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YOUR SAFETY IS MY SAFETY

BAA.2210 Red Bank Neighbourhood, Victoria North HIF Infrastructure Project

Project Execution Plan

Document ref:							
Rev	Purpose description	Originator	Checked	Reviewed	Authorised	Date	Review Date
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04	Quarterly Update	L. Chambers	N. Peters	N. Peters		19/12/22	
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06	Updates based on B. Cunningham audit	D. Kiely				2/10/2023	
07	Addition of NT Plots	A Campbell		N Peters		7/11/2023	
08	Addition works to St Catherines Wood	J. Annett					

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Section A Project Execution Plan

A1.0 Introduction

This Project Execution Plan (PEP) describes the methods to be implemented to control the health safety and environmental requirements with regard to project scope of works detailed in section 2.1 of this plan. The BAM Nuttall policy and systems under which this plan is prepared are described in the BAM Nuttall management manual.

This plan is primarily in four parts that define the way in which each aspect of this project will be managed. Part A of this document contains the common BAM Nuttall core set of requirements. When this section is read in conjunction with Part B, Part C or D and associated schedules these interlink to form the following documents as defined in **Table A1.0** below:

Table A1.0 PEP Layout

Section A Common Requirements and schedules	+	Section B Health and Safety and schedules	=	Construction phase plan as required under CDM
	+	Section C Environment and schedules	=	Environmental management plan
	+	Section D Quality and schedules	=	Quality plan
	+	Section B, Section C, Section D and schedules	=	Project Execution Plan

The arrangements for the management of health, safety, environmental and quality issues during site activities within this project are detailed in the sections, schedules of this document. They make provision for the development and use of subsidiary documents – procedures, activity plans, inspection and test plans.

The overall purpose of the plan is to record the initial risk assessment, how we are going to proceed and establish a project system capable of meeting customer, statutory and regulatory requirements. It gives assurance that systems are in place and guides BAM Nuttall staff in implementing them.

A1.1 Project execution plan administration

Authorisation

The plan meets BAM Nuttall, customer and legislative requirements. It is verified as meeting system requirements of BAM Nuttall and those of ISO 9001, ISO 14001 and ISO 45001.

This plan is authorised for use by the agent, area health and safety advisor, area environment advisor and quality manager. The Divisional Director confirms acceptance of overall responsibility for effective operation of this plan. Confirmation is either by e-mail, electronic signature or information management system.

Distribution

This plan once approved and verified is stored on the information management system used by the project 01.1 Project Procedure, PEP

The plan once approved and verified is distributed by the agent or document controller via e-mail and stored as detailed in the project document control procedure.

Revisions to the plan

Major revisions to this plan are made and approved in the same way as the originals including the obtaining of customer approval and authorisation where required by the conditions of contract. Minor amendments to the plan are not referred to the original plan authorisers, Minor

amendments to procedures are dealt with by the agent through the document management system.

Inputs into the plan

This plan is based on the contract documents referenced in **Table A2.1** and any pre-construction information provided by the customer, the designer and/or forwarded by the Principal Designer

It has been prepared taking account of:

- ISO 10005 *Quality management guidelines for quality plans*
- ISO 9004 *Management for the sustained success of an organisation – A quality management approach,*
- BS 6079 *Project management. Principles and guidance for the management of projects,*
- PAS 99 *Specification of common management system requirements as a framework for integration*
- 'The Construction (Design and Management) Regulations Guidance on Regulations (L153)– *Managing health and safety in construction'*

Control measures defined within subsidiary documents to this plan (risk assessments, procedures, activity plans, work package plans and inspection and test plans), are primarily based on the following information sources:

Normative References and Definitions ***MG00: Management System Definitions***

Normative references and definitions are defined in the contract specification and documents. These are detailed in **Table A2.1**

A2.0 The project

A2.1 The project works

The project to which this execution plan relates is described in **Table A2.1** this plan is subject to continual development as the project progress and information becomes available.

Table A2.1: The project

Project overview	Construction of infrastructure to allow for future residential development of the site.
Client	**Manchester City Council**
Client representative	**Turner & Townsend for MCC & Pell Frischmann**
Principal Contractor	**BAM Nuttall LTD.**
Lead designer	**HIF: ARUP** **NT02-NT04: ROC**
Other designer(s)	HIF: Plan-IT NT02-04: Geofirma (Piling)
Principal Designer	**HIF: BAM Nuttall LTD.** **NT02-04: ROC**
Others	**Pell Frischmann**
Contract terms and conditions	NEC Option A
Specification	HIF: ARUP Design Specification, NT02-04: ROC Design Specifications

F10	Date Applied for	Start Date	Finish Date:
	11/10/2022	10/10/2022	01/07/2024
Site working hours	Mon to Friday- 0730-1800hrs. No weekend work unless agreed with client representative. If weekend work is permitted hours shall be Saturday 0830-1400, no Sunday or bank holiday working is permitted. No night work unless authorised within the contract. All local authorities' embargos to be adhered to.		
Scope of work **(Project works covered by this plan)**	**HIF** Site setup Tree clearance Bulk Earthworks – to sub formation level. Treatment of invasive species Ground remediation Partial demolition of Honey Street retaining wall Redundant service disconnection and decommissioning Highway construction (red bank tie in only) Hydroseeding Retaining wall installation Fencing Removal of temporary infrastructure U-tube river crossing **NT02-04** Removal of all vegetation Construction of site hoarding Disconnection of all utilities at site boundary Diversion of HP Gas main within site boundary Demolition of Love Factory and surrounding buildings Removal of all hard standings Construction of 50m piled retaining wall at Network Rail Boundary Cut and fill of existing earthwork profile to meet future building layouts. Removal of Invasive Non-native species Removal and remediation of areas of contaminated soils Remediation of contaminated groundwaters **St Catherines Wood** Earth works, remediation and associated works to create new park area: Woodland management (including selected tree removal and new tree planting) Earthworks (cut and fill) Reprofiling of existing slope to river edge Removal and treatment of invasive species in the area Installation of walking and cycling routes Installation of play equipment and seating areas Lighting and security installation New tree and landscape planting		

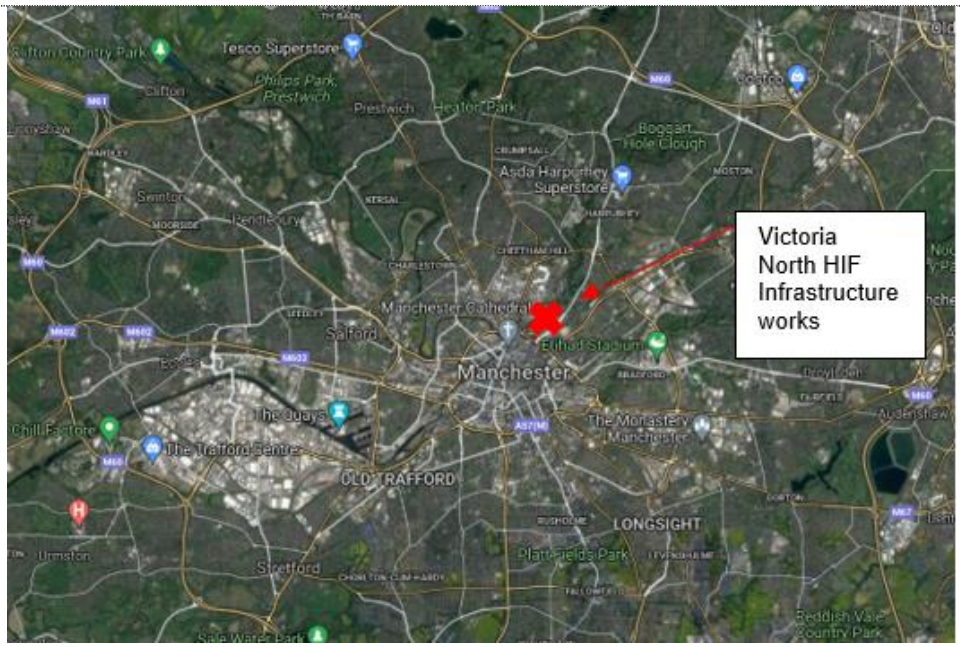
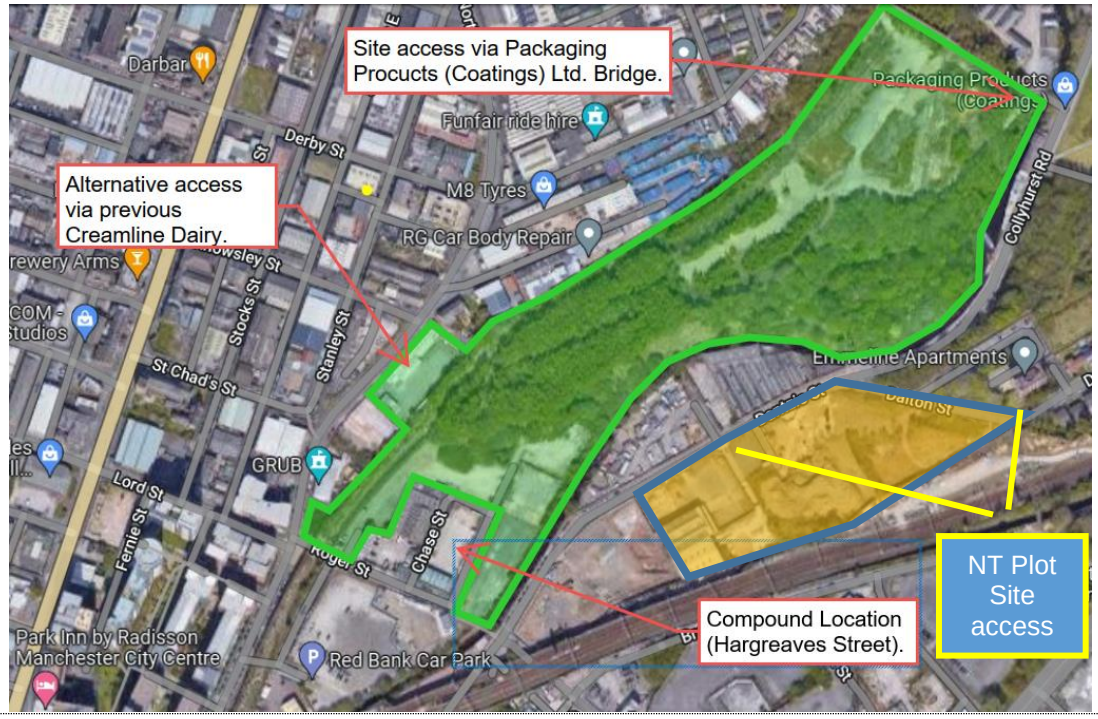
	Investigations and associated repair work to existing St Catherines footbridge Construction of new gabion retaining structures	
Significant works to be subcontracted	**HIF** Tree Clearance Hydroseeding Kerbing and Surfacing works Invasive Species Management Materials Testing Precast Manufacture Demolition of Structures Removal of Contaminated Ground Water Fencing Security + CCTV monitoring **NT02-04** Demolition De-Vegetation Hoarding Utility Works Piling **St Catherines Wood** Removal and treatment of invasive species in the area New tree and landscape planting Installation of play equipment and seating areas Lighting and security installation Investigations and associated repair work to existing St Catherines footbridge	
Key Risks and Opportunities	Identify and list the 5 key risks on the project	Identify and list 5 key opportunities on the project
	1. Thefts/Vandalism of plant and materials 2. Earthworks balance, potential that the quantities priced withing in the model are incorrect. 3. Roger/Chase/Hargreaves Street parking restrictions could impact the delivery of the works 4. Labour Rates – increase in line with inflation and current cost of living crisis.	1. Design change of U-Tube, utilisation of alternative solution 2. Reduced cost of installation of U-Tube 3. Programme betterment, reduced cost and programme 4. Roger Street Access Concrete vs Steel, move away from concrete and construct in steel. 5. Design development and value engineering during construction works

	5. Measurement omission in tender documents vs construction issue drawings	

A2.2 Project location and Green Travel Plan

Project location

Table A2.2: Project location

Project Name and address	
Victoria North HIF Infrastructure Works	
	Main site compound and offices located on Hargreaves Street, M4 4EJ. Access routes on to site for deliveries and work are subject to change.
	

Green Travel Plan

In line with our corporate requirements to consider the impact our works activities have on the environment; the agent has considered transport arrangement to and from site for personnel and visitors. **Schedule A2** defines the arrangements.

A2.3 Site security

Appropriate site security arrangements are selected by the agent following an assessment of the risks of injury to members of the public. Outline arrangements are defined in **Table 2.3**

Table A2.3: Site security

Security fencing	Fencing to be erected around all work areas whilst in progress, and security on site for out of hours working. Where existing fencing is in place this will be maintained for the period of works.
Controlled access points	**HIF** Former Creamline Dairy Entrance – Locked gates. P&P Entrance – Locked gates. Hargreaves Street compound – Locked gates. **NT02-04** Dantzic Street Access – Locked Gates Dalton Street Access – Locked **St Catherines Wood** Pedestrian access via steps (down the embankment) adjacent to Collyhurst Weir 4x4 Vehicle access across site from Hargreaves Street compound 4x4 Vehicle access via Packaging plastic coatings ltd (then through the woods if necessary).
Warning signs	To be provided advising public that works being carried out. Warning signs are also to be secured to temporary fencing around specific work areas and at access points.
Security cameras	To be deployed around the main compound on Hargreaves Street and wherever else that is deemed practical as the project progresses
Security guarding	Overnight Guard with Dog at Hargreaves Street compound.
Material and plant	Locked, isolation switches, secured within fenced compound. Hargreaves Street, former Volker Yard and Plateau Compound
Fuel security	Lockable Double Bunded 1000L Fuel Tank
Any other relevant matter	If 3rd Parties enter the fenced off area, works to stop and direct the party out of area. If persons approach the work, the operators will stop work and direct them safely past and away from the work area.

A2.4 Project objectives and targets

Specific objectives and targets with measurable performance indicators, including those set by the client, are defined for this project within the **Table 2.4** below**.** These targets are monitored by the agent for distribution to other interested parties.

Objective /Target	Performance indicator	Responsibility
Safety	100% of AP's are briefed 100% of Site Inductions Zero accidents or injuries Promotion of safety culture across the division	BAM
Environment	Zero reportable incidents All waste to be logged on BAM Site	BAM
Quality	Close out NCRs within 4 weeks	BAM
Management	CCS Score >40	BAM
Sustainability	Sustainable procurement and influencing the supply chain will be key to driving low carbon initiatives and performance measures	BAM
Social Value	Ratings on SVDP and committed targets throughout project	BAM

A2.5 Management arrangements

The agent is responsible for the implementation of this plan and ensures that it is communicated to all those who require to work in accordance with it directly and indirectly, including the supply chain.

A2.5.1 Project Organisation

The organisation chart contained in **Schedule A1** describes the project team, their relationships, contracted and nominated / designated roles. This includes any off-site support staff who may be called upon for assistance by the project team. The project team is constantly reviewed against contract needs and requirements including any changes in the scope.

A2.5.2 Personnel selection (competence, knowledge, awareness)

Personnel are selected on the basis of qualifications, skills, knowledge, behaviours and experience (competence) to suit the scope of project works. The aim of this is to ensure that the selected project team has complimentary skills to meet the engineering delivery and requirements of the customer. A record of this knowledge skills analysis process is listed **Schedule A4** in the project personnel file. This schedule contains confidential information, which must be stored securely at all times in accordance with data protection requirements.

A2.5.3 Project appointment - *NP17: Signatory Powers*

The agent gives written notice to individual personnel of the responsibility for the nominated / designated roles listed in **Schedule A1**. Health and safety duties are further detailed in the BAM Nuttall health and safety policy booklet.

A2.5.4 Drugs and alcohol - *NP3.2: Monitoring for drugs and alcohol (non-rail)*

NP3.3: Monitoring for drugs and alcohol, (rail) NP3.4: Declaration of medical restrictions,
NP3.13 Discipline

BAM Nuttall expects employees and subcontractors to take a responsible approach to drugs and alcohol.

BAM Nuttall carries out pre-employment drug screening. On this project BAM Nuttall reserves the right to:

- carry out random tests for alcohol and drug use
- to test employees and subcontractors who are involved in industrial accidents
- where a manger believes that substance abuse has contributed to an incident, changed behaviour or affected work performance.

BAM Nuttall takes disciplinary action, including, counselling, which may lead to dismissal or removal from site. This includes personnel who refuse to undertake any testing which may or may not result in a positive test. In the case of subcontractors, this will lead to removal from the project.

A2.6 Supply chain management - *NP5: Supply chain management*

Supply chain management within BAM Nuttall is carried out in accordance with the requirements defined in NP5: Supply chain management and associated procedures. A list of vendors for this project is contained within the project procurement schedule SCF01. SCF01 Procurement Plan - Project Live.xlsx

A2.6.1 Procurement of good and services for the project - *NP5.3 Procurement of material goods, NP5.4 Procurement of sub-contractors and equipment*

The agent reviews the procurement schedule or equivalent document prepared during the bid process in conjunction with the relevant company buyer or estimator. This joint review is to ensure that nominated vendors have the necessary skills, knowledge, experience and training to allow them to fulfil their requirements on this project. Procurement dates and special arrangements will be agreed and monitored by the agent and buyer. This is achieved through regular communication as the project progresses. Client supplied goods are subject to the same process of evaluation as those supplied by BAM Nuttall.

A2.6.2 Management of sub-contractors - *NP5.6 Management of vendors on site*

Subcontractors are required to submit documented information to illustrate how they intend to meet the contract and specification requirements to demonstrate compliance. Key sub-contractors are informed of the documents to be provided within their initial enquiry, for subsequent discussion and agreement during the start-up meeting carried out for sub-contractors and major suppliers.

Sub-contractors' performance on site is continually managed over the course of the project works. This is the responsibility of the agent, who monitors and provides feedback on the vendor's performance as described within the company procedure.

A2.7 Product Traceability

Product traceability is a contract requirement of this project as defined in **Table 2.7.**

Table A2.7: Traceability requirements

Products and materials where traceability is required
Tarmac Kerbs

Products and materials where traceability is required
Concrete – cube tests Ducting Pre-cast concrete elements Duct chambers Retaining wall elements Aggregates Earthworks – traceability, contaminated soils, structural qualities, chemical properties Gabion baskets (St Catherines Wood) Play equipment (St Catherines Wood) Seating areas (St Catherines Wood) Lighting and security equipment (St Catherines Wood)

Materials may be incorporated in the works as 'status unknown' and held traceable until tests confirm acceptability.

On this project we do not envisage the use of a new or modified products that will require product acceptance, where they are required the above standards and guidance will be complied with.

A2.8 Equipment control - *NP11: Measuring equipment control*

Monitoring, measuring and test equipment is inclusive of all surveying instruments, laboratory equipment, cable locators, field testing equipment, gas and noise monitors and any other specific items identified by the agent. The need for monitoring, measuring, testing and calibration of site equipment is identified within the project's inspection and test planning, company procedures and work specific activity plans.

Control of equipment is the responsibility of the site equipment engineer who is appointed in writing by the agent to ensure project equipment is controlled, checked and calibrated.

A3.0 Risk Management

The effective management of risk is fundamental to the control of work delivery and to the ultimate successful completion of this project. Continual forward thinking and introduction of appropriate controls prevents the occurrence of the unexpected, ensuring project objectives are achieved. The risks to health, safety, quality and environment have been identified during the preparation of this plan. These risks have been detailed in **Section 3.2** and **Section 3.3** of this plan.

A3.1 Management of project risk - *NP22.5: Risk and opportunity management of project works*

Risk and opportunity management at the construction stage commences with preparation of this project execution plan following a review of the contract requirements. Ongoing management of risk and opportunity is undertaken throughout the project. This is monitored using the live threats and opportunity management register (ROMR).

Victoria North ROMR Rev 5.xlsx

A3.2 Health, safety, quality and environmental risk - pre-construction and designers - *NP23: Health safety and environmental risk assessment*

The hazards identified from pre-construction information, including design risk assessments, that incorporate design lifecycle are listed in **Table 3.2** which provides a checklist for where they are dealt with in this plan.

Table A3.2: Hazards from pre-construction information

Hazard:	Section of plan addressing hazard:
Giant Hogweed	A3.2: Constraints and enhancements
Existing/uncharted utilities	B4.01 underground services
Temporary Works	**B4.02**
Contaminated Ground	**B4.08 C3.04**
Piling	**B4.10**
Demolition	B4.12
Working near existing structures	B4.17 Stability of existing structures
Working close to railway lines	B4.18 Railways
Asbestos	**B4.20 Other significant hazards**
Leptospirosis	**B4.20 Other significant hazards**
Plant movements	**C3.05 Nuisance - NP27.4 Control of site nuisance**
Working on or near a watercourse	Schedule D1.3 Register of activity plans and inspection and test plans / checklists

A3.3 Health, safety, quality and environmental risk - construction phase - *NP23: Health safety and environmental risk assessment*

The risks from safety, health, quality and environment are identified during detailed planning of work activities. This includes work carried out in the design phase. Actions to prevent and reduce risks are identified with any remaining (residual) risks clearly understood and communicated to the workforce.

- **Section B** details health and safety risks
- **Section C** details environmental risks
- **Section D** details quality risks

Risk assessment may identify the need for an activity plan as a necessary control to manage the outcome and it is appropriate to prepare an activity plan for all activities of significant risk.

A3.4 Emergency procedure - *SG23: Emergency planning*

Site specific emergency procedures are prepared to ensure limitation of injury and damage should an incident occur.

The emergency procedures listed and included in **Table A3.4** below apply. Site notices describing these procedures are included in **Schedule A6**. A list of key personnel and organisations for contact or liaison in the event of an emergency, together with contact telephone numbers, is displayed as a site notice and included in **Schedule A6**.

Table A3.4: Incident and emergency arrangements

Site specific emergency arrangements	Are arrangements to be drilled?	Frequency of drill
Accident	Yes	6 monthly
Fire	Yes	quarterly
Confined space rescue	Yes	6 monthly
Rescue from height	Yes	6 Monthly
Person in water	Yes	Annually
Oil and chemical spill	Yes	6 Monthly

Site specific emergency arrangements	Are arrangements to be drilled?	Frequency of drill
Watercourse pollution	Yes	6 monthly
All stop	Yes	6 monthly
COSHH burns	Yes	6 monthly
Heat exhaustion	Yes	Annually
Heart attack (Defibrillator)	Yes	6 monthly
Rescue from Plant	Yes	6 monthly

Following an incident, the emergency services and senior members of the management team are informed immediately and where applicable the relevant enforcing authority is also informed. Communication with the media and public is managed and controlled. Thereafter, all communication is referred to the Head of Communications at Head Office.

A3.5 Site tidiness

The agent ensures that facilities are kept clean, and tidiness (housekeeping) is maintained in the following areas by completing **table A3.5** below:

Table A3.5: Site tidiness

Area	Action	Minimum Frequency
Offices	Cleaner employed	Daily
Welfare and toilets	Cleaner employed	Daily
Access routes	Foreman	Weekly
Materials storage	Supervisor	Daily
Work areas	Foreman/subcontractor supervisors	Daily

A4.0 Project design, planning and programming

A4.1 Design - *NP7: BAM Nuttall design services NP20: Design management for design services*

BAM Nuttall is responsible for the following elements of permanent works design:

- Management of Arup permanent design.

Communication contacts for the designers are listed in **Table** A4.1

Table A4.1: Communication with designer(s)

Name of Lead Designer	Name of representative	Position	Contact details
HIF: Arup	Rachel Sandham	Project director	Rachel.Sandham@arup.com
NT2-4: ROC	Mike Newman	Project director	Mike Newman mike.newman@rocconsulting.com
Method of communication			
Meetings	Weekly meetings		
Document transfer arrangements	Use of ProjectWise		
Other	Email		
Name of Other Designer	**Name of representative**	**Position**	**Contact details**
BAM Nuttall Temporary works department	Richard.Garland@bam.com	Design Engineer	HIF - Richard Collins HIF - Alex.Leahy@arup.com
Method of communication			
Meetings	Microsoft Teams, Meetings in person		
Document transfer arrangements	Email		
Other	ProjectWise		

The BAM Nuttall nominated project design co-ordinator ensures that design information, including all design changes and risk assessments, is issued to the Principal Designer. For projects containing design elements this project execution plan is updated to reflect designer risk assessments.

The Lead Designer is also responsible for ensuring:

- Safe by design review is carried out
- That the work of all other designers meets the overall design requirements
- Design is subject to an interdisciplinary check
- That a constructability review is carried

The agent ensures any subcontractor designed temporary works, including formwork and falsework, are referred to the BAM Nuttall Design Department for the relevant categorised checking.

Design validation

The arrangements for any design validation, as defined in the customer's requirements, specification, or designer's quality plan, are set out in the quality control plan of **Schedule D1**.

The design co-ordinator ensures that testing or trials are supervised appropriately, the designer is notified of the results and that the lead designer reviews them.

A4.2 Engineering Management

The agent appoints an engineering management team in accordance with BAM Nuttall procedures. Engineering appointments for this project are defined in schedule A1 of this plan.

If required a separate engineering management plan is produced and detailed in Section E of this plan. This section should be read in conjunction with Section A together they form the Engineering Management Plan for this project.

A4.3 Project planning - *NP2: Planning and programming*

For the project, the bid programme is used as the basis for the contract programme submitted for the approval of the client or his representative. From this programme, activities are identified, and arrangements made for detailed planning.

In addition to work activities, arrangements are planned for the establishment of capability in terms of system, resources and competence. The planning process enables the timely identification and provision of these requirements in sufficiently robust form to allow the works to progress as programmed to the satisfaction of all stakeholders.

A4.4 Project programme - *NP2: Planning and programming*

The outline programme for the works is as described in the following table. Whilst the anticipated completion date stated is updated as necessary in revisions to this plan, it is indicative only and has no contractual significance.

Table A4.4: Project programme key dates

Contract award date	10/05/2021 PCSA, 31/10/2022 NEC 3 Option A
Start on site date	20th September 2022
Appointment / arrival on site of critical / key contractors	**HIF** Cabin delivery and installation – Nixon's – 12/9/22 Tree clearance – Cornthwaites – 20/9/22 Invasive Species Clearance - Feb 2023 Gas diversion (Dantzic St) 17/01/23 BT diversion (Dantzic St) 14/03/23 **NT02-04** De-veg 08/01/24 Demolition 22/01/24 Earthworks 29/01/24 **St Catherines Wood** Dates TBC Likely May 2024 Start
Key consent dates	**HIF** Planning Approval 14/07/22 Judicial Review 25/08/22

	NT02-04 All Planning conditions discharged 01/03/2024 **St Catherines Wood** permission ref: 137079/JO/2023 Planning Application being prepared
Key sectional/milestone completion dates	**HIF** New Comms Supply ducting complete 29/11/23 New HV Supply ducting complete 12/04/24 ENWL Power on Date 03/05/24 **NT02-04** NR possession #1 – 22/02/2024 NR possession #2 – 03/10/2024 NT02 – 27/09/2024 NT03 & NT04 – 25/02/2025 **St Catherines Wood** TBC
Anticipated completion date	HIF – 25/10/24 NT02-04 – 25/02/2025 St Catherines Wood - TBC

The bid programme has been used as the basis for the contract programme. From this programme, activities are identified, and arrangements made for detailed planning. The developed contract programme can be reviewed by following this link. VNIF-BNL-ZZ-YYY-PR-WP-0134

A4.5 Access and egress / traffic routes (on and off the project) - *NS2: Access and egress*

The agent ensures that sufficient time and resources are allocated to maintain access routes for pedestrians and vehicles. Arrangements in place are listed in table A4.5 below.

Table A4.5: Access and egress / traffic route maintenance

Route	Responsibility	Action
Deliveries	BAMN	- Complete SF811 -Access across P&P bridge off Collyhurst road. -Access via former Creamline Dairy on Red Bank -Access to Hargreaves Street compound via Roger Street - Access at Dantzic Street - Access at Dalton Street

Personnel segregation	BAMN	BAM to install safe walkways to work areas across site.
Plant and equipment	BAMN	To only use designated access routes as per delivery procedure Write/Check lift plans as required
Monitoring	BAMN	Supervisor and gate men to monitor at all times.
Access to point of work	BAMN	As per Workplace Transport Plan. Access within site following designated vehicle and pedestrian routes.
Zonal working	BAMN	BAM Supervisor to install segregation appropriate to work area and maintain

A4.5.1 Workplace transport plan

The layout of access to and egress from the site, traffic routes, sheeting and loading/unloading areas, restricted areas are prominently displayed on a Site Transport Plan, including rules can be found in Schedule A8.

A4.6 Budget and financial control - *NP9: Budget and financial control*

BAM Nuttall seeks to deliver a sustainable business result by implementing a process of comprehensive, effective and consistent budget and financial control.

The project team are responsible for establishing financial controls as described below:

- Establishment of a robust performance monitoring systems that provides a basis for subsequent commercial monitoring during the life of the project.
- Obtaining a timely understanding of the project's performance against budget, taking into account the programme position.
- Providing management with a report of accurate and auditable costs at the end of each monthly accounting period.
- Ensuring that applications for payment, certification and cash received are all in accordance with the contract.
- Providing a reliable and clear forecast of the expected financial outcome of the project.
- Preparing clear, accurate and comprehensive commercial plans and reports.
- Cashflow management

A5.0 Communication

The agent determines and implements effective arrangements for formal communication with all stakeholders. Details of communication routes for this project are detailed in **Tables A5.1 to A5.5**

A5.1 Customer communication

On this project, such communication is achieved as indicated in the following table.

Table A5.1: Customer communication

Name of customer's representative	Position and organisation	Contact details
Customer's representative name	Matt Ralph MCC Project Manager	07946605520 Matt.Ralph@turntown.co.uk
Name of safety manager	Steve Martin KOK Surveyor	Steve.martin@kok-surveyors.com
Name of environmental manager	Eddie Duncan	Eddie.duncan@bam.com
Name of quality manager	Matt Willis Pell Frischman Project Manager	mwillis@pellfrichmann.com
Arrangements for other meetings / forums	Regular Planned Public drop-in meetings with BAMN representatives Teams & face to face meetings - Monthly	

A5.2 Principal Designer

The agent will provide information to the Principal Designer in the ways described in the following table.

Table A5.2: Principal Designer Communication

Name of Principal Designer	Position and organisation	Contact details
Richard Collins	**Principal Designer**	**07584605795** **richard.collins2@bam.com**
Meeting / communication arrangements	Teams & face to face meetings - Monthly	
Information transfer method	*Email, ProjectWise use.*	

A5.3 Contractors

The agent will provide information from contractors to the Principal Designer in relation to construction information and for inclusion within in the health and safety file in the ways described in table 5.3.

Table A5.3: Communication with other contractors

Name of contractor	Name of contractor representative	Position	Contact details
Nixons Welfare Hire	Sarah Jones	Module Specialist	0333 005 0003 Ext:5054 SJones@nixonhire.com
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			

Name of contractor	Name of contractor representative	Position	Contact details
Cornthwaites	Brian Thoburn	Operations Manager	07714136530 Brian@cornthwaitetreecare.co.uk
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			
Name of contractor	**Name of contractor representative**	**Position**	**Contact details**
Rhodar	George Roberts	Project Manager	G.Roberts@Rhodar.co.uk
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			
Name of contractor	**Name of contractor representative**	**Position**	**Contact details**
Flannery Plant Hire	Tom Owen	Operations Manager	01925 814 394 07793 244396 t.owen@flanneryplant.co.uk
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			
Name of contractor	**Name of contractor representative**	**Position**	**Contact details**
Hydrainer	Jimmy Corless	Depot Manager	pumphire.northwest@hydrainer.com
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			
Name of contractor	**Name of contractor representative**	**Position**	**Contact details**
S.Evans & Sons	Jonathon White	Contracts Manager	Jonathan.White@sevans.co.uk
Method of communication			
Meetings	Pre-start		
Document transfer arrangements	Email		
Other			

A5.4 Other Interested Parties

The agent establishes communication links with other interested parties such as the local authority, regulators, community representatives. Details of these are listed in **Table A5.4** below. Details of community links are provided in the community action plan contained in **schedule A3.**

The project will be registered with the Considerate Constructers Scheme (CCS) in accordance with criteria defined in BAM Nuttall Management Bulletin MB123 unless the client restricts such membership. Community investment activity data is recorded monthly on BAM Nuttall Ltd. Central database.

