

CONSTRUCTION METHOD STATEMENT REV A

for

FORMER GAS WORKS BUILDINGS, READING, N15 6TD

related to

**PLANNING CONSENT 160378 AND EXTENSION OF PLANNING
REFERENCE 171160**



details pursuant to

PARTIAL DISCHARGE CONDITION 4

CONTENTS

1.0	PARTICULARS:	4
2.0	INTRODUCTION	5
2.1	Objectives	5
2.2	Project Overview	5
2.3	Site Description	7
3.0	PROPOSED SITE WORKS	8
3.1	Preliminary Programme	8
4.0	CONSTRUCTION MANAGEMENT ACTION PLAN	11
4.1	COMMUNICATION	11
	Neighbourly Relations	11
	Considerate Constructors Scheme	11
4.2	SITE ESTABLISHMENT	13
4.2.1	Access	13
4.2.2	Construction Traffic Management Plan	14
	Monitoring	14
	Traffic Routing	14
4.2.3	Working Hours	15
4.2.4	Fire and Emergency Procedures	15
4.2.5	Security	15
4.2.6	Health and Safety	15
4.2.7	Scaffolding	16
4.2.8	Main Plant	16
4.2.9	Water supply and drainage	16
4.2.10	Good Housekeeping	17
4.2.11	Parking	17
4.3	Environmental Issues	18
4.3.1	Site Waste Management Plan [SWMP] [the requirements of the Site Waste Management Regulations 2008]	18
	MANAGEMENT	19
	DISTRIBUTION	19
	INSTRUCTION AND TRAINING	19
	WASTE MINIMISATION	19
	SEGREGATION	20
	WASTE MANAGEMENT	20
	WASTE MANAGEMENT PROCESS	21
	MONITORING	22
4.3.2	Dust, Noise and Vibration	22
	Dust	22
	Noise and Vibration	22
5.0	RISK ASSESSMENT	24
5.1	Dust & Emissions Risk Assessment	24

DEMOLITION	Error! Bookmark not defined.
SUBSTRUCTURE.....	24
SUPERSTRUCTURE.....	24
VEHICLE MOVEMENTS [MEDIUM]	25
Results of an air quality [dust] risk assessment.....	25
Summary of Monitoring Protocols	28
Site Log Book.....	28
Low Emissions Strategy.....	28
6.0 APPENDIXS	Error! Bookmark not defined.
APPENDIX A – LOGISTICS PLAN	30
APPENDIX B – Impact of Construction on Air Quality	33
APPENDIX C – DUST GENERATION GUIDANCE/CHECKLIST	35
APPENDIX D – DUST SUPPRESSION GUIDANCE	36
APPENDIX E – PREVENTION OF EMISSIONS AND ODOURS GUIDANCE/CHECKLIST	37

1.0 PARTICULARS:

Contractor:	Future Build Construction Ltd will be referred as [FBC] 59 Hillside Road, London, N15 6LU
Architects:	Dunthorne Parker Architects, Unit 22, The Artworks, Elephant Road, London, SE17 1AY
Document:	Construction Site Logistics, Dust and Emissions Risk Assessment
Project:	Former Gas Works Buildings
Site Address:	Gas Works Road, Reading, EN15 6TD
Planning Approval Ref:	160378
Author:	Jose Roquette
Checked:	Mal Parker
Email:	jose@dunthorneparker.co.uk
Telephone:	020 7258 0411

2.0 INTRODUCTION

2.1 Objectives

The purpose of the Construction Method Statement, an extension of the already approved Demolition Method Statement [application reference 171160], is to outline the approach to managing the construction [conversion and extension] works for the former Gas Works Buildings. This document includes specific comment on site establishment, logistics and the process of managing the overall environment surrounding Former Gas Works Buildings. It will also ensure that the works cause the minimum disruption to the adjacent residents by achieving a safe working and living environment.

The agreed contents of the previously approved Demolition Method Statement [application reference 171160] and now presented Construction Method Statement will form part of the development plan and agreed with the Borough of Reading. The plan will be constantly reviewed and any changes and/or improvements will be added and agreed with the Council and the plan revised and re-issued.

These proposals are to enable third parties to understand the nature of the works and the various construction activities associated with the development.

The information provided in this document is an overview of the key project activities at the former Gas Works Buildings. Generic statements herein are to be further developed into plans, procedures and detailed method statements as the project develops. This Statement will be used as the extension of the demolition method and risk assessments statement and will be included in all specialist trade contractor portions of the works.

2.2 Project Overview

FB construction has recently been selected as contractor for the 'with contractor's design' of the conversion and extension of the existing buildings to a development of 20 dwellings, with access from Gas Works Road. The construction comprises the change of use, conversion, extensions and various associated works to provide 20 residential units [Class C3]. The project will create a part 4, 5 and 6-storey building adjacent to the River Kennet and a 3 storey building fronting Gas Works Road.

The development will be referred as "Former Gas Works Buildings" in this report.

The application site comprises of two buildings; a two storey building that forms the northern boundary of the site, abutting the River Kennet, and a second smaller single storey building, the former Southern Gas Network governor house building containing a pressure reducing station, fronts onto Gas Works Road and forms a section of the southern boundary.

The existing buildings, that will be maintained, are constructed in good quality imperial bricks as per the Approved Planning Application, and new matching imperial bricks will be used as per the approved External Material Schedule [application reference: 171495].

The construction works will then consist of a partial four, five and six storey building and a three storey building on a internal steel structure with convectional brick and block walls on the first floor new extension of the building abutting the River Kennet, and brick and timber frame walls on both new extension and new proposed storeys in both the building abutting the River Kennet and the one that fronts onto Gas Works Road. All windows will be in keeping with the traditional feeling of the existing buildings.

The proposed development comprises of cycle store and storage areas located at first floor of the building abutting River Kennet and two units on the building that fronts onto Gas Works Road, the first unit is a one bedroom and the second unit is a two bedroom split into two levels [first and second floors].

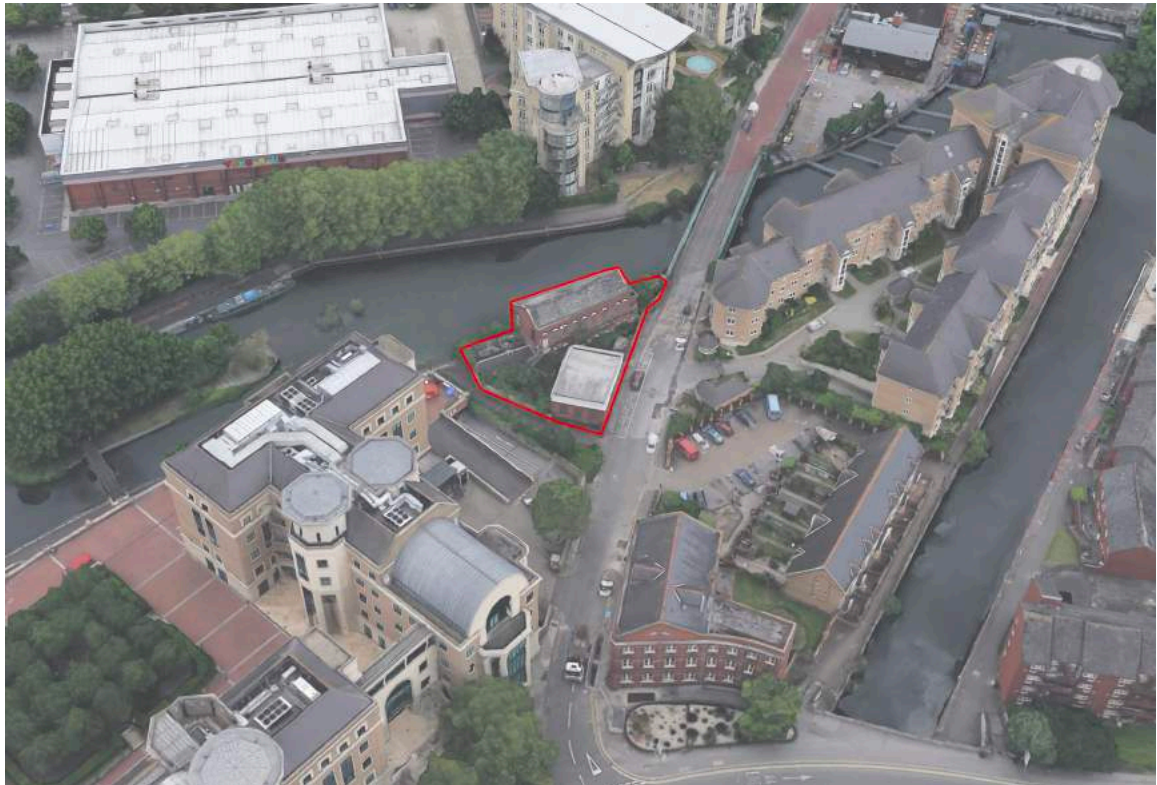
The building abutting River Kennet on floors two to six is compromised of one bedroom, two bedroom and three bedroom units, some with double facing aspect and some with single facing aspect. In this building all the units on the new extension have their access through a central staircase, and for all the other units on the existing building and new added floors the access will be made through another staircase.

