

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

FOR WORK AT

**Rivermead Leisure Centre
Richfield
Reading
RG1 8EQ**

FOR

Greenwich Leisure Ltd

Prepared by



Issue: ONE

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS

1.0	INTRODUCTION	4
2.0	PROGRAMME OF WORKS	4
2.1	Construction Programme	4
2.2	Phasing Plans	5
3.0	Roles and Responsibilities	6
3.1	The Project Team	6
4.0	MATERIALS AND RESOURCE USE	8
4.1	Specialist Waste Management	8
4.2	Plant & Equipment	8
4.3	Hours of Work	9
4.4	Materials and Resources	9
5.0	PROPOSED CONSTRUCTION METHODOLOGY	9
5.1	General	9
5.2	Site Establishment	10
5.3	Enabling works	10
5.4	Substructure	10
5.5	Superstructure	11
5.6	External Envelope	11
5.7	Roof	11
5.8	Internal Fit Out	11
5.9	External Works & Landscaping	11
5.10	Highway Works	11
6.0	SITE LOGISTICS	12
6.1	Deliveries and the Unloading of Plant and Materials	12
6.1.1	Examples of Good Practice Material Storage	12
6.2	Management Organization	12
6.3	Boundaries & Site Fencing	13
6.4	Site Accommodation	13
6.5	Controlling Vehicle and Personnel Access onto the Construction Site	13
6.6	Off-Site Activities & Traffic Management	13
6.7	Construction Vehicle Movements	13
6.8	Contractor Car Parking Proposals	14
6.9	Storage of Plant and Materials Used in Constructing The Development	14
6.9.1	Examples of Pellikaan Storage of Materials Good Practice	15
6.10	Wheel Cleansing Facilities	15
6.11	The Sheeting of Lorries Leaving the Site	15
7.0	SITE POTENTIAL ENVIRONMENTAL IMPACTS	16
7.1	Potential Impacts during the Enabling, Ground Works and Construction Phases.	16
8.0	MITIGATION MEASURES	17
8.1	Management of Sub-contractors	17
8.2	Considerate Constructors Scheme & Public Relations	17

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

8.3	Construction Vehicle Management	18
8.4	Road Cleanliness	18
8.5	Management of Noise, Vibration and Dust	18
8.6	Environmental Issues	20
8.6.1	Potential Contamination of Water Courses and land	20
8.6.2	Pest Control	22
8.6.3	Land Gas	22
8.6.4	Light Pollution	22
8.6.5	Legislation	22
8.6.6	Dewatering Mitigation Measures	23
8.6.7	Disturbance of Habitat	23
8.7	Site Waste Management Plan	24
8.8	Energy and Water Usage	25
8.9	Tree Protection	26
9.0	LIST OF APPENDICES	27

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

1.0 INTRODUCTION

This plan has been prepared for the benefit, use and information of the Local Planning Authority and conditions

The following plan is a qualified assessment based on current information and is subject to refinement as the project evolves. We have prepared our plan to outline how this project will be constructed including a review of the construction methodology, site logistics and environmental measures to be undertaken. This report describes the proposed outline programme and key activities for the construction of the Health and Fitness facility. Potentially significant environmental impacts associated with these activities are identified and where necessary, proposals for mitigation are outlined.

Planning for enabling works and the construction phase is necessarily broad at this stage and may be subject to modifications during detailed construction planning. Consequently, a number of aspects of construction in relation to environmental issues cannot, at this stage, be accurately predicted. Our Project Manager, Mike Saddington will however ensure all actions required will be managed and adhered too.

2.0 PROGRAMME OF WORKS

2.1 Construction Programme

The total duration of the scheme as indicated in our high level programme is estimated to commencement date of September 2021 and completion by January 2023 and will comprise of the following key activities:

Key Construction Activity	Programme Duration
Enabling works incl Temporary Site Set Up/Car park alterations and diversion of existing gas and electric services	wks
Substructure (Excavations/ Piling/ Founds)	wks
Structural Steel Frame & Roof works	wks
External Elevations incl Cladding	wks
External Facilities	wks
Internal Finishes/ Services & Commissioning (Incl. Fitting Out)	wks
Externals (including the creation of a car park, drainage and landscaping)	wks
Demolitions of existing leisure facility	wks

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

2.2 Phasing Plans

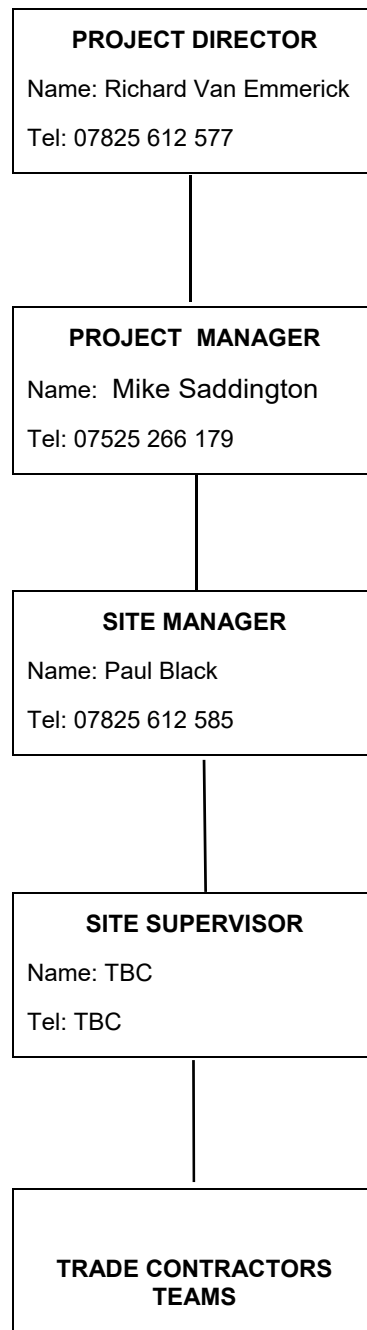
A phasing plan will be developed to show the planned works starting with enabling works through to practical completion of the construction phase and handover to the client.