Table A5.4: Other interested parties

Designated Parties	Name & Address	Contact Name (s)	Contact Details (Email, mobile, telephone)
Local authority departments	Matt Ralph		Matt.Ralph@turntown.co.uk
EA	Richard Fairclough House, Knutsford Road, Warrington WA4 1HT	Andy Davies	07393798325 Andy.davies1@environment-agency.gov.uk
HSE	Redgrave Court, Merton Road, Bootle, Merseyside L20 7HS		0151 951 4000
Local groups	Friends of St Catherine's Woods		https://www.facebook.com/groups/friendsofstcatherineswood/
Project Planning consultant	Avison Young	Ed Harvey	07831402681 Ed.harvey@avisonyoung.com
FEC	Matt Ralph		Matt.ralph@turntown.co.uk
Network Rail	(via) Rhiannon Monaghan		rhiannon.monaghan@manchester.gov.uk

A5.5 Workforce - *NP24 Activity Plan, SG26 Workforce consultation*

The agent identifies workforce representatives to be involved in discussions pertaining to the ongoing methodology and programming of the works. People and personnel consulted are listed in the relevant activity plans or work package plans.

In addition, the following formal arrangements have been established to consult with the workforce generally

Table A5.5: Other communication arrangements

Information discussed	Method	Frequency
Site Induction	Presentation with Verbal briefing and visual aid	Upon first visit to site Every 12 months or if absent from site for 3 months
General site information	Safety Committee	Monthly
Alerts and bulletins	Face to face	As determined by issue
Toolbox talks	Face to face	As determined by site needs
General observations	Observation cards Observation App	As matters are identified
Briefings	Verbal	Daily and feedback at the end of the shift
Activity Plans	Verbal	Each AP & RA
Workforce Forum	Verbal – Minutes Taken	Fortnightly
Feedback Friday	Verbal	Weekly
Voice meeting	Verbal– Minutes Taken	Monthly

A5.6 Induction and site rules

The induction and site rules are developed from pre-construction information, and these can be found in **Schedules A5** and **Schedule A6**. Documents are subject to review and revision as work or information changes or develops.

A5.7 Project Documented Information - *NP10: Disposal and retention of company documents*

Documented information used in the management of the project is defined by the agent. The agent is responsible for ensuring that the relevant documents are available to personnel required to use them and personnel carrying out work are responsible for ensuring that current documentation is used.

Project data - NP10.3: ***Management of documents during the contract phase of a project***

The agent establishes a formal project data management system in accordance with division specific requirements. All documents received or issued by the project are controlled and maintained in accordance with this project system. It is fully described in a project specific procedure, listed in **Schedule D2** of this plan. The relevant parts of which are communicated to all project personnel required to work with documents.

Project documents are maintained throughout the duration of a project as evidence of the compliance, conduct, progress and certification of the project works, and to provide assurance that requirements have been met.

These documents include all correspondence, instructions, minutes of meetings, as-built programmes, resource schedules, registers, test certificates, inspection checklists, training records etc. Project documents are maintained and archived in accordance with the project document control system defined within this project management plan.

A5.8 Health and Safety File

The Health and Safety File details the information needed to alert those carrying out future construction work, including cleaning, maintenance, alterations, demolition and refurbishment.

It identifies information to help those carrying out these works to determine a safe system of work.

The file will contain information for the client who has a duty to provide information about their premises and infrastructure, to those who carry out work there.

A5.8.1 Layout, format, and storage

Information will be collected throughout the project for the Health and Safety File by all parties. BAM Nuttall is responsible for preparing and submitting the Health and Safety File to the Principal Designer in an agreed format. The Health and Safety File will be submitted to the Principal Designer within a time frame identified by the contract from the date of substantial completion.

A5.9 Management of change - *NP21: Change management*

All changes to contract requirements, together with changes to arrangements, resources and subcontracts are recorded in accordance with any relevant contract requirements, and on the project change management register (CMR).

Superseded documents are promptly withdrawn from use and are clearly marked as superseded. All changes to construction requirements are reviewed for possible effects on existing risk assessments and subsequent control arrangements.

A5.10 BIM - *BIMG A1.4 BAM Nuttall BIM Standard*

BIM utilisation has been deployed on this project. A BIM execution plan (BEP) has been prepared using template BIMG A1.6. This plan is contained in **Appendix 7** to the project execution plan.

A6.0 Project Performance, Evaluation and Improvement

A6.1 Project Nonconformity, complaints and corrective action

A6.1.1 Quality nonconformity - *NP14: Non-conformity and corrective action*

Nonconformities may be errors in work items or failures of management systems. Any person discovering a potential nonconformity reports it to the engineer responsible for inspections of that element of work so that it can be resolved immediately wherever possible. The engineer also informs his line manager. All project non-conformities are recorded on the project improvement register contained in BAM Flow, accessed via Connect. BAA.2210 BAM Flow

Investigation concentrates on identification of root causes in order that appropriate action can be taken to avoid recurrence. Monthly reviews are made and analysed by the Quality Manager to ensure that all necessary action has been taken. All non-conformities are referred to quarterly divisional system review meetings for the initiation of suitable longer-term actions.

A6.1.2 Health and safety nonconformity - *NP1.14: Reporting and investigation of incidents*

Nonconformity in respect of health and safety is recorded as an accident or incident, i.e., reportable accident, a lost time accident, an accident book entry, a reportable dangerous occurrence, significant incident, health and safety incident, near-miss / observation or inspection finding as appropriate.

Investigation concentrates on identification of root causes in order that appropriate action can be taken to avoid recurrence. Periodic reviews of accidents and incidents are made and

analysed by the Director, Health and Safety to ensure that all necessary action has been taken. Recurrent problems or those relevant to other projects are referred to divisional system review meetings for the initiation of suitable longer-term actions.

A6.1.3 Environmental nonconformity - *NP27.7: Reporting environmental incidents*

Nonconformity in respect of environmental matters is recorded as an environmental incident, near miss or inspection finding. Incidents are reported and inspection findings are recorded on the environment department database in accordance with departmental procedures.

Investigation concentrates on identification of root causes in order that appropriate action can be taken to avoid recurrence. Periodic reviews of incidents are made and analysed by the Head of Environment to ensure that all necessary action has been taken. Recurrent problems or those relevant to other projects are referred to divisional system review meetings for the initiation of suitable longer-term actions.

A6.2 Audit and inspection

A6.2.1 Project audit - *NP12: Audit*

A programme of audit for the project is set by the divisional director at system review meetings. Audits are carried out by trained internal auditors who are independent of the project. A copy of the audit programme for this project is available from the ***area quality manager***.

The agent makes arrangements to accommodate internal audits, together with any external audits requested by the customer or his representative or arranged by the Head of Business Process and Quality, Director Health and Safety or Head of Environment for the registration bodies.

A6.2.2 Project Inspection - *SG05: Safety tours, EG42: Closing out issues raised in BIM 360 Field Environmental inspection report*

It is a requirement that health, safety, quality and environment are monitored continuously as a day-to-day activity. A site safety and environmental engineer is appointed to carry out routine weekly site inspections. Reports of these inspections are passed to the project agent who ensures that timely action is taken, usually confirming this at weekly site meetings.

Safety, environmental and quality inspections are carried out by divisional safety and environmental advisors and divisional quality manager(s). Results are reported in writing to the agent. The agent confirms to the divisional director in writing actions taken as a result of these visits.

In addition to the inspections detailed above project inspection visits will be conducted by senior managers. These visits not only act a monitoring tool for improvement, but they also provide valuable interaction and communication for project personnel with senior managers.

A6.3 Review - *NP13: Review*

A6.3.1 Project review (meetings)

Regular reviews are undertaken throughout the duration of the project at internal meetings of the project team to verify that planned arrangements remain suitable and are effective in controlling the work. These meetings also review the results of audits, nonconformities and problems and establish actions to prevent recurrence and improve the system.

Attendance and agenda for meetings are set out in **Tables A6.3.1a and b**.

Table A6.3.1a: Review meetings

Alter table to suit site requirements		
Meeting	**Frequency**	**Attendance**
Progress	Monthly	Agent Senior site managers. Senior site QS Client representatives
Internal site co-ordination	Weekly	Agent Sub-agent Section agents QSs
Internal health, safety environment and quality review	Monthly	Agent Sub-agent Section agents QSs Site safety and environment engineers Site quality engineer / quality manager
Internal section	Weekly	Section agents All section staff QS
Design management/ review meeting	Monthly	Agent Design coordinator All designer's representatives

Table A6.3.1b: Review meeting agendas

Alter table to suit site requirements					
Minimum agenda items	**Progress**	***Internal site co-ordination***	***Internal HS&E***	**Section**	**Design Management meeting**
Review and agree previous minutes/actions	✓	✓	✓	✓	✓
Health, safety and welfare, including review of CPP	✓	✓	✓	✓	
Environment	✓	✓	✓	✓	✓
Progress and programme	✓	✓		✓	✓
Resources – plant, materials and labour		✓		✓	✓
Client requirements and information required against programme. Review registers of TQs/RFIs, SIs/CVIs, and drawings.	✓	✓		✓	✓
Commercial matters	✓	✓		✓	✓
Risk assessments, activity plans, inspection and test checklists and approvals	✓	✓	✓	✓	✓
Suppliers and subcontractors' performance, future programme, client approval.	✓	✓	✓	✓	✓

Alter table to suit site requirements					
Minimum agenda items	**Progress**	***Internal site co-ordination***	***Internal HS&E***	**Section**	**Design Management meeting**
Nonconformities, problems, complaints, improvements.		✓	✓	✓	✓
Results of audit, audit plan.		✓	✓		
Quality control plan and allocation of inspection duties and approvals	✓	✓			✓
Contract records (as built drgs, test results, completed checklists, maintenance manuals)	✓	✓			✓
Objectives and targets	✓	✓	✓		
Design delivery risks	✓				✓
Value engineering	✓	✓			✓
Next meeting date	✓	✓	✓	✓	✓

A6.3.2 Technical review – *NP25 Technical and engineering delivery*

To ensure that the best available technical knowledge is provided to the project agent, technical / quality reviews are held for matters where there is significant risk in terms of:

- health and safety
- activities/ items critical to quality
- quality of construction
- environmental impact
- company image and/or reputation

Activities to be subject to technical review, together with approximate timing, are listed in **Table A6.3.2**

Table A6.3.2: Technical review

Project activities subject to technical / quality review	Approximate date of review
Earthworks	As – built information. Hold points identified in ITPS, Checklists
Highways Construction	As – built information. Hold points identified in ITPS, Checklists
Structures	As – built information. Hold points identified in ITPS, Checklists
Contaminated Ground Remediation	As – built information. Hold points identified in ITPS, Checklists
Landscaping	As – built information. Hold points identified in ITPS, Checklists
Drainage	As – built information. Hold points identified in ITPS, Checklists

Project activities subject to technical / quality review	Approximate date of review
Fencing	As – built information. Hold points identified in ITPS, Checklists

Records are maintained of all reviews in the form of meeting notes, records of actions, correspondence, and requests for information or as required by the contract.

A6.3.3 Customer feedback - *NP26: Customer relationship management*

The aim of the project team is to work in collaboration with the customer to achieve a project that is on time and budget. Customer satisfaction is monitored from project meeting and formal feedback.

A6.4 Improvement

The agent continually seeks to identify opportunities to improve the effectiveness and efficiency of the project, and of the BAM Nuttall business. All personnel are made aware of the need to recognise errors as opportunities for improvement. Without this awareness, mistakes are ignored or concealed and data for the improvement activity lost.

Improvement opportunities on this project are identified from:

- formal reviews of performance (**see Section 6.3**)
- feedback on performance from clients, vendors and regulatory bodies
- review of audit results
- analysis of nonconformities and complaints

A6.4.1 Delivering value and continual improvement through Lean

The project will utilise **"Lean Construction Thinking"** to allow conception, development and delivery of value innovation and continual improvement.

To initiate the improvement, process the agent will act as the ***"Lean Leader"*** who will be responsible for the development of a sustainable lean culture on the project, selection of the lean projects and the improvement plan. This deployment plant is detailed in **insert applicable section** of this plan or insert hyperlink to plan.

In addition to the *lean leader a* ***"Lean co-ordinator"*** will be appointed who will identify improvement projects, select suitable tools and techniques for improvement, such as collaborative planning, deploy tools such as visual management, collect the data and monitor and report results to the Lean Leader. This organisational structure is detailed in the project organisation chart contained in **Schedule A1** of this plan.

Schedule A1 Organisation Chart

Nominated Roles

Equipment Engineer: Dan Kiely	**Testing Engineer**: Dan Kiely
Site Environmental Engineer: Tom Asson	**Temporary Works Co-ordinator**: John Annett
Site Safety Engineer: Joe Holmes	**COSHH Co-ordinator**: Emma Barr
Appointed persons lifting.: Andrew Campbell	**Fire safety Co-ordinator**: Joe Quinlan
Overhead and buried services Co-ordinator: Liam Chambers	**First Aiders**: Steve Donaldson, Dan King, Neil Peters, Liam Chambers, Andy Campbell, Joe Holmes
Electrical safety Co-ordinator: Steve Donaldson	**Incident Co-ordinator**: Neil Peters
Plant Co-ordinator: Paul Edwards	**Site Waste Co-ordinator**: Tom Asson
Lean Co-ordinator: Liam Chambers	

Operational/Project functions

- **Project Director**: Kate O'Connell
- **Project Manager**: Neil Peters
- **Commercial Lead**: Richard Murillo

Project Delivery

HIF Works

- **Agent**: Liam Chambers
- **Sub- Agent**: John Annett
- **Assistant Engineer**: Tom Asson
- **Assistant Engineer**: Daniel Kiely
- **Trainee Engineer**: Emma Barr

Site Supervision

- **General Foreman**: Steve Donaldson
- **Earthworks Foreman**: Paul Edwards

NT02-04 works

- **Agent**: Andy Campbell
- **Sub- Agent**: Alex Cheregi
- **Site Engineer**: Joe Holmes
- **Trainee Engineer**: Hannah Cunningham

Commercial Support

- **Senior QS**: David Thompson
- **Assistant QS**: Ethan Dodd
- **Assistant QS**: Ellie Clark
- **Trainee QS**: Amba Mistry
- **Commercial Administration**: Carla McBride

Project Support

- **Senior Planner**: Hannah McLay
- **Behavioural Safety**: Scott McGuinness
- **Principle Designer**: Kevin Bulman
- **Community Liaison**: Rebecca Stone

Client

- **Manchester City Council**: Promise Amadi
- **Turner & Townsend**: Matt Ralph
- **Pell Frischmann**: Matt Willis

Design (Subcontract)

- **ARUP**: Ewa Fabianska

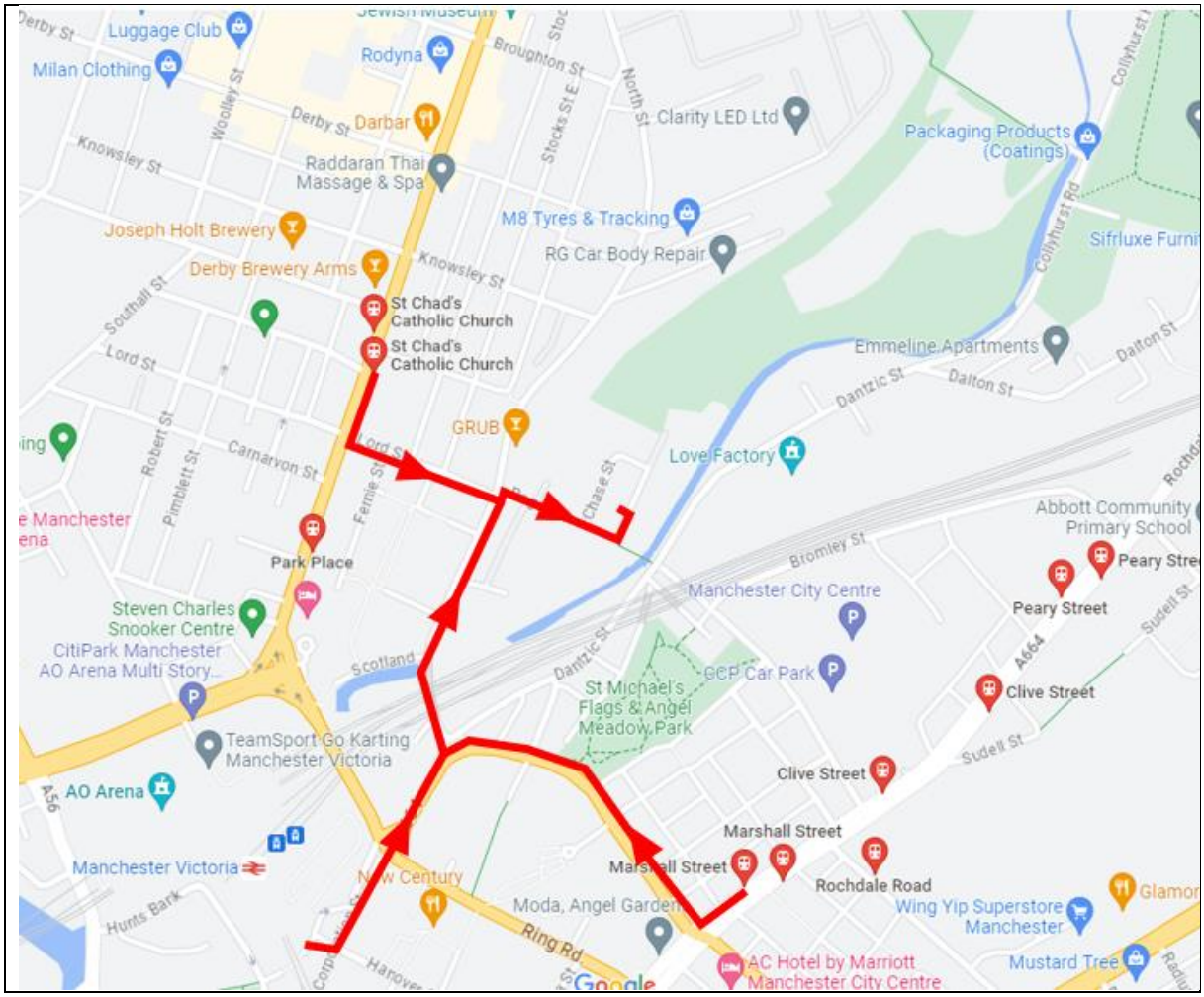
Project Consultants/Advisors

- **Health &Safety Advisor**: Mark Cullen
- **Commercial Manager**: Chris Burnham
- **Quality Manager**: Gavin Avery
- **Environmental Advisor**: Eddie Duncan
- **Procurement**: Jonathon Bean
- **Estimating**: John Gyves
- **Carbon Lead**: Ruth Young
- **Temporary Works Design**: Simon Wilkins

Name	Appointment
Daniel King, Neil Peters, Stephen Donaldson, John Annett, Joe Holmes Liam Chambers, Andrew Campbell	First Aider
Andrew Campbell	Appointed person Lifting
Liam Chambers, Andy Campbell, John Annett	Buried and overhead service coordinator

Note
Signatory powers on this project are issued by the agent are in accordance with NP17 Signatory powers.

Schedule A2 Green Travel Plans



Icon	Description	*Description of route*
	Pedestrian	Routes as shown in red on the map above
	Disabled	Routes as shown in red on the map above
	Cycle	Routes as shown in red on the map above
	Bus	Routes as shown in red on the map above
	Train	Mainline into Manchester Victoria and then follow walking route to site
	Tram	Exit system at Manchester Victoria and follow walking route to site
	Car/Motorcycle	Access from A665 to area
	Ferry	N/A
	Aeroplane	Manchester airport

Schedule A3 Community Action Plan

1.0 Introduction

BAM Nuttall Ltd is a socially responsible organisations committed to meeting the expectations of our stakeholders, while adding value to the environment and society. We aim to fully engage with local community groups, individuals, organisations and stakeholders directly impacted by our projects.

We recognise that how we recruit and retain employees, purchase goods and services can create opportunities to improve the community we operate in as well as improving our business performance.

BAM Nuttall Ltd believes we can make a significant and sustained improvement to the community by:

- Recruiting from and having a workforce profile that reflects the local community.
- Removing barriers to employment.
- Considering local suppliers when purchasing.
- Building local education and training links.
- Investing resources including time and money to support community groups, and charities.
- Listening and communicating with the community.
- Liaising with the community.

Our intention is to identify opportunities for community involvement within a two-mile radius of each of our sites and offices. This plan sets site specific objectives for engagement with the relevant parties. It also designates responsible persons to the tasks and where appropriate, actions and timescales.

The community action plan is divided into four sections. Each section in turn details how we plan to eliminate any negative impacts of the works on the local community and where possible how we will endeavour to bring positive benefits to the local community, residents and supply chain as a result of the works.

- **Section 2: Implementation of plan on site**
- **Section 2: Identifying opportunities for community action**
- **Section 4: Record of community involvement**
- **Section 5: Review**

2.0 Implementation of plan

2.1 Community Liaison

BAM Nuttall Ltd will maintain an effective liaison with landowners and the local community about ongoing construction activities and any potential disruption. We will use open days and letter drops to keep the community up to date.

All residents adjacent to the works will be informed about the detailed plans and construction timetable in advance of works starting and all necessary detailed mitigation agreed that relate to access and reducing disturbance.

In the event of a complaint these will be responded to within 12hours, and recorded in the Engagement Register. The contractor and developer are responsible for responding to and resolving complaints. Any complaints will be discussed as required at the weekly site meeting, if appropriate to do so. Link to engagement tracker VNIF-ARP-ZZ-YYY-RE-WD-0005.

2.2 BAM Nuttall Contacts

BAM Nuttall Ltd will establish a project contact telephone number, manned during operational hours and with access to representative(s) with authority to resolve key issues. A log of all comments and actions taken will be kept and made available for inspection.

Contact Name	Organisation	Position	Tel:	Email
Neil Peters	BAM Nuttall	Project Manager	07920 231931	Neil.peters@bam.com
Mark Cullen	BAM Nuttall	Trainee H&S Advisor	07818 537459	Mark.cullen@bam.com
Liam Chambers	BAM Nuttall	Agent - HIF	07557 256660	liam.Chambers@bam.com
Scott McGuinness	BAM Nuttall	Behavioural Safety Advisor	07867 353286	Scott.mcguinness@bam.com
Stephen Donaldson	BAM Nuttall	General Foreman	07920084444	Stephen.donaldson@bam.com
Rebecca Stone	BAM Nuttall	Project Stakeholder Engagement & Social Value Manager	07900711136	Rebecca.stone@bam.com
Andrew Campbell	BAM Nuttall	Agent – NT Plots	07810813484	Andrew.campbell@bam.com

2.3 Community disturbance

BAM Nuttall Ltd will ensure disturbance to the local community from construction activities is minimised to that required for safe implementation of the works. We will also minimise disruption to access for all properties. Any interruptions to access will be agreed with the householder and kept to the minimum time required. Emergency access will be available at all times. Where required diversions and alternatively pedestrian crossings will be setup to avoid endangering the general public

3.0 Community Action Opportunities

3.1 Community Liaison

Our site will support suitable local causes and events that are nominated or participated in by our employees; however, we also seek to interact with suitable organisations and charities within the area that we are working. The following opportunities for involvement have been identified within a two-mile radius of the site.

3.2 Education and training links and work experience opportunities

We will work with the following education and training institutions to share knowledge and provide work experience opportunities.

Institution name	Type of institution	Contact name	Contact details	Opportunity for involvement	Approve?
Eden Girls School	Secondary School	Ash Rasoul	Ash.Rasool@egmanchester.staracademies.org	Develop long term relationship with the school throughout the project on careers in construction	
Bridge GM	Greater Manchester Combined Authority Consultants	Liz Calvert & Nafisa Hakim	Elizabeth.Calvert@greatermanchester-ca.gov.uk & Nafisa.Hakim@greatermanchester-ca.gov.uk	Working with them on the wider careers programme for grater Manchester on the virtual workshops to be delivered to schools – meet your futures event	

3.3 Employment opportunities

BAM Nuttall Ltd will strive to employ the members of our current workforce who live closest to the site wherever possible. The following roles cannot be provided by our available local employees and will be recruited from the local community:

e.g.
Qualified plant operators (excavators/dump trucks)
Joiners
Steel fixers
General Civil Engineering Operatives (GCEOs)
Secretary/ administration
Cleaner
Quantity surveyor etc

The opportunities to be actioned have been approved by:		Date:	

4.0 Record of Community Action

The record of community action will be recorded on the engagement register and updated regularly**.** We will also be providing quarterly reports to MCC on the social value delivered.

Engagement Register - VNIF-ARP-ZZ-YYY-RE-WD-0005

5.0 Review of Community Action

Objective	Yes	No	If yes, what do we do? If no, why not?
Does the workforce include members of the local community?	☒	☐	We are working with local charity YES Manchester to advertise employment opportunities locally. We are also encouraging our supply chain to actively employ local people.
Are people with disabilities actively employed? Have we removed barriers to employment – correct site setup and provision of welfare facilities etc?	☒	☐	We will share vacancies with Igneus to advertise with their clients. The site set up is all disability access compliant
Were local suppliers considered when purchasing?	☒	☐	We are actively seeking to use local suppliers as much as possible. We held a local supplier event in March 2022 to allow local SMEs the opportunity to learn about the project and meet the team. The target set for local spend is 11.5 million as part of the Social Value Delivery Plan.
Do we work with local educational and training institutions?	☒	☐	Liam Chambers is an Enterprise Advisor for Eden Girls Leadership Academy, which is close to the site. We have also participated in a number of online webinars with Bridge GM which are broadcast to schools across Greater Manchester. We also have plans to attend a number of school careers fairs in the upcoming term. We are currently in discussions with Bridge GM about this.
Do we invest resources to support the local community and charities?	☒	☐	We have a community space on site with access to computers and internet free of charge. YES Manchester and First Asian Support Trust (FAST) have previously used this space once a week to assist their clients with employability training and job applications. We have also had a number of local organisations using this space for educational and training purposes. These include, Groundwork, Working Wonders, Winning Hearts and Minds & Manchester Youth Zone.
Do we liaise with the community about our project?	☒	☐	We work with the client to liaise with nearby business and community groups about our project. We provide regular updates & attend meetings where necessary with the community to keep them informed.

Review carried out by:	Josh Clark	Date:	18/10/2023

Objective	Yes	No	If yes, what do we do? If no, why not?
Does the workforce include members of the local community?	☐	☐	
Are people with disabilities actively employed? Have we removed barriers to employment – correct site setup and provision of welfare facilities etc?	☐	☐	
Were local suppliers considered when purchasing?	☐	☐	
Do we work with local educational and training institutions?	☐	☐	
Do we invest resources to support the local community and charities?	☐	☐	
Do we liaise with the community about our project?	☐	☐	

Review carried out by:		Date:	

Other comments (e.g., lessons learned, feedback, etc)

Schedule A4 Skills Matrix

Role	Qualifications	Competence	Evidence
Project Manager: *Neil Peters*	*L7 NVQ qualified*	Lifting River works Piling Pre-Cast installation	TWC SMSTS
Agent: *Andy Campbell*	*Degree qualified*	Lifting River works Rail Highway Precast Temp Work	TWC SMSTS CSCS CPCS – Appointed person
Agent: *Liam Chambers*	*Degree qualified*	Bulk earthworks River works Pre-cast installation Highways Temporary works	TWC SMSTS CSCS Basic Scaffold Inspection
Sub Agent: *John Annett*	*Degree qualified*	River works Piling Rail Civils Pre-cast installation	TWC SMSTS CPCS
Design Delivery Manager: *Alex Leahy*	*Degree qualified*	Design Management Infrastructure development Construction Heavy civils	CSCS
General Foreman: *Stephen Donaldson*	*L3 NVQ Diploma*	Lifting Piling Precast Structures Earthworks	SMSTS CSCS Lift Supervisor Confined Space – medium level 3
Earthworks Foreman: *Paul Edwards*		Bulk Earthworks Crushing and Grading Plant Operator	CPCS CSCS
Engineer: *Joseph Holmes*	*Degree qualified*	River Works Engineering	CSCS SEATS Setting out and surveying Cat and Genny Training
Ganger: *Kieran Walters*		Highways Flood Defence Civil Engineering	Supervisor Training CPCS Slinger Signaller

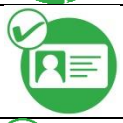
Schedule A5 Induction and Site Rules

Schedule A5.1 Induction

Site induction agenda
Brief ‘Monopoly board’ style induction for visitors
Introduction to project
“Your safety is my safety”, introduction to BAM health, safety and environment culture
Office layout, including escape routes, fire extinguishers, and first aid kit locations.
Compound layout including car park, site access, assembly point location, and smoking shelter.
Site layout including access routes for vehicles and pedestrians.
Identification of site first aiders, key personnel
Location of the nearest hospital with A&E facility.
Mandatory 6 point PPE on to be worn site.
Bam site rules.
Information about observation cards and the observation app.
Site restricted zones and exclusion zones.
Spill procedure
Information on risk assessments and activity plans, and how they are required before work.
Sign in and briefing arrangements.
Mandatory permits to work.
Site specific hazards.
Information on mental health support that is available for all workers.
Appreciation of fair treatment and respect for all.
Drugs and alcohol testing procedure.
Waste segregation requirements.
Invasive species present on site.
Public interface procedure.
Opportunity for questions from attendees.

Schedule A5.2 Site rules

The following rules have been made to ensure the health and safety of you and your work mates on this site and protection of the environment. They apply to everybody on site.

Rule	Logo	Strapline
I never enter an exclusion zone		Mobile plant Seen is safe
I understand my job, and I am aware of the associated risks. If anything is unclear, I will ask for additional information.		Plan dropped? Work is stopped
I call other people to account about unsafe behaviour, and I accept that others can also call me to account about unsafe behaviour.		Choose to be safe together
I only start with my work after I have been instructed correctly (formally). I follow these instructions.		Sign up for safety Stick to the plan
I work with approved equipment and only if I am authorised to use it.		Competence starts with the card
I use my compulsory personal protection equipment.		PPE keeps you safe If you wear it
I do not work with installations or cables that are charged, unless I am authorised to do so.		No permit No dig No pins
I exclusively give safe instructions and exclusively follow safe instructions.		Safety is a team game
I do not work when I am under the influence of drugs, medication or alcohol.		D&A Keep dry Keep clean
I always use the designated access routes and keep them clear at all times		Choose the safe path Not the quick one
I always use the welfare facilities provided and keep them clean and tidy		Respect your Own welfare
I keep my workplace clean, safe and tidy.		Tidy site Safe site

Rule	Logo	Strapline
I never enter an exclusion zone (Lifted loads)		Lifted loads Look up Let go
I never enter an exclusion zone (Load release)		Secured materials Release with caution
Always drive safely with your phone off and seatbelt on		Drive safely Phone off Belt up
I work with approved equipment and only if I am authorised to use it.		Defective plant? Report it
Never use plant or equipment unless you are authorised, competent and it is safe to do so		Switch off and secure
Never use your mobile phone unless you are in a designated safe location		Safe answer Safe call
Never alter edge protection or scaffold unless you are authorised, competent and it is safe to do so		Hold onto handrails

These rules are common sense and easy to follow
Failure to follow them may lead to disciplinary action or your removal from site
And remember ‘Your Safety is My Safety’

Schedule A5.3 Rules for Contaminated Land or Red Sites

Be on the lookout for:

- Signs of contamination during boring, excavating, soil stripping and similar operations (these could include discoloured soil, unexpected odours, a fibrous texture to the soils (e.g., asbestos), presence of foreign objects (e.g. chemical/oil, containers/waste), evidence of previous soil workings, underground structures or waste pits, evidence of made ground, old drain runs and contamination within buildings).

If contamination is suspected:

- Work will be stopped immediately.
- The discovery will be reported to the Agent who will seek expert advice and provide guidance on required controls / mitigation.
- The area will be sealed off to contain spread of contaminants.
- A risk assessment will be carried out to minimise the risk to health and safety of site workers. This will identify acceptable working methods, PPE, contact, and other required procedures.
- Any unexpected, contaminated land that has been disturbed by construction activities will to be dealt with as hazardous waste and disposed of to a suitably licensed site in line with the relevant waste management regulations;
- Ensure that the suspected contamination is tested and characterised and agree changes to the existing site proposals and method statements.

Known areas of contamination

Contamination is identified by pre-start site investigation works.

Works will be carried out under remediation strategy.

Due to the variable nature of the hazards identified activity specific risk assessment is required to detail the controls required. This involves in-house or consultant expertise.

The controls cover:

- site set up and security
- personal protective equipment
- health surveillance
- sampling regime
- training
- monitoring of controls

Disposal

Materials sent for off-site remediation or for disposal to tip will be recorded by waste transfer notes.