The building that fronts onto Gas Works Road on floors two and three is comprised of the partial split of a two bedroom, a one bedroom and a two bedroom units. The access is made through a central staircase.

Photovoltaic panels will be installed on the roof of both buildings.

2.3 Site Description

The site is located on the northwest side of Gas Works Road, comprises two buildings and is roughly triangular in shape. The main building forms the northern boundary of the site, abutting the River Kennet, and is two storeys in height. The second building is a smaller single storey former Southern Gas Network governor house building containing a pressure reducing station, fronts onto Gas Works Road and forms a section of the southern boundary.



Aerial Photograph

It is FB Construction's proposal to use an external delivery area that will be accessed through a gate provided in the designated area on the security hoarding.

For location plan please refer to drawing 1370-200B.

3.0 PROPOSED SITE WORKS

3.1 Preliminary Programme

It is envisaged that the duration of works described will be 70 weeks. The key elements of the development with regards to the potential impact on the surrounding area are:

[See also attached outline programme]

- Site Setup
See section 4.2

- Enabling works

In order for the works to commence certain items of enabling works have been carried out:

A Geo-technical test as been carried out to examine the level of water table and any potential soil contamination due to the previous use of the buildings.

The site is completely detached from the newly constructed neighboring foundations. Taking into consideration that they are existing buildings underpinning will be necessary to support the existing walls. There have been some trial pits, as shown on drawing LO10488-SI, next to the existing walls to examine the height and type of foundation.

The underpinning methodology and design together with the temporary propping have been designed and verified by the structural engineer.

- Piling

Once the enabling works have been completed the piling will commence. Spoil from this operation will be barrowed to a skip positioned on site next to Gas Works Road. Concrete will be delivered into site by ready mix vehicles and concrete pump via a lorry mounted concrete pump in Gas Works Road.

For the duration of the piling works a mobile concrete pump will be parked on allocated site area as shown on drawing 1370-203. The period of time allowed on the preliminary programme for this operation has been based on FB Construction extensive experience of this type.

- Localized excavation

Once the existing walls are underpinned the localized excavation will commence. This will be carried out using a small excavator, which will be of a size to suit the confined environment. Any excavation spoil will be transferred to a waiting muck away lorry parked on Gas Works Road.

Taking into consideration that the site is next to the river Kennet if pockets of perched groundwater are encountered they will be dealt with by pumping into bulk water tankers parked in Gas Works Road.

- Concrete slabs and steel structure frame

Following the completion of the localized excavation and the foundations the 1st floor concrete slab will be cast. Once the new structure that will be located on the internal side of both existing and new walls has become fully self-supporting, the relevant elements of the permanent steel structure will be ready for installation.

Steel work will be delivered into site by positioning a small crane on the allocated secured site section off Gas Works Road.

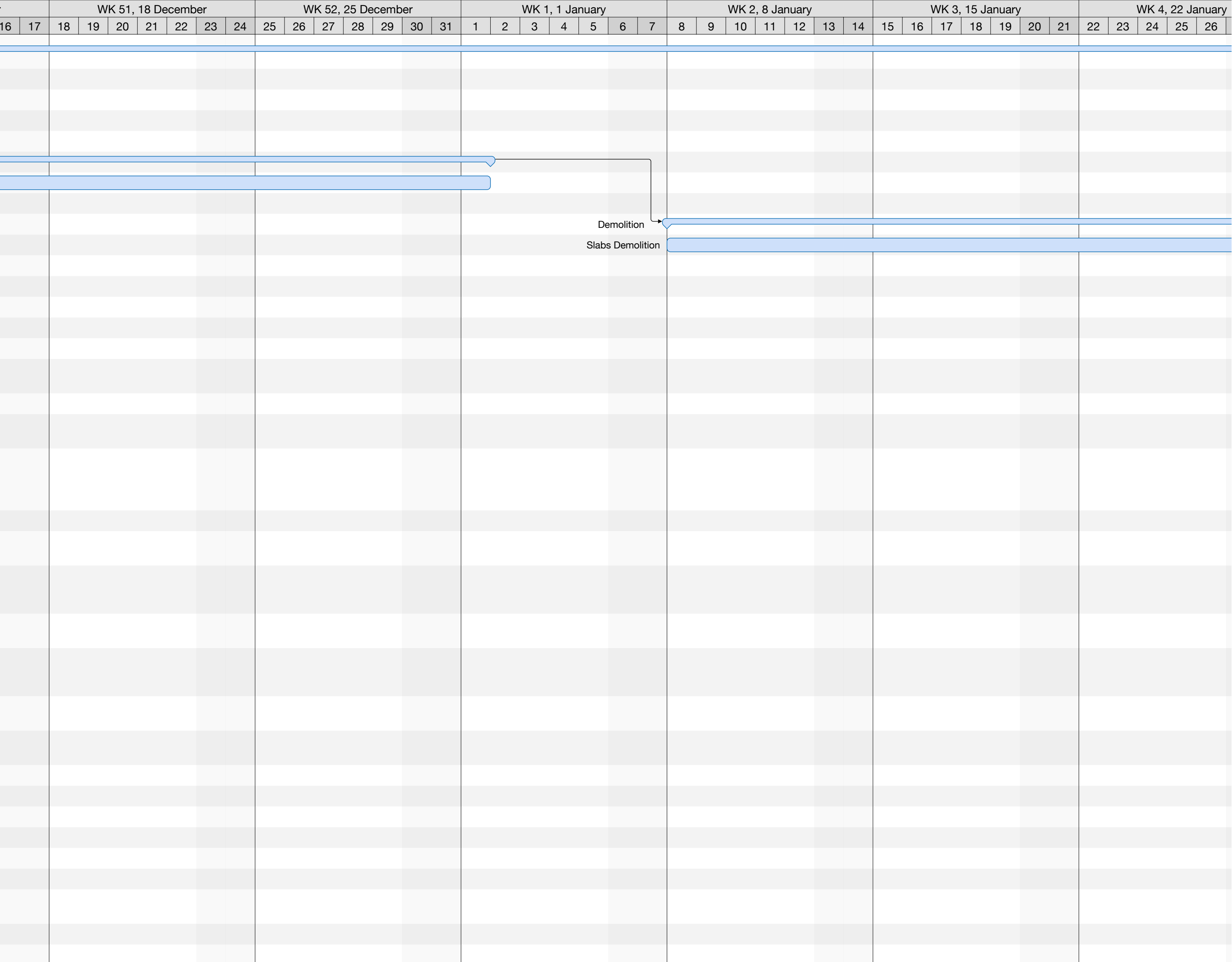
Waste materials will be removed by way of skips located on site as shown on drawing 1370-200B for the duration of the works.

- Water proofing works

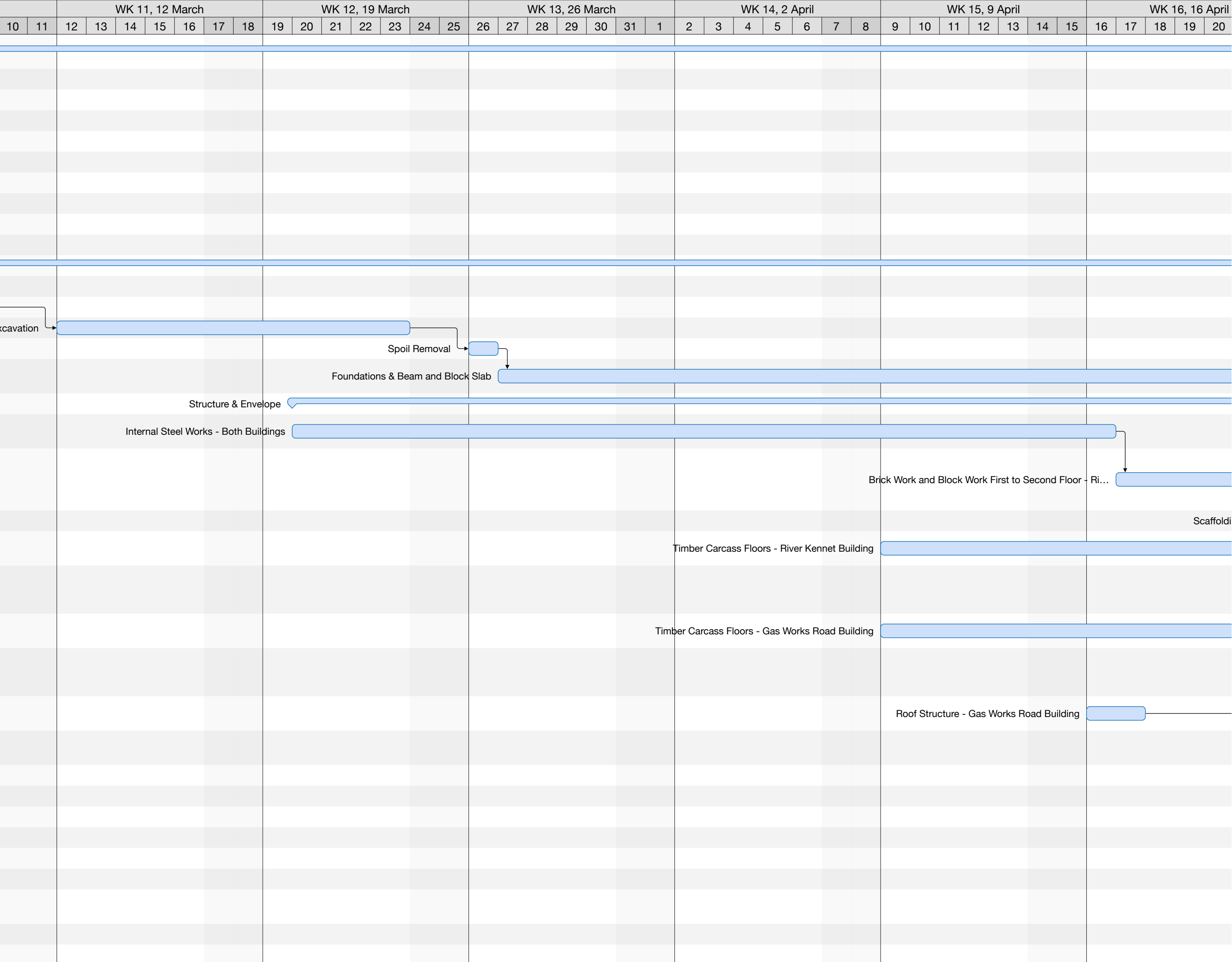
Once the structural works are complete the waterproofing system will be installed and both perimeter block work lining and frame walls will be built.

