

Draft Construction Management Plan

ASM Global recognises the need to protect the environment, to minimise the environmental impact of its activities, and to maximize the sustainability of its projects.

The purpose of this document is to provide an initial proposal prior to the appointment of a selected contractor for Phase 1 of the Manchester Arena transformation works. It will be the responsibility of the appointed contractor to develop this document as the construction phase plan under the CDM Regulations 2015 and seek approval from the Principle Designer. It is anticipated that the submission of a detailed Construction Management Plan will be secured by condition on any planning consent.

Environmental Communication and Liaison

Internal and onsite communications

Internal communication and discussion of environmental issues, will be undertaken during the following Project Team meetings:

- Contractor internal meetings
- Monthly progress meetings with the Client / Clients Agent
- Monthly progress meetings with the Design Team
- Progress meetings with the Subcontractors

Onsite communication of environmental issues, will be undertaken through the following means:

- Site Induction
- Environmental section of Site Notice Board
- Environmental toolbox talks given to site operatives by the sub-contractors
- As part of a quarterly community newsletter

The following reports will also be produced, which will communicate environmental issues and data:

- Project Sustainability Report
- Site Waste Management Plan
- Monthly Progress Report to the Client / Clients Agent (within which environmental performance data will be included).

Communication and liaison with the public

ASM recognises that it is important to communicate and liaise with the general public and local community, and will therefore:

- Nominate a "Community Liaison Manager" who will engage with the local community.
- Liaise with Manchester City Council, to assist with actioning any complaints received, and maintaining good relationships with the local community.
- Distribute a quarterly newsletter to local residents and businesses, and display on an information board on the site hoarding for the general public, to update them on the works, and provide the contractor's contact details in case of queries, complaints, etc.
- ASM have identified the families of the victims and the survivors of the May 17 attack as an interested group, who's queries will be responded to as required

Communication and liaison with other external stakeholders

ASM have identified the following external stakeholders, who will need to be contacted and advised at times during the course of the project:

- Environment Agency
- Manchester City Council, including their Environmental Health Services department

Site Specific Environmental Control Measures

This section lists the environmental and sustainability control measures will be implemented on the project, to ensure that associated risks are minimised, and opportunities maximised, during construction.

Sub-contractors will be required to demonstrate that they adhere to these control measures and the associated requirements.

Sub-contractors will also be required to ensure that all their personnel are made aware of the above requirements, through including specific details within their Method Statements, and communicating these through briefings and/or training.

The control measures have been categorised under the following headings, which relate to issues specific to the project:

- Natural Environment – pollution, biodiversity
- Resource Management – materials, carbon, water, waste
- Community – nuisance, community engagement, local employment, local spend

Natural Environment - Pollution

It is recognised that the construction works could potentially cause pollution to the following:

- Ground
- Air
- Drainage systems

To ensure that pollution is prevented, the following best practice will be implemented:

Prior to works commencing on site

- A “**Remediation Strategy**” will be produced, to confirm how any existing contamination uncovered in the ground will be handled, stored, treated, etc, to ensure that it does not transfer to, and potentially pollute, existing drainage and/or waste management facilities. With regard to the latter, WAC tests will be carried out to identify whether excess excavated material is classed as hazardous or non-hazardous.
- Sub-contractors will be advised that there may be the potential for contamination to exist in the ground (associated with its previous uses), and that their methods of work should acknowledge this, such that there is no transfer of the pollution.
- A “**Site Drainage Plan**” will be made available to all site personnel, so that the location of existing drainage, material, fuel and waste storage areas, and spill kits, can be acknowledged.
- The contractor will obtain a foul water discharge consent for the site toilets and for any de-watering (or similar) exercises required.
- The contractor will ensure that measures to prevent pollution are included in sub-contractor Method Statements, and that these reflect the advice given in the following Environment Agency Pollution Prevention Guidelines:
 - PPG1 – General guide to the prevention of pollution
 - PPG2 – Above ground oil storage tanks
 - PPG5 – Works and maintenance in or near water
 - PPG6 – Working at demolition and construction sites
 - PPG7 – Refuelling facilities
- The content of the “**Environmental Emergency Preparedness Plan**” will be implemented ahead of works commencing on site, to ensure that the potential for pollution is minimised.
- All project personnel will attend the Site Induction, which will include information on pollution issues relevant to the project.
- The project workforce will be given toolbox talks, where appropriate, on preventing potential pollution, e.g.
 - Construction Confederation TBT PP2 – Cement and Concrete
 - Construction Confederation TBT PP3 – Fuel and Oil
 - Construction Confederation TBT PP5 – Silt
 - Construction Confederation TBT PP6 – Spill Control
 - Construction Confederation TBT PP7 – Washing Down Plant and Machinery