Carriers and tips will be verified as being licensed for the specific material streams

Schedule A5.4 Rules for handling and disposal of sharps

- Never handle discarded needles or syringes – unless you are trained to do so and have the correct equipment
- Warn others close by to stay away
- If safe to do so, stay close to it and report it to your supervisor
- If you are not able to stay close to it highlight it if possible
- Report it to the Supervisor

In the event of contact with a discarded needle encourage the puncture injury to bleed and wash well under cool running water with soap and cover with a dry (sterile) dressing. Seek medical advice as soon as possible, within 48 hours at the nearest local Accident & Emergency department.

Disposing of sharps

- Place needles and syringes into a sharp's container. Always use tongs to pick them up.
- Dispose of as clinical waste

Schedule A6 Emergency procedure - injury, dangerous occurrence or significant incident

In the event of an accident:

- Do not endanger your own life.
- Ensure that the injured person will not come to further harm.
- Notify the site office of:
  - the injured person's name and/or employer
  - location
  - type of incident
  - likely injuries
  - special requirements

The site office will:

- contact the first aider
- call an ambulance and/or other emergency services by dialling 999
- ensure access route is cleared
- arrange reception of ambulance/fire brigade/police at the nearest public road
- direct emergency services to location
- provide injured person's information to the emergency service
- notify injured person's employer if a subcontractor
- contact divisional director and area health and safety advisor
- initiate for cause drug and alcohol screening

The first aid kit is held in the site office and first aiders work vans.

The site address is:

BAM Nuttall,
Site Office,
Hargreaves Street
Manchester,
M4 4EJ

What3words: ///mats.mental.post

Hospital Locations

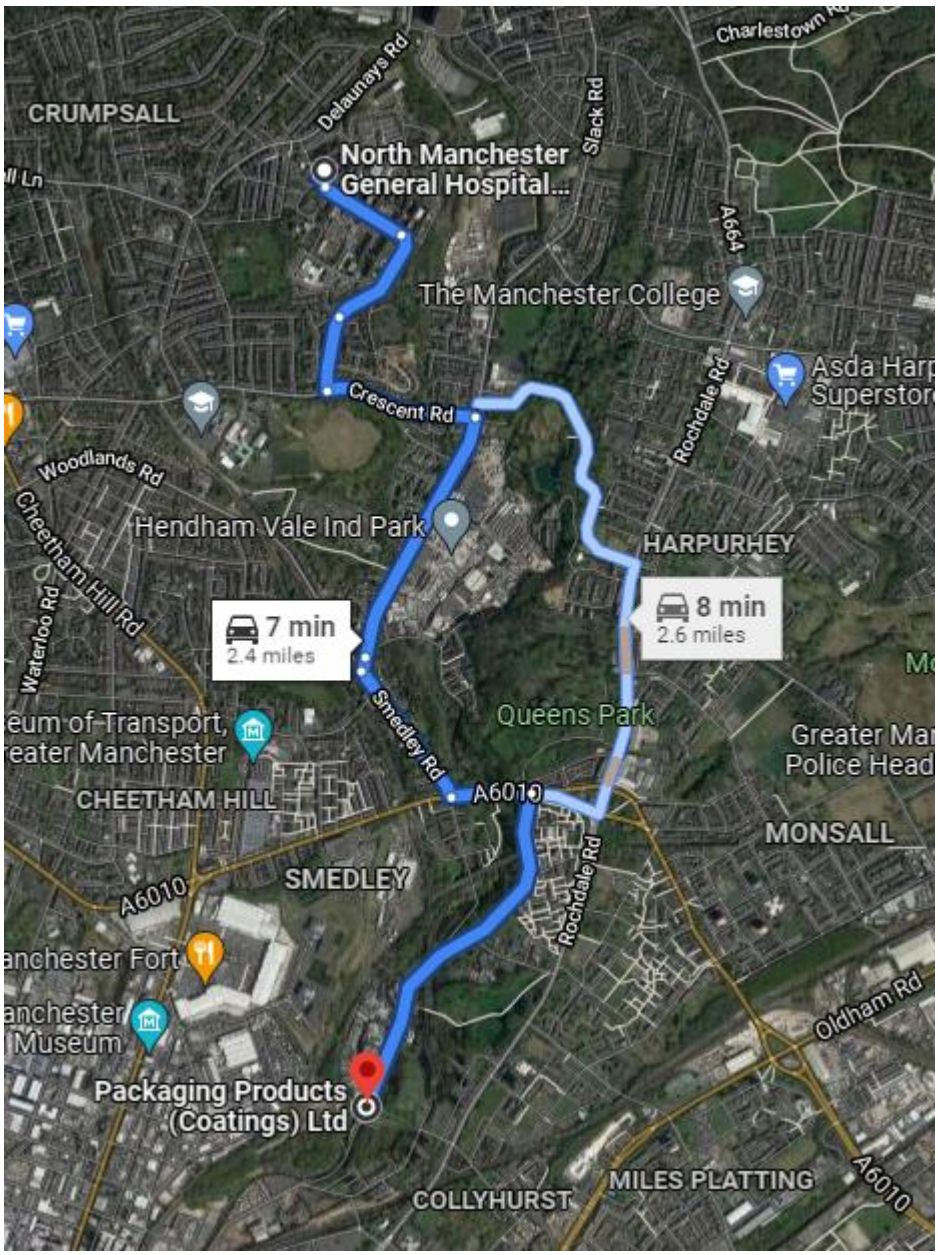
North Manchester General Hospital

Address:- 151 Delaunays Road, Crumpsall, Manchester, M8 5RB

Telephone:- 0161 7954567

Opening Hours:- 24/7

Description:- Primary accident and emergency centre serving the project



Ancoats Primary Care Centre

Address;- Old Mill Street, Manchester, M4 6EE

Opening Hours:- 0900 to 1500

Description:- Ancoats Primary Care Centre is a drop-in service for people who need URGENT care for minor injuries and illness. The centre should be used where you are unable to get an appointment with your own GP and where you need to be seen the same day. It is intended as an alternative to going to A&E - which is for emergencies only.

Emergency procedure – fire

In the event of a fire in the site offices or other site accommodation:

- Alert all personnel of fire, evacuate all site offices and other units and assemble at the site compound assembly point.
- Do not stop to collect personal belongings.
- Contact the emergency services by dialling 999 or ensure that someone else does.
- Use appropriate fire extinguishers to contain or extinguish the fire **ONLY** if trained to do so.
- Do not put yourself or others at risk.
- Do not attempt to re-enter offices until approval is given by a senior member of staff.

In the event of a fire on site:

- Leave the area and assemble at the site compound assembly point.
- Notify a member of staff at the site offices.
- Use appropriate fire extinguishers to contain or extinguish the fire **ONLY** if trained to do so.
- Do not put yourself or others at risk.
- Do not return to the area of the fire until approval has been given by a senior member of staff.

The site office staff must:

- call the fire brigade by dialling 999 when informed of a fire
- ensure the access route is cleared
- arrange reception of fire brigade at the nearest public road
- direct emergency service to location

The site address is:
BAM Nuttall,
Site Office,
Hargreaves Street
Manchester,
M4 4EJ

What3words: ///mats.mental.post

Adjust or add to make site specific

Emergency procedure – confined space rescue

Prior to normal entry into a designated 'confined space' check:

- first aid and fire extinguisher readily available by entrance.
- underground and external communication systems available and operational
- names/numbers of persons entering/leaving confined space are logged
- atmospheric testing has indicated it is safe to enter
- each person entering confined space is wearing full body harness and carrying escape breathing apparatus set
- top man is in attendance
- permit to work certificate (SF 901) is complete
- safe means of access is available for emergency services

If an emergency condition occurs:

- evacuate the confined space immediately
- do not attempt to rescue a collapsed person unless they can be moved to safety immediately
- ensure 'top man' summons fire brigade and ambulance by dialling 999 giving exact location and access route
- send a person to direct emergency services to location
- notify the agent

ONLY if you have had the necessary training and if a rescue kit and breathing apparatus are available:

- re-enter to attempt a rescue
- use forced air ventilation system to improve atmosphere
- take drag sheets and lifeline(s) into confined space
- ensure two people are available to assist
- have resuscitator and first aid kit available

The site address is:

BAM Nuttall,
Site Office,
Hargreaves Street
Manchester,
M4 4EJ

What3words: ///mats.mental.post

Emergency procedure – pollution incident

In the event of an oil, fuel or silt pollution incident, take action to:

Raise the alarm	you may need assistance
Identify the source	what risks are involved, can you handle it yourself or are the emergency services required?
Protect yourself	are you wearing the correct PPE to deal with the incident?
Help any injured	but do not put yourself or colleagues at further risk
Stop the source	prevent further pollution if safe to do so by plugging leaks, righting drums, closing valves or turning off pumps
Contain the pollution	use emergency materials held on site and ensure that the pollution cannot escape by blocking drains, or creating a trench or bund to protect rivers and other watercourses
Prevent spread	if the pollution has already entered water, prevent its further spread downstream using booms for spills or silt fencing for silt
Notify your supervisor	as soon as it is possible to do so
Clean up	using appropriate absorbent materials or skimmers
Dispose of contaminated materials	used clean up materials will be classed as ‘hazardous’ or ‘special waste’
Restock	emergency clean up materials should be replenished and restocked following their use

In the event of a major spillage to water (an incident that the project team cannot handle or contain) contact your environment advisor for further guidance and advice.

Emergency spill kits and absorbent materials are located at:

- Creamline dairy entrance
- Plateau welfare
- Hargreaves Street compound
- Water treatment area.

Mobile spill kits also kept with all machines.

Main site compound
Spill kit locations
Mobile spill kits kept with every vehicle on site also.

Emergency procedure – person in water

In the event of a person falling into water:

- Raise the alarm by an appropriate means such as
  - shouting ‘person in water’
  - sounding a klaxon
  - continuously sounding of a crane or vehicle horn
  - summoning the safety boat via site radio
- Keep the person in view.
- Make your way to the nearest lifebuoy station. Keeping hold of the end of the line, throw the buoy or grabline to the person in the water, if they can reach it. If not, let a loose lifebuoy float downstream with them.
- Provide assistance by drawing in the lifeline until the person is at a landing point. If the landing point is difficult, do not attempt to pull the person out – call for assistance.
- Once the person has been recovered from the water, keep them warm until transport is available to take him to the first aid station.
- Whilst giving priority to the rescue, send a message to the main office as soon as possible to enable coordinated support. Notify the office of:
  - the person’s location
  - likely injuries, if any

Employees are advised not to make a rescue attempt by entering the water unless they have been trained in life-saving techniques.

List of key personnel and organisations for emergency and liaison			
Name	**Position**	**Location**	**Tel. no.**
G Farrier	Divisional director	Newcastle	0191 273 7000
Kate O'Connell	Operations Manager	Manchester	07900264955
Neil Peters	Project Manager	Manchester	07920231931
Richard Collins	Design Manager	Leeds/Manchester	07584605795
Stephen Donaldson	General foreman	Manchester	07920084444
Andrew Campbell	Agent	Manchester	07810813484
Liam Chambers	Agent	Manchester	07895545476
Mark Cullen	Health and safety advisor	Leeds	07818537459
Scott McGuinness	Behavioural Safety Advisor	Calder Valley/Manchester	07867353286
Wayne Edwards	Works Manager	Manchester	07769366252
Eddie Duncan	Environment advisor	Leeds	07748 328507
Rebecca Stone	Project Stakeholder Engagement & Social Value Manager	Manchester	07900711136
Freya Jepson	Public relations	Camberley	01276 63484
24HR emergency contact number			07900711136 07920231931

Emergency liaison			
Organisation	**Contact (name)**	**Telephone no.**	**Emergency tel. no. e-mail or reporting line**
Incident co-ordinator	Neil Peters	07920231931	Neil.peters@bam.com
Client	Matt Ralph	07946605520	Matt.Ralph@turntown.co.uk
Principal designer	Richard Collins		Richard.collins2@bam.com
Fire	N/A	999	
Police	N/A	999	
Hospital	Manchester Royal Infirmary Accident & Emergency Department, Upper Brook Street, Manchester, M13 9NZ	0161 2764147	999
HSE	Merton Road, Bootle, L20 7HS	0151 951 4000	
EHO	TBC		
Environment Agency	TBC		
Network Rail	Andy Dalton	07920509023	Andy.dalton@networkrail.co.uk
Local authority	Matt Ralph	07946605520	Matt.Ralph@turntown.co.uk
Gas supplier	Cadent Gas	0800 688 588	800111999
Electricity supplier	Electricity Northwest	8001954141	8001954141
Telecom	BT	08001693849	8009173993
Water	United Utilities	8707510101	8707510101

Schedule A7 Storage / Management of hazardous substances

Storage / management of hazardous substances / Summary of COSHH Assessments							
Hazardous substances to be stored on site	**Storage arrangements**	**Volume of substance**	**Assessment available/ Expiry Date of assessment**		**Briefing arrangements**	**Health monitoring**	**Exposure monitoring**
HVO Diesel	Locked bowser in bunded storage areas	5000L static	Yes		Activity Plan Briefing as required	Site Supervision	TBC as per Sypol COSH Assessments
Marker Paint	Site stores, away from heat source.	Aerosol	Yes		Activity Plan Briefing as required	Site Supervision	TBC as per Sypol COSH Assessments
Petrol	Clearly marked fuel container inside COSHH store on drip tray	25L	Yes		Activity Plan Briefing as required	Site Supervision	TBC as per Sypol COSH Assessments
Cleaning Products	Cleaner's store	Various	Yes		Activity Plan Briefing as required	Site Supervision	TBC as per Sypol COSH Assessments
Ready Mix Concrete	N/A – Delivered as required	As required	Yes		Activity Plan Briefing as required	Site Supervision	TBC as per Sypol COSH Assessments

Excavated contaminated land storage area

HIF

A designated area for the contaminated material excavated during the earthworks phase of the project will be established (in the RB05a shown below).

The area will be levelled off and an impermeable layer of material (visqueen) will be laid over the area. A bund of material will be created around 3 sides of the perimeter of the area and the impermeable layer will be incorporated within the bund to create a sealed area. The fourth side will be created with a ramp for access to allow the tipping of material within the bunded area.
This will ensure that no water runoff from the area can occur and prevents possible spreading of contaminated materials outside of the quarantined stockpile area.

Heras fence panels will be placed around the perimeter of the bunded area with an access gate for access and egress.

Spoil stored within the area will be covered with a waterproof sheeting (visqueen) to prevent/reduce water from ponding within the area and waterlogging the stored material.

NT02-04

Advance SI works will identify contamination types and extents. Waste streams will be grouped together. Excavation will be carried out across the site and materials will be stored in segregated stockpiles to be loaded away.

Depending on the contamination stockpiles will be managed as above.

Excavation programme will be managed to ensure excavated materials are exposed the minimum amount of time before loading away for off site processing.

All stockpiles will have signage to ensure the materials and contamination are clear to all.

St Catherines Wood

Material excavated from here will be stockpiled away from the watercourse ready for reuse or offsite processing.

Managing Surface Water Runoff and Groundwater during works

HIF

Any groundwater that may be discovered whilst excavating/stockpiling material of contamination will be tested, and either pumped across dry ground away from any receptors. Or if the sampling shows the water as containing contaminants or pollution as defined in the CWRA it will be pumped to a large holding tank ready for disposal via an authorised waste disposal facility.

Surface water runoff will be controlled using a series of temporary grips, and trenches that will prevent the water from picking up suspended solids, contaminants and remain 'clean' . The mitigation of this surface water may vary based on location and the water should be prevented from reaching the River Irk where possible. Prior to discharge to sewer it may be necessary to pump the water to a settling Lagoon, or series of silt trap, where any suspended solids will drop out prior to discharging to sewer. Alternatively during the drier summer months, the water may be used to supress dust on the site and be used to condition dry materials and allow for better consolidation and compaction.

Any excess surface water will be discharged from site via a consented point within the site boundary to the sewer network. This temporary discharge consent has been granted on the proviso that it has been sampled and tested to the United Utilities thresholds as detailed in the temporary discharge consent obtained for the VNIF project.
Separate authorisation will follow from the Environment Agency if the water will be discharged via the permanent outfall to the River Irk as the permanent drainage is installed and commissioned.

NT02-04

The majority of the excavation works in NT plots is in made ground or above the water table.

Below ground excavation in the NT02 plot is expected to excavate 3m depth below ground level. At it's lowest surface level of 31.4m AOD this would place the base of the excavation at 28.4m AOD.

From extensive BH information the water table is expected at 27m AOD so we should not expect to encounter it during the excavation phase.

There is no existing surface water drainage in the NT02 to 04 plots. Currently surface water run-off is absorbed into the open permeable materials. Excess from heavy rain currently runs freely over the ground to Dantzic Street highways drainage.

During our works the excess surface water will be channelled away from the highways drainage to a low/sump point where it can be collected and allowed to percolate naturally. If required the water can be pumped to a point at the rear of the site and allowed to flow back over the ground and allow for natural absorption.

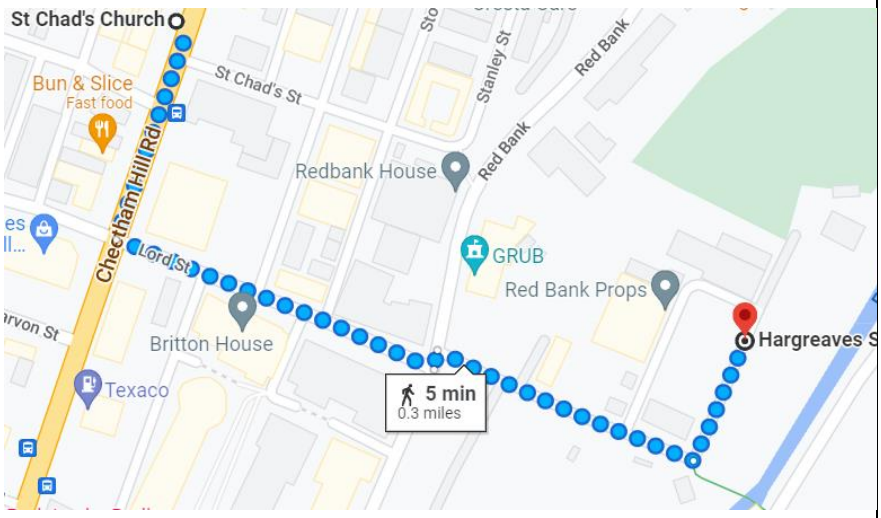
If required a silt trap will be brought to site and the water can be pumped to a settlement tank to remove particles before discharging to UU sewer (with consent)

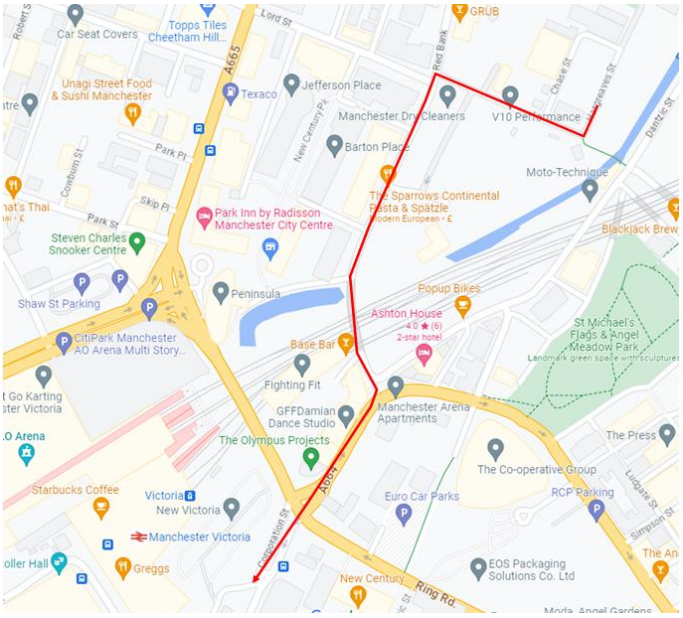
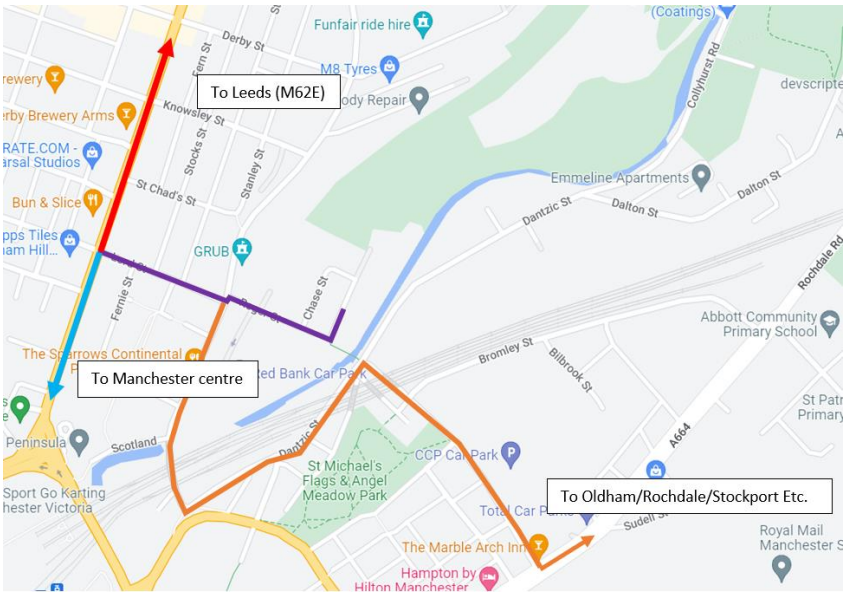
St Catherines Wood

Surface water runoff and ground water will me managed in accordance with the Site Water Management plan.

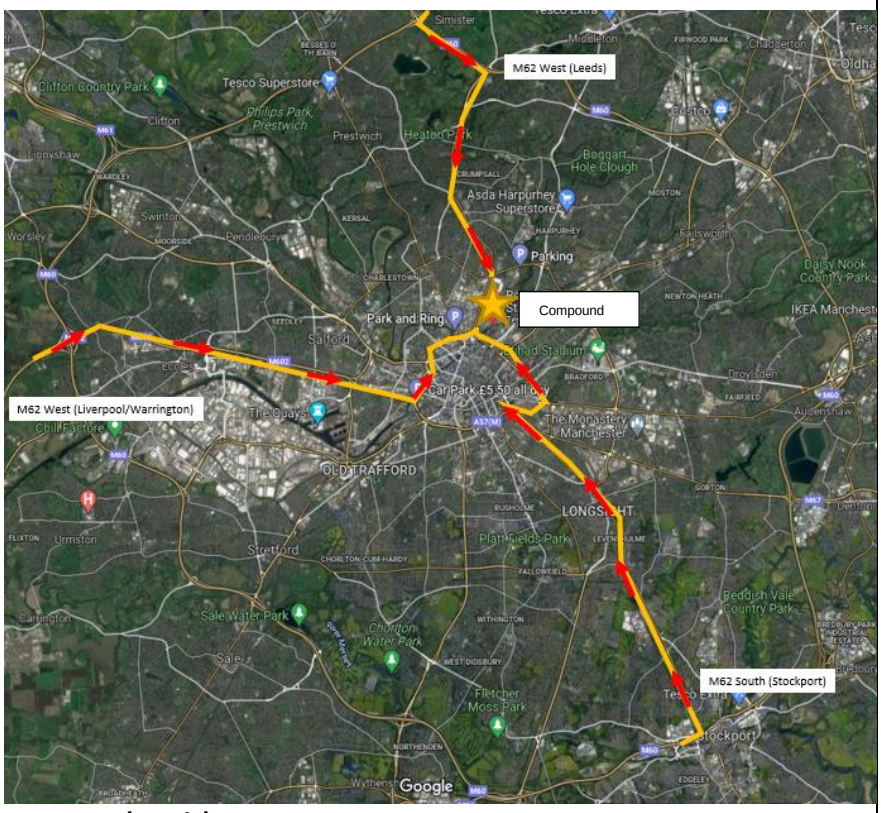
Hazardous substance storage – RB05a. Surrounded with bund and Visqueen lined base.
Lockable COSHH store in main compound
Packaging Products (Coatings)
Funfair ride hire
M8 Tyres
RG Car Body Repair
Emmeline Apartments
GRUB
Stocks St E
North St
Derby St
Red Bank
Stanley St
River Irk
Collyhurst Rd
Dantzic St
Dalton St
Chase St
Hargreaves St
Roger St
Bromley St

Schedule A8 Works Transport Plan

Project Title:	Red Bank Neighbourhood, Victoria North HIF Infrastructure Project	**Contract No:**	BAA.2210
Prepared By:	John Annett	**Date:**	15th August 2022
BAM Project Manager:	Neil Peters	**BAM Manager Contact No:**	07920231931
Local Traffic Authority:	Manchester City Council	**Local Traffic Authority Contact No**	TBC
Main Compound Address:	BAM Nuttall, Site Office, Hargreaves Street, Manchester M4 4EJ	**Satellite Address**	N/A
Main Office Establishment for Staff & Visitors:	BAM Nuttall, Site Office, Hargreaves Street, Manchester M4 4EJ		
Site welfare Parking Rules:	**The following Rules Apply When Visiting the Compound:** ○ All Vehicles to take care when driving to the site compound – Max 5mph ○ No vehicles are to be left/parked on double yellow lines around the compound. ○ Surrounding roads are to be kept clean at all times – Road Sweepers Used if Req'd. ○ No delivery vehicles or HGVs to deliver to site before 8am or after 4pm ○ All Vehicles to follow Signage ○ All vehicles to use one way system ○ All vehicles to reverse park		
Pedestrian Access & Bus Routes:	 **Pedestrian Route:**		

	○ Multiple bus stops within 15-minute walk of the compound on Hargreaves Street ○ Use existing public footpaths and crossing points ○ Use pedestrian walkways within compound area
Pedestrian Access, Train and Tram routes:	 ○ Use existing public footpaths and crossing points ○ Trains to Liverpool and Leeds ○ Trams across Manchester network
Vehicle Access Routes into Compound:	 ○ Access can be gained from Red Bank, down Roger Street and then left at the end on to Hargreaves Street. ○ ALL vehicles must fully enter the secure compound area without blocking the gate or road. ○ No parking on the double yellow lines. ○ P&P Bridge and other delivery routes are to be kept clean and clear at all times

Main Routes from Motorway to compound:



M62 East (Leeds):

- Leaving the M60 at J18, head South onto the M60
- Leave M60 at J19 East onto Middleton Road
- Continue south for approximately 1.5 miles where you come to a crossroads
- Turn left onto A665
- Continue for South for a further mile and turn left only Smedley Lane.
- Continue until you hit the T junction and turn right onto Smedley Road.
- Continue until you hit the T junction and turn left onto A6010.
- Continue 200m and turn right onto Collyhurst road.
- For specified deliveries, turn right onto P&P bridge and the Compound is on the left-hand side. For the offices, follow the road towards the city centre.
- Follow the road until it turns under the railway and then comes back on itself up Red Bank hill.
- Turn right down Roger Street and follow it to the end.
- Turn left on to Hargreaves Street and go through the compound gates.
- Turn into the compound and Park your vehicle in the designate area – Parking or Deliveries
- All delivery vehicles must report to the welfare cabins for further direction and all personnel must sign in
- Reverse Parking at all times

	M62 West (Liverpool) ○ The M62 merges into the M602, continue on this road which will then merge into A57 Regent Road. ○ Turn left onto Ordsall Lane, continue until you reach a T junction. ○ Turn left at the junction and head north on the A6042/Ring Road. ○ Continue until you reach another T Junction, with Manchester Arena on your right. ○ Turn right and continue on the ring road. ○ Turn left onto A664. ○ Turn Left onto Dantzic street and continue veering right and proceed on Dantzic street. ○ Continue around over the river and under the railway to Red Bank. ○ Turn right down Roger Street and follow it to the end. ○ Turn left on to Hargreaves Street and go through the compound gates. ○ Park your vehicle in the designate area – Parking or Deliveries ○ All delivery vehicles must report to the welfare cabins for further direction and all personnel must sign in ○ Reverse Parking at all times **M60 South (Stockport)** ○ Come off the M60 at Junction 1 ○ Head North on the A6 Stockport Road for approximately 5 miles ○ Turn right at the Stockport Road/Devonshire Street cross roads (McDonald's is on the right) ○ Continue on the A665 Devonshire Street which merges onto Great Ancoats Street and then it merges to the ring road and finally it merges to Cheetham Hill Road. ○ Turn right onto A664. ○ Turn Left onto Dantzic street and continue veering right and proceed on Dantzic street. ○ Continue around over the river and under the railway to Red Bank. ○ Turn right down Roger Street and follow it to the end. ○ Turn left on to Hargreaves Street and go through the compound gates. ○ Park your vehicle in the designate area – Parking or Deliveries ○ All delivery vehicles must report to the welfare cabins for further direction and all personnel must sign in ○ Reverse Parking at all times
Construction vehicles	○ All construction vehicles leaving site must have wheels checked for stones prior to existing site and entering onto the public highway. ○ All loads to be sheeted prior to transit where possible. ○ Load may be left unsheeted if the load will not blow off in transit, does not produce dust and the load does not need to stay dry. ○ All Construction vehicles to be part of FORS.

	The Fleet Operator Recognition Scheme (FORS) is a voluntary accreditation scheme for fleet operators which aims to raise the level of quality within fleet operations, and to demonstrate which operators are achieving exemplary levels of best practice in safety, efficiency, and environmental protection.	
	Note: **A TM & Delivery Plan MUST be Sent Out with Order to ALL Suppliers Prior to Delivery Taking Place**	
Opening/Closed Times and Dates (If Applicable):	**Project Start Dates**	20th September 2022
	Project Completion Dates	January 2025
	First Allowable Delivery Time	8am
	Last Allowable Delivery Time	4pm
Additional Information	Different delivery entrances to site may be used depending on the programme of works. Ensure an up-to-date delivery plan is sent with every order, even for repeat deliveries.	

Section B Construction Phase Plan

B1.0 Foreword

This section of the plan should be read with section A and with the current editions of the schedules for **Section A and B**. Together these documents define the arrangements for achieving health and safety standards on the project. They form the construction phase plan required under CDM Regulations.

B2.0 Health and safety arrangements including welfare

B2.1 Fire safety - *SG11: Assessment of fire safety*

The fire safety co-ordinator gives attention to the prevention and limitation of the effects of fire by avoiding stocks of flammable materials and provision of adequate emergency instruction and arrangements.

On this project, the applicable arrangements for fire safety are detailed in **Table B2.1** below.

Fire alarm to be tested weekly

Fire Drill to be carried out as per A3.4

Table B2.1: Fire safety arrangements

Flammable substances	Fire extinguishers kept in site offices and vehicles
	Keep fire extinguisher available during working
Banned activities	Open fires on site
Hot work permits	Any activity that generates heat needs to be covered by a Permit
Smoking	No smoking on site, or in site vehicles
Waste	No combustible waste to be stored on site, and to be disposed of off-site at the end of each day to an appropriate point.
Fire points	Manual and automatic alarm points various points through the Hargreaves St building to meet the Fire RA requirements
Alarm	See Emergency Procedure – Fire within section A6
Emergency supply	N/A
High risk premises	No high-risk areas or premises identified
Accommodation	Site welfare vehicles to contain fire extinguishers
Personnel	
Fire marshal	*Joe Quinlan*
Fire co-ordinator	*Stephen Donaldson*

B2.2 First aid - *SG03: First aid*

The location of first aid equipment and names of first aiders are prominently displayed so that assistance can be obtained in the shortest possible time.

The specific arrangements for first aid are as detailed in **Table B2.2** below:

Table B2.2: First aid arrangements

Materials, equipment and facilities	
First aid boxes	2no in Site Offices – one upstairs and one downstairs. 1no on site in the water treatment plant container. Kit kept in site based welfare 2no in Welfare cabins over at NT02/04 love factory site
Travelling first aid kits	Kept within site vehicles. One per vehicle.
First aid rooms	In the main compound offices, first room on the right from the front door.
Defibrillators	Defibrillator to be held within main first aid room & 2 in site vehicles
Personnel	
First aiders	Stephen Donaldson, Daniel King, John Annett, Neil Peters, Liam Chambers
Management of first aid equipment and supplies	Stephen Donaldson

B2.3 Site utility arrangements - *SG20: Temporary electrical installations*

This section describes the arrangements for planning site requirements for utilities to meet site requirements. Wherever practicable information on depths and location should be provided.

