BOWMER + KIRKLAND

Napier Court, Reading



Demolition Environmental Management Plan

Project Details	
Name	Napier Court
Address	Napier Road, Reading, RG1 8BW

Approval	Prepared By	Reviewed By	Approved By
Name	Paul Smith, PIEMA	Stephen Walker	Reading Borough Council through Planning Applciation
Position	Environment and IMS Manager	Contracts Manager	
Date	16th August 2024	16th August 2024	

Issue	Date	Reason
P1	19th July 2024	For Internal Review / Comment
P1	22nd July 2024	Phasing Plans Added
A	25th July 2024	Amended to Demolition Environmental Management Plan
B	25th July 2024	TRD documents added to appendix
C	12th August 2024	Amendments requested by Carney Sweeney
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1. Introduction

1. Introduction

This Demolition Environmental Management Plan (DEMP) has been developed to identify the environmental mitigation measures and management controls for the demolition works at Napier Court.

Bowmer and Kirkland have implemented a Integrated Management System (IMS) which is externally verified by a UKAS accredited certification body, BM Trada to ISO9001, ISO 14001 and ISO 45001 (See **Appendix D**).

Quality

Bowmer and Kirkland recognise the importance of developing our business through continued improvements in quality. By consistent and effective implementation of a robust Quality Management System (QMS) we believe that we can add value to the project development process for the benefit of Clients and users of our buildings. Our Quality Management System complies with ISO 9001:2015, and delivers the objectives of our Quality Policy (see **Appendix C**)

Environment

Bowmer and Kirkland are committed to sound management practices that minimise the potential effects of building activities on the environment. By encouraging the sustainable use of natural resources, minimising environmental pollution, reducing waste and encouraging recycling, we aim to contribute to improving the world in which we work and live.

We believe that a proactive approach to promoting awareness of environmental issues with our employees, together with our development of various environmental initiatives, helps us to grow an even more sustainable business for the future.

Bowmer and Kirkland's Environmental Policy (see **Appendix C**) sets out the company's strategy for minimising the environmental impact of our site and office operations. Through promoting the prevention of pollution, energy efficiency and the sustainable use of natural resources in all our works activities and those of our sub-contractors, we endeavour to achieve a high standard of environmental performance.

Our Environmental Management System complies with ISO 14001:2015, and delivers the objectives of our Environmental Policy.

Health & safety and Well-being

Bowmer and Kirkland has the highest regard for the well-being of all persons involved in its activities and others who may be affected by them. We are committed to working with our Clients and external stakeholders to manage and control Health & Safety Risks. It is our belief that all accidents and occupational ill health can be prevented by adherence to our policies and procedures. We take a sensible, positive approach to Health & Safety.

Through the company's Health & Safety Policy (see **Appendix C**) the importance of discharging our statutory obligations and duties, and our leadership and commitment to effective Health & Safety management is defined. Best practice is accepted as a core aim throughout business operations and integral to maintaining a strong, positive safety culture. To facilitate this aim, the company's management system and procedures has gained accreditation to ISO 45001:2018

Corporate and Social Responsibility

Bowmer and Kirkland is underlining its commitment to sustainability through compliance with BS ISO 26000:2010 (see certificate in **Appendix D**). This Standard presents a framework for Bowmer and Kirkland to ensure that socially responsible behaviour is incorporated into its existing policies, procedures, and performance. Bowmer and Kirkland has a strong commitment to ethical practices in its business operations and hopes to strengthen these through a more rigorous assessment of its social responsibility policies. Adherence to the Standard will create multiple benefits, not only improving the company's environmental credentials and enhancing its brand reputation, but also supporting more cost -effective business practice to build a long-term competitive advantage. Engaging staff to improve the company's environmental performance can also improve employee motivation and bring sustainability into mainstream corporate communications. Meanwhile, monitoring environmental performance can present an insight into potential risks and opportunities to the business.

1. Introduction

This Demolition Environmental Management Plan (DEMP) will identify the impacts and relevant mitigation that will be implemented by B+K throughout the project to minimise the impact to the local environmental from the proposed works.

The Scope of the DEMP is a follows:

a) Routing of site traffic

b) The parking of vehicles of Site operatives and visitors:

c) Loading and unloading of plant and materials:

d) Storage of plant and materials used in constructing the development:

e) The erection and maintenance of security hoardings:

f) Measures to control the emissions of dust and dirt during works including measures to ensure that the highway is kept free from mud, water and stones:

g) Measures to control noise

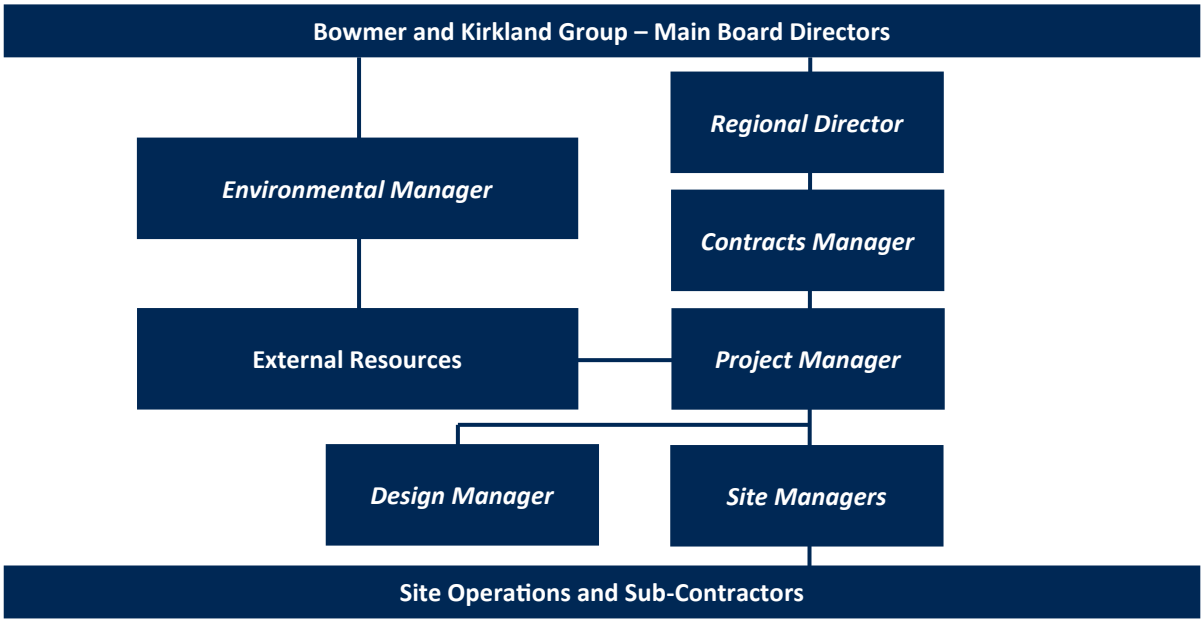
h) A scheme for recycling/disposing of waste resulting from demolition works:

i) Site working hours and deliveries:

In addition the measures identified in this DEMP, Bowmer and Kirkland intend to ensure the implementation of sound environmental management practices for all issues by the implementation of their Environmental Management System (EMS) in the project. Bowmer and Kirkland's EMS is registered to meet the requirements of ISO14001:2015 by a UKAS accredited certification body, BM TRADA (Certificate No. 1133 included in **Appendix C** of this document).

2. Organisation and Responsibilities

2. Organisation and Responsibilities



Regional Director

The Regional Director takes overall responsibility for all projects conducted by the region responsible for delivering the project and will visit the site on a regular basis.

Contracts Manager

The Contracts Manager (CM) takes Senior Management Responsibility for the overall project. The Contracts Manager will not be permanently on site but will visit the project 1-2 days per week to ensure the requirements of this CMS and Bowmer and Kirkland's IMS are fully implemented and effective. The Contracts Manager will conduct a formal inspection of the Site Operations on a monthly basis to assess the adequacy of Health, Safety and Environmental controls.

The Contracts Manager along with the Project Manager is responsible for liaison with the public and community groups during works. The Contracts Manager will manage communication with the public and wider community which will include meetings, notices, news-letters and site visits as appropriate. This includes overseeing the resolution of any complaints raised relating to nuisance during the work.

Project Manager

The Project Manager is responsible for the day to day management of the project and will be permanently on site during the works. This includes the selection of competent sub-contractors and the inclusion of control measures in their sub-contracts. The Project Manager, in conjunction with the Site Managers, will monitor the works on a daily basis to ensure the specified controls are implemented and effective. In addition, the Project Manager will ensure that the project is inspected on a weekly basis for compliance with Health, Safety and Environmental compliance. The Project Manager will assist the Contracts Manager in liaison with the public and community groups during works. The Project Manager will assist in communication with the public and wider community which will include meetings, notices, news-letters and site visits as appropriate. This includes assisting with the resolution of any complaints raised relating to nuisance during the works.

Design Manager

The Design Manager is responsible for the management of the design consultants to ensure that the project specification is established in accordance with project requirements, building regulations and relevant standards. The Design Manager will be permanently on site during the early stages of the project and will visit site regularly during the later stages of the project. The Design Manager will liaise with relevant parties on the final scheme design and ensure advice is provided to the Project Manager on the potential impact of proposed working methods.

2. Organisation and Responsibilities (Continued)

Site Managers

Site Managers are based permanently on site during the works, the number of site managers will vary depending on the output. The Site Managers are responsible for monitor ing the implementation and effectiveness of the specified controls on a day to day basis. This includes the induction of all sub-contractor's operatives and liaison with their management; should improvements be required. The Site Managers, under instruction from the Project Manager, will formally inspect the works on a weekly basis for compliance with Health, Safety and Environmental compliance.

Environmental Manager

The Environmental Manager takes overall responsibility for the organisational legal compliance of the Bowmer and Kirkland Group of Companies. This includes ensuring our EMS recognises current regulatory and other requirements and the specified controls are effective in achieving compliance, preventing pollution and reducing the environmental impact of the organisation. The Environmental Manager will monitor the compliance of the project from information provided by external resources (see below) and site visits, ensuring the project is audited internally at least once.

External Resources

The following resources are employed by the Bowmer and Kirkland Group:

RG Wilbrey Consultants – conduct Health, Safety & Environmental inspections of the project bi-weekly

Adler & Allen – provide pollution response 24/7 mobilising resources where required

Cardinal Environmental – provide legislation updates and specialist legal advice where required.

Complaints Procedure

Although the measures set out within this DEMP are intended to minimise the impacts of the proposed activities on the local community by ensuring that neighbouring residents are informed of the works programme and timescales through either door step introduction, newsletters and regular communication during the works, it is possible that complaints may be raised concerning activities. As previously detailed, contact details and information concerning current works will be provided to local residents, and the Site Managers will be available to meet and explore issues with concerned parties directly via appointment.

Any complaints received will be taken seriously and addressed immediately by the project team and designated Site Managers. All complaints that are received will be reviewed in regular site meetings to ensure that any required actions are communicated to all employees, as appropriate.

B+K use Work Wallet on site as a means of members of the public to report issues both positive and negitive, these are reported directly to B+K Head Office and reviewed by H&S / Business Development for action. A QR Code for the site will be displayed on the site entrance.

Records of complaints are recorded within our Management System as well as through Considerate Constructors Scheme of whom B+K have been a Partner Member for the last 10 years.

Emergency Contact details of the B+K Site Manager will be displayed on the site entrance, including 24 hr contact number.

3. Scope of Work

B+K

3. Scope of Work

Demolition of existing office buildings, making good, recycling of demolition waste including waste, to include crushing and stock piling.



Fig 1 – Site Location (source: www.google.com/maps)

4. Demolition Impacts

4. Demolition Impacts

The following table summarises the current key features on and around the demolition site which may be impacted by Bowmer and Kirkland's operations. In assessing the significance of the impact potential on these receptors we have taken into consideration reports received to date and publicly available information.

		Potential Impact Severity								
Receptor	**Description**	Noise	Vibration	Dust	Fumes	Visual	Physical Harm	Flooding	Pollution	Heritage
General Community	The site is located 630m north east of Reading town centre, the current site consists of 3 commercial buildings, known as Napier Court, the site is bounded by: North: Napier Road and Kings Meadow, commercial offices and residential East: Network Rail and Tesco's South: Network Rail main line and further retail park West: Residential apartments and commercial office blocks	M	L	M	L	L			L	
Residential Areas	The nearest residential properties are located to the east these being Thames Quarter 18m to the east and 22 Napier Road 33m to the north (phase 2).	H	L	M	L	M				
Ground Conditions	Phase 2 Site Investigation has been carried out by Curtins. The site is a former railway goods yard, buried foundations have been confirmed 1.4m below ground level, these will require removal to allow for construction of foundations. Three areas have been identified for contaminations, (note that waste classification of soils has not yet been carried out on Waste Acceptance Criteria (WAC) testing): WS06 – soil WAC test results exceed criteria for hazardous landfill (TOC and loss of ignition) WS09 - high levels of PAH's have been recorded (10 times non-haz criteria for landfill) potential sources of hydrocarbons within area. BH05 - Elevated level of Tetrachloroethene (PCE) identified. Based on the above additional site investigation is required following demolition of existing buildings and to establish extent of contamination around WS09, WS06 and BH05. Waste Classification is required for soils as well as additional WAC for landfill disposal. Should made ground be re-used as part of cut and fill then an Materials Management Plan under CL:Aire Code of Practice will be required prior to commencement of excavations. Ground water has been identified at 2.3m bgl across the site associated with River Terrance Gravels, the breaking out of existing basements will be to a depth of approx. 2m, dewatering of these excavations will be required and must comply with: • Environmental Permitting Regulations 2016 • The Water Abstraction and Impounding (Exemptions) Regulations 2017.								H	
Arboriculture	An Arboricultural Assessment & Method Statement has been issued by FPCR, (June 2024) this include Tree Protection Plans. A TPO is in place for trees on the site (TPO no.13/10), the works will retain all TPO'd trees, these are the trees in the far north west corner, no dig construction methods will be required for landscaping works. Retained trees will have tree protection fencing erected where required.						M			

KEY:	Insignificant	Low	Medium	High

4. Demolition Impacts

The following table summarises the current key features on and around the development site which may be impacted by Bowmer and Kirkland's operations. In assessing the significance of the impact potential on these receptors we have taken into consideration reports received to date and publicly available information.

		Potential Impact Severity								
Receptor	**Description**	Noise	Vibration	Dust	Fumes	Visual	Physical Harm	Flooding	Pollution	Heritage
Ecology	The Ecology Impact Assessment undertaken by FCPR this include a Bat emergence survey. There are no statutory designated sites within 10km or 2km of the site, the nearest non statutory site is The Coal, Kennetmouth and Kings Meadow East Local Wildlife Site, 385m east. Due separation by public park and residential area the potential impact is likely to be negligible, so specific mitigation required **Birds** - Potential for nesting birds within vegetation, hedgerows and trees to be removed. **Bats** - Emergence survey undertaken Aug 2023, no evidence of bats accessing or egressing from the buildings was recorded. **Priority Species** - potential for hedgehogs to forage into site from nearby hedgerows, mitigation during demolition with regards open excavations.						M			
Watercourse	The nearest watercourse is the River Themes located 140m to the north with the River Kennet 328m to the south, there are no known direct pathsways from site. The site also within Flood Zone 2 (Environmental Agency Flood Map for Planning)								L	

KEY:	Insignificant	Low	Medium	High

The following tables summarises impacts to the receptors on and around the development site which may be impacted by proposed activities and the overall risk to receptors from noise, dust and vibration.

General Activities Risk Assessment

Activity	Dust Emission Risk	Noise Emission Risk	Vibration Emission Risk
Demolition	High	High	Medium
Working Platform	High	High	Medium

Impacts to Receptors

Receptor	Dust	Noise	Vibration
Commercial	Medium	Medium	Low
Residential	High	High	Low
Ecological	Low	Low	Low

5. Demolition Mitigation

5. Demolition Mitigation

In order to reduce the impact of the Demolition phase of the development Bowmer and Kirkland propose to implement our Integrated Management System (IMS) for the project. Our IMS is registered to meet the requirements of the international standard ISO 9001, ISO 14001 and ISO 45001 by a UKAS registered certification body, BM TRADA (see **Appendix C** for certificate). Bowmer and Kirkland's IMS includes standard controls to mitigate the impact of our works activities during normal operations. Site specific issues requiring project specific mitigation have been considered and are summarised in the following table:

	Potential Impact								
Description	**Noise**	**Vibration**	**Dust**	**Fumes**	**Visual**	**Physical Harm**	**Flooding**	**Pollution**	**Heritage**
Workings Hours / Delivery Hours Working hours for site will be: Monday to Friday 08:00 – 18:00 Saturday 08:00 – 13:00 There will be no works on Sundays or Bank Holiday, Where normal works activities are expected to exceed these working hours then the Local Planning Authority and Environmental Health officer will be informed in writing at least 10 days prior to commencing works. Newsletter drops to the local area will also be implemented during demolition.	✓	✓	✓	✓					
Statutory Nuisance - Noise To minimise issues caused by noise during demolition, Best Practice Means will be employed in accordance with BS5228:2009+A1 2019 Part 1 during each phase of the project. Noise mitigation in accordance with BS 5228 Part 1, see **Section 6 Noise Mitigation**, will be implemented during demolition.	✓								
Statutory Nuisance – Dust The control of dust is a prime concern for all projects, particularly during periods of dry and windy weather, there are also ecological receptors which may be impacted by dust. Details of dust mitigation can be found in **Section 7 Dust Mitigation**			✓		✓			✓	
Statutory Nuisance - Vibration To minimise issues caused by vibration, Best Practicable Means will be employed in accordance with BS5228:2009 Part 2 that gives guidance on vibration levels that could be used to assess the likely impacts of activities, on the environment and people. Any complaints regarding vibration will be recorded and managed, any additional mitigation will be actioned to reduce the impact for activities as per BS 5228, Part 2. Details of Vibration mitigation can be found in **Section 8 Vibration Mitigation**		✓							
Traffic Management Traffic Management Plans have been included in ***Section 10.*** All deliveries will be booked in with Bowmer and Kirkland's Site Management who will avoid slots at peak hours. Roads will be kept clean by the provision of wheel cleaning facilities and road sweepers as required.	✓	✓	✓	✓	✓	✓		✓	✓

5. Demolition Mitigation (Continued)

Description	Potential Impact								
	Noise	Vibration	Dust	Fumes	Visual	Physical Harm	Flooding	Pollution	Heritage
Lighting Demolition phase temporary lighting shall be designed to minimise effects beyond the site boundary. • Site lighting will be LED which virtually eliminates upward glare; • Warm white spectrum (<2700k) lamps to be used; • Lights will be shrouded / pointed downward; • Pointed away from areas of vegetation; • Site Compound will use LED Flood lights; • Site hoarding along footpaths and haul routes will use 10w LED Bulkheads.					✓				
Waste Management Bowmer and Kirkland will apply the waste hierarchy to the project to minimise waste production and subsequent landfill burden. No waste removed from site will be permitted to leave without the provision of an adequately completed waste transfer note and copy of valid waste carrier licence for the person removing the waste and environmental permit for the site where the waste is being taken. The burning of waste is banned on all B+K construction sites. In order to implement these requirements and monitor the amount of waste being produced by the project a Site Waste Management Plan will be prepared and maintained throughout the course of the demolition phase. **See also Section 11 Waste Management**	✓	✓	✓		✓	✓	✓	✓	
Dewatering Methods for dealing with water within excavations are detailed **section 9 Surface Water Management**								✓	
Spillage Emergency Planning An emergency plan for spills of fuels, oils or other CoSHH materials will be prepared for the project and briefed to all operatives. All minor spills will be cleared and consigned off site as hazardous waste. An emergency response contractor, Adler and Allan, will be retained to attend site in the event of a major spill or spill which may affect any water course.						✓		✓	
Site Contamination Additional testing is required to be carried out to define the extent of the contamination identified. Due to the made ground and contamination identified, a Materials Management Plan under CL:Aire DoWCOP will be required to plan, manage and report on the re-use of site won soils and imported materials, to ensure compliance with current environmental legislation.								✓	
Birds A pre-commencement check of the Site will be undertaken if works are to start within the breeding bird season. Any removal of suitable habitat should be undertaken outside the breeding season or will require checking by an ecologist prior to removal between March and August inclusive.						✓			
Priority Species During demolition, excavations are to be covered or ramped to allow escape, pipes capped overnight to avoid harm to any wildlife, including badgers and hedgehogs.						✓			

5. Demolition Mitigation (Continued)

Description	Potential Impact								
	Noise	Vibration	Dust	Fumes	Visual	Physical Harm	Flooding	Pollution	Heritage
Arboriculture Tree protection will be erected in accordance with the FPCR Tree Protection Plan, this will meet requirements of BS 5837:2012, Heras fencing with block feet will be used along with warning signs identifying root protection area (RPA). Works within any RPA's for TPO'd trees will be a no dig method, it is B+K policy that vacuum excavations or air spades are used in root protection area. All works encountering roots will be conducted in accordance with specifications given in Section 7.2 of BS5837(2012) and in accordance with the following points: • Roots smaller than 25 mm diameter may be pruned if considered necessary, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw). • In the first instance, any roots located / identified during these works shall be pruned to a suitable growth point, if this requires further excavation to access a growth point, then this excavation will need to be conducted by hand and overseen by the ACoW. • Any exposed roots to be retained during excavation will be wrapped with wet hessian material, which is to be kept damp until re-covered. Roots will not be left exposed for more than 48 hours. • The removal of all existing hardstanding will be undertaken with care and under supervision of the appointed Arboricultural Clerk of Works. • Methods of works as defined within the Arboricultural Method Statement will be implemented.									

6. Noise Management

6. Noise Management

Noise Monitoring

Noise monitoring will be carried out for the sensitive receptors nearby and records maintained.

BS 5228:2009 Part 1 Significance Criteria (Table E.1) Residential Properties			
Assessment category and threshold value period (LAeq)	**Threshold value, in decibels (dB)**		
	Category A	**Category B**	**Category C**
Night-time (23:00-07:00)	45	50	55
Evenings (19:00-23:00 weekdays) and Saturdays (13:00-23:00)	55	60	65
Daytime (07:00-19:00) and Saturdays (07:00-13:00)	65	70	75

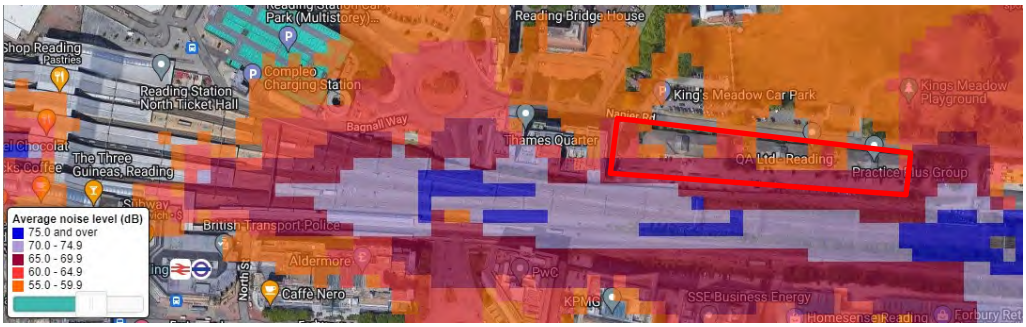
Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

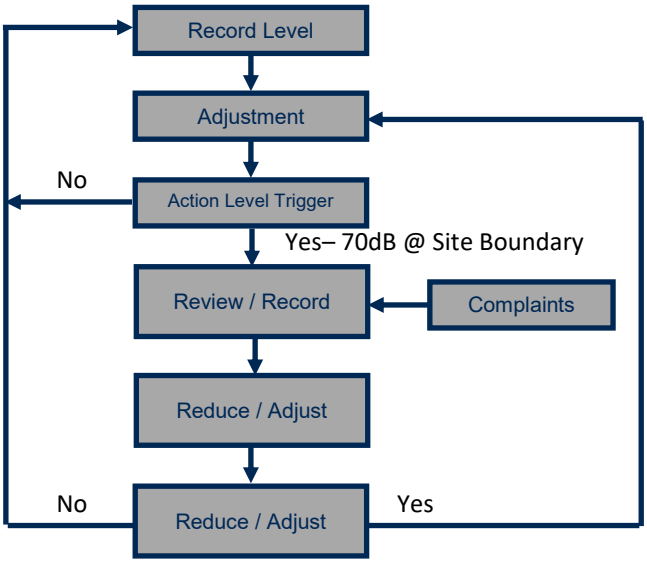
An acoustic assessment of the development site has been undertaken by SRL. Background noise levels for the site where recorded between 60dB L_{Aeq} and 72dB L_{Aeq} (closest to receptors), the threshold for significant impact will be set at 75dB, the proposed action level at the site boundary will be 70dB. It was noted that max noise levels pre-construction were recorded between 70dB and 99dB with average Peak of 80dB.