During the works

- Excess concrete disposal, and concrete washout, will either be carried out off-site back at the concrete batching plant, or in a designated and suitable area on site, which has been established such so as to prevent pollution to the ground or drainage systems.
- Stockpiles of excavated material will be located, constructed and / or covered so as to prevent silt run-off.
- The storage of fuel on site will be minimised. Any fuel that is stored on site, will be contained within suitably integrally bunded tanks, and located away from drainage system gullies and manholes.
- Likewise, chemicals, oils, etc will also be appropriately stored away from drainage system gullies and manholes.
- Drip trays will be utilised under static plant where deemed a requirement.
- Spill kits will be provided where there is a risk of spillage, e.g. with fuel bowsers and items of plant.
- Settlement tanks will be utilised when discharging surface water, to remove suspended solids.
- Burning on site will not be allowed.
- Smoking on site will not be allowed.
- Pollution incidents will be managed in accordance with the ***“Environmental Emergency Preparedness Plan”***.
- Pollution incidents will be recorded, investigated and measures implemented to prevent re-occurrence.
- The use of ODS's or Fluorinated gases, or equipment / components containing these, will be strictly controlled on the project.

Natural Environment - Ecology

Whilst there is minimal existing ecology on site, it is recognised that existing habitats and wildlife species from the surrounding areas will still need to be considered.

Proposed actions will include:

- Constructing the site hoarding appropriately, such so as to prevent animal species from entering site.
- Ensuring that the Site Induction includes information relating to the identification and protection of ecology, and that all site personnel attend the Site Induction.
- Ensuring that site personnel receive additional training (e.g. toolbox talks), where there are specific ecology issues relating to their works.
- Ensuring that subcontractor Method Statements include environmental control measures, where there are ecology issues relating to their works.
- Ensuring that any removal of vegetation is undertaken outside of the bird nesting season (March to September inclusive).
- Contacting a suitably qualified Ecologist, Statutory Nature Conservation Organisation (SNCO) or the RSPCA, if any animals are caught or found on site to ensure safe removal and relocation.

Resource Management - Materials

In accordance with the Contractor's Sustainability Policy and its Sustainability Objectives and Targets, the Contractor will seek to ensure that building materials are responsibly sourced and procured.

Particular attention will be made to ensure that:

- The following key building materials are responsibly and legally sourced, with suppliers Chain of Custody certificates, ISO 14001 certificates, BES 6001 certificates, etc made available:
 - Timber
 - Concrete
 - Plasterboard
 - Bricks
 - Blocks
 - Aggregates
 - Steel
 - Stone
 - Insulation
 - Glass
- Where financially viable, and within the constraints of the specification, materials with a recycled content are procured, and recorded in a 'Material Toolkit' site spreadsheet.
- Where financially viable, and within the constraints of the specification, materials are sourced locally.
- Where financially viable, and within the constraints of the specification, finishing materials sourced are deemed “healthy” (i.e. having zero or low VOC and formaldehyde levels, in accordance with the Dangerous Substances Directive).

Resource Management - Energy

In accordance with the Contractor's Sustainability Policy and its Sustainability Objectives and Targets, the contractor will seek to minimise its energy use on the project.