Table B2.3: Site utilities

Utility	Requirement	Inspection and Test Requirement	Routine inspection	Supplier
Electricity (mains)	*No*	----	----	-----
Electricity (generated)	*Yes*	*Generator serviced as per suppliers' instructions*	*Generator serviced as per suppliers' instructions*	*Nixon Hire*
Gas	*No*	----	----	----
Water/Wastewater	*Yes*	*Weekly Sample for Methane. Quarterly Sample for wider suite of materials*	*Monthly Readings*	*UU*
Telecom	Yes	----	----	N/A
Utility supply in emergency situations	*Yes*	Tested with fire alarm and electrical inspection	Quarterly inspection	Wingate/Bam site solutions

B2.4 Welfare arrangements - *SG21: Welfare facilities*

The agent ensures the provision of suitable facilities at all stages of the project and their maintenance to the highest possible standards of cleanliness and hygiene.

Outline arrangements are defined in **Table B2.4** below**: and** on a sketch inserted in **Schedule B1**

Table B2.4: Outline welfare arrangements

Toilets	Available in main compound and in various locations around site, P&P Access point, Creamline Access Point, NT02-04 Love Factory Site
Washing	Main compound/Satellite Compounds
Changing	Main compound/Satellite Compounds
Rest/food	Main compound and smaller site set-up
Drinking water	Main compound (additional locations may be implemented during exceptional heat) and in each satellite site set-up
Waste segregation	Separate labelled waste skips, in plant compound.
Responsibility for maintenance	BAM supervisor to arrange and coordinate.

B2.5 Zones – *NS1.5: Zonal working*

Certain areas of the project will have no or restricted access throughout the project and will not be picked up any specific activity plan. This is due to Client requirements or the hazards in these areas. Areas with no access are exclusion zones. Areas of access limited to certain people are restricted zones.

Zonal areas not associated with a specific construction activity on this project are listed in **Table B2.5** below.

Table: Project Zones

Type of Zone	Description
Restricted Zone – Yellow	Area of tree clearance
Exclusion Zone – Red	Area around chipping plant
Restricted Zone – Red	Zone around remediation/excavation works
Restricted Zone – Red	Zone in area of earthworks activities
Exclusion Zone – Red	Zone around invasive species
Exclusion Zone – Red	Slew area of excavators
Restricted Zone – Yellow	Lifting Operations (not within the reached area)
Exclusion Zone – Red	Lifting Operations (slew radius of crane/piling/excavator)
Exclusion Zone – Red	Within 3m of the river
Exclusion Zone – Red	All haul roads/vehicle routes.
Exclusion zone - Red	Drainage excavations/confined spaces (before they have been deemed safe and an SF901 – Permit to enter (confined space) permit has been issued.
Restricted zone - yellow	Drainage excavations/confined spaces (after they have been deemed safe and an SF901 – Permit to enter (confined space) permit has been issued.)
Restricted zone - yellow	All work areas with plant movement. Entry to be authorised by banksman/supervisor.
Task specific exclusion zones to be specified in RAMS/Activity plans	Machine movements
Exclusion Zone - Red	Trade effluent water discharge area and pumping equipment.
Exclusion Zone – Red	Demolition Activities

B3.0 Health Management - *NP1.17: Management of occupational health*

The following hazards to health resulting from activities to be carried out on site are listed in **Tables B3.1** and **B3.2** below. Arrangement for health assessment and monitoring linked to the hazards identified are detailed in **Table B3.3** below:

B3.1 Noise - *NP1.5: Control of occupational noise*

Table B3.1: Occupational Noise

Operation	Anticipated noise level (dBA)	Actual noise level (dBA) At 10m	Control	Time Anticitpated	PPE	Time Per day average (estimated)	Impacted Parties
Excavators – General Excavation	(outside) 99 dB(A) (inside) 71db(A)	76dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	No	4 Hours	Construction Workers General Public at site perimeter.
Excavators – Loading Lorries	(outside) 99 dB(A) (inside) 71db(A)	79dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	No	1 Hour	Construction Workers General Public at site perimeter.
Excavators – Breaking Up Concrete	(outside) 99 dB(A) (inside) 71db(A)	90dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	0.5 hours	Construction Workers General Public at site perimeter.
Hydraulic grab (attachment on excavator)	(outside) 99 dB(A) (inside) 71db(A)	90dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	Yes	4 Hours	Construction Workers General Public at site perimeter.
Hydraulic shear (attachment on excavator)	(outside) 99 dB(A) (inside) 71db(A)	90dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	Yes	4 Hours	Construction Workers General Public at site perimeter.
Compactors/rollers - Compaction of material	Standard 84dba Compacting 106dba	79dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	No	1 hour	Construction Workers General Public at site perimeter.
Dumpers – 25t Moxy Empty	(outside) 104 dB(A) (inside) 73db(A)	87dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	3 hours	Construction Workers General Public at site perimeter.
Dumpers – 25t Moxy Tipping	(outside)		Reviewed on Site	7:30 – 18:00	No	3 hours	Construction Workers

	104 dB(A) (inside) 73db(A)	79dB(A)	and managed accordingly				General Public at site perimeter.
Concrete Mixer Truck- Discharging	(outside) 104 dB(A) (inside) 73db(A)	75dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	No	1 hour	Construction Workers General Public at site perimeter.
Generators	(outside) 75 dB(A)	65dB(A)	Reviewed on Site and managed accordingly	7:30 – 18:00	No	10 hours	Construction Workers General Public at site perimeter.
Abrasive wheels – Stihl Saw	(outside) 98 dB(A)	91dB(A)	PPE, restricted zone	7:30 – 18:00		0.5 hours	Construction Workers General Public at site perimeter.
Chainsaws	(outside) 106db (A)	94dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	4 hours (at start)	Construction Workers General Public at site perimeter.
Chippers	(outside) 125db (A)	87dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	8 hours (at start of project)	Construction Workers General Public at site perimeter.
Strimmer	(outside) 101db (A)	91dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	2 hours (at start of project)	Construction Workers General Public at site perimeter.
Blower	(outside) 100db (A)	85dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	2 hours (at start of project)	Construction Workers General Public at site perimeter.
Pole pruner	(outside) 93db (A)	91dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	2 hours (at start of project)	Construction Workers General Public passing at site perimeter.
RH28 Piling Rig	(outside) 99 dB(A) (inside) 71db(A)	90dB(A)	PPE, restricted zone	7:30 – 18:00	Yes	4 Hours	Construction Workers

B3.2 Vibration - *SG08: Control of occupational vibration*

Table B3.2: Occupational Vibration

Operation	Anticipated vibration level (m/s^2)	Tools used	Control	Time (minutes)
Tree felling	3.7	Chainsaw - Stihl - MS261	HAVS Assessment completed HAVS watch to be worn to monitor exposure	2hrs 40mins
Tree felling	3.7	Chainsaw - Stihl - MS262	HAVS Assessment completed HAVS watch to be worn to monitor exposure	2hrs 40mins
Tree felling	3.2	Chainsaw - Stihl - 201tv	HAVS Assessment completed HAVS watch to be worn to monitor exposure	3hrs 35mins
Tree felling	3.5	Strimmer - Stihl - FS460	HAVS Assessment completed HAVS watch to be worn to monitor exposure	3hrs
Tree felling	3.5	Blower - Stihl - BR600	HAVS Assessment completed HAVS watch to be worn to monitor exposure	3hrs
General cutting activities	4.2	Stihl saws	HAVS Assessment completed HAVS watch to be worn to monitor exposure	2hrs
Compaction activities e.g., stone, tar	TBC	Pneumatic whacker plate	HAVS Assessment completed HAVS watch to be worn to monitor exposure	TBC
Aerating concrete pours	TBC	Concrete pokers	HAVS Assessment completed HAVS watch to be worn to monitor exposure	TBC

B3.3 Dermatitis

Table B3.3: Dermatitis

Operation	Hazard	Control	PPE
Concreting/	Cement	Low chromium VI Avoid exposure Briefings/training on the risk associated with cement exposure	Full skin coverage with impermeable clothing
Diesel		Outdoor use only, all containers kept closed when not in use, wash after exposure, all	Full skin coverage with impermeable clothing

		operatives briefed on COSHH Assessment prior to use	
Petrol		Outdoor use only, all containers kept closed when not in use, wash after exposure, all operatives briefed on COSHH Assessment prior to use	Full skin coverage with impermeable clothing
HVO fuels		Outdoor use only, all containers kept closed when not in use, wash after exposure, all operatives briefed on COSHH Assessment prior to use	Full skin coverage with impermeable clothing

B3.4 Health assessment and monitoring arrangements - *NP1.17 Management of occupational health*

Health assessment monitoring arrangements for this project are defined in **Table B3.4** below:

Table B3.4: Health assessment monitoring arrangements

Hazard	By whom	Frequency
Noise	Competent person Occupational hygienist	Baseline health assessment within 3 months of employment and then annually thereafter (More frequently for specific individuals)
Vibration	Competent person Occupational hygienist	Baseline health assessment within 3 months of employment and then annually thereafter (More frequently for specific individuals)
Lead	N/A	N/A
Asbestos	Air Monitoring, during works	Each shift

B3.5 Manual handling - *SG22: Manual handling*

Exposure to manual handling, and the associated risk of injury, particularly back injury must be controlled. Manual handling training is given to all personnel at risk and the results of assessments are notified to those involved in the activity.

The activities listed in **Table 3.5** are likely to require a manual handling assessment.

Table B3.5: Manual handling

Activity likely to require a manual handling assessment
Site mobilisation and de-mobilisation
Handling Slung Loads
Demolition works

Activity likely to require a manual handling assessment
Tree clearance
~~Drainage materials~~
Ducting/chambers/lids
Kerbing
Ironwork
Edgings
Paving stones
Bags of sand/aggregate/cement/topsoil
~~Block paving~~

B3.6 COSHH (Chemical and biological hazards including dust and fumes) - *NP1.18: COSHH SG18: COSHH*

The COSHH coordinator, ensures that all reasonable steps are taken to ensure that exposure of employees and others to hazardous substances is assessed and prevented or at least controlled to within statutory limits.

On this project, arrangements for storage of hazardous substances are detailed in **Schedule A7.**

B3.7 Temperature and weather protection for personnel on site

The following **Table B3.7** below details suitable and sufficient controls are in place to minimise the risks regardless of location.

Table B3.7: Weather Protection

Temperature and weather hazards	Control
High temperature	Operatives to be reminded at morning briefings to hydrate during day. Drinking water supplies to be provided at all site office locations. Operatives to be supplied with drinking bottle to allow to carry around work site. Where possible operatives to work in shaded areas and where possible additional shading to be created on static work areas to protect operatives. If required additional breaks to be incorporated into workdays and working hours adjusted where practical.
Low temperature	Where temperatures reach points where ice and frost are formed operatives during the prestart briefings will be reminded of the risks of low temperatures. The Agent/ Foreman will carry out an assessment of the site. From this the works on site will be approved to commence or be suspended if required. Where necessary the site team will first clear paths and apply anti slip material (grit) to prevent slips trips and falls. Water supplies to cabins to be protected (lagged) to protect from freezing.
Poor visibility	If visibility is poor prior to work commencing the Site Agent and Foreman will carry out an assessment of the site. From this the works on

	site will be approved to commence or be suspended until visibility improves.
Rain	Operatives will be reminded of potential slips trips and falls associated with wet weather during prestart briefings. Agent/Foreman to subscribe to the EA's flood warning service to allow advanced warning of heavy rainfall. For heavy rain Agent/Foreman will assess the site conditions and where necessary provide additional risk assessment or suspend works. Rain fall will also effect works within the culvert due to increased flows. Close monitoring of the weather forecast, and potential rain fall will be undertaken, and works will be planned taking consideration of potentially increased flows.
Snow	In the event of snow fall all footpaths will be cleared. If continuous then the Site Agent and Foreman will review the planned operations and where necessary, provide additional risk assessment or suspend works. Drying room temperature to be maintained to allow cloths to dry out. Agents/foreman to subscribe to the EA's flood warning service to allow advanced warning of heavy snowfall. Melting snow will also effect works within the culvert due to increased flows. Close monitoring of the weather forecast, and potential snow fall will be undertaken, and works will be planned taking consideration of potentially increased flows due to melting snow.
Humidity	Temperatures will be monitored, and additional breaks given to site team to allow intake of liquid. Operations will be monitored through their durations.
Wind	Wind speeds will be monitored in advance and the forecasts provided within the morning briefings. Any lifting operations will have risks associated with high wind speeds identified and suitable contingencies/guidance identified. For lifting operations winds speed of 12mps to be the cut off of operations.
UV protection	Factor 30 protection cream provided on site to provide UV protection. Operatives to be informed of daily UV levels in morning briefing and advised to apply protection cream. Full length arm sleeves advised to give additional protection. Where possible operatives to work in shaded areas and where possible additional shading to be created on static work areas to protect operatives.

B3.8 Fatigue

The planned working hours and monitoring regime on this site are given in the **Table B3.8** below.

Table B3.8: Fatigue management

	Dayshift		Nightshift		Control to minimise fatigue
	Hours worked	**Breaks**	**Hours worked**	**Breaks**	
Monday to Friday	07:30 to 1800	1/2hr mid-morning and 1/2hr lunch	No night working planned		Regular breaks depending on work type. Task rotation. Monitoring and recording of travel by all workforce no more than 14hrs door to door. Monitoring of tasks and physical/mental demands paced on individuals.
Saturday – Only By Permission. Network Rail works will likely be off peak times.	7:30-17:30	10:00-10:30 & 13:00-13:30	Possible NR works		Regular breaks depending on work type. Task rotation. No less than 1 day's rest in any 7 consecutive days or 2 in any 14 days
Sunday – Only By Permission. Network Rail works will likely be off peak times.	7:30-17:30	10:00-10:30 & 13:00-13:30	Possible NR works		Regular breaks depending on work type. Task rotation. No less than 1 day's rest in any 7 consecutive days or 2 in any 14 days
Weekly / fortnightly break arrangements	N/A				

Information in relation to travel and working time should be recorded for all personnel.

B4.0 General arrangements that apply to the works

Other significant risks are covered in **Tables B4.1 to B4.20**. **Table B4.20** is provided to allow the agent to develop any customer requirements as defined in the pre-tender information, or other unusual risks that may be applicable to the works.

B4.1 Underground and overhead services - *NP1.3 Control of excavation in the vicinity of buried services*

The following information has been taken from the pre-construction information, service providers, Linesearch (www.linesearchbeforeudig.co.uk) and site surveys.

Any known to exist in the vicinity of the site are listed in **Table B4.1** below. With specific details held in the services register **Schedule B3.**

Table B4.1: Major underground / overhead assets

Identified major underground / overhead asset	Location	Activities affected	Control
UU combined Sewer	Plateau/Avenue	Digging, trade effluent water disposal.	Permit to dig in place prior to any breaking ground
	Riverside pathway	Invasive species clearance	Permit to dig in place, hand dig around the pipe. Detailed methodology in SC RAMS.
Historic sewer network – derelict but still live	Plateau/Avenue	Digging	Permit to dig in place prior to any breaking ground
9 no. uncharted services crossing P&P bridge, easily disturbed by vibration.	P&P Access	Deliveries	Delivery plan to specify no offloading on the bridge
None	Ridge View	None	Permit to dig in place prior to any breaking ground
Private sewer leading to Hargreaves Street	Red Bank Terrace	Earth works	Permit to dig in place prior to any breaking ground
None	Viaduct	None	Permit to dig in place prior to any breaking ground

Identified major underground / overhead asset	Location	Activities affected	Control
Various. Please see trial hole logs for TH03,04 & 05, services include CW sewers, 6kv cables, LV Electrics, BT, Gas, water main, Gas, 33kv cables, gas main	Roger Street	Digging trial holes	Permit to dig in place prior to any breaking ground, using safe method of excavation using a Vacuum Excavator
Various. Please see trial hole logs for TH01 a/b/c & TH02, services include Virgin media, LV Electrics, BT, Gas, water main, CW sewers, 6kv cables	Red Bank	Digging trial holes	Permit to dig in place prior to any breaking ground, using safe method of excavation using a Vacuum Excavator
Various. Services include , LV Electrics, BT, Gas, water main, CW sewer	Hargreaves Street	Setting up new site compound	Permit to dig in place prior to any breaking ground
Various. Please see trial hole log TH05, services include LV Electrics, BT, Gas, water main, CW sewer, 6kv cables	Chase Street	Digging trial holes	Permit to dig in place prior to any breaking ground, using safe method of excavation using a Vacuum Excavator
HP Cadent Gas Main	NT02	Removal of “TCE plume” Temp Works platform (loading above)	Permit to dig Mark route above ground Complete NT02 dig & replace before diverting gas.

Identified major underground / overhead asset	Location	Activities affected	Control
ENWL – various power cables	NT02, 03 and 04	Demolition Excavation	ENWL to cut at boundary before works commence
Openreach	NT02 – Love Factory	Demolition	Openreach to disconnect before demo
Water – Water Plus	NT02 Love Factory NT03 Concrete Batching Plant	Demolition	UU to disconnect before demo

Responsibility for ensuring arrangements for safety in the vicinity of overhead services in accordance with BAM Nuttall procedures is that of a **Buried and Overhead Services Coordinator**, appointed by the agent, whose duties are described in the BAM Nuttall health and safety policy booklet.

B4.1.1 Services, isolation points and diversion work

In association with these works the following services shall be disconnected / connected:

Service	Location of services and isolation point(s)	Planned date for connection (c) or disconnection (d)
BT	Hargreaves Street compound	C Early December 2022
Electric	Hargreaves Street compound	C Early March 2023
Water	Hargreaves Street compound	C January 2023
Foul	Hargreaves Street compound	C November 2022
BT	Love Factory boundary	D Late 2023
ENWL	Love Factory boundary	D Late 2023
Cadent LP	Love Factory boundary	D Jan 2024
Water	Love Factory buildings not boundary (pre demo)	D Jan 2024
Foul	Love Factory buildings not boundary (pre demo)	D Jan 2024

B4.2 Temporary works - *NP19: Control of temporary works*

A description of any erection sequences, temporary propping arrangement etc. taken from the pre-construction and designer information should be included here ensuring safe by design.

Table B4.2: Temporary Works

Temporary work requirements	Influence on the permanent structure	Controls	Access arrangements required
Site welfare foundations	N/A	Competent design and installation.	Location specific
Heras fencing	N/A	Competent design and installation.	Location specific

Haul Road	N/A	Competent design and installation.	Location specific
Drainage trenches	N/A	Competent design and installation.	Location specific
Crane pads	N/A	Competent design and installation.	Location specific
MH trenches	N/A	Competent design and installation.	Location specific
Bunded/Visqueen containment area for contaminated waste storage	N/A	Competent design and installation.	Location specific
NT03 Piling Platform for retaining wall	Network Rail	Competent design and installation.	Dalton St and Dantzic St entrances
NT03 Formwork and propping for Piling Cap and upstand	N/A	Competent design and installation.	Dalton St and Dantzic St entrances
NT03 Scaffold for retaining wall brickwork	N/A	Competent design and installation.	Dalton St and Dantzic St entrances
NT03 Slope stability for existing ground to piling mat and to formation of capping beam	Network Rail	Competent design and installation.	Dalton St and Dantzic St entrances
NT03 Working platform for concrete pump	N/A	Competent design and installation.	Dalton St and Dantzic St entrances

Additional information in relation to temporary works are recorded on the temporary work register. TEF014
VNIF-BNL-ZZ-YYY-RE-WS-0001

B4.3 Working at height - *SG15: Working at height*

Table B4.3: Working at height

Activity	Height hazard	Controls	Monitoring and inspection
Site cabin mobilisation	Fall from height	Developed RAMS for works identifying procedures to be put in place and followed.	Before first use After adverse weather conditions Review and approval of RAMS (Activity plan). All persons to be briefed and Foreman to monitor works as they proceed to ensure compliance with documented plan of works.
~~Deep drainage excavation~~	~~Fall from height~~	~~Developed RAMS for works identifying procedures to be put in place and followed.~~	~~Before first use~~ ~~After adverse weather conditions~~ ~~Review and approval of RAMS (Activity plan). All persons to be briefed and Foreman to monitor works as they proceed to ensure compliance with documented plan of works.~~
Honey Street retaining wall works	Fall from height Falling objects	Developed RAMS for works identifying procedures to be put in place and followed.	Before first use After adverse weather conditions Review and approval of RAMS (Activity plan). All persons to be briefed and Foreman to monitor works as they proceed to ensure compliance with documented plan of works.
New retaining wall	Fall from height Falling objects	Developed RAMS for works identifying procedures to be put in place and followed.	Before first use After adverse weather conditions Review and approval of RAMS (Activity plan). All persons to be briefed and Foreman to monitor works as they proceed to ensure compliance with documented plan of works.
Demolition	Working from MEWP	Developed RAMS for works identifying procedures to be put in place and followed.	Only IPaf trained operations SF605 lift plan in place
Piling: Rigging/de-rigging plant	Working from MEWP	Developed RAMS for works identifying procedures to be put in place and followed.	Only IPaf trained operations SF605 lift plan in place

B4.4 Lifting - *NP1.1: Management of lifting operations*

All lifting operations are subject to a lift plan that describes a safe system of work. A schedule of lift plans is maintained. 04.3 Lift Plan

Responsibility for ensuring the establishment of this safe system of work is that of an appointed person (lifting), appointed by the agent.

Table B4.4: Lifting operations

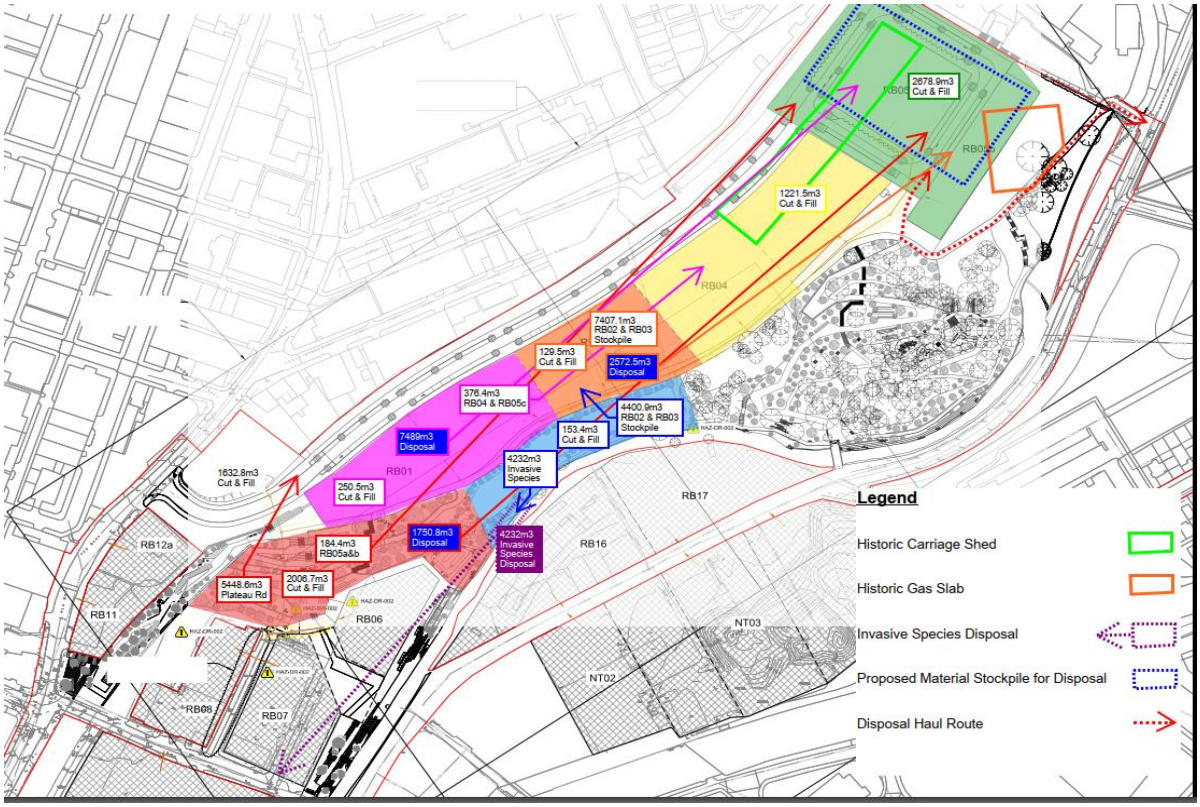
Lift Plan Reference	Type of lift	Ground / platform information
Installation of Site Cabins	Basic	Existing hardstanding areas
Off-loading deliveries	Basic	Existing hardstanding areas
Off-loading retaining wall structures	Basic	Prepared level firm ground on site
Lifting drainage & ducting elements	Basic	Existing hardstanding areas
NT03 loading and unloading piling plant	Basic	TW design platform Existing hard standing
NT03 Rigging and de-rigging piling plant	Basic	TW design platform Existing hard standing
NT03 Piling operations	Basic	TW design platform Existing hard standing

B4.5 Excavation

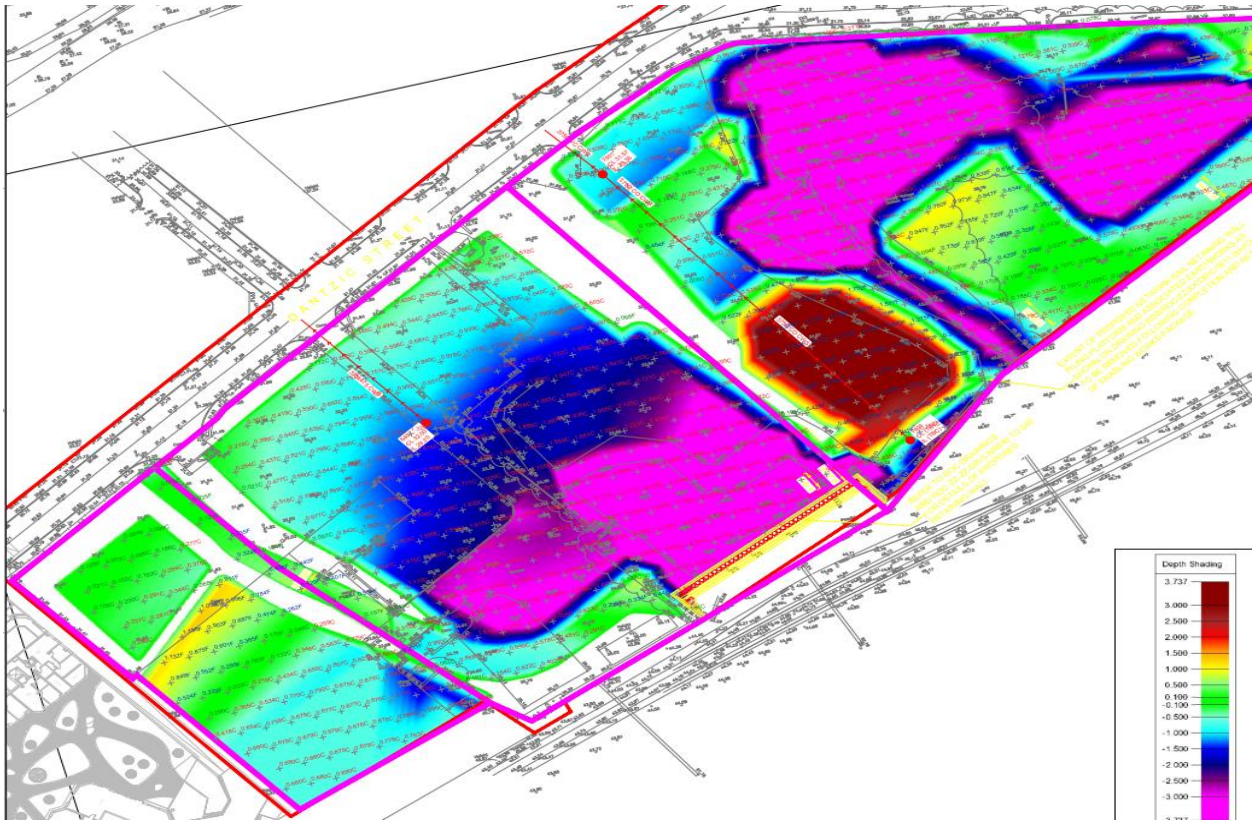
Table B4.5: Excavation

Activity	Description	Controls / support arrangements	Monitoring arrangements
HIF Bulk earthworks	Site wide cut and fill.	Specific Activity plan developed for works	Include compliance monitoring and inspection arrangements
HIF Earthworks/clearance	Tree root clearance	Specific Activity plan developed for works	Include compliance monitoring and inspection arrangements
HIF Ducting	Excavation	Specific Activity plan developed for works	Include compliance monitoring and inspection arrangements
NT02 & NT03 – TCE plume	Removal of TCE contaminated materials	Specific Activity plan developed for works SI works to determine extents of contamination	Include compliance monitoring and inspection arrangements
NT03 and NT04 Bulk	CUT / FILL operation Removal of unsuitable materials Re-use on site in NT02, NT03 or TW works	Specific Activity plan developed for works SI works to determine extents of contamination	Include compliance monitoring and inspection arrangements

- HIF Bulk Earthworks are as per the below strategy, materials marked straight for disposal will be placed in the blue dotted areas ready for removal off site.



- CUT/FILL heat map of the NT Plots from existing to completion of enabling phase

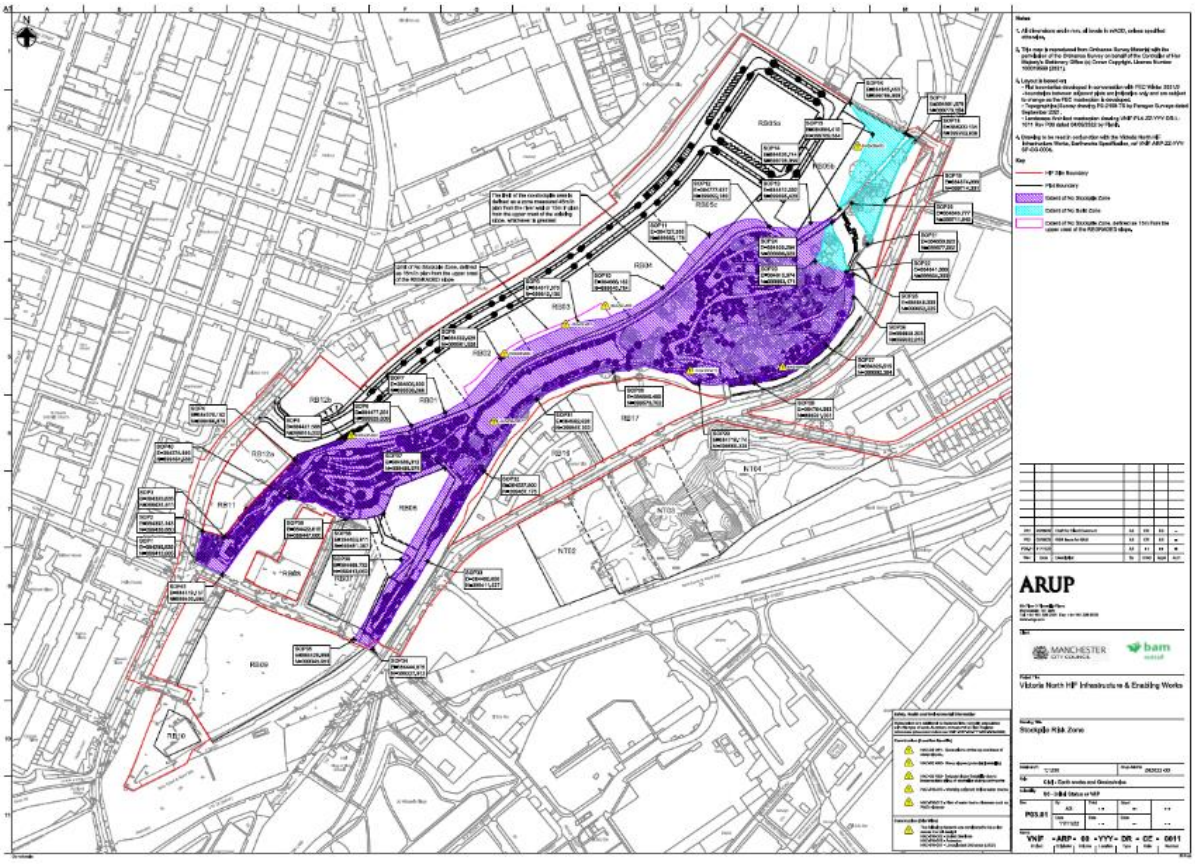


B4.6 Ground stability

Table B4.6: Ground Stability

Activity	Stability issue	Mitigation	Inspection
Works adjacent to riverbank	Potential for loose soils.	Visual inspection by competent operator prior to any plant being positioned close to the riverbank	Before use
Embankments	Potential for loose soils.	Visual inspection by competent operator prior to antraffic y plant working on embankments.	Before use
Earth works cuts	Potential for loose soils.	Visual inspection by competent operator prior to any plant working on embankments.	Before use

HIF Stockpile Risk Zone



B4.7 Stability of existing structures

Table B4.7: Structural Integrity of existing structure

Activity and effect	Existing structure	Type of inspection
Haul road	Honey Street Retaining wall	Structural inspection to determine load bearing capacity to ensure plant and equipment and personnel are working within safe acceptable limits
Access & Egress	P&P Bridge	Structural inspection to determine load bearing capacity to ensure plant and equipment and personnel are working within safe acceptable limits
Access & Egress	St Catherine's Wood Bridge	3t weight limit.
Viaduct		Vibration monitoring and sound monitoring Movement monitoring with use of Total Station
NT03 Piling	Network Rail Viaduct	TBC – expect track monitoring, vibration and positional
NT03 Earthworks	Network Rail Viaduct	TBC – expect track monitoring, vibration and positional

B4.8 Contaminated land

BAM Nuttall will investigate, excavate and dispose of any potentially contaminated areas in accordance with contaminated land, environmental and health and safety legislation.

