh Avenue site access (refer to green line in Figure 4); the very large items (e.g. waste cranes) will reverse directly into the construction area through the eastern Edinburgh Avenue access as shown in red in Figure 4.

In addition, there will be AIL deliveries (up to 8 per night) between months 13 and 25 to the site from the Laydown Area via Stirling Road and the two Edinburgh Avenue access points (see Figure 2). Due to the number of AILs and the short distance from the Laydown Area to the site (see Section 4.4), the Principal Contractor proposes to notify SBC in batches rather than individual notifications.

In order to enable AIL deliveries to the site through the eastern access point (see red swept path analysis in Figure 4), part of the fence and some of the vegetation along Edinburgh Avenue (approximately 25 m) will need to be removed to widen access. A temporary fence will be erected until the access is no longer required. Replacement permanent fencing and vegetation will then be reinstated. It should be noted that the building which the red line in Figure 4 appears to intersect, will not be constructed until after the AILs have all been delivered.

Figure 4: Simulated Swept Path*

* Swept path assessment is based on the biggest delivery items and thus shows the worst-case scenario.

4.5. Highways Condition Assessment

Prior to commencing main construction works on site, the Principal Contractor shall carry out a Highways Condition Assessment. This will identify any restrictions (Speed, height, weight) since the original routes were developed and the findings of which shall be incorporated into this Plan and the Delivery Information document.

In addition, a photographic condition survey will be undertaken of surrounding roads and footpaths prior to main construction works commencing.

5. WORKFORCE TRAFFIC FROM HOME TO OFFICE/WELFARE FACILITIES

At the peak of construction, around 500 workers are expected to be on site. Space around the site is very limited and it will be busy during peak hours. Therefore, various ways to access the site (and the office/welfare facilities) by the workforce have been assessed.

Workers will be encouraged to travel by public transport (bus/rail), by bicycle or by foot. A target of at least 25% (125 persons) to come to site by public transport (see Section 5.1 and 5.2) shall be set for the Principal Contractor and subcontractor organisations combined. Car sharing with other organisations on the Slough Trading Estate shall also be publicised https://liftshare.com/uk/community/slough.

However, parking facilities will also be required at a location(s) off-site for those for whom public transport is not possible. Workers will then be transported to site by minibus. Preliminary details of these arrangements, together with the on-site visitor parking are provided in Section 2.

This shall be detailed in a Green Travel Plan and managed by a designated Travel Co-ordinator (to be appointed by the Principal Contractor).

5.1. Public transport

Burnham rail station is approximately 20 minutes' walk from site, with direct train links to Reading (via Maidenhead and all stations west) and London Paddington (via Slough and all stations east) (see Annex 1). Slough rail station is on the mainline and is approximately 2 miles from site and has faster connections and a wider selection of destinations.

A shuttle bus shall be provided between Burnham station and the site at the start and end of main work shifts. Workers will be brought to the drop-off zone on Stirling Road (see Figure 1).

The closest bus stop is approximately 500 m away from the office/welfare on Buckingham Avenue (see Annex 2 for Bus Map of Slough). From here buses serve the local area and Slough and Burnham Railway Stations.

5.2. Bicycle

Sufficient and secure (off street) parking spaces for bicycles will be provided within the off-site compound facilities on Stirling Road. Shower facilities are also available in the office/welfare facilities. Details of Slough cycle lane facilities shall be given to all Contractors (see Annex 3).

6. WORKFORCE MOVEMENT BETWEEN OFFICE/WELFARE AND CONSTRUCTION LAYDOWN AREAS

The footpaths for use during the construction phase are shown in Figure 1 in green. This includes:

- the footpath from the office/welfare facilities to the site which crosses Edinburgh Avenue by means of a pedestrian bridge (subject to temporary planning permission);
- the footpath from the construction laydown area to site; and
- the footpath from the worker's drop-off zone to the site and to the office/welfare facilities.

6.1. Office/welfare to construction laydown area

The workforce will cross Edinburgh Avenue via a temporary pedestrian bridge from the office/welfare facilities to access the site safely. Access across Edinburgh Avenue shall be fenced off to prevent people crossing at street level.

6.2. Construction laydown area

The construction laydown area can be accessed in two ways (see Figure 1):

- by foot via Stirling Road; and
- by car/ truck via Edinburgh Avenue leading into Stirling Road.

7. CONSTRUCTION LAYDOWN AREA TRAFFIC

7.1. Traffic Routes

All traffic routes within the construction laydown areas shall be suitably signposted. A one-way system is planned within the construction area to minimise reversing of trucks where possible.

Signage shall be in place around the construction and laydown areas to mark the direction of traffic flow, the access and egress points and reminders of the 10mph maximum speed limit.

7.2. Driving

The Highway Code shall be applied within both the construction and laydown areas. All signage and instructions will be complied with.

Drivers / operators will only operate vehicles/plant/equipment if they are trained and competent.

All mobile plant that can be driven must have:

- unique identification number;
- relevant certificates/inspections in place;
- fitted seat belts;
- roll over protection;
- reversing alarms (note broadband reversing alarm is mandatory during night-time unless banksman in attendance in lieu of an alarm) and visual indicators (i.e. amber flashing lights); and
- all round visibility (via use of mirrors or fitted cameras).

7.3. Hazard identification

Where height hazards have been identified, an assessment will be carried out to provide a suitable means of written warning sign and physical barrier.

When creating an overhead hazard or a hazard that has any impact on a traffic/pedestrian route, an agreement for managing the hazard must be reached with the Principal Contractor.

All work below overhead power lines, including deliveries in the demarcated area shall be carried out under a specific Principal Contractor permit to work ('PTW'). This PTW will outline any specific risks and controls required to be in place at the time of task.

When requesting a PTW, plant or vehicles to be used must supply a specification sheet detailing the maximum height/reach.

7.4. Vehicle marshalling

Each piece of plant will be individually assessed to identify full 360^{o} visibility. Where physical means of segregation between pedestrians and vehicles cannot be achieved, a means of safely reversing must be carried out, i.e. trained banksman. Traffic marshals will be identified with high visibility vest displaying traffic marshal and will have received suitable training that will be agreed with the Principal Contractor.

7.5. Leaving laydown construction areas

All traffic must leave through the security gate and sign out upon leaving the site. All loads with the potential to cause dust/ littering nuisance must be covered and can be subject to a random check.

A fixed wheel wash will be installed at the site exit and available for all traffic exiting the site, to ensure no mud or dirt gets onto the public highway. In the event any mud is found on the highway from site traffic, a licensed road sweeping truck will be mobilised to clean away the mud.

7.6. Lighting

All lighting shall be inward facing and positioned so it is not intrusive for any offsite receptors, including traffic, pedestrian routes/crossing points, neighbouring properties (both business and residential areas and sensitive environmental receptors. More details are given the Construction Phase Lighting Plan (see Appendix 3 of CEMP).

Lighting levels will be tested at suitable times and will be in line with the following standard practice for safe working on site:

- external areas, including site roads, temporary access roads, laydown areas and welfare area – 20 lux;
- external areas, excavation and large area works – 50 lux; and
- external areas, mechanical and electrical task lighting – 100 lux.

8. PEDESTRIAN SEGREGATION

8.1. Barriers

Traffic/Pedestrian segregation will be maintained at all times by the use of fixed barriers. Where there is an increased risk of pedestrian/traffic interface then double barriers may be considered.

When working within a traffic route an individual should ensure that a suitable barrier is placed around them to act as a safety barrier with suitable warning signs. In all cases, communication must be made to traffic on site to inform them on individuals working in the live traffic route. This communication must be recorded in daily co-ordination meetings or via Tool box talks.

8.2. Pedestrian Crossings

All pedestrian crossings shall be adequately signposted using the standard Principal Contractor pedestrian crossing portal. If this is not practicable, agreement must be sought by the Site HSE Manager. Signs will be multilingual or pictorial.

8.3. Closure of roads and access points

When a road closure is required within construction/ laydown area, an agreement must be reached with the Principal Contractor.

When closing any road, pedestrian routes or building access/egress points considerations must be made to ensure alternative safe access with adequate signage and barriers. Access and egress in the event of emergency must also be considered.

8.4. Weather

All traffic and pedestrian routes shall be maintained taking into account weather conditions. In particular:

- water shall be used as dust suppressant where appropriate during dry weather;
- grit or other methods as per the winterisation plan will be used when ice forms on traffic and pedestrian routes;
- wet/waterlogged pedestrian routes will be drained of water or a bypass created; and
- damaged access routes such as uneven ground will be rectified as soon as possible to provide safe access and egress.

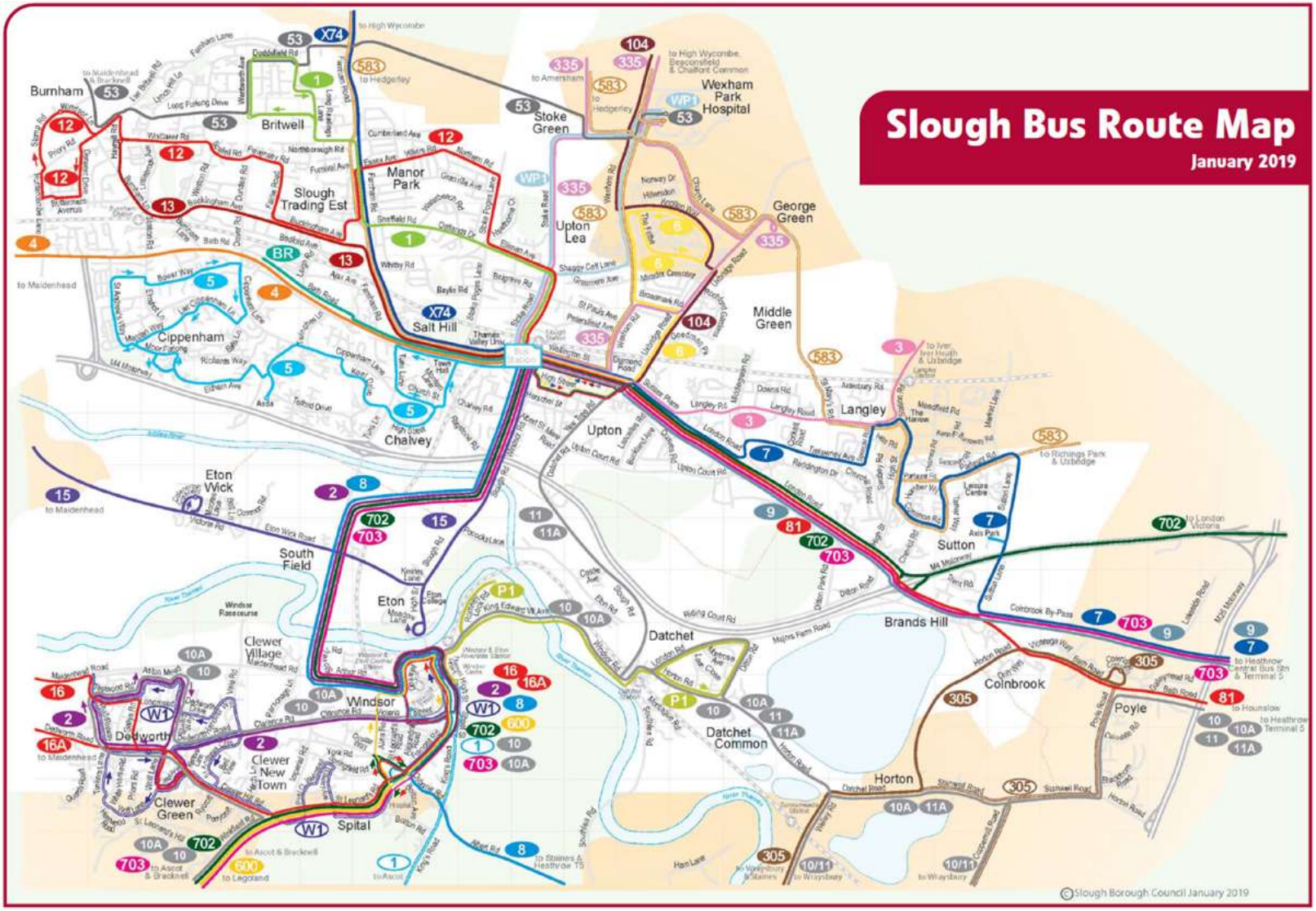
All contractors shall ensure pedestrian/traffic routes within their work or laydown areas are well maintained.