The Extrium Noise map shows that the site is within the noise impact zone from Network Rail of up to 70dB with Thames Quarter being upto 75dB $L_{AEQ(16hr)}$. These noise impacts will be taken into consideration with regards to construction related noise levels.



Source: (http://www.extrium.co.uk/noiseviewer.html)

Noise Monitoring and Action Process



Works Activity	Plant Type	LAeq at 10m (BS 5228:1)	Nearest Receptor	Distance from Nearest Construction Activity	Adjustments			Resultant LAeq	Duration of activity (hrs)	Correction to Laeq (F.5)	Activity LAeq	Threshold for Significant Impact Mon-Fri 8am to 6pm	Predicted Combined Noise Levels
					Distance (-dB)	Screening (-dB)	Reflection (+dB)						
Site Welfare													
Site Power	Ultra Silent Generator	58	Thames Quarter	15	2	5	3	54	5	3	**51**	**75**	**51**
Demolition													
Breaker up Brick	Pulverizer on Excavator (29t)	72	Thames Quarter	25	3	5	3	67	5	3	**64**	**75**	**74**
Crushing Waste	Mobile Crusher	82	Thames Quarter	70	9	5	3	71	5	3	**68**		
Loading Waste	Tracked excavator (15t)	85	Thames Quarter	50	7	5	3	76	4	4	**72**		

6. Noise Management

Summary of Predicted Noise Levels

Predictions for noise from construction activities for Phase 1 to the nearest receptor being Thames Quarter have been calculated in accordance with BS 5228 Part 1, the peak background noise for the site is 72dB using the ABC methods in BS 5228 Part 1, the threshold for significant impact will be 75dB.

Noise levels during demolition will be below the threshold of 75dB, with peak predicted combined noise being 74B $L_{Aeq(8hr).}$ This is just above the peak background of 72dB recorded on the site, as such noise from site is not expected to add to current background noise levels significantly within the area. It should be noted that these predictions do not take into account additional noise mitigation measures that can be implemented to reduce the impact during demolition works.

Noise levels would tend to be lower as works progress owing to greater separation distance and the building structure itself. Noise impacts would also tend to reduce over a 10-hour working day (week-day, 5 hours Saturday) owing to periods of plant inactivity. B+K will review construction activities and noise mitigation measures being implemented during construction to reduce the potential impact further using mitigation detailed below.

Noise Mitigation Measures - General

The quietest and lowest impact processes that are reasonably practicable will be employed on-site in the undertaking of all construction works and in accordance with best practice under BS5228:2009+A1 2014, Part 1. Suitable mitigation measures implemented as a means of minimising noise include:

Demolition Mitigation

- Newsletter drops to local residents that will include works up and coming, progress, specific activities that may generate increased noise.
- Working hours will be carefully managed to ensure normal working hours are adhered to;
- Keep internal haul routes well maintained;
- Minimize drop height of materials;
- Radios and other noise-generating devices are not permitted on site.
- Keep voices and conversation outside of the perimeter of the site to a minimum and low in volume.
- Use of work equipment designed to reduce noise should be considered by sub-contractors.
- Specific construction activities maybe required to achieve the specification finish and as such may cause extended periods or works.
- Due to noise impacts from the railway monitoring of activities would include a degree of uncertainty as recorded noise levels would not be solely construction related, any noise monitoring undertaken would be adjacent to Thames Quarter closest to the receptor.
- Avoid noisier activities at the start of the working day.
- Use of alternative demolition methods such as cutting slabs rather than breaking up.

Site Plant

- Use of Ultra Silent generators and hybrid battery system for nighttime use to reduce noise impact from site welfare.
- The quietest vehicles, tools and machinery shall be used as far as is reasonably practicable
- Avoid unnecessary revving of engines and switch off equipment when not required;
- Start up plant and vehicles sequentially rather than all together
- No machinery will be permitted to start up on-site before 08:00.
- Plant to be fitted with effective silencers
- No engines left running whilst vehicles are stopped on-site;
- Local residents and businesses will be advised of the start and finishing dates and times of particularly noisy activities and these will be timed to minimise the disruption to local residents as far as possible.

6. Noise Management

Enclosures

The use of enclosures can significantly reduce noise. These range form localised enclosures to the erection of noise reducing fencing around larger activities. Enclosures will be designed in accordance with BS5228:2009+A1 2014, Part 1, and be installed to manufactures requirements to ensure effectives of the noise barriers, noise monitoring can be carried out to ensure barriers are being effective.

Plant	Enclosure Type	Noise Reduction
Site Generators	Ventilated acoustic enclosure	Up to 20dB
Pneumatic breakers, drills	Portable or Fixed enclosure	Up to 20dB
Rotary Drills, Diamond Drilling	Ventilated Acoustic Shed	Up to 15dB
Pumps	Acoustic enclosure with allowance for engine cooling and exhaust	Up to 20dB
Large Plant	Acoustic Screen / Fence	Dependent on design
Scaffolding Acoustic Sheeting	Acoustic Sheeting to Scaffolding Elevations	Up to 19dB

7. Dust Management

7. Dust Management

Dust Mitigation Measures

During construction and demolition, it is anticipated that the primary air pollution emissions will be associated with dust generated from plant movement on site and building demolition. The following **Highly Recommended** mitigation measures for **Medium Risk** sites will be adopted, as extracted from IAQM "*Guidance on the assessment of dust from demolition and construction*" .

Key to tables:

H	Highly recommended
D	Desirable
N	Not required

Mitigation for all sites: Communications

Mitigation measure	Low Risk	Medium Risk	High Risk
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	N	H	H
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	H	H	H
Display the head or regional office contact information.	H	H	H
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site.	D	H	H
Site Management			
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	H	H	H
Make the complaints log available to the local authority when asked.	H	H	H
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.	H	H	H
Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are coordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.	N	N	H
Monitoring			
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.	D	D	H
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	H	H	H
Increase the frequency of site inspections 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 dry or windy conditions.	H	H	H

7. Dust Management

Mitigation for all sites: Communications

Mitigation measure	Low Risk	Medium Risk	High Risk
Preparing and maintaining the site			
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	H	H	H
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	H	H	H
Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period.	D	H	H
Avoid site runoff of water or mud.	H	H	H
Keep site fencing, barriers and scaffolding clean using wet methods.	D	H	H
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	D	H	H
Cover, seed or fence stockpiles to prevent wind whipping.	D	H	H
Operating vehicle/machinery and sustainable travel			
Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.	N	N	N
Ensure all vehicles switch off engines when stationary - no idling vehicles.	H	H	H
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	H	H	H
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	D	D	H
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.	N	N	H
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).	N	D	H
Operations			
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	H	H	H
Ensure an adequate water supply on the site for effective dust/ particulate matter suppression/ mitigation, using non-potable water where possible and appropriate	H	H	H
Use enclosed chutes and conveyors and covered skips.	H	H	H
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H	H	H
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	D	H	H
Waste management			
Avoid bonfires and burning of waste materials.	H	H	H

7. Dust Management

Measures specific to earthworks

Mitigation measure	Low Risk	Medium Risk	High Risk
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	N	D	H
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.	N	D	H
Only remove the cover in small areas during work and not all at once.	N	D	H

Measures specific to trackout

Mitigation measure	Low Risk	Medium Risk	High Risk
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.	D	H	H
Avoid dry sweeping of large areas.	D	H	H
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	D	H	H
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	N	H	H
Record all inspections of haul routes and any subsequent action in a site log book.	D	H	H
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	N	H	H
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	D	H	H
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.	N	H	H
Access gates to be located at least 10 m from receptors where possible.	N	H	H

Measures specific to demolition

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

8. Vibration Management

8. Vibration Management

Vibration Risks

- High vibration levels over sustained periods can cause damage to buildings, roads and utilities.
- Lower vibration levels can cause nuisance to residents.
- Vibration may also cause disruption to wildlife and damage to geological and archaeological sites.

Evaluate the Potential for Vibration

- Some construction activities will cause significant vibration through the ground, e.g. plant and vehicle movements.
- The transmission of vibration is highly dependent upon ground conditions, where there is underlying sloping hard strata this can transmit vibration underground undetected for several hundred metres until the strata is nearer the surface.
- Liaise with Regulatory bodies and other interested parties including, RMBC, CRT, Environment Agency etc. (there may be time / seasonal restrictions).
- Monitor conditions before work starts for sensitive structures / neighbours

Vibration Assessment Criteria - Overview

BS 5228-2:2009 'Code of practice for noise and vibration control on construction and open sites – Part 2', gives guidance on vibration levels that could be used to assess the likely impacts of construction activities on the environment and people. The main vibration impacts could arise from heavy construction vehicle movements near sensitive receivers (typically within 20m).

Annex B of BS 5228 Part 2 gives guidance on the significance of vibration effects in terms of human response to vibration and structural response to vibration.

BS5228 Part 2 Transient vibration guide values for cosmetic damage

Type of Building	Vibration Level 4 Hz to 15 Hz	Vibration Level > 15 Hz
Reinforced or framed structures Industrial	50 mm/s at 4 Hz and above	50 mm/s at 4 Hz and above
Heavy commercial buildings		
Unreinforced or light framed structures	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 4 H z increasing to 50 mm/s at 15 Hz
Residential or light commercial buildings		

BS5228 Part 2 Guidance on Human Response to Vibration Levels

Vibration Level	Effect
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration
0.3 mm/s	Vibration might be just perceptible in residential environments
1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation is given to residents
10 mm/s	Vibration is likely to be intolerable for any more than a brief exposure at this level

9. Surface Water Management

9. Surface Water Management

Surface Water Management

The management of surface water during demolition will be dependant on the specific site factors. The table below identfies the sources of flooding risk and their impact on the site and if mitigation is required:

Source of Risk	Impact to Site	Risk	Mitigation Required
Ground Water	Ground water has been identified on site perched within made ground at around 1.4m and will impact works to grub and remove foundations to a depth of 2.0m.	**Medium**	Dewatering of excavations >1.4m such as breaking out ground floor slab and foundation is expected especially during wetter seasonal weather. Any abstraction must comply with relevant environmental permitting obligations or exemptions.
Fluvial Flooding	The site is within flood zone 2 as per Environmental Agency Flood Map for Planning.	**Low**	No further mitigation required
Pluvial Flooding	Flooding may occur during high rainfall events.	**Medium**	Dewatering of excavations after rainfall events maybe required, this should be managed where contamination is a risk within the made ground with discharge to foul under trade effluent consent or removed by tanker. For clean rain water via silt doctors or similar and discharged to surface water, the discharge must be un-contaminated and suspended solids removed (visible clear) for up to 3 months, or discharged to foul under a temporary trade effluent consent
Sewers	The sewer network around the site may have limited capacity which could be exceeded in an extreme storm event.	**Low**	Monitor sewer levels in extreme storm events.

The following actions will be implemented to manage surface water during demolition. The actions required will be dependant on the amount of rainfall / groundwater that the site will be subject to.

- Low rainfall (normal weather) - site will experience normal rainfall that results in some rainwater collecting in excavations.
- Medium Rainfall (yellow/amber weather warning) - The amount of rainfall is prolonged, with open ground being waterlogged that will reduce the effectiveness of dewatering to soakaway.
- Heavy Rain Fall (red weather warning) - significant rainfall that will cause high levels of surface water on site.
- Groundwater - Dependent on presence of ground water abstraction permits maybe required.

Source	Method for Dewatering			
	1. Site Soakaway	2. Direct to SUDS	3. Dewater to Surface Water	4. Dewater to Foul Sewer
Low (Normal weather)	Yes	Yes	Yes (comply with RPS261)	Not required
Medium Rainfall (yellow/amber warnings)	Yes	Yes	Yes (comply with RPS261)	Not required
Heavy Rainfall (red warnings)	Yes	Yes	Yes (comply with RPS261)	Temporary Discharge Consent Required
Groundwater	Yes	No	Yes (comply with RPS261) and within abstraction obligations	

9. Surface Water Management

Dewatering Activities

The following defines the activities that can be carried out for the control of surface water during demolition. The method used will be determined by the source and extent of water onsite.

Activity	Permit	Amount of water	Actions
1. Discharge off site - Clean Rainwater (eg roofs pile caps)	No	Low Volume	Early works to attenuation tanks and drainage runs will allow the connection of clean rain water from roofs that is permitted to be discharged direct to surface water systems. This will reduce the amount of surface water on site during construction.
2. Dewatering rain water to soak away on site.	No	Low Volume	The dewatering of rainwater from demolition areas can be carried out effectively by pumping to a designated soak away area on site that will not pose a risk, this is the normal preferred method to eliminate need to discharge offsite.
3. Dewatering of wholly or mainly rainwater to a watercourse.	RPS	Medium/High Volumes	Excavations can be dewatered direct to surface water system under the Environmental Agency Regulatory Position Statement 261 for "*Temporary dewatering from excavations to surface water*" a permit is not required If: • A short term (max 3 months), temporary discharge of uncontaminated water which is wholly or mainly rainwater, from an excavation to surface water (such as pumping water out of excavations on a building site) • Comply with all the conditions in this Regulatory Position Statement (RPS261) - **See page 23**
4. Discharge groundwater to soak away.	No - Exempt Activity.	Medium/High Volumes	Discharge groundwater that meets drinking water quality standards onto ground when: • Discharge activity is temporary and is for a maximum duration of 30 consecutive days • Quality of the groundwater is either naturally at drinking water quality standards, or is groundwater of mains quality that has been treated to drinking water quality standards • Location (ground) where the discharge is to occur is free from any obvious sources of contamination • Volume and rate of discharge will not cause pollution or any other adverse environmental impacts, including flooding, to the underlying groundwater or any adjacent surface waters or habitats.
5. Dewatering excavations of groundwater for discharge to a watercourse. (>6mths)	Permit	Medium/High Volumes	The dewatering of groundwater from excavations that is to be discharged off site via watercourse or foul. • No exemption or permit required for <20m^3 per day • Exemption (schedule 5) with regards the abstraction of up to 100m^3 per day. • Temporary abstraction licence >100m^3 per day • Part B6 bespoke water discharge activity and groundwater (point source) activity permit. • Discharge via foul see point 6 below **See page 23 & 24 for Requirements.**
6. Discharge Silty Rainwater to foul.	Yes	High Volume and Contaminated Water	Foul/combined sewers can be used for the discharge of dirty water, this will be under a trade effluent consent and treatment prior to discharge would be required such as reduction of suspended solids. Discharges to foul will be restricted including contamination levels (suspended solids) and flow rate, a discharge rate of 3 to 5 litres per second is the norm this will be defined in the consent. **See page 24**
7. Removal of contaminated water as waste	Waste Disposal	Contaminated Water	The management of contaminated water may be required to be removed by tanker from site. This is often used for remediation of contaminated land, where it is not permitted to be discharged to foul to due the contamination levels.

KEY:		Applicable to Site		Optional to Site		Not Applicable to Site

9. Surface Water Management

RPS261 Temporary dewatering from Excavations to Surface Water (Regulatory Position Statement)

When discharging clean rainwater (wholly or mainly) to surface water systems the following must be adhered to in accordance with the Regulatory Position Statement (RPS).

The discharge must:

- discharge only uncontaminated, clean water
- discharge only to surface water
- discharge for no more than 3 consecutive months
- plan how to minimise the level of contaminants such as silt entering the excavation
- plan how to dispose of water that enters the excavation
- plan not to use machinery in excavations while dewatering is taking place
- minimise water entering the excavation, for example from rainfall, runoff, groundwater ingress or high water table
- consider using sustainable urban drainage construction methods
- have a method statement that minimises the risk of pollution
- contact the Environment Agency if your discharge rate is more than 10% of the dry weather flow (Q95 low flow) rate of the surface water and dilution is low – a high discharge rate may increase flood risk or have other local environmental consequences
- keep records for 2 years that show you have complied with this RPS and make these records available to the Environment Agency on request.

The discharge must not:

- pollute surface water
- contain any chemical dosing agents, flocculants or coagulants
- be from a site which is contaminated by oil, metals, hydrocarbons, solvents or pesticides or other polluting substances
- result in the spread of non-native invasive species, parasites or disease
- cause flooding from surface water
- cause erosion of the banks or bed of the receiving watercourse
- contain concrete wash water even if it has been treated
- contain site drainage from surface areas such as haul roads, storage or working areas
- be from a site with naturally elevated concentrations of substances which exceed environmental quality standards

Before starting work on site:

- plan how to minimise the level of contaminants such as silt entering the excavation
- plan how to dispose of water that enters the excavation
- plan not to use machinery in excavations while dewatering is taking place
- minimise water entering the excavation, for example from rainfall, runoff, groundwater ingress or high water table
- consider using sustainable urban drainage construction methods

The discharge must not be located within, or less than 500 metres upstream of:

- Sites of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)
- candidate SACs, possible SACs, potential SPAs and sites of community importance
- internationally designated Ramsar sites
- other nature conservation sites, such as ancient woodlands, local and national nature reserves
- local wildlife sites

A bespoke permit will be required where the conditions in the RPS can not be achieved.

9. Surface Water Management

Discharge to Foul / Combined Sewer

All discharges to a foul / combined sewer will be defined as a trade effluent and will require a Trade Effluent Consent from a sewerage undertaker. Due to the market being opened up to competition, these should be applied for through a 'Retailer', this can delay the application process.

Discharge to foul, will include specific requirements that will be defined by the local water authority. Trade Effluent Consents normally take around 4 – 6 weeks to grant, these are less likely to be granted during periods of heavy rainfall.

To apply for a Trade Effluent Consent you will need the following information:

- The source of the trade effluent
- Any treatment processes that will be applied.
- The amount of water that will need to be discharged (volume per day and maximum flow rate)
- Any known contaminants that will be in the trade effluent (for ground water refer to SI)
- The drain which you want to discharge to and how the amount discharged will be measured

The Trade Effluent Consent will apply limits to what can be discharged, these will normally be:

- Maximum quantity discharged in 24 hour period (typically 50 M^3 – 150 M^3)
- Maximum flow rate of discharge (typically 2 l/s – 5 l/s)
- Amount of suspended solids (typically 200 mg/l – 1,000 mg/l)
- No hydrocarbons (oils)
- Limits on any known contaminants

The discharge needs to be sampled and monitored to ensure the limits are adhered to as follows:

- Discharge quantity must be measured, usually by a water meter, and volumes given regularly to the sewerage undertaker (they will use this information to charge for the discharge)
- A sample must be taken and tested by a UKAS laboratory against the limits of the Trade Effluent Consent before any water is discharged
- Regular sampling may be required (frequency to be agreed with sewerage undertaker)
- Before each discharge a sample should be taken and assessed for visual clarity (see below)

If there are no known contaminants then visual monitoring for suspended solids and oil is acceptable using the following procedure:

- Take photograph of sample(s) sent to UKAS laboratory against a surface of regular colour (e.g. wall of site cabin) – this is used as a controlled sample
- Take photograph of sample(s) before discharge in sample bottle of same dimensions against the same surface as the control sample
- Compare the photographs of the current sample and control sample
- If the current sample is lighter than the control and there are no visible signs of oil then discharge can commence

9. Surface Water Management

General Mitigation:
Excavated ground and exposed ground

Due to the on-going nature of the work it is generally not possible to protect exposed surfaces until the project is completed. That said there are measures that can be adopted to mitigate contamination / sedimentation referred to below.

The following mitigation can be used to protect from runoff during construction:

- Gulley Guards - These will be placed in all existing gulleys that could receive surface water run off and from tracking out. The guards will be inspected daily and cleaned as appropriate to ensure that silt or debris collected in the guards do not impede the flow of water into them
- Use of silt doctors to dewater rain water from open excavations.

Stockpiles

Stockpiles will be located away from existing drainage points to prevent the leaching of contaminants.

- Seeding of stock piles can significantly prevent silt runoff once grass has established.
- Sheeting of stockpiles can reduce dust and protect from heavy rain fall and run off.
- Keep stock pile levels low to reduce impact from wind.

Existing access ramps & roads

Haul roads (including roads that are in process of construction partially sealed) will be sprayed regularly to keep down dust. If any section of a haul road is hard surfaced, then it will be swept on a regular basis to prevent accumulation of dust and mud.
Once constructed, there could be a residual risk of silt run off from haul roads and stone surfaces. These risks will be controlled by;

- Regular environmental inspections of these areas to ensure controls are effective.
- Suitably sized spill kit will be available with spill action plan.

Wheel Wash

A jet wash will be provided at the site exit to ensure that wheels and chassis have majority of mud removed before leaving the site, these are typically trailer mounted bowsers rated at 3000psi.

Oils and Hydrocarbons

Simple measures can be taken to prevent oil and hydrocarbons becoming pollutants, such as:

- Maintenance of machinery and plant
- Drip trays
- Regular checking of machinery and plant for oil leaks
- Correct storage facilities
- Check for signs of wear and tear on tanks
- Care with specific procedures when refuelling
- Designated areas for refuelling
- Emergency spill kit located near refuelling area

Weather / Storm

Weather warnings allow preparation time before any significant rainfall event, weather conditions are reviewed on a weekly basis for the planning of works:

- Stockpiles of stone and aggregates will be located as far as practical away from surface water drains. Ideally this will be on level ground.
- Fuel and COSHH substances will be stored in a designated area. They will be in double bunded units with 110% capacity and appropriate spill kit. The designated area will be 10m away from any watercourses, surface water drains.

10. Construction Logistics

B+K

10. Construction Logisitics



Site accommodation will be located in a suitable position for the demolition phase. The main site access will be off Napier Road (see full site phasing plans see **Appendix B**).

Due to the site location solid hoarding will be erected to the boundary in addition to existing security fencing (see full site phasing plans see **Appendix B**).