We have detailed within the Construction Method Statements the phases to the project and have incorporated work areas, traffic management, and site set-up. Refer to Appendix 2 for further details.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

3.0 ROLES AND RESPONSIBILITIES

3.1 The Project Team



CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Descriptions of individual environmental management responsibilities are described as follows:

Project Director

- Review and approval of the Construction Environmental Management Plan;
- Monitor and control the management of the plans to ensure effective implementation;
- Set environmental objectives and review performance against them;
- Determine strategy for achieving Environmental objectives and improvements;
- Ensure the works are carried out in a safe manner that adequate resources are provided to carry out all operations with due regard to the environment;
- Assist in any regulatory, external or internal audit as required;
- Report any environmental initiatives that they consider could lead to improvement.

Contracts Manager

- Ensure that workplaces under their control are adequate with respect to environmental matters;
- Ensure so far as is reasonably practicable that a suitable project specific Construction Environmental Plan is prepared and implemented;
- Make appointments where necessary for the management of environmental matters;
- Ensure so far as is reasonably practicable, employees and contractors are competent.
- Recommend training needs to suit individual and workplace requirements;
- Ensure that a mechanism is in place for effective consultation with employees and contractors;
- Hold regular meetings with the project team on SHE issues;
- Review project management systems at regular intervals to ensure continued suitability and effectiveness;
- Report to the client on environmental matters as required;
- Provide regular reports on the effectiveness of the Construction Environmental Management plan to the Project Director;
- Assist in any regulatory, external or internal audit as required;
- Report any environmental initiatives that they consider could lead to improvement.

Site Manager/Site Supervisor

- Organise and implement the provision and maintenance of a working environmental and systems of work that are, are as is reasonably practicable, safe and without risk to the environment.
- Ensure adequate monitoring and supervision arrangements are maintained and clearly defined areas of responsibility for contractors are established and implemented;
- Approval of method statements and risk assessments;
- Ensure SHE notice boards display up to date information;
- Assist in any regulatory, external or internal audit as required;
- Report any environmental initiatives that they consider could lead to improvement;
- Maintain effective communications with the project team on environmental matters;
- Carry out regular inspections/audits;
- Co-ordinate with SHE advisors on matters requiring further advice/guidance.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Contractor Teams

- Be familiar with this Construction Environmental Management Plan and co-operate in its implementation;
- Report any environmental initiatives that they consider could lead to improvement;
- Report any environmental risks associated with their work activity/package to the Principal Contractor;
- Provide completed environmental reports as required;
- Provide environmental tool box talks to staff on site
- Report any potential/actual environmental risks to their supervisor and Principal Contractor
- Assist in any regulatory, external or internal audits as required;
- Report any environmental initiatives that they consider could lead to improvement.

All personnel are to follow the lines of communication in line with the project management structure.

4.0 MATERIALS AND RESOURCE USE

4.1 Specialist Waste Management

A specialist waste management company will be appointed with specific responsibility for the coordination of the disposal of all surplus materials and the management of an effective document control system to track and confirm that the proper procedures have been followed. Waste separation will be as much as possible be done at source, so onsite in separate skips and, when full, be transported to a licensed waste transfer station for further sorting offsite. The location of the waste handling site where the material will be taken to will vary dependent upon their waste category, but we will use local resources. Wherever possible, materials will be recycled and re-used onsite. Waste going offsite will be recycled/re-used offsite as much as possible by our appointed Waste Management contractor.

4.2 Plant & Equipment

Consideration has been given to the types of plant that are likely to be used on-site during the enabling, demolition and construction phases of the proposed development. The plant and equipment associated with each of the key elements in the construction process are set out in the table below.

Refueling of site plant poses a risk if spillage of fuel occurs, potentially contaminating the ground and local water course. Refueling will take place on a tarmaced area adjacent the entrance. All bowzers used will be bunded and safety spill kits available near the bowser. Anti-spill fuel nozzles to be used where equipment allows.

Plant	Enabling Works	Substructure & Envelope	Internal Fit-out
360 Excavators	X	X	
Dumpers	X	X	
Mobile Cranes		X	

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Air Compressors	X	X	
Power Tools	X	X	X
Hand/ Power Tools	X	X	X
Mobile Elevating Working Platforms		X	X
Mobile Access Platforms		X	
Scaffold		X	
Delivery Trucks	X	X	X
Skips & Skip Trucks	X	X	X
Tele-handler		X	X

4.3 Hours of Work

In line with the planning conditions on site works throughout all stages of the construction will be set out as follows:

8:00am – 18:00 hours Weekdays;

8:00am – 13:00 hours Saturdays

All work outside these hours will be subject to prior agreement, and/or reasonable notice to Reading Borough council, who may impose certain restrictions.

4.4 Materials and Resources

Being established in the UK for many years has enabled Pellikaan to build an extremely reliable and professional supply chain throughout the Reading area and we are extremely proud of our ability to extract the very best from the local supply chain with some of our projects using over 70% of local labour from within a 25mile radius of the site.

Materials will also be sourced from local suppliers wherever possible helping to lower carbon emissions and the projects Carbon footprint.