Several supplementary documents and reports have been written to assist with the Remediation of the contaminated land, and limit the risk of exposure to subsequent land use and release to controlled waters.

These documents are:

Document Title	Revision	Date	PW Link	Comments
Human Health Risk Assessment	P01	2023	VNIF-ARP-ZZ-YYY-RP-CG-0014	
Controlled Waters Detailed Quantitative Risk Assessment	P01	21st August 2023	VNIF-ARP-ZZ-YYY-RP-CG-1000_Main Text&Drawings.pdf	
Remediation Strategy	R6	27th October 2023	VNIF-BNL-ZZ-YYY-RP-Y-0001	Reverted back to R6
Remediation Implementation and Verification Plan	P01	27th October 2023	VNIF-ARP-ZZ-YYY-RP-CG-0019	Cognisant of response from EA, as per MMP
Materials Management Plan	R1	13th December 2023	VNIF-BNL-ZZ-YYY-RC-CG-0002	Cognisant of feedback from PF and QP

Invasive Species Management Plan	10	28th September 2023	VNIF-BNL-ZZ-YYY-MS-W-0003	Approved for use.
St Catherines Wood: Combined Remediation and MMP		TBC	TBC	TBC

Prior to works starting all operatives will be briefed in the general contamination present on site, the risks to human health and the importance of following the remediation plan to prevent the spread of contaminants across site.

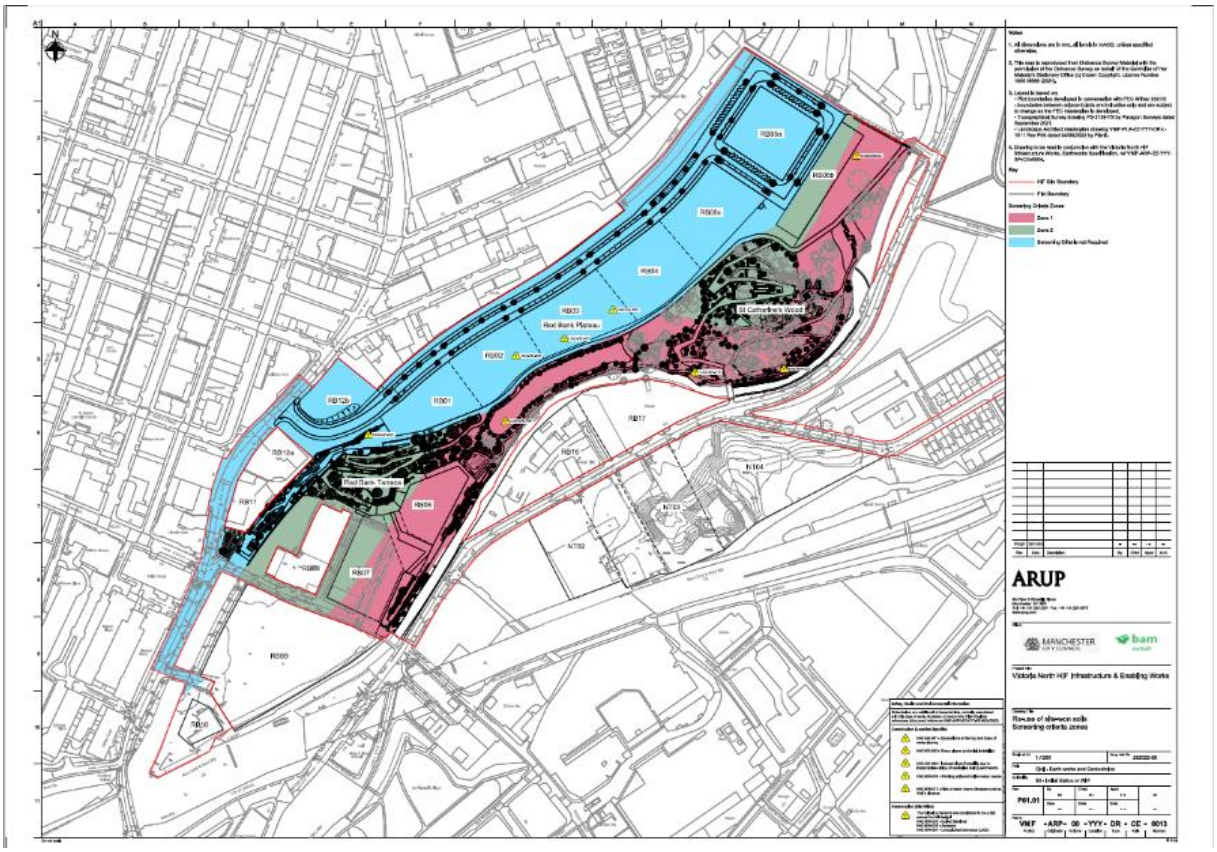
As each work area is released for remediation a new briefing will be delivered to the operatives to highlight the areas of concern along with a 3D model input into the excavators showing avoidance zones for the levels of contamination where special measures need to be introduced. Such as the Gas Works and Carriage shed areas where elevated levels of PFAS have been measured.

All excavated material will be tested and analysed before being removed from site.
All contaminated material will be moved to a stockpile location, before being remediated on site or sent away for disposal. Materials handling and storage will need to be in line with the agreed materials management plan and associated Activity Plan covering the works methodology in detail.

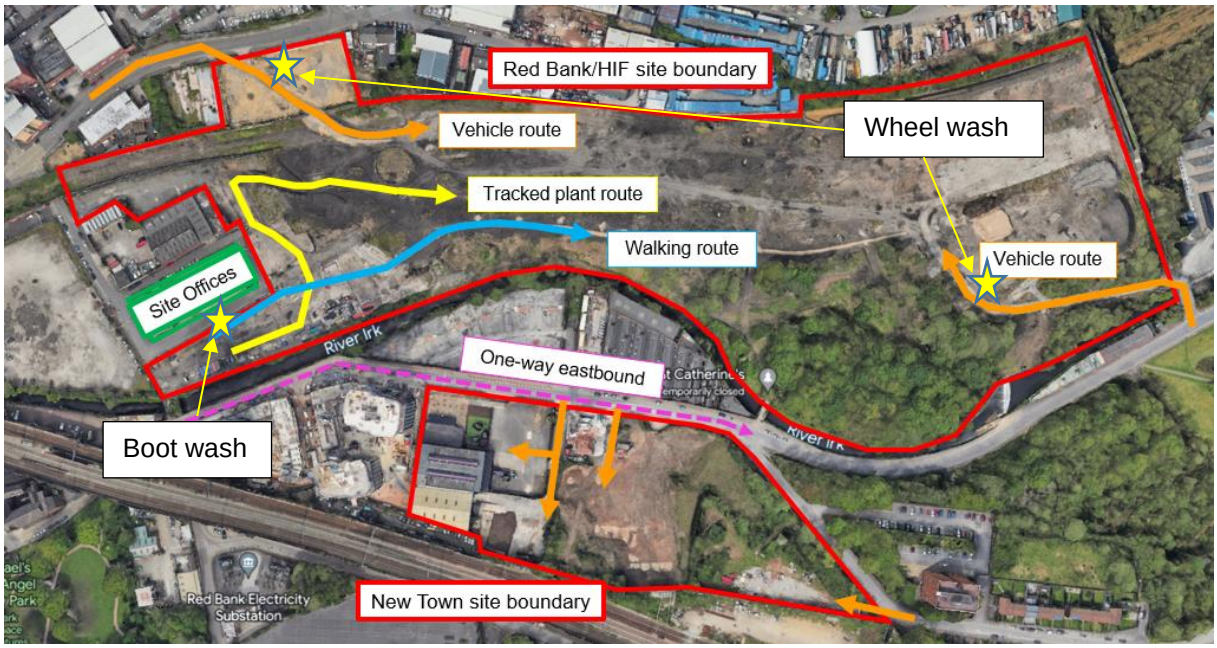
Table B4.8: Contaminated Land

Signs of Contamination	**Test Results *Actual Levels***	**Contamination Identified**	**Exposure Level Health Maximum Level**	**Action Taken**
Asbestos in stockpile @ CH200	Positive ACM material confirmed by lab	ACM Cement Bound Sheeting	<LOD	Exclusion zone created . Material removed from site by specialist contractor Early 2023
Trade effluent discharge area	Elevated levels of dissolved methane, iron.	Identified water source emanating from the ground at base of existing embankment	Dissolved Menthane to be < 0.014mg/l on temporary discharge consent	Exclusion zone created. Temporary Treatment plant installed and Discharge agreement in place with UU Permanent Treatment facility in design and planning.
Contaminated Soils – general	Elevated levels	Identified during GI and visible during site clearance works	See:HHRA : VNIF-ARP-ZZ-YYY-RP-CG-0014 and DQRA VNIF-ARP-ZZ-YYY-RP-CG-1000_Main Text&Drawings.pdf for thresholds	Exclusion Zone currently created. No digging of sub soils until clearance from Site Management, Materials management plan and Remediation

				strategy to be followed
PFAS	Elevated levels	PFAS identified in the gasworks and TP422/423 area during GI	See: VNIF-ARP-ZZ-YYY-RP-CG-0014 – Human Health Risk Assessment VNIF-ARP-ZZ-YYY-RP-CG-	Remediation in line with Remediation Strategy, Remediation Verification Plan, and in association with the agreed Materials Management Plan
Visual/olfactory hydrocarbon evidence	Elevated levels	Hydrocarbon contamination identified in the gasworks area during GI	See: VNIF-ARP-ZZ-YYY-RP-CG-1000_Main Text&Drawings.pdf	Remediation in line with Remediation Strategy, Remediation Verification Plan, and in association with the agreed Materials Management Plan.
NT02 - TCE contamination under Love factory	Elevated levels	Historic heavy oil contamination	Varies	TCE “PLUME” to be removed for offsite remediation
NT03 & NT03 heavy metal contamination	Elevated levels	Varies – from historic use and tipped materials	Varies	To be removed for offsite remediation
NT03 & NT03 Hydro Carbon contamination	Elevated levels	Varies – from historic use and tipped materials	Varies	To be removed for offsite remediation



HIF: Material Re-use criteria and screening zones.



HIF: Wheel washes will be located at site entrances and boot washes will be located at the site gate to the welfare facilities, to prevent the spread of contaminated soil off-site.

NT PLOTS – SI TESTING LOCATIONS.

See - 4328-ROC-ZZ-XX-RP-ES-P2-101 FINAL R3 Combined for all chemical results

B4.9 Working over or near water/drowning - *SG16: Work over or near water*

Table B4.9: Working over or near water / drowning

Activity	Location	Controls	Rescue Arrangements	Drill arrangement
Earthworks	P&P access, Ridge View, Red Bank Terrace	Visual inspection by competent operator prior to any plant being positioned close to the riverbank. Specific Activity plan developed for works. Exclusion zones in place to keep plant/people minimum 2m away from rivers edge	See Water Rescue Plan	Prior to works commencing & monthly thereafter
Hydroseeding	Ridge View, Red Bank Terrace	Visual inspection by competent operator prior to any plant being positioned close to the riverbank. Specific Activity plan developed for works. Exclusion zones in place to keep plant/people minimum 2m away from rivers edge	See Water Rescue Plan	Prior to works commencing & monthly thereafter
Invasive treatment	Ridge View, Red Bank Terrace, Union Plaza	Visual inspection by competent operator prior to any plant being positioned close to the riverbank. Specific Activity plan developed for works. Exclusion zones in place to keep plant/people minimum 2m away from rivers edge	See Water Rescue Plan	Prior to works commencing & monthly thereafter
Describe the location e.g., river or inland waterway (use the MCA guidance 1837(M) for this. Describe the rescue arrangements and training of the crew including information on the type of boat to be used contact the local MCA office for advice. Provide a description of the works and controls to be put in place to minimise risk				

An assessment of the whole body of water to be used has been carried out and this forms the basis of the Water Safety Management Plan. The Water Safety Management Plan is located in Schedule B4.

B4.10 Piling

Table B4.10: Piling

Type of piling operation	Piling platform design	Laydown areas	Operational controls
NT03 – Rotary bored piling	*BAM Nuttall TW Dept to design*	On platform and in NT03	*Vibration and track monitoring on Network Rail viaduct*
~~*Temporary Sheet Piles/Manhole boxes*~~	~~*TBC*~~	~~TBC~~	~~*Segregation, noise, vibration, dust*~~
~~*CFA, Contiguous, Driven*~~	~~*Always required, provide details*~~		~~*Segregation, noise, vibration, dust*~~

B4.11 Lighting

Table B4.13 describes the lighting arrangements for all aspects for the work. Arrangements should be designed to minimise glare and provide suitable and sufficient lighting to allow work to be carried out safely.

Table B4.11: Lighting

Access	When required	Lighting arrangements
Car park	Hours of darkness / poor weather	Lighting towers to show spacing arrangements and route to pedestrian walkway
Office	Hours of darkness / poor weather	Sensor lighting to allow safe access to office building
Traffic and pedestrian routes	Hours of darkness / poor weather	Lighting tower
Work area	Hours of darkness / poor weather	Lighting tower
Work is planned to only take place during daylight hours	N/A	N / A

B4.12 Demolition and assembly including prefabricated components

B4.12.1 Demolition

Table B4.12.1: Work involving demolition

A description of demolition activities and associated check and control measures are stated in Tables B4.14.1a and B4.14.1b. Information in relation to temporary works is contained in section B4.2

Demolition activity	Information from demolition survey/ pre-construction information/designers	Temporary works required	Stability checks required in temporary and permanent condition	Operational controls to minimise risk
Partial demolition of Honey Street retaining wall.	Structural survey Material Thickness	Scaffolding? Edge protection?	N/A dismantled is 1m sections	Exclusion Zone, Dust suppression

Removal of Street Lighting columns	Trial Pit to base of column. Service searches	Exclusion zone, safe excavation	N/A removed in one section	Exclusion Zone
Demolition of "Love Factory" and surrounding out buildings	Intrusive survey carried out. Asbestos located in out building	None	None, Sequential demolition	Utility disconnections, Exclusion zones, Dust suppression

Table B4.12.1b: Competent personnel undertaking demolition

Organisation/ personnel carrying out demolition – supplier or in-house personnel	Competence of personnel List names of managers, supervisors and operatives	Evidence of competencies and where the records are kept	Evidence of involvement on previous demolition schemes, of similar complexity
P.P. O.Connor	Paul Holohan, site manager	Induction Records	SMSTS, black site manager CSCS card
Jonathan White	Project Manager S Evans & Son	Induction Records	SMSTS, black site manager CSCS card

B4.12.2 Assembly of prefabricated components

Table B4.12.2: Assembly of prefabricated components

Activity	Ground information for lifting operation	Component information	Method information
Retaining wall	Temporary Working Platform to be designed	From precast manufacturer	As per activity plan, Temporary platform design
U-Tube river crossing	TBC	TBC	As per activity plan, yet to be written.

B4.13 Asbestos - *NP1.6: Control of asbestos at work*

BAM Nuttall only undertakes work with asbestos in limited circumstances, i.e., contaminated land, the removal of asbestos cement sheets or pipework encountered in the course of excavation and as an incidental part of the works. BAM Nuttall manages those who undertake work with asbestos on its premises or sites in accordance with BAM Nuttall Procedure NP1.6: *Control of asbestos at work*.

Details of asbestos anticipated on this project are provided in **Table B4.13**

Table B4.13: Asbestos

Asbestos anticipated on the project
Plateau CH180 – Notifiable asbestos
Plateau mound @CH220 – Non-notifiable Asbestos
NT02 – asbestos in Love Factory & out buildings to be removed before demolition NT03 – asbestos is tipped material/stockpiles NT03 – asbestos in Fly tipped materials NT04 – asbestos is tipped material/stockpiles NT04 – asbestos in Fly tipped materials

B4.14 Highways

Highways works are carried out within traffic management. This traffic management will have been designed before works commence.

Operations involving work on highways on this project are listed in **Table 4.14**

Table B4.14: Work on highways

Operation involving work on highways	
Highway connection to Red Bank	***Approximate Dates March 2024-May2024*** ***Localised TM on Redbank near site entrance, in line with S278 Application*** VNIF-BNL-ZZ-YYY-FM-CG-0001 Works Transport Plan See Drawing : VNIF-BNL-ZZ-YYY-SK-TO-0026 for TM arrangement at Red Bank Junction
U-Tube Installation at Collyhurst Weir	***Lane Closure on Collyhurst road adjacent to Collyhurst Weir*** *See Drawing* VNIF-BNL-ZZ-YYY-SK-TO-0017
~~*HV duct installation*~~	~~*Detail responsibility for traffic management design and layout.*~~

B4.15 Other significant hazards

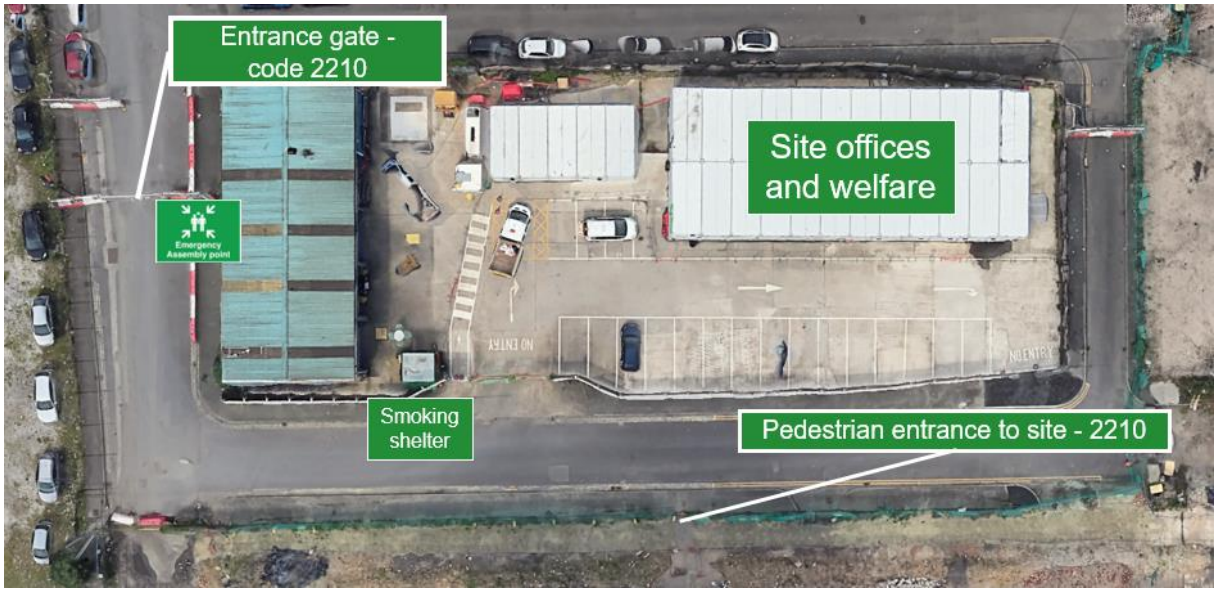
Other unusual significant safety hazards are listed in **Table 4.15**, together with outline control measures.

Table B4.15: Other significant safety hazards

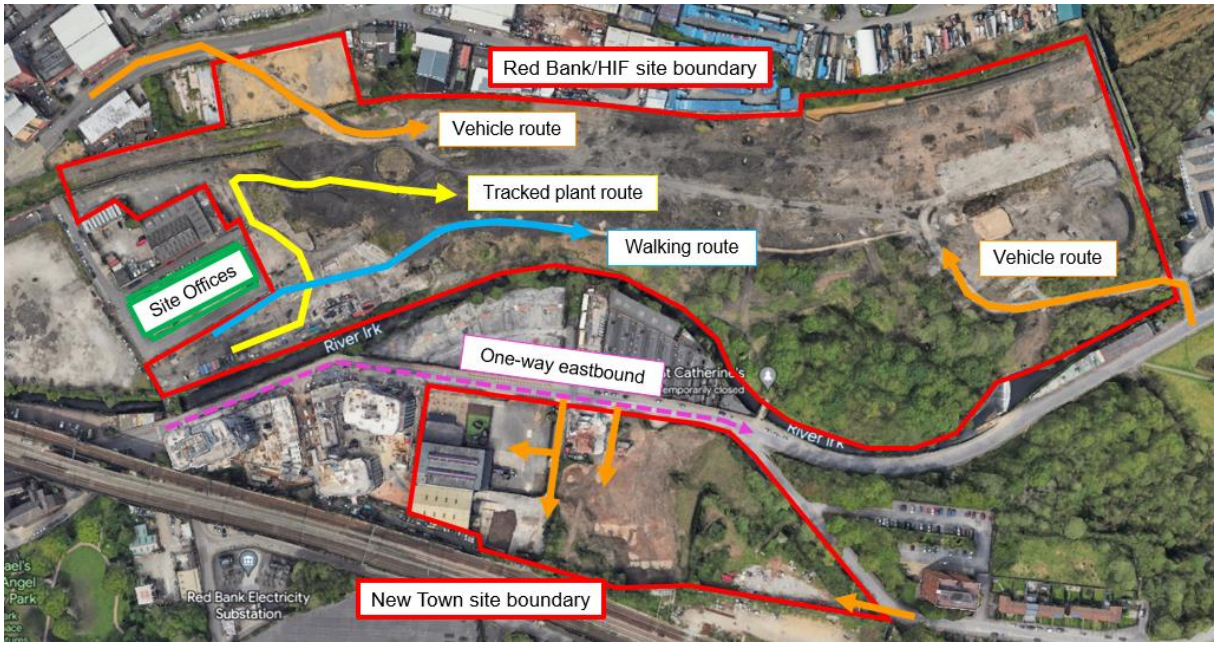
Hazard	**Activities affected**	**Proposed control method**
Maintenance of plant and equipment	Misc.	In accordance with Nuttall Procedure NP4
Needle stick injuries	All works in and around the site including site compound	Procedure to be drafted by BAM to deal with sharps. Designated team within the workforce briefed on the procedure and issued with PPE to remove sharps
Leptospirosis	All works within the site	Adequate welfare facilities provided. Adequate PPE provided.
Fly tipped waste	All works in and around the site including site compound	Procedure to be drafted by BAM to remove fly tipped rubbish from site with adequate PPE. This could potentially require a specialist contractor to carry out the works under BAM to remove the rubbish.
Asbestos – stockpiles	Avenue remediation	This will need to be removed by a specialist licenced contractor who will remove and dispose of the asbestos in line with the control of asbestos regulation 2012.

Schedule B1 Welfare Layout

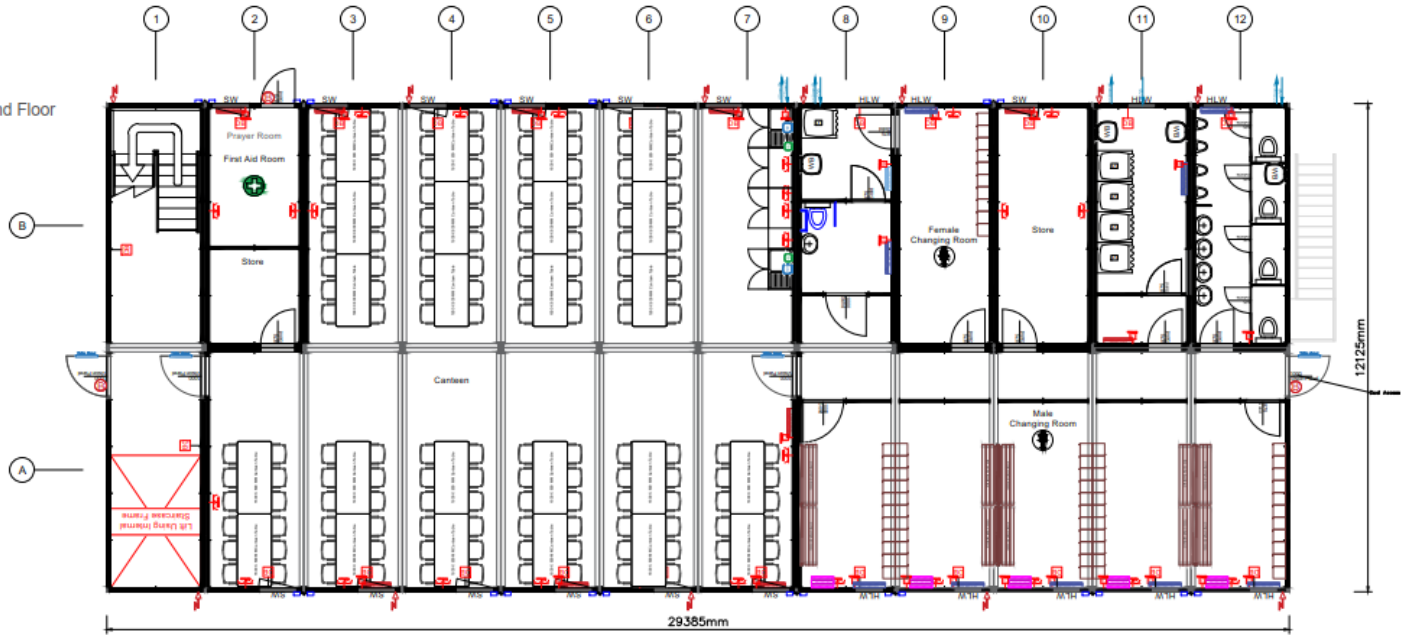
Below is the main compound layout on Hargreaves Street, M4 4EJ



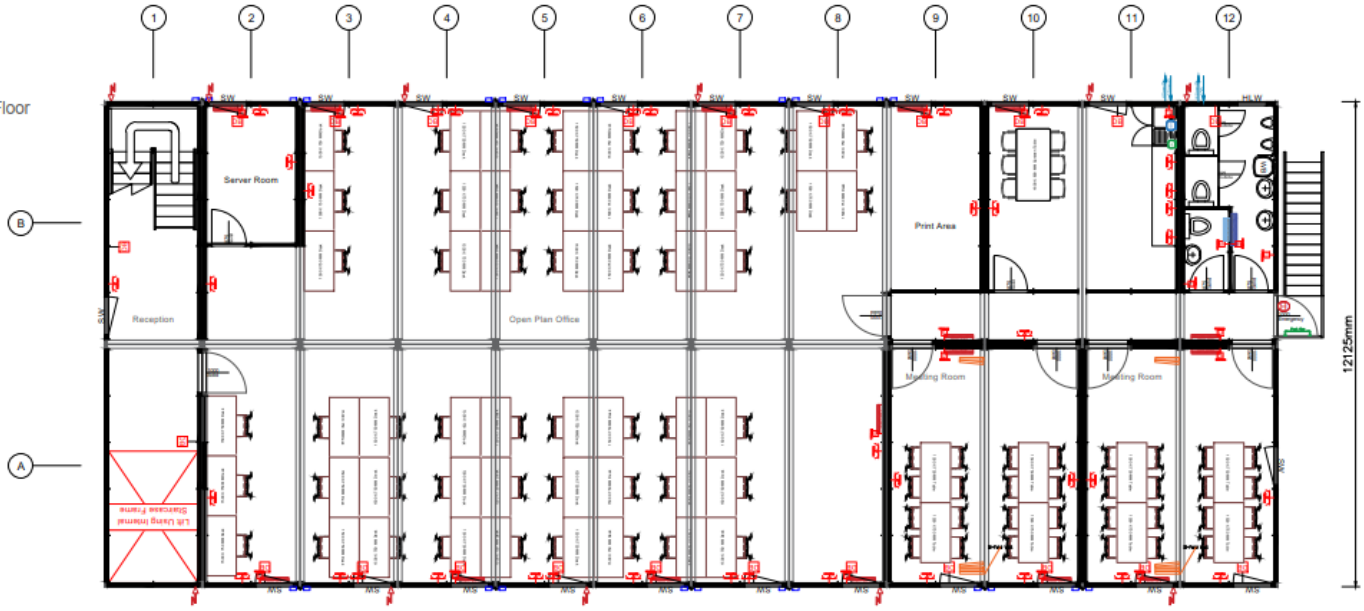
Below are the access routes to site from the compounds



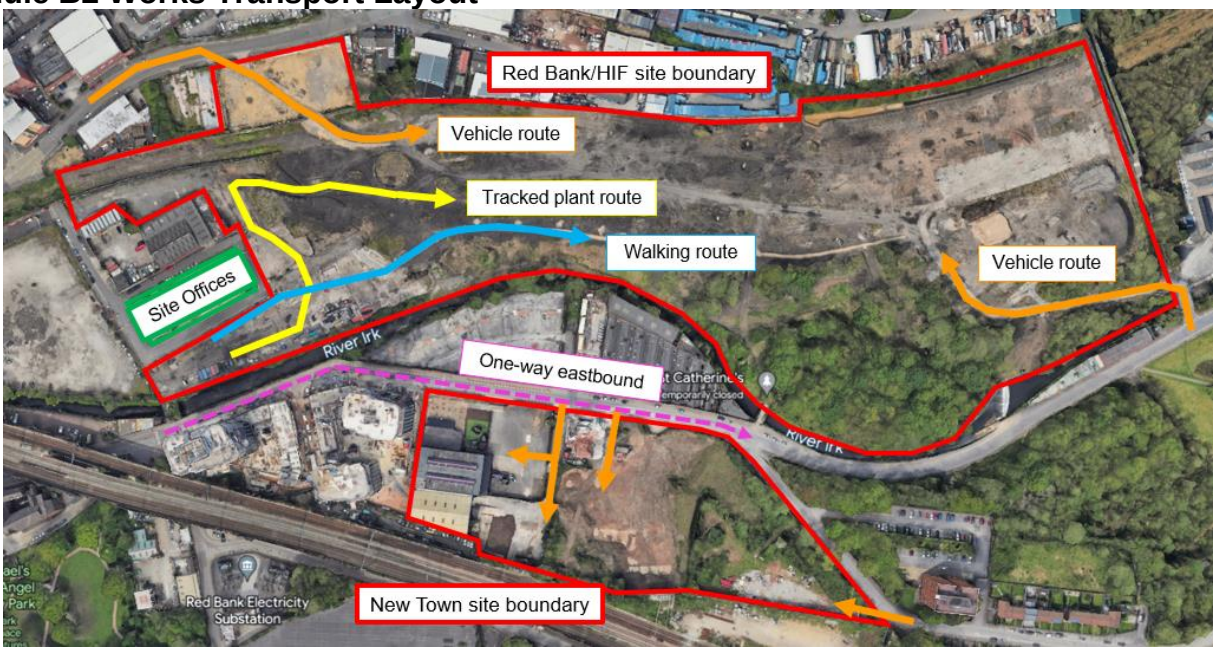
Ground Floor



First Floor



Schedule B2 Works Transport Layout



Schedule B3 Register of Service Drawings

Utility Type	Drawing Reference	Issue Date	Date Received
GPR Survey	PUM-11943-U-DR-001	08/12/2021	08/12/2021
Master Services Model	Arup issued – NO Drawing number	?	01/2020
Landmark utilities report for all service providers	Ref – LM /86247	01/2020	
United Utilities Linesearch	Ref -97079, pages 1-4	22/06/22	22/06/22
BT Linesearch	Ref - C22511	22/06/22	22/06/22
Cadent Linesearch	Ref – 24548845	09/02/2022	09/02/2022
Electricity Northwest Linesearch	Ref – 24548845	31/01/2022	31/01/2022

Schedule B4 Water safety management plan

In summary:
No works shall be carried out within 3m of the water's edge
If works do need to be carried out in the channel. A specific activity plan and risk assessment will be prepared and appropriately trained resourced used to carry out the activity.
-Wear Life jackets within 3m of the water course, including rescue personnel
-Safety ring with rope to hand
-Do not enter watercourse alone.
-Monitoring of Weather Forecast
-Monitor Gauge and level Forecast
-EA's weather/flood alert system

