

Echo Street, Manchester
Environmental Statement Volume 3:
Environmental Management Plan

April 2023

Turley

1. This document provides a summary of all the mitigation measures identified during the EIA process in order to manage the environmental effects during the construction and operational stages of the Proposed Scheme, and to establish a suitable mechanism to secure and deliver mitigation. This document should be read in conjunction with **Volume 1: Primary Report and Supporting Graphics; Volume 2: Technical Appendices; and Volume 4: Non-Technical Summary.**
2. As set out in **Volume 1, Chapter 2: Approach to EIA**, the EIA has considered primary, secondary and tertiary mitigation in line with the Institute of Environmental Management & Assessment's (IEMA) Environmental Impact Assessment Guide to Delivering Quality Development^a. These are defined as follows:
 - **Primary** – modifications to the location or design of the Proposed Scheme made during the pre-application stage that are an inherent part of the project;
 - **Secondary** – actions that will require further activity in order to achieve the anticipated outcome; and
 - **Tertiary** – actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislation requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
3. All primary, secondary and tertiary mitigation referenced throughout the Environmental Statement (ES) has been collated and is summarised in the EMP (**Table 1**).
4. Each of the **Volume 1, Technical Chapters 6 – 12** have considered primary and tertiary mitigation prior to undertaking the assessment of likely significant effects. Following the conclusion of effects based on the Proposed Scheme, any further mitigation measures or monitoring arrangements (i.e. secondary mitigation or enhancement) have been detailed.
5. It should be noted that, given the definition of primary mitigation and the fact that the measures are inherent to the Proposed Scheme, all primary mitigation is to be secured through the plans submitted for approval (**Volume 1, Figures 4.1 – 4.54**); **Volume 1, Chapter 4: Development Specification** and any associated strategies / principles referenced in **Volume 1, Chapter 4: Development Specification** that are submitted in support of the ES or the Application.
6. The mitigation relied upon to 'scope out' environmental topics as part of the EIA Scoping Report (**Volume 2, Appendix 2.1**) is also included within the EMP (**Table 1**).
7. With respect to secondary mitigation, it is assumed these measures will be secured either through appropriately worded condition and / or Section 106 agreement as determined by Manchester City Council (MCC), as the determining authority.

^a IEMA (2016). EIA Guide to Delivering Quality Development.

Table 1: Environmental Management Plan

Ref. Primary Mitigation	
All forms of primary mitigation are based on the description of the Proposed Scheme set out in Volume 1, Chapter 4: Development Specification and the plans as set out in Volume 1, Figures 4.1 – 4.54 , which the Proposed Scheme will be delivered in accordance with.	
Building heights and layout	
P1	Built form will be across interlinked three blocks which will be stepped in height, with height increasing away from Vimto Park to the west. Courtyards will be located between the blocks on ground floor.
P2	The maximum building heights will be as follows: - Block A: Parapet Level +94.040 AOD - Block B: Parapet Level +111.680 AOD - Block C: Parapet Level +129.320 AOD GF entrance level is +41.300 AOD. A trolley system will be in place and extend 300mm above the parapet levels of each block.
Building design	
P3	The scale and architectural design of the building reflect its status as a landmark development at a gateway site to the city, contributing positively to defining and reinforcing landscape character.
P4	The Proposed Scheme creates a positive relationship with Granby Street and Vimto Park, with all ‘back of house’ facilities including plant rooms located on the lower ground floor. The ground floor provides active uses which provide animation at street level and contribute positively to townscape character and avoid the previous poor relationship between the built form and the street typical of previous development on the Site.
P5	Materials take reference from the surrounding context, with red/purple brick cladding which is complementary to the colours present within the Whitworth Street Conservation Area setting, positively reinforcing townscape character.

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

- P6 The connecting blocks will be clad in a glass reinforced concrete panel to reflect the glazed white bricks and modernist buildings locally to complement the character and appearance of the Whitworth Street Conservation Area.
- P7 50% porous vertical screen, acting as a gate, extending parallel to the Proposed Scheme façade on the pedestrian level of Echo Street towards the railway viaduct.