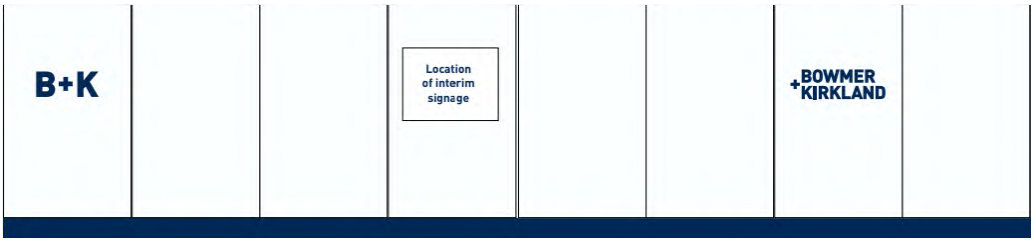
All site fencing including site boundary will be inspected on a daily basis by B+K Site Management and records maintained.

Site Security

Site Gate's will be manned at all times throughout the demolition period to ensure minimum impact to local highways in accordance with the working hours.

The Site will be secured at all times. A separate pedestrian access gate will be provided. Access to site will be controlled via biometrics turnstile control.

B+K Standard Hoarding Design



B+K Standard Pedestrian Access gate



Representative example of B+K Site Entrance.



10. Construction Logisitics (continued)

The gate cabin will be the focal point for all vehicles entering / leaving the site. This will be the operational base for our security personnel who will manage access and egress from the site alongside the biometric system.

In order to reduce disruption to neighbouring businesses and residents during the demolition periods we will take several steps to ensure as little impact as possible on the roads surrounding the site. These will include the following.

- All subcontractors will be advised of the requirement for site tidiness, and enforcement of this rule will take place.
- Newsletter drops to local community informing of progress and planned works.
- Should any complaints arise, they will be dealt with promptly and courteously, and suitable compromises agreed wherever practicable, subject to the normal restrictions of construction sites, (see Complaints Procedure, page 6)
- Operative Parking will be provided onsite.
- Minimise the accumulation of loose materials on site road by regular sweeping.
- Ensure bulk collections are sheeted (where appropriate).
- Provide wheel washing facilities at site exit.

Due to the location of the project it is imperative we reduce the risk of any mud on the surrounding roads due to the demolition process, the following methods can be used:

1) A jet wash (typically a 3000psi bowser) can be used at the exit from the demolition area to ensure that vehicles wheels are cleaned before tracking onto the public highway.
2) Road sweepers will be used to keep the access road clear. The table provides a general guide, frequency can also be increased based on site inspections and conditions.

Weather	Activity	Frequency
Dry	Demolition	Not required
Damp	Demolition	Twice daily
Wet	Demolition	4 times per day
Wet	Muck shift	With every HGV leaving site

3) Gully Guards (or similar) can be used to protect existing road gullies from silt, and will be subject to regular inspections. These will be checked daily during wet weather periods.

Storage of Materials

A lay down and storage area is will be located within the site compound (see **Appendix B**)

Site Welfare

Site welfare (See Appendix A) will be provided using either 24x9, 24x10 or 34x10 Portakabin Pacemaker / Solus units that may include:

- Offices,
- Meeting Rooms
- Canteens
- Drying Room, Toilet / Kitchens
- Fire Rated Units, Stores, Gatehouses
- Smoking Shelters,
- Staircases
- Waste Tanks
- Toilet Platforms and Steps
- Site Generators

Vehicle Dwell Times

Delivery vehicles are not anticipated to be required on-site for a period longer than necessary to safely load, depending on materials being collected. The Site Manager will allow sufficient times between vehicles to ensure that no vehicles arrive or depart at the same time, to minimise potential disruption to traffic flow on the surrounding local highway network.

10. Construction Logisitics (continued)

Vehicle Compliance

Vehicles must not be parked on any street within the close proximity of site or stop on the access road. The vehicles must not wait or idle-run in the area in order to reduce congestion and vehicle emissions.

Logistics Route

Construction traffic would use strategic roads to access and egress the site as far as possible. Each of these roads are designed to carry high volumes of strategic traffic, including construction vehicles. Abnormal loads will be managed independently with close consultation with local businesses and highways department.

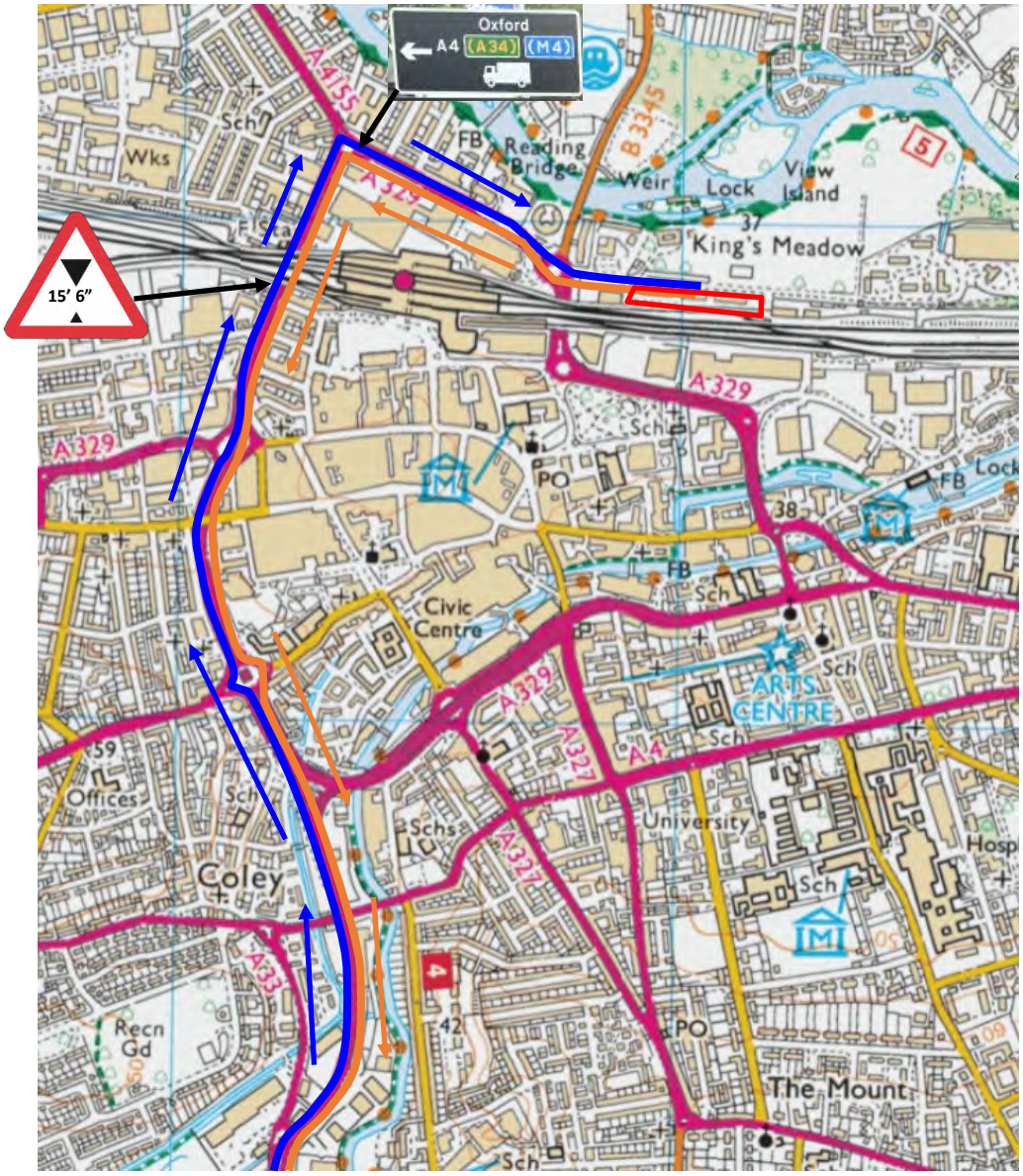
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Primary Route to Site (Blue Route)

From M4 Jct 11, take the exit for A33 / Reading continue for 4 miles, continue straight ahead onto A329, go under the railway bridge then at the roundabout take the 3rd exit onto Vastem Road / A329, then at the next roundabout take the 2nd exit onto Napier Road, the site entrance will be on the right.

Route From Site (Orange Route)

Route from site will be the reverse of the route to site, turning left out of the site then at the roundabout take the 3rd exit onto Way / A329, then follow the Black HGV signs south for A4 / A34 / M4.



10. Construction Logisitics (continued)

Construction Vehicle Movements

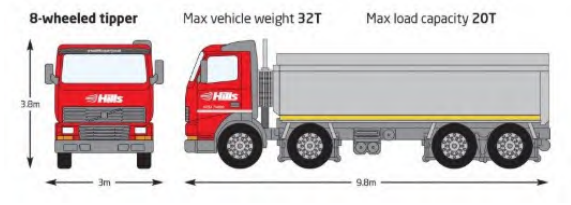
The following table details the typical “Large Construction Vehicles” that may be required on site, these numbers will be dependant on the phase of works being undertaken. The numbers stated are indicative of the potential number of vehicle movements and will vary depending on demolition programme phasing throughout the project.

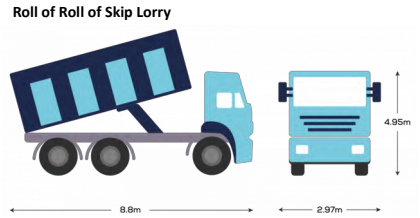
For the avoidance of doubt, “Large Construction Vehicle” will be defined as any vehicle larger than a long wheel base transit type van (length 4.1m, width 1.7m, height 1.8m, payload 1200 – 1500kg). Vehicles below these specified dimensions will be defined as “General Construction Vehicles”.

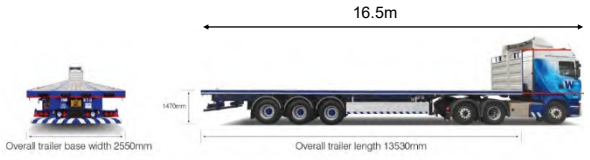
Frequency of Large Construction Vehicles

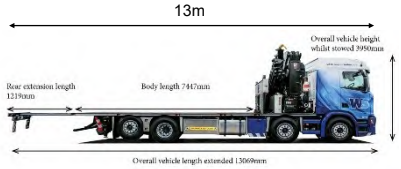
Construction Activity	Type of Vehicle	Size of Vehicle	Number of Movements (Daily)	Duration
Plant Delivery	Flatbed	16.5m x 2.5m	2	Short
Demolition Waste	8 Wheel Tipper	10m x 2.5m	10	Medium
Demolition Waste (Skip)	Roll on Roll of Skip	13m x 2.5m	3	Medium

Types of large vehicles:









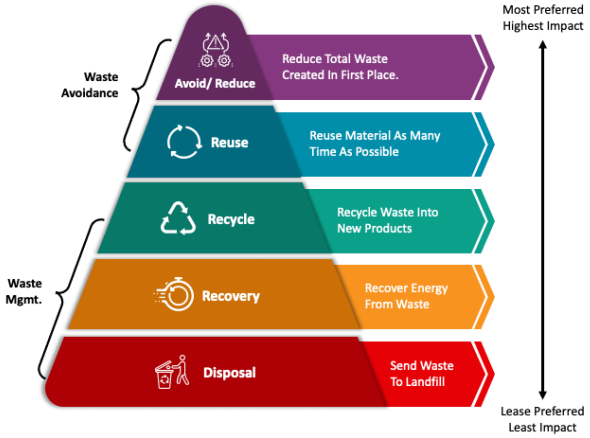
11. Waste Management

11. Waste Management

Bowmer and Kirkland will record all waste generated on site in a SWMP, this will be used to report on the performance of waste management on the site.

Waste Hierarchy

Bowmer and Kirkland will manage waste and develop the SWMP in accordance with the waste hierarchy. Specifically, the amount of waste produced will be minimised by consideration in development of the design and, where produced, will be reused before recycling / disposal options are considered.



Prior to Work Commencing on Site

In accordance with the B+K ISO 14001 management system a project specific Environmental Impact Assessment (EIA) will be undertaken by the construction management team. This assessment will embrace any specific site needs/requirements identified by the team in connection with waste management issues including any existing or generated hazardous material.

A Site Waste Management Plan (SWMP) will be prepared to enable a considered, documented approach to the management of waste on the project, this will include the Planning and Review of waste management for the project.

The person responsible to implement the SWMP is to ensure all relevant B+K personnel are aware of their duties before and during the project.

All Sub-contractors are informed of their general duties under the SWMP during pre-contract meetings and are required to sign up to the SWMP as part of the meeting.

Waste Management

All site operatives will receive an induction on how waste is to be managed on the project before starting work on site, further toolbox talks are to be provided to operatives as required to meet the requirements of the SWMP:

- The site plan is to be updated to include provisions for access, materials storage and location of waste storage areas and containers ensuring minimal damage to materials by excessive handing and inappropriate storage.
- All skips and containers are to be colour coded or signed in line with the national colour coding scheme.
- Site security is to be provided to ensure waste is not removed by unlicensed contractors or contaminated by other waste producers.
- Duty of care checks are to be conducted By B+K Project Management on all waste management companies before they are permitted to take waste off site ensuring they are licensed to deal with type of waste being carried and disposed of.
- Hazardous waste is to be segregated and stored adequately to prevent contamination.
- Plasterboard and gypsum is to be segregated on site.
- Copies of all waste transfer notes and hazardous waste consignment notes are immediately reviewed by the B+K site management team and kept within the SWMP

11. Waste Management

Disposal directly to landfill sites is generally to be avoided, where required the waste is segregated on site to recover as many reusable or recyclable materials as possible. Where segregation is not always possible an agreement with the waste management contractor is to be made to treat the waste in accordance with the landfill regulations, it is B+K policy to achieve at least 95% diversion from landfill.

Records of all waste removals are recorded in the SWMP, this is by inclusion of the waste transfers note or hazardous waste consignment note within the SWMP and inputting of date into the SWMP spread sheet tool.

Regular reports are to be obtained from waste management contractors, these would normally include actual weights received, amount of waste recycled or recovered and amount of water sent to landfill.

The SWMP is to be reviewed on a regular basis by the person responsible for the SWMP to ensure it is up to date and effective. The results of these reviews are discussed with the B+K site management team during internal project review meetings to identify areas for improvement. Any actions agreed during these reviews are communicated externally to the sub-contractors and/or other parties where relevant.

Waste from demolition activities will be disposed through an appointed waste management contractor, appointment will be on the basis of their performance of diverting mixed waste, from landfill by the following principles will be employed:

- Pollution from waste will be minimised by using the correct and safe storage of the waste.
- Segregation of different types of waste as they are generated.
- Marking of waste containers clearly with their intended contents.
- Using containers suitable for their contents.
- Disposing of different wastes in the correct containers.
- Checking the condition of waste containers before use.
- Placing containers in impervious bunded areas (if required)
- Ensuring that containers are securely covered (If required)
- Preventing damage to materials during storage

Re-use of Site Won Materials (recycle)

Soils

Where suitable soils will be retained for reuse on site, this will depending on:

- Cut and fill balance
- Contamination
- Geo-technical suitability

Where made ground or contaminated soils are present a Materials Management Plan under CL:Aire DoWCOP can be used to plan, monitor and report on the re-use of excavated soils on site to ensure that legal obligations are fully complied with.

Clean natural occurring materials are exempt under the Waste Framework Directive article 2 and is not designated a waste until it is intended to be discarded where it can be re-used on the site of production and there is a certainty of use.

Any excess soils will be removed from site to an appropriately licenced disposal site for re-use off site.

Demolition Waste

Concrete (excavated material) or demolition waste crushed on site will be in accordance with the WRAP Quality Protocol for Aggregates which will allow for the re-use of crushed material on site as it will no longer be designated as a waste. Any excess crushed material can be removed from site as a non-waste for re-use offsite.

11. Waste Management

Duty of Care

Prior to removal of any waste from site Bowmer and Kirkland will carry out the following Duty of Care checks:

- Valid waste carrier's licence.
- Ensure the waste carrier is authorised to carry the type of waste for disposal.
- Obtain details of waste disposal sites and verify the waste disposal licence in place.
- Carry out checks of carriers and disposal sites with the Environment Agency Public Register.

Once the checks are completed Bowmer and Kirkland will:

- Maintain records of waste transfer and record in Smartwaste
- Keep copies of all transfer notes of waste sent off-site.
- Check that the waste is going to the correct disposal centre as documented on the transfer notes.

12. Implementation and Review

12. Implementation & Review

The control measures identified in the DEMP, and sub-ordinate documentation, will be implemented by the following means:

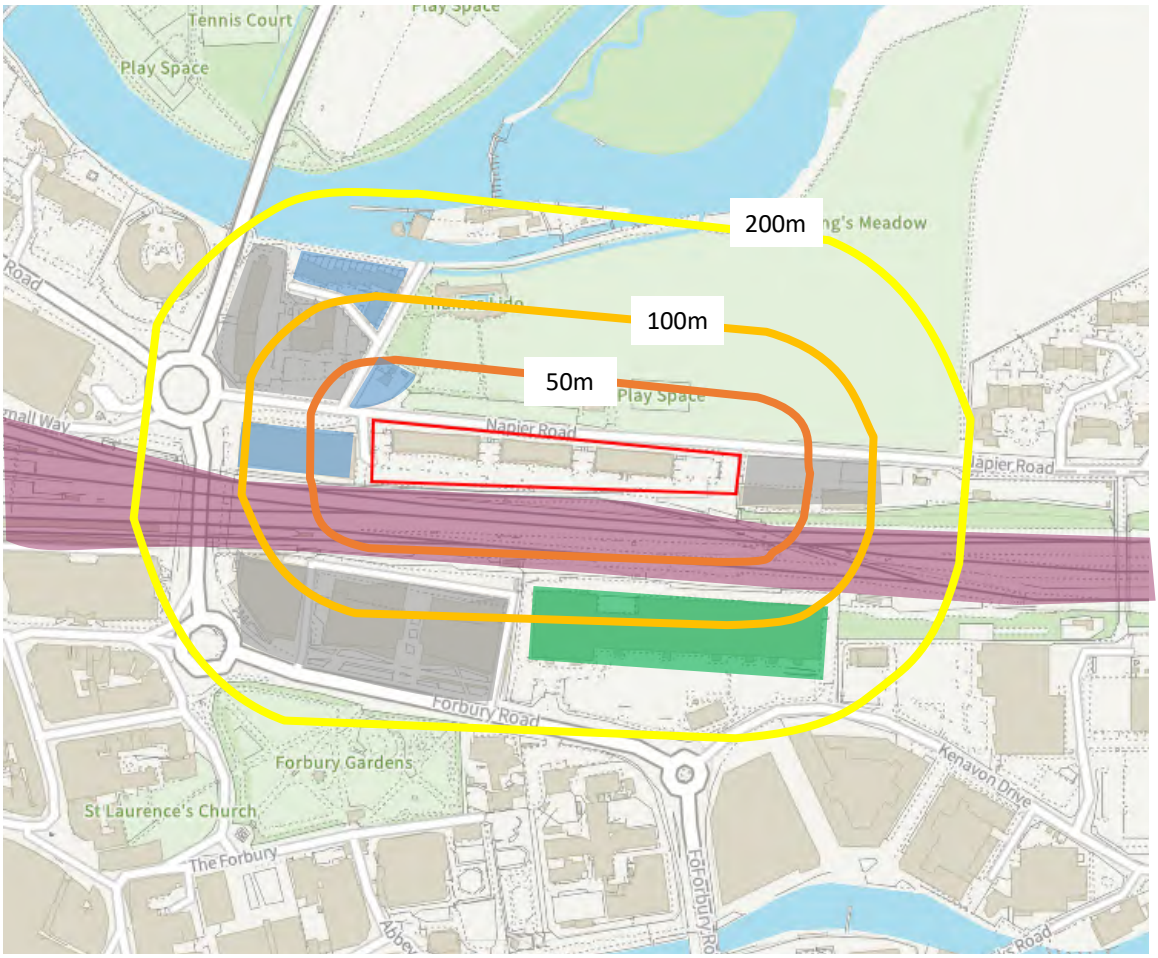
- Relevant information will be communicated to sub-contractors before an order is placed during a pre-contract meeting. An order will only be placed with a sub-contractor following a commitment that they will work to the control measures specified. Where they are required to appoint specific plant, equipment or specialist resources this will be stated in their contract.
- Sub-contractors will be required to submit a detailed method statement for all works they undertake stating detailed control measures. This will be reviewed and authorised by the Site Manager prior to the commencement of operations.
- All sub-contractors will be required to monitor their own works and provide a permanent on-site Supervisor. Where many operatives are provided Supervisors will be required at a ratio of 1:8 with site operatives.
- All operatives, supervisors and managers have to undertake a B+K site induction prior to being allowed onto site to visit or to work unaccompanied and registered on the Biosite System. This takes the form of an online pre-induction during which they enter details of their experience, competency cards, etc and undertake a brief H&S questionnaire.
- On arrival a site specific orientation induction is carried out by B+K Site Management including site location, details of welfare, office and muster points, a detailed overview of the project, risks, hazards, rules, details of any contamination or hazards, mitigation measures, etc. once completed they will be added to the Biometics system for site access.
- The Site Managers will walk the site daily to monitor the works and implementation of the specified controls. Where actions are required to further implement controls these will be raised with the sub-contractor's supervisor. If required they may use a red / yellow card disciplinary and or toolbox talks to improve the implementation of the specified controls.
- Any incidents or visits from regulators will be reported to the Environmental Manager by the Site Manager as an official visit.

In addition to the monitoring described, the implementation and effectiveness of controls will be reviewed as follows:

- The Site Manager will conduct an inspection on general good order and security on a daily basis.
- The Site Manager will conduct an inspection of all environmental controls on a fortnightly basis, this will be alternated with the external inspection described below.
- RG Wilbrey Consultants will conduct an inspection of all environmental controls on a fortnightly basis.
- The Contracts Manager or Regional Director will conduct an inspection of environmental controls on a monthly basis.
- The Environmental Manager will ensure the project will be audited for compliance with our Environmental Management System, controls which have been specified and legal requirements at least once during the project.
- A project meeting will be held on a monthly basis, to be attended by the Site Project Team, to review the results of the above monitoring and inspections. The effectiveness of the specified controls will be considered and any actions required to improve the overall environmental performance of the project agreed and documentation updated accordingly.