5.0 PROPOSED CONSTRUCTION METHODOLOGY

5.1 General

The construction access and egress to the site will be from the existing site entrance from Richfield Road on to new access roads onto site. Segregated parking areas will be established as per the site plan. This access route will be continually monitored throughout the duration of the project to ensure no disruption to commuter traffic locally on Richfield Road. A gate person will control vehicle and pedestrian access into the site, office and welfare setup as and when deemed necessary by the Project team to effectively control.

Pedestrian access control system will monitor pedestrian movement on and offsite and a dedicated material offloading area will be set up.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Whilst the above provides a general outline of the proposed works sequence, works may vary from stage to stage.

The Project Team will ensure that all appropriate measures are undertaken to ensure all element of work in these areas are carried out safely and surely.

5.2 Site Establishment

During site establishment, the following will occur:

- Site fencing and access gates will be erected to secure the site.
- Protective measures to the site ecology and environment
- Appropriate accommodation will be installed to service the needs of the site and site construction works.
- A temporary water supply / bowser will be installed to feed the site accommodation and the construction site
- A temporary electrical supply / generator will be installed to feed site accommodation and the construction site generally.
- Installation of Storage and Waste management facilities
- All site personnel including visitors will be inducted in accordance with the site Construction H&S plan.

The site boundary will be made up from 2.4m high Heras fencing. Our site fencing will incorporate public warning notices, site warning signs and traffic management signage. Barriers will be installed demarking the site compound, pedestrian and vehicle routes.. The site will be secured at all times with a controlled access at the site entrance. Traffic warning signs will be erected around the site entrance to warn motorists, cyclists and pedestrians of vehicles entering and exiting the site.

5.3 Enabling works

The enabling works have been ascertained and provision made for the following sequence of activities and phasing plans:

- Installation of fencing and gates
- Installation of traffic warning signs outside the site access / exit
- Installation of protective measures on site
- Setting up of temporary office and welfare compound
- Re-routing of Gas and Electrical Services.

5.4 Substructure

Sub-structure works will involve ground improvement, specifically vibro compaction to increase bearing pressures of the sub-strata within the building footprint only. A competent piling contractor will be used to undertake the installation and testing of the piles. Other substructure works will consist of in-situ concrete items by the groundwork's contractor. The piling mat will be retained to form the stone base underneath the floor slab and form a suitable base for the future cranes and concrete pumps.

Note: Unless set out in the approved Contamination Assessment by Furness Partnership, no penetrative piling shall take place until details of have been submitted to and approved in writing by the Local Planning Authority.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

5.5 Superstructure

The superstructure takes the form of a structural steel frame with in situ composite deck floors. The steel framework will be installed using mobile cranes and a labour force on mobile elevating working platforms (MEWP's).

The first floor slabs will be reinforced concrete composite decks. Concrete will be pumped onto the metal deck formwork using a concrete pump with the whole floors being completed in four phases. During this stage of the works Pellikaan will ensure suitable edge protection and/or a secondary fall system is in place for those working at height.

5.6 External Envelope

The external envelope of the building is made up of a variety of facade finishes including cladding, curtain walling, timber cladding and masonry. Each will be installed by a specialist contractor utilising different methods of access and construction. Behind this will be a structural steel frame to the architect's & engineer's specification with a vapour control barrier. A combination of MEWP's (cherry pickers) and scaffold will allow access for the construction of the façade. Brickwork will be traditionally laid by a bricklaying contractor with access gained from scaffold and kwikstage platforms. The scaffold will be sheeted to prevent debris and dust from entering the local environment. Curtain walling will be installed via MEWP's (scissor lift) running around the perimeter of the building on a clean, compacted stone base with some areas potentially accessed by scaffold.

5.7 Roof

The flat roof construction takes the form of a single ply membrane over an insulated structural deck and a metal deck standing seam roof to the pitched / barrel roof. These materials will be lifted into position via the use of mobile cranes. Fall protection for these works will take the form of scaffolding hand rails and safety netting.

5.8 Internal Fit Out

The internal fit out comprises of stud work and block work walls, M&E installation, ceilings, flooring, carpentry & decoration. High level access for these trades will be via MEWP's and aluminium scaffold towers. Low level access will be from electric single man lifters, towers and podiums. Pellikaan use the hierarchy of access equipment where the use of step ladders and ladders are strictly limited and controlled under permit.

As each system is completed throughout the buildings, they will be tested in accordance with the mandatory specifications and codes. No service voids such as ceiling areas and service risers will be sealed until such tests are completed and signed off. Fire protection materials will be inspected as required under national regulations. On completion of all the works the buildings and systems shall be subjected to statutory inspections and testing before finally being handed over and occupied by the client.

5.9 External Works & Landscaping

A full external works and landscaping design is in place and is submitted as part of the Planning process. This includes the provision of car parking facilities.

5.10 Highway Works

Any highway works will be carried out by a Reading Borough Council (RBC) approved and licensed competent contractor. The scope of the highway has been developed and is in compliance with RBC documents on highways works.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

A full traffic management scheme has been developed and will be installed prior to the start of the works and will be maintained for the complete Construction period in accordance with the Architects approved design drawings.

6.0 SITE LOGISTICS

6.1 Deliveries and the Unloading of Plant and Materials

The management of the site logistics is vital to the success of the project. All deliveries will be planned as there is a limit to storage of material on-site due to the extent of the works and space available on the site. It is expected that all major deliveries will be booked in and recorded via a delivery schedule which will be issued to the gateman prior to arrival on-site. A delivery zone will be established on-site and will be able to hold one to two vehicles at any one time to facilitate efficient use of the telehandler servicing the site. All vehicles will be offloaded in line with Pellikaan procedures. In terms of lorry routing, Pellikaan will advise its subcontractors and suppliers of the specific traffic routes and delivery times to minimize the risk of congestion to local roads and to avoid peak traffic/pedestrian movements wherever possible.