ANNEX 1: TRAINS FROM BURNHAM

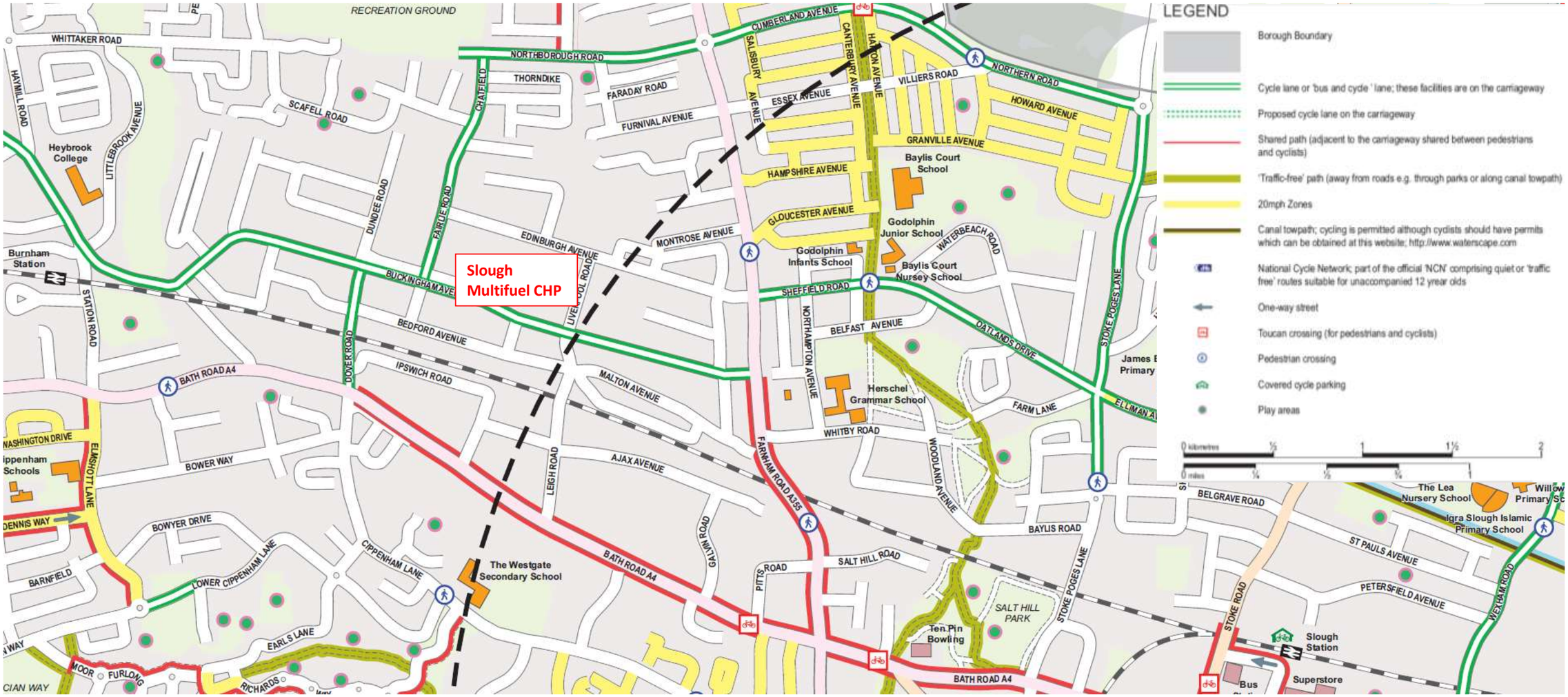
4 - 5 trains per hour during peak times (2 off peak) between Reading and London Paddington (stopping at Burnham)

Extract from: https://www.nationalrail.co.uk/Blue%20route%20ASplusMetro%20map%20v16.pdf

ANNEX 2: SLOUGH BUS ROUTE MAP



ANNEX 3: CYCLE NETWORKS IN SLOUGH (EXTRACT)



Extract from: http://www.slough.gov.uk/parking-travel-and-roads/cycling-in-slough.aspx

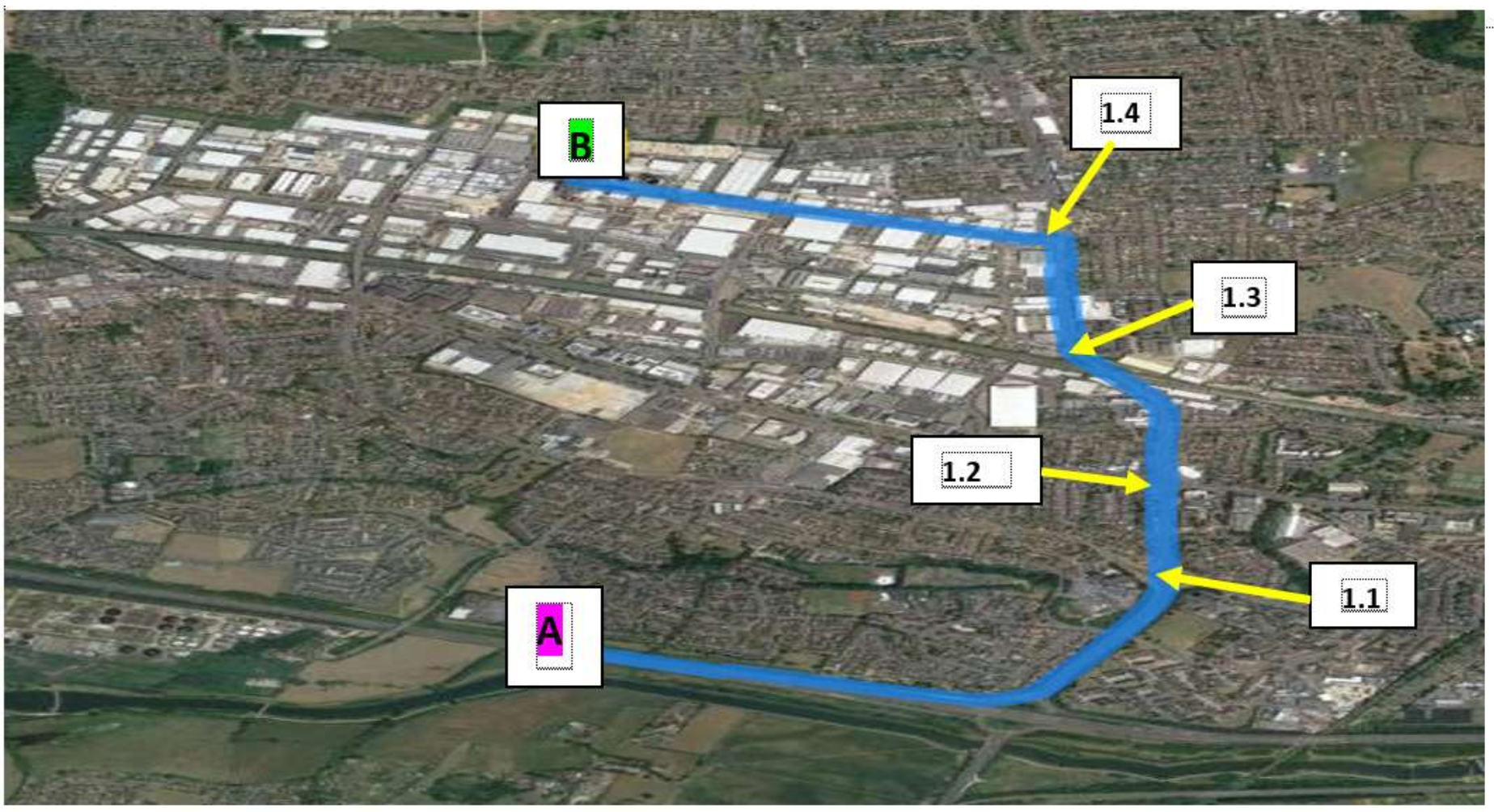
ANNEX 4: ABNORMAL TRANSPORT ROAD ASSESSMENT

Subject to the approval of SBC, following route has been identified by the Principal Contractor as preferred route with minimum impact to residents' areas en route to Construction Site (Refer to Figure 2- Route 2).

- 0.0 Head **east** on **M4**
- 0.2 At junction **6**, take the **A355** exit to **A332/Slough (Central)/Windsor**
- 0.5 At the roundabout, take the **1st** exit onto **Tuns Ln/A355**
- 0.9 Keep **right** to stay on **Tuns Ln/A355** Continue to follow A355
- 1.9 Turn **left** onto **Edinburgh Ave** Destination will be on the right
- 2.5 Gate House and security

Arrive: Edinburgh Ave, Slough SL1 4SW, UK , **Total time: 15 mins from JCT6 M4 SLIPROAD (B)**

JCT 6 EASTBOUND M4 **(A)**



See Slough Multifuel CTMP Annex 4a (submitted separately) for full route details.

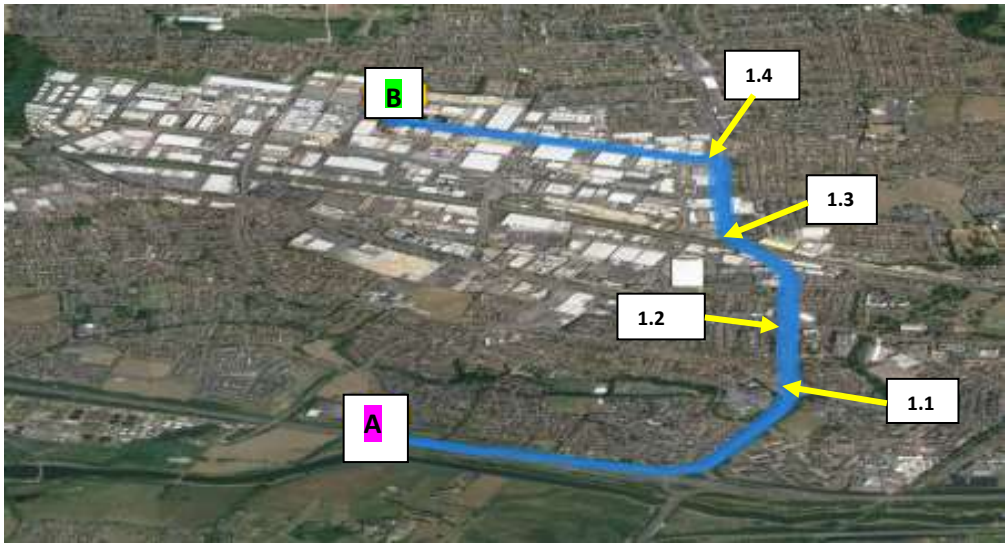
Preferred route to Power Station Site for minimum impact to residents