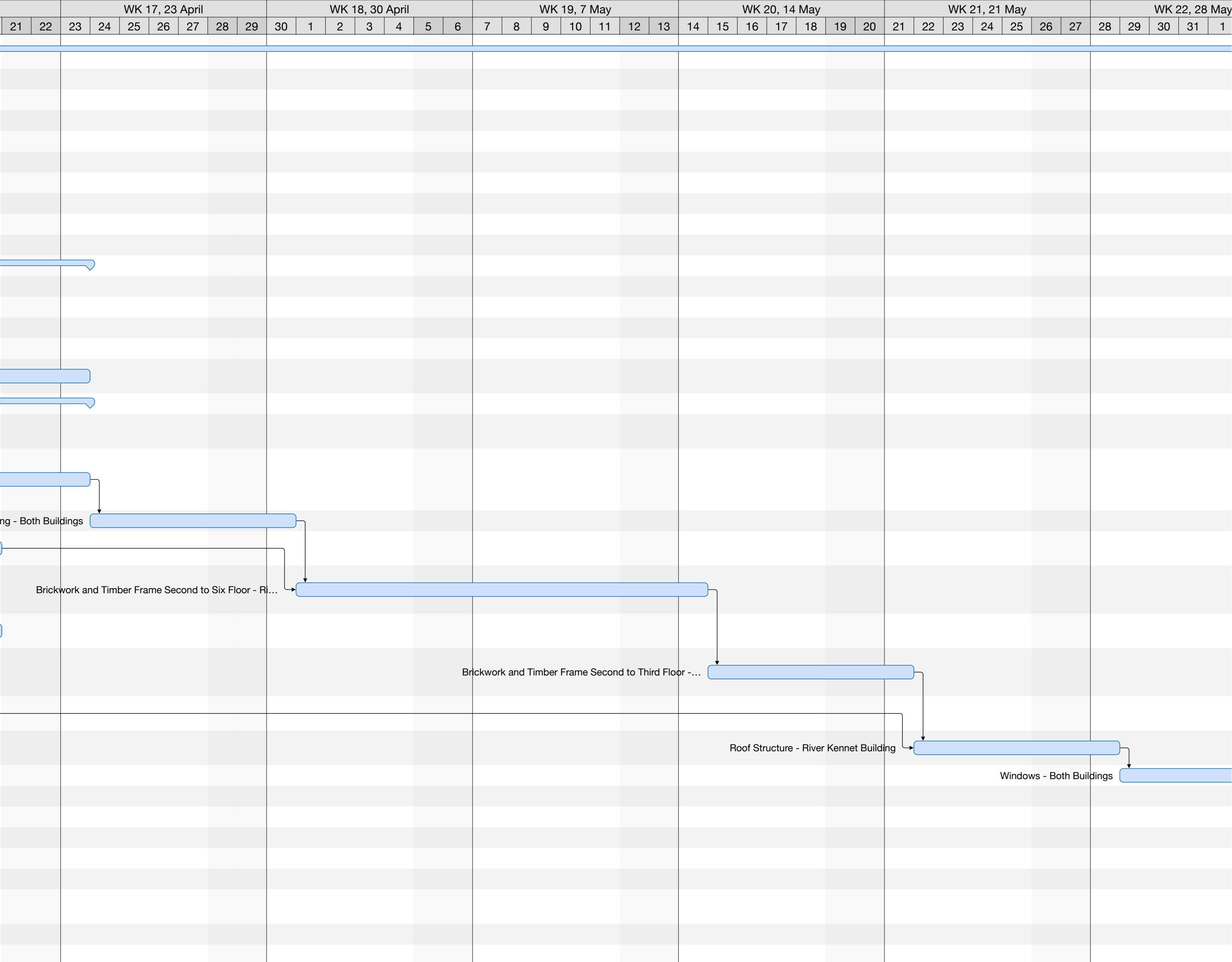
#	Traits	Title	Given Work	Given Earliest Start	WK 40, 2										WK 41, 9 October										WK 42, 16 October										WK 43, 23 October										WK 44, 30 October									
					7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4																					
0	🏠🕒	Former Gas Works Buildings - Preliminary Programme		16/10/2017	Former Gas Works Buildings - Preliminary Programme																																																	
1		Enabeling			Enabeling																																																	
2	🕒	Site Set Up	1 day	16 Oct 2017	Site Set Up																																																	
3	🕒	Soft Strip	2 weeks	17 Oct 2017	Soft Strip																																																	
4	🕒	Partial Demolition	2 weeks	17 Oct 2017	Partial Demolition																																																	
5	🕒	Geo-Technical Tests		7 Nov 2017																					Geo-Tec																													
6	🕒	Geotechnical Tests	8 weeks	7 Nov 2017																					Ge																													
7	🕒	Trial Pits	1 day	7 Dec 2017																																																		
8		Demolition																																																				
9	🕒	Slabs Demolition	6 weeks	8 Jan 2018																																																		
10	🕒	Substructure		5 Feb 2018																																																		
11	🕒	Site Clearance	1 week	5 Feb 2018																																																		
12	🕒	Underpining	2 weeks	12/02/2018																																																		
13	🕒	Localized Excavation	2 weeks	12/03/2018																																																		
14	🕒	Spoil Removal	1 day	26/02/2018																																																		
15	🕒	Foundations & Beam and Block Slab	4 weeks	27/02/2018																																																		
16	🕒	Structure & Envelope		20/03/2018																																																		
17	🕒	Internal Steel Works - Both Buildings	4 weeks	20/03/2018																																																		
18	🕒	Brick Work and Block Work First to Second Floor - River Kennet Building	1 week	26/03/2018																																																		
19	🕒	Scaffolding - Both Buildings	1 week	31/03/2018																																																		
20	🕒	Timber Carcass Floors - River Kennet Building	2 weeks	9 April 2018																																																		
21	🕒	Brickwork and Timber Frame Second to Six Floor - River Kennet Building	2 weeks	9 April 2018																																																		
22	🕒	Timber Carcass Floors - Gas Works Road Building	2 weeks	9 April 2018																																																		
23	🕒	Brickwork and Timber Frame Second to Third Floor - Gas Works Road Building	1 week	9 April 2018																																																		
24	🕒	Roof Structure - Gas Works Road Building	2 days	16 Apr 2018																																																		
25	🕒	Roof Structure - River Kennet Building	1 week	23 Apr 2018																																																		
26	🕒	Windows - Both Buildings	10 weeks	30 Apr 2018																																																		
27	🕒	Roof Tiling - Both Buildings	8 weeks	30 Apr 2018																																																		
28	🕒	External Works	4 weeks	11 Jun 2018																																																		
29	🕒	Rainwater Goods	2 weeks	18 Jun 2018																																																		
30	🕒	Strike Scaffold	1 week	2 July 2018																																																		
31	🕒	Internal Works		9 July 2018																																																		
32	🕒	Internal Decoration Works - Both Buildings	14 weeks	9 July 2018																																																		
33	🕒	External Works		10/09/2018																																																		
34	🕒	Landscape Works	1 week	10/09/2018																																																		

4				5				6				7				8				9				10				11				12				13				14				15				16				17				18				19				20				21				22				23				24				25				26				27				28				29				30				1				2				3				4				5				6				7				8				9				10				11				12				13				14				15				16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
WK 45, 6 November				WK 46, 13 November				WK 47, 20 November				WK 48, 27 November				WK 49, 4 December				WK 50, 11 December																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							



[illegible]





[illegible]

[illegible]

[illegible]

[illegible]

4.0 CONSTRUCTION MANAGEMENT ACTION PLAN

The following sections outline the key elements for consideration. This document demonstrates FB Construction's commitment to manage, control and where possible mitigate their impact on the local community and infrastructure.