No construction, demolition or associated deliveries shall take place outside the hours of 0800hrs to 1800hrs Mondays to Fridays, and 0800hrs to 1300hrs on Saturdays, and not at any time on Sundays and Bank or Statutory Holidays.

6.1.1 Examples of Good Practice Material Storage



It is anticipated that site logistics will form a significant part of the pre-appointment meetings for contractors and sub-contractors and that regular co-ordination meetings will be held throughout the construction phase of the project.

In view of the location of the site and the constraints on traffic the project manager will be responsible for communication with the local highway authorities with regard to traffic problems, planned large deliveries and road maintenance issues. In this way it is anticipated that the risk of material shortages at key times will be reduced to a minimum.

6.2 Management Organization

Our Project Manager, Mike Saddington, will have overall responsibility for the construction phases and will ensure interfaces with design, procurement and construction are identified and controlled.

Other responsibilities will include health & safety, checking the standards of work on site and to liaise with all parties to resolve technical queries and requests for information.

Furthermore, our Project Director Richard Van Emmerick will support the on-site team.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

6.3 Boundaries & Site Fencing

The site set up plan in Section 2.0 shows the fixed boundary Heras fencing between the surrounding areas and the construction site. The security of the site will be maintained by utilising the Heras fencing throughout the construction phase. This fencing forms a key part of our strategy to maintain personal safety by preventing unplanned access to site. It will be checked on a daily basis by our site staff to ensure it remains secure at all times. A primary entrance to our site will be off Richfield Road.

6.4 Site Accommodation

Pellikaan will install the accommodation, so all personnel have to pass the offices to gain access to the work area helping to control the flow of pedestrian movement through the site.

We will double-stack the offices/welfare wherever possible to reduce required floor plan space. In addition to providing all necessary welfare facilities (such as staff toilets, canteens, drying rooms, offices and Health & Safety Induction rooms, our site cabins will house and manage all our operational site IT installations, ensuring that we are constantly in touch with our electronic document management and information systems. All welfare facilities provided will be in compliance with Schedule 2 of the Construction (Design and Management) regulations 2015.

All welfare facilities will be located within the site compound. We have located the site office establishment such that it uses minimal space in the compound and allows the site management team to passively supervise the site operations while undertaking office based tasks.

6.5 Controlling Vehicle and Personnel Access onto the Construction Site

A manned security gate will be located at the entrance to the site to control the movement of all construction traffic and pedestrians entering and leaving the site. This will be a permanent arrangement once the Enabling Works phase are complete. All visitors will "sign in" at the office set up before proceeding to undertake the Pellikaan induction. All personnel must have a CSCS card before being allowed on site. It is good practice from both a Health & Safety and logistics perspective to keep the pedestrian access and vehicle access for deliveries completely segregated.

6.6 Off-Site Activities & Traffic Management

All construction traffic will enter the site via Richfield Road using the existing entrance.

- Site entrance warning signs will be posted on the approach to the proposed site.
- All deliveries will follow strict vehicle routes due to the heavy traffic. This will reduce disturbance to the general public and local road networks.
- In the case of an emergency on site all construction activities will cease to allow the relevant emergency vehicles unimpeded access on to the site.
- The site shares vehicular and pedestrian access with other users, the Project Manager and Site Manager shall liaise with other site users to determine any access closures/segregation measures.

6.7 Construction Vehicle Movements

Construction vehicle movements during the project will be monitored closely with detailed traffic management and logistics plan updated and monitored daily. The total duration of

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

the enabling works is assessed at approximately 6 weeks until commencement of the construction phase. The total duration for the excavation, ground improvement, foundations, steel frame and roof will be approximately 19 weeks. Large material deliveries for the steel frame, cladding and the like will commence after the completion of the foundations through to project completion.

The table below illustrates indicative construction traffic movements for the proposed scheme.

Activity	Programme Duration	Approximate Construction Vehicle Movements	Estimated Construction Vehicles Per Day (Average)	Estimated Site staff Vehicles Per Day (Average)	Estimated Total Vehicles Per Day (Average) per activity
Enabling works incl Temporary Site Set Up and alterations to existing access and services					
Substructure (Excavations/piling/founds/pool tanks					
Structural Steel Frame and Metal Deckworks					
External Envelope (Walls and Roof)					
External Facilities					
Internal Finishes, services and commissioning (inc fit out)					
External (including drainage) and Landscaping and creation of a car park					

6.8 Contractor Car Parking Proposals

All contractors parking will be within the site boundary. No parking will be allowed in the immediately adjacent roads. This will be monitored and enforced by the Pellikaan gateman.

6.9 Storage of Plant and Materials Used in Constructing The Development

All plant and materials will be stored within the site boundary. Small expensive items of equipment will be stored in the site storage container where our site security system can monitor them more closely.

Plant will be parked on site in the secure compound and monitored throughout the night by a monitored CCTV system. Materials delivered on site will be stored in line with Pellikaan procedures in secure compounds. A separate COSHH cage for hazardous items will be available on site.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

6.9.1 Examples of Pellikaan Storage of Materials Good Practice



6.10 **Wheel Cleansing Facilities**

Wheel cleansing facilities will be installed just before any material is removed from site; it will be positioned close to the entrance/exit gate of our site demise. At present we are exploring the wheel cleansing options available for use on the site so the exact specification is undetermined. For the remainder of the construction period the options we are currently looking at include.