Appendix A
Sensitive Receptors

Appendix A - Sensitive Receptors



Legend

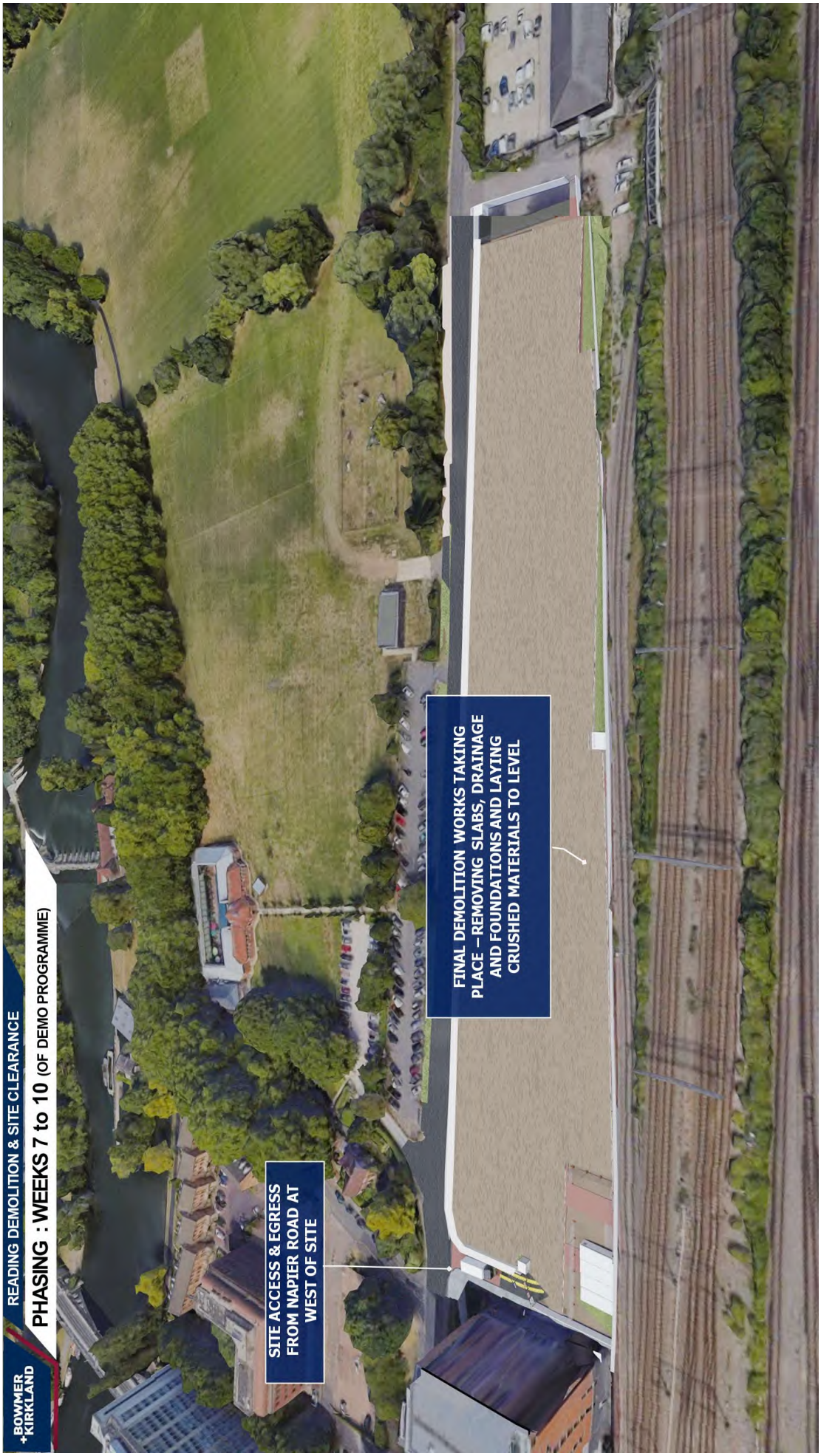
- Residential
- Network Rail
- Commercial
- Retail
- Watercourse

Appendix B
Site Logistics Plans

Appendix B - Site Logistics Plan



Appendix B - Site Logistics Plan



Appendix C
Quality, H&S and Environmental Policies

B+K

Quality Policy

At Bowmer and Kirkland, we are dedicated to achieving the highest level of satisfaction for our clients in everything we do. Over time, the company has both grown and adapted, meeting the changing circumstances and priorities of our industry. Whatever the changes and challenges we have faced, we have remained committed to our core principle of always delivering complete client satisfaction.

Across the whole Bowmer and Kirkland Group, we recognise the importance of promoting a quality led culture. We achieve this through consistent development of our businesses and of our people. Consistency is delivered via robust management systems, systems that provide our clients with added value throughout whole project lifecycles. Our systems ensure we can understand and meet regulatory, project, and client specific requirements. Our aim is not only to deliver our client's expectations, but exceed them.

To achieve the quality performance standards on our projects, we are committed to operating and maintaining a Quality Management System (QMS) that complies with ISO 9001: 2015. To promote efficiency, this sits within our other integrated management systems which comply with ISO 14001: 2015 (Environmental) and ISO 45001: 2018 (Health & Safety)

Bowmer and Kirkland is committed to the promotion of effective and efficient performance, delivered by our quality management system, and has set the following strategic aims:

- We will ensure that all employees remain dedicated to looking after our client's best interests
- We will provide adequate support and resource to enable our systems and people to deliver the requirements
- We will invest in our people to develop the skills, knowledge and capability of all existing and new employees so that we can successfully meet the changing needs and expectations of our clients and other interested parties.
- We will monitor the effectiveness of our Quality Management System and promote high standards of quality on all projects undertaken by the company.
- We will set & communicate clear essential business objectives and targets that are regularly reviewed to enable continual improvements.
- We shall support the continual review and development of our management systems to ensure company objectives are aligned with our core principles.

This Quality Policy, together with our management systems, will be periodically reviewed to ensure their continued suitability within an ever-changing industry.

Signed:



J A C Kirkland - Chairman
Date 31st January 2024

Health & Safety Policy Statement

Bowmer + Kirkland Ltd and its subsidiaries (the Group) is a family owned business and promotes family values. Health & Safety is a core business value. We are committed to creating a future free of accidents, incidents, and ill health as a result of our activities.

We are committed to working with our Clients and other external interested parties to manage and control Health & Safety risks. Managing safety, health and wellbeing and engaging with, and training our workforce are integral to how we work along with the consultation and participation of workers

The Group wish to maintain workplaces where everyone is valued, all views are listened to and a safe and healthy working environment is the norm and not the exception.

It is the Group's belief that all accidents and occupational ill health can be prevented by adherence to our policies and procedures. We take a sensible, positive approach towards Health & Safety. We seek to comply with all applicable legislation, reducing risks to the lowest level we reasonably can. Good practice is accepted as core value throughout the business and integral to maintaining a strong, positive safety culture.

Nothing we do is so important that we cannot take the time to do it safely. No one is asked or expected to work unsafely.

We take pride in everyone returning home safely every day, and we will actively target any matters of concern.

All efforts will be made, and sufficient resources will be made available to maintain, as far as reasonably practicable, a safe and healthy environment at every location under the Group's control.

We embrace the principles of leadership and endeavor to help everyone in our business to eliminate hazards and reduce OH&S risks, work safely and prevent unsafe work practices, and will never knowingly walk past an unsafe act or condition on site.

Documented arrangements are maintained in our Health & Safety Management System based upon ISO 45001:2018 and the Company's operational procedures. Compliance and continual improvement are achieved by effective implementation of this Policy and monitoring and audit to evaluate performance and progress This Group Health & Safety Policy is reviewed on an annual basis and monitoring the implementation of this policy is supported by the Group Director of Health & Safety and his Team.

Leadership, passion and commitment are present at all levels. The Group expects and requires all levels of Management and Supervision to actively initiate and pursue ways and means of making the working environment as safe and healthy as possible.

It is the responsibility of ALL our employees and subcontractors to comply with legal, moral and company safety requirements. Good safety behaviour is admired, respected and recognised across the Group. Peer pressure will reinforce policing – acting unsafely is anti-social.

All the Group Companies' Directors acknowledge their responsibility for successful implementation of the Health & Safety Policy and for promoting the continual improvement of Health & Safety within their Company.

Proper management of Health & Safety is critical in the future development of the Group and in safeguarding its reputation. Attitude and behaviour, not just statistics, are a measure of success. Our business welcomes those who support our vision and are willing to work with us – without compromise on safety.

Signed:



J A C Kirkland - Chairman
Date 31st January 2024

Environmental Policy

Bowmer + Kirkland Limited and its subsidiaries (the Group) are committed to promoting the conservation and sustainable use of natural resources, to preventing environmental pollution and to promote energy efficiency in all of its own construction activities and those of its sub-contractors and suppliers.

To achieve a high standard of environmental performance on our construction projects and related operations, we are committed to operating and maintaining a certified Environmental Management System that complies with ISO 14001: 2015. To promote efficiency this is part of an Integrated Management System which also complies with ISO 9001: 2015 (Quality) and ISO 45001:2018 (Health + Safety).

It is the general policy, therefore, to:

- Minimise any potential effects on the environment arising from site operations
- Liaise with our Clients on any potential environmental and sustainability issues and work with them to address issues and concerns
- Set clear environmental objectives and targets that are regularly reviewed to enable continual improvement in our overall environmental management performance
- Provide appropriate training for our employees
- Foster a constructive working environment through liaison with government and other interested parties, together with the communities in which we work.
- Conserve energy through minimising consumption, maximising efficiency and monitoring our carbon emissions
- Develop management processes and operational procedures to prevent pollution and enable compliance with environmental laws, regulations, codes of practice and other relevant obligations
- Minimise the use of materials which may be harmful to the environment
- Promote efficient purchasing which will avoid waste, incorporate sustainable materials and allow for materials to be recycled at the end of building life.
- Employ sound waste management practices and encourage the efficient use of materials
- Promote prudent environmental practice in design
- Recognise and encourage the contribution every employee can make towards improving the Company's environmental performance

This Environmental Policy, together with our Management System, will be periodically reviewed to ensure their continued suitability within an ever-changing industry.

Signed:



J A C Kirkland - Chairman
Date 31st January 2024

Appendix D
Management System Certificates

B+K

bmtrada
Proud to be part of element

CERTIFICATE OF REGISTRATION

This is to certify that

Bowmer and Kirkland Ltd
High Edge Court
Heage
Belper
Derbyshire
DE56 2BW

has been audited and found to meet the requirements of standard
ISO 14001:2015 Environmental Management System

Scope of certification
Building Contracting, including Design & Build.

UKAS MANAGEMENT SYSTEMS
0012

Certificate number: 1133

Issue number: 2023-01

Certificate effective date: 1 February 2023

Certificate expiry date: 18 February 2026

Date of initial certification: 19 February 2008

Vicki Howlett
General Manager - Certification UK

Issuing Office: Warringtonfire Testing and Certification Limited t/a BM TRADA Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Warringtonfire Testing and Certification Limited, 3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA, UK
Reg No. 11371436.

This certificate remains the property of BM TRADA. This certificate and all copies or reproductions of the certificate shall be returned to BM TRADA or destroyed if requested. Further clarification regarding the scope of this certificate and verification of the certificate is available through BM TRADA or at the above address or at www.bmtrada.com/certified-companies/check-a-certificate

The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification number 012. For further information on bmtrada activities covered by UKAS accreditation please go to: https://www.ukas.com/search-accredited-organisations

bmtrada
Proud to be part of element

CERTIFICATE OF REGISTRATION

This is to certify that

Bowmer and Kirkland Ltd
High Edge Court
Heage
Belper
Derbyshire
DE56 2BW

has been audited and found to meet the requirements of standard
ISO 45001:2018 Occupational Health and Safety Management System

Scope of certification

Building Contracting, including Design & Build.

Bowmer and Kirkland Ltd is deemed to satisfy and is registered to the SSIP Accredited Registered Scheme, which covers all ISO 45001:2018 certified sites detailed in this certificate, for the duration of this certificate and for the following CDM categories (Principal Contractor, Designer and Principal Designer). This certificate on its own should not be considered evidence of registration. To verify this organisations registration please go to the SSIP Portal: http://www.ssipportal.org.uk/Home

Certificate number: 304

Issue number: 2023-01

Certificate effective date: 1 February 2023

Certificate expiry date: 18 February 2026

Date of initial OHSMS certification: 16 June 2009

Date of initial ISO 45001:2018 Certification: 14 April 2020

Vicki Howlett
General Manager - Certification UK

Issuing Office: Warringtonfire Testing and Certification Limited t/a BM TRADA Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Warringtonfire Testing and Certification Limited, 3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA, UK Reg No. 11371436.

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The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification number 012. For further information on bmtrada activities covered by UKAS accreditation please go to: https://www.ukas.com/search-accredited-organisations



bmtrada
Proud to be part of element





CERTIFICATE OF REGISTRATION

This is to certify that

Bowmer and Kirkland Ltd
High Edge Court
Heage
Belper
Derbyshire
DE56 2BW

has been audited and found to meet the requirements of standard
ISO 9001:2015 Quality Management System

Scope of certification
Building Contracting, including Design & Build.

Certificate number: C1000

Issue number: 2023-01

Certificate effective date: 1 February 2023

Certificate expiry date: 18 February 2026

Date of initial certification: 1 September 2000



Vicki Howlett
General Manager - Certification UK

Issuing Office: Warringtonfire Testing and Certification Limited t/a BM TRADA Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Warringtonfire Testing and Certification Limited, 3rd Floor, Davidson Building, 5 Southampton Street, London, WC2E 7HA, UK
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The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification number 012. For further information on bmtrada activities covered by UKAS accreditation please go to: https://www.ukas.com/search-accredited-organisations

Planet Positive verifies that Bowmer & Kirkland have aligned their Social Responsibility Policy, Procedures & Practices with ISO 26000:2010

Steve Malkin, CEO Planet Positive
1st May 2012

Planet Positive

ISO 26000:2010 - Social Responsibility

Bowmer & Kirkland's Social Responsibility Policy, Procedures & Practices encapsulate the seven fundamental core principles of social responsibility:

Organisational Governance	*Ensuring that an organisation has an effective system and structure in place to implement its social responsibility policies.*
Human Rights	*The guarantee that Bowmer & Kirkland respects the fundamental rights of the people that it interacts with. It means, for example, promoting equal opportunities and diversity.*
Labour Practices	*Practices to ensure that the health and wellbeing of Bowmer & Kirkland's employees and those working on behalf of B&K are safeguarded, that they are well trained and receive opportunities for development.*
The Environment	*Stems from the recognition that businesses have an impact on their environment, both directly and indirectly. Puts procedures in place to minimise this and wherever possible have a positive impact.*
Fair Operating Practices	*Commits Bowmer & Kirkland to ethical, honest and fair transactions with other parties. Also promotes harmonious working practices bewteen management and Bowmer & Kirkland's employees.*
Consumer Issues	*Gives consumers the confidence that Bowmer & Kirkland have their best interests at heart. Focused primarily on B&K delivering complete customer satisfaction.*
Community Involvement & Development	*Acknowledges the important role that Bowmer & Kirkland plays in the wider community and that Bowmer & Kirkland can promote positive community development through engagement.*

BSI British Standards

BOWMER KIRKLAND

Appendix E
TRD Demolition Plan

B+K

CONSTRUCTION PHASE / DEMOLITION PLAN – NON PC ROLE

WORKS TITLE	Demolition Works
LOCATION	Napier Court, Napier Road, Reading. RG1 8BW



On Behalf Of

CLIENT	PEVERIL SECURITIES	**PRINCIPAL CONTRACTOR**	BOWMER + KIRKLAND
Project No:	4508		

Prepared by	Phil Stevenson	Date	19.04.2024	Signed	
Approved by	Melvyn Cross	Date	22.04.2024	Signed	

Issue Status	Issue One	Issue Two	Issue Three	Issue Four
	22.04.2024	24.07.2024		
	Issue Five	Issue Six	Issue Seven	Issue Eight

Copy 1	Project File		Copy 3	Client	
Copy 2	Site		Copy 4	Principal Designer	

REVISIONS ARE IDENTIFIED BY A VERTICAL LINE TO THE RIGHT OF THE AMENDED/ADDED TEXT

ALL PERSONNEL MUST RECEIVE INDUCTION RELATING TO THIS DOCUMENT BEFORE STARTING WORK

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1.	**DESCRIPTION OF THE WORKS**	
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	1.2	LOCATION OF THE PROJECT
	1.3	PROGRAMME OF WORKS
	1.4	ADJACENT LAND USE/SITE NEIGHBOURHOOD
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4.	**EXISTING RECORDS**	
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	5.3	ASBESTOS
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INTRODUCTION

This Construction Phase & Demolition Plan (CPP) is generated in accordance with the requirements of the Construction (Design and Management) Regulations 2015, hereafter called ***'CDM 2015'***, specifically Regulation 12 and Appendix 3, and BS 6187:2011 Code of practice for full and partial demolition, specifically 5.2.2.4; Section 3.0 details the overall control measures for specific site risks as detailed in CDM 2015, specifically Schedule 3 – '*Work involving particular risks'*.

The CPP sets out our arrangements for securing health and safety during the demolition (construction) works period; generation of the CPP has involved input from various parties, including the Client, Principal Designer, Principal Contractor and other Contractors, as appropriate.

The CPP is a 'live' document, throughout the project the CPP will be reviewed, updated and revised/developed from time to time so that it continues to be sufficient to ensure that construction work is carried out, so far as is reasonably practicable, without risks to health or safety; this revision/development will be by generation of appropriate Method Statements and related assessments (RAMS), including necessary change control.

RAMS will generally be in accordance with the requirements of BS 6187, specifically 5.2.3 and 5.2.4; each RAMS will address the particular needs of the work activities and detail the planned sequences and methods of demolition works.

RAMS will be prepared in such a way that they enable supervisors and managers to ensure that persons on site are made aware of how the work is to be carried out, including the sequence of operations, plant and types of equipment and personal protective equipment (PPE) to be used and the precautions to be taken, as appropriate.

RAMS will be succinct, follow a logical order, be easy to understand and form a single document, this may include site plans, annotated diagrams, permit to work requirements and programme/sequence for the work, to clearly communicate to those carrying out the work on site what is required.

RAMS will be easy to understand, and agreed by and known to all levels of management and supervision and will be regarded as live documents to be modified as required to cater for planned changes in systems of work; repetitive tasks may be covered by standard sheets, but critical activities will be specified in full.

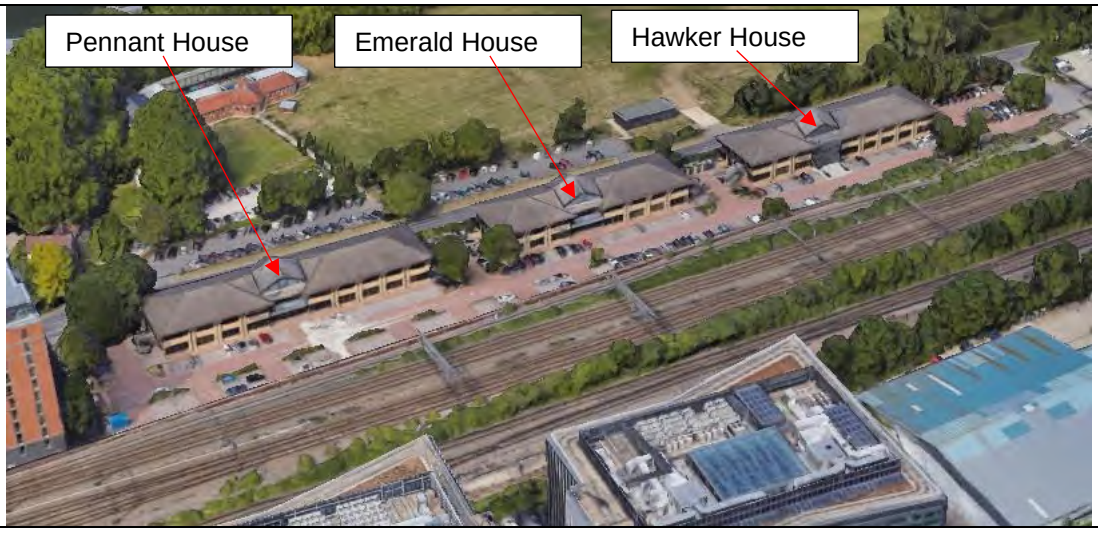
Induction for this CPP will be delivered to all personnel working on the Site, both Company and sub-contractor as part of the Site Induction; all Company personnel will receive task specific RAMS induction for all work activities in which they are involved, this induction will be recorded onto the RAMS Induction Record.

KEY

!	The red exclamation mark indicates a site safety hold point, if this cannot be signed then the works affected by this hold point cannot continue until the action referring to the hold point has been completed. Exemptions to this are only via written permission from the Contracts Director and the Health & Safety Manager and by an addendum being formed to the safe system of work and risk assessment.
	This symbol means there is an important action to be completed by the site supervisor.

1. DESCRIPTION OF THE WORKS

1.1	DESCRIPTION OF THE PROJECT;
1.1.1	The works are to be carried out in 2 phases. Pennant House and Emerald House will be demolished in the first phase and Hawker House will be demolished in the second phase. All structures are steel framed with brick infill walls. The roofs to the structures are timber framed and covered with concrete tiles. All buildings will have any identified asbestos containing materials removed be soft stripped and then demolished down to ground level. The slab, footings / foundations (1.5mtr BGL) and identified hardstanding areas to the site will be removed. Brick and concrete arising will be stockpiled on site for crushing to a re-usable aggregate. All other arising will be segregated into material type and removed from site to a licensed waste recycling facility. The site is situated next to a live Network Rail asset and some works will be subject to Network Rail issuing a BAPA (Basic Asset Protection Agreement). TRD will work with the Client and Principal Contractor on obtaining this agreement from Network Rail if and where required.
1.1.2	1. Removal of asbestos containing materials as identified within the Asbestos R&D Survey. 2. Soft Strip 3. Structural Demolition 4. Substructure Demolition 5. Crushing 6. Waste Removal
1.1.3	Refer to Client &/or Principal Contractor provided scope/BOQ documents

1.2	LOCATION OF THE PROJECT
1.2.1	Napier Court, Napier Road, Reading. RG1 8BW
1.2.2	
1.2.3	Location is also detailed on the F10 (Appendix A) (If Applicable)

1.3	PROGRAMME OF WORKS	
1.3.1	The commencement and duration of these works shall be detailed on the site programme.	
1.3.2	Commence:	TBC
1.3.3	Complete/Duration:	14 weeks from start date
1.3.4	The site working hours are most likely: Monday to Friday 07.30am to 18.00pm Saturday 08.00am to 13.00pm ➢ Exceptionally, consent for work outside these hours may be given after consultation with Principal Designer /Principal Contractor / Project Manager / Local Authority. ➢ No noisy operations will be permitted to start prior to 8.00am	

1.4	ADJACENT LAND USE/SITE NEIGHBOURHOOD
1.4.1	The information supplied by the Client, Principal Contractor and Site assessment will identify the use of adjacent and any other potential issues within the Site neighbourhood. This is especially critical when working within a 'live' workplace environment, ie Client / Principal Contrcator operations are being carried out adjacent to the demolition area(s). The adacent land use/site neighbourhood is:- Residential – be aware of peak traffic periods; General public movements; Children within vicinity; Sensitive receptors Commercial – be aware of General public movements; Children within vicinity; Sensitive receptors; peak traffic periods; deliveries incl. HGV movements; City Centre – be aware of General public movements; Children within vicinity; Sensitive receptors; peak traffic periods; deliveries incl. HGV movements; Demolition methodologies will take cognisance of the adjacent land use / site neighbourhood.