Public realm and landscape strategy

- P8 Landscaping / open space will be provided in the private courtyards between the main blocks and the public realm surrounding the building (Granby Row and Echo Street).
- P9 The Proposed Scheme will focus on pedestrian use, including general resurfacing, with lowered kerbs, widening of the pavement and localized tree planting along Granby Row extending to the boundary with Vimto Park.
- P10 Courtyards will include multi stem shade tolerant species, on raised planters, complemented with lightweight furniture and catenary lights. In addition, one of the courtyards will provide means of escape from the central block.
- P11 The landscape proposals will seek to maximise the ecological value of the Site through the provision of native and/or wildlife friendly landscape planting. This will provide a green space within the site and will subsequently provide new and enhanced opportunities for faunal species. This will include the selection of climate change tolerant species as part of the projects' biodiversity strategy.
- P12 New areas of public realm and roof gardens enhance biodiversity and provide sustainable drainage as well as amenity benefits for residents. The works would also contribute positively to townscape character.

Access, movement and parking

- P13 The Proposed Scheme will be car-free and provide no on-site car parking. As part of improvements to public realm, there will be a reconfiguration of the existing on-street public parking bays on Granby Row and their number will reduce from thirteen to eight. Two of the spaces will be wheelchair accessible spaces. The spaces will remain as pay and display.

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

- P14 A service access will be provided from Echo Street to facilitate maintenance / service access for Network Rail however this will be an occasional occurrence. A new loading bay is proposed on Echo Street to accommodate servicing and delivery activity generated by the Proposed Scheme.
-
- P15 Cycle parking for the Proposed Scheme will be provided within a secure and covered cycle store. 305 long-stay cycle spaces will be provided. Short-stay cycle spaces will also be provided with Sheffield stands within the public realm.
Cyclists will be able to access the cycle store through the main entrance on Granby Row or via the service ramp onto Echo Street.
-
- P16 Pedestrian access to the buildings will be from Echo Street/Granby Row and Vimto Gardens.
-
- P17 In addition to widened footways, the Proposed Scheme would deliver widened footways on Granby Row and raised table crossing features on Granby Row to assist more convenient crossing for pedestrians. Such improvements will enhance the environment for pedestrians and cyclists, helping to encourage and facilitate active travel.
-
- P18 The Applicant will have a management plan in place on these days to help control the movement of vehicles around the area to minimise the potential for any disruption to the operation of the highway.
-

Surface water drainage strategy

- P19 New drainage will be designed in accordance with current best practice to provide adequate capacity not to flood for the critical 1 in 30-year storm event. Any flood water generated for up to the critical 1 in 100-year plus climate change storm event will be contained within the curtilage of the Site so not to cause damage to buildings, essential services or adjoining developments and services.
-
- P20 The proposed surface water drainage will not increase the runoff rate and will include an allowance for climate change in accordance with relevant guidance^b.
-

^b Flood risk assessments: climate change allowances (2022). Available at: [Flood risk assessments: climate change allowances - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/flood-risk-assessments-climate-change-allowances)

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

- P21 The proposed drainage system will be designed in accordance with BS EN 752:2017 and Sustainable Drainage Systems (SuDS) will be incorporated into the surface water drainage network, in accordance with CIRIA 753 – The SuDS Manual^c where practical.
-
- P22 In line with MCC guidance, the Proposed Scheme will seek to achieve a minimum reduction in surface water runoff rates of 50% for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, considering climate change.
-
- P23 The proposed surface water drainage system will be designed to comply with the minimum reduction of flows set by the Lead Local Flood Authority (MCC) and provide capacity to accommodate the volumes generated for up to the 100-year storm event with an allowance for 45% increase rainfall. Climate change allowances are in accordance with current requirements for the Irwell Management Catchment.
-
- P24 The Proposed Scheme will not increase surface water flooding and will include proposals for a robust foul and surface water drainage system including assessment against the Sustainable Drainage hierarchy and necessary capacity to accommodate volumes generated including anticipated increases in rainfall due to climate change for the lifetime of the development.
-
- P25 The proposed drainage solution will remove 100% of the existing surface water flows discharging to the existing combined sewer network and discharge proposed surface water flows to the existing surface water sewer network at a maximum of 50% of existing flows.
-
- P26 The proposed connection to the public sewer system will be subject to agreement with United Utilities under a Section 106 Agreement.
-
- P27 A petrol interceptor or filter chamber will be required within the drainage system to serve the external access ramp prior to discharge off site.
-