- Carbon neutral, eco-friendly rumble cleaner that requires no water, electricity or diesel to operate and relies on the self-weight and vibration of the lorry to clean the wheels
- Traditional water cleansing system

6.11 **The Sheeting of Lorries Leaving the Site**

All lorries carrying loose material away from site will use sheet covering to prevent the spillage of material onto the local carriageways. This will be written in to all subcontract agreements, communicated to the workforce at induction and regular toolbox talks will be by the subcontract supervisors to their workforce. In addition to this strict instructions will be given to the gate person to ensure the above is complied with.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

7.0 SITE POTENTIAL ENVIRONMENTAL IMPACTS

7.1 Potential Impacts during the Enabling, Ground Works and Construction Phases.

A review has been undertaken of the potential sources of adverse impacts associated with the enabling works and construction stages. The results of this have been presented below.

Issue	Potential Impacts
Dust/Air Quality:	Wind blowing dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding materials. Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.
Ecology:	Water/ mud run-off into drains. Disturbance to nesting birds and mammals.
Energy Usage:	Indirect impacts associated with energy consumption such as CO ₂ emissions, depletion of natural resources, air pollution etc (material selection and embodied energy issues are covered during the sustainable design section).
Fuel & Construction materials storage:	Accidental spills, discharges to drains/ storm-water systems, contamination to ground and local rivers.
Hazardous materials & contaminated land	Exposure of the workforce to deleterious/ hazardous materials and contaminated land, mobilization of any source contaminants and creation of pathway from source to groundwater receptor.
Noise	Increased noise levels from vehicles. Increased noise levels from plant during the construction works (e.g. from the use of air compressors and diamond cutters) on-site.
Site & Surroundings pedestrian access	Restrictions on pedestrian access to walkways, footpaths and roads, management of access on site.
Traffic	Traffic congestion caused by site traffic. Increased vehicle movements mainly consisting of construction vehicles. Transfer of mud and material from vehicles onto public highway and existing roadways. Disruption from abnormal or hazardous loads exhausted emissions.
Waste	Waste generation and its disposal
Water & Water Usage	Increased sediment loadings to storm-water system. Potentially contaminated storm-water run-off. Natural resources depletion.
Vibration	Increased vibration levels from vehicles. Increased vibration levels from plant during the construction stages.
Land Gas	Release of land gas into the atmosphere.
Light Pollution	Disturbance to neighbours and disturbance of wildlife

A register of environmental impacts shall be produced and maintained for the life of the project.

As part of the Construction Risk Assessment and Construction Method Statement process, we shall ensure that we include the environmental risks to ensure the construction activities do not cause damage to the environment. These risks are mitigated as detailed in section 8 of this CEMP.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

These will be regularly reviewed by the site manager to ensure compliance, and any additional risks identified will be evaluated to ensure appropriate risk mitigation measures have been implemented.

The Phasing plans for the works are detailed within the Construction Method Statements (Appendix 2).

All known Environmental risks will be reviewed at each pre-order subcontractor meeting. Contractor Risk Assessments, method statements and safe working practices are to be prepared 7 days in advance of commencement of the operation on site, all risk assessments are to include reference to known environmental issues.

Risk assessments and method statements will be recorded and retained on site. Where information is insufficient the contractor shall be contacted and a joint review carried out to establish a suitable safe system of work.

8.0 MITIGATION MEASURES

8.1 Management of Sub-contractors

Individual contractors (e.g. for waste removal) will incorporate relevant requirements in respect of environmental control, based largely on the standard of "good working practice" as outlined in the Construction Phase Health and Safety Plan and Project Method Statement, as well as statutory requirements. Potential sub-contractors will be required to demonstrate how they will achieve the provisions of the Construction Phase Health and Safety Plan and PMS, how targets will be met and how potential effects will be minimised.

8.2 Considerate Constructors Scheme & Public Relations

The Considerate Constructors Scheme (CCS) is the national initiative, set up by the construction industry to improve its image. We are an associate member of this scheme and we are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements. The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three main categories: the environment, the workforce and the general public.

Some of the ways we plan to ensure we adhere to the criteria set out by the CCS are;

- Regular newsletter to resident & business in the local area. These will also be distributed at local public amenities.
- Site information board located at the site entrance
- A Q&A session for the public
- CO2 monitoring and carbon emission reduction techniques applied to construction activities
- Encourage the use of car sharing and public transport by workers
- Our Project Manager will be appointed to deal with complaints and enquiries. This individual will be named at the site entrance, with a contact telephone number, and will be identified to site users and community groups prior to works commencing, and whenever a change of responsibility occurs
- Involvement in local community action groups
- Sponsorship of local sport teams

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- Noise, dust & vibration monitoring and control
- Utilise techniques for the reduction in the use of energy and water throughout the project
- Waste management
- There is also potential to provide labour to assist in small local projects. This will be explored further once the project team are based on site.

The scheme requires an independent assessor to score the project in 5 different categories with a maximum score that can be achieved in each is 10. More details can be found at www.ccscheme.org.uk. Other details relating to this scheme can be found on our project notice board as well as on the newsletters.

8.3 Construction Vehicle Management

A good working relationship will need to be developed between the local residents, DLL and the project team to keep access routes clear and useable for all. Unapproved parking on public roads will not be allowed. Any local traffic management measures for site access will be agreed with RBC and the local Fire and Rescue Service.