2. PROJECT DIRECTORY

2.1	CLIENT
Name	Peveril Securities
Address	Green Lane, Belper DE56 1BY

2.2	PRINCIPAL DESIGNER
Name	Ryder Architecture
Address	Middlesex House, 34-42 Cleveland St, London. W1T 4JE.
Contact 1	
Tel No.	
Mobile	
Email	

2.3	PRINCIPAL CONTRACTOR
Name	Bowmer & Kirkland
Address	High Edge Court, Heage, Belper, Derbyshire DE56 2BW
Contact 1	Stephen Walker – Contracts Manager
Tel No.	01773 853131
Mobile	07767 886313
Email	Stephen.Walker@bandk.co.uk

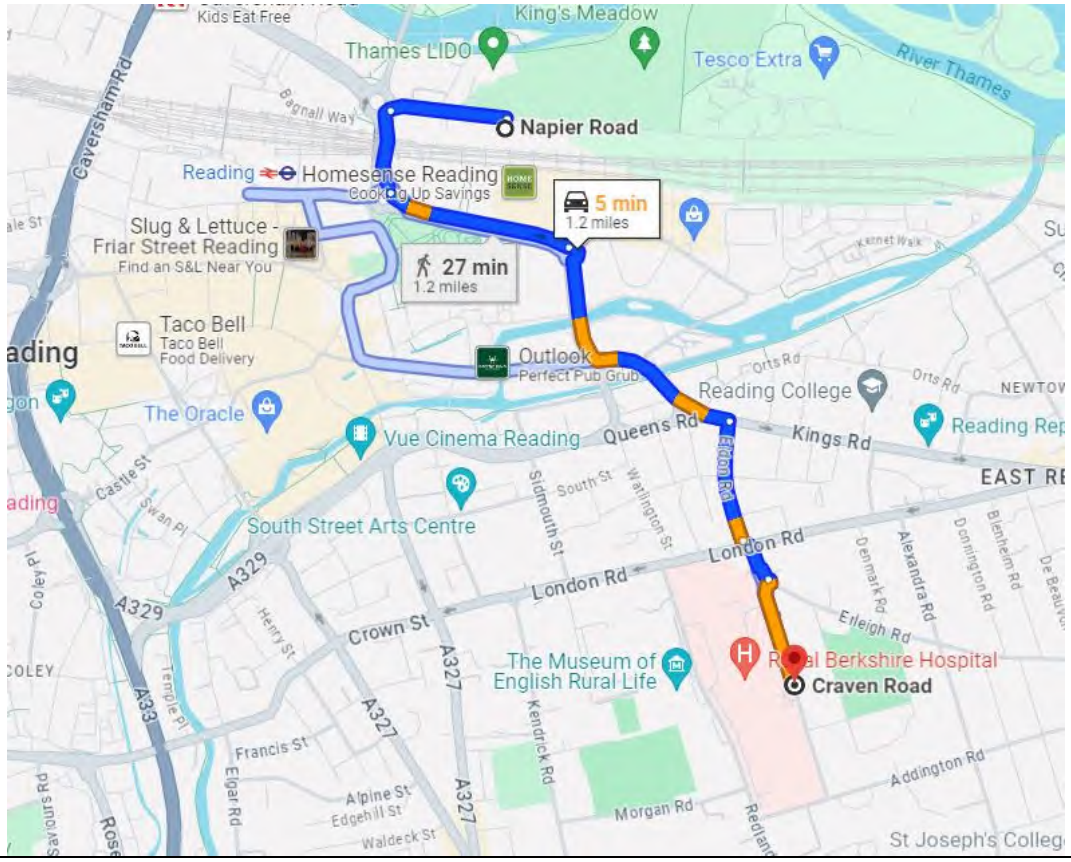
2.4	CONTRACTOR
Name	Total Reclaims Demolition Ltd
Address	Melvyn Robert House, Baker Brook Ind. Est. Wigwam Lane, Hucknall, Nottingham. NG15 7SZ
Contact 1	Melvyn Cross MIDE
Tel No.	0115 9632009
Mobile	07764 778319
Email	melvyn@totalreclaims.co.uk
Contact 2	Gary Cross MIDE
Tel No.	0115 9632009
Mobile	07970 761180
Email	gary@totalreclaims.co.uk

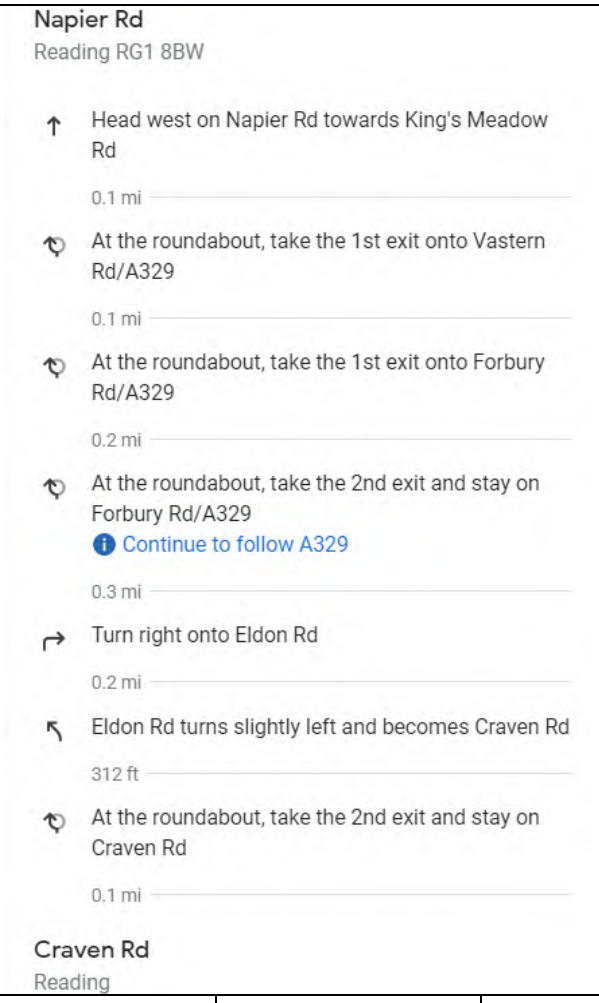
2.5	TRD PRIME PERSONNEL		
Managing Director	Melvyn Cross MIDE	**Tel:**	07764 778 319
Contract Director	Gary Cross MIDE	**Tel:**	07970 761180
Contract Director	Martin Cross	**Tel:**	07971 850260
Quality Manager	Stella Wright FIDE	**Tel:**	07967 101987
H&S Manager	Phil Stevenson MIDE	**Tel:**	07817 598162
Site Manager / Supervisor	TBC	**Tel:**	
First Aider	Site Manager / Supervisor or Principal Contractor	**Tel:**	
Fire - Responsible Person (Fire Safety)[1]	Site Manager / Supervisor or Principal Contractor	**Tel:**	
Fire - Marshall[1]	Site Manager / Supervisor or Principal Contractor	**Tel:**	
Temporary Works Co-ordinator	Stephen Fisher (TRD) or Principal Contractor	**Tel:**	07976 023 417
Temporary Works Supervisor[1]	Site Manager / Supervisor or Principal Contractor	**Tel:**	

[1] Responsibilities assumed by Site Supervisor

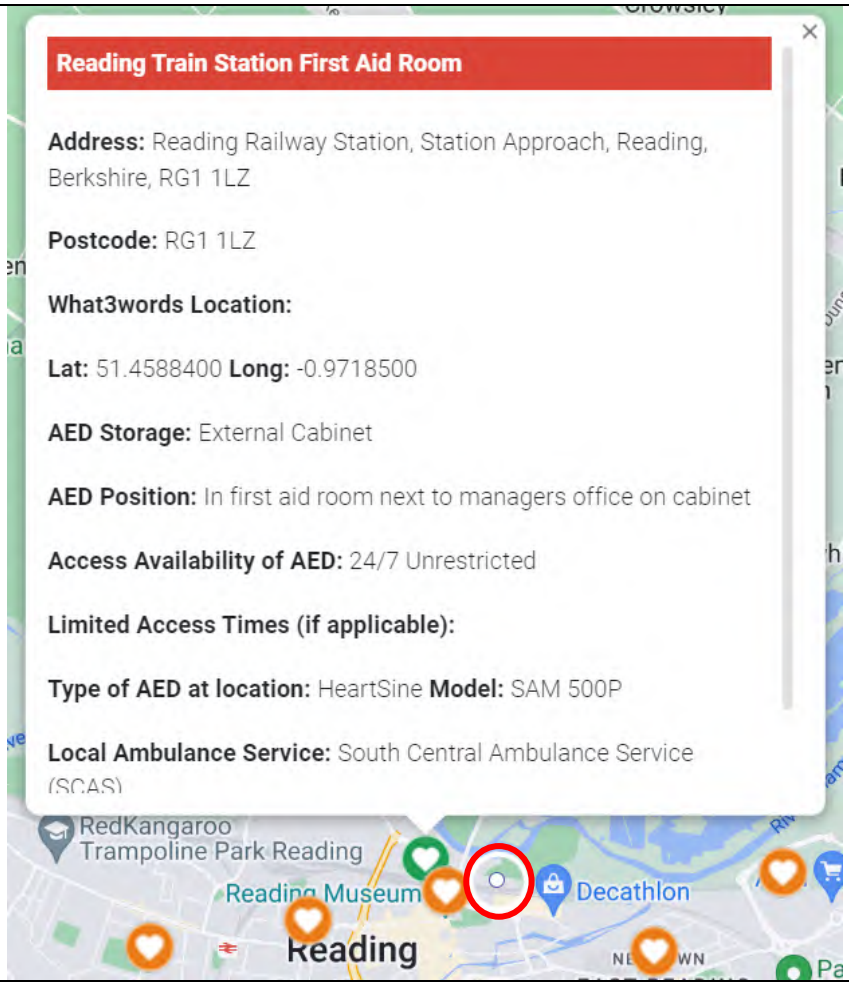
2.6	OTHERS			
Local Council – Building Control	Reading Borough Council		**Tel:**	0118 9372449 line open from 9.00am to 3.00pm Monday to Friday
	Contact		**Email**	building.control@reading.gov.uk.
HSE Office	Priestley House, Priestley Rd, Basingstoke RG24 9NW		**Tel:**	0300 003 1747
	Contact		**Website**	http://www.hse.gov.uk/contact/maps/index.htm

2.7	EMERGENCY CONTACTS		
2.7.1	**Police**	Emergency	***999***
		Non-Emergency	*101*
2.7.2	**Ambulance**	Emergency	***999***
		Non-Emergency	*111*
2.7.3	**Fire**	Emergency	***999***
		Non-Emergency	*111*
2.7.4	**ACCIDENT & EMERGENCY HOSPITAL**	Emergency	***999***
	Royal Berkshire Hospital, Craven Road, Reading, Berkshire. RG1 5AN	Non-Emergency	
	Route to A&E (Map & Directions)		





2.7.5	**NEAREST AED (Automated External Defibrilator)**	Emergency	***999***



	In the event of a suspected SCA (Sudden Cardiac Arrest) the observer and those present must report immediately the incident by ringing the Emergency Services 999. Instructions will be given by the Operator how to assist in the incident. Persons may be trained in basic life support (BSL) and understand the Chain of Survival. The Emergency Services will advise the caller who reports the incident how to assist.		
2.7.6	**National Grid Gas**	24 Hr Emergency	**0800 111 999**
2.7.7	**Western Power Electric**	24 Hr Emergency	**0800 6783 105**
2.7.8	**Severn Trent Water**	24 Hr Emergency	**0800 783 4444**
	The above emergency telephone numbers will be posted in prominent positions on site and their location and contents communicated to the workforce via toolbox talks and inductions.		

3 MANAGEMENT STRUCTURE

3.1 Details of the Company Site organisation for this project are as detailed in Table 1.

3.2

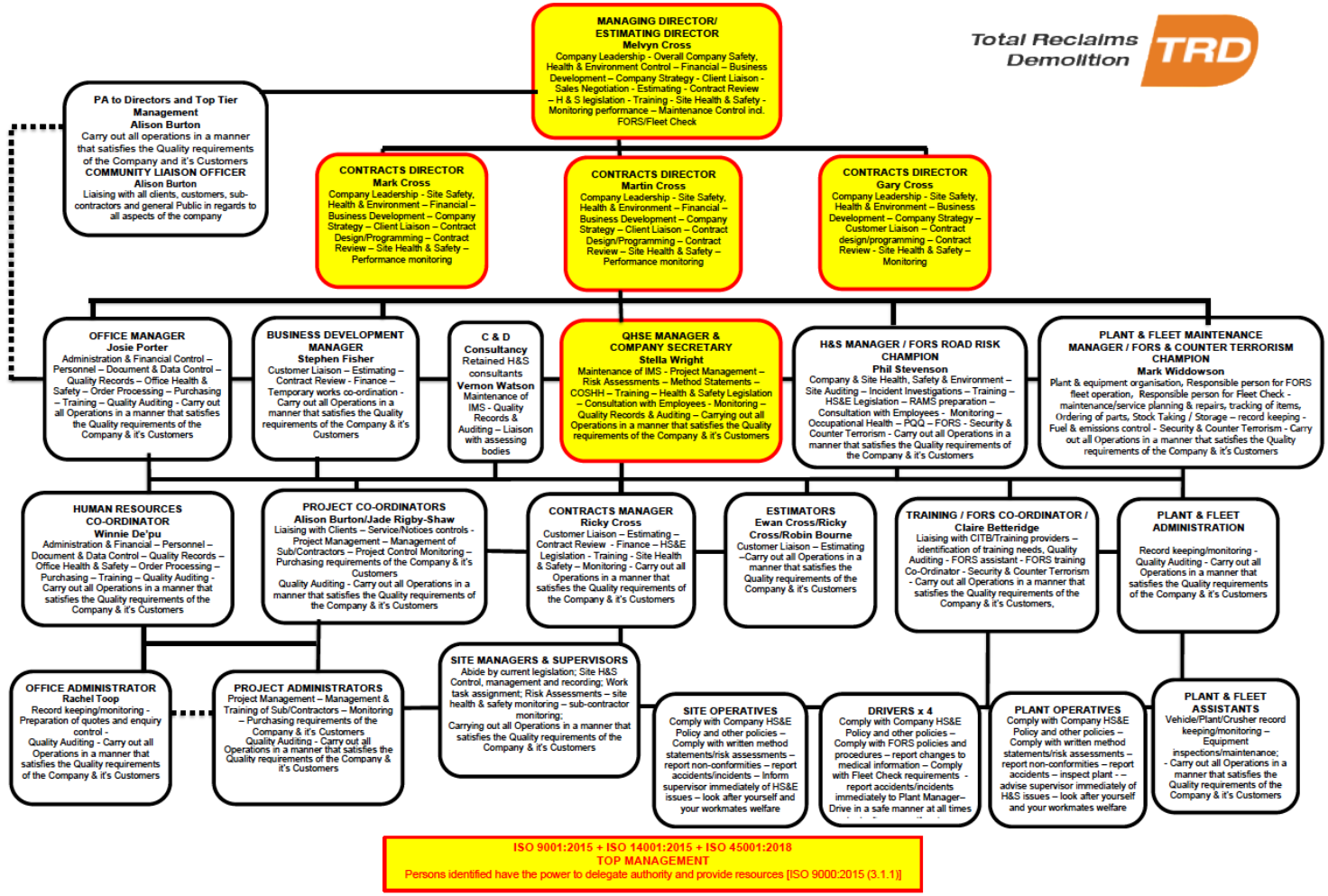


Table 1

3 MANAGEMENT STRUCTURE (continued)

3.3

The Site Manager/Supervisor will be present as far as practicable at all times that works are being carried out on site. If the Site Manager/Supervisor has to leave site for short periods of time then a competent person will be appointed to monitor the works.

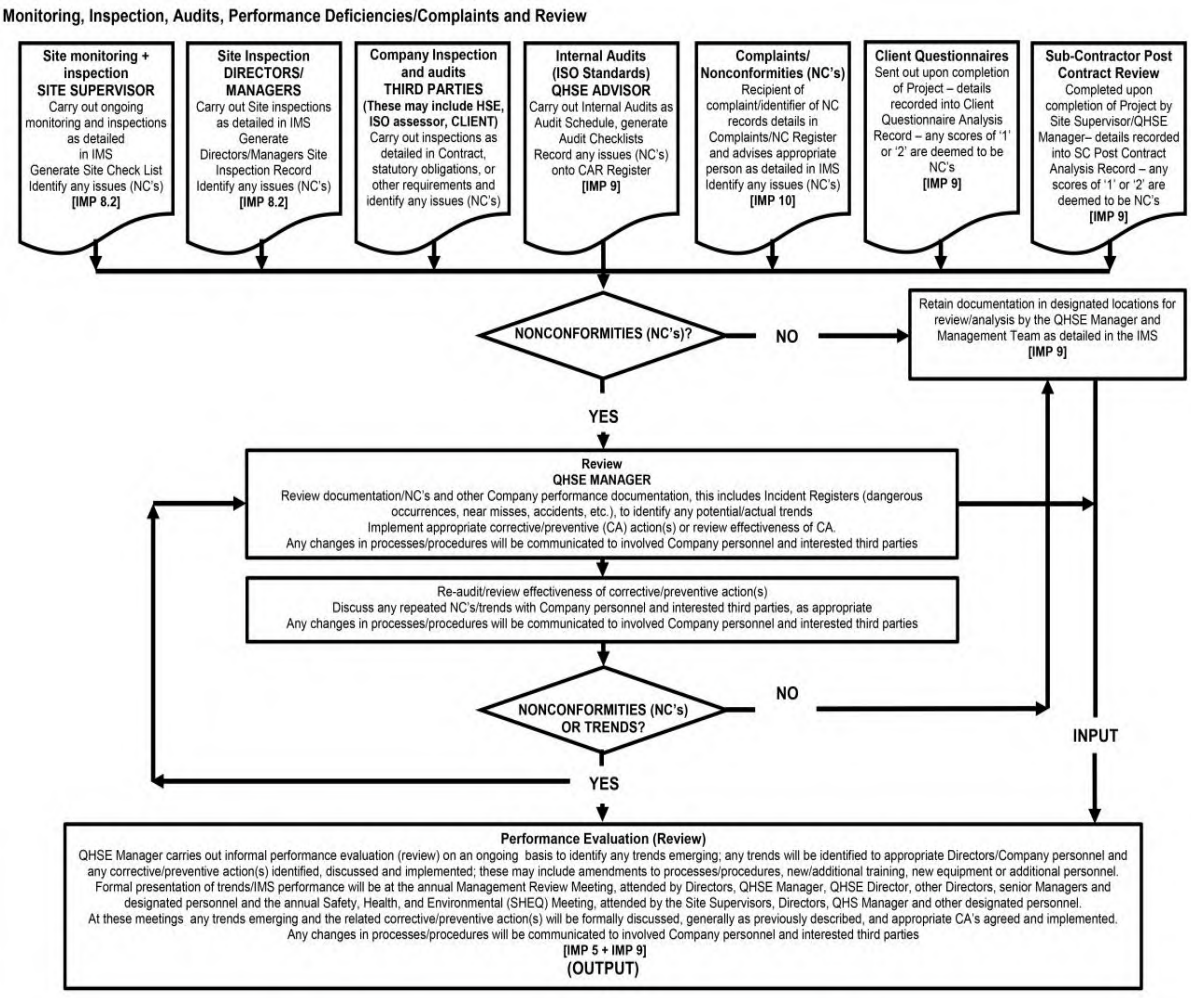
The nominated Site Manager/Supervisor has overall responsibility for supervising, managing and monitoring site activities. This responsibility takes into account contractual, safety, health and environmental considerations and the completion of relevant Integrated Management System documentation.

In addition, he also assumes responsibilities of Fire Marshal; this involves carrying out fire safety inductions, carrying out inspections of fire equipment on a weekly basis, ensuring fire drills are carried out, ensuring evacuation and head count is carried out in the event of a fire and liaising with the local fire brigade, full responsibilities as detailed in Section 2.5

To supplement Site Supervisor inspections, regular supplementary inspections are carried out by the Contract Director, Safety Advisor and/or other Directors or Managers. This inspection takes into account quality, safety, health and environmental performance/issues.

Individual responsibilities, commensurate with job description, are detailed fully within the Safety, Health & Environmental (SHE) Policy; all documentation and usage are detailed within our Integrated Management System Procedures.

3.4



4 EXISTING RECORDS	
4.1	Records and Plans, as required by CDM 2015, specifically Regulation 4(4) - *Client duties in relation to managing projects* and *Appendix 2 – Pre-construction information* and as detailed in the Client Pre-Construction Information (Appendix B). In addition to the Client and/or Principal Contractors Pre-Construction Information, the Site Layout drawing (Appendix C) will be available and/or displayed at appropriate locations

5 PRE-START	

5.1	**SECURITY**	
5.1.1	The possibility of potential emergency situations arising from arson, sabotage or vandalism should not be overlooked. Vigilance on site of all personnel is required to prevent such situations occurring. To maintain the secure status of the Site, the following actions MUST be carried out: • Vulnerable areas should be kept locked and secured when personnel are not present. • Access routes and roads must be kept clear of obstructions and parked vehicles. • Security arrangements to control pedestrians and vehicles on site must be complied with. • Non bona-fide personnel on site should be challenged about their presence and, if necessary, reported to the Site Supervisor, security and or the police. All personnel must ensure that boundary fencing is maintained in good condition - defects should be reported to Site Supervisor for immediate attention.	
5.1.2 !	All TRD, visiting and sub-contract personnel MUST sign in on the TRD personnel log Form 7.3D immediately on accessing and egressing the site even when required to sign in by Clients / Principal Contractors; Site safety hold point – Site manager/supervisor to sign _____ date _____	!
5.1.3	Access to the site is from Napier Road	
5.1.4	Vehicle parking shall be identified to TRD operational staff by the Principal Contractor during the site inductions.	
5.1.5	The site shall be secured by the Principal Contractor. The TRD working area shall be secured by the use of Heras fencing complete with safety and warning signs as required.	
5.1.6	The fencing to the TRD working area shall be inspected at the start and end of each working day. Any discrepancy with the fencing shall be rectified immediately to maintain the integrity of the TRD working areas.	☐ Check

5.2	SERVICES	
5.2.1	**Refer to TRD Form 7.3A.01 Site Services Location.Disconnection Record & Service drawings contained within your site file – if they are missing please contact Projects dept at TRD office before you commence**	☐ Check
5.2.2 !	The electrical services to the site shall be isolated/disconnected by the statutory services providers prior to commencement of the works. This shall be arranged by the Principal Contractor. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
5.2.3 !	The gas services to the site shall be isolated/disconnected by the statutory services providers prior to commencement of the works. This shall be arranged by the Principal Contractor. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
5.2.4	The Principal Contractor shall provide/ensure that and adequate water supply is available on site for such operations as dust suppression.	☐ Check
5.2.5 !	The Principal Contractor shall arrange for the de-gassing of air conditioning units on site. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
5.2.6 !	Any services that are to remain live on site for the duration of the Total Reclaims Demolitions works shall be clearly identified by the Principal Contractor. The locations of these services shall be briefed to all TRD site staff and sub-contractors prior to commencement of the works. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
5.2.7	The TRD Site Manager / Supervisor shall obtain the necessary isolation/disconnection/degassing certificate from the Principal Contractor and keep them in the site file. Electric ☐ Gas ☐ Air Con ☐ Other ☐ (please state) _____	☐ Check
5.2.8 !	**Prior to the commencement of any substructure works (slab, footings/foundation, hardstanding removal or excavating) the TRD site manager shall arrange for the ground to be scanned with a CAT & Genny to locate any known or unknown services.** Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!