Many of the issues identified will be further developed and dealt with in the contractor's detailed site based method statements. Method statements will be prepared and agreed for all major site operations in advance of the relevant works commencing.

4.1 COMMUNICATION

Neighbourly Relations

The site is within an office and residential area. Maintaining good neighborly relations is assisted greatly by good communication, and by keeping third parties regularly informed of the site activities, which are likely to impact on adjoining residents and office workers.

A construction site is an ever-changing environment. This makes good communication between site management and subcontractors essential for the successful running of a site. FB Construction will brief the subcontractors on site management and they will then hold Tool Box Talks with their operatives on a regular basis to ensure that the subcontractors are aware of their responsibilities.

Regular newsletters will be produced to keep neighbors advised of future events, general progress of the works and the requirements for any abnormal works. Appropriate signage and information boards will be displayed on site hoardings.

Considerate Constructors Scheme

FB Construction will register and comply with the requirements of the Considerate Constructors Scheme for the duration of the project.

The works will be carried out in accordance with the Considerate Constructors Scheme and in such a way as to minimize the impact on the local environment and amenities.

A contact board will be displayed outside the site providing contact details. This will include names and telephone numbers of key construction staff so that neighbors and the general public can contact should they have cause to do so.

A complaints / contact book will be kept on site, which will be used to record details of any complaints. This will include the name of the person making the complaint, the date, time and nature of the complaint and the action necessary to resolve the complaint. The complaints book will be regularly reviewed to ensure that any complaints are dealt with and resolved promptly [sample below].

 Project Complaints Register						
Date of complaint	Name & Details of Caller	Nature of complaint	External notification required	Status [tick stages completed]	Date actioned	Notes
			☐ No ☐ Yes Date of notification: .../.../...	☐ Being investigated		
				☐ Resolution proposed		
				☐ Resolved		
				☐ Remains unresolved		

4.2 SITE ESTABLISHMENT

A security hoarding will be erected around the site and along the boundary walls, with a personnel and vehicle access/exit gate to the site during the works allocated on Gas Works Road side [See Location Plan Drawing 1370-200B]. It will be kept in a clean and tidy condition throughout the works. All hoardings / fencing will be regularly checked and maintained in a clean and tidy condition and signage will be positioned so it is clearly visible to warn members of the public of any potential hazards surrounding the site.

FB Construction will when necessary seek to extend the permission with the Gas Works Road owners for the partial closure of the carriageway and footways.

The site will be maintained in a safe and tidy manner with the implementation of good housekeeping procedures regularly checked by the contractor's Health and Safety Advisor on fortnightly site inspections and be set up with temporary power, water and drainage throughout the duration of the works. The contractor will register the site under the Considerate Constructors scheme and they will therefore comply with the scheme's Code of Practice.

During Construction works the contractor and sub-contractors will have an oasis unit onsite and a separate toilet block. To prevent dust and mud being transferred onto the adjacent roads the areas around the spoil lorries will be regularly swept and washed down.

A road sweeper will also visit on a regular basis to any mud that is transferred onto the road network.

Water supply and drainage:

FB Construction will be applying for a temporary water supply from Thames Water for the site accommodation and welfare facilities on site.

4.2.1 Access

Access to the site will be from Gas Works Road. [See Logistics Drawing No 1370-200B].

Wheel washes will be set up at the exit of the site during construction. Each wheel wash will have its own supply of water, which will be stored in an adjacent container. The water from the wheel wash will be caught and recycled back into the container for the next use. This will not only ensure that the water table is not contaminated by site activities, but is also environmentally friendly water consumption for the site to adopt.

The footpath adjacent to the site along Gas Works Road will be partially closed up so pedestrians will be encouraged to use the footpath on the other side of the road during Construction works.

4.2.2 Construction Traffic Management Plan

FB Construction will liaise with the neighboring properties, so far as is reasonably practical, so that deliveries and other construction operations are coordinated to minimize any negative impact on the residents and users of the roads.

Access to the site will be done through Gas Works Road with delivery times to be between 9:30 am and 16:30 pm in order to reduce the impact on residents leaving and returning to their properties in the peak hours.

All deliveries to site will be undertaken with full regard paid to:

- Reduction and control of plant movements
- Reversing vehicles directed by a Competent Person
- Pedestrian and vehicle directional signage – suitable barriers will be erected when deliveries arrive to prevent pedestrians accessing the unloading area.
- Mobile plant will only be operated by a Competent Person with a Banks Person in attendance to any movements

Consultation with Borough of Reading will continue throughout the project to ensure:

- Construction methods minimise the potential impact on nearby residents
- Maintenance of the existing public highway
- Segregation of all pedestrians, public or employees, on or in the vicinity of the site

Monitoring

The contractor will monitor the Traffic Management Plan at fortnightly intervals [or less as necessary]. It will take account of any specific street conditions or other deliveries or collections such as refuse collections or other planned deliveries that may affect traffic movement locally.

Traffic Routing

Both site access and site exit will be done through Gas Works Road as shown on drawing 1370-204.

The manoeuvres will involve reversing that will be done with the help of a Competent Person.

FB Construction will leave a clear area between the security hoarding and the existing emergency access bollards and between the security hoarding and the other side of the road in order to keep a clear access in case of emergency.

4.2.3 Working Hours

Working hours will be 08.00 – 18.00 on Monday to Friday and 08.00 – 13.00 Saturdays

Delivery times to be between 9:30 am and 16:30 pm on week days.

4.2.4 Fire and Emergency Procedures

Contact names and telephone numbers will be made available in case of 'out of hours' emergencies relating to the site. This information will be displayed on the hoarding.

FB Construction shall implement procedures to protect the site from fire.

A Site Fire Safety Coordinator will be appointed to assess the degree of fire risk and formulate a Site Fire Safety Plan, which will be updated as necessary as the works progress and will also include the following:

- Hot Work Permit regime
- Installation of the site fire fighting equipment e.g. establishing fire points and installing and maintaining fire extinguishers etc
- Evacuation alarm
- Material storage and waste control
- Fire Brigade access

4.2.5 Security

All site personnel will have to sign in on arrival and sign out before leaving the site. This will be incorporated into the Site Rules and included as part of the site induction process.

The security hoarding will be regularly inspected to ensure that it remains secure. The access to the site will be fitted with a combination security lock to only allow access for authorized personnel. The name and contact details of an appropriate member of staff will be provided in case of emergencies.

4.2.6 Health and Safety

A Construction Health and Safety Plan will be prepared for the works in accordance with the CDM Regulations. Risk Assessments will be developed and agreed. Sub-contractors' detailed method statements will also be produced and safe methods of work established for each element of the works.

Site inductions will be held for all new site personnel to establish the site rules and to enforce safety procedures. All site personnel will be required to read the emergency procedures when signing in for the first time, and sign to the effect that they have read the procedures. These will include any relevant neighborly issues.

4.2.7 Scaffolding

Scaffolding will be erected as per FB Construction's proposals to follow. Obtained licenses if necessary should be in place in due course.

Scaffolding will commence while the main steel structure is progressing. [See Programme]

Contractor to submit information to Health and Safety advisor in relation to the height, length and design of maximum working loads to be imposed and maximum number of people with specific period of time the scaffold is required to be in place.

4.2.8 Main Plant

A mini-piling rig will be used for the piling works. This will be small enough to fit through the site. The power unit for the piling rig will need to be located within the site. The exhaust will be vented.

Excavators will be used for the localized excavation and load excavated material into skips that will be then taken by lorries for removal from site. These excavators will be sized to access and operate within the confines of the site.

Air quality within the site will be continually monitored and forced ventilation systems will be introduced if required.

Lorry mounted Hiabs will be used to off load steel beams that will be required as part of the works.

At this stage it is envisaged that a small crane will be placed during the course of the construction works, within a designated site area to be confirmed by FB Construction.

4.2.9 Water supply and drainage

FB Construction will be applying for a temporary water supply from Thames Water for the site accommodation and welfare facilities on site.

Wheel washes will be set up at the exit of the site during construction. Each wheel wash will have its own supply of water, which will be stored in an adjacent container. The water from the wheel wash will be caught and recycled back into the container for the next use. This will not only ensure that the water table is not contaminated by site activities, but is also environmentally friendly water consumption for the site to adopt.