8.4 Road Cleanliness

Pellikaan will take measures that include restricting road based vehicles to the existing tarmac surfaces where possible and provide a wheel wash/jet wash facility at the site exit to avoid any environmental nuisance on highways as previously stated in Section 6.10. We will also ensure that there is no groundwater run-off from the site onto the local road network. Control measures for this are described below

- Use of approved mechanical road sweeper to clean the site and retail park access road of any mud or debris deposited by site vehicles, although the offsite debris will be negligible due to the onsite wheel wash facility. The road sweeper is to be available whenever needed and will be properly used and maintained.
- Adequate sheeting of vehicles carrying waste materials
- Measures will be taken to ensure mud and debris is **not** swept into local gullies, gulley guards to be fitted
- Provision of wheel washing on the site compound exit and lorry jet washing facilities

8.5 Management of Noise, Vibration and Dust

Full assessment of activities with the potential to generate high levels of noise and vibration will be carried out post-award of contract. This assessment will then be incorporated in the Construction H&S Plan and Project Method Statement. We believe this aspect of the works will be regulated by an agreement under Section 61 of the Control of Pollution Act.

Pellikaan will monitor noise, dust and vibration levels on site. Feedback received will be discussed in weekly site team meetings and actions put into place if thresholds are being exceeded. However, good practice should ensure this doesn't occur

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

On-site good practice procedures will be followed in order to mitigate noise, vibration and air pollution (e.g. through dust and fume generation) impact under the Considerate Contractors Scheme. Measures currently planned to be adopted include:

- Use of netting to Heras panels around part of the site to assist in the screening of noise and dust generation from low-level sources;
- Dust and vibration suppression techniques will be used extensively, particularly during the demolition phase.
- Off-site pre-fabrication to be used, where practical, including the use of pre-fabricated structural elements, cladding, mechanical and electrical services and package plant rooms;
- All plant and equipment to be used for the works to be properly maintained, silenced where appropriate, and operated to prevent excessive noise and switched off when not in use;
- Plant will be certified to meet relevant current legislation and British Standard 5228 (BS5228) standards;
- All sub-contractors to be made familiar with current legislation and guidance in BS5228 (Parts 1 and 2), which will form a pre-requisite of their appointment;
- Threshold vibration limits will be set and monitoring equipment established at locations near or on the site that are deemed sensitive, such as nearby homes and businesses;
- Loading and unloading of vehicles, dismantling of site equipment such as scaffolding or moving equipment or materials around site will be conducted in a such a manner as to minimise noise generation. Where practical these will be conducted away from noise sensitive areas;
- Deviation from approved method statements to be permitted only with prior approval from site management and Pellikaan safety department. This will be facilitated by formal review before any deviation is undertaken;
- Noise complaints reported to Pellikaan and immediately investigated;
- Brushing and water spraying of heavily used site hard surfaces and access points as required;
- Vehicles transporting materials capable of generating dust to and from site to be suitably sheeted on each journey to prevent release of materials and particulate matter;
- Effective wheel washing facilities to be provided and used as necessary;
- Burning of wastes or unwanted materials (including green waste, will not be permitted on-site; and
- All hazardous materials including chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in containers at the end of each day prior to storage in appropriately protected and bunded storage areas.

As far as practically possible the construction works will be carried out using methods that minimise noise. The use of music broadcasting equipment on site will not be permitted, to minimise noise pollution to adjacent buildings and occupied areas. Noise related impacts attributable to excavation, along with other construction related noise impacts will

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

be controlled through generic and site specific mitigation measures outlined within our Construction Health & safety Plan.

Specific sound level of plant/equipment approved for use on this project in accordance with BS:4142, as measured at a point 1 metre external to the nearest noise sensitive façade shall be at least 10dB below the pre-existing background sound level, LA90T when all plant/equipment(or any part of it) is in operation. The rating level, Lar,Tr as measured at a point 1 metre external to the nearest noise-sensitive facade shall not exceed the pre-existing background sound level, LA90T when all plant/equipment (or any part of it) is in operation.

8.6 Environmental Issues

8.6.1 Potential Contamination of Water Courses and land

The construction of the new leisure centre could, without mitigation measures in place, have a direct negative impact on the surface water quality and the surface water run-off

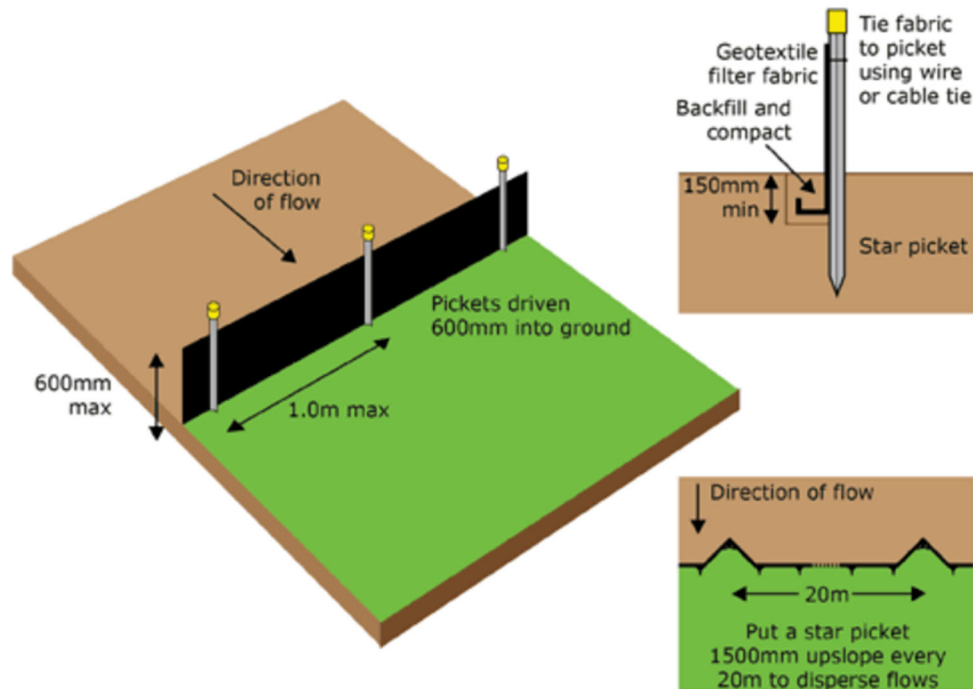
Works that would influence this include:

- Site clearance;
- Earthworks, including the concreting of foundations
- Demolition activities;
- Construction materials handling, including the storage and use of fuels and oils and other potentially construction material;
- Handling of potentially polluting silt-laden run-off and excavation dewatering from construction activities and site compounds; and;
- Spillage or uncontrolled release of potentially polluting material such as cement, concrete, diesel, hydraulic fluid or paint.

Silty water can arise from earthworks, exposed ground, water collecting in excavations, stockpiled materials, plant and wheel washing facilities and site roads. As such there is potential for polluted drainage from the construction activities to enter the existing watercourses, particularly during the initial earthwork stages of the scheme.

As shown below a silt barrier will be installed around areas of the site where natural falls would direct run-off towards water courses. Street gulley's, once installed, present to drain existing car parking and footpaths will be installed with gulley protectors to prevent silt migration. These will be monitored weekly by site staff or after heavy rainfall to ensure filters are not blocked.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN



Other pollutants, such as construction chemicals or fuels, may be carried in drainage. Unless managed appropriately, the pollutants, including sediment, could be washed into surface water sewers in the local area and from there into the local waterways) resulting in contamination. Sediment deposited in the sewer system can result in restriction to the sewer pipes and reduce the capacity flow, causing blockages and the potential for discharge and pollution.

Concrete having a high ph can have harmful effects on water courses and their eco systems if allowed to discharge directly. A concrete washout facilities will be allocated on site furthest away from any watercourses. Concrete suppliers who are local and have washout facilities are also being considered to manage the waste generated.

Following the demolition of the existing leisure centre and prior to the installation of the new car park, an assessment (undertaken by a competent person) of the nature and extent of the contamination with respect to that area of land for its intended use will be submitted to the Local planning Authority for approval.

In the event that contamination is found at any time when carrying out the approved development not previously identified, the development shall be halted in that part of the site and the contamination reported in writing to the Local Planning Authority.

An assessment of the nature and extent of the contamination shall be undertaken by a competent person, where remediation is necessary a remediation scheme, together with a timetable for implementation will be submitted to the Local Planning Authority for its written approval. Remediation measures will be implemented in accordance with the approved scheme and timescale.

Works in that area will not commence until the remediation measures have been completed, a validation report submitted to and approved in writing by the Local Planning Authority.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

8.6.2 Pest Control

Due to the nature of site and the demolition works involved, it is important that any pests on site are controlled.

In relation to demolition works where necessary drains and sewers will be capped to prevent vermin movement.

Where there is a risk of pest infestation we will use licenced pest control specialists to deploy pest control measures as per their specifications, including the use of bait boxes in strategic locations and monitoring pest movement.

8.6.3 Land Gas

The development will not progress beyond foundation level until a scheme has been issued to and approved in writing by the Local Planning Authority showing how the development is protected against the possibility of disturbing land gas.

Any land gas identified shall be remediated shall be set out and approved by the Local Planning Authority in writing in accordance with planning condition 10.

8.6.4 Light Pollution

Prior to first occupation or the use first commenced, full details of all external lighting to be installed will be submitted to and is to be approved in writing by the Local Planning Authority. Supporting details will demonstrate that the light levels will not exceed the relevant guidance lux levels specified. It remains important to ensure that light spillage into Rivermead Ditch remains minimised.

New external lighting will not be illuminated more than 30 minutes outside of the opening hours of the leisure centre 06:00 to 23:00 Monday to Saturdays, 06:00 to 21:30 Sundays and Bank Holidays.

We shall also monitor sources of potential light pollution throughout the construction phase and minimise wherever possible.

8.6.5 Legislation

The scheme will be constructed in accordance with the guidance contained within the Environmental Agency Pollution Prevention Guidelines. The following PPG are of particular relevance to the construction activities within this scheme:

- PPG1: General Guide to the Prevention of Pollution;
- PPG2: Above Ground Oil Storage Tanks;
- PPG5: Works In, Near of Liable to Affect Watercourses;
- PPG6: Working at Demolition and Construction Sites; and
- PPG21: Pollution Incident Response Planning.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

8.6.6 Dewatering Mitigation Measures

There is a high water table present on site, dewatering solutions will be deployed where necessary and when only authorised by the environmental regulator and disposed of in a controlled manner.

No discharge of surface water to the ground shall take place until details of such have been submitted and approved in writing by the Local Planning Authority., Any such proposal shall be accompanied by an assessment of the risks to controlled waters.

8.6.7 Disturbance of Habitat

We shall identify and establish biodiversity protection zones where appropriate. These will be managed by the site manager, in consultation with ecology specialists. Through consultation with ecology specialists we will identify and manage the timing of sensitive work, in particular works to trees and hedgerows, where there is potential for the disturbance of nesting birds. We will use specialist ecologists to oversee works as appropriate. (further information on nesting bird management is detailed below, there is potential for nesting birds on the site between the months of March to August).

An Ecology reports was produced by John Wenman ecological consultancy in August 2019

The following report findings state that the site is not designated for its wildlife interest and does not support UK Priority Habitat, it predominantly comprises of areas of hard standing and amenity grassland.