5.3	**ASBESTOS**	
5.3.1	An Asbestos Refurbishment and Demolition (R&D) Survey has been carried out for these works – this document MUST be kept on site at all times. Report No. PMRS3057 Date 12/10/2023 Survey Company Alverprise Ltd	☐ Check
5.3.2	No asbestos was found during the undertaking of the asbestos R&D survey.	☐ Check
5.3.3	Often in an R&D survey there shall be areas that the surveyor could not or did access (e.g. live services, at height). Below is an extract from the survey of the areas that were not accessed on this site: Alverprise Asbestos Awareness Partner **Building** | **Floor** | **Room** | **No Survey Reason** THERE WAS NO DATA AVAILABLE IN THE SITE TO ADD TO THIS SECTION OF THE REPORT The TRD site manager / supervisor, aided by the contract manager/director, shall arrange for these areas to be accessed and surveyed prior to commencement of the works in these areas. Where the contract states that this is the responsibility of the Principal Contractor, TRD shall advise the Principal Contractor of the areas that require re-surveying. Re-Survey Arranged ☐ Results Obtained ☐ Briefed Site ☐	☐ Check

5.4	**WELFARE AND FIRST AID**	
5.4.1	Welfare provisions shall be provided by the Principal Contractor. Temporary welfare facilities will be provided on site, generally in the form of 'portacabin' type units, which will be sited in a suitable area. These facilities will be in accordance with the requirements of CDM 2015, specifically Regulations 4(2)(b), 13(4)(c), 15(11), Schedule 2, HSE publication *'Provision of Welfare facilities during construction work'* (CIS 59), and the Workplace [Health Safety & Welfare] Regulations, commensurate with number of personnel on site. Once the cabins are positioned, a plan will be generated showing the layout and location of the complex indicating the means of escape and position of all fire instructions, exit notices, alarms and firefighting equipment. The HSE notification documentation, Forms F10, ASB5 and NNLW1 (if appropriate), and other statutory notices will be displayed within these facilities in appropriate locations. In addition, Site Layout Drawings, Site Specific Fire/Emergency Arrangements, location of Emergency services, police, fire, hospitals, etc. and other appropriate health & safety posters will be displayed. It shall comply with the Workplace (Health, Safety and Welfare) Regulations 1992.	
5.4.2	The welfare facilities shall consist of as a minimum: • A toilet(s) • Hot (warm) & cold running water with means of cleaning and drying. • Drinking Water • A place to rest, eat and drink • The facility to boil water and heat food • A place to dry clothing	
5.4.3	The Principal Contractor shall advise TRD operational staff of where they can smoke/vape on site during the site inductions.	
5.4.4	The First Aider for TRD on this site is as detailed at 2.5 Adequate first aid facilities will be available on site as required by the Health and Safety (First Aid) Regulations and related Approved Code of Practice (ACOP) – First Aid at Work (HSE L74) and provided by the Principal Contractor. The First Aid kit and Eye Wash Station are situated at the site welfare facilities (unless advised differently via site induction) Facilities will include first aid materials, facilities and an appropriate number of first aid personnel. The number of trained first aid personnel will generally be as the numbers suggested in the ACOP-Table 1.	☐ Check

5.5	SITE, CLIENT AND PUBLIC LIAISON	
5.5.1 !	The Principal Contractor Site Manager shall induct all TRD operational staff, subcontractors and visitors onto site. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
5.5.2 !	The TRD Site Manager / Supervisor shall carry out a briefing with all TRD operational staff and any subcontractors working on their behalf at the start of each working day. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
5.5.3 !	The TRD Site Manager / Supervisor shall ensure that TRD operational staff and sub-contractors are signed up to the relevant method statements, safe systems of work and risk assessments for the works that they are undertaking. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
5.5.4	Regular communication shall be held with the Client / Principal Designer / Principal Contractor during the works.	
5.5.5 !	The TRD site manager / supervisor is to carry out a minimum of two toolbox talks per week, relevant to the works / conditions on site. Site safety hold point – Site manager/supervisor to sign _____ date _____	!

5.6	**ENVIRONMENTAL/ECOLOGICAL**	
5.6.1	Key environmental issues relating to the site:-	
5.6.2	**Tree Protection** Are there TPO's on this project YES ✓ | NO | TBC Read Arboricultural Survey ☐ RPA Protection Erected ☐ Briefed Site ☐ In order to prevent damage to the retained trees and their rooting zones (RPAs) it is important that protective fencing and/or ground protection is erected around each tree or group of trees. This area is known as the **construction exclusion zone** and is based on the **Root Protection Area (RPA)** and should be considered a **complete** exclusion zone, including the storage of machines, materials etc. The RPA is defined as the area surrounding the tree that contains sufficient rooting volume to ensure the survival of the tree. The diameter of the stem is used to calculate the RPA; It is important that the erection of protective fencing is carried out **before** any development work is commenced or machines are brought on site. Within BS 5837:2012 the correct methods for constructing tree protective fencing/barriers are set out. It should be fit for the purpose and appropriate to the degree and proximity of work taking place around the tree/s. During the entire construction period the fencing should be retained in its original position, entirety and rigidity. The default specification for a protective barrier and their above ground stabilisation are contained within the SSoW, although Herras fencing can often be acceptable as a cost-effect alternative. All barriers must have affixed to them all weather notices stating 'Tree Protection Zone – Keep Out'	☐ Check
5.6.3	**Nesting Birds** Are there any nesting birds on this project? YES | NO ✓ | TBC Any tree, shrub, scrub or other vegetation which may require clearance between the months of March to August inclusive must be qualified by a bird nesting survey carried out on the morning of the works to avoid disturbance to birds during the breeding season. Survey Arranged/Available ☐ Results Obtained ☐ Briefed Site ☐	☐ Check

5.6.4	**Bats** Are there Bats on this project? YES | | NO | | TBC | ✓ • Dropbox Link to Bat survey Read Bat Survey ☐ Contact with bat surveyor made ☐ Briefed Site ☐	
	PROCEDURE TO FOLLOW IF BATS ARE DISCOVERED DURING WORKS If at any point during the works bats are discovered, TRD Site Manager/Supervisor to stop work immediately and telephone the bat surveyor The surveyor will either provide a licensed bat worker to the site or provide a member of staff who will liaise directly with Natural England. Actions will then be taken following advice given by Natural England. This may include removal of bats, but only where direct written or verbal permission is gained from Natural England. Only when Natural England is satisfied that the risk to bats is ceased will works recommence under the direct instruction of the surveyor – this may require a watching brief and hand retrieval of roof materials- refer to the specific SSW.	☐ Check
5.6.5	**Japanese Knotweed** Japanese knotweed is an invasive and resilient weed. Its roots and rhizomes can grow to a depth of 2m. Even after herbicide treatment has “eradicated” the aerial and surface growth, the deep underground rhizomes can remain in a viable state and may do so for up to twenty years. It can re-emerge and re-grow on its own accord at any time and especially if the contaminated ground is disturbed. If knotweed is left to grow untreated for a number of years it has the potential to cause damage to drains, paving, paths, driveways and poorly constructed boundary walls. **For this reason it should not be ignored.** You can be prosecuted for causing it to spread into the wild. This can easily be done if you track over it with plant as the rhizomes can picked up by the tracks and then transferred to other areas on site or even other sites when plant is transported from site. Is there Japanese Knotweed on this project? YES | | NO | | TBC | ✓ If yes, then a plan showing the locatiuon of the knotweed shall be provided in section 13 -3A of this document.	
5.6.6	Noise, Dust & Vibration Refer to Section 9.7	☐ Check
5.6.7	**Leptospirosis** What is leptospirosis? Two types of leptospirosis infection can affect workers in the UK. **Weil's disease** This is a serious and sometimes fatal infection that is transmitted to humans by contact with urine from infected rats. **The Hardjo form of leptospirosis** This is transmitted from cattle to humans.	

		What are the symptoms? Both diseases start with a flu-like illness with a persistent and severe headache, which can lead to vomiting and muscle pains and ultimately to jaundice, meningitis and kidney failure. In rare cases the diseases can be fatal. Who is at risk? Anyone who is exposed to rats, rat or cattle urine or to fetal fluids from cattle is at risk. REMEMBER – - YOU CAN'T SEE THE CONTAMINATION! - WEAR GLOVES - ADOPT A STRICT HYGIENE REGIME ○ WASH BEFORE EATING / SMOKING; - COVER ANY GRAZES/CUTS WITH WATERPROOF PLASTERS; - REPORT ANY FLU-LIKE SYMPTOMS TO YOUR SUPERVISOR - READ THE PROVIDED HSE GUIDANCE INDG84 'LEPTOSPIROSIS – ARE YOU AT RISK'	

	5.7	**PARTY WALL – Not Applicable to these works**	
	5.7.1	~~You (The Client, Building Owner etc.) must tell your neighbours if you want to carry out any building work near or on your shared property boundary, or 'party wall', in England and Wales.~~	
	5.7.2	~~Party walls stand on the land of 2 or more owners and either:~~ • ~~form part of a building~~ • ~~don't form part of a building, such as a garden wall (not wooden fences)~~ ~~Walls on one owner's land used by other owners (2 or more) to separate their buildings are also party walls.~~	
	5.7.3	~~You can also have a **'party structure'**. This could be a floor or other structure that separates buildings or parts of buildings with different owners, eg flats.~~ ~~Party wall agreements are different from **planning permission or building regulations approval**.~~	
	5.7.4	~~You must tell your neighbour if you want to:~~ • ~~build on or at the boundary of your 2 properties~~ • ~~work on an existing party wall or party structure~~ • ~~dig below and near to the foundation level of their property~~ ~~Examples of this type of work include:~~ • ~~building a new wall~~ • ~~cutting into a party wall~~ • ~~making a party wall taller, shorter or deeper~~ • ~~removing chimneys from a party wall~~ ~~knocking down and rebuilding a party wall~~	
	5.7.5	~~You don't need to tell your neighbour about minor changes, eg plastering, adding or replacing electrical wiring or sockets, or drilling to put up shelves or cabinets.~~	
	5.7.6	~~You must give notice to your neighbour between 2 months and a year before you plan to start building works. Include what you plan on doing.~~ ~~You can speak to your neighbour to explain the work you want to carry out, before giving notice in writing.~~ ~~**Any agreement you reach should be in writing.**~~	
	5.7.7	~~Once you've given notice your neighbour can:~~	

		• give consent in writing • refuse consent, which will start the **dispute resolution process** • serve a counter notice requesting additional works be done at the same time (they'll have to pay for these if they benefit from the works) Your neighbour must let you know in writing within 14 days if they consent to your notice, and you must do the same with any counter notice. A counter notice must be served within a month of the first notice. Your neighbours need to respond to the notice. You can't assume that no response means they agree to the works. The dispute resolution process will also start if they don't respond to your notice within the given time.	
	5.7.8	You need to pay for any building works that you start on a party wall. Your neighbour may have to meet a share of the cost if the work needs to be done because of defects or lack of repair. They will also need to pay if they ask for additional works to be done that will benefit them. **An appointed surveyor will set out who pays what if you can't agree**.	
	5.7.9	You must appoint a surveyor if you and your neighbour can't agree. You can appoint a surveyor together or each appoint your own. The surveyors will then agree on a 'party wall award'. This is a legal document which says: • what work should happen • how and when it will be carried out • who will pay for which part and how much will be paid (including surveyor's fees) **You can't act as your own surveyor.** You can appoint a surveyor on behalf of your neighbour if they refuse or fail to do so themselves.	
	5.7.10	You can appeal against an award at a county court within 14 days of receiving it. You need to file an appellant's notice in a county court, explaining why you're appealing.	
	5.7.11	When carrying out building works you must: • avoid causing unnecessary inconvenience • protect your neighbour's property from damage caused by the works, and fix or pay for any damage that is caused Your neighbour must allow surveyors and workmen access to their property during usual working hours to carry out the building works. They must be given 14 days' notice except in an emergency.	
	5.7.12 !	If the structure we are to demolish falls within the above scope of Party Wall then we must have in writing from the client or the clients agent either a Party Wall Agreement or Party Wall Award. Site safety hold point – Site manager/supervisor to sign _____ _____ date _____ Party Wall Agreement Received ☐ _____ Party Wall Award Received ☐ **If neither of these are ticked then the demolition of any structure that requires a party wall agreement or party wall award can be demolished until they are received. Verbal confirmation is not to be accepted.**	!

6 MANAGEMENT OF THE WORKS

6.1	HEALTH, SAFETY AND ENVIRONMENTAL AIMS FOR THE PROJECT	
6.1.1	The policy of the Company is to promote the highest practicable standard of environmental, health, safety and welfare throughout the organisation in the performance of its activities. It is our aim that the project should be carried out to avoid or control all foreseeable risks to the environment and health and safety of those involved in demolition work and third parties who may be affected by such work and the environmental aspects of the work. The aim of the Project is ZERO accidents or incidents (safety, health or environmental related)	

6.2	TRD SITE RULES	
6.2.1	If the Principal Contractor has not provided TRD with their site rules then the TRD Site Manager / Supervisor is to impose the TRD site rules listed below for their working areas.	☐ Check
6.2.1	• When working for Total Reclaims Demolition Ltd, all operational staff, including sub-contractors and visitors, shall attend a site induction. • All TRD, visiting and sub-contract personnel MUST sign in on the TRD personnel log Form 7.3D immediately on accessing and egressing the site even when required to sign in by Clients/Principal Contractors; • All accidents, incidents and near miss events, no matter how insignificant, must be reported to the TRD site Manager / supervisor immediately. • Fire and emergency alarms, equipment and instructions are provided for everyone's safety on site and must be followed. Anyone found interfering or misusing any of these items shall be told to leave site. • Welfare facilities are provided for your use. Please respect these facilities and clean-up after yourself. Misuse of these facilities shall result in your removal from site. • Food is be only consumed within the canteen area. Food wrappers must be placed in waste bins. Crockery/cutlery is to be washed after use. Do not leave for someone else. Drinks can be taken to the working area; however, rubbish in these areas shall not be tolerated. • No alcohol or illegal drugs are to be brought and/or consumed on site. If you are thought to be under the influence of alcohol and/or drugs then you shall be told to leave site. • Transistor radios or personal audio devices, including mobile phones and the wearing of earphones are not permitted to be used on site. Mobile phones are to be only used within the compound area. • Working areas are to be kept clean and tidy. All transit routes are to be kept clear of arising and materials. • No personnel shall indulge in fighting, horseplay or practical jokes within the site. • Offensive or inappropriate language and provocative gestures are not permitted, in particular toward the general public. • Smoking and/or vaping is only permitted in designated areas on site. If the site has a no smoking / vaping policy then this shall be communicated during the site induction. • Safety signs and notices are there to advise and protect you. They must be adhered to. • The minimum PPE requirements for TRD sites are hard hat, s3 safety boots and a hi-vis vest. Additional PPE, as described in any Method statement, safe system of work and risk assessment must be adhered to. Failure to comply shall result in your removal from site. • All site personnel, including visitors, are responsible for their own safety and the safety of others. They are required to abide by these rules plus any other documentation that relate to their work and safety • Site access gates to be locked at all times. • Banksman to reverse all Lorries onto site. • Vehicles and plant will be switched off and secured when not in use • If you are approached by members of the public request them remain outside of the site boundary within a safe position and contact the site supervisor/manager • The site layout will be planned to locate machinery and dust-causing activities away from residences • No open fires allowed	
6.2.2	If you have anything you need to discuss or divulge with the TRD site Manager / supervisor, but do not feel comfortable discussing in front of everyone then please stick around after this induction and discuss with the TRD site manager / supervisor in the strictest of confidence and privacy.	
6.2.3	All TRD operational staff, sub-contractor and visitors to site shall be briefed on the site rules incl. Covid-19 controls as part of the site induction given by the TRD Site Manager / Supervisor.	☐ Check

6.3	**DRUG & ALCOHOL POLICY**	
6.3.1	• Total Reclaims Demolition have a strict Drugs & Alcohol policy which applies to all. • We carry out random D&A Testing • We carry out D&A testing following an accident or incident • Failure of a test shall lead to disciplinary action and removal from the project and possibly the company. • Note the limits • Our D&A policy (held with the Site Manager/Supervisor on this site) provides more details	
6.3.2	Many drugs have side effects that not only affect an individual's health, but may also compromise their safety and that of others. Although the affects vary depending on the drug used, common side effects can include a loss of body coordination, forgetfulness and confusion. The potential safety risks for all staff at work are obvious, but a lack of mental alertness is particularly important for those in safety critical roles. These include those who operate heavy equipment, dangerous machinery and drive vehicles. Due to these risks, no drugs are allowed onto any company premises or to be consumed on them at any time, this includes all areas, both internal and external; the prohibition on illegal drugs extends to all activities that are connected with staff activities whilst "at work", these include, but are not confined to the following: • Driving whilst on company business; • Working at height; • On-site vehicle operators; • Machinery operators; • On-call / standby duties. A breach of these rules will result in disciplinary action being taken against the individual. We retain the right to summarily dismiss on the grounds of gross misconduct.	
6.3.3	Whilst the consumption of alcohol is an integral part of many employees' lifestyle, its presence in the workplace is often not appropriate; not only can a small amount affect work performance, but it can also compromise the individual's safety and that of others. Common side effects include a loss of concentration, impaired judgement, loss of coordination and manual dexterity. This has implications for all staff, but particularly for those working in a safety critical role. These include, but are not confined to those operating vehicles and machinery, or working at height. For these reasons, staff is not allowed to bring alcohol onto company premises for the purpose of consumption during normal working hours, including lunchtimes; this extends to external areas as well as internal. Due to the risks involved, staff engaged in any of the roles described below may not consume any alcohol during the working day (even away from the premises): • Driving whilst on company business; • Working at height; • On-site vehicle operators; • Machinery operators; • On-call / standby duties. If an employee comes to work whilst under the influence of alcohol, or otherwise consumes alcohol on the premises in breach of this policy, it will result in disciplinary action being taken. We retain the right to summarily dismiss on the grounds of gross misconduct.	

	6.3.4	 Please note the legal driving limit in Scotland is 22 microgrammes of alcohol in 100ml of breath.	

	6.4	**CLIENT AND/OR PRINCIPAL CONTRACTOR RULES**	
	6.4.1	The following Client/PC rules apply to this site: To be provided by the Principal Contractor	
	6.4.2	The above site rules are to be briefed to all TRD operational staff during the site inductions carried out by the Principal Contractor. If they are not provided, then they must be requested and TRD shall apply their own site rules (6.2.2 of this document) to their working areas until the Principal Contractor has provided their site rules.	

6.5	**CO-OPERATION AND CO-ORDINATION**	
6.5.1	As required by CDM 2015 and other health and safety legislation, the Company will coordinate all work activities to ensure communication, co-operation and interface with Clients, Designers, Principal Designer, Principal Contractor, Contractors and other third parties are maintained in order to ensure the maintenance of a safe working environment. The management of the interface is dependent upon various factors, including, but not limited to, typical examples as below: • Nature of works being undertaken; • Location of works in relation to proximity of third parties; • Likelihood of nuisance – noise, dust, etc. In addition, management of the interface is enhanced by communication/liaison with interested parties. Typical communication/liaison methods include, but are not limited to, typical examples as below: • Meetings with Client personnel, including Safety Representatives; • Meetings with other personnel involved in the Project, this may include Designers, the Principal Designer, Principal Contractor or other Contractors • Meetings with members of the public, either individually or at organised formal public meetings; • Notices to interested parties; • Letters to Site neighbours; • Invitations to interested parties to visit our Site to view works activities; • Making available all Site documentation, including safety/environmental documentation, waste transfer documentation, etc. Design information within a demolition project usually encompasses building construction, contents, etc.Selection of methodology is generally accepted as the 'design' element of demolition works, as such, design changes generally involve change of methodology. The main thrust of our working with others is communication – if there is a problem, we will discuss and either rectify or identify reasons for our action. At all times our attitude will be one of discussion, resolution, compromise and **NOT** confrontation.	

6.6	**INVOLVING THE WORKFORCE**	
6.6.1	All Company and sub-contractor personnel are encouraged to contribute suggestions relating to improvement of the work activities, methods of work, plant/equipment, etc. These suggestions may be submitted directly, to the Management Representative or the person's immediate line manager. In addition, CDM 2015, specifically Regulation 14 *'Principal contractor's duties to consult and engage with workers'*, requires the Company to have measures in place to enable co-operation with the workers and involve the workers in consultation processes. Although the CDM Regulations only impose these duties on the Principal Contractor, the principles are used throughout the Company, regardless of CDM responsibilities assumed. The Site Supervisors generally act as representatives of employee as defined in the Health and Safety (Consultation with Employees) Regulations. All personnel on Site are required to co-operate with the Company in the implementation of policies to ensure the health safety and welfare of all persons involved with the works and of other persons who may be affected by the works activity. Implementation of the consultation and co-ordination process includes, but is not limited to, the twice-yearly Site Supervisors (Safety Representatives) Meetings and Tool Box Talks, as detailed in 3.3.5.5. Tool Box Talks are held weekly on all sites with attendance being compulsory for all employees. In addition to being a safety, health and environmental refresher/reminder, the Tool Box Talks are the forum where the Site Supervisor can identify issues raised by Company management and related actions and where any operative can raise Health and Safety/ Environmental concerns. These concerns may be addressed either locally by the Site Supervisor or Companywide by the Management Representative. This may be after formal review and/or discussions with other Site Supervisors and/or other senior personnel.	