Water Rescue Procedure

Project Name	Victoria North HIF	**Project Number**	BAA.2210
Site Contact	Steve Donaldson	**Contact Number**	07920 084444
Component Reviewed	Liam Chambers	**Completed By**	John Annett
Reviewed By	Liam Chambers	**Approved By**	Liam Chambers

Procedure

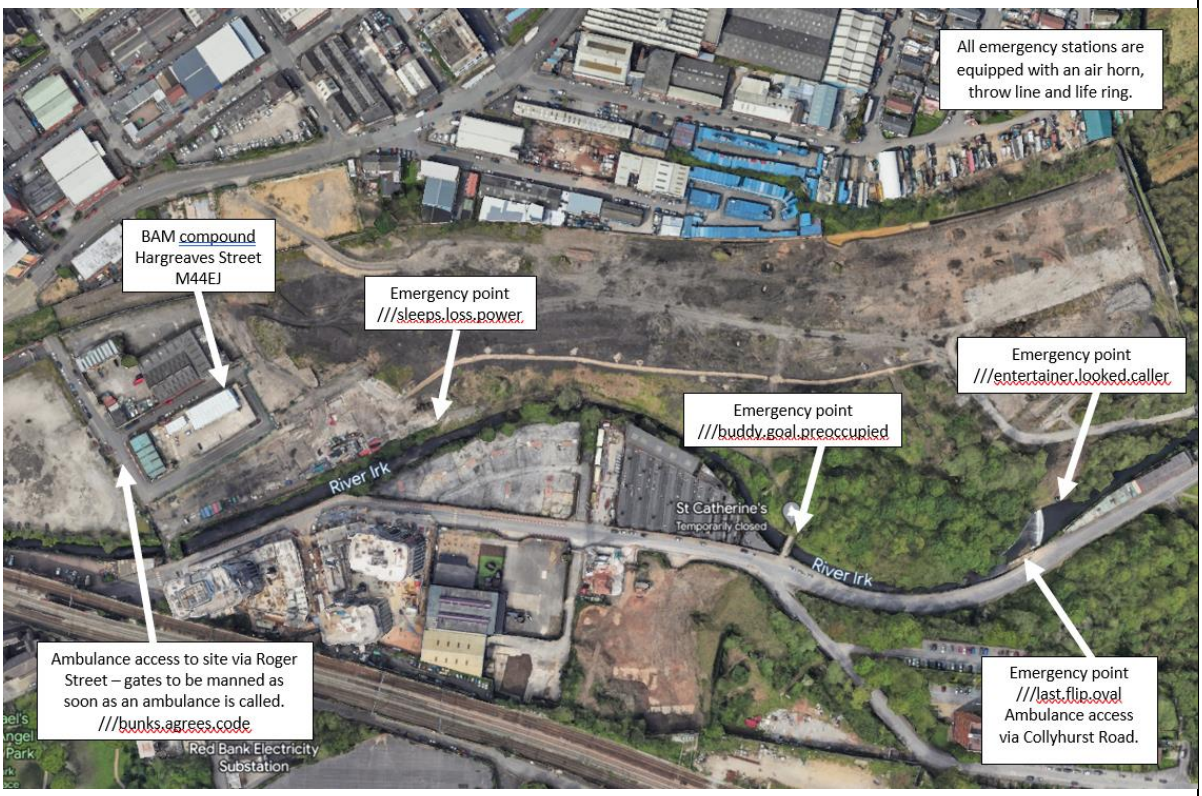
1) **Raise the alarm via air horns and shout 'Person in river'.**
   a. The first person to witness the incident happening is to sound the alarm.
2) **Keep the person in view.**
3) **Do not make a rescue attempt by diving into the water unless:**
   a. **You are trained in live-saving techniques, and**
   b. **The person in the water is unconscious, and**
   c. **The rescuer has a safety line attached, and**
   d. **Someone else is in attendance.**
4) **Any person who is not competent to assist with the rescue must leave the area.**
5) **Move to the nearest lifebuoy station and throw the buoy to the person in the river. Keep hold of the end of the lifeline.**
6) **Assess a convenient landing point and move to that location.**
7) **Provide assistance by drawing in the lifeline until the person is at the landing point.**
   a. If the landing point is difficult (slippery, uneven, etc.), do not attempt to pull the person out. Wait for assistance.
8) **Once the person has been recovered from the water, keep them warm until transport is able to take the to the first aid station. First aid is to be given if safe and necessary.**
   a. The current first aiders on the project are:
      i. Stephen Donaldson – General Foreman - **07920 084444**

ii. Dan King – Supervisor – **07557 185267**
iii. John Annett – Sub Agent - **07795 403153**

9) **<u>Whilst priority must always be given to the rescue, a message should be sent to the office ASAP to enable co-ordinated support. Site management will assess whether the emergency services need to be called.</u>**
   a. The people who would be involved with making this decision are:
      i. Stephen Donaldson – General Foreman
      ii. Liam Chambers – Site Agent
      iii. Neil Peters – Project Manager

10) **<u>Further action:</u>**
   a. Neil Peters (project manager) will inform the relevant parties:
      i. Manchester City Council (the client)
      ii. The Environment Agency
      iii. The Health and Safety Executive (if applicable)
      iv. Mark Cullen (BAM health and safety advisor – 07818 537459)
   b. An incident report will be compiled by the site management for internal review.
   c. Work will stop until the methodology has been reviewed and changed where necessary, and conditions are made safe.

An internal investigation around the cause of the event will take place.



Section C Environmental Management Plan

C1.0 Introduction

This Environmental Management Plan (EMP) has been prepared to support the construction phase of Victoria North HIF Infrastructure Project. This is intended to be a high level EMP that outlines the general principles with additions made as information becomes available.

This plan should be read in conjunction with **Section A** of this Project Execution Plan.

C2.0 General Environment Requirements

C2.1 Environmental Aspects and Impacts Assessment

An environmental risk assessment has been carried out which identifies the environmental risk associated with core construction activities. Impacts from these activities were assessed in terms of risks to: air quality; archaeology and cultural heritage; contaminated land; ecology; landscape; material use and waste; noise and vibration; water; and public highways. The risks were assessed in terms of the potential likelihood and severity of consequence (extent / reversibility / sensitivity). Where medium and high risks were encountered, outline actions have been recommended and the residual post mitigation risk assessed. This risk assessment is included in **Schedule C1: Aspects and Impacts** and **Schedule C2: Environment Constraints Map**.

C2.2 Monitoring Arrangements

Prior to works commencing and thereafter quarterly the agent and the appointed environmental advisor review environmental risks and opportunities of the project documented in **Environmental Form EF12: Project Environment Risk review**. They agree level of support and frequency of inspection by the appointed environmental advisor.

BAM Nuttall Management System

EF12: Project Environmental Risk Review

Project Name:	**Victoria North HIF main works**	**Environment Advisor:**	**Eddie Duncan**
Project No:	**BAA.2210**	**Date:**	**17-03-23**
Site Agent:	**Neil Peters, Liam Chambers**		

1.0 Risk review

	Key receptors on the project?	Threat Category	Comments	Actions	Owner	Date of actions?
1.1	Water	High	Contaminated water present on site. Dewatering of site will be necessary for earthworks operations. If abstracting >20m3 of water per day an abstraction licence will be required. If discharging water to River Irk a discharge consent might be required, depending on	1) Methane from historic landfill - Contaminated water to be treated prior to being discharged to UU sewer - awaiting instruction from client. 2) Infiltrated groundwater - Chemical analysis to be undertaken on water present within ground across site to inform options re: discharge to sewer.	LC/ED	Pre-construction /construction phase
1.2	Nuisance	Medium	Demolition activities to be undertaken. Background noise monitoring has been undertaken to discharge planning condition. Residential properties circa 500m away and commercial properties circa 250m from the demolition works location. Daytime works only.	Noise and vibration monitoring to be undertaken where required.	LC	Pre-construction /construction phase
1.3	Contam land / waste management	High	Contaminated land present on site.	CLAIRE DoW CoP materials management plan to be produced for the earthworks by Arup - this is to be in line with the Remediation Strategy requirements.	LC/ED	Construction phase
1.4	Ecology	Medium	Invasive plant species present of site, namely JKW, Himalayan balsam and Giant Hogweed. Some treatmenet has already been undertaken in the form of spraying. Potential for bats in St Catherine's wood. Prelim ecology survey was undertaken by TEP	ISMP produced for the site. Earthworks to be undertaken in accordance with the requirements set out in the ISMP. Confirm if ecology surveys have been undertaken more recently than the Prelim Eco Survey done by TEP in May 2021.	LC	Pre-construction /construction phase
1.5	Heritage	Low	Watching brief was undertaken during removal of the railway turn-table. Lowry steps also on site - these are on the site boundary.	Archaeolgist watching brief to be undertaken where necessary.	LC	Pre-construction /construction phase

2.0 Opportunities review

	Discussion item	Required	Comments	Actions	By who?	Date of actions?
2.1	Training	Yes	TBT's to be delivered as required. Spill drills. Briefing on ISMP and MMP requirements.	Carry out training as required.	LC	Construction phase
2.2	Regulatory involvement	Yes	Comms with EA, LA - MCC, UU.	Adhere to conditions set out within consents/licences/permissions.	LC	Construction phase
2.3	Audit proposals	Yes	TBC for main works - likely to be BAM Site and NP27.3 waste/NP27.1 water	ED to schedule.	ED	Construction phase
2.4	Case study opportunity	Yes	TBC for main works	TBC		
2.5	Key Materials (resources)	Yes	Site won material for earthworks, imported type 1, concrete.	N/A		
2.6	Energy requirements	Yes	Mains connection is planned for compound.	N/A		
2.7	Community investment	No				
2.8	Other support	No				

3.0	Environmental Performance / Resources forcast	Resourse forecast		2020 Company KPI's		Owner	Date of actions?
3.1		Diesel / Gas oil (litres)	100000	% Construction waste diverted from landfill: (80%)	80		
3.2		Electricity (Kwh)	500000	% Total waste diverted from landfill: (90%)	90		
3.3		Construction waste (tonnes)	10000	% Sustainably sourced timber: (100%)	100		
3.4		Excavation waste (tonnes)	32000	Water consumption / £1m turnover: (200m3)	200		
3.5		Demolition waste (tonnes)	2500	Tonnes of CO2 emissions/£1m turnover: (36.9)	36.9		

4.0 Project appraisal

4.1	Appraisal rating	**70**		Frequency of inspection	**4 weeks**
4.2	Any other risk from programme (key operations/dates)?			Agreed frequency of inspection if different from above and justification	
4.3	Next review date:	17/06/2023		Agreed next 2 dates of inspection (w/c)	April and May TBC
4.4	Additional comments				

Signed as agreed:

Site Agent:	**Neil Peters**	**Environment Advisor:**	**Eddie Duncan**

Site operations are regularly monitored during the site environmental engineers and agents weekly inspections to ensure overall environmental performance (legislative, client, and ISO 14001 and BAM Nuttall requirements) is maintained throughout the project duration. Compliance monitoring and frequency is detailed in **Schedule C3: Environmental Monitoring**

C2.3 Review Arrangements

This EMP will be reviewed when there is a substantial change to the scope or method of work, or every 3 months, whichever is soonest.

C2.4 Requirements and Consents

Consents, licences or permissions are required from a number of organisations including the Environment Agency, DEFRA, local water companies, local authority environmental health departments, local authority planning departments, Natural England and Natural Resource Wales etc.

These cover matters relating to work near water, disposal of waste, noise and vibration and ecology among others. Activities on this project assessed as requiring consent, licence or permission are listed in **Schedule C4: Consent licences and permissions.**

The BAM Nuttall Environmental Policy and key environmental information including poster campaigns will be displayed on notice boards at the project site offices.

C3.0 Specific Environmental Impact Areas

C3.1 Water (Resource) Management – *NP27.1: Water management NP27.2: Oil storage and refuelling*

A comprehensive assessment of the potential risks of water pollution as a result of work activities is made by the agent before each activity is carried out. Surface, ground and coastal waters are considered where appropriate. Activities likely to have an impact on controlled waters may be listed in **Table C3.1a**, together with appropriate control measures.

More information about **Site Water Management Plan: Controls for the prevention of pollution to water** can be found below

VNIF-BNL-ZZ-YYY-RP-CD-0001

Table C3.1a: Water environmental controls

Location	Activity	Controls
Construction Plant	General	Use of bio-fuels, spill kits available at all work areas, spill containment drills carried out. Stationary plant and equipment containing fuel/oil to be kept on plant nappies. All plant to be in good condition and regularly serviced. All site team to be trained in spill drills which will be regularly trained. TBT on spill and pollution to be issued on site to all site team. Spill kits to be always kept with items of plant. Refuelling of plant to be undertaken away from water's edge. Diesel storage to be held in site compound in double bunded bowsers on hard standing area. Generators to be used in accordance with EG02
Earthworks	General	Establish bunds to control water

Location	Activity	Controls
Concrete works	General	Keep concrete away from the edge. Wash out into identified area's of control
Surface water	General	Filter any water going down and Manholes (E.g. with hey/straw)
Plateau/RB04	Trade effluent discharge over pumping into combined sewer.	– Use of bio fuel in the pumping equipment. – Daily inspections of the pipe. – Visqueen lining under the pipe to stop any leaks contaminating the ground?

Control measures are summarised in **Schedule C1: Aspects and Impacts,** with environmental constraints detailed in **Schedule C2: Environment Constraints Map**.

Water usage is recorded and monitored by use of the BAM Site app. On this project, ways in which water use is being reduced are listed in **Table 3.1b**

Table C3.1b: Water reduction measures

Activity	Measures to be adopted to reduce use
Site wide Dust suppression, Vehicle wash down / wheel wash Toilets and taps, Damp down of demolition works	Good housekeeping Water usage to be monitored and recorded on BAM Site app Rainwater harvesting Push taps and aerators

C3.1.1 Herbicide and Pesticide Application

If required, herbicide and pesticide application will be covered by a task specific activity plan/ WPP. If required, application will be by qualified experienced and registered sub-contractors only. Details of training records will be stored on-site or with the sub-contractor.

EA and MCC will be notified of all use of herbicides or pesticides within 10m of a watercourse.

C3.2 Fuel Oils and Chemicals - *NP27.2: Oil storage and refuelling*

Consideration is given to the location and method of storing fuel, oils and chemicals within suitable site areas for refuelling plant. Details of storage and refuelling arrangements are provided in **Schedule A7 Hazardous substances.**

Personnel responsible for refuelling plant & equipment will receive a tool box talk (Refuelling plant and equipment PP8) including site specific refuelling procedure including the emergency oil spill procedure**, Schedule A6** which will be displayed around site.

C3.2.1 COSHH (Chemical and biological hazards including dust and fumes)

The COSHH coordinator, ensures that all reasonable steps are taken to ensure that exposure of employees and others to hazardous substances is assessed and prevented or at least controlled to within statutory limits.

On this project, arrangements for storage of hazardous substances are detailed in Section B Construction phase plan **Section A Project Execution Plan.**

C3.3 Waste (Resource) Management - *NP27.3: Waste management*

Compliance with BAM Nuttall waste procedures and guidance ensures:

- compliance with relevant waste management legislation
- application of industry best practice
- identification of opportunities in waste minimisation/resource efficiency

The site waste management plan (SWMP) declaration, of **Schedule C5** identifies the waste streams generated with forecast quantities. The SWMP defines the selected waste management measures of prevention, reuse, recycling and recovery and, at the end of the project. This allows a comparison to be made between forecast and actual waste quantities.

Generation of waste material will be minimised at every stage of the project (design, procurement and construction), and reduction strategies will be implemented and detailed in the SWMP.

Quantities of waste, categorisation (inert, non-hazardous, and hazardous waste), are monitored by use of the BAM Site app. This is a live system which is reviewed and updated on a regular basis to ensure compliance and to track project waste performance. Copies of waste management contractors certificates, permits, licences or exemptions used or validated in consultation with the Environmental Advisor and retained on site in accordance with the site documentation control procedures.

C3.4 Contaminated Land

BAM Nuttall will investigate, assess remediation / disposal options of any potentially contaminated areas in accordance with contaminated land, environmental and health and safety legislation. Treatment / recovery / disposal options will be detailed in the relevant site waste management plan **Schedule C4** or Material management plan as required.

The controls for this should be informed by the Remediation Strategy. If we are remediating soils to be reused on site under CLAIRE code of practice, then we need to describe how we'll manage that risk.

Specific arrangement for contaminated land are as detailed in **Table C3.4** below*:*

Table C3.4: Contaminated Land arrangement

Signs of Contamination	Test Results *Actual Levels*	Contamination Identified	Exposure Level Environment Maximum Level	Action Taken
Asbestos	*Visible on the ground*	*Yes*		Isolate stockpiles and hire specialist subcontractors to dispose.
Oil	Oil in the ground-discovered during BAM Ritchies G.I.	Yes		Excavation treatment of oil. Bring a contamination unit on site and dispose of earth
Chemical Contaminants	Discovered during GI works	Yes	As per re-use criteria in the CWRA	Isolate hotspot areas, identify areas for immediate offsite disposal,

				verify materials for reuse on site
Contaminated Groundwater	During excavation of known contamination hotspots	Yes	As per re-use criteria in the CWRA	Isolate hotspot areas, identify areas for immediate offsite disposal, verify groundwater for reuse on site/removal from site

C3.5 Nuisance - NP27.4 Control of site nuisance

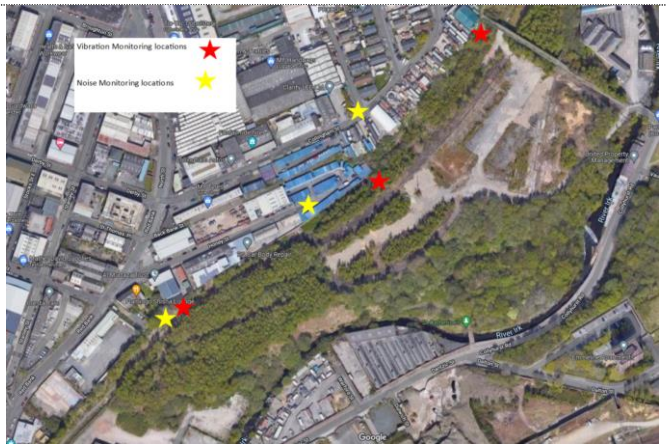
Construction activity has the potential to cause nuisance within the site, to site personnel, to local residents, site neighbour's and the general public in the form of noise, dust, mud, vibration smoke light and odour.

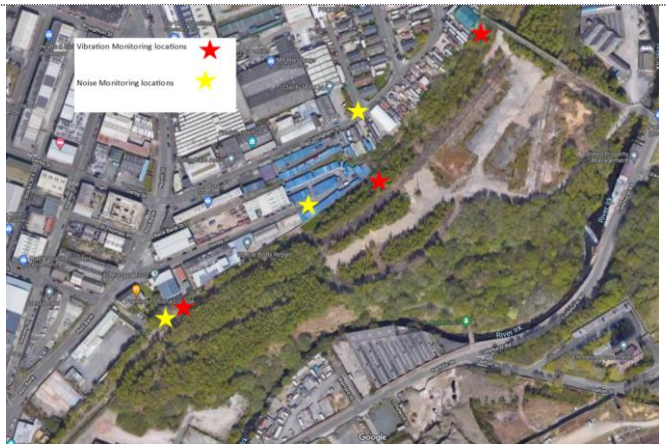
Activities likely to cause nuisance are identified by the agent, who selects appropriate control measures to avoid the nuisance or mitigate the effects if avoidance is impracticable.

Activities likely to cause nuisance are listed in **Table C3.5**, together with appropriate control measures.

Table C3.5: Nuisance

Activity	Potential nuisance	Control measures
Construction Works	Interference	All work areas to be securely fenced to prevent public access to areas All works to be carried out within site working hours Mon-Fri 07:30-18:00
Welfare accommodation	Lighting	Lighting within welfare to have PIR to turn off lights when area not in use. All lighting required for compound to be directed away from any homes or buildings in the areas.
Welfare accommodation	Odour	Regular emptying of waste bins
Welfare / site area	Litter	Provision of suitable waste containers, regular monitoring of issue, carry out litter sweeps of site perimeter etc. at close of each workday
General site works and plant operation	Noise	Mitigation measure as highlighted in BS5228:2014 to be utilised where possible/practical as exampled below. • New efficient plant/equipment to be used on site with efficient exhaust sound reduction equipment fitted. • Manufactures enclosure panels to be kept closed during operation Static items of plant to be housed within acoustic enclosure where practical
Earthworks	Noise	**NT Plots** Works will only be carried out inside allowed site hours. No local residents or businesses are close enough to be disturbed by the noise of the planned plant use.

Activity	Potential nuisance	Control measures
		 Prior to works being undertaken base line readings will be taken using a Type 1 sound level meter to record the existing levels within the area at the locations shown in the above drawing. The earthworks element of the project is planned to take approximately 6 months to undertake and will be made up of the excavation, filling, compaction and movement of materials across the site areas. As can be seen in the above for this element of works there will be a number of local receptors which may be impacted by the works. The monitoring positions highlighted have be located to allow monitoring and impact of these businesses during the operations. During the earthworks operations regular readings will be undertaken and recorded. Peak trigger levels for earthworks to cease will be 85db at 10m from the point of work. Should operations breach these levels work will cease immediately. Acoustic barriers (Heras's fence mounted as shown below) will be erected along the boundary between the work area and the identified receptors. The barriers have a max noise reduction of up to 37db dependant on operation. Works will then recommence to allow noise level readings to be taken to confirm suitable mitigation has been put in place. Once readings confirm the mitigation is sufficient works will recommence with more regular noise readings taking place to confirm the trigger levels are not being breached. If still breaching noise limits work will cease and additional mitigation put in place e.g. exclusion zones

Activity	Potential nuisance	Control measures
		Example of fence mounted acoustic barriers
Earthworks & Piling	Vibration	 **<u>HIF</u>** Vibration monitoring will be undertaken during the earthworks operations. A Vibrock V900 Seismograph will be positioned (as shown on the above sketch) will be positioned at the appropriate location at the start of each day. The monitor once positioned provides continuous monitoring during the day. At the end of each day the recorded data will be downloaded and stored for inspection as required. A base line reading of 0.525mm/s has been recorded prior to works commencing and takes account of passing traffic etc. Trigger/threshold levels of 3.0mms at the point of work, but should not exceed 1.0mm/s PPV at the boundary with receptors. **<u>NT 03 Plot</u>** As above During piling works it is expected that vibration monitoring will be required at the Network Rail viaduct Structure. Location of kit and limit levels is TBC once final design has been reviewed by NR Vibration will be too far from homes and businesses to be a disturbance. If exceedance is recorded works will be stopped and investigated.

Activity	Potential nuisance	Control measures
Earthworks	Dust	See Appendix #8 for extract For Full report: See - Air Quality and Dust Management Plan SRL VNIF-BNL-ZZ-YYY-RP-ZZ-0001 The earthworks are currently planned to be undertaken during the winter season which should provide some natural suppression whilst the works are underway. If required the areas of haul road used to transport material around the site will be dampened down utilising a bowser and spreader bar. Additionally, areas will be sprayed with a jet wash to dampen down where required and where the bowser and spreader bar cannot be utilised. No dry sweeping will be undertaken across the site, all road sweeping will be water assisted and be carried out to the required distance from site to remove any deposited material tracked out from Site form the roads. All vehicles entering or leaving the site will be covered to prevent any escape of materials during transport. Haul road and access roads will be inspected daily, and a record of the inspection kept. Vehicles will be inspected prior to leaving site and any wash down required will be undertaken by operative using a jet wash on the hardstanding before entering the public road Hard surface maintained between site and public road for inspection and clean down. Compliance and monitoring for dust will be carried out by a specialist subcontractor.
All Works (excavation, demolition, construction)	Contaminated Water	See VNIF-BNL-ZZ-YYY-RP-CD-0001 for Site Water Management Plan Any groundwater that may be discovered whilst excavating/stockpiling material of contamination will be tested, and either pumped across dry ground away from any receptors. Or if the sampling shows the water as containing contaminants or pollution as defined in the CWRA it will be pumped to a large holding tank ready for disposal via an authorised waste disposal facility. Surface water runoff will be controlled using a series of temporary grips, and trenches that will prevent the water from picking up suspended solids, contaminants and remain 'clean' . The mitigation of this surface water may vary based on location and the water should be prevented from reaching the River Irk where possible.

Activity	Potential nuisance	Control measures
		Prior to discharge to sewer it may be necessary to pump the water to a settling Lagoon, or series of silt trap, where any suspended solids will drop out prior to discharging to sewer. Alternatively during the drier summer months, the water may be used to supress dust on the site and be used to condition dry materials and allow for better consolidation and compaction. Any excess surface water will be discharged from site via a consented point within the site boundary to the sewer network. This temporary discharge consent has been granted on the proviso that it has been sampled and tested to the United Utilities thresholds as detailed in the temporary discharge consent obtained for the VNIF project. Separate authorisation will follow from the Environment Agency if the water will be discharged via the permanent outfall to the River Irk as the permanent drainage is installed and commissioned.
Welfare accommodation	Vermin	Employ specialist to install control measures. Enclosed bins and skips in welfare.
Earthworks	Mud on roads	Employ services of road sweep, regular monitoring of situation and utilising additional resources if required.
Construction traffic	Vehicle emissions	Minimise wagon movements, avoid idling of engines, and provide vehicle holding areas where wagons can park off the public road network. Regular maintenance regimes / servicing of site vehicles. Where possible the use of ECO plant will be utilised. If practical fully electric plant items will be utilised.
Construction traffic	Interface with public	Production of a Traffic management Plan to detail measures to minimise disruption, Off road parking to be made available for all vehicles, information packs to be provided to all suppliers and delivery drivers to ensure compliance with the projects Travel Plan.
Construction waste	Odour/vermin	Use of enclosed waste receptacles

Control measures are summarised in **Schedule C1: Aspects and Impacts with potential** receptors detailed in the **Schedule C2: Environment Constraints Map**.

C3.6 Ecology and biodiversity - *NP27.5: Management of ecology and biodiversity EG09: Protected species*

Where the project work disturbs, or has the potential to disturb, species of plants or wildlife, certain conditions may apply concerning timing of activities, exclusion areas and protective measures. The agent is responsible for identifying and putting in place appropriate control measures.

Activities restricted for ecological reasons and enhancements adopted on the project may be listed in **Table C3.6** below:

Table C3.6: Constraints and enhancements

Ecological constraints	
Location/ activity	**Constraints and control**
Site Wide	Protected species - no species identified in Works Information, survey to be carried out specialist prior to commencement of construction activities to identify any new issues.
	Invasive species (Himalayan balsam, Japanese knotweed, and giant hogweed) present, pre-works treatment regime carried out Relevant TBT's to be issued to all site team to allow them to identify invasive species and understand the risks and the measures required in regard to Bio security. Invasive species management plans have been produced to guide on the control of the works being undertaken.
	Prevention of spread of invasive species by use of Bio-security measures, including a) wheel washing of machinery/plant, b) washing of boots/shoes from site staff, c) use of caterpillar tracks rather than tyres to reduce material transfer off site, and d) ensure any site runoff from wash-down area is on hardstanding and directed to a public drain at least 10m from a water course.
Site Wide	Potential Bat Roost in St Catherine's wood. Restrictions when clearing trees, watching brief required.
River Works	Presence of Signal Crayfish within water course, check clean dry policy to be implemented. Works in river to be under environmental permit.
Ecological enhancements	
Location	**Enhancements**
Site wide	N/A

Control measures are summaries in in **Schedule C1: Aspects and Impacts** with ecological sensitive areas identified in **Schedule C2: Environment constraints map**.

C3.7 Built Heritage and Archaeology - NP27.6 Management of built heritage and archaeology

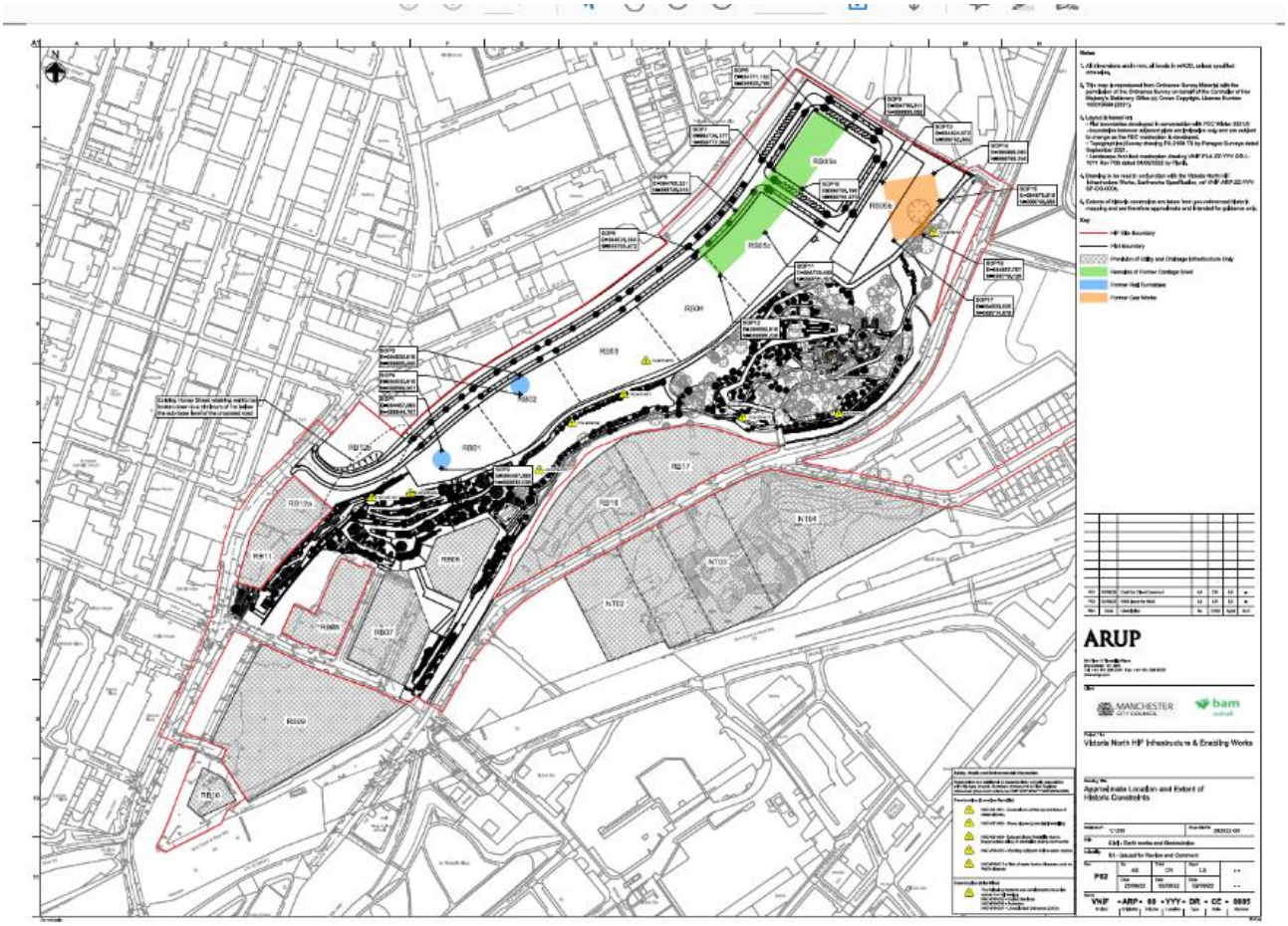
Arrangements are made for the identification and protection of areas of archaeological interest or listed structures and buildings. Any such areas identified during the undertaking of the project works will be immediately brought to the attention of the client and instructions sought. List of archaeological and listed structures may be detailed in **Table C3.7** below:

Table C3.7: Archaeology and listed structures

Areas of site subject to archaeological interest or with listed structures	Nature of interest, method of protection or other arrangements
Lowry steps	Area to be fenced off during all construction works and treated as an exclusion zone
Turntable	Area to be demolished under watching brief
Former Carriage Shed & Gas Works	Area to be demolished under watching brief. Hard obstructions and soil contamination to be removed.

NT Plots

Trial Pits and trenches are planned for completion in late 2023 – this document will be updated with any constraints that arise from the work



Activities restricted for as built environment are summarised in **Schedule C1: Aspects and Impacts** with ecological sensitive areas identified in **Schedule C2: Environment constraints map**.