Foul water strategy

^c CIRIA (2015). The SuDS Manual C753. Available at: [SuDS Manual C753 Chapter List \(ciria.org\)](https://www.ciria.org/publications/ciria-753-the-suds-manual)

Ref. **Primary Mitigation**

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

P28 The proposed drainage system will be designed in accordance with BS EN 752:2017, Building Regulation Approved Document Part H.

P20 The proposed foul drainage will utilise existing connections off site where possible and it is currently proposed to discharge via the existing connection into the combined sewer in Echo Street and the existing combined sewer in Granby Row.

P30 The proposed connections to the public sewer system will be subject to agreement with United Utilities under a Section 106 Agreement.

Potable water strategy

P31 Measures to reduce water consumption, including the provision of water efficient fixtures and fittings, i.e. low flow taps and low water use WCs will be implemented.

P32 Mains cold water (MCWS) shall connect from the water authority termination point at the Site perimeter and extended to the new incoming position within the tank room in the basement, to serve the cold-water storage tank. From the cold-water storage tank, boosted cold water shall be distributed to serve water around the building including all domestic water outlets and external bib taps.

P33 Double Check Valves and pressure reducing valves shall be provided on each shower room pod to prevent backflow of water between pods and to regulate pressure.

Lighting strategy

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

P34 All lighting installations will meet Institute of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light 2021^d, British Standard 5489-1:2020^e; BS EN 13201-2 – Road lighting^f, and BS EN 12464-2 – Lighting of Work Places^g.

P35 The proposed lighting strategy will have a range of luminaries in response to the different areas, with the aim of achieving a unified palette across the Site. The strategy shows the general arrangement and type of fittings proposed and will be subject to detailed LUX level calculations in conjunction with the activity within the areas.

P36 The key principles of the strategy include:

- Using low level luminaries to minimise light spill to neighbouring properties;
- To create a safe environment for students, staff, visitors and those living and using the local area; and
- Reduce energy consumption.

P37 LED lighting modules will be incorporated throughout the scheme and levels of automatic control. LED lamps will be used throughout and fittings within the student accommodation will have an efficacy no less than 125Lm/W. The student bedrooms will have manual switching to reflect the domestic nature of the rooms. Circulation spaces will be controlled via presence detection, with lamp efficacies no less than 125Lm/W. Student communal and ancillary spaces will be controlled by a combination of switching and presence detection, with daylight compensating controls. Lamp efficacies will be no less than 125Lm/W.

P38 The Proposed Scheme will achieve 100% energy efficient fittings throughout with a good level of automatic lighting controls.

^d Institute for Lighting Professionals (2021). Guidance Note 01/21 for the Reduction of Obtrusive Light.

^e British Standard (2020). 5489-1:2020 Design of road lighting. Lighting of roads and public amenity areas. Code of practice.

^f BS EN 13201-2:2015 Road Lighting Performance Requirements (2016)

^g BS EN 12464-2:2014 Light and Lighting – lighting of work places. Outdoor work Places (2014)

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

Waste strategy

-
- P39 Appropriate provision for waste storage and handling facilities/areas, inclusive of areas for segregation of waste and recycling will be provided. It is assumed that all waste storage/handling facilities will be designed in accordance with British Standard (BS) 5906:2005 Waste Management in Building – Code of Practice.
-

Building safety

-
- P40 The final building management company will have in place the required emergency producers/practices (i.e. Fire Emergency Evacuation Plan (FEPP)) or apparatus/instruments (i.e. smoke detectors/sprinklers) required by law for these uses. In addition, the buildings will be designed, in line with Building Regulations Approved Document D: Fire Safety, with appropriate fire preventative measures (i.e. fire doors, extinguishers etc.) and all external façades and materials will meet the necessary fire resistance standards set out within Building Regulations and by law.
-
- P41 The design of the Proposed Scheme will be informed by ‘Secure by Design’ principles and appropriate design and site management measures (including appropriate lighting and digital entry systems at each building).
-
- P42 Plant rooms and equipment will be designed to contain any spills through bunds and prevent infiltration into ground. It is currently proposed that plant will be housed in the basement which will have a concrete floor.
-