Proposed actions will include:

- Monitoring consumption against set targets for the following energy categories:
 - Fuel (diesel) used on site
 - Electricity
 - Delivery mileage
- Implementing the following measures, to minimise energy consumption on the project:
 - Installing temporary lighting systems on site, that are power saving, can be easily turned off when not in use, and can be easily serviced to maintain efficiency.
 - Installing "power factor correction units" to the temporary electrical circuits on site, to reduce electrical consumption during sudden surges in consumption.
 - Ensuring that site plant and equipment is turned off when not in use.
 - Installing PIR motion sensors in the site welfare, to ensure that lighting is turned off when not required.
 - Installing thermostats and timers in the site offices and welfare, to ensure that heating is automatically turned off when not required.
 - Ensuring that electrical office equipment is turned off when not in use.
 - Minimising delivery distances, and hence fuel consumption, by sourcing materials, etc locally where possible.
 - Arranging for materials to be delivered in bulk, and not part loads, to reduce trips.
 - Recycling ground water from the piling activities through settlement tanks for dust suppression.
- Implementing procedures on site to ensure that the required energy consumption data is recorded and made available to the contractor. Procedures include:
 - Requesting that sub-contractors fuel usage records, are included in their Monthly Progress Reports.
 - Maintaining AMR (automatic meter reading) meters on the project, so that consumption data is automatically collected from electricity meters on site, and transferred to a database for ease of reference.
 - Obtaining the distances travelled by all deliveries to site.
 - Obtaining personnel travel records, off the Regional Administration Manager.
- Using this energy data, to assist in the calculation of the contractor's carbon footprint on the project.
- Regularly reviewing this data, to establish trends, and to seek opportunities to reduce energy use on the project.

Resource Management - Water

In accordance with the requirements of BREEAM, as well as the Company's Sustainability Policy and its Sustainability Objectives and Targets, the contractor will seek to minimise its water use on the project.

Proposed actions will include:

- Establishing a water use target prior to construction commencing (in accordance with BREEAM credit Man 03).
- Implementing the following measures, to minimise water consumption on the project:
 - Collecting rainwater on site for reuse in dampening down haul roads, cleaning, etc.
 - Reusing water used during the commissioning procedures.
 - Having procedures in place that ensure that taps and hoses are turned off when not in use, and the associated pipework is regularly checked for leaks.
- Obtaining regular water consumption records, from the water meter installed on site.
- Using this water use data, to assist in the calculation of the contractor's carbon footprint on the project.
- Regularly reviewing this data, to establish trends, and to seek opportunities to reduce water use on the project.

Resource Management - Waste

In accordance with the Employers Requirements, the contractor will seek to optimise resource use on the project, through minimising waste.

the contractor will be committed to reducing the amount of waste that is produced on its construction projects, and recovering (i.e. diverting from landfill) as much as possible of the remainder. Actions to ensure this will include:

- Acknowledging the waste targets stipulated in credit Wst 01 of the BREEAM Pre-Assessment (<3.2T of waste generated per 100m², with 90% of this waste to be diverted from landfill).
- Producing a "**Waste Management Strategy**", to outline the proposed measures to be adopted during the internal works, to ensure that construction waste targets are met, and to ensure that any waste produced

is diverted from landfill wherever possible. Proposed measures will be based on the waste hierarchy, and will include:

- Eliminate – e.g. off-site fabrication, pre-cutting materials to size off-site, etc
- Reduce – e.g. minimising packaging, storing materials appropriately so as to avoid damage, etc
- Reuse – e.g. re-using temporary works components, returning pallets to suppliers, etc
- Recycle – segregating waste streams for recycling, and employing a waste management company that can recycle high %ages of waste
- Recover – e.g. through energy from waste schemes
- Maintaining a ***“Site Waste Management Plan”***, to record the forecasted and actual waste movements relating to the project, as well as the associated waste carriers and management licenses.