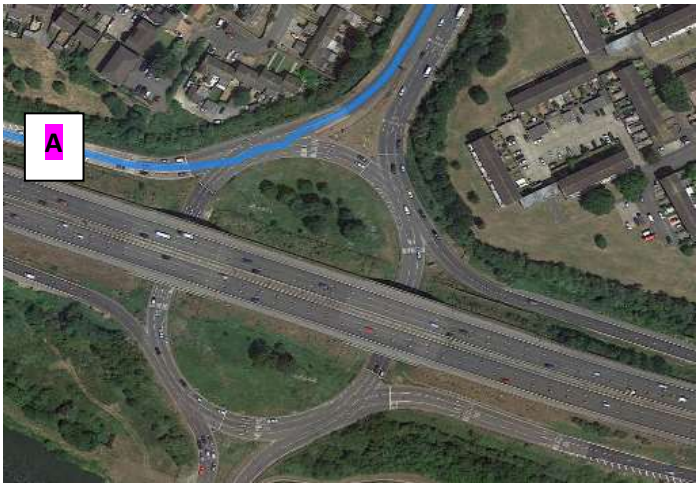
M4, Slough

- 0.0 Head **east** on **M4**
- 0.2 At junction **6**, take the **A355** exit to **A332/Slough (Central)/Windsor**
- 0.5 At the roundabout, take the **1st** exit onto **Tuns Ln/A355**
- 0.9 Keep **right** to stay on **Tuns Ln/A355** Continue to follow A355
- 1.9 Turn **left** onto **Edinburgh Ave** Destination will be on the right
- 2.5 Gate House and security

Arrive: Edinburgh Ave, Slough SL1 4SW, UK **, Total time: 15 mins from JCT6 M4 SLIPROAD (B)**

JCT 6 EASTBOUND M4 **(A)**





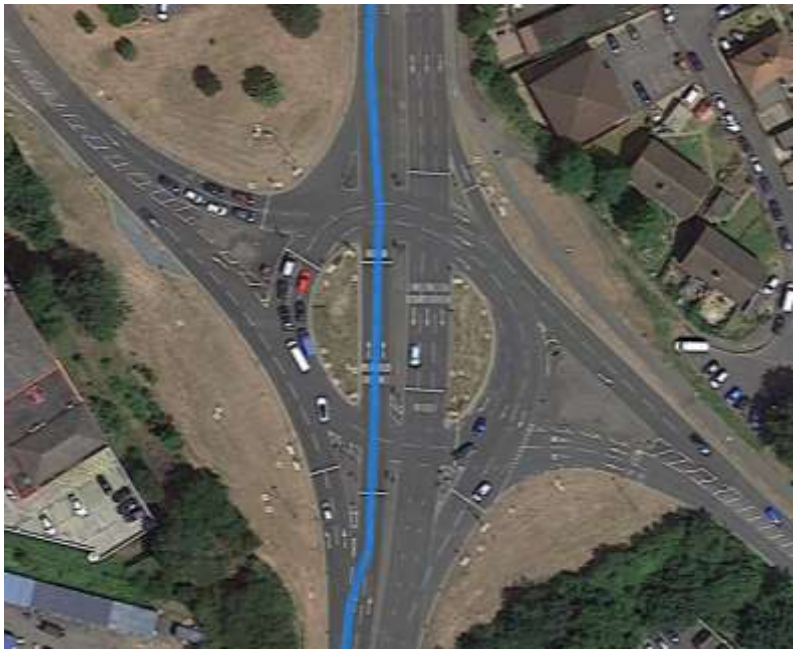
Slip road of jct6 onto Tuns Lane **(A)**

- 0.0 Head **east** on **Exit 6**
- 0.3 At the Tuns Lane,Church Street, Chippenham Lane roundabout, take the **2nd** exit straight ahead onto tunns **Tuns Ln/A355**
- 0.6 Keep **right** to stay on **Tuns Ln/A355**

1.1

Run up to roundabout

Junction, safe passage either side, traffic control



Two route options Direct Through or around 8m Spacing between lights

1.2

Intersection Tins Lane and Bath Road

Junction, safe passage either side, traffic control

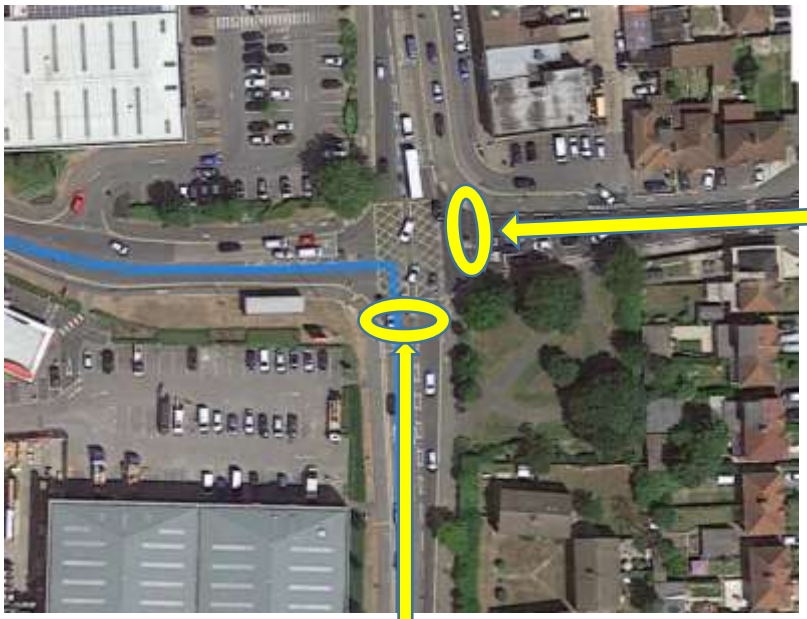
Central Bollards are collapsible and traffic lights are on sleeves to enable ease of passage through Junction

1.3

Bridge crossing rail lines

Farnham Road Overbridge Approx. 35m in length, Bollards 7m <> and speed camera.

1.4 Farnham Road (L) Edinburgh Avenue



Collapsible bollards in centre isle Traffic lights may need to be sleeved Plastic corner bollards are easy removed for L turn into the road. Powerstation Site is approx. ½ mile along road

B PowerStation Multifuel Site

APPENDIX 2: SITE WASTE MANAGEMENT PLAN

Slough Multifuel

Document Ref: 50096811

Site Waste Management Plan

Land at Edinburgh Avenue, Slough Trading Estate, SL1 4TU

Applicant: SSE

Date: April 2020

Document Number	**50096811**
Revision	1.0
Author	HZI
Approved By	SSE Generation Ltd.
Document Owner	SSE Generation Ltd.

CONTENTS

1.0 GENERAL TECHNICAL PROCESS PLANT SPECIFICATION

1.1 OVERVIEW

This Site Waste Management Plan ('SWMP') is for the construction of the new Multifuel Generating Station ('Slough Multifuel') on the site of an existing power station at land off Edinburgh Avenue, Slough, SL1 4TU ('the Site').

The planning permissions for Slough Multifuel are subject to a number of conditions. Condition 17 of Permission P/00987/024 states:

"Prior to the commencement of development, a Construction Environmental Management Plan shall be submitted to, approved in writing by, and deposited with the Local Planning Authority. The statement shall include provision for:

[…….]

(e) A scheme for recycling / disposal of waste from demolition and construction works."

This document has been developed to address condition 17(e) and shall be appended to the Construction Environmental Management Plan as Appendix 2.

1.2 PURPOSE AND SCOPE

The purpose of this SWMP is to detail waste management requirements at Slough Multifuel Site, and to detail how they will be achieved. The SWMP forms a key part of the Site Environmental Management System, aligned with the requirements of ISO14001: 2015.

This SWMP should be read together with the Construction Environment Management Plan ('CEMP') which shall describe the overall Health, Safety and Environmental ('HSE') management system for the Site.

This SWMP applies to the construction of Slough Multifuel and shall be updated prior to the Principal Contractor being appointed, and at least at the start of each new phase of the project.

2.0 DEFINITIONS

Duty of care	A legal responsibility to ensure that production, storage, transporting and disposal of business waste are carried out without harming the environment. In the UK this is responsibility of the waste producer.
Hazardous Wastes	Waste which displays one or more of the hazardous properties listed in Annex III of the Waste Framework Directive.
Non-Hazardous Waste	Anything that is not a hazardous waste.
Preparing for reuse	Checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.
Prevention	'prevention' means measures taken before a substance, material or product has become waste, that reduce: (a) the quantity of waste, including through the re-use of products or the extension of the life span of products; (b) the adverse impacts of the generated waste on the environment and human health; or (c) the content of harmful substances in materials and products.
Recovery	Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.
Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
Reuse	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.
Treatment	Recovery or disposal operations, including preparation prior to recovery or disposal.
Waste	Any substance or object which the holder discards or intends or is required to discard.
Waste Hierarchy	The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy: (a) prevention; (b) preparing for re-use; (c) recycling; (d) other recovery, e.g. energy recovery; and (e) disposal.

Waste Management	The collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker.

3.0 LEGAL AND OTHER REQUIREMENTS

This SWMP has been developed to comply with:

- Legal requirements. These shall be reviewed on a quarterly basis by the Environmental Advisor and any new legal requirements relating to waste shall be communicated to the Site Team and incorporated into this SWMP as necessary.

- Project requirements associated with Planning Conditions and the Environmental Requirements of SSE.

4.0 OBJECTIVES AND TARGETS

The Project shall have a target of in excess of 95% (weight) of non-hazardous project waste to be reused, recycled or recovered, and therefore diverted from landfill. This shall be reported on a monthly basis to the Site Manager.

5.0 WASTE TYPES

At a strategic level the key waste streams produced on site can be classified as:

INERT - wastes that will not cause adverse effects to the environment when disposed of, or do not decompose and they have no potentially hazardous content when placed in a landfill. Examples of inert wastes are rocks, concrete, mortar, glass, uncontaminated soils and aggregates.

NON-HAZARDOUS - wastes that will decompose when buried resulting in the production of methane and carbon dioxide. Examples of non-hazardous wastes include timber, paper and cardboard

HAZARDOUS - wastes that are harmful to human health or the environment (for example, pollution of watercourses) if they are incorrectly contained, treated or disposed of.

Typical waste types anticipated during the construction phase are listed in Appendix 1. These are mostly from the 'Construction and Demolition' section of the List of Wastes (annexed to Waste Framework Directive), but also include small amounts of kitchen waste and of packaging waste.

6.0 ESTIMATED WASTE QUANTITIES

Preliminary waste estimates shall be developed by the Principal Contractor prior to the main construction commencing.

The Waste Estimate Sheet (Appendix 2) shall be completed by each subsequent contractor prior to their mobilisation.

These estimates will be used to plan total waste provision required on the Site and be used as an opportunity to separate out waste streams.

The wastes being generated on site shall be reviewed regularly by the Site Facilities Manager to ensure waste provision is adequate. As new waste streams are anticipated, new waste skips shall be ordered to enable waste to be segregated.

7.0 ROLES AND RESPONSIBILITIES

All personnel on site have a role in managing materials and waste correctly and applying the waste hierarchy and as such are required to:

- reduce the amount of waste produced where possible;
- handle and store materials correctly and carefully to prevent damage and wastage;
- co-ordinate with the site team the reuse or recycling of material for alternative usage where possible;
- handle waste materials according to this SWMP; and
- dispose of waste in the correct container.

7.1 SITE MANAGER

The Site Manager is responsible for ensuring a system is implemented that identifies and manages the waste being produced.

7.2 SITE FACILITIES MANAGER

The Site Facilities Manager, or delegate, is in charge of:

- reducing consumables ordered and managing stock to minimise wastage; and
- ensuring provision of waste containers in the welfare, laydown area and on site is adequate.

7.3 SITE HSE TEAM

The Site HSE Manager shall assist in waste management on site as required by Site Facilities Manager.

This will include:

- providing on-site assurance over waste management and identify opportunities for improvement through daily walk rounds, weekly HSE inspections and monthly environmental inspections to ensure compliance with this SWMP;
- raising concerns or opportunities for improvement with management team; and
- carrying out awareness training to ensure personnel know the correct procedures on site for waste segregation and disposal as part of HSE training programme.