Water efficiency

-
- P43 Measures to reduce water consumption, including the provision of water efficient fixtures and fittings, i.e. low flow taps and low water use WCs.
-

Air quality

-
- P44 NO_x filters will be installed in some rooms on the second, third and fourth floor levels.
-

Life Cycle Assessment

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

P45 A range of measures will be implemented which will reduce construction and embodied carbon. These measures are set out in the BREEAM Life Cycle Assessment (LCA) report and include:

- 25% GGBS within concrete for the ground floor slab, ground beams, pilecaps and core bases;
- 98% recycled steel for the rebar.

Energy Strategy

P46 All electric development with no fossil fuels used on-site, with wall mounted electric panel heaters and high levels of insulation.

P47 The communal areas at ground floor level will be served by an air source heat pump simultaneous heating and cooling Variable Refrigerant Volume system. The escape lobby and corridor areas will be served by a wet heating system to be compliant with BS7671 Requirements for Electrical Installations. The heat for the wet system will be generated via an air source heat pump technology with distribution pipework.

P48 The communal areas at ground floor level are served by air source heat pump simultaneous heating and cooling VRV system which is 300% plus efficient, these units offer high efficiencies by recovering heat from the external air during the winter months. In the warmer months, the units provide cooling to areas to mitigate the risk of overheating due to the internal heat gains within the space.

P49 The building is intended to be robust and durable with design service life with energy usage during the life of the building being of primary concern in the design. The building is to be designed to meet local planning policy in terms of energy usage and carbon emissions. The building envelope will be required to perform better than the limiting values as stated within the current building regulations Part L 2021.

P50 Enhanced fabric performance (U values, air tightness and thermal bridging).

P51 Energy efficient building services including heating, ventilation, lighting and controls.

P52 Air source heat pump (AHSP) serving the communal areas at ground floor level as well as generating domestic hot water.

P53 Provision of 100% low-energy lighting.

Ref. Primary Mitigation

All forms of primary mitigation are based on the description of the Proposed Scheme set out in **Volume 1, Chapter 4: Development Specification** and the plans as set out in **Volume 1, Figures 4.1 – 4.54**, which the Proposed Scheme will be delivered in accordance with.

- P54 For space heating within the accommodation space, wall mounted electrical control panels will provide highly efficient heating to the space. The communal areas at ground floor level are served by an air source heat pump (ASHP) simultaneous heating and cooling VRV system which is 300% plus efficient, these units offer high efficiencies by recovering heat from the external air during the winter months. In the warmer months, the units provide cooling to the area to mitigate the risk of overheating due to the internal heat gains within the space.
- P55 Domestic hot water for the building will be generated by ASHP. They will be located at roof level and remain serviceable and easy to maintain or replace at end of life.

Overheating / ventilation

- P56 All of the space will be ventilated using highly efficient heat recovery mechanical ventilation units in each accommodation space with local control.
- P57 Bedrooms, bathrooms, and common areas mechanical ventilation plant will incorporate high efficiency heat reclaim technology to recover approximately 90% of waste heat from the building exhaust stale air and use it to pre-warm the building fresh air supply. System resistances will be carefully controlled to ensure that excessive energy is not consumed by the introduction of the heat exchange system therefore keeping fan power to a minimum. The accommodation areas will be provided with their own individual ventilation system with heat reclaim technology. The ventilation systems will each use dedicated Mechanical Ventilation with Heat Recovery (MVHR). Summer bypass facilities will be provided to ensure over heating does not occur during mid-season and summer months.
- P58 The ventilation philosophy for the scheme is that the MVHR units provide a constant background (minimum) fresh air rate. This will meet the needs of the building regulations for shower and WC facilities, by providing extract from the bathroom pods. The supply air is provided into the bedroom area which will make up air for the extract within the bathroom pod but also maintains a minimum fresh air within the bedroom at all times and ensures that internal air quality is always maintained. In terms of overheating, the MVHR will have an increase ventilation rate during the warmer months and summer to meet both the overheating criteria. The MVHR shall also have the capability to increase it flow to achieve 4 air changes per hour for purge as required by the building regulation.