The proposed area of construction within the existing car parking area will affect habitats of negligible ecological value. Scattered trees, tall ruderal vegetation, poor semi-improved grassland and scrub will be retained where clearance is not essential. Precautions shall also be adopted to avoid nesting birds, small mammals and reptiles.

To prevent disturbance of bird nesting work to clear would be undertaken outside of bird nesting season – March to August or if the site is confirmed that there are no nesting birds by an ecologist.

Note there is planned hoarding works scheduled for 2nd August, however we can confirm that there are no hedges, trees or shrubs in the vicinity of these works, they therefore do not pose a threat to nesting birds.

The main works are scheduled to commence in September, which is outside of the bird nesting season.

To avoid impact on small mammals and reptiles any clearance of scrub, tall ruderal vegetation or poor, semi-improved grassland on site would be cleared using hand held tools down to a height of no less than 15cm, being left for 24 hours prior to being cut down to 5 cm, prior to any further ground works or clearance.

Once clearance has taken place and before construction begins cleared vegetation areas are to be kept closely cut to prevent it from becoming favourable habitat for reptiles or small mammals in the future.

Japanese Knotweed and cotoneaster are present on site and appropriate controls shall be implemented to prevent spread.

We shall ensure pollution prevention measures in accordance with Environmental Agency good practice guidelines are implemented to prevent site construction activities from silt and polluting nearby ditches.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

The scheme presents opportunities to enhance the ecological value of the site through implementation of other ecological measures.

In the event of any unexpected discoveries of protected or invasive species that could be impacted by site activities, works must cease and the discovery must be reported to the SHE Manager/Environmental advisor. Specialist advice from a suitably qualified ecologist may be required.

Works will only proceed in that area when full clearance has been provided and additional mitigation measures where applicable have been implemented.

8.7 Site Waste Management Plan

A formal and detailed Waste Management Plan will be utilised covering all potential aspects of waste generated from the development. The disposal of all waste or other materials removed from site will be in accordance with the requirements of the Environmental Agency, Control of Pollution Act 1974, Environment Act 1995, Special Waste Regulations 1996 and the Duty of Care Regulations 1991.

In general and in accordance with the principles of the UK Governments "Waste Strategy 2008", a principle aim during the demolition, substructure and construction works will be to reduce the amount of waste generated and exported from the site. This approach complies with the waste hierarchy whereby the intention is first to minimize, then to treat at source or compact and, finally, dispose of off-site as necessary. All relevant sub-contractors will be required to investigate opportunities to minimize and reduce waste generation, such as:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme (e.g. British Gypsum Plasterboard);
- Implementation of "just-in-time" material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste;
- Attention to material quantity requirements to avoid over-ordering and generation of waste materials;
- Re-use of materials wherever feasible. The government has set broad targets of the use of reclaimed aggregate, and in keeping with best practice, Pellikaan will ensure they maximise the proportion of materials recycled;
- Segregation of waste skips will be installed from the outset.
- Re-use and recycling of materials off-site where re-use is not practical (e.g. through use of an off-site waste segregation facility and for direct re-use or re-processing) our expectations in this regard are shown in the table below.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Material	Target	Probable Location
Metals (reinforcement from broken up concrete)	100% recycled	Recycle at waste transfer stations locally.
Hardcore/ Stone/ Concrete/ Masonry	100% recycled	Re-use in substructure formation
Mixed Waste	The amount recycled will depend on the material	All will be taken to a local transfer station and fully sorted to maximise recycling potential. An absolute minimum will remain for transport to landfill
Other toxic/ hazardous materials	Action subject to relevant, specific legislation	Example: Oils can often be reclaimed and a suitable facility will be investigated further if known to exist.
Steel	100% recycled	Recycle at waste transfer stations locally

Overall, the waste management for the site is likely to comprise of the following:

- The waste material from the site will either be segregated onsite before removal to a waste transfer station for sorting, re-use and recycling

Skips will be covered to prevent dust and debris blowing around the site, and will be cleared on a regular basis. The waste management area will be secured by Heras fencing to prevent arson and cross contamination.

As the development progresses and the building becomes enclosed, the rubbish generated will be collected in light weight floor-based wheeled skips that can be easily manoeuvred through the building onto the hoists and telehandler loading bays, and either disposed of into larger recycling skips, or if suitable, placed into a compactor to reduce the volume of the waste before it is taken off-site.

8.8 Energy and Water Usage

All sub-contractors will be required to investigate opportunities to minimise and reduce use of energy and water, such as:

- Use of alternative to diesel/ petrol powered equipment where possible; The incorporation of sources of renewable energy to offset the use of main utilities will be considered;

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- Selection and specification of energy efficient plant and equipment wherever viable;
- Implementation of staff based initiatives such as turning off taps, plant and equipment when not in use both on-site and within site offices;
- encouraging a paper-reduced office and encouraging double sided printing and photocopying when these activities are necessary;

The energy and water consumption of the project will be monitored, either through sub-metering or reading utility bills, to allow comparison against best practice benchmarks and improvements to be made.

8.9 Tree Protection

No development will commence on site until an Arboricultural Method Statement and Tree Protection Plan has been produced and submitted and approved in writing by the Local Planning Authority.

All development works shall be carried out in accordance with the requirements of the plan.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

9.0 LIST OF APPENDICES

Appendix 1 – Nesting Bird Survey

Appendix 2 – Construction Method Statement

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Appendix 1 – Nesting Bird Survey
**Refer to separate document as submitted to
planning**

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Appendix 2 – Construction Method Statement

**Refer to separate document as submitted to
planning**