The Environmental Advisor shall:

- arrange regular formal inspections to ensure site waste management requirements are being met;
- ensure waste reviews are carried out to ensure compliance with the waste hierarchy; and
- update this SWMP with any new legal requirements relating to waste.

7.4 WASTE CONTRACTORS

The Waste Contractor(s) appointed to handle waste arising from the construction of Slough Multifuel will be responsible for:

- provision of waste skips / containers in good condition and engineered to contain the specific type of waste; and
- collection and onward handling of waste for recycling, recovery or disposal in accordance with legal requirements and best practice.

8.0 MANAGEMENT OF WASTES

The section below details key mitigations relating to waste and incorporates the measures to comply with national and local legislation and the Waste Hierarchy shown in Figure 1.

Figure 1: Waste Hierarchy

8.1.1 PREVENTION

The first priority in the Waste Hierarchy is to minimise waste volumes. The following shall be carried out to identify waste prevention opportunities:

- standard contractor contracts shall require all Suppliers to minimise packaging;
- waste minimisation opportunities shall be identified through Design Reviews and Annual Waste Reviews;
- contractors shall be required to identify materials to be brought on site and identify opportunities for waste minimisation (particularly packaging) and encouraged to use materials with recycled content; and
- toolbox talks / training to reduce spoiled goods and increase reuse.

To reduce the amount of waste and surplus materials, all parties involved in the construction of Slough Multifuel shall be encouraged to consider the following (as applicable):

- locate wash-down points for the concrete wagons in a suitable location so that the washed-out aggregates form part of the fill;
- when the concrete bases are being poured have other bases excavated so that any surplus concrete could be utilised as blinding or use as hard stand for fuel area or waste area;
- materials, which arrive on pallets, are unloaded and the pallets are stored and removed from site once the numbers are sufficient to make collection economical;
- use pre-fabricated materials for on-site assembly;
- use plasterboard sheets made to standard sizes to suit the wall heights and to reduce the amount of off cuts;
- provide suitable and secure storage for materials to prevent damage by weather, where ‘just-in-time’ deliveries cannot be set up;

- consider mechanical systems and machinery for moving materials to reduce the risk of damage; and
- programme and monitor construction activities to avoid overlap of incompatible trades working in the same area and to reduce the potential for waste to be generated from replacing damaged work.

8.1.2 RE-USE

The re-use of materials, that would otherwise be disposed of as waste on site is preferential to recycling or disposal. Examples of this may include:

- reuse of excavated soils onsite for backfill and landscaping;
- plan for reuse of areas of hardstand once no longer required (i.e. crush and use for fill on site);
- use of metal containers as workplace bins;
- use of surplus wood e.g. pigeon-holes (for hard hats) outside welfare cabins, workbenches, temporary barriers etc; and
- reuse of plastic bags for litter collection bags.

8.1.3 RECYCLING

Wastes generated during the construction process will be segregated into waste types to facilitate off-site recycling. The layout of the Site will be designed to allow sufficient space for separate containers of key waste materials to be stored. These containers will be clearly labelled, and construction staff will be given training on waste segregation. Due to space limitations within the main construction area and the large amount of space required by extensive segregation, dry recyclables that can be collected together without compromising the ability of Waste Handling Company to separate waste at a later date may be considered.

The Principal Contractor shall consider the use of recycled materials where possible, subject to client approval, cost and availability such as:

- use of recycled aggregate in concrete;
- use of recycled materials in construction (e.g. envirokerb); and
- use of consumables made out of recycled materials (e.g. Spill kit absorbant).

8.1.4 ENERGY RECOVERY AND DISPOSAL

Where waste cannot be reused or recycled, if possible, the material will be sent to a biogas facility or incinerated at Energy-from-Waste Plant to produce energy. If not, the surplus materials will be sent to landfill. Landfill shall be the last resort.

8.2 WASTE STORAGE

8.2.1 GENERAL

The storage provided for all wastes must be at least, but not be limited to:

- being marked on the site plan for communication purposes;

- located on hardstanding, in a designated area and secure (from the public); and
- located away from surface drains and watercourses.

Waste storage area / skips shall be managed as follows:

- enclosed or secured to prevent the spread of wind-blown wastes, to assist with vermin control and prevent scavenging by wildlife;
- segregated by type of waste (e.g. metals, wood, plastics, concrete/bricks and municipal waste); clearly labelled with their intended contents;
- engineered to contain the specific type of waste; and
- checked regularly to ensure that containers are not corroded, worn out or damaged.

In addition, for hazardous wastes, the following will apply:

- they shall under no circumstances be co-mingled with non-hazardous wastes;
- everyone exposed to hazardous waste shall be instructed according to the Safety Data Sheet;
- for certain hazardous wastes, such as asbestos or sharps, specialist containers are required;
- all liquid wastes shall have secondary containment;
- they shall be stored in suitably labelled containers away from sensitive receptors and away from the risk of damage by site traffic or weather; and
- storage duration on site shall be limited to a minimum.

Typically, the following types of skips would be required:

- Wood (general).
- Concrete / inert / rubble.
- Plastic.
- Metal.
- Paper and cardboard.
- Hazardous Waste (oily).
- Hazardous Waste (other).
- General mixed non-hazardous.

An area for undamaged Europallets shall also be allocated, space permitting, away from any fire sensitive areas.

8.2.2 WELFARE COMPOUND

The same requirements for waste storage shall apply to the welfare compound storage area as for the construction area described in Section 8.2.1.

Waste containers shall be provided for the following streams:

- Food waste.
- Paper and cardboard.
- Plastic and cans.
- General waste.

The following wastes shall be segregated and stored undercover and disposed of in accordance with national legislation

- Batteries.
- Waste electrical and electronic equipment.
- Lightbulbs.

8.3 HANDLING WASTE

8.3.1 GENERAL

All workers must be informed through the risk assessment and training on how to handle and dispose of each type of waste that might be produced on site. This training must be evidenced accordingly.

8.3.2 ASBESTOS

All asbestos is expected to have been removed from site prior to construction. In the event any unexpected finds of asbestos are discovered, a specialist licensed contractor will be appointed to come and remove the asbestos.

8.4 ADDITIONAL ACTIONS

Waste shall not be burned nor buried on site and the Site and its surroundings shall be kept clean of waste.

9.0 TRANSPORTATION AND HANDLING OF WASTES

Only waste carriers and handlers with the relevant permits and licences in place are to be authorised to remove waste from the Site. All proposed waste disposal sites will be checked to ensure they are licenced to accept/receive the waste being handled.

Prior to main works commencing, this SWMP will be updated with details of the waste carriers and handlers to be used, together with the disposal route for each of the waste streams identified.

Waste must only be transported in suitable and secure containers and vehicles that prevent waste from being spilled. Any loose materials must be covered or netted to prevent them being blown out of the vehicle prior to leaving the Site.

All vehicles removing waste from Site (including re-cycled materials) shall have the facility to be "tracked". The system will include automated tracking of vehicles, such that the route and timing of the vehicle between sites can be checked. Consideration shall also be given to photographing vehicles as they leave the Site and retaining these records for audit.

10.0 MONITORING

10.1 INSPECTIONS AND AUDITS

The Site HSE Team shall include Waste Management in their Daily Site Inspections.

A more formal inspection and review schedule shall be in place as detailed in the CEMP. A component of these audits and inspections shall be checking waste management is carried out as per this SWMP. Changes in waste management or any non-conformances shall be discussed at project meetings.

Any environmental incidents or deviations from this plan SWMP be recorded, along with the corrective actions. Corrective actions shall be logged and tracked through to completion.

10.2 WASTE CONTRACTOR AUDITS

In accordance with the Waste Duty of Care Code of Practice (March 2016), the Waste Producer has a responsibility to take all reasonable steps to ensure that when the waste is transferred to another waste holder, that the waste is managed correctly throughout its complete journey to disposal or recovery.

Waste contractors / carriers shall therefore be subject to a Waste Duty of Care Audit.

10.3 WASTE REVIEW

Annually there shall be a Site Waste Review, which will consider the results of the Waste Audit (see Section 10.1) and which shall look at the following data:

- operations/ staffing levels, composition, waste monitoring reports and quantity of waste generated as detailed in monthly reports;
- current waste management procedures;
- existing activities including, for example, key roles and responsibilities;
- findings from audits and inspections relating to waste; and
- an estimation of waste volumes including a comparison from previous and projected years (where appropriate).

The Review will provide an opportunity to consider the suitability of the management strategies that are in place in relation to relevant regulations and best practice procedures, and identify areas for improvement, lessons to be learnt and improved cost saving and sustainability and proposals to drive continual improvement.

The waste review may be combined with Environmental Aspects and Impacts Register Workshops if appropriate.

11.0 TRAINING

The Site HSE induction shall contain a requirement to ensure that waste is minimised and that wastes are handled as per this SWMP.

This shall be supplemented by Toolbox Talks (TBT) on waste at suitable intervals to make sure all workers comply with this SWMP on the following subjects as a minimum:

- HZI Waste Hierarchy TBT.
- HZI Segregation of Waste TBT.
- HZI Storage of Waste TBT.
- HZI Hazardous Waste TBT.

The Site HSE Team shall develop Site Environmental Awareness Training, to include any impacts, including those related to waste, as identified in the Environmental Aspects and Impacts Workshop for the Site. This shall be disseminated amongst all staff.

Records of all training shall be retained.

12.0 REPORTING

Waste figures, together with performance against waste targets (Section 4) and any incidents shall be reported monthly to the Site Manager.

13.0 RETENTION OF RECORDS

Records of the types and quantities of waste taken off site (e.g. Waste Transfer Notes, Consignment Notes) shall be retained on site, together with a copy of the Waste Contractor Licence for that type of waste. Records shall be retained for a minimum of 5 years.

APPENDIX 1: TYPICAL WASTES

TABLE A: LIST OF TYPICAL WASTES

List of Typical Wastes during Construction	**EWC Code** (* denotes hazardous)
Wastes from the use and removal of paint and varnish	**08 01**
Waste paint and varnish containing organic solvents or other hazardous substances	08 01 11*
Waste paint and varnish other than those mentioned in 08 01 11	08 01 12
Packaging	
Paper & cardboard packaging	15 01 01
Plastic packaging	15 01 02
Wooden packaging	15 01 03
Metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers	15 01 11*
Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances	15 02 02*
Batteries	16 06*
Lead Batteries	16 06 01*
Ni-Cd Batteries	16 06 02*
Mercury Containing Batteries	16 06 03*
Concrete, bricks, tiles and ceramics	**17 01**
Concrete, Tarmac	17 01 01
Bricks	17 01 02
Mixtures of, or separate fractions of concrete, bricks, tiles etc. containing dangerous substances	17 01 06*
Mixtures of concrete, bricks, tiles etc other than those mentioned in 17 01 06	17 01 07
Wood, glass and plastic	**17 02**
Wood	17 02 01
Plastic	17 02 03
Glass, plastic and wood containing or contaminated with dangerous substances	17 02 04
Bituminous mixtures, coal tar and tarred products	**17 03**
Bituminous mixtures containing coal tar	17 03 01
Coal tar and tarred products	17 03 03*
Metals (including their alloys)	**17 04**
Iron and steel	17 04 05
Mixed Metals	17 04 07
Others	
Soil and stones containing hazardous substances	17 05 03*

Soil and stones (inert)	17 05 04
Construction Material containing asbestos	17 06 05*
Plasterboard	17 08 02
General Hazardous (Mixed)	17 09 03*
General Non-Hazardous (Mixed)	17 09 04
Municipal Wastes	20 01
Paper and cardboard	20 01 01
Biodegradable kitchen and canteen waste	20 01 08
Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*
Plastic	20 01 39

TABLE B: ESTIMATED TOTAL TONNAGE OF COMMON WASTES DURING CONSTRUCTION PHASE

The largest waste stream is estimated to be excavated material as detailed below. The amount of excavated material taken off site will depend on how much can be reused within the site (particularly on how much demolition material is suitable for re-use in the load transfer platform).