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

Construction Environmental Management Plan (CEMP)

- T1 A CEMP will be prepared by the appointed contractor in advance of commencing construction works. The document will provide detailed measures / controls to avoid and manage potential adverse effects upon the environment during the construction stage. Measures will include:

General Measures

- T2 The proposed construction works will be carried out by a competent contractor that will comply with current legislation^h.
- T3 The site security arrangements for the Proposed Scheme during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015 and appropriate levels of security (personnel / CCTV) will be provided.
- T4 Construction working hoursⁱ (noisy work) will be 07:30 to 18:00 Monday to Friday; 08:30 to 14:00 on Saturday; and no noisy work on Sundays and Bank Holidays. Operations outside of these hours will be agreed with MCC.
- T5 Climate change adaptation measures will be set out to reduce risks to human health from overheating such as provision of shaded refuges to reduce overheating risks, and potable water supplies to avoid dehydration.
- T6 Provision of protective fencing to be installed prior to construction, including 3m high Site hoarding lines.
- T7 All measures will accord with best practice in accordance with the Considerate Contractors Scheme and Site handbook.

Traffic

^h This includes the Health and Safety at Work etc. Act 1974; the Control of Pollution Act 1974; and Construction (Design and Management) Regulations 2015.

ⁱ Manchester City Council. Tackle a noise problem – Noise from building sites. Available at: [Noise from building sites | Tackle a noise problem | Manchester City Council](#) [Accessed: 14/12/2022].

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

T8 The CEMP will manage construction traffic in the area (through the inclusion of a Construction Traffic Management Plan/Construction Logistics Plan), seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems, proposed routing of construction stage traffic and measures to ensure routing (i.e. appropriate signage).

A Construction Logistics Plan has been prepared and submitted with the Application (**Appendix 2.3**). This includes details of the traffic management during the construction stage and will control traffic movements, including flows, parking, deliveries, signage, closures, traffic redistribution.

T9 Safe pedestrian routes maintained along Granby Row.

T10 Site exit managed to keep clear of debris, mud and materials.

T11 Reuse of materials on site to avoid traffic movements.

T12 Most traffic and deliveries to the Site will arrive from the A6 and Fairfield Street, with access via the main entrance at Back Acton Street and egress via the main exit at Cobourg Street i.e. there will be a one-way system in place close to the Site.

Air Quality

T13 The CEMP will be informed by Institute of Air Quality Management (IAQM) guidance^j and would include prevention measures, such as screening stockpiles of materials, deployment of windbreak netting and dampening exposed soils as appropriate and set out requirements for ongoing monitoring and liaison with the local community, and MCC.

T14 Measures to control emissions from non-road mobile machinery, such as the use of emission standards for NRMM based on engine size.

Noise and Vibration

^j IAQM (2014). Assessment of dust from demolition and construction v1.1 Available at [construction-dust-2014.pdf \(iaqm.co.uk\)](https://iaqm.co.uk/construction-dust-2014.pdf) [Accessed 17/1/2023].

Ref. Tertiary mitigation

Tertiary mitigation presented below has been collated from the EIA Scoping Report (Volume 2, Appendix 2.1), Chapter 4: Development Specification and Technical Chapters 6 – 12.

T15 Controls implemented in accordance with BS5288-1:2014^k, including site hoardings, hours of operation, and the use of practicable measures to control noise at source.

T16 Controls implemented in accordance with BS5288-2:2014^l, including the use of low-vibration working methods, such as continuous flight auger (CFA) and reasonable hours of working (see hours above, under General Measures).

T17 Maintain good road surfaces.

Lighting

T18 Lighting will be controlled through a series of best practice measures, in line with lighting industry standards and guidance including the CIE publication 'Technical Report Document 129^m and BS EN 12464-2:2014ⁿ.