4.2.10 Good Housekeeping

The site will be kept in a clean and safe condition. The areas adjacent to the site will be regularly inspected and any rubbish or litter removed.

- Adjacent roads and pavements will be kept clean.
- Perimeter security hoardings will be repainted from time to time and will be kept in a neat and tidy condition.
- Any graffiti will be quickly removed from the security hoardings.
- Off-loading will generally be direct from vehicles onto the site. Materials will not be stored on public footpaths or roads.
- Waste and rubbish will be regularly removed from site and not allowed to accumulate so as to cause a safety or fire hazard.
- Activities that have the potential to cause dust will be carefully monitored and dust reduction methods employed. This will include water spray, dust extraction and localised screening where appropriate.
- Welfare facilities will be provided within the site to discourage operatives from frequenting the interface between the site and public areas. Site operatives will not be allowed to congregate or loiter on the footpath or road adjacent to the site.

4.2.11 Parking

For the parking of vehicles of Site Personnel, Operatives and Visitors, FB Construction will seek permission from the local pub across the bridge to use their car park [as mentioned on the demolition method statement], or seek an agreement with the Toys are Us store management for a daily or monthly fee for the necessary amount of car park spaces needed, which according to the parkopedia website it's 10£ per 2 hours or 180£ per month. Please refer to drawing 1370-208 Parking Plan.

4.3 Environmental Issues

FB Construction will, as done during the demolition phase and stated on the Demolition Method Statement [application reference 171160], operate in accordance and as well pursue the following objectives:

- Conduct our activities with proper regard to the protection of the environment.
- Comply with all relevant regulatory and legislative requirements and codes of practice.
- Communicate with local communities to ensure the work causes the minimum disturbance and disruption.
- Ensure that staffs have a good understanding of the environmental impacts of construction and what is expected of them to minimise these impacts.
- Ensure that suppliers and sub-contractors are aware of this policy and ensure they apply similar standards to their own work.

Before construction stage commences the following activities will be carried out to deal with environmental management:

- Preparation of the Project Environmental Plan in line with the ISO 14001 Environmental Management System.
- Preparation and consultation with statutory authorities to obtain approved licenses and consents for discharge and putting the stated consent conditions and controls in place through the Project Environmental Plan.
- Discharge of all conditions related to pre-construction stage.

4.3.1 Site Waste Management Plan [SWMP] [the requirements of the Site Waste Management Regulations 2008]

All waste materials will be removed from site by a licensed waste contractor, discharged via Gas Works Road using skips or lorries.

All waste from this site will be dealt with in accordance with the waste duty of care in Section 34 of the Environmental Protection [Duty of Care] Regulations 1991 [b]. Materials will be handled efficiently and waste managed appropriately.

FB Construction aims to minimize waste and to recycle as much material as possible. Due to the limited space on site, waste will generally be sorted for recycling at the waste transfer station. This element of the works will be carried out by one of the licensed sub-contractors specializing in waste management.

Taking into consideration the previous site use, both Gas Works Road - Phase I Geo-Environmental Study and Former Gas Works, Reading - Phase 2 Contamination Method Statement will be sent in due course in order to provide extra clarification to the extend or non-extend of the site land contamination.

A brief description of what the SWMP includes is listed below:

MANAGEMENT

The Contracts Manager is the Environmental Coordinator of the project and as such is responsible for ensuring the instruction of workers, implementation and overseeing of the SWMP.

The Contracts Manager will monitor the effectiveness and accuracy during the routine site visits.

Health and safety advisors will carry out independent audits via site health and safety inspections.

DISTRIBUTION

The SWMP will be issued to the CDM Coordinator, Client, Site Manager and each sub-contractor where relevant/applicable. This will be undertaken every time the plan is updated.

INSTRUCTION AND TRAINING

The Site Manager will provide on-site briefing via induction of project environmental consideration, risks and actions, appropriate waste separation, handling, recycling, re-use and return methods to be used by all parties and at appropriate stages of the project where applicable.

Toolbox talks will be carried out regularly on environmental and waste issues and all sub-contractors will be expected to attend. This will ensure that everyone feels they are included and that their participation is meaningful.

WASTE MINIMIZATION

Action	Responsibility	Date when action completed
Exploring possibility of reusing the existing and excavated materials on site	Site Manager	
Materials particularly timber procured from renewable source [FSC] approved.	Buyer	

Tyres of lorries leaving the site to be washed [where and when required] to avoid contamination of nearby roads.	Site Manager	
Where possible, plasterboard sheets are to be made to standard sizes to suit in order to reduce the amount of off cuts	Site Manager	

All of the above act to reduce the amount of waste and surplus materials, which traditionally would be skipped and sent to landfill. FB Construction will be continually identifying waste minimization actions and these will be updated in the above table.

SEGREGATION

A specific area shall be laid out and labeled to facilitate the separation of materials for potential recycling, salvage, reuse and return. Recycling and waste bins are to be kept clean and clearly marked in order to avoid contamination of materials. The labeling systems shall be the Waste Awareness Colour Coding Scheme. If the skips are clearly identified the bulk of the workforce will deposit the correct materials into the correct skip. Skips for segregation of waste identified currently are:

- Wood
- Metal
- Brick/rubble
- Canteen waste

As works progress and other trades come to site other skips will be placed to enable certain waste to be removed from site. This is likely to include:

- Plasterboard
- Paper and cardboard [bagged up]

WASTE MANAGEMENT

Waste materials fall into three categories for management, these are: Re-use, Recycle, Landfill

- Re-used

If surplus materials can be used in the permanent works they are classified as materials, which have been re-used. If they are surplus to requirements and need to be removed from site and they can be removed and used in their present form, they can be removed from site for reuse.

- Recycling

If the surplus material cannot be re-used in its present form but could be used in a different form, it is sent for recycling such as 50x50 timber to make chipboard and the imperial bricks.

- Landfill

If either of the above cannot be satisfied then the only option left is to send the surplus materials to landfill. However, landfill is always a last resort.

WASTE MANAGEMENT PROCESS

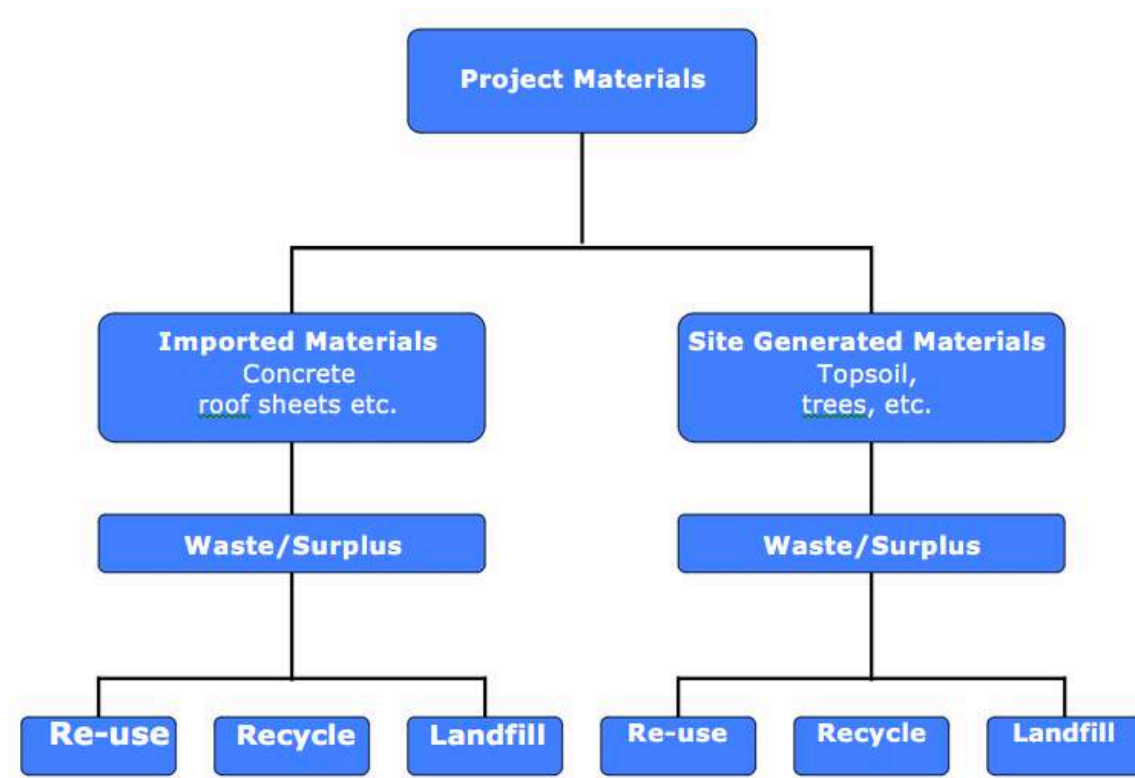


TABLE FOR WASTE TYPES AND WASTE MANAGEMENT PACKAGES

Waste Types	WM Contractor	WM Package
	Contact Details	

Construction Works		
Metals-reinforcement		Scrap-value
Metals-off cuts		Scrap-value
Timber		Re-use
Paper / Cardboard		Re-cycle
Canteen Waste		Landfill

MONITORING

The skips will need to be monitored to ensure that contamination of segregated skips does not occur. Therefore, FB Construction will advise regularly on how the waste management system is working.