Waste Type	Code	m^3
Soil and Stones	17 05 04	5,000 – 10,000

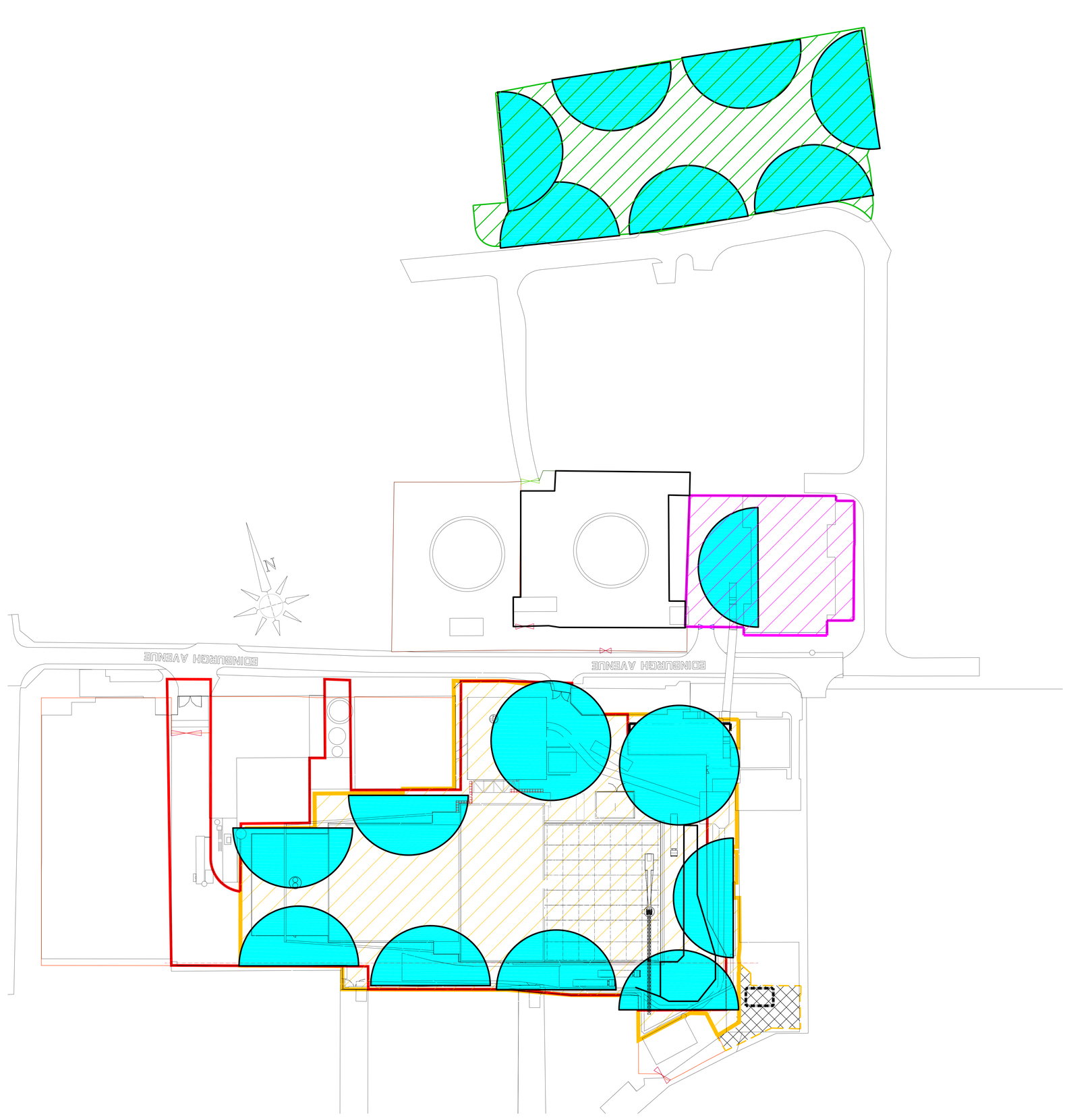
Preliminary estimates of the other largest waste streams are given below

Waste Type	Code	Tonnes
Inert (incl. waste concrete)	17 01 07	2,500
Wood	17 02 01	750
Tarmac	17 03 01	500
Plastic (energy recovery)	-	335
Metal	17 04 07	270
Paper and Cardboard	20 01 01	80
Plastic (recycled)	20 01 39	50
Green / MDF / Chip	20 01 38	50

APPENDIX 2: TYPICAL WASTES

CONTRACTOR NAME				Mobilisation and Demobilisation Date	
Waste Category & Type	**EWC Code**	**Source of waste**	**Re-used on site** (m^3)	**Taken off- Site** (m^3)	**Notes**
NON-HAZARDOUS					
Wood	17 02 01	Packaging			e.g. when this waste stream is expected, whether Contractor will handle this waste, whether it has potential for being further separated out (e.g. wooden pallets can be kept whole and taken away for reuse)
Plastics	17 02 03	Packaging			
Mixed Inert Construction Waste	17 09 07	General			
Sub TOTAL					
HAZARDOUS					
Sub TOTAL					
TOTAL					

APPENDIX 3: TEMPORARY ILLUMINATION PLAN



ORIENTATION

SCALE

KEYPLAN

NOTES AND SYMBOLS

- ALL DIMENSIONS IN MM
- ALL LEVELS IN M REFERING TO FINISHED FLOOR LEVEL (FFL) ±00.00M
- PLANT ORIGIN
  X=0MM Y=0MM Z=±00.00M
  CORRESPONDING TO SITE COORDINATES
  E=XXXXXX N=XXXXXX U=+XX.XXm AOD

PLANNING BOUNDARY

PRE-ASSEMBLY AREA / HEAVY ERECTION
(35t/m2; max slope 3%)

LAY DOWN AREA
(25t/m2; max slope 3%)

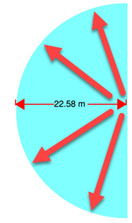
WELFARE & OFFICE AREA

Height of luminaires will be max. 15m and of LED Type

Lighting to be switched off when not required overnight

Luminaires to be positioned so that the extent of any light spill upwards or outside the site is minimised

Lighting is to be directed so that there is no potential for glare affecting adjacent road users



Arrow illustrates illumination pointing direction

Coloured area shows main illuminated area

Building Section	BS00 - Site Overall						
2.0	Re-ISSUED	Beta	13.09.2019	Wan	13.09.2019		
Rev.	Modification	Drawn		Checked		Approved	
Project-No. YE-3258	Project Name Slough Multifuel	Description CONSTRUCTION SITE LAYOUT					
Reservation of rights of ISO 16016		A3C		Title TEMPORARY ILLUMINATION			
Weight							
Scale 1:500		Replaced by:		Replaced for:			
Status		Sheet 55	DocType CAA	Supplier HZI	Drawing-No. 50094788	Revision 2.0	
Size A0							

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APPENDIX 4: NOISE, DUST AND VIBRATION MANAGEMENT PLAN

Slough Multifuel

Document Ref No: 50096484_0.0

Appendix 4 - Noise, Dust and Vibration Management Plan

Land at Edinburgh Avenue, Slough Trading Estate, SL1 4TU

Applicant: SSE Generation Ltd.

Date: April 2020

Document Number	**50096484**
Revision	2.0
Author	HZI
Approved By	SSE Generation Ltd.
Document Owner	SSE Generation Ltd.

CONTENTS

1.0 INTRODUCTION

1.1 Overview

2.2.3. This Noise, Dust and Vibration Management Plan ('NDVMP') (Appendix 4 to the Construction Environment Management Plan ('CEMP')) details how noise, dust and vibration associated with the Slough Multifuel Project ('the Project') shall be managed. It shall also provide the details required by Planning Condition 17 (g) and (h):

"Prior to the commencement of development, a Construction Environmental Management Plan shall be submitted to, approved in writing by, and deposited with the Local Planning Authority. The statement shall include provision for: …

(g) Noise and Vibration Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Noise monitoring locations and noise limits are required to be agreed with the Local Planning Authority prior to the construction phase to safeguard adjacent neighbouring properties from significance annoyances in accordance with British Standard:6472-1 and 5228.

(h) Dust Management and Monitoring Plan with quarterly reporting to the Local Planning Authority that covers all demolition and construction activity during construction phase. Dust monitoring locations and dust limits are required to be agreed with the Local Planning Authority prior to the construction phase.

1.2 Purpose and Scope

1.2.1. The NDVMP details the noise, dust and vibration management and monitoring measures that will be implemented at the site in order to minimise the effects and environmental nuisance on nearby sensitive receptors, and to demonstrate compliance with legal and other requirements.

1.2.2. The NDVMP forms a key part of the Site Environmental Management System, aligned with the requirements of ISO14001: 2015.

1.2.3. It should also be read together with the CEMP which describes the overall Health, Safety and Environmental (HSE) management system for the Site.

1.2.4. The contents of this document have been collated from a number of sources including from site visits, the Environmental Statement, stakeholder meetings, and dust, vibration and noise monitoring previously carried out on site.

1.3 Sensitive Receptor

1.3.1. The site is located within the built-up industrial area of the Slough Trading Estate. Receptors sensitive to potential dust, noise and vibration from the Project can be categorised as follows

- offices and work units bordering the site (see Appendix 1); and
- pedestrians and vehicles travelling along Edinburgh Avenue.

2.0 MONITORING

2.0.1. Two types of monitoring are proposed:

- Continuous Monitoring: consisting of a number of fully automatic continuous environmental monitoring points around the site boundary which will inform the Site Manager and the Site HSE Manager in real time to their mobile phones of any breaches of limits.
- Periodic Monitoring: where base line readings are taken prior to work commencing, then regular planned readings are taken during the course of the works, or after any complaint has been received.

2.1 Monitoring Points

2.1.1. The monitoring locations used for the Demolition Contractor (shown in Appendix 2) are located at the north-west, north-east and south-east corners of the site. Monitoring points within the site shall be retained during construction.

2.1.2. The monitoring locations will take into account the adjacent sensitive receptors as well as other factors such as existing buildings that may act as acoustic barriers and prevailing winds.

2.1.3. The location and number of monitoring points, particularly for dust and vibration, shall be reviewed at key milestones in the construction, as it is anticipated that the sources of dust and vibration will reduce as the Project progresses. Any changes shall be agreed with Slough Borough Council ('SBC').

2.2 Continuous Monitoring Equipment

2.2.1. Continuous 'real time' monitoring units will use mobile phone chips to automatically upload data to a cloud-based server. Email alerts will be sent to designated persons (typically the Site Manager and Site HSE Manager) to warn of any breaches of agreed levels. Warnings are issued on a traffic light system as set out in Section 2.3.

2.2.2. The objectives of this continuous and automatic monitoring for noise, dust and vibration are to:

- enable and assist the site team to evaluate the efficiency of mitigation measures to control and improve environmental performance on site;
- enable an understanding on how the measured levels are compared with agreed criteria values; and
- document and continually report on monitoring requirements, both for demonstrating compliance on a regular basis, and in response to recorded exceedance or complaint.

2.2.3. The type of units proposed shall be in accordance with British Standards and with the functionality described below.

2.2.4. Email alerts will be setup for the site management team members whenever noise, dust or vibration trigger/action limits are reached or exceeded.

2.3 Noise Equipment

2.3.1. Class 1 sound level meters shall be provided to take continuous-automatic monitoring of noise subject to agreement under S61 of CoPA 1974 with the Environmental Health Officer ('EHO')of SBC. All results will be recorded (LAeq in dB units) by data logging equipment within each unit, which are fed directly to web interface in real time.