The following good practice will also be implemented:

- The contractor will ensure that measures to reduce waste are included in sub-contractor Method Statements, and that these are adhered to.
- Waste transfer notes and hazardous waste consignment notes will be collated and checked, to ensure that they contain the information required by environmental legislation.
- WAC tests will be undertaken to determine the classification of excess excavated material, prior to its disposal.

Community - Nuisance

ASM recognises that the construction works could potentially be a source of the following environmental nuisances, to local businesses, residents and/or the general public:

- Dust/smoke/gases
- Noise
- Vibration
- Light
- Traffic disruption

To ensure that potential nuisance is minimised, the following best practice will be implemented:

Community – Nuisance (Dust/smoke/gases)

Prior to works commencing on site

- The contractor will ensure that Manchester City Council have been informed of the construction works.
- A ***“Dust Management Plan”*** will be produced and submitted to Manchester City Council for approval.
- The contractor will commit itself to undertaking the works with consideration of others, by registering the project with the Considerate Constructors Scheme, and endeavouring to score a minimum of 40 out of 50.
- The contractor will ensure that measures to prevent nuisance are included in sub-contractor Method Statements.
- All project personnel will attend a Site Induction, which will include information on potential nuisance issues relevant to the project.
- The project workforce will be given toolbox talks, where appropriate, on preventing potential nuisances e.g.
 - Construction Confederation TBT N1 – Be a Good Neighbour
 - Construction Confederation TBT N2 – Dust and Air Quality
 - Construction Confederation TBT N3 – Noise and Vibration

During the works

The Contractor will ensure that the measures to prevent nuisance that were included in sub-contractor Method Statements, are being adhered to.

- Any nuisance incidents (including complaints) will be recorded, investigated and measures implemented to prevent re-occurrence.
- Any works that produce excessive quantities of dust/smoke/gas will be avoided, with less disruptive methods considered and employed instead.
- Dust suppression measures will be implemented during concrete crushing operations, concrete cutting works, etc, and during dry periods if haul roads become dusty.
- Site plant and equipment will be well maintained.
- Site plant and equipment will be located away from sensitive receptors.

- Site plant and equipment will be turned off when not in use.
- Fires will not be permitted on site.
- Construction deliveries will enter and exit site without causing disruption to local business areas.

Community – Nuisance (Noise)

- Works will comply with BS 5228 “Code of Practice for Noise and Vibration Control on Construction and Open Sites”, with compounds and welfare facilities screened where appropriate.
- The option of eliminating noisy works will firstly be reviewed.
- Alternative, “silent” methods of work will then be considered.
- The use of radios, etc will not be permitted on site.
- The EC marks of construction plant / equipment will be checked, to ensure that they conform to regulated sound levels.
- Where practicable, construction plant and equipment will be fitted with appropriate silencers, and or sound barriers / acoustic partitions will be utilised.
- Construction plant and equipment will be properly maintained.
- The contractor and its sub-contractors will adhere to the Manchester City Council’s standard working hours where possible
- Where there is a requirement to work outside of the hours above, prior consent (Section 60) will be sought and obtained off Manchester City Council’s Environmental Health Services department.
- Where possible, noisy works will be located away from sensitive receptors.
- Noise monitoring will be undertaken during potentially noisy works (e.g. powerfloating), to ensure that recommended levels are not exceeded nor planning consent breached. Results will be made available to other parties if requested.
- Noise complaints will be recorded, and necessary actions taken immediately to mitigate the noise pollution.

Community – Nuisance (Vibration)

- Works will comply with BS 5228 “Code of Practice for Noise and Vibration Control on Construction and Open Sites”.
- Low vibration methods of work will be considered and employed, where practicable.
- Vibration monitoring will be undertaken during any potentially disruptive works (e.g. piling), to ensure that these works are undertaken within acceptable levels.

Community – Nuisance (Light)

- Switch off lights when not required for safety, security or enhancement of the night time scene.
- Minimise the upward spread of light.