FB Construction will continually review the type of surplus materials being produced and where they can change the site set up to maximize on re-use or recycling and the use of landfill will be the last resort.

The plan will be communicated to the whole project team regularly. Updates will be communicated and discussed at Management and Health and Safety Committee meetings.

4.3.2 Dust, Noise and Vibration

Dust

The same measures, as the ones applied during the Demolition stage and mentioned on the Demolition Method Statement Appendix D will be taken into consideration by FB Construction.

Noise and Vibration

FB Construction are already fully aware of the sensitivities to noise of those occupying the adjacent properties. All reasonable steps will be taken to minimize any noise disruption to adjacent occupiers. They will confirm that NRMM [Non-Road Mobile Machinery] standards will be met and will keep on following the same standards as the ones mentioned on the Demolition Method Statement [measures specific to noise control] and that will be incorporated into a site-specific Construction Environmental Management Plan [CEMP].

t 0207 258 0411

a Unit 22 | The Artworks | Elephant Road
London | SE17 1AY

The CEMP will then be agreed in consultation with Reading Borough Council.

5.0 RISK ASSESSMENT

For the usual activities involved in the construction projects the company has carried out Risk Assessments for Site Based Activities, which are included in the Site File. For the specific activities in the proposed works carrying significant health and safety risks, which are not covered in the company Risk Assessments for Site Based Activities, the company will develop specific Risk Assessments and Method Statements as listed in this section.

All sub-contractors are required, prior to commencing work on site, to provide Risk Assessments for their activities on site. Their Risk Assessments are included in the File available on site. These risk assessments will be checked by the site and contracts manager for compliance with FB Construction procedures, and monitored by the director responsible for health and safety.

5.1 Dust & Emissions Risk Assessment

This Risk assessment is based on the Mayor of London's best practice guidance to the Control of Dust and Emissions during Construction and Demolition, which aims to reduce dust emissions of PM10 and PM2.5 from construction and demolition activities as well as to manage emissions of nitrogen oxides [NOx] from construction and demolition machinery.

Inventory and timetable of all dust and NOx air pollutant generating activities

SUBSTRUCTURE

Substructure are those activities involved in preparing the Site for construction such as excavation of material, excavation of the foundations and removal of material, haulage, tipping, stockpiling and leveling, with no crushing of materials will take place on site.

Substructure activities are likely to last for a month, during the early winter, which will generally be dry months. The ground investigation is currently being procured.

SUPERSTRUCTURE

There are a number of issues that can impact the dust emission class during construction activities including the size of the building, materials used for construction, the method of construction and the duration of the build.

It is anticipated that the construction will occur over 75 weeks, commencing March 2018. Based on the current design layout the buildings will be constructed with load bearing masonry for the residential buildings with steel beams and insulated timber frame floorings.

All concrete will be ordered as per required volume delivered to site and pumped from mixer/truck and therefore there will not be any concrete batching. FB Construction confirms that there will be no sand blasting carried out on the site. Given the size of the new buildings, it is therefore considered to have a dust emission class of 'medium' with regards to construction activities.

VEHICLE MOVEMENTS [MEDIUM]

The risk of impacts occurring via vehicle movement is predominantly dependent on the number of vehicles accessing the site on a daily basis. The number of vehicles that enter and exit the site will be greatest during substructure and superstructure phases. This will be dealt with by wheel washes at the site gates, and regular visits from a road sweeper to site. All site deliveries will be across the existing car parking surface so little or no mud / dust from this source is anticipated. With these control measures in place mud will not be deposited on the road.

Results of an air quality [dust] risk assessment

Informal study indicates that there is no risk for the construction of the residential blocks.

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Track out
Dust Soiling	N/A	Medium Risk	Low Risk	Low Risk
Human Health	N/A	Low Risk	Negligible	Negligible
Ecological	N/A	N/A	N/A	N/A

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Track out
Dust Soiling	Medium Risk	Medium Risk	Medium Risk	Medium Risk
Human Health	Negligible	Low Risk	Low Risk	Low Risk
Ecological	N/A	N/A	N/A	N/A

FB Construction dust and emissions control methods

Dust and Emissions from construction activities can be substantially reduced through various mitigation methods and careful site management. The most effective technique is to control dust is at source, as once particles are airborne it becomes more difficult to prevent them from spreading. However, once airborne, water sprays are probably the most effective method for suppression.

Within the FB Construction procedures there is a list for guidance to all site managers and operatives of how they should be preventing dust and emissions for various activities and stages of all of FB Construction's projects. A copy of these are available in:

- Dust Generation Guidance/Checklist – Appendix C
- Dust Suppression Guidance – Appendix D
- Prevention of Emissions and Odours Guidance/Checklist – Appendix E

Below is a list of preventative measures that will be put in place at Former Gas Works Buildings:

Haul Routes

- Select suitable haul routes away from sensitive sites if possible
- Pave heavily used areas or use geotextiles [around batching plant, haul routes, etc, sweep often]
- Provide a length of paved road before exit from site
- Keep haul road widths to a minimum to minimise surface area
- Sweep paved access roads and public roads regularly using vacuum sweeper
- Limit vehicle speeds – the slower the vehicle the less dust generation
- Damp down where appropriate

Plant

- Clean wheels of vehicles leaving the site to prevent mud spreading to surrounding roads
- Ensure that exhausts do not discharge directly to the ground
- Earthworks and excavations
- Re-vegetate, seal temporary, or complete earthworks as soon as possible
- Keep earthworks damp – try to programme to avoid exceptionally dry weather
- Well maintained plant and equipment

Material handling and storage

- Locate stockpiles out of the wind or provide windbreaks to minimise dust generation
- Keep stockpiles to minimum practicable height and use gentle slopes
- Compact and bind stockpile surfaces [in extreme cases].
- Re-vegetate long term stockpiles
- Minimise the storage time of materials on site
- Store materials away from the site boundary and downwind of sensitive areas
- Ensure that all dust generating material is transported to and from site in covered wagons
- Minimise the height of fall of all materials
- Avoid spillage, and clean any spill up as soon as possible

- Damp down materials where necessary

Concrete batching and pouring

- Mix large quantities of concrete or bentonite slurry in enclosed/shielded areas
- Before concrete pours vacuum debris in formwork rather than blowing it out
- Keep large concrete pours clean after they have gone off. They can generate large quantities of dust

Cutting / grinding / grouting / packing

Minimize cutting and grinding on site on:

- Cutters and saws, use equipment and techniques such as dust extractors to minimise dust
- Spray water during cutting of concrete and masonry products to minimise dust

Control measures specific to demolition

- Water suppression [damping down] will be used during demolition operations

Measures specific to construction

- No aggregate materials will be stockpiled onsite.

Measures specific to track-out

- Water-assisted dust sweeper[s] on the access and local roads, to remove, as necessary, any material tracked out of the site.
- Dry sweeping will not be undertaken
- Vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site log-book.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler system, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10m from receptors where possible.

Trained & Responsible Personnel

FB Construction's site manager will be trained and responsible for the air-quality on the Former Gas Works Buildings site. They will ensure that the sub-contractors, the client and any visitors to site are aware of their individual responsibilities to air-quality at Former Gas Works Buildings. All environmental control measures are listed in the project management plan.

FB Construction will also keep the client informed on any developments that may affect the air-quality on site. Should this cause concern then meetings will be held with all affected parties to discuss and decide the way forward.

The client has arranged for dust monitoring to be undertaken on site during the demolition, enabling works and ground works. This is detailed over the page.

Summary of Monitoring Protocols

According to the DEFRA Background Maps PM10 concentrations in the vicinity of the site is in a range between 25-31 $\mu\text{g}/\text{m}^3$. Based on the proximity of the residential receptors to the site boundary and the local concentrations of PM10 [below 24 $\mu\text{g}/\text{m}^3$], the sensitivity of the surrounding area is considered to be 'low' with regards to human health impacts.

Site Log Book

FB Construction will have a site log book on site which the site manager will ensure is kept up to date at all times. This log book will be made available to FBC and the client should they wish to review an incident on site.

The log book will record:

- The date and time of an incident
- Particulars of the incident
- The mitigation measures taken to remedy it
- And the measures employed to prevent a similar incident occurring in the future.

Date	Incidents or dust-causing episodes	Mitigation measure taken to remedy	Measures employed to prevent a similar incident reoccurring

Low Emissions Strategy

From 1 September 2015 all construction sites had to ensure that all NRMM [Non-Road Mobile Machinery] of net power between 37kW and 560kW used on site meet engine emissions standards from EU Directive 97/68/EC.