2.3.2. This will allow assigned users to view live-real time and historical data from each of the monitoring units.

2.4 Vibration Equipment

2.4.1. Vibration monitors will be used to monitor vibration from construction. The dominant frequency component will be recorded for each period Peak Particle Velocity ('PPV'). Measurements will be able to be taken continuously or only during user-specified periods and/or only above a user-specified vibration level.

2.4.2. The monitors will send vibration readings directly to a web interface in real time similar to the noise readings.

2.5 Dust (Air Quality) Equipment

2.5.1. Dust level monitoring units to measure PM10 will be in accordance with the guidelines given in regulatory guidance.

2.6 Monitoring Action Levels

2.6.1. Monitoring units will be installed prior to any work being carried out in the construction area and will be used to take actual baseline measurements.

2.6.2. Once confirmed the units will be set to the agreed action levels. These will comprise a trigger level (amber) and an action level (red) as described in the table below.

Status	Description	Action
Green	All monitoring data is within acceptable levels	• No action required. • Continuation of construction activity • Continuation of monitoring
Amber – Trigger Level	Measured Noise levels alert – indicating exceedance of this threshold	• Email / text alert showing amber level exceedance • Site Manager to undertaken visual inspection of site activities and ensure mitigations are in place • Site team will implement additional measures as identified by Site Manager • Site Manager continues to monitor situation until return to 'green'
Red – Action Level		• Text message alert showing red level exceedance sent to Site Manager and Site HSE Manager notifying them of the exceedance. • SBC EHO notified. • Contractor to stop works and review measures in place and implement additional mitigation measures where practicable; including shortening the daily duration of the noisy activities. • HSE Advisor to analyse the data and look at possible trends, relationships and correlate the Alert with work activities on site. • Project Manager to check best practice measures are in place for the work activities • Notify EHO of proposed remediation techniques • Site HSE Manager to log the incident and provide instruction to re-start works only on implementation of practicable mitigation methods identified

2.7 Vibration Limits

2.7.1. Vibration limits will be measured in line with the values stated in in BS 7385-2:1993 as outlined below.

	Vibration Units	Monitoring Points RP1, RP2 and RP3 (Fixed Monitors)
Trigger Level	Peak Particle Velocity (PPV) (mm/s)	3
Action Level		5

2.7.2. Alerts will be sent as soon as the trigger or action levels are exceeded.

2.8 Noise Levels

2.8.1. An indication of baseline noise levels is given below. These will be verified prior to commencing construction.

Receptor Points	Nominal Baseline Level LAeq (dB)
RP1	73 dB
RP2	73 dB
RP3	72 dB

2.8.2. Construction activities will impact on the baseline, and a Section 61 certificate will be applied for, along similar lines for the demolition phase of the Project. As per the Environmental Statement, it is believed that due to high baseline levels, the location of the site within an industrial area, and the limited duration of noisy works, this will not significantly negatively impact local environment.

2.8.3. Alerts shall be sent when the 60-minute average trigger or action levels are reached. These trigger levels shall be determined once baseline monitoring has completed and construction noise level predictions (based on BS 5228-1: 2009+A1:2014) are agreed with SBC through Section 61 agreement.

2.9 Dust Levels

2.9.1. Baseline dust data shall be collected prior to construction to confirm actual base line measurements. Once confirmed the units will be set to the agreed trigger levels, typically 11 µg/m^3 above baseline levels.

2.9.2. Alerts shall be sent when the 15-minute average trigger or action levels are reached.

2.10 Equipment Calibration

2.10.1. The relevant British Standards require that the Sound Level Meter (SLM) should be calibrated at agreed intervals. In addition to field calibration, an accredited laboratory will calibrate SLMs and calibrators periodically. BS 7580:1997 Specification for the verification of SLMs requires that they should be verified every two years. Re-calibration should be considered if an SLM or calibrator has been subject to accidental damage.

2.10.2. The vibration monitors will be calibrated bi-annually by a certified laboratory.

2.10.3. PM10 monitors will be calibrated as agreed with the supplier.

3.0 MITIGATION MEASURES

3.0.1. The following good practice mitigation measures will be put in place to manage noise, dust and vibration. The sensitivities of the site shall be conveyed to workers during the Site HSE Induction and detailed communicated to workers through Toolbox Talks and pre-work Risk Assessment briefings.

3.1 Noise

3.1.1. Noise control measures to safeguard adjacent neighbouring properties from significant annoyance shall be in accordance with the mitigations detailed in Environmental Statement and BS:6472-1 and 5228 as detailed in the table below.

3.1.2. Any known periods of prolonged out of hours activity that are necessary, e.g. a prolonged concrete pour, that may give rise to noise at sensitive receptors shall be agreed with SBC and communicated to local residents in advance of the activity taking place.

Noise Mitigation Measures	
1.	Noisier activities with the potential to cause a nuisance to sensitive receptors will be restricted to daytime hours of Monday to Friday 07:00 – 18:00 unless otherwise agreed with SBC. The following plant/activities are listed by way of example of those tools or operations likely to be included in those restricted to these hours: • earth shifting ground compaction; • scabbling; • concrete jack hammering; • sheet piling (if required); and • impact wrenches (used for steel erection). Extensions and relaxations to the above noted working hours for noisier activities will be agreed with SBC as required. We note that some activities may require temporary extensions of the agreed hours which last for consecutive days and/or require Saturday hours, this will be necessary in the case of prolonged activities such as the continuous concrete pour.
2.	Any construction activity that may be audible at the nearest residential receptors shall be carried out as far as is reasonably practicable during daytime periods.
3.	All compressors, percussion tools and vehicles shall be fitted with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
4.	Hydraulic breakers, pneumatic drills and other noisy appliances shall not be used outside daytime hours without acceptance by SBC.
5.	Where practicable, rotary drills and bursters actuated by hydraulic, chemical or electrical power will be used for excavating hard or extrusive material, in preference to percussive techniques.
6.	All plant and equipment to be used for the works to be properly maintained and operated in accordance with manufacturer's instructions. Plant and equipment shall be silenced where appropriate and operated to prevent excessive noise (i.e. no revving, appropriate silencers, mufflers or covers where applicable are maintained) and switched off or throttle back when not in use.
7.	Electrical or LPG powered plant will be used, where practicable, rather than plant powered by combustion engine.
8.	Plant to be certified to meet relevant current legislation as defined by BS 5228 standards.

Noise Mitigation Measures	
9.	Vehicle movements on-site shall be managed to avoid excessive reversing movements and associated vehicle alarms whenever possible, by optimising the site layout and working methodologies.
10.	Construction vehicles should be fitted with white spectrum/broadband type complying with ISO9533 reversing alarms wherever possible and for night-time working. Where not possible for night-time working, reversing alarms shall be switched off and a banksman used.
11.	Loading and unloading of vehicles, dismantling of site equipment such as scaffolding or moving equipment or materials around the site will be conducted in such a manner as to minimise noise generation and where practical to be conducted away from noise sensitive areas.
12.	Drop height into hoppers, lorries etc. will be minimised.
13.	Care will be taken regarding the movement of materials such as rebar and scaffolding such that noise is minimised.
14.	Silent running generators shall be used for all night shifts.
15.	Any concrete batching plant will be located to gain the maximum benefit from separation distance to receptors and screening from existing buildings or landforms.
16.	Stationary noise sources shall be sited as far away from noise sensitive locations as possible, and where necessary acoustic barriers or sound absorbing enclosures shall be used to shield them.
17.	For any particular job, the quietest available plant and/or machinery shall be used. Where possible, mains electric powered plant will be used rather than diesel or petrol driven plant.
18.	Construction access roads will be well maintained to reduce noise and vibration from construction traffic.
19.	Consideration to be given to the use of additional measures if required by noise assessments, i.e. use of rubber linings in, for example, chutes and dumpers to reduce impact noise, site hoardings at appropriate locations and so on.

3.2 Vibration

3.2.1. The impact to off-site receptors from vibration from construction activities was assessed as negligible in the Environmental Statement, however the mitigations in the table below will be implemented.

Vibration Mitigation Measures	
1.	Loading/unloading of material into vehicles within designated bays only and minimising drop heights.
2.	Speed limits both on and off site.

3.3 Dust

3.3.1. The following mitigation measures will be considered to minimise dust and other emissions from site activities and disruption or nuisance to neighbouring occupiers.

Dust Mitigation Measures	
1.	All HGV vehicles used for delivery / removal of materials from site comply with Euro V regulations or higher as a minimum. Preference will be given to vehicles which comply with Euro VI regulations.
2.	No idling of trucks shall be permitted.
3.	Site speed limit shall be 10 mph maximum.
4.	The location of stockpiles of aggregate and other materials away from dust sensitive properties, taking into account prevailing wind, if necessary.
5.	Aggregate or fine materials storage will be enclosed and screened/sheeted to prevent wind blow and dust generation.
6.	Exposed stockpiles/haul roads shall be dampened if necessary.
7.	Regular inspections shall be carried out of local highways and site boundaries for dust/mud deposits and cleaned using road sweepers if required.

4.0 COMPLAINTS

A contact number will be published online for residents and businesses to phone should they have any queries or complaints regarding noise, vibration, dust or any other issues on the site.

Regular liaison meetings and reviews with neighbouring sites shall be held to plan works so that they do not cause unnecessary/excessive disruption.

On receiving a complaint related to noise, dust or vibration, the Site Manager will initiate an investigation on the likely cause of the event and commence reviewing available monitoring data with the Site HSE Manager. The Site Manager will correlate the time of the event and other pertinent information, including activities on or in the proximity of the site, to determine the likely cause of the alert or complaint.

Where this is deemed to have emanated from site activities, corrective measures shall be proposed, agreed and approved by the Site HSE Manager and monitoring consultants to ensure the implemented remedial actions satisfy the predictions of preventing future recurrences. The Site Manager shall be responsible for ensuring the remedial actions are implemented.

The Site Manager shall ensure a brief notification of the incident (including the time and date), together with details about the nature and likely cause of the complaint, is forwarded to Environmental Health Officer of SBC.

A record of all complaints shall be held. A written response to the complainant shall be provided and a record of the response retained.

5.0 REPORTING

All data from monitoring activities will be recorded and saved in electronic format. Graphs shall be developed to show both the trigger and actions levels and measurement data taken during working and non-working hours. Where monitoring values have exceeded trigger and action levels, a brief description of the reason(s) for this will be provided, together with any available mitigation taken to prevent recurrence.

The results of the environmental monitoring will be reported on a monthly basis to the Site Manager.

The results of the noise, dust and vibration monitoring shall be forwarded quarterly to SBC.