T19 The following measures are proposed in order to control Light Spill, Glare and Sky Glow effects and thus manage light pollution:

- Where practicable, construction lighting in the Site would be designed to comply with Environmental Zone E4 in accordance with the ILP Guidance Note GN01^o;
- Illuminance levels arising from temporary lighting to be designed in accordance with BS EN 12464-2: 2014 and CIE 129;

^k BSI Standards Publications (2014). BS5228-1:A1:2014: available at <https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard> [Accessed 13/1/2023].

^l BSI Standards Publications (2014) BS5228-2:A1:2014: available at <https://knowledge.bsigroup.com/product/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard> [Accessed on 13/1/2023].

^m CIE - Technical Report Document 129 (1998) Guide for Lighting Exterior Work Areas.

ⁿ British Standards (2014) BS EN 12464-2 – Lighting of Work Places – Part 2: Outdoor Work Places.

^o Institute of Lighting Professionals (ILP) (2021) Guidance Notes for the Reduction of Obtrusive Light (GN01).

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

- Placement of temporary lighting required to ensure safe working conditions and to maintain security, to have due regard of sensitive receptors (i.e. occupied residential premises);
- Lighting to be directed so as avoid unnecessary Light Spill outside of construction areas and to ensure that the light distribution is toward the task area;
- Lighting to be switched off when not required for safe working conditions and Site security;
- Use of light shields/baffles to control upward light to within the maximum 15% set out in the ILP Guidance Note GN01, where possible;
- Lighting to be kept at 0° tilt to avoid Sky Glow, where practicable; and
- Light dimming and automatic switch off would be used (where appropriate).

Waste

T20 The CEMP will be informed by the waste provisions of the Environmental Protection Act 1990^p and the Environmental Protection (Duty of Care) Regulations 1991^q and will set out the principles and legal requirements relating to waste, including any hazardous waste that is encountered and required to be exported off-site for disposal.

^p Environmental Protection Act 1990 No. 43 Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [Accessed: 18/01/2023].

^q Environmental Protection (Duty of Care) Regulations 1991 No. 2839. Available at: <https://www.legislation.gov.uk/uksi/1991/2839/made#:~:text=The%20duty%20requires%20such%20persons,person%20or%20to%20a%20person> [Accessed: 18/01/2023].

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

T21 The CEMP will also describe how materials will be managed efficiently and disposed of legally during construction. It will also outline the aims, objectives and on-going management responsibilities, including management practices, to be implemented during the construction stage, and will set targets for the reduction, diversion from landfill and reuse of waste.

T22 Hazardous waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The Hazardous Waste (England and Wales) Regulations 2005.

Ground and Earthworks

T23 All earthworks and foundation design will be in accordance with relevant industry guidance, including but not limited to CIRIA Report C572: Treated ground engineering properties and performance^r, British Research Establishment document FB75: Building on Fill - Geotechnical Aspects^s and British Standard 6031:2009: Code of Practice for Earthworks^t.

T24 Measures to protect construction workers, neighbours and general public passing by from exposure to any contaminated material which is encountered including (but not be limited to); dust suppression methods, ensuring covered wagons transport material and ensuring suitable PPE is provided and worn on site.

T25 Fuels, oils and hazardous substances used in construction will need to be suitably stored and banded containers with spill kits easily accessible.

T26 A Piling Risk Assessment will be undertaken for any further piling works that are required.

T27 Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.

T28 In medium risk area of UXO the following will be undertaken:

^r CIRIA (2002). Report C572: Treated ground engineering properties and performance.

^s British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.

^t British Standard (2009). 6031:2009: Code of Practice for Earthworks.

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

- Open Intrusive Works (trial pits, service pits, open excavations, shallow foundations etc.);
- UXO Specialist On-site Support and Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works; and
- Boreholes – Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth.

Water

T29 The monitoring and setting of targets to reduce water use.

T30 A Surface Water Management Plan (in accordance with best practice guidance such as The SuDS Manual (C753)^u and BS8582:2013 Code of practice for surface water management for development sites^v) will be established. This will include the installation of a temporary drainage system to collect and contain run-off including any discharge agreements with the local sewer authority and measures to protect the Site from increased risk of flooding during construction, for example compounds storage compounds with raised levels and temporary drainage; and drainage and pollution prevention systems.

T31 Introduction of perimeter cut off drains to prevent overland run-off and additional interceptors for pollution and debris collection if required.