Engine standards are given EU Emission Stages in the Directive and are listed in the table below. Engine categories on engine plates identify the EU Emissions Stage.

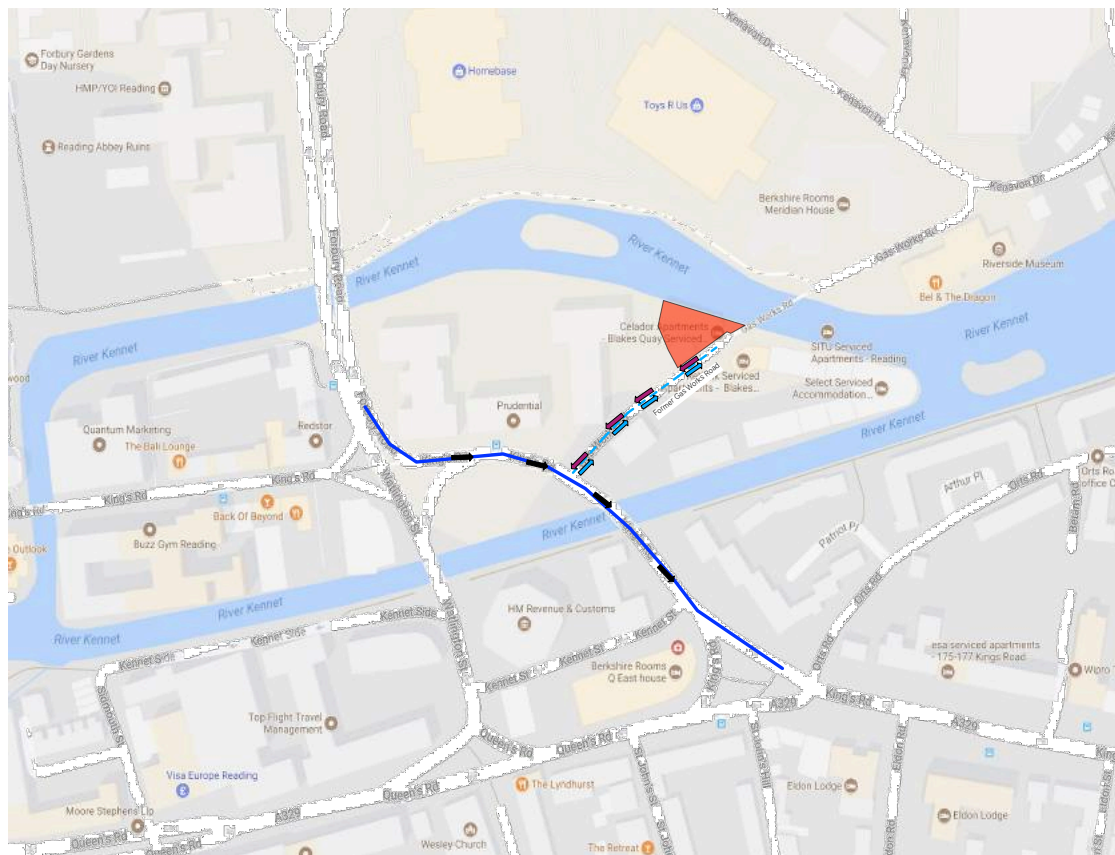
Engine Category Letter	EU Emissions Stage	Current Requirement
A-C	EU Stage I	
D-G	EU Stage II	
H-K	EU Stage IIIA	Greater London
L-P	EU Stage IIIB	Central Zone Activity
Q-R	EU Stage IV	

FB Construction have produced a bulletin [40] on NRMM [available in Appendix G] which explains to the project teams the requirements and how to record the information from engine plates onto the register. And this will be put into practice at Bow Common Residential.

FB Construction's site manager will keep a register [a copy of a register is available in Appendix H] of all equipment on site, and will make this available for FBC inspection upon request.

6.0 APPENDICES

APPENDIX A – LOGISTICS PLAN [drawing 1370-204]



Notes: Do Not Scale
Check all dimensions on site
© Dunthorne Parker Architects

Key

Direction of Traffic

Incoming Vehicles

Outgoing Vehicles

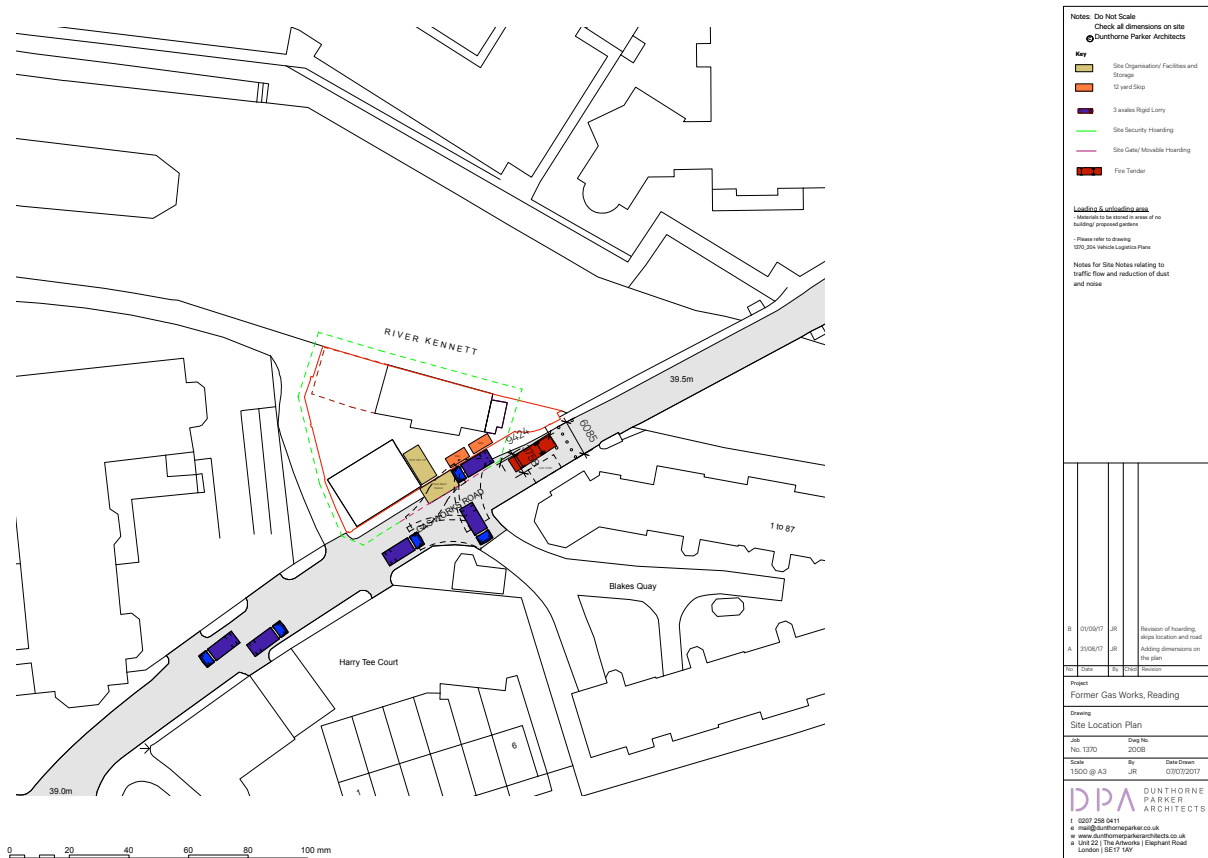
No.	Date	By	Check	Revised
Project Former Gas Works, Reading				
Drawing Vehicle Logistic Plan				
J&K	No. 1370	Drawn by	No.204	
Scale	NS @ A3	By	JR	Date Drawn 22/08/2017