6.0 AUDITS

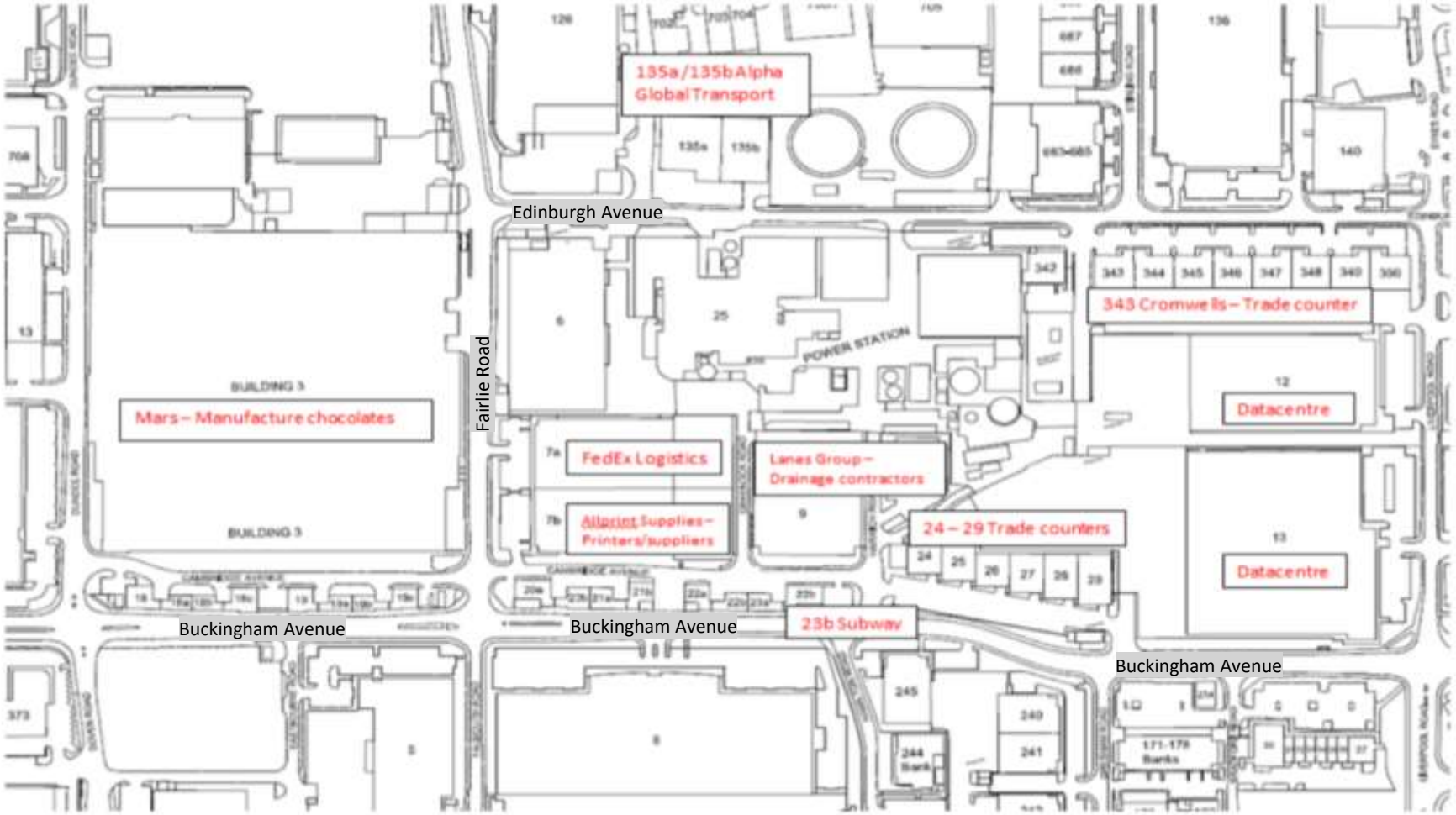
The NDVMP will be audited and reviewed periodically as part as the HSE Management System audit programme to ensure that monitoring and reporting is carried out in accordance with this procedure.

Records of calibration and monitoring activities will be maintained in electronic format and are subject to document control as per project document control procedures.

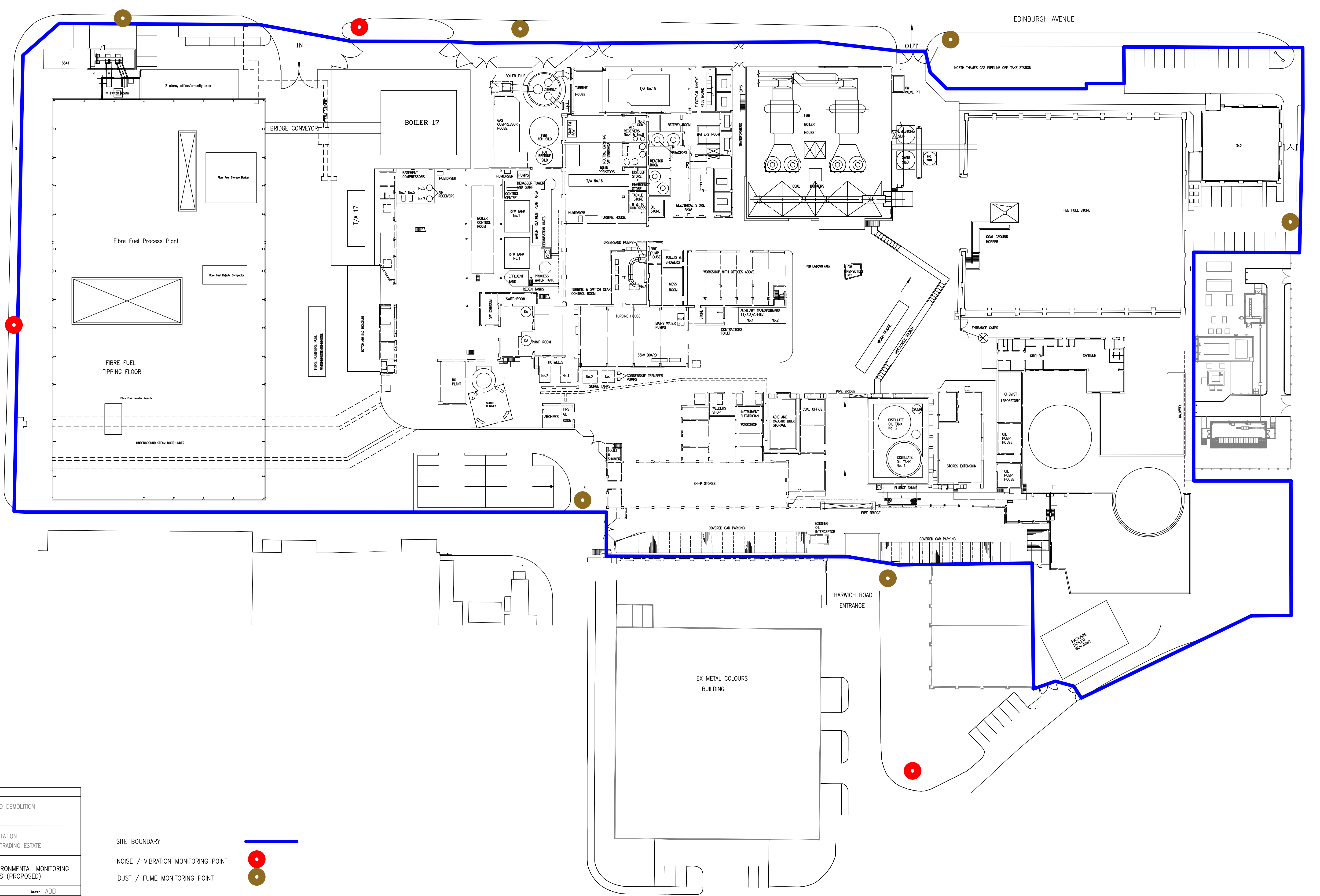
Non-conformances will be corrected immediately followed by a management review meeting.

A copy of all audits carried out on the site will be filed in accordance with quality management system requirements.

APPENDIX 1: SENSITIVE RECEPTORS IN PROXIMITY TO CONSTRUCTION AREA



APPENDIX 2: EXISTING MONITORING LOCATIONS



EDINBURGH AVENUE
IN
OUT
NORTH THAMES GAS PIPELINE OFF-TAKE STATION
2 storey office/amenity area
BRIDGE CONVEYOR
BOILER 17
T/A 17
Fibre Fuel Process Plant
Fibre Fuel Storage Bunker
Fibre Fuel Rejects Compactor
FIBRE FUEL
TIPPING FLOOR
UNDERGROUND STEAM DUCT UNDER
BOILER FLUE
CHIMNEY
TURBINE HOUSE
T/A No.15
T/A No.16
GAS COMPRESSOR HOUSE
FBB ASH SILO
BATTERY ROOM
REACTOR ROOM
TRANSFORMERS
FBB BOILER HOUSE
LIMESTONE SILO
SAND SILO
342
FBB FUEL STORE
COAL GROUND HOPPER
BASEMENT COMPRESSORS
HUMIDRYER
AIR RECEIVERS
BOILER CONTROL ROOM
RFW TANK No.1
EFFLUENT TANK
PROCESS WATER TANK
REGEN TANKS
SWITCHROOM
PUMP ROOM
HOTWELLS
RO PLANT
SOUTH CHIMNEY
GREENSAND PUMPS
FIRE PUMP HOUSE
TOILETS & SHOWERS
MESS ROOM
WORKSHOP WITH OFFICES ABOVE
TURBINE & SWITCH GEAR CONTROL ROOM
TURBINE HOUSE
MAINS WATER PUMPS
33kV BOARD
AUXILIARY TRANSFORMERS 11/3.3/0.44kV
CONTRACTORS TOILET
CONDENSATE TRANSFER PUMPS
SURGE TANKS
ELECTRICAL STORE AREA
OIL STORE
ENTRANCE GATES
KITCHEN
CANTEEN
CHEMIST LABORATORY
OIL PUMP HOUSE
STORES EXTENSION
DISTILLATE OIL TANK No. 2
DISTILLATE OIL TANK No. 1
SLUDGE TANKS
WELDERS SHOP
INSTRUMENT ELECTRICIAN WORKSHOP
ACID AND CAUSTIC BULK STORAGE
COAL OFFICE
PIPE BRIDGE
FIRST AID ROOM
ARCHIVES
SH+P STORES
COVERED CAR PARKING
EXISTING OIL INTERCEPTOR
WALKWAY
HARWICH ROAD ENTRANCE
EX METAL COLOURS BUILDING
PACKAGE BOILER BUILDING
SITE BOUNDARY
NOISE / VIBRATION MONITORING POINT
DUST / FUME MONITORING POINT

Revisions

Project
PROPOSED DEMOLITION

Location
POWER STATION
SLOUGH TRADING ESTATE

Content
SITE ENVIRONMENTAL MONITORING LOCATIONS (PROPOSED)

Date 03/2018 Drawn ABB

Scale NOT TO SCALE

THIS DRAWING IS NOT TO BE SCALED. ALL DIMENSIONS TO BE CHECKED ON SITE.

Scottish and Southern Energy

Slough Heat & Power Limited
342 Edinburgh Avenue
Slough, SL1 4TU
Telephone 01753 213200
Facsimile 01753 213210