T32 Bowsers to be in place for potable water requirements until a permeant solution is in place.

^u CIRIA (2015). The SuDS Manual (C753).

^v BSI (2013). BS8582:2013 Code of practice for surface water management for development sites. Available at: [BS 8582:2013 | 30 Nov 2013 | BSI Knowledge \(bsigroup.com\)](#)

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

- | | |
|-----|--|
| T33 | Measures to limit the amount of silt and other pollutants that are able to reach the existing sewer infrastructure. Silt will be controlled using traps and measures implemented to reduce the amount of material that could be washed into the Watercourse via overland flows. The use of cut off trenches to intercept the overland flow routes will also prevent pollution. |
| T34 | Designation of specific areas where refuelling and maintenance occurs. |
| T35 | Storage of materials will be located an appropriate distance away from the watercourse to ensure there is limited flow routes for contamination to use to get the existing sewer infrastructure. |

Remediation Strategy

- | | |
|-----|---|
| T36 | In the event that contamination is identified, a programme of mitigation or remediation work will be carried out as part of the enabling works in line with a Remediation Strategy approved by the regulators and MCC. Recommended remediation is likely to comprise inclusion of an engineered capping layer of clean soils in soft landscaped areas to ensure the end users do not come into contact with contaminated soils. |
| T37 | Quantitative risk assessments will be reviewed and revised in respect to contamination and ground gas. Where revised quantitative risk assessments identify an elevated risk, design and implementation of any remedial measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination. Requirements would be detailed in a Phase 3 Remediation report Strategy and records of completion included in a Phase 4 verification report. |
| T38 | The implementation of any gas protection measures (e.g gas resistant membrane) will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination will be identified. |
| T39 | A United Utilities water supply pipe risk assessment will be undertaken to further assess the risk of contaminants entering the water supply prior to installation of water supply pipes. Remediation measures where required would entail ensuring contaminant resistant water supply pipes are used (known as barrier pipe) to prevent migration of contamination into water supply pipes. |

Ref. **Tertiary mitigation**

Tertiary mitigation presented below has been collated from the EIA Scoping Report (**Volume 2, Appendix 2.1**), **Chapter 4: Development Specification and Technical Chapters 6 – 12**.

TV Reception

T40 If TV interference is reported, one or a combination of the following measures would be implemented:

- Replacement of receiving aerial with a more directional or higher gain, aerial;
- Repositioning the receiving aerial so that the received signal is stronger; and
- Replacing terrestrial reception equipment with satellite or cable reception equipment.

Foundation Design

T41 Consideration of The Building Regulations^w to consider the impact of ground movement in foundation design.

Potable water strategy

T42 A new supply enquiry will be required with United Utilities to determine whether the existing infrastructure has sufficient capacity or whether reinforcements are required. United Utilities will adequately assess the needs of the network to ensure their infrastructure is sufficient to accommodate the needs of the existing supply chain and future demand.

^whttps://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/540328/BR_PDF_AD_L2A_2013_with_2016_amendments.pdf

Ref **Secondary Mitigation**

Full detail is outlined in **Technical Chapters 6 – 12**. These are broadly in topic order.

Daylight, Sunlight, Overshadowing and Solar Glare

- S1 A detailed solar glare intensity assessment will be prepared (secured by condition) and agreed upon prior to installation of the facades. The detailed solar glare intensity assessment report will demonstrate that any reflections occurring from the Proposed Scheme have been mitigated to ensure they are not a safety concern.
- Effective secondary mitigation for this scheme would likely comprise low reflection glazing which would act to reduce the intensity of the reflections and consequently reduce solar glare effects. Low reflectance glazing is required to the eastern elevation of Block C and the western elevations of Blocks A (all floors), B (upper floors only) and C (upper floors only).

Noise and Vibration

- S2 Appropriate design and selection of fixed plant equipment at the Site to achieve MCC and BREEAM plant noise limits at sensitive receptors will be carried out as the scheme is developed. This will typically be secured by use of an appropriately worded planning condition.
-

Turley Office

1 New York Street
Manchester
M1 4HD

T 0161 233 7676

Turley