DPA

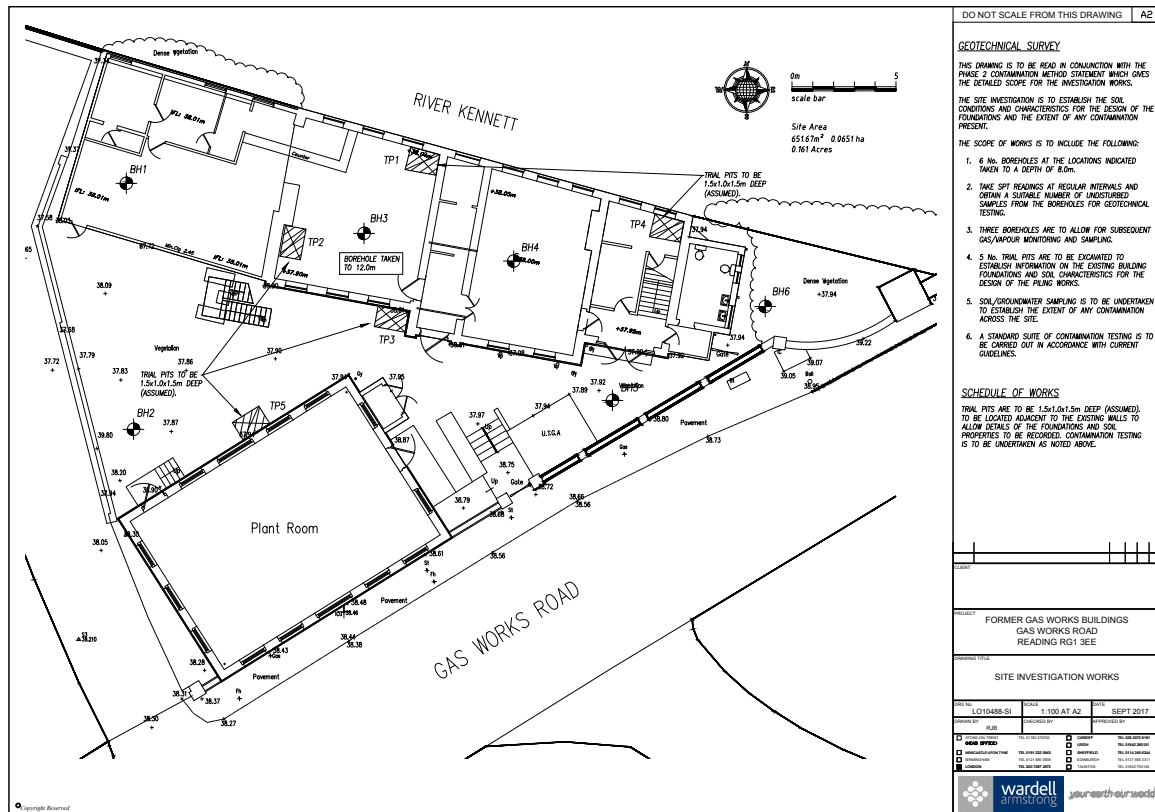
DUNTHORNE
PARKER
ARCHITECTS

t 0207 258 0411
e mail@dunthorneparker.co.uk
w www.dunthorneparkerarchitects.co.uk
a Unit 22 | The Artworks | Elephant Road
London | SE17 1AY

APPENDIX A – LOCATION PLAN [drawing 1370-200B]



APPENDIX A – TRIAL PITS [drawing LO10488-SI]



APPENDIX B – Impact of Construction on Air Quality

Examples of ‘highly recommended’ mitigation measures for construction sites, and specific to demolition, construction and track out:

It is suggested that the ‘highly recommended’ measures as set out in the IAQM ‘Guidance on the assessment of dust from demolition and construction’, are incorporated into an Air Quality and Dust Management Plan [AQDMP] as part of a CEMP, and are approved by The London Borough of Tower Hamlets prior to commencement of any work on site. Examples of some of the measures are shown below:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- Display the name and contact details of the person accountable for air quality and dust issues on the site boundary [i.e. the environment manager/engineer or site manager];
- Display the head or regional office contact information on the site boundary;
- Record all dust and air quality complaints, identify causes, take appropriate measures to reduce emissions in a timely manner and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on or off-site and the action taken to resolve the situation in the log book;
- Carry out regular site inspections to monitor compliance with the DMP, record inception results and make inspection log available to Reading Council
- when asked;
- Increase frequency of site inspection by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged periods of dry or windy conditions;
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles;
- Fully endorse site or specific operations where there is a high potential for dust production and the activities are being undertaken for an extensive period; building will be enclosed with scaffold sheeting.
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site.
- Cover, seed or fence stockpiles to prevent wind whipping;
- Ensure all vehicles switch off engines when stationary – no idling vehicles
- Skips, chutes and conveyors should be completely covered and, if necessary, completely enclosed to ensure that dust does not escape. Drop heights will be minimised to control the fall of materials.

Measures specific to demolition

- Ensure water suppression is used during demolition operations
- Avoid explosive blasting, using appropriate manual or mechanical alternatives;
- Bag and remove any biological debris or damp down such material before demolition.

Measures specific to construction

Ensure sand and other aggregates are stored in bonded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. Measures specific to track out:

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

APPENDIX C – DUST GENERATION GUIDANCE/CHECKLIST

Dust Generation Guidance/Checklist	
Completed by:	Date:
Haul routes	✓
1 Select suitable haul routes away from sensitive sites if possible	
2 Pave heavily used areas or use geotextiles [around batching plant, haul routes, etc, sweep often]	
3 Provide a length of paved road before exit from site	
4 Keep haul road widths to a minimum [while still allowing 2-way traffic] to minimise surface area	
5 Sweep paved access roads and public roads regularly using vacuum sweeper	
6 Limit vehicle speeds – the slower the vehicle the less dust generation	
7 Damp down where appropriate [see guidance on dust suppression Appendix 2]	
Demolition	
1 Use enclosed chutes for materials with potential to cause dust, dampen chutes regularly	
2 Ensure the use of mobile crushing plant is in accordance with the Environmental Protection Act 1990, and has Part B authorisation from the Local Authority	
3 Locate crushing plant away from sensitive areas	
Plant	
1 Clean wheels of vehicles leaving the site to prevent mud spreading to surrounding roads	
2 Ensure that exhausts do not discharge directly to the ground	
Earthworks and excavations	
1 Revegetate, seal temporary, or complete earthworks as soon as possible	
2 Keep earthworks damp – try to programme to avoid exceptionally dry weather	
Material handling and storage	
1 Locate stockpiles out of the wind or provide wind breaks to minimise dust generation	
2 Keep stockpiles to minimum practicable height and use gentle slopes	
3 Compact and bind stockpile surfaces [in extreme cases]. Revegetate long term stockpiles	
4 Minimise the storage time of materials on site	
5 Store materials away from the site boundary and downwind of sensitive areas	
6 Ensure that all dust generating material is transported to and from site in covered wagons	
7 Minimise the height of fall of all materials	
8 Avoid spillage, and clean any spill up as soon as possible	
9 Damp down materials where necessary [see guidance on dust suppression Appendix 2]	
Concrete batching and pouring	
1 Mix large quantities of concrete or bentonite slurry in enclosed/shielded areas	
2 Before concrete pours vacuum debris in formwork rather than blowing it out	
3 Keep large concrete pours clean after they have gone off. They can generate large quantities of dust	
Cutting/grinding/grouting/packing	
1 Minimise cutting and grinding on site	
2 On cutters and saws, use equipment and techniques such as dust extractors to minimise dust	
3 Spray water during cutting of concrete and masonry products to minimise dust	

APPENDIX D – DUST SUPPRESSION GUIDANCE

Dust Suppression Guidance

Damping down using water

The most effective application of water in suppressing dust is by using a fine spray, but the efficiency depends on the speed of the bowser.

Repeat spray regularly and frequently, especially during warm and sunny weather when water will evaporate quickly.

Consider spraying:

- Unpaved work areas subject to traffic or wind
- Structures and building during demolition
- Sand, spoil and aggregate stockpiles [this has only a very temporary and slight effect]
- During loading and unloading of dust generating materials

Note:

If water is to be abstracted from a watercourse then formal consent must be obtained.

Damping down using water with chemical additives or binders

Although spraying with water is effective when it is first applied the effect may not last long. Repeated application, particularly in very dry weather may in itself be environmentally unacceptable. For some applications and particularly for haul roads the addition of a water retaining binder may be beneficial.

Spraying with water and chemical additives is more effective than using water alone because it reduces the number of passes per day and the volume of water needed.

Several proprietary methods are available which include:

- Calcium chloride – spread on unmade aggregate roads, neat at 2kg/m³ or made surfaces at 1.5 liquor/water dilutions
- Magnesium chloride – claimed to be 95% effective on sand and gravel roads
- Proprietary brands – especially polymer bonding agents applied as a water additive

These have been used successfully in the past especially at mineral workings

There is no general guidance as to which additive is best. The cost of the additives has to be weighed up against savings in water supply, bowser usage and downtime. Take care to avoid over application, which may cause pollution.

Note:

Advice from the Environment Agency should be sought prior to additives being used.

APPENDIX E – PREVENTION OF EMISSIONS AND ODORS GUIDANCE/CHECKLIST

Prevention of Emissions and Odours Guidance/Checklist	
Vehicles and plant	✓
1 Keep vehicles and plant used on site well maintained and regularly serviced	
2 Ensure that all vehicles used by contractors comply with MOT emission standards at all times	
3 Control deliveries to site to minimise queuing	
4 Make sure that engines are switched off when not in use	
5 Control car parking to minimise queuing	
6 Keep refuelling areas away from the public	
No fires on site	
1 Do not burn waste materials on site	
Waste storage	
1 Use covered containers for organic waste and remove frequently	
2 Remove organic waste [weeds and other vegetation] before it begins to decompose	
Chemicals on site	
1 Store fuels and chemicals and other dangerous substances in the appropriate manner	
2 Take account of wind conditions when arranging activities that are likely to emit fume/odour/smoke	
3 Position site toilets away from public areas	