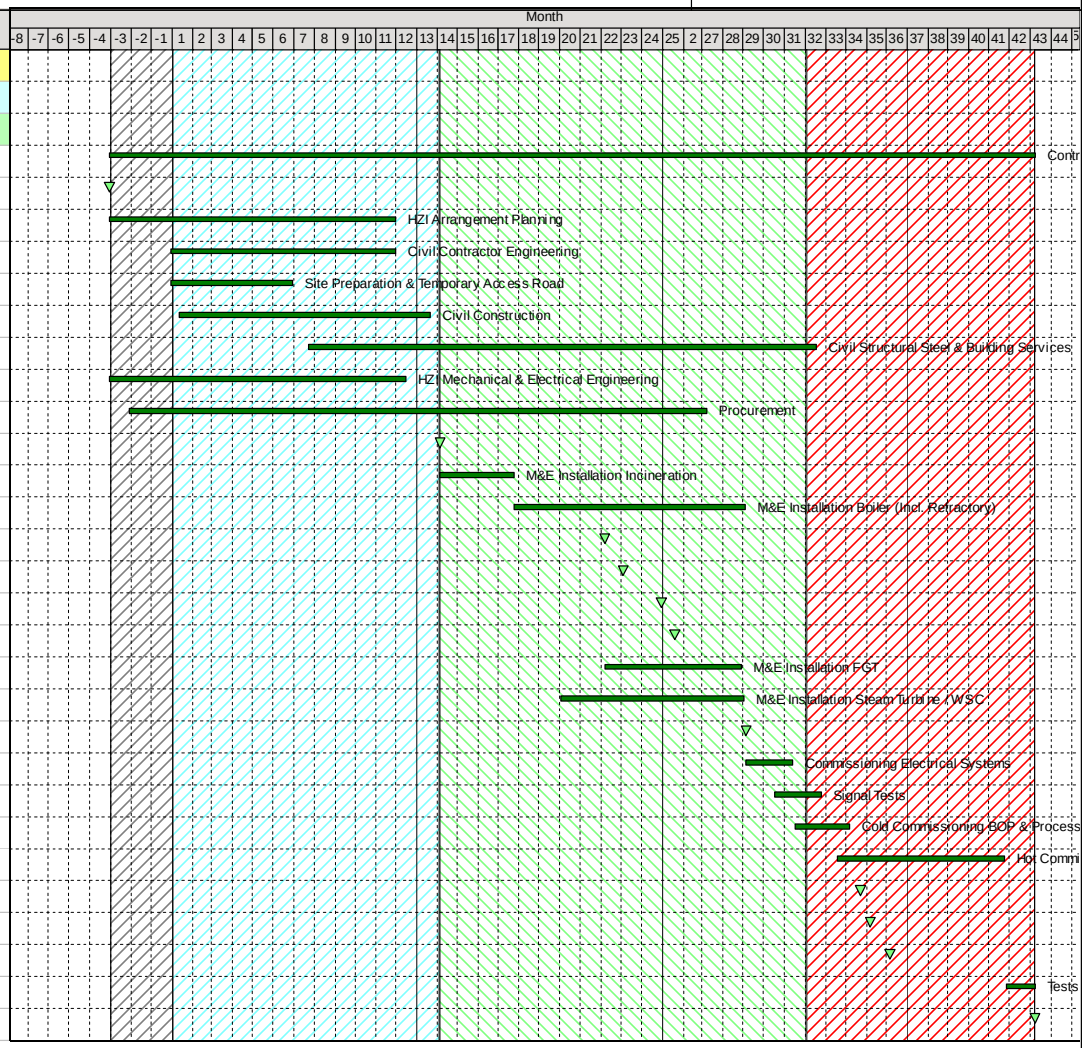
Dwg no. LB200016-TBC Revision N/A

APPENDIX 5: CONSTRUCTION PROGRAMME

Overview Time Schedule

Project: YE-3258 Slough
2- Lines / 2 x 91.7 MWth
Hitachi Zosen Inova AG
Switzerland

Activity ID	Activity Name	Original Duration	Start	Finish
B PROJECT MANAGEMENT & PROJECT LOGISITICS				
BA PROJECT OVERVIEW				
BABA PROJECT SUMMARY				
BABA090L0	Contract Duration: NTP to Completion	1378	30-Sep-20	08-Jul-24
BABA110M0	Notice to Proceed (NTP)	0	30-Sep-20*	
BABA120L0	HZI Arrangement Planning	305	30-Sep-20	30-Nov-21
BABA150L0	Civil Contractor Engineering	239	30-Dec-20	29-Nov-21
BABA160L0	Site Preparation & Temporary Access Road	130	30-Dec-20	29-Jun-21
BABA170L0	Civil Construction	269	11-Jan-21	20-Jan-22
BABA180L0	Civil Structural Steel & Building Services	540	23-Jul-21	17-Aug-23
BABA200L0	HZI Mechanical & Electrical Engineering	315	30-Sep-20	14-Dec-21
BABA230L0	Procurement	616	28-Oct-20	08-Mar-23
BABA240M0	Start Mechanical & Electrical Erection	0	03-Feb-22	
BABA250L0	M&E Installation Incineration	80	03-Feb-22	25-May-22
BABA260L0	M&E Installation Boiler (Incl. Refractory)	248	24-May-22	04-May-23
BABA270M2	Lift In Boiler Drum L2	0	07-Oct-22	
BABA280M1	Lift In Boiler Drum L1	0	04-Nov-22	
BABA290M2	Boiler - Pressure Test L2	0	30-Dec-22	
BABA300M1	Boiler - Pressure Test L1	0	20-Jan-23	
BABA310L0	M&E Installation FGT	135	07-Oct-22	27-Apr-23
BABA320L0	M&E Installation Steam Turbine / WSC	195	02-Aug-22	01-May-23
BABA340M0	Power On	0	05-May-23	
BABA350L0	Commissioning Electrical Systems	50	05-May-23	13-Jul-23
BABA360L0	Signal Tests	50	16-Jun-23	24-Aug-23
BABA370L0	Cold Commissioning BOP & Process Systems	60	17-Jul-23	06-Oct-23
BABA380L0	Hot Commissioning	180	18-Sep-23	24-May-24
BABA390M2	First Waste Fire L2	0		23-Oct-23
BABA400M1	First Waste Fire L1	0		06-Nov-23
BABA410M0	1st Synchronization Steam Turbine	0		06-Dec-23
BABA420L0	Tests on Taking Over & Visual Inspection	31	27-May-24	08-Jul-24
BABA430M0	Take Over Certificate	0		08-Jul-24



Document Nr:: 50087885
Project: TTS Slough Rev.10 (IN WORK)
Project ID: YE-3258-TTS-Rev.10
Layout: YE-3258 Client View (One Page)
TASK filters: (Untitled Filter)_544, YE-3258 Client View

Summary
Task
Milestone

Prepared:PMOS/roga
Printed:19-Mar-20/
15:05

APPENDIX 6: SPILLAGE RESPONSE INFORMATION

CEMP Appendix 6: Spill Response Information

1.1 Site Drainage and Chemical Storage Plans

The locations of the chemical storage shall be marked on an annotated copy of the construction site drainage and shall be kept with the Site Emergency Preparedness and Response Plan. Once permanent drainage is installed, lids shall be marked with an arrow showing the direction of flow. A blue arrow shall indicate surface (clean) water and red arrow, foul water. If practical, the reference number of each drain shall be marked on the lid.

Safety Data Sheets (SDS) and Chemical Assessments of all chemicals and fuels on site are kept in the Site HSE Office.

1.2 Spill Kit

The type of spill kit required depends on the activity and products used. Contractors are required to hold spill kits on site at suitable locations and appropriate in type and volume for the clean-up of the chemicals or fuels in use. Contractors shall train their personnel in the use of the spill kits. In addition, HZI will provide the basic type of spill kit (a) on site. Prior to commissioning spill kits (b) and (c) shall also be provided on site:

a. **Type 1 Spill Kit:**
   - 1 X 250 litre wheelie bin which contains:
   - 1 X Proprietary universal spill kit (or oil / chemical depending on the activities on site)
   - 1 X universal boom adequate in size to contain any spills on attenuation pond

b. **Type 2 Spill Kit:**
   - 1 X 250 litre wheelie bin which contains:
   - 1 X Plastic shovel
   - 1 X long handled broom
   - 10 heavy duty plastic bags with ties and labels
   - 1 pair of safety goggles
   - 1 pair of rubber gloves
   - 1 pair of plastic overalls
   - 1 pair of rubber boots
   - 2 X P3 respirators
   - 1 X roll of hazard warning tape
   - Sorbant pads, sheets and socks

c. **Type 3 Spill Kit:**
   - 1 X 95 Litre bin with lime in and warning notice
   - 1 X 250 litre wheelie bin which contains:
   - 1 X Plastic Shovel
   - 1 X long handled broom
   - 10 heavy duty plastic bags with ties and labels
   - 1 full face shield
   - 1 Pair of superchem coveralls
   - 1 pair of rubber boots
   - 1 X 4000 series respirator with FFABEK1P3D filters
   - 1 X roll of hazard warning tape
   - Sorbant pads, sheets and socks

1.3 Spill Response Procedure

1.3.1 General

All spill response procedures are based around the principle of ‘stop and contain (if safe to do so), notify, clean up and investigate’. When controlling pollution, the following hierarchy of measures

applies (also summarised in the attached 'Spill Response Instructions' at the back of this document):

1. Wear PPE as specified in the SDS / Chemical assessment;
2. Ensure that the spillage / release is minimised by;
    a. **Containing pollution at source** by i.e. sealing or isolating the damaged container or pipework, turning a container, putting the leaking container into another secure container, close any valves on pipework to stop material flow.
    b. **Containing close to source** by i.e. using spill kit soak up the spilt substance, use spill kit (typically sock or cushion) to block ensuring pathways to surface water (e.g. ditches, drains, gullies), use drain mats to cover surface drain openings and manhole covers, use pads or sorbent products to soak up the spill.
    c. **Minimise spread on water** i.e. using booms to prevent the material spreading on puddles.
    d. **Contain in the drainage system** i.e. by closing oil separators, closing penstock valves or pollution control valves in the drainage system (as indicated on the site drainage plan), or use pipe blockers.
    e. **Contain on site**

    For larger or more complex spills, an external spill response contractor shall be mobilised to carry out clean up.
3. The site of the spill shall be barriered off to prevent people or vehicles inadvertently spreading contamination.
4. Contaminated absorbent material, drain covers, dams, recovered liquids etc. shall be placed into suitable sealed plastic sacks / containers and stored in an area or in a receptacle providing adequate secondary containment to be treated as hazardous waste. Hazardous wastes shall not be co-mingled;
5. Hazardous wastes shall be stored in a hazardous waste area and collected by a licensed waste carrier as soon as practicable (as per Site Waste Management Plan).
6. In the event of rain and the contamination is at risk of spreading in the rain, the area should be covered with a tarp or similar until the clear up is complete;
7. Should the spillage result in hydrocarbon or chemicals entering the site drainage system the contents of the drainage channels and inceptors shall be analysed and the appropriate clean up and disposal route employed;
8. The Environment Agency shall be contacted immediately if there is an accidental discharge to an external sewer or watercourse.

In the event of a spill inside a bunded area the Site HSE Manager shall assess whether a specialist cleaning contractor is required to safely remove the oil and clean out the bund. Spent spill kit or waste oil / chemicals shall be handled as per points 4 and 5 above.

1.3.2 Spillage on Plant Equipment

Should a leak have caused hydrocarbons or chemicals to be spilt on plant or equipment, the Site HSE Manager or delegate shall review the extent of contamination and decide, with specialist advice where necessary, the decontamination requirements. Care shall be taken to check for hydrocarbon or chemicals that may have been absorbed into insulations materials.
Where spillage has occurred on areas of open mesh flooring, the corresponding areas on all lower floors shall be taped off until decontamination has been completed.

1.3.3 Other Information

Following any hydrocarbon spillage incident all hot work permits shall be withdrawn immediately. If fire extinguishers are required use dry powder, carbon dioxide or foam and do not water jet.

Spill Response Instructions

Hitachi Zosen INOVA

If a spill occurs:

1. STOP!

- Raise awareness to those working nearby
- Switch all ignition sources off in area
- Isolate source if safe, e.g. close valve, turn off pump, plug hole etc.

2. ENSURE PERSONAL SAFETY

- Take precautions e.g. additional PPE
- Restrict access as required

3. CONTAIN

- Stop spill from entering drains using spill kit
- Prevent further spread using spill kit
- If spill enters drains notify Site HSE Manager immediately

4. NOTIFY

- Notify Supervisor to advise on clean up
- Notify HZI immediately

5. CLEAN UP

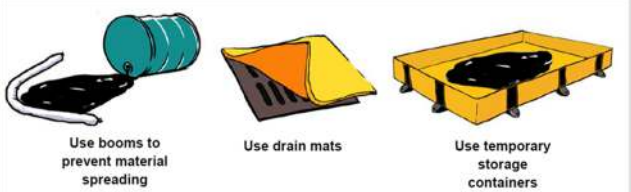
- Ensure a trained spill responder assists in clean up
- If raining, cover area until spill response team mobilised
- Ensure all contaminated waste is bagged and put in designated hazardous waste storage area
- Contact stores to replace used spill kit

Methods to Contain Spills

1. Control at Source

2. Contain Close to Source

3. Contain Spill on the Surface



Don't

- × ignore it – STOP WORK and act immediately
- × hide the incident – ensure it is reported to a supervisor and controls implemented
- × hose ANYTHING into surface drains or water courses

Emergency Number: XXXXXXX