6.7	**PERMITS TO WORK**	
6.7.1 !	The Principal Contractor should provide TRD with permits for hazardous tasks; however, if the Principal Contractor does not or does not have a permit that relates to our works then shall issue their own permit for the identified hazardous task. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
6.7.2	TRD operate a permit to work system for hazardous tasks undertaken on site. The permits will specify the works to be undertaken and the necessary precautions to be taken. Permits do not replace safe systems of work and/or risk assessments, they strengthen them. The Contract Director, in association with other personnel and/or the Principal Contractor will identify areas/work activities within the contract to be controlled by a Permit to Work (PTW). The Permits to Work may either be issued and controlled utilising the Company Permit to Work system, detailed within the Management System, or be issued and controlled by the PC. Responsibility for issue of the Permits to Work and the related areas/work activities will be clearly identified on appropriate documentation/drawings, including the related Method Statement(s), and to appropriate personnel, both supervisory and operatives	
6.7.3	The following permits shall be required on this site: **PTW - Hot Works + Firewatch** - Form 7.3G1A ☐ **PTW - Dig - Excavate** - Form 7.3G1B ☐ **PTW - Confined Space** - Form 7.3G1C ☐ **PTW - Other** - Form 7.3G1D ☐ **PTW - Work at Height WAH** - Form 7.3G1E ☐ **PTW – Demolition** - Form 7.3G1F ☐ **Permit to Enter - Unsafe Structure** - Form 7.3G1G ☐ **TRD SITE MANAGER / SUPERVISOR TO TICK AGAINST PERMITS REQUIRED**	☐ Check

6.8	**REGISTERS**	
6.8.1	A register is used to record information on inspections, defects, alterations and corrective actions. A HAVS register shall record the HAVS assessments of individuals and the tools that they are using.	
6.8.2 	The following registers shall be required on this site: Scaffold Register ☐ HAVs Register ☐ Fire Watch Register ☐ Temporary Works Register ☐ Other 1 - ☐ Other 2 - ☐ Other 3 - ☐ **TRD SITE MANAGER / SUPERVISOR TO TICK AGAINST REGISTERS REQUIRED**	☐ Check

6.9	**TEMPORARY WORKS**	
6.9.1	Temporary works include, but are not limited to façade retention, fixed scaffolding requiring design, propping and fencing, mainly hoarding type. Temporary Works will be carried out under controls specified within BS 5975.2019 '*Code of practice for temporary works procedures and the permissible stress design of falsework'* and detailed within our Integrated Management System; this involves maintaining records of design and design checks/verification responsibilities, Permits to Load and Permits to Strike, inspections, etc. and maintenance of a Temporary Works Register. A Temporary Works Co-ordinator and Temporary Works Supervisor are appointed as detailed in Section 2.5 Project Directory.	
6.9.2 	Site Manager/Supervisor to ensure **Form 7.3H.02 Temporary Works Inspections & Register** is on site and kept up to date	☐ Check

7 RESOURCES

7.1	PERSONNEL & TRAINING (Inductions, Toolbox Talks, Personnel)	
7.1.1	The Company carries out inductions, the inductions involve the following categories: • Company Induction All employees receive an induction into the Company, this provides information relating to the health and safety requirements, management systems, terms of employment, etc. • Principal Contractor Induction (if applicable) This is generally a requirement to inform personnel of Client and/or Principal Contractor Site safety requirements, including Site Rules and Regulations • Project Specific Induction This is to explain details of: ➢ The Construction Phase Plan, including Site Rules and paying specific attention to Fire and Emergency procedures, raising alarm, evacuation, etc.; ➢ The Environment Plan and related assessments; ➢ Client requirements/Site Rules (if appropriate). • Task specific induction This is to explain the requirements of the task/area specific Method Statements and related assessments (risk, COSHH, PPE, etc.). All personnel, both TRD and Sub-Contractors, working on site, are required to attend the Principal Contractor site specific induction and sign to confirm their receipt of the induction and understanding/acceptance of the safety requirements for the site.	
7.1.2	The Principal Contractor shall induct all TRD operational staff, subcontractors and visitors/others onto site. See Hold Point 5.5.1	
7.1.3	The TRD Site Manager / Supervisor shall carry out a briefing with all TRD operational staff and subcontractors at the start of each working day. See Hold Point 5.5.2	
7.1.4	The TRD Site Manager / Supervisor shall ensure that TRD operational staff and sub-contractors are signed up to the relevant method statements, safe systems of work and risk assessments for the works that they are undertaking. See Hold Point 5.5.1	

	7.1.5	A Toolbox Talk will be held on site with attendance being compulsory for all personnel on site, both Company and Sub-contractor. The Toolbox Talk will consist of: • A Health and Safety/ Environmental refresher/reminder on appropriate issues/topics • The forum where the Site Supervisor can identify issues raised at the Management Meeting and related actions. • The forum where any operative can raise Health and Safety/ Environmental concerns. These concerns may be addressed either locally by the Site Supervisor or Companywide by the Management Representative. This may be after formal review and/or discussions with other Site Supervisors and/or other senior personnel/operatives. The Tool Box Talk will be documented formally onto the Tool Box Talk Register and the operatives sign as having attended and understood. Scripts covering many topics are available to all Site Supervisors and cover a wide variety of relevant topics.	☐ Check
	7.1.6	The Site Supervisor will ensure that all operatives on the project are fully conversant with the safe systems of work intended for this project. All employees are screened for competency on joining the Company and will have received Health and Safety Induction training prior to commencement of their duties on site. Operatives will not be allowed to work on this project unless they are fully trained in the work they are being asked to do, or alternatively, they are under training and supervised by a person competent in that task. Training records are held on file at Head Office. These records contain details of training received prior to employment by the Company, together with all “in house” and external training achievements whilst employed by the Company.	
	7.1.7	Personnel Requirements: 1. Demolition TRD Site Manager / Supervisor 2. Demolition Operatives 3. Plant Operatives	
	7.1.8	Training Requirements: 1. CCDO Demolition Card 2. CPCS Plant Operator Card (or equivalent) 3. H&S Touch Screen Test 4. Asbestos Awareness 5. IPAF 6. PASMA	
	7.1.9	The designated Fire Marshall, generally the Site Manager/Supervisor, will hold a current Fire Marshal training certificate. An appropriate number of personnel, commensurate with the location of works activities, will be trained in the use of firefighting equipment – extinguishers, hose reels, etc.	
	7.1.10	Ongoing training will be given to all operatives as deemed appropriate and will take the form of Constructionskills or other training providers courses (e.g. Safety Awareness) conducted by external training bodies. Specialist training courses will be provided to suit the requirements of specific trades/skills.	
	7.1.11	The safe systems of works formed for this project shall identify the personnel and training requirements required for each element of works.	

7.2	PERSONNEL PROTECTIVE EQUIPMENT (PPE) AND ASSESSMENT	
7.2.1	TRD operational staff and subcontractors working on their behalf must abide by the Clients / Principal Contractors site PPE requirements at all times. Failure to abide by these PPE rules could result in the offender being removed and possibly banned from site.	
7.2.2	The Personal Protective Equipment (PPE) Assessment (Appendix F) gives the required PPE for all activities carried out during our works; details of task specific PPE will be identified within the safe systems of works formed for this project. Operatives engaged in or exposed to a hazardous activity requiring PPE must understand the risks for that activity and **MUST** comply with any requirements to wear eye, ear, hand, respiratory or other PPE. Operatives will receive training in the use, care and maintenance of PPE and the Company will provide appropriate storage, bags, drying rooms, etc.	
7.2.3	As a minimum, the following PPE shall be worn on site by TRD personnel / sub-contractors / visitors: Safety Helmet — EN 397:2012 Safety Boots – S3, Toe cap and midsole — EN 20345:2011 Hi-Visibility Clothing (Vest as a Minimum) — EN ISO 20471:2013	
7.2.4	As a minimum the following shall be available on site, unless the Principal Contractor's site rules say they must be worn at all times: Gloves — EN 388:2016 Safety Eye Protection — EN 166:2002 Face Fitted Half Mask — EN149:2001+A1:2009 Ear Protection (Ear Plugs) — EN 352-2:2002	
7.2.5	The following items are task specific: Ear Protection (Earmuffs) — EN 352-1:2002 Ear protection (Helmet Mounted Earmuffs) — EN 352-3:2002 Disposable Overalls (Type 5) — EN ISO 13982-1:2004 Harness — EN 361:2002 Lanyard — EN 354:2010 Burning Coveralls — EN11612 Welders Gauntlets — EN12477 Burning Goggles — EN166-1F / EN169 Cut 5 Gloves — EN388:2016 & A1:2018	
7.2.6	TRD operational staff are face fitted for a JSP Force 8 Half Mask, when working in dusty conditions it is compulsory for them to wear their RPE as they have been trained to do so.	
7.2.7	The safe systems of work written for this project shall identify the PPE/RPE requirements for the various tasks being undertaken.	

7.3	PLANT, TOOLS AND EQUIPMENT	
7.3.1	All plant, tools and equipment to be used on site will be in sound mechanical condition and safe for use as required by the Provision and Use of Work Equipment Regulations (PUWER), Lifting Operations and Lifting Equipment Regulations (LOLER) and the Electricity at Work Regulations, as appropriate. All operating controls will be clearly marked as to their use. Signs indicating that passengers are not to be carried will be displayed prominently. Moving parts of machinery will be adequately guarded and the security of such guards checked periodically. Plant/equipment operatives will hold a recognised current Certificate of Competence training in respect of the items of plant they are required to operate.	
7.3.2	Site Set Up: 1. Heras Fencing 2. Internal personnel / plant segregation routes; 3. Safety and Warning Signs 4. Fire Fighting Equipment 5. Spill Kits 6. Two-way Radios 7. First Aid Kit and Eye Wash Station	
7.3.3	Plant: 1. Demolition Spec Excavator and Attachments 2. Mobile Crusher 3. Mobile Dust Suppression All plant shall be certified as fit for use, with all certificates held in the site file.	
7.3.4	Equipment: 1. Mobile Scaffold Tower 2. Podium Steps 3. Recip Saws 4. Tech Guns 5. Wheelbarrows 6. Variety of Hand Tools (Shovels, Brushes, Hammers, Crow Bars etc.) 7. Metered Standpipe 8. Waste Containers	
7.3.5	All plant and equipment shall be inspected prior to first use. Any defective plant or equipment shall be taken out of use, reported to the TRD Site Manager / Supervisor and placed into a quarantine are for repair or removal from site. The TRD Site Manager / Supervisor shall arrange for replacement equipment for items that cannot be repaired.	☐ Check
7.3.6	Whenever and wherever possible TRD shall use cold cutting techniques over hot cutting techniques. This can be achieved by the use of shear attachments on our specialist demolition rigs or by the use of Recip saws or spark free disc cutters if the work is to be carried out by hand.	
7.3.7	The safe systems of works formed for this project shall identify the specific resource requirements required for each element of works.	
7.3.8	All electrical tools and equipment to be used on site will be 110 volt or less unless otherwise permitted. Any 240V AC or 440 V AC equipment permitted (e.g. plasma cutters) will be fitted with a suitable residual current device; generators will be earthed in accordance with the manufacturer/supplier recommendations	☐ Check

8 EMERGENCY

8.1 INTRODUCTION

8.1.1

The Principal Contractor's site induction should include emergency procedures for the site; however, if it does not or does not cover all emergency procedures then the TRD site manager / supervisor is to impose TRD emergency procedures where applicable.

Site safety hold point – Site manager/supervisor to sign _____

date _____

8.1.2

Have emergency procedures been provided by the Principal Contractor for the site during the site inductions?

YES		NO	

If YES, do they cover TRD site operations?

YES		NO	

If you answered NO to either then please impose TRD emergency procedures!

☐ Check

8.1.3

The emergency procedures within this section detail actions to be adopted in the event of any of the following incidents occurring:

- Fire.
- Spillage Fuel/Oil/Chemical.
- Serious Accident.
- Explosion/Risk of Explosion (UXO's).
- External Situations.
- MEWP.
- Asbestos.

Brief details of actions to be taken are outlined in the Emergency Guide table (Appendix A), this will be displayed in the Site office and any other locations deemed appropriate; Site specific fire arrangements will be detailed in the Site Specific Fire/Emergency Arrangements (Appendix B)

8.2 RESPONSIBILITIES

8.2.1

The Company is responsible for providing adequate information and, if necessary, training to enable all personnel on site to discharge their responsibilities under this Plan.

The Site Supervisor and sub-contractors' Site Supervisors are responsible for ensuring that their personnel understand the requirements of this Plan in particular the Emergency Evacuation Procedure, the Site Layout Drawings, the Site-Specific Fire/Emergency Procedures, their Muster/Assembly Point(s) and roll-call requirements.

All personnel on site have a responsibility to understand and comply with the requirements of the emergency arrangements and not undertake any actions that will endanger themselves or others.

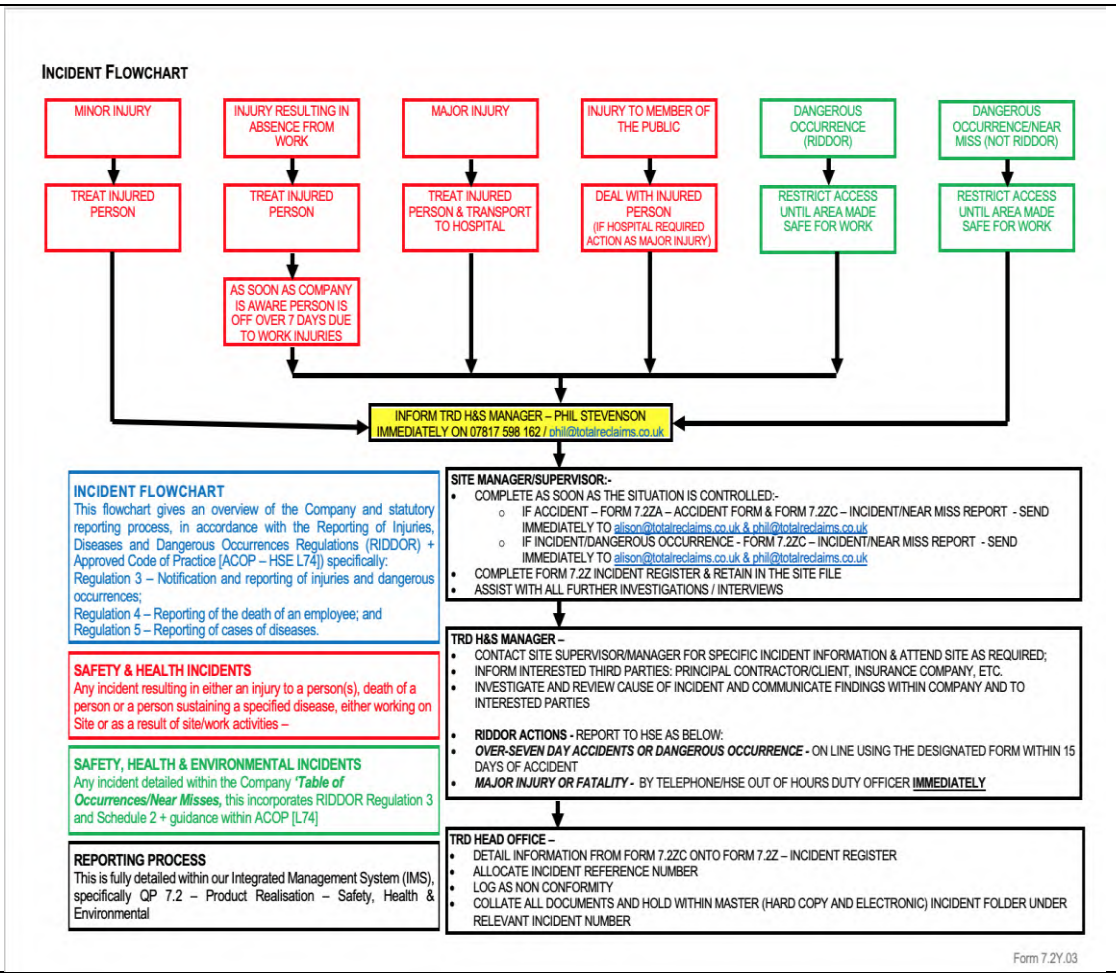
8.2.2

The Site Supervisor or designated competent person will carry out weekly inspections of all emergency/firefighting equipment and record details onto the Emergency and Fire Register (Appendix B4).

☐ Check

8.3	**EMERGENCY PROCEDURES**	
8.3.1	Refer to Section 2.7 for Emergency Contacts and routes	
8.3.2	Emergency procedures shall be explained to all TRD operational staff, sub-contractors and visitors to site during the site inductions carried out by the Principal Contractor / TRD Site Manager / Supervisor.	
8.3.3 	The following emergency procedures are available in the TRD site file and site welfare: • MEWP Rescue Plan • Spills • Asbestos • Fire	☐ Check

8.4	**REPORTING OF ACCIDENTS, DANGEROUS OCCURRENCES, NEAR MISSES & NON-CONFORMING SITUATIONS**
8.4.1	All accidents, incidents and near misses shall be reported to the TRD Site Manager / Supervisor and the Principal Contractor immediately as they are identified/occur in line with TRD's Incident Flowchart Form 7.2Y.
8.4.2	**Site Manager/Supervisor Site Accident / Incident Procedure** Total Reclaims Demolition TRD This procedure will give site managers / supervisors a step by step guide on what to do in the event of an accident or incident on site. You may ask why this is so important? The main reason is to prevent a reoccurrence of the Accident or Incident from happening again – the next time could have more have more severe consequences! It is also important from a legal point of view. By this we do not just mean protecting the company from claims, it can also be the difference between people going to prison or not and that includes yourself! **Accident** • Ensure the area is made safe but do not disturb / clear the area. Instruct others to assist. • Administer First Aid and if required arrange for an Ambulance to be called. If possible photograph the injury. Ask others to assist you. • Take plenty of photos of the accident area, including any plant or equipment. • Contact Phil Stevenson on 07817 598162 and explain what has happened. • Complete the accident / incident form in your site file AND the Accident Book. FORM 7.2ZA - ACCIDENT FORM FORM 7.2ZC - INCIDENT/NEAR MISS REPORT & email to phil@totalreclaims.co.uk Complete FORM 7.2Z INCIDENT REGISTER & retain in site file • Take witness statements from the injured person (if possible) and everyone who was in the area. **Incident** • Ensure the area is made safe but do not disturb / clear the area. Instruct others to assist. • Take plenty of photos of the incident area including any plant or equipment. • Contact Phil Stevenson on 07817 598162 and explain what has happened. • Complete the accident / incident form in your site file. FORM 7.2ZC - INCIDENT/NEAR MISS REPORT & email to phil@totalreclaims.co.uk Complete FORM 7.2Z INCIDENT REGISTER & retain in site file • Take witness statements from everyone who was in the area. If we are on a site where our client is Principal Contractor, they may ask you to complete their paperwork including their accident book. This does not replace the requirement to complete our paperwork or accident book! **When an accident or incident occurs on site then this takes priority over everything else!**



8.4.3	All accidents and incidents, regardless of severity and whether others are in control of the site, must be recorded onto a TRD accident report. This document is used both for company and statutory accident recording.	
8.4.4	Minor injuries can be treated by the appointed First Aider on site who shall assess as to whether further medical treatment is required. Please see the construction phase health and safety plan for details of the nearest A&E hospital.	
8.4.5	For major injuries please dial 999 and request an ambulance.	
8.4.6	All accidents or incidents notifiable under the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) shall be reported to the HSE Incident Contact Centre at Caerphilly by Total Reclaims Head Office.	
8.4.7	A Near Miss is an incident/incident in which no property was damaged, no equipment was damaged and no personal injury was sustained, but where, the timing or positioning was different, damage or injury easily could have occurred.	
8.4.8	The purpose of Near Miss Reporting is to prevent the reoccurrence of it happening again but potentially resulting in injury or damage.	
8.4.9	Any non-conforming situtation is to be reported to the Site Manager / Supervisor immediately. • Where possible these will be dealt with at site level by the Site Manager / Supervisor; Where required TRD's Quality manager or Health & Safety Manager will be notified by the Site Manager / Supervisor to assist with closure;	

8.4.10

Each incident, accident, near miss or non-conforming situation will be logged by the Site Manager / Supervisor onto Form 7.2Z.02 Incident Register Non-Conformities + Causation located in the site folder.

Incident Register

Site Supervisor: Month/Year Page:

DATE	TIME	BRIEF DETAILS OF INCIDENT (INCLUDING LOCATION ON SITE)	INDIVIDUAL/ COMPANY	INCIDENT										CAUSATION					ACCIDENT/ OCCURRENCE REPORT	RECORDED BY (INITIALS)
				Accidents						Occurrences			NC							
				NLT	LT	OSD	MAJ	FAT	PUB	NM	DO	DOR	NON	A	B	C	D	N		
																			YES/NO	
																			YES/NO	
																			YES/NO	
																			YES/NO	
																			YES/NO	
																			YES/NO	
																			YES/NO	
			TOTALS																	

Form 7.2Z.02

☐ Check

8.5	**FIRE**	
	Arrangements	
8.5.1	Arrangements for fire safety and emergency arrangements on Site will take cognisance of guidance/ requirements detailed in Fire Safety in Construction [HSE HSG168] and Fire Prevention on Construction Sites 9th Edition [Construction Confederation/Fire Protection Association].	
8.5.2	Prior to works commencing on Site, the Site Supervisor will contact the nearest Fire Station to advise of the Project and invite the appropriate Fire Office to visit site to discuss fire, rescue and emergency access requirements. Details of the discussions will be recorded and communicated to Site personnel and other interested parties.	
	Fire Prevention	
8.5.3	The first fire precaution on Site is to prevent fire occurring. Most construction fires have simple causes and can be dealt with by simple precautions. The following is not a definitive list, but are particularly important: • Ensure that LPG cylinders and other flammable materials are properly stored. LPG should be stored outside buildings in well-ventilated and secure areas. Flammable materials such as solvents and adhesives should be stored in lockable steel containers. • LPG supplies should be turned off at the cylinder when not in use. This is particularly important out of hours. Serious explosions have occurred after site huts have gradually filled with gas because an LPG heater has not been turned off. Also make sure site huts are adequately ventilated and do not keep LPG in them if it is not needed. • Ensure that LPG equipment and fittings are properly maintained. Damaged hoses and fittings or makeshift connections are extremely dangerous because they can easily lead to leaks in tough construction conditions. • If there is any suspicion that LPG is leaking, stop using it and check. Leaks can be identified by hissing smell or using soapy water, but never with a naked flame. Only light up when you are certain that there are no leaks and that any vapor which has leaked has dispersed. • Formal permit-to-work systems will be used for 'hot works'. Make sure extinguishers are at hand and that sparks or heat cannot set fire to surrounding materials. After the work has finished (usually an hour later) check the worksite to make sure that there is no smoldering material. • Keep the site tidy and make sure rubbish and waste is cleared away promptly and regularly. • Avoid unnecessary stockpiling of combustible materials and store what is necessary away from ignition sources. Limit what is taken onto site from the store to what is needed for a day's work. • Consider the need for special precautions in areas where flammable atmospheres may develop, such as the use of volatile solvents or adhesives in enclosed areas. • Make sure everyone abides by site rules on smoking. • Site rules for preventing fire are useless unless they are followed; the Site Supervisor will monitor Site and take appropriate action when breaches are found.	

		Precautions	
	8.5.4	During demolition works the fire risk to the building(s) decreases significantly as the work progresses and the building contents, furniture, carpets, non-load bearing partitions/walls, doors, etc. are removed (soft strip). The firefighting equipment and requirements of this Fire and Emergency Safety Plan apply to all works carried out and for the duration of the Project. Critical information, escape routes, details of fire equipment and location, Muster Point(s) will be detailed in the Site Layout Drawings. Copies of these drawings will be displayed at every Fire Point, on the Site Notice Board and will be clearly explained at induction.	
		Means Of Escape	
	8.5.5	Escape routes and emergency exits are marked on the Site Layout Drawings. These escape routes and emergency exits will: • Be clearly signed by means of signage in accordance with the Health and Safety (Signs & Signals) Regulations; • Be kept clear of all debris, soft strip arising, etc.; • Never be locked when people are on the site. The Muster Point will be identified on the Site Layout Drawing – this will be where everyone can gather and be accounted for. In the event of an evacuation, the Site Supervisor will take a 'head count' using the Site signing in/out documentation. Upon completion of the 'head count' information will be submitted to other interested parties, including but not limited to the Principal Contractor.	
		Fire Escape Routes (Including Distances)	
	8.5.6	Wherever possible the recommended travel distances to a place of safety will be as detailed in 'Fire safety in construction', as detailed in Table 2. ***Fire hazard*** — ***Lower*** — ***Normal*** — ***Higher*** **Enclosed structures:** Alternative escape route available — **60m** — **45m** — **25m** Dead-end situation — **18m** — **18m** — **12m** **Semi-open structures:** completed or partially constructed structure with substantial openings in the walls or roof Alternative escape route available — **200m** — **100m** — **60m** Dead-end situations — **25m** — **18m** — **12m** ***Lower hazard areas*** are those where there is little flammable or combustible material present and the likelihood of fire occurring is low, example could be steel or concrete clad framework ***Normal hazard area*** will cover the majority of situations, flammables and comestibles are present, but of such a type and disposition that any fire will be localised. ***High hazard areas*** are locations with significant quantities of flammables or combustible materials present of such a type that in the event of a fire, rapid spread will occur **TABLE 2**	

		Fire Equipment	
	8.5.7	The equipment needed depends on the risk of fire occurring and the likely consequences if it does. Firefighting equipment and location are detailed on the Site Layout Drawings. The Site Supervisor or designated competent person will ensure that: • Fire equipment is located where it is really needed and is easily accessible. • The location of fire-fighting equipment and how to use it is clearly indicated. • The right sort of extinguishers is provided for the type of fire that could occur. A combination of water or foam extinguishers for paper and wood fires and CO2 extinguishers for fires involving electrical equipment is usually appropriate. • The equipment provided is maintained and works. • Fire-fighting equipment should be checked regularly by a competent person. • Those carrying out hot work have appropriate fire extinguishers with them and know how to use them.	
		Occurrence Of A Fire	
	8.5.8	Anyone discovering a fire should: • Raise the alarm by contacting the Site Supervisor or by appropriate other means such as a manual 'break glass' button or sounding the air horn on site. • Advise the Site Supervisor of the size, type and location of the fire and any other relevant information. • Tackle the fire, if they are trained and competent and it is safe to do so, without endangering themselves. The Site Supervisor will, acting on the information supplied, call the Emergency Services, and, if necessary, implement an Emergency Evacuation.	
		Materials Storage & Waste Controls	
	8.5.9	Materials stored on Site for demolition projects are minimal, to minimise risk of fire from stored materials, the following precautions will be taken: • The quantity of flammable materials, liquids and gases will be kept to a minimum. • All flammable materials, liquids and gases will be stored properly. • Flammable gas cylinders will be returned to a ventilated store at the end of the shift where practicable. • Smoking and other ignition sources are banned in areas where gases or flammable liquids are stored. • Suitable fire extinguishers will be available adjacent to the stores. Arising from demolition activities will be removed from the work area and subsequently from Site on an ongoing basis. Records of all waste will be recorded within the Site Waste Management Plan; this will record details of waste, category, volume, etc.	