C3.8 Energy Management

BAM Nuttall seeks to reduce the emissions of greenhouse gases from the construction process on its projects and consequently looks for ways in which to reduce energy use. Sources of greenhouse gases contributing to the BAM Nuttall 'carbon footprint' include:

- Electricity and gas supply for heating, lighting and services to site accommodation
- Gas oil typically used in site plant and site generators
- Petrol and diesel used for commuting and business travel including transport of plant and materials
- Water supply and waste water treatment

Every effort is made to obtain grid supplied electricity to reduce the use of generators. Where this is not possible, a generator is used with consideration given to a setup which achieves the most optimum efficiency.

On this project, ways in which energy use is being reduced or alternative energy sources utilised are listed in **Table C3.8** below:

Table C3.8: Energy reduction measures

Carbon emission sources	Measures to be adopted to reduce use
Main site compound - Electricity	Low energy lighting, PIR sensors for lighting, and main connection to main compound. Eco hybrid welfare units
Gas oil	Use of HVO fuels
Petrol and diesel for commuting	Car sharing / use of public transport to be encouraged. Use of electric vehicles to be encourage. On site charging points to be installed.
Petrol and diesel for business travel	Use of digital platforms to minimise travel for meetings
Plant usage	Hybrid/Eco plant to be utilised. Where possible the use of electric plant to be prioritised.
Main site compound - Water supply	Rainwater harvesting to be adopted at welfare facilities to be used for dust suppression activities
Main site compound - Waste water treatment	Connect welfare toilets etc. to mains sewage.
Mobile welfare	Use of HVO fuel instead of diesel Use of units with Hybrid solar battery capability

Where non vendor accord supplier are used for the supply of fuel and energy, the agent ensures that consumption data is collated and entered on BAM Site app for monitoring purposes.

C3.9 Resource Sustainability

BAM Nuttall is aware of the global impact of the use of limited natural resources and of the need to reduce waste. Consequently, every attempt is made to reduce the use of primary aggregates and unsustainable products and materials wherever possible. Where practicable, commercially acceptable and in accordance with specification and regulatory requirements, use is made of waste or recycled material, or products containing recycled material.

Consideration is also given to the environmental impact caused during the lifecycle of the product within the scope of which BAM Nuttall can control or influence.

In accordance with the BAM Nuttall sustainability and environmental policies, every effort is made to use timber obtained from certified legal and sustainable sources.

Opportunities for the use of sustainable products and material have been identified as listed in **Table C3.9** below and will be pursued during the undertaking of the project works.

Table C3.9: Sustainable products and material

Opportunities for the use of sustainable products and material	
Product	**Sustainable specification**
Timber	100% sustainable timber FSC or PEFC certified
Aggregate	50% recycle content
Metal	90% recycle content
Concrete	Design specification – low cement content
Products certified under BES 6001.	
Training	TBT on sustainable timber deliveries to be presented by Env Dept
Alternative chemicals and products	
Product	**Substitute**
N/A	

C3.9.1 Life cycle considerations

Within the scope of the design and construction of the project the following life cycle considerations have been taken into account as summarised in **Table C.3.9.1** below:

Table C3.9.1: Life cycle considerations

	Life cycle stage	**Considerations**	**Outcome**
Design	Design	Design optimised to reduce construction time and duration of works where possible	
		Off-site prefabrication methods (e.g., pre cast concrete) to be employed where possible to minimise environmental footprint on site	
	Raw materials	*TBC*	
Construction			
	Production	*TBC*	
	Delivery of materials	Locally sourced where practical, bulk transport where possible, combined types of material from same supplier thus minimising number of trips / part loads.	
Use	Life of the structure	Minimum maintenance design adopted where possible	

C3.10 Landscape/ Restoration

On completion of the works the agent ensures that the works areas are restored as required by the planning authority and client.

The individual character, quality and value of the working area will be restored taking into consideration the wider landscape, biodiversity and historical context of the area as listed in **Table C3.10** below, or if required by planning consent or in the restoration plan provided by the customer.

Table C3.10: Restoration requirements

Planning/ client requirements	Arrangements for restoration
Honey St Wall repointing	To be repointed, Asset owner to be allowed to inspect structure post demolition works

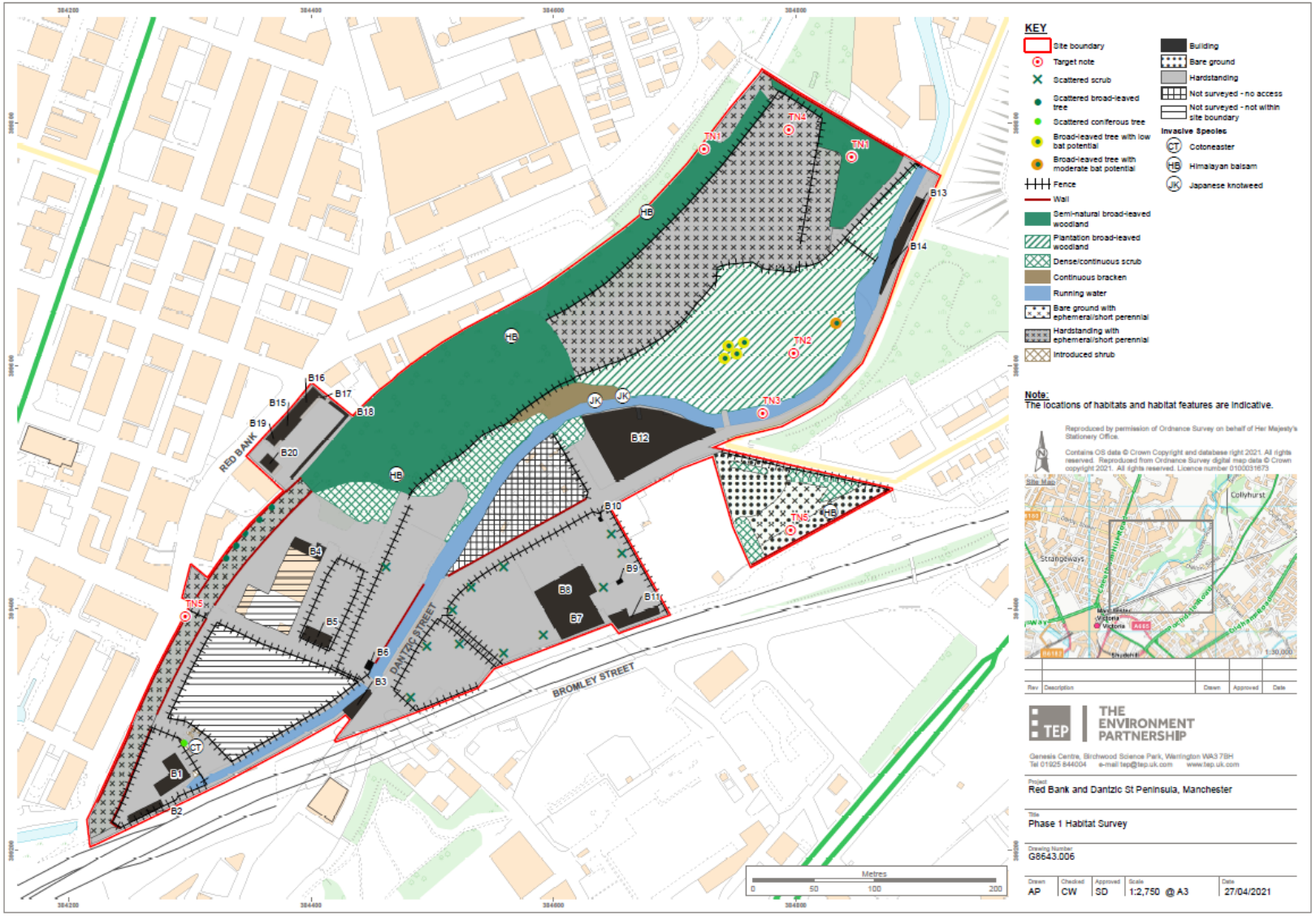
Schedule C1 **Environmental aspects and impacts assessment for construction works**

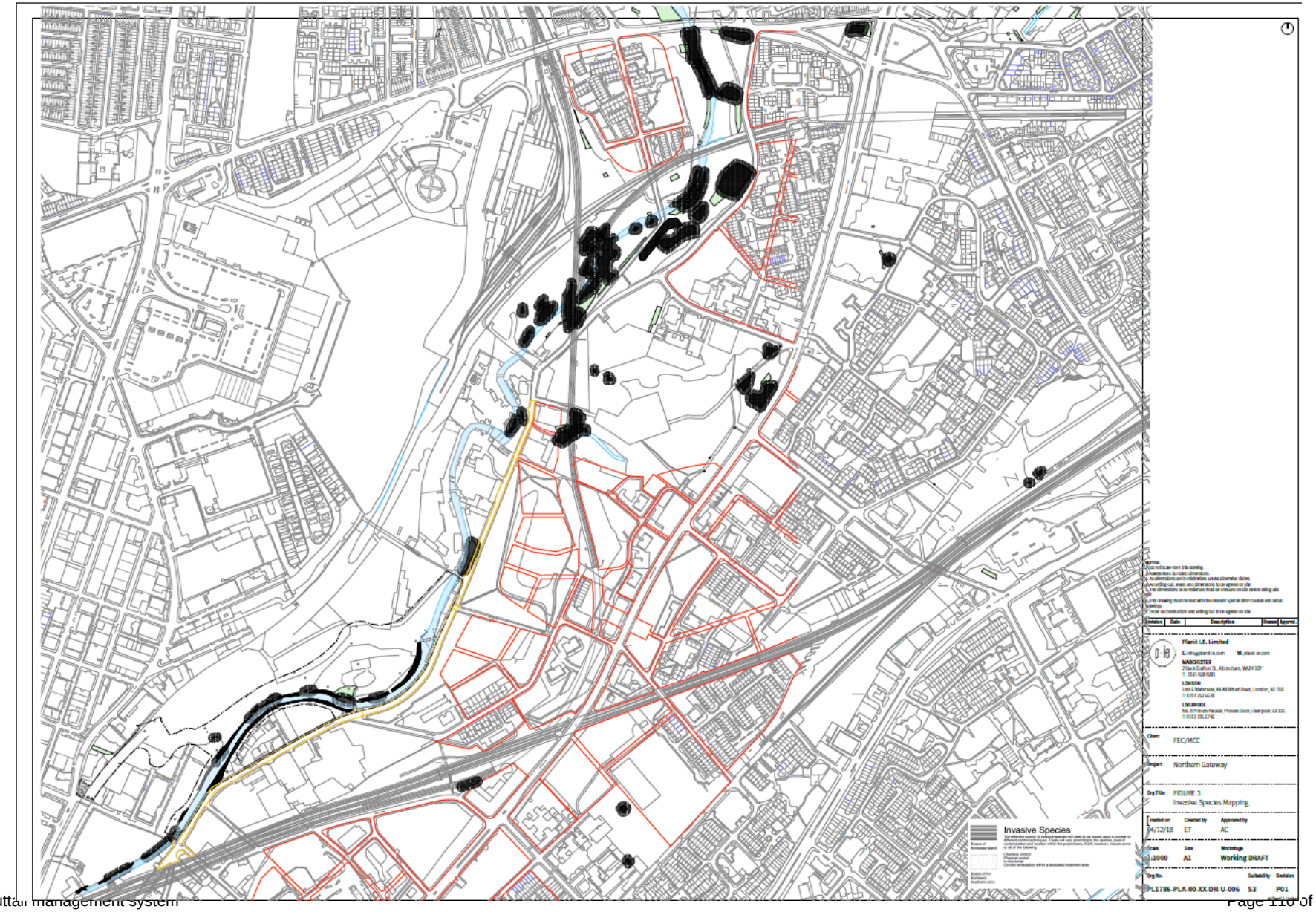
VNIF-BNL-ZZ-YYY-RC-YE-0001

Project reference: Victoria North HIF BAA.2210
Environmental Social Apects and Impacts Assessment

Activity	Aspect (Receptor)	Environment & Social (Risks and opportunities)		Normal or Abnormal Operations?		What is the significance of each impact pre mitigation?			Environmental & Social Actions (Press Alt and Enter for a new line in cell)	What is the significance of residual impacts post mitigation?			BAM Nuttall procedure	Other procedure
			Positive or negative impact	Impact Under Normal Operation	Impact Due to Accident and / or Emergency and/ or abnormal conditions	What is the likelihood of the impact occurring (A)	What is the severity of consequence if the impact occurs (B)	Significance Rating (AxB)		What is the likelihood of the impact occurring (A)	What is the severity of consequence if the impact occurs (B)	Significance Rating (AxB)		
Site Clearance	Ecology & biodiversity	Risk of disturbing protected species that may be present on site.	Negative	✓		Medium	Medium	Medium	Precondition surveys have been carried out by the client and ARUP to search for evidence of any protected species in the locality of the works. We are currently awaiting the outcome of those surveys and an update EAP which will include any mitigation measures if there are any.	Low	Low	Low	NP27.5	
Site Clearance	Ecology & biodiversity	Risk of disturbing nesting birds during tree clearance.	Negative	✓		High	Medium	High	Best endeavours are to be made to carry out all tree clearance works outside of nesting season. If this is not possible a watching brief is to occur while removing trees. If an active birds nest is identified works will be stopped and advice sought from an ecologist.	Low	Low	Low	NP27.5	
Site Clearance and subsequent works	Ecology & biodiversity	Potential for invasive species to be present on site or close to it.	Negative	✓		Medium	Medium	Medium	Invasive species have been identified on site. Spraying to take place twice yearly. Fencing and signage to be installed to prevent the spread of the invasive species	Low	Low	Low	NP27.5	
Demolition	Contaminated land	Asbestos present in fuses. Potential to cause harm to the workforce and have a negative impact on the local environment.	Negative	✓		High	High	High	A suitably certified and qualified contractor will be appointed to carry out the demolition and remove and dispose of the asbestos properly under licence prior to any demolition work taking place.	Low	Medium	Medium	NP27.3	
All works	Waste	Used sharps disposed of all over the site	Negative	✓		Medium	High	High	Tool box talk to be briefed to full site team and all sub-contractors prior to works commencing on site. Initial site sweep will take place prior to works commencing. Only competent persons to dispose of sharps.	Low	Medium	Medium	NP27.3	
Excavation	Contaminated land	Fly tipped rubbish has been deposited all over the site	Negative	✓		High	High	High	No further information is known about the contents of the fly tipped rubbish. An instruction will come from the client to carry out further investigation as to the contents of the fly tipped rubbish. Any contamination will be sampled to determine what is and mitigation measures udpated accordingly.	Medium	Low	Medium	NP27.3	
All works	Water environment	Potential to contaminate local water courses during the works.	Negative	✓		Medium	Medium	Medium	All refuelling is to be carried out by a nominated and trained refueller more than 10m from a watercourse. All plant is to have bio oil and carry a spill kit at all times in case of a spillage. Any areas of potential surface water run off are to have a silt net erected to prevent solids from entering the water courses. Designated concrete wash out is to be used at all times and positioned more than 10m from a water course or surface water drain. Follow the Environment Agency pollution prevention guidance at all times. Relevant permits/consents to be obtained and adhere to where necessary, i.e. abstraction/discharge activities. FRAP conditions to be adhered to. Agent and Foreman to sign up to EA flood warning system and flood response procedure to be in place.	Low	Low	Low	NP27.1	
All works	Nuisance	Disturbance to local residents and businesses.	Negative	✓		Medium	Medium	Medium	Client to inform the local businesses and residents in advance of the works. On going public consultation to take place and advance warning of noisey works to take place. Where required activity plans will address specific measures in certain locations. NCC environmental health to be consulted and kept informed as the works progress.	Low	Low	Low	NP27.4	
All works	Built heritage and archaeology	Damage to Lowney Steps	Negative	✓		Low	Medium	Medium	Damage to the steps is highly unlikely as we are 25m or more away from it with our works. No vibrating compaction equipment will be used within 60m of it. Watching briefs to be in place where required.	Low	Low	Low	NP27.6	
All works	Landscape and visual amenity	Damge to existing trees	Negative	✓		Medium	Medium	Medium	An arboricultural assessment has been carried out pre-construction and the outcomes along with any mitigation measures will be sent out with the updated EAP.	Low	Low	Low	NP27.5	
Waste management	Nuisance, Waste	Increase in litter, vermin and odour	Negative	✓		Medium	Medium	Medium	• Promote prevent, reduce, reuse, recycle • All waste to be kept in secure waste receptacles • Waste bins/skips to be covered at all times to prevent contents becoming airborne and reduce risk of rodent/ bird activity • Daily litter inspections to be carried out • Comply with waste duty of care, obtain and check with environment regulator treatment facilities have appropriate licences prior to waste removal off site. • Ensure suppliers take away packaging associated with deliveries, where possible.	Low	Low	Low	NP27.3	

Schedule C2 **Environmental Constraints Map**




Invasive Species
Planit I.E. Limited
MANCHESTER
LONDON
LIVERPOOL
Client
FEC/MCC
Project
Northern Gateway
Drg Title
FIGURE 3
Invasive Species Mapping
Created on
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ET
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Scale
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Size
A1
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PL1786-PLA-00-XX-DR-U-006
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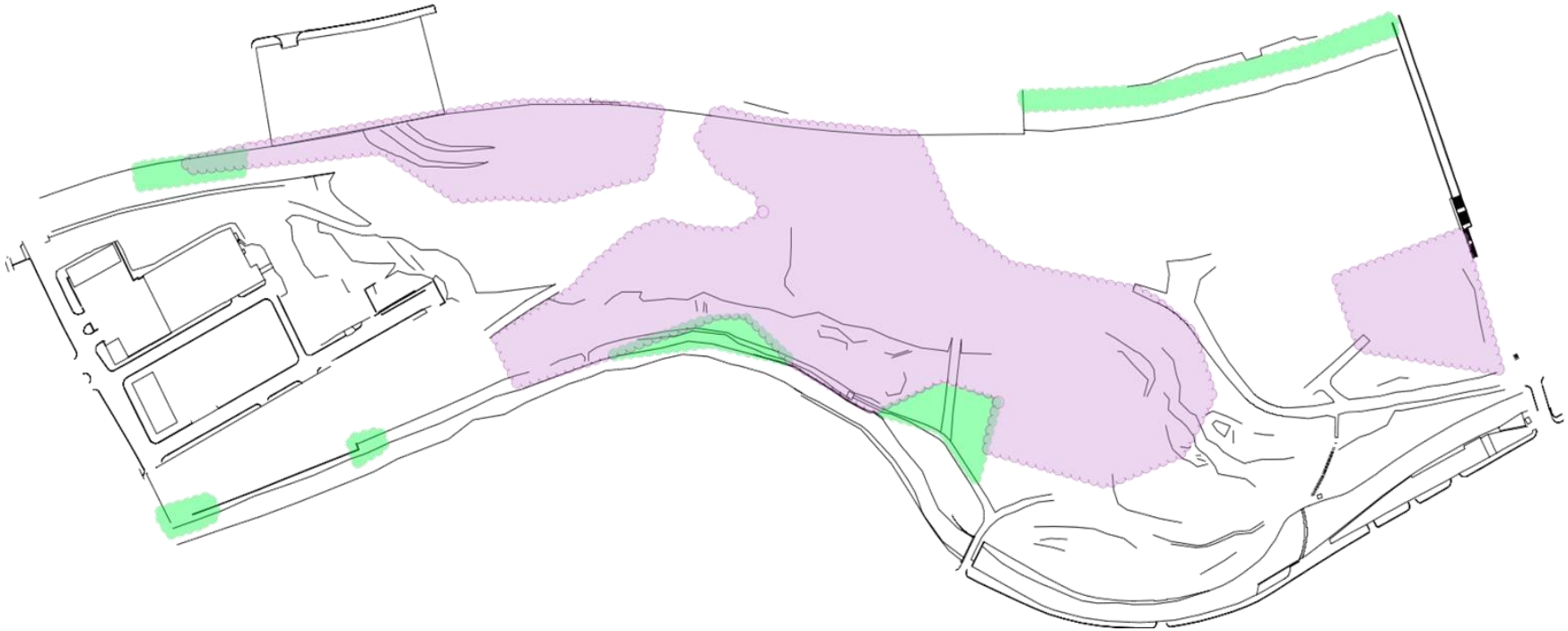

Green – Japanese Knotweed
Purple – Himalayan Balsam

Schedule C3 **Environmental monitoring**

Environmental aspect	Method of monitoring	Frequency	Responsibility (name/job title) or subcontractor	Records
Discharge to watercourse/Sewer	Visual inspection, sampling and analysis or otherwise as defined in consent from UU/Environment Agency Permit	Weekly	Site engineer or laboratory	Test results/ EF01/ EF03 Complaints log
Noise	Noise assessments Noise monitoring to be undertaken in accordance with BAM Environmental Guidance note EG06	Base line recordings to be undertaken and recorded ahead of operations commencing Readings to be taken at intervals throughout the day only during key demolition and earthworks operations with a minimum of 4 per day being undertaken whilst key operations take place. The readings will be taken to specifically target the elements of the demolition works and compaction operations on haul road If works are not in danger of breaching limits noise monitoring frequency reduced or stopped If an exceedance occurs a period of continual monitoring will be carried out to ensure that mitigation has been effective	Site engineer	Noise assessments/ (EF02) Monitoring data/ Complaints log

Environmental aspect	Method of monitoring	Frequency	Responsibility (name/job title) or subcontractor	Records
Dust	Visual inspection of site by site supervisor (foreman) and Demolition subcontractor's supervisor	Daily, and before commencement of operations.	BAM Site Supervisor and Demolition contractors Supervisor	As per Air quality Monitoring Plan EC01/ Site diary/ monitoring records/ Complaints log
Vibration	Vibration monitoring, Use of Vibrock V900 seismic monitoring unit.	Daily(equipment monitors continually during the day) as demolition and haul road construction works are undertaken	Site engineer	EC01/ Site diary/monitoring records/ Complaints log
Ecology				
Condition of plant and equipment	Inspection/walkover survey/watching brief (as defined in contract conditions)	As required	Consultant	Survey/inspection reports/EF04 Eco-permit
Fuel/chemical storage area	Plant maintenance and inspection Visual inspections of plant	Daily	Plant dept. fitter Plant operator/foremen	Plant inspection sheet/ Foreman's diary
Waste disposal	Visual inspection/checklist	Daily	Foremen/site environmental engineer	Completed checklists EC01/ Site diary
Emergency spill kits	Visual inspections on site Inspection/maintenance of records	Weekly	Foreman/Agent	Checklist/ Waste transfer records
Emergency arrangements – e.g. practice drills	Visual inspection	Weekly	Foremen/site environmental engineer	Recorded inspections (EC01)
Other	Practice drill	Monthly	Foremen/site environmental engineer	Record of drill/site training. (SF513)

Schedule C4 **Consents licences and permissions**

The following consents, licences and permissions are required.
Please include references and dates for all consents, licences and permissions, i.e. planning application details, sewer discharge consent details, reference to CLAIRE code of practice for onsite reuse of contaminated soils, crusher Part B permit and local authority notification.

	Site process	Documentation consent/permits /licences	Controlling regulations	Issuing authority	Date Submitted to Issuing authority	Approval Period	Date Consent Approved	Consent / permit / licence ref no.	Surrender Date
General	Undertaking construction works	Planning permission	Town and Country Planning Act	Local authority	**TBC**	**Approx. 16weeks**	**TBC**	**133143/VO/2022**	
	Undertaking building works	Building control approval	The Building Act	Local authority					
Water	~~Discharging water to a river, stream, ditch~~ ~~Installation/operation of septic tanks.~~	Discharge consent to controlled water	Water Resources Act Groundwater Regulations Environmental Permitting (England & Wales Regulations)	Environment Agency Natural Resources Wales	N/A				
	Site set-up sewage discharge	Permission to discharge trade effluent to sewer.	Water Industry Act	Local water company	10/10/2022	**1 week**	**17/10/2022**		**16/04/2022**
	~~Temporary/permanent works over and in a main river.~~ Works within 7-10m of a main river, note the distance may vary between EA regions. ~~Raising ground levels in the floodplain beside a main river.~~ ~~Construction of a culvert or flow control structure (such as a weir) on any ordinary watercourse.~~	Flood defence consent (formerly known as land drainage consent/ works affecting watercourses consent)	Water Resources Act Land Drainage Act Local Byelaws	Environment Agency Natural Resources Wales	N/A	**TBC**	**TBC**	**TBC**	
	~~Works on flood plains~~	~~Prior permission~~	~~Water Resources Act~~ ~~Land Drainage Act~~	~~Environment Agency~~ ~~Natural Resources Wales y~~	~~N/A~~				
	~~Works on flood defence structures~~	~~Prior permission~~	~~Local Byelaws~~	~~Environment Agency~~ ~~Natural Resources Wales~~	~~N/A~~				
	~~Abstracting or taking water from rivers, streams, lakes, ponds, tidal waters or groundwater.~~ ~~Constructing or altering any impounding works in rivers, streams, ponds or tidal waters.~~ ~~Dewatering activities may require a licence.~~ ~~Note: licence is not required for abstraction for any purpose of less than 20 cubic metres a day.~~	~~Abstraction licence:~~ ~~• Full licence – applicable to most abstractions over 20m3 a day.~~ ~~• Transfer licence – moving water from one location to another with no intervening use.~~ ~~Temporary licence – over 20m3 a day over a period of less than 28 consecutive days.~~	~~Water Resources Act~~	~~Environment Agency~~ ~~Natural Resources Wales~~	~~N/A~~				
	~~Use herbicides near water~~	~~Prior permission~~	~~Food and Environmental Protection Act (Control of Pesticides Regulations)~~	~~Environment Agency~~ ~~Natural Resources Wales~~	~~N/A~~				
	~~Construction works (temp & perm) on the sea bed/within tidal waters/harbour area.~~	~~Marine licence – online pre-application and application process~~	~~Marine and Coastal Access Act~~	~~Marine Management Organisation~~	~~N/A~~				
Waste	Transfer/disposal of controlled waste	Controlled waste transfer notes	Environmental Protection Act Waste (England and Wales) Regulations	Producer Haulier	TBC				
	Transfer/disposal of hazardous waste (England & Wales)	Registration as a hazardous waste producer (Wales only)	Hazardous Waste Regulations	Producer Haulier	N/A				
		~~Hazardous waste consignment notes~~							
	~~Carrying waste other than your own (controlled or hazardous)~~	~~Waste carriers registration certificate~~	~~Waste (England and Wales) Regulations~~	~~Environment Agency~~ ~~Natural Resources Wales~~	~~N/A~~				
	Keep, treat and dispose of waste	Environmental permit May need planning permission	Environmental Permitting (England & Wales) Regulations Town and Country Planning Act	Environment Agency Natural Resources Wales Local authority					

	Site process	Documentation consent/permits /licences	Controlling regulations	Issuing authority	Date Submitted to Issuing authority	Approval Period	Date Consent Approved	Consent / permit / licence ref no.	Surrender Date
	Reuse waste materials off site	Environmental permit or exemption from Environmental Permitting regulations	Environmental Permitting (England & Wales) Regulations	Environment Agency Natural Resources Wales	**TBC**				
Waste Continued	Treatment of contaminated land and water	Mobile Treatment Licence	Environmental Permitting (England & Wales) Regulations Contaminated Land (England) (Amendment) Regulations Contaminated Land (Wales) Regulations	Environment Agency Natural Resources Wales	**Yes**			**TBC**	
	~~Handling asbestos~~	~~Licence for work with asbestos from HSE Asbestos licensing unit~~	~~Control of Asbestos Regulations~~	~~HSE Asbestos Licences Unit~~	~~N/A~~				
	Manufacturing of aggregates and soils from demolition, construction, tunnelling and excavation wastes or waste ash, slag, clinker or rock, e.g. screening of soils.	Exemption from waste management licensing	Environmental Permitting (England & Wales) Regulations	Environment Agency Natural Resources Wales	**N/A**				
Nuisance	Crushing and screening operations Blacktop batching plants	Enviromental permit or exemption (T5/T7) Authorisation to operate a part B prescribed process.	Environmental Permitting (England & Wales) Regulations Pollution Prevention and Control (England & Wales) Regulations	Local authority environmental health Environment Agency Natural Resources Wales	**Yes (Lancashire Crushers)**		**27/09/2022**	**PCC110/2022**	
	Managing noise and vibration levels	Prior consent under Section 61 (optional)	Control of Pollution Act	Local authority environmental health	**Yes**				
Wildlife	Cutting, topping or uprooting protected trees	Prior consent	The Town and Country Planning (Tree Preservation) (England) Regulations Town and Country Planning (Trees Amendment) (Wales)	Local authority planning dept	**TBC**	**Approx. 16weeks**	**TBC**	**133143/VO/2022**	
	~~Works affecting hedgerows~~	~~Prior consent~~	~~Hedgerow Regulations~~	~~Local authority planning dept~~					
	~~Works affecting designated areas i.e. SSSIs, AONB~~	~~Prior consent~~	~~Wildlife and Countryside Act~~ ~~Habitat Regulations~~ ~~Countryside and Rights of Way Act~~	~~Natural England~~ ~~Natural Resources Wales~~					
	~~Works near badger setts~~	~~Prior consent~~	~~Protection of Badgers Act~~	~~Natural England~~ ~~Natural Resources Wales~~	~~N/A~~				
	~~Move/handle protected species (esp. bats, badgers and newts)~~	~~Licence~~	~~Wildlife and Countryside Act~~ ~~Habitat Regulations as amended~~	~~Natural England~~ ~~Welsh Assembly /Natural Resources Wales~~	~~N/A~~				
	~~Removal and/or introduction of fish with inland waters~~	~~Prior consent~~	~~Salmon and Freshwater Fisheries Act~~	~~Environment Agency~~ ~~Natural Resources Wales~~	~~N/A~~				
	~~Treatment of Japanese knotweed – burning on site~~	~~Prior consent~~	~~Wildlife and Countryside Act~~ ~~Clean Air Act~~ ~~Environmental Permitting (England & Wales) Regulations~~	~~Environment Agency~~ ~~Natural Resources Wales~~ ~~Local authority environmental health~~	~~N/A~~				
	Treatment of Japanese knotweed – burial	Formal notification	Wildlife and Countryside Act Environmental Permitting (England & Wales) Regulations	Environment Agency Natural Resources Wales	**TBC**				
Archaeology	~~Demolition or alteration of a listed building and historic structures within its grounds.~~	~~Planning Permission & Scheduled monument consent~~	~~Planning (Listed Buildings and Conservation Areas) Act~~	~~Local planning authority~~	~~N/A~~				
	~~Works on/near scheduled ancient monuments (SAM's)~~	~~Planning Permission & Listed building consent~~	~~Town and Country Planning Act~~ ~~Ancient Monuments and Archaeological Areas Act~~	~~Local planning authority~~ ~~English Heritage~~ ~~Welsh historic monuments~~	~~N/A~~				
	Demolition of an unlisted building in a conservation area.	Planning Permission & Conservation area consent	Planning (Listed Buildings and Conservation Areas) Act	Local planning authority	N/A	**Approx. 16weeks**	**TBC**	**133143/VO/2022**	

Schedule C5 **Site Waste Management Plan**

This declaration is to be used in conjunction with BAM Smart – the web-based sustainability monitoring and reporting tool / BAM Site app. (delete as appropriate)

Project reference	BAA2210
Project title	Victoria North HIF Infrastructure Project
Client	Manchester City Council
Principal contractor	BAM Nuttall Ltd
Site waste coordinator / Environment engineer	Thomas Asson
Contract value	£31 million
Address/location	BAM Compound, Hargreaves Street, Manchester M4 4EJ
Project description	Infrastructure works for residential developments.
Document prepared by	N Peters

Declaration:

We the client and principal contractor confirm that all reasonable steps will be taken to ensure that:

a) all waste from the site is dealt with in accordance with the duty of care in section 34 of the Environmental Protection Act

b) materials will be handled efficiently and waste managed appropriately

Client:	Signed:
Principal contractor:	Signed:
Key subcontractor(s):	Signed:

This plan is reviewed at least every three months by the site waste coordinator and updated as necessary to ensure that waste management practices are in accordance with this plan.

Reviewed by	Date	Rev no.	Revision details (where applicable)

Introduction

This site waste management plan identifies and monitors:

- reuse of materials on the project e.g. cut and fill, site won materials
- waste minimisation implemented on the project
- waste management options for waste generated during the works including waste generated by subcontractors
- any cost savings achieved through waste minimisation

Materials identified within this SWMP are not necessarily statutory waste as they do not fall within the legal definition of waste i.e., ‘any substance or object which the holder discards intends to discard or is required to discard.’ There is no intention to discard materials such as:

- site won excavated materials
- aggregates crushed in accordance with the WRAP Quality Protocol (on or off site)
- pre-planned use of materials

All materials whether they are imported, reused ‘as is’ on site, recycled (on or off site) or sent off site for disposal are identified within the plan.