Community – Nuisance (Traffic disruption)

- No parking will be allowed on the local roads. Parking arrangements will be confirmed in a “***Site Logistics and Traffic Management Plan***”.
- Deliveries will be required to enter and leave site via designated traffic routes, and during agreed periods during the day, so as to minimise disruption to local traffic and residents (to be determined in a “***Site Logistics and Traffic Management***” Plan).
- Subcontractors/suppliers will be required to book in deliveries/collections. The timing of these can be effectively managed by the Contractor, to minimise disruptions caused by queuing vehicles.

Environmental Emergency Preparedness and Response

This plan has been produced to outline the procedures that will be adopted in the case of an environmental incident on site.

This plan has been produced with reference to the following Environment Agency Pollution Prevention Guidance Notes:

- EMP06 – Environmental Emergency Preparedness
- PPG2 – Above Ground Oil Storage
- PPG18 – Managing Fire Water and Major Spillages
- PPG21 – Pollution Incident Response Planning
- PPG26 – Storage and Handling of Drums and Intermediate Bulk Containers

Preparedness

Regular spill kit training will be undertaken with the following personnel who form the Spill Response Team, at least twice a year, to prepare them for such instances:

- TBC – Works Manager
- TBC x 3

The following hazardous substances and sources have been identified as having the potential to cause an environmental incident through leakage or spillage:

- Diesel fuel (from plant, equipment or tanks)
- Engine oils or lubricants (from plant or equipment)
- Concrete (from concrete pumps or skips)

The following associated pathways and receptors have been identified:

- Leakage or spillage to the ground (and potentially underlying aquifer)
- Leakage or spillage to drainage systems

The following control measures will be implemented, to minimise the potential for the above environmental emergency situations materialising:

- Any existing manholes or road gullies that have the potential to be susceptible to receiving contaminated liquids (silty water, concrete, hazardous products, etc), will be suitably protected to prevent this.
- All plant will be maintained in good condition.
- Fuel bowsters on site will be double skinned, and drip trays will be utilised during re-filling operations.
- Hazardous liquids will be stored in bunded containment, away from drainage systems and the river.
- Suitable spill kits will be located in areas where the risk of spillage is greatest.
- Regular spill kit training will be undertaken.
- Concrete washout will be controlled, to ensure that it is not emitted onto the ground, or into drainage

Routine spill

A routine spill is defined as an incident that does not involve the pollution of the environment, or a significant threat to personnel that can be dealt with using internal resources.

Actions:

- Contain the spill as quickly and effectively as possible without exposing anyone to risk, and prevent from entering drainage systems or further into the ground, by the use of absorbent booms, pillows, pads and/or granules.
- Inform one of the following Emergency Contacts:
 - o TBC – Works Manager

Carefully seal all contaminated spill material in a suitable bag and dispose of it as hazardous waste.

Emergency spill

In emergency spill is defined as the pollution of the environment due to an unexpected release of a substance, noise or odour that is capable of causing nuisance, harm and a breach of environmental laws or codes.

Actions:

- Contain the spill as quickly and effectively as possible without exposing anyone to risk, and prevent from entering drainage systems or the river by the use of absorbent booms, pillows, pads and/or granules.
- Once under control contact your supervisor or manager, and one of the following Emergency Contacts:
 - o TBC – Works Manager
- The contractor will then contact:
 - The Environment Agency (Incident Hotline – 0800 807060), if the result of the spill will impact the surface water drainage system.
 - United Utilities (0845 746 220), if the result of the spill will impact the foul drainage system.
 - The Project Waste Contractor (TBC), to dispose of the contaminated spill material.
- Do not hose down the spill with water or treat with detergents.
- Prevent water being put down the drain.
- Clean up appropriately in consultation with the appropriate authorities/regulators.
- Dispose of all contaminated spill material as hazardous waste (EWC code 15 02 02).

Incident investigation

All incidents will be investigated, and records kept, in accordance with procedure SOP07 / CMP12 Accident/Incident Reporting.

Records will be retained in accordance with CMP05 Document and Data Control.