	8.6	**SPILLAGES FUEL/OIL/CHEMICAL**	
	8.6.1	A person becoming aware of a fuel/oil spillage should immediately contact the Site Supervisor advising him of the location and hazards generated by the Incident. In the event of a chemical spillage the person discovering the spill will immediately inform the Site Supervisor and if possible, identify to him the chemical(s) involved and any injured personnel. The Site Supervisor will then determine how the spillage is to be dealt with, after reference to the relevant COSHH assessment and if necessary, by summoning the appropriate Emergency Services or Specialist Services. If appropriate the Site Supervisor will invoke the Emergency Evacuation Procedure.	

8.7	**SERIOUS ACCIDENT**	
8.7.1	In the event of a serious accident occurring (e.g. collapse of a structure) the Site Supervisor must be informed immediately. The Site Supervisor will call the Emergency Services to deal with the incident and treat the resultant casualties and if the hazards remaining warrant it he will carry out an Emergency Evacuation.	

8.8	**EXPLOSION OR RISK OF EXPLOSION**	
8.8.1	In the event of an explosion or the imminent risk of explosion (e.g. from a leaking LPG or Gas Bottle) any personnel becoming aware of the situation must inform the Site Supervisor IMMEDIATELY and warn adjacent personnel to proceed to their Assembly/Muster Point(s) via a safe route. The Site Supervisor will immediately contact the Emergency Services and carry out an Emergency Evacuation.	

8.9	**EXTERNAL SITUATIONS**	
8.9.1	Where there is a possibility of a major incident arising from adjacent premises it may be necessary to evacuate the site. When such circumstances arise the Site Supervisor will liaise with the Emergency Services called to the external incident and take their advice as to the continuation of work on site. In the event of an evacuation of the site being necessary the Site Supervisor carry out an Emergency Evacuation.	

8.10	**ACTION BY OTHER PERSONNEL**	
8.10.1	Unless nominated to undertake specific duties by the Site Supervisor all OTHER PERSONNEL on becoming aware of an emergency situation or hearing the evacuation alarm will: • If safe to do so, shut down plant and equipment and render it safe, and then follow a safe route to their Assembly Point taking NO ACTION that will endanger themselves. • Report their presence at the Assembly Point to their supervisor and assist the supervisor in accounting for any missing personnel. Personnel with specialist training and certification i.e. First aiders should then report to the Site Supervisor and render any assistance as directed by the Site Supervisor. First Aid "Grab Bags" should be positioned at exits and these should be taken by First Aiders, providing this does not delay their exit. Supervisors at the Assembly Point must account for staff and visitors under their control to the nominated person undertaking the roll-call. Any missing personnel should be reported to the Site Supervisor for the Emergency Services to locate	

8.11	EMERGENCY EVACUATION	
8.11.1	Dependent on the type and nature of each the incident a full evacuation of the site may be required. The Site Supervisor once, in command of the circumstances of the incident will: • Sound the evacuation alarm. • Ensure that all relevant emergency services have been summoned. • Instruct a suitable competent person to undertake a rollcall of personnel at the Assembly/Muster Point(s) with each supervisor of personnel accounting for the people under his/her supervision including visitors. • Establish a control point at a convenient SAFE venue and from there liaise with the relevant Authorities and Emergency Services to manage the incident and the search for any missing or trapped personnel. • Ensure, where appropriate, and it is safe to do so, that unnecessary plant and equipment is shut down. • Ensure, through the nomination of a competent person that the emergency services are directed through a safe access route to the incident. • Ensure that they are provided with any necessary information to deal with the Incident e.g. Plan of Site, COSHH Data Sheets and Assessments etc. • Ensure that no personnel re-enter the site until advised by the Emergency Services that it is safe to do so. • If appropriate, barrier off the area of the incident to prevent unauthorised access and contamination of a possible investigation by the Enforcing Authorities. • Inform the Contract Director and where appropriate the Enforcing Authorities. • Prepare a preliminary Occurrence/Near Miss Report. • Where portable fire-fighting appliances have been used ensure that they are replenished as soon as possible for future operation.	

8.12	EVALUATION	
8.12.1	Where practicable, the effectiveness of the Emergency Evacuation will be demonstrated by a practice session, generally every 4 weeks, organised by the Site Supervisor at a convenient time and date; details such sessions, including any significant comments/findings, will be recorded onto the Emergency and Fire Register. Evacuation alarms will be tested weekly at a published time and day and details recorded of the testing onto the Emergency and Fire Register.	

9 WORK INVOLVING PARTICULAR RISKS (CDM 2015 – Schedule 3)

9.1	INTRODUCTION	
9.1.1	The information detailed in the following sections is an overview of the arrangements to control the safety and health of both Company employees and any others who may be affected by our activities, including other workers on Site, visitors to Site and members of the public. Specific and detailed information identifying actual arrangements and controls will be embedded within the task/area specific Method Statements and related assessments (RAMS). As previously described, these RAMS, related environmental documentation and this document form the ‘safe system of work’ for the management of the Project.	

9.2	RISK ASSESSMENTS	
9.2.1	Risk Assessments are carried out as required by the Management of Health and Safety at Work Regulations 1999 and related Approved Code of Practice (ACOP). The Risk Assessment method is based upon numeric rating, as detailed in the Risk Category Table. This enables prioritisation of the risks to ensure implementation of suitable control measures to reduce the risk to a level as safe as is reasonably practicable. The Risk Category Matrix identifies the risk hierarchy (low/medium/high).	
9.2.2	Specific risk assessments shall be included with the safe systems of works written for this project.	

9.3	OTHERS AT RISK	
9.3.1	The site is located within a city centre area and is, as such closely surrounded by a highly populated environment, particularly at peak times. Others at risk include, but is not limited to: • TRD personnel. • PC personnel. • Sub-contract personnel. • Site visitors including Client personnel. • City centre users. • Surrounding facility users. • Private dwelling occupants, including children. • Delivery / Collection personnel. • School users – pupils / teachers / parents. • General public.	
9.3.2	The site / working area shall be deemed an exclusion zone. Perimeter fencing shall be erected to the site were required as this shall help prevent inadvertent access into the site. See section 5.2 for further details.	

	9.4	**WORK AT HEIGHT (Schedule 3 – 1 [Part] Falling From Height)**	
	9.4.1	Under the hierarchy of control stipulated in the Work at Height Regulations, the Company will determine how to safely work at height. The hierarchy stipulates that duty holders must: (i) Avoid work at height where they can (ii) Use work equipment or other measures to prevent falls where they cannot avoid working at height (iii) Where they cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall should one occur. Only when level (i) is not practical will the next level be considered. Due to the nature of demolition activities, it is virtually impossible to avoid work at height. However, suitable controls will always be in place to prevent falls or minimise the distance and consequences of a fall. Where appropriate, and as required by the Regulations, approved type safety harnesses will be worn, and the lanyard attached to a secure and suitable anchorage point. All Company top men are issued with full body safety harnesses as part of their basic Personal Protective Equipment. Details of access requirements will be detailed within the task/area specific Method Statement(s).	
	9.4.2	All access to height will be assessed and any appropriate safety measures shall be installed.	
	9.4.3 !	Mobile access scaffolds or podium steps are to be erected by trained and authorised operatives. Prior to first use they shall be inspected by a competent person and recorded into a scaffold register. Amendments/changes to the equipment shall require an inspection again and recording in the register. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
	9.4.4 !	MEWPs must only be operated by trained and authorised personnel. Prior to first use (each working day), the MEWP shall be operated using the ground controls. This is to ensure that they work in case of an emergency situation arising. During MEWP operations, a trained operative shall be deployed at ground level in case of the event of an emergency situation. Complete Form 7.2ZZG MEWP Pre-Use Inspection Checklist Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!

	9.4.5 !	If an operative is required to wear a harness and lanyard to carry out working at height then they must be trained and authorised to do so. The harness and lanyard shall be inspected for damage/defects by a competent person prior to the operatives commencing their work. If any damage/defects are found, then the operative shall not be permitted to carry out working at height until the harness and/or lanyard has been replaced. Complete Form 7.2N Harness Inspection Record Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____	!
	9.4.6 !	Access scaffolds are to be erected by a specialist scaffold contractor. Prior to any person entering the scaffold it must be inspected and signed off by a competent person. The competent person must re-inspect the scaffold every 7 days or each time it is altered. All inspections and alterations must be recorded into a scaffold register. Only the specialist scaffold contractor can adjust/amend the scaffold. TRD operational staff are not permitted to alter the scaffold for any reason. Site safety hold point – Site manager/supervisor to sign _____ date _____ N/A ☐ Reason why? _____ **NOTE: Prior to erecting the scaffolding the relevant positions, permissions and designs will require approval. Licenses for Access will be required from the neighbouring buildings owners.**	!

9.5	**ASBESTOS (Schedule 3 – 2 Chemical And Biological Substances)**	
9.5.1	A Demolition/Refurbishment Survey, as detailed in '*Asbestos – the survey guide'* (HSG 264), as per Section 5.3 will be available on site at all times. Asbestos removal will be notified to the HSE as required/appropriate; licensable asbestos will be notified by the means of the ASB5, prescribed on-line form, sent fourteen days before commencement of works, non-licensable asbestos will be notified by the means of the NNLW1, prescribed on-line form, sent prior to commencement of works. Not all non-licensable asbestos removal works are notifiable; the notification decision will be made prior to the Project commencing and documented within the related Method Statement(s). All asbestos materials will be removed and disposed of in accordance with the Control of Asbestos Regulations, and related Approved Code of Practice 'Work with materials containing asbestos' [L143], Asbestos: The licensed contractors' guide [HSG 248], Asbestos: The analysts' guide for sampling, analysis and clearance procedures [HSG 247], NFDC publication *'Industry guidance for non-licensed work with asbestos containing materials within a demolition or refurbishment environment'*, and related HSE/ARCA Guidance documentation. A Plan of Work will be generated for licensable asbestos works involving the removal of asbestos notifiable under the requirements of an Asbestos Licence; licensable asbestos will be removed and a Certificate for reoccupation obtained from a UKAS accredited analyst prior to demolition works commencing. A Method Statement will be generated for all works involving the removal of non-notifiable asbestos. The removal will be interlinked with the demolition programme so as to minimise likelihood of exposure to asbestos containing materials. Any material found during demolition activities suspected of being asbestos will result in work being stopped. Actions will be carried out as detailed in the Asbestos Unexpected Discovery flowchart (Appendix H). The Site Supervisor will arrange for samples to be taken and forwarded to a designated laboratory for analysis. Dependent upon the results, demolition works will either recommence or revised methods implemented.	

9.6	**HAZARDOUS SUBSTANCES [COSHH] (Schedule 3 – 2 Chemical and biological substances)**	
9.6.1	Hazardous substances (COSHH products) on demolition Sites fall into three categories: • Products brought onto site for use by Company personnel (Category i) • Substances generated as a result of Company processes, e.g. dust, metal fume Category ii) • Substances present on site left as contamination/residue resulting from Client processes previous to demolition activities commencing (Category iii) *Categories i) and ii)* COSHH Assessments are carried out by utilisation of Materials Safety Data Sheets or information provided by other third parties and review of actual usage/generation on sites by Company personnel. Providing the control measures listed in the appropriate COSHH Assessment are adhered to, it is considered that the risk from products is as low as is reasonably practicable. The assessments are reviewed on an annual basis, as part of the Safety, Health and Environmental process, or sooner if considered necessary/conditions dictate. *Category iii)* Information is provided by the Client and/or PC, generally Materials Safety Data Sheets, this will be assessed and appropriate control measures, dependent upon the hazards presented by the substance(s), will be implemented. These control measures may include, but not be limited to, selection of methodology, use of personal protective equipment (PPE), disposal of waste.	
9.6.2	Operational substances to be used on site shall have a specific COSHH assessment carried out for them prior to use. The COSHH assessments shall be kept in the site file. Any new substances brought to site shall be COSHH assessed prior to first use.	☐ Check
9.6.3 !	Diesel to fuel plant on site shall be stored in a double bunded tank complete with a spill kit and fire extinguisher (NOT WATER). Site safety hold point – Site manager/supervisor to sign _____ date _____	!
9.6.4 !	Items found on site, such as chemicals, paints, drums of liquid etc., do not require a COSHH assessment as they shall not be used. Any found items shall be placed into a quarantine area IF SAFE TO DO SO. The quarantine area shall be formed from temporary fencing with safety and warning signs. The found items shall be removed from site by a specialist hazardous waste removal contractor. Site safety hold point – Site manager/supervisor to sign _____ date _____	!

9.7	**NOISE, DUST & VIBRATION**	
9.7.1	Noise assessments pursuant to the Noise at Work Regulations will be carried out as required. The results of the assessments will be reviewed, and the appropriate actions taken. Wherever possible/practicable, steps to reduce noise below the appropriate action levels will be implemented. Where reduction of noise to below the second action level is not practicable, the area will be delineated and identified as requiring ear protection. Identification of these areas will be by safety signs as required by the Health and Safety (Signs and Signals) Regulations. Typical second action level areas include: • Where percussion tools are in use • Inside the driver's cab of certain plant	
9.7.2 !	The TRD site manager / supervisor shall use the TRD noise assement handbook to apply the necessary control measures and provide the correct level of hearing protection for each noise emitting task being undertaken on site. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
9.7.3	In addition, the following measures will be implemented: Plant / Equipment Controls: 1. Whenever heavy plant operates the surrounding area (to provide a clear 20m exclusion zone) to be designated as a mandatory hearing protection zone. Pedestrian barriers with mandatory hearing zone signage affixed to be installed at approach points to the areas to alert persons on site of the necessity to don their hearing protection. 2. Compressors brought on to site will be silenced or sound reduced models fitted with acoustic enclosures. 3. All pneumatic tools will be fitted with silencers or mufflers. 4. All plant items will be properly maintained and operated according to the manufacturers' recommendations in such a manner as to avoid causing excessive noise. All plant should be sited so that the noise impact at nearby noise-sensitive properties is minimised. 5. Local hoarding, screens or barriers will be erected as necessary to shield particularly noisy activities. 6. On-site noise monitoring where required – TRD in-house noise trained Safety Officer. 7. Excavators will be utilised employing rotating shear or grab attachments which will enable grasping of structural elements and lowering rather than 'dropping' operations. 8. Machine operator to switch off during idle times to reduce emissions / noise etc.	
9.7.4	Any works where generation of dust is likely is to be controlled, in the first instance, by at-source damping down and/or LEV/natural ventilation control measures. RPE is to be provided to further control exposure (as per the PPE register). Each operative is to hold a current face-fit test specific to the RPE provided. • Selection of suitable plant/equipment/LEV extraction • Preparation of area to promote natural ventilation – opening of doors/windows etc. • Selection of suitable RPE • Minimising exposure to dust by installation of control measures • Monitoring employee's exposure Demolition methodologies will take cognisance of the risks entailed in the work activities and exposure to dust.	

	9.7.5	TRD operational staff are face fitted for a JSP Force 8 Half Mask, when working in dusty conditions it is compulsory for them to wear their RPE as they have been trained to do so.	
	9.7.6	Dust migration from site / working area shall be controlled by directing a water mist onto the working area.	
	9.7.7	In addition, the following measures will be implemented: 1. Pre-start – identification of sensitive receptors (over and above on-site personnel) 2. Minimisation of traffic flows through the site – containing access / welfare / loading / unloading / clean-down and storage / crushing zone to works area. 3. Phasing the works to maximise the benefit from perimeter structures and to enable traversing back to loading / welfare zone at all times. 4. Crushing Operations – a. Crushing operations to be contained to footprint of the site area. b. b. All works carried out to WRAP protocol incl. inspections / testing and records maintained. c. Mobile Crushing Permits held under Section 3.5 of Schedule 1 to the Environmental Permitting (England & Wales) Regulations 2010 SI 2010 No. 675 via our local authority LAPPC (Ashfield District Council) for each of our 3 crusher units which covers T7 exemption and sets permit conditions which include, but not limited to: d. Visual assessments of emissions from the crusher when it is in use and associated process operations such as vehicle movements are to be made frequently and at least 3 times per day – NOTE: This is carried out and recorded onto the Crusher Daily Record sheet. e. Feeding area of the crusher is fitted with water sprays in order to minimise emissions at source. f. A supply of water shall be available to the crusher at all times – where supply is interrupted all operations will cease. g. Height drops from discharge conveyors and loading machines will be kept to an absolute minimum to prevent emissions of dust and additional damping down will be initiated. 5. On-Site Controls: a) Continual monitoring of weather conditions and dust emissions. b) Ceasing of works as required and introduction of additional controls should works require. c) All arising to be transported off site to have easy sheet in place prior to leaving the site. d) Correct sheeting of containers or vehicles containing materials before leaving site e) Inspection of inward and outward vehicles. f) Clean-down of wheels before leaving site. g) Visual inspections of internal access roadways. h) Visual inspection of working areas and introduction of damping down operations. i) Introduction of road-sweeper – internal roadways and cleared slab areas. j) Ceasing of works and introduction of additional controls should works require. k) On-site dust monitoring. l) Excavators will be utilised employing rotating shear or grab attachments which will enable grasping of structural elements and lowering rather than ‘dropping’ operations. m) At source damping down - Dust Boss / Mobile bowsers with spray head attachment to be available on site and set up to ‘curtain’ the mechanical demolition exclusion / buffer zones throughout the works to provide a fine mist application during: • mechanical demolition; onto the spoil heaps; during loading/processing operations; on-board dust suppression systems on crusher. NOTE: This ‘fine mist’ method ensures that the particulates are captured at source and brought down rather than becoming airbourne.	
	9.7.8	Where risk of damage to abutting properties/boundaries has been identified suitable controls including hand-reduction to sensitive elevations; saw cutting / lifting of slab to reduce any vibration impact.	

9.8	**DISMANTLING ACTIVITIES (Schedule 3 – 10 Work involving assembly or dismantling of heavy prefabricated components)**	
9.8.1	Risk assessments will be carried out and method statements generated (Safe systems of work [SSW]) will be generated for all dismantling activities; the SSW will take cognisance of the nature of the plant/equipment to be dismantled, including weight of sections and total weight, location/access. Methods of dismantling, use of access lifting equipment, etc., will be clearly described; all works will be carried out by operatives experienced in the dismantling process/techniques.	

9.9	**SERVICES (including temporary electrical installations)**	
9.9.1	Services within the demolition projects may include, but not be limited to: • Gas • Electricity • Water • Telecommunications • Client/PC process services All existing services will be isolated/diverted, either by the PC or the Company, before demolition works commence. The Company will obtain confirmation of isolations before starting works, where practicable, physical severance of services will be carried out and identified by the Company at the separation point(s). Regardless of isolation documentation, all care will be taken when carrying out demolition works to verify the actual status of services within the demolition area(s). Any areas of concern, ie suspicion of possible 'live' service, will be identified to the PC, verification of the status of the service undertaken and, depending upon the result of the verification, appropriate action taken. If the slab is to be removed, a CAT scan will be carried out prior to work commencing. Any 'live' services to be retained within the demolition area(s) will be clearly identified by suitable method, colour coding, spray paint, etc. Demolition methodologies will take cognisance of the existence of these services. Overhead power lines and 'live' pipe gantries will be identified to all personnel, will be recorded in the Method Statement, and where appropriate, will be segregated by physical barriers to prevent possible contact. Demolition methodologies will take cognisance of the existence of these services.	
9.9.2	Generally the only temporary electrical installations on Site are required for the Site welfare facilities. Any cabins with electrical equipment will be accompanied by appropriate certification. Installation of the electrical supply will be carried out by a competent electrician and will be in accordance with the Electricity at Work Regulations.	
9.9.3	Refer to Section 5.1 for site specific information	

9.10	EXCAVATIONS	
9.10.1	The major risk from shallow pits, ducts and excavations, will be to be members of the public and workers on site. Most accidents can be eliminated if care is taken to protect the working area effectively and prevent access by unauthorised persons. In addition, any holes and openings will be kept covered where possible or a physical safety barrier erected.	
9.10.2	Site Manager/Supervisor to ensure PTW - Dig - Excavate - Form 7.3G1B is completed	☐ Check

9.11	POOR GROUND CONDITIONS	
9.11.1	Work in poor ground conditions will be undertaken only after a full risk assessment has been carried out. Demolition methodologies will take cognisance of the ground conditions.	
9.11.2 !	Ground conditions are to be assessed on a daily basis by the TRD Site Manager / Supervisor and by TRD operational staff, particularly during inclement weather conditions. Significant changes to the ground conditions which could put contractors, sub-contractors, visitors, the general public, plant, equipment or even structures at risk are to be reported immediately to the TRD site manager / supervisor. Liaison with the Contract Manager and/or Health & Safety Manager shall then be held to identify suitable control measures. These control measure must be recorded prior to commencement. Site safety hold point – Site manager/supervisor to sign _____ date _____	!

9.12	DELIVERY/REMOVAL OF MATERIALS (including waste)/work equipment/plant Delivery/removal	
9.12.1	All vehicles, either delivering or removing materials/work equipment/plant, will take the designated access/egress route onto Site and report to the Site Supervisor. The designated route will be detailed in the task/area specific Method Statement. When entering via public highways and in any area where delivery/removal activities impinge on public thoroughfares, access and egress and egress will be controlled by a banksman. All materials will be unloaded in nominated lay down areas and transported to working areas as required. Materials will be moved around the site and unloaded by suitable vehicles e.g. telehandler, crane, hiab lorry, etc.	

9.12.2	All waste products will be removed from site in accordance with the relevant Regulations accompanied by a Duty of Care Note, as required by the Waste (England and Wales) Regulations, or Hazardous Waste Consignment Note, as required by the Hazardous Waste Regulations