(See Appendix 1 for roles and responsibilities.)

Materials resource efficiency

The following waste reduction and reuse measures have been included in the design and/or specification for this project:

Design specifications	Soils to be retained
Choice of materials	Varying subsoils
Methods of construction	Bulk Earthworks
Pre-fabrication off site	N/A

Forecast of the types and quantities of waste

It is estimated that this site will produce the following types and quantities of waste:

Inert soil and stones	17 05 04	2000	2000
Construction (skip) waste			
Concrete	17 01 01	0	0
Mixed hardcore	17 01 07	0	0
Timber	17 02 01	5	5
Glass	17 02 02	0	0
Plastic	17 02 03	3	3
Mixed metals	17 04 07	3	0
Other mixed construction waste	17 09 04	0	0
Hazardous construction waste	Various	0	0
Mixed municipal waste	20 03 01	260	260
Demolition waste			
Concrete	17 01 01	100	100
Bricks	17 01 02	500	500
Mixed hardcore	17 01 07	250	250
Timber	17 02 01	0	0
Glass	17 02 02	1	1
Plastic	17 02 03	0	0
Mixed metals	17 04 07	20	20
Other mixed demolition waste	17 09 04	20	20
	Totals	18737	17928
		Difference	-809

Management of waste

The production of waste material on this site during the construction phase is avoided wherever possible by following the '*reduce, reuse, recycle, recover*' measures outlined below. Only where these options have been exhausted is waste sent for disposal.

Reduction and reuse measures

The following measures will be employed to reduce and reuse waste on this site:

General	
Reduction measures	**Reuse measures**
• Designed elements to use standard module sizes of available materials	• Rainwater from accommodation roofs to be harvested for use in dust suppression measures
• Accurate measurement, and minimal wastage will be allowed when ordering materials	• Wood chippings to be reused on site
• Materials are to be delivered just in time for the work package	• Site won soils to be reused on site subject to grading criteria and to remedial targets set by the CWRA
• Materials are to be stored and transported correctly so as to avoid damage	• *Materials from demolition for Love Factory are segregated to be recycled*
• Materials are to be kept off the ground by the use of pallets or timber bites	•
• The following components are to be prefabricated: *(Insert any relevant materials)*	•
• All operatives are to receive training on the agreed reduction measures	•
• *(Any other measures)*	•
Concrete and hardcore	
Reduction measures	**Reuse measures**
• Suspended GF slab to be designed to eliminate the requirement for extra fill	• 900 tonnes of hardcore from demolition is to be crushed and reused as aggregate
• Teram to be used under temporary roads to reduce wastage through settlement	• Remaining hardcore from demolition to be crushed and used as fill to excavations
• Concrete orders to be as accurate as possible to reduce possibility of waste	• Excess concrete from pours is to be used to create temporary paths around the site
• *(Any other measures)*	• *Materials from demolition for Love Factory are segregated to be recycled*

Excavated material (soil & stones)	
Reduction measures	**Reuse measures**
• Formation level to be raised to reduce excavation waste	• A cut and fill exercise has been carried out to minimise waste off site
• Soil stabilisation to be used to minimise reduced level dig	• Arisings from excavations to be used as follows:
• Displacement piling to be used in lieu of CFA to reduce spoil	• 2000 tonnes to be used as backfill to excavations
• Mini piles to be used in lieu of pad foundations	• 850 tonnes to be used within landscape bunds
• Reinforced pad foundation to be used, backfilled with excavated material, in lieu of mass pads	• Avoid materials to tip by considering off site remediation
• Permanent formwork to be used to pile caps and ground beams to eliminate excavated working space	• Remediation strategy to advise on Reuse criteria for on site win with NT02 and NT03 Fill areas
• Drainage levels to be raised, and backdropped into manholes, to reduce excavation depths	•
• Trenches to be sheeted rather than battered to reduce excavated material	•
• *(Any other measures)*	•
Timber	
Reduction measures	**Reuse measures**
• Reusable plastic pallets to be used	• Reusable shuttering systems to be employed wherever practicable
• System shuttering to be used wherever practicable	• Off-cuts of plywood to be saved and used to cover holes, and as protection to fragile materials
• Reusable plastic/metal hoardings to be used	• Designated area for waste timber to be set up for free reuse by others
• *(Any other measures)*	• *Materials from demolition for Love Factory are segregated to be recycled*
Metals	
Reduction measures	**Reuse measures**
• *(Any other measures)*	• Off-cuts from long pipe work runs are to be stored for reuse in small runs
	Materials from demolition for Love Factory are segregated to be recycled

Recycle and recovery measures

The following waste streams are to be segregated for recycling/ recovery off site:

Waste stream	EWC code	Storage option	Management option
• Paper and cardboard	20 01 01	labelled bins	
• Excavation waste	17 05 04		Recycling within works
• Packaging	15 01 06	labelled bins	
• Plastic	20 01 39	labelled bins	
• Timber	17 02 01	labelled bins	
• Mixed Metals	17 04 07	labelled bins	
• Mixed waste	17 09 04	labelled bins	

Project close-out review

This section of the plan is completed prior to the project close-out review and discussed as part of the review meeting. The estimated quantities are drawn from the table in section 2 and reconciled against the actual quantities removed from site as detailed in BAM SMaRT / BAM Site app (delete as appropriate).

Comparison of estimated and actual quantities

Source and type of waste	EWC Code	Estimated quantity of waste (tonnes)	Actual quantity of waste (tonnes)
Excavation waste			
Hazardous excavated material	17 05 03*		
Non-hazardous soil and stones	17 05 04		
Inert soil and stones	17 05 04		
Construction (skip) waste			
Concrete	17 01 01		
Mixed hardcore	17 01 07		
Timber	17 02 01		
Glass	17 02 02		
Plastic	17 02 03		
Mixed metals	17 04 07		
Other mixed construction waste	17 09 04		
Hazardous construction waste	Various		
Mixed municipal waste	20 03 01		
Demolition waste			
Concrete	17 01 01		
Bricks	17 01 02		
Mixed hardcore	17 01 07		
Timber	17 02 01		
Glass	17 02 02		
Plastic	17 02 03		
Mixed metals	17 04 07		
Other mixed demolition waste	17 09 04		
	Totals	0	0
		Difference	0

Delete / add waste streams as appropriate by double clicking on this table.

Explanation of any deviation from the original plan

Appendix 1 Roles and responsibilities

The Clients Representative will:

- Appoint a Principal Contractor
- Provide the Principal Contractor with details of all decisions taken before the site waste management plan was drafted on the nature of the project, its design, construction method or materials employed in order to minimise the quantity of waste produced on site
- Ensure a construction phase SWMP is produced

The agent for the Principal Contractor will:

- Ensure the SWMP for the construction phase is produced, and distributed to all staff and subcontractors
- Ensure that within three months of project completion:
  - that the plan has been monitored on a regular basis
  - section 5.1 is completed comparing estimated quantities with actual
  - section 5.2 is completed to explain any deviation from the plan
  - section 5.3 is completed to estimate the cost saving that have been achieved
- Keep a copy of the SWMP for a minimum of two years after project completion

The site waste co-ordinator / environmental engineer for the Principal Contractor will:

- Produce the construction phase SWMP prior to works starting on site
- Obtain from the client details of all decisions taken before the site waste management plan was drafted on the nature of the project, its design, construction method or materials employed in order to minimise the quantity of waste produced on site, for inclusion in the construction phase SWMP
- Keep a copy of the SWMP on site and display in suitable locations for information
- Review the plan monthly and update where necessary to accurately reflect progress
- Ensure the following waste data is recorded within BAM Site app when any waste is removed from site:
  - a description of the waste, including the 6 figure EWC code
  - the name of the company collecting the waste (waste carrier)
  - the site where the waste is being taken to (waste destination)
  - the quantity of the waste and whether it was;
  - reused on site
  - taken for reuse at an exempt or standard permit site
  - taken to a transfer station for segregation and onward recycling
  - taken to a dedicated recycling facility
  - sent to landfill (only if all other options have been discounted)
- Ensure details of recycling figures for the transfer stations used within the region are obtained and entered onto BAM Site app on a quarterly basis
- Ensure details of all waste carrier registration numbers, environmental permit numbers and exemption references for the carriers and disposal sites used within the region are verified in consultation with the Environmental Advisor and retained on site in accordance with the site documentation control procedure.

Schedule C6 **Refuelling procedure**

- No refuelling to be undertaken in close proximity of surface waters, drains, open excavations, grips
- Only trained nominated personnel to carry out refuelling operations

Prior to refuelling, ensure.

- You are in a safe position (i.e., no moving plant with free access to refuelling point)
- A suitable spill kit is available
- Check condition of hoses, nozzle for defects
- Deploy plant nappy at refuelling point

During refuelling, ensure;

- Correct refuelling cap is removed (i.e., not a water tank)
- Funnels to be used at all times when refuelling containers
- Refuelling operations are supervised at all times
- Due care and attention is paid to prevent drips and spills
- Return fuel hose to its hook and that lids/caps are replaced on fuel containers/plant
- Fuel tanks are secured after use and drums are stored upright in an area where they will not be knocked over or damaged

Nominated refuellers		
Name	**Position**	**Toolbox talk PP8 Briefed**
Stephen Donaldson	General Foreman	Completed
Dan King	Supervisor	Completed
		Tick if carried out
		Tick if carried out
		Tick if carried out
		Tick if carried out

Report all spills, leaking fuel lines, hoses or tanks to your supervisor

Section D Quality

D1.0 Introduction

This quality plan is applicable to the process of undertaking the project works at Victoria North for the provision of services in accordance with the contract and specification as described in **Section A, Table 1.1** of this document.

It defines the managerial arrangements required to meet and exceed the requirements of the project and Manchester City Council. It is prepared as a result of the project start up review, by **the agent** taking account of particular project requirements.

This quality plan together with Section A documents the necessary information required to effectively manage project quality from project planning to project delivery. It makes use of subsidiary documents such as BAM Nuttall procedures, project specific procedures, activity plans, task instructions, risk assessments and records that are used to control the works.

This plan, together with section A of this project execution plan, activity plans and associated inspection and test plans meet the requirements of ISO 10005 *Quality management guidelines for quality plans.* A compliance schedule detailing relevant sections of this project execution plan in relation to ISO10005 is contained in Appendix 2.

D2.0 Quality Plan

D2.1 Project quality requirements - *NP25: Technical and engineering delivery*

Delivery of the quality, technical and engineering requirements of the project is managed primarily by ensuring an understanding of these requirements, use of a team of suitable and competent personnel and the undertaking of adequate planning.

D2.2 Quality programme - *NP24: Activity plans*

The overall manner in which quality hazards are controlled is set out in the project quality programme of **Schedule D1**. This high-level plan defines the programmed task and identifies the documents to manage and demonstrate quality in relation to the specific activity. Sub-contract work is included within the quality programme.

This constitutes the development of activity plans from a quality perspective. Activity Plans are prepared. A list of activity plans for programmed activities for this project are referenced in schedule **D1 Quality programme.**

D2.3 Verification of requirements - *NP25: Technical and engineering delivery*

To verify that this planning is successful in controlling quality, the work is monitored closely and verified as it progresses. Verification is normally carried out by sampling, inspection and testing. Work which cannot be verified by final inspection or test (special processes) is controlled by monitoring that the work activity is undertaken in accordance with the agreed procedure.

These verification arrangements are set out in the inspection and test plans, or checklists prepared for the programmed activity. If BAM Nuttall is contractually responsible for certification of the works under a rigorous self-certifying system based on checklists for each item of work, this is indicated in the quality programme.

Inspection and test plans or checklists define the means of demonstrating that specified requirements are met. They list inspection/test procedures, frequency of testing, witness/approvals, responsibility for test and record requirements.

The extent to which checklists are prepared and completed for items of work is dependent on the risk of nonconformity. This risk is a function of the complexity of the work activity, the competence of the resources undertaking it and the consequences of failure. A list of inspection and test plans or checklists is contained in **schedule D2** to this plan.

D3.0 Preservation of product

D3.1 Weather dependent work

Some work which is sensitive to temperature or moisture can only be carried out at certain times of the year unless additional controls such as protection from the elements are introduced. Activities which are weather dependent are listed in **Table D3.1** with details of the controls to be used if any.

Table D3.1: Weather dependent work

Activity	Control measure
Concrete work	Ensure batching plant has heated water facility Use frost blankets
Blacktop	Comply with specification temperature limits
Structural steelwork welding	Provide protective shelter
Earthworks	Limited in wet weather
Lifting Operations	Approved Lift plan, not to be carried out in high winds
Tree felling	No works to be completed in high winds

D3.2 Preservation of work

Some items of work are susceptible to damage from following activities unless protective measures are introduced. Work elements for which such measures will be taken are listed in **Table 3.2** together with outline details of the protection to be provided.

Table D3.2: Preservation of work

Work element	Protective measures
Earthworks	Compacted or sealed to prevent saturation/excessive moisture loss/dust
Drainage	Ensure ample cover, use road plates where heavy vehicles will go over the pipes
Ducting	Ensure ample cover, use plates/concrete capping where heavy vehicles will go
Highway construction	Restrict vehicle access whilst each layer is trimmed. Block access when it is wet. Leave the surface to cool/cure before driving on it. No machines with metal tracks to use newly paved surfaces.
Hydroseeding	Restrict access to seeded areas with barrier. Inform the workforce of these areas in the briefings.
Block paving	No heavy vehicles over the blocks. No muddy wheels over the blocks.

Schedule D1.1 Quality Plan Activity Table –

Programme Activity	Works Information or Specification	Control documents	Responsibility				Verification document	Other documented information
			BN	SC	C	O		
Site welfare setup	NS1 – Welfare SG21 – Welfare Facilities and work environment	TBC	R AR SD		R		TBC	Test certificates as defined in ITP01 and / or ITC01.01 Or records in 360 field
Earthworks							ITP02	
Concrete								

CODES:				
APP Approval Required AR Submit Documents for Review	DI Submit Documents for Information DR Document required	R Review Documents SD Submit Verifying Documents	BN: BAM Nuttall SC: Sub-contractor	C: Customer O: Other (provide detail)
Document Notes: Individual inspection and test plans / checklists define in detail witness, approval and hold points, along with all documented information required for approval.				

Schedule D1.2 Register of project procedures

Reference	Title	Author	Rev	Review Date
XXX.000. P001	Document management procedure	J Blogs	00	Jan 2017

Use this sheet as part of the PEP to list project specific procedures

Alternatively, state here that this schedule will be maintained as part of the project document management system and updated from time to time as procedures are identified as being necessary.

Schedule D1.3 Register of activity plans and inspection and test plans / checklists

VNIF-BNL-ZZ-YYY-RE-W-0003

Activity Plan Reference	Title	Author	Date Required	Date Issued	Review Date	ITP /ITC Reference	Work Status
BAA.2210-AP01	Installation of temporary boundary fence for initial compound	D.Kiely	25/01/2022	26/01/2022	TBC	TBC	Complete
BAA.2210-AP02	Repairing existing fence over site	D.Kiely	27/01/2022	28/01/2022	TBC	TBC	Complete
BAA.2210-AP03	Site enabling works	D.Charlton	31/01/2022	26/01/2022	TBC	TBC	Live
BAA.2210-AP04	Footpaths, trial pits and investigations	D.Kiely	18/03/2022	21/03/2022	TBC	TBC	Complete
BAA.2210-AP05	Trial Pits in road (not used as Bethells completed them)	D.Charlton	N/A	N/A	N/A	N/A	Live
BAA.2210-AP06	Haul Road from Creamline	D.Charlton	20/05/2022	22/05/2022	TBC	TBC	Live
BAA.2210-AP07	Removal of hard standing area and concrete over site	I.Penny	19/07/2022	20/07/2022	TBC	TBC	Live
BAA.2210-AP08	Access through Honey Street Retaining wall	D.Charlton	20/05/2022	20/05/2022	TBC	TBC	Live
BAA.2210-AP09-RA09	Removal of mesh metal fencing over site	T.Asson	09/08/2022	09/08/2022	TBC	TBC	Live
BAA.2210-AP10	Over pumping trade effluent water on Haul Road Plateau Ch280-380	J. Annett	19/07/2022	20/07/2022	TBC	TBC	Live
BAA.2210-AP20-VNIF-BAM	General Site Excavation	D.Kiely	08/10/2023	13/10/2023	13/10/2023	Earthworks	Live
BAA.2210-AP25-VNIF-BAM	Temporary Water Treatment Plant	D Kiely	06/04/2023	06/04/2023	10/10/2023	N/A	Live
BAA.2210-AP31-VNIF-BAM	Sound & Vibration Monitoring	T Asson	10/10/2023	13/10/2023	16/10/2023	Demolition and Site Clearance	Live

Appendix 1: Construction Design & Management Regulations 2015 (CDM) compliance schedule

CDM Appendix 3 Reference		Relevant Section of the PEP		
		Schedule	Section	Title
5(a)	Description of the project		A2.1	The project works
	Programme and key dates		A4.4	Project programme
	Key members of the team (Management structure and responsibility)	A1	A2.5.1, A2.5.3	Organisation and responsibilities Client and other stakeholder communication The project works
	Extent and location of existing records and plans that are relevant to health and safety on site (Pre-construction information)		A3.2	Inputs into the plan Project design Risk and opportunities
5(b)	The management of the work			
	Health and safety aims for the project.		A2.4	Project objectives
	Site rules (cover but not be limited to) PPE Parking Use of radios, mobile phones Smoking, restricted areas Hot works Emergency arrangements (Brought to the attention of everybody on site) *Also translation of site rules if required.*	A5 A6	A5.6	Induction Workforce engagement Co-ordination of contractors Drugs and alcohol Incident and Emergency arrangements PPE Workplace transport
	Arrangement to ensure co-operation between project team members and co-ordination of their work (Site meetings)		A5.1 A5.2 A5.3 A5.4	Client communication Workforce engagement Management of sub-contractors Co-ordination of contractors Project review (meetings) Project verification
	Arrangements for involving workers		A5.5	Workforce consultation Project verification
	Site induction	A5	A5.6	Site induction
	Welfare facilities and first aid	B1	B2.4	Welfare facilities First aid
	Fire and emergency procedures	A6	B2.1	Fire safety Incident and emergency arrangements
5(c)	Control of any specific site risks listed in schedule 3 where they are relevant to the work involved.			
	Burial under earth-falls		B4.5 B4.6 B4.7	Excavations Other significant risks
	Engulfment in swampland		B4.6	Excavations Other significant risks
	Falling from height		B4.3	Work at height
	Chemical or biological substances, legal requirement for health monitoring		B3.6	Asbestos Contaminated land Hazardous substances

CDM Appendix 3 Reference		Relevant Section of the PEP		
		Schedule	Section	Title
				Other significant risks Health surveillance UV radiation
	Work with ionising radiation (Designation of controlled or supervised areas under regulation 16 of the Ionising Radiation Regulations		B4.15	Ionising radiation
	Work near high voltage lines		B4.1	Overhead services
5(c)	Control of any specific site risks listed in schedule 3 where they are relevant to the work involved.			
	Work exposing workers to the risk of drowning		B4.10	Work over or near water
	Work on wells, underground earthworks and tunnels		B4.9 B4.9.1	Confined spaces Other significant risks
	Work carried out by divers having a system of air supply		B4.11	Other significant risks
	Work carried out in caissons with a compressed air atmosphere		B4.9	Other significant risks
	Work involving the use of explosives		B4.16	Explosives
	Work involving the assembly or dismantling of heavy prefabricated components		B4.14	Other significant risks

Appendix 2: BS ISO 10005 compliance schedule

BS ISO 10005:2018 reference		Relevant section of project execution plan	
6.2	Scope of the quality plan	A1 A2.1	Introduction The project works
6.3	Quality plan inputs	A1.1.3	Inputs to the plan
6.4	Quality objectives	A2.4	Project objectives and targets
6.5	Quality plan responsibilities	A1.1 A2.5 A5 A6.2 Schd A1	Project execution plan administration Management arrangements Communication Audits Organisation chart
6.6	Control of documented information	A5.7	Project documented information
6.7	Resources	A4.3	Project planning
6.7.1	Provision of resources	A4.3	Project planning
6.7.2	Materials, products and services	A2.6.1	Procurement of goods and services for the project
6.7.3	People	A2.5.1 A2.5.2	Project organisation Personnel selection
6.7.4	Infrastructure and environment for the operation of processes	A3.3 D3.0	Health, safety, quality and environmental risk - construction phase Preservation of work
6.7.5	Monitoring and measuring resources	A2.5.1 A2.5.2 D2.3	Project organisation Personnel selection Verification of requirements
6.8	Customers and other interested parties' communication	A2.1 A5	The project works Communication
6.9	Design and development	A4	Project design, planning and programming
6.9.1	Design and development process	A4.1	Project design
6.9.2	Control of design and development changes	A4.1	Project design
6.10	Externally provided processes, products and services	A2.6	Supply chain management
6.11	Production and service provision	D2.1	Project quality requirements
6.12	Identification and traceability	A2.7	Product traceability
6.13	Property belonging to customers or external providers	A2.6.1 A2.7 A6.1.1 D2.3	Procurement of goods and services for the project Product traceability Quality non-conformity Verification of requirements
6.14	Preservation of outputs	D3	Preservation of work
6.15	Control of nonconforming outputs	A6.1.1	Quality non-conformity
6.16	Monitoring and measurement	D2.3	Verification of requirements
6.17	Audits	A6.2	Audit and inspection
7.1	Review and acceptance of the quality plan	A1.1 A2.5	Project execution plan administration Management arrangements
7.2	Implementation and monitoring of the quality plan	A1.1 A2.5.2 A6.2 A6.3 D2.2	Project execution plan administration Personnel selection (competence, knowledge, awareness) Audit and inspection Review Quality programme
7.3	Revision of the quality plan	A1.1	Project execution plan administration
7.4	Feedback and improvement	A6.3 A6.4	Review Improvement

Appendix 3: Compliance Matrix for NR/L2/ENV/015 Contract Requirements Environment (Mandatory Requirements)

Network Rail: NR/L2/ENV/015		BAM Nuttall Compliance
Clause Ref:	Title	PEP Section
7.1	Requirement and consents	C6.4 Schedule C3.4
7.2	Objectives and targets	A2.4
7.3	Roles and Responsibilities	A2.5.3
7.4	Competence, training and awareness	A2.5.2
7.4.1	Internal Communication	A5
7.5	External Communication & Managing lineside Neighbours	A5.1 A5.4 Schedule A3
7.6	Records and Documentation	A5.7
9.1	General Environmental Management (Works Contract)	C6 Schedule C1 Schedule C2
9.2	Air Quality (Works Contract)	C7.5 Schedule C1
9.3	Archaeology and Culture Heritage (Works Contract)	C7.7 Schedule C1 Schedule C2
9.4	Contaminated Land (Works Contract)	C7.4 Schedule C4
9.5	Ecology (Work Contract)	C7.6 Schedule C1 Schedule C2
9.6	Energy (Works Contract)	C7.8
9.7	Herbicide and Pesticides Application (Work Contract)	C7.1.1
9.8	Landscape (Works Contract)	C7.10
9.9	Lighting (Works Contract)	C7.5 Schedule C1 Schedule C2
9.10	Materials (Works Contract)	C7.9
9.11	Noise and Vibration (Works Contract)	C7.5 Schedule C1 Schedule C2
9.12	Public Highways (Works Contract)	C6.1 Schedule C1 Schedule C2

Network Rail: NR/L2/ENV/015		BAM Nuttall Compliance
Clause Ref:	Title	PEP Section
9.13	Waste (Works Contract)	C7.3 Schedule C5
9.14	Water (Works Contract)	C7.1 Schedule C1 Schedule C2
11.1	Incident Response Plan (Works Contract)	A5.6 Schedule A6
11.2	Incident Reporting (Works Contract)	A5.6 Schedule A6 Schedule C6
11.3	Incident Investigation (Works Contract)	A6.1.3

Appendix 4: Compliance Matrix for NR/L3/INI/CP0028 Issue 3 Contract Requirements Quality (Mandatory Requirements)

Network Rail: NR/L3/INI/CP0028		**BAM Nuttall Compliance**
Clause Ref:	Clause & Title of requirement	PEP Section
6.1	Scope	A2.1
6.2	Quality Objectives	A2.4 A2.6 A4.1
6.3	Management Responsibilities	A2.5. Schedule A1
6.3.1	Project Team Roles & Responsibilities for Quality	A2.5.3 A6.2 A6.3 Schedule A1 Schedule A4 D2.1
6.3.2	Contractor's Quality Representative	A2.5.3 Schedule A1
6.3.3	Authorised Signatories	A2.5.3
6.4	Documentation	A5.7
6.4.1	Internal and External Standards	A5.7 Sectional rail standards
6.4.2	Document Control	A5.7
7.1	Quality Reports	D2.1
7.2	Records	A5.7
7.3	Resources	A2.4
7.3.1	Human Resources	A2.4
7.3.2	Infrastructure & Work Environment	D2.1
7.4	Customer Specifications	A1.1.3
7.4.1	Process Potential Studies	A6.1 A6.2
7.4.2	Process Control Plans	D2.2
7.5	Customer Communication	A5.1
7.6	Design & Development	A4.1
7.6.1	Design & Development Verification	A4.1

Network Rail: NR/L3/INI/CP0028		BAM Nuttall Compliance
Clause Ref:	Clause & Title of requirement	PEP Section
7.6.2	Design & Development Validation	A4.1.1
7.7	Change Management	A5.7.2
7.8	Storage & Handling	A2.6 D3
7.8.1	Identification & Traceability	D2.3
7.8.2	Customer Supplied Product	A2.6.1
7.9	Monitoring & Measurement	A6 D2.3
7.9.1	Statistical Process Control	A6 A6.4
7.9.2	Initial Sample Submission	A2.6
7.9.3	Failure Mode and Effects Analysis	A3.1 A4.3
7.10	Control of Monitoring & Measuring Equipment	A2.7
7.11	Inspection and Test Plans	D2.3
7.12	Audit	A6.2
7.13	Non-conformance Management	A6.1.1

Appendix 5: Work Package Planning Process

Work Package Plan/s will be submitted to Network rail to cover permanent and temporary works as agreed with Network Rail's Designated Project Engineer

1. De-veg requiring on track possession and isolation
2. TBC
3. TBC

Appendix 6: Compliance Matrix for NR/L2/OHS/0044/F01 Construction Phase Plan

Network Rail NR/L2/OHS/0044/F01		BAM Nuttall Compliance (Section)
1	Introduction	A1
1.1	Purpose of the construction phase plan	A1
2	**Planning for the construction phase**	A4.3
2.1	Project specific health and safety goals	A2.4
2.2	Project description and programme details	A2.1
2.3	Services and isolation points	B4.1.1
2.4	Access restrictions	A4.5 Schedule A8
2.5	Asbestos	B3.4 B4.17
2.6	Any line open operations	B4.18
2.7	Temporary works	B4.2
2.8	Construction phase plan review	A6.3.1
3	**Working together**	A2.5.1 A6.3.1 Schedule A1
3.1	Changes to key personnel	A2.5.2 A6.3.1 Schedule A4
3.2	CDM appointments	A2.5.2 A6.3.1 Schedule A4
3.3	Network Rail project organisation	A2.5.1 A5.1 Schedule A1
3.4	Principal Contractor's delivery organisation	A2.5.1 A2.5.2
3.5	Communication during the construction phase	A5
3.6	Exchange of design information	A2.1 A5.2
3.7	Changes to design	A4.1 A5.7.2
4	**Hazard management**	A3.2
4.1	Work involving particular risks	A3.2 A3.3
4.2	Significant construction health and safety risks	A3.2 A3.3
5	**Organise**	D3.2
5.1	Brief outline of work methodology	D3.2
5.2	Management of work package plans	D3.2
5.3	Schedule for the production of work package plans	A4.4 D2.3 Schedule D2
5.4	Site emergency arrangements	A3.4
5.4.1	First aid arrangements	B2.2
5.4.2	Evacuation procedure	A3.4 Schedule A6
5.4.3	Fire safety	B2.1
5.4.4	Security	A2.3
5.4.5	Summoning emergency services	A3.4 Schedule A6

Network Rail NR/L2/OHS/0044/F01		BAM Nuttall Compliance (Section)
5.4.6	Railway emergency (trains and electrical)	A2.1 Schedule A6
5.4.7	Asbestos	B3.4 B4.1
5.4.8	Utilities	B2.3 B4.1
5.4.9	Other emergency arrangements	A3.4 Schedule A6
5.5	Safety and environmental event reporting and recording	A6.2.2
5.6	Site Specific Rules	A5.6 Schedule A5
5.7	Induction	A5.6 Schedule A5
5.8	Welfare	B2.4 Schedule B1
5.9	Monitoring arrangements	A6.2
5.10	Management reporting arrangements	A6.1.2
6	**Health and safety file**	A5.7.1.1
6.1	H&S File	A5.7.1.1
Appendices	Supporting information	Connect Documents manual

Appendix 7: BIM execution plan

Located here:

VNIF-BNL-ZZ-YYY-SP-W-0001

Appendix 8: Air Quality Plan – Extract for Cl 12.137

Additional Mitigation / Enhancement Measures (Application 4)

Demolition and Construction

12.137 Based on the assessment results, mitigation will be required. Recommended mitigation measures appropriate to the identified levels of risk are summarised below and should be implemented by the appointed contractor as part of a Construction Environmental Management Plan (CEMP) or similar, which it is likely will be secured by planning condition.

General Communication

- A stakeholder communications plan that includes community engagement before work commences on site should be developed and implemented.
- The name and contact details of person(s) accountable for air quality and dust issues should be displayed on the site boundary. This may be the environment manager/engineer or the site manager. The head or regional office contact information should also be displayed.

General Dust Management

- A Dust Management Plan (DMP) or CEMP, which may include measures to control other emissions, in addition to the dust and PM_{10} mitigation measures given in this report, should be developed and implemented, and approved by the Local Authority.

Site Management

- All dust and air quality complaints should be recorded, and causes identified. Appropriate remedial action should be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence.
- The complaints log should be made available to the local authority on request.
- Any exceptional incidents that cause dust and/or air emissions, either on- or offsite should be recorded, and then the action taken to resolve the situation recorded in the log-book.
- Regular liaison meetings with other high risk construction sites within 500m of the site boundary should be held, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.

Monitoring

- Daily on-site and off-site visual inspections should be undertaken, where receptors (including roads) are nearby, to monitor dust. The inspection results should be recorded and made available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary.

- It is recommended that at least one visual inspection be undertaken per day. However, the frequency of site inspections should be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- The need or otherwise for site specific monitoring (e.g. dust deposition, dust flux, or real-time PM_{10} continuous monitoring) should be discussed and agreed with the Local Authority. If required, baseline monitoring may also need to be undertaken up to three months before work commences on site.

Preparing and maintaining the site

- Plan the site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.
- Where practicable, erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Where practicable, fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover appropriately.
- Where practicable, cover, seed or fence stockpiles to prevent wind whipping.

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste management

- Avoid bonfires and burning of waste materials.

Measures Specific to Demolition

- Where possible, soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- Ensure effective water suppression is used during demolition operations. Hand-held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Where practicable, only remove the cover in small areas during work and not all at once.
- Stockpile surface areas should be minimised (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up.
- Where practicable, windbreak netting/screening should be positioned around material stockpiles and vehicle loading/unloading areas, as well as exposed excavation and material handling operations, to provide a physical barrier between the Application Site and the surroundings.
- Where practicable, stockpiles of soils and materials should be located as far as possible from sensitive properties, taking account of the prevailing wind direction.
- During dry or windy weather, material stockpiles and exposed surfaces should be dampened down using a water spray to minimise the potential for wind pick-up. Measures Specific to Construction
- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.

- All construction plant and equipment should be maintained in good working order and not left running when not in use.

Measures Specific to Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being in frequent use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. Record all inspections of haul routes and any subsequent action in a site log book.
- Where practicable, hard surfaced haul routes should be installed, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10m from receptors where possible.

Operating vehicle/machinery, construction traffic and sustainable travel

- Ensure all vehicle operators switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- A maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas should be imposed (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Identified routes for construction traffic should be agreed with the local authority prior to the commencement of works to reduce the likelihood of construction vehicles passing along sensitive roads.
- A Construction Traffic Management Plan (CTMP) and/or a Construction Logistics Plan (CLP) will be produced to manage construction traffic and the sustainable delivery of goods and materials.
- In addition, an Employee Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing) should be developed and implemented.
- Timing of large-scale vehicle movements to avoid peak hours on the local road network would also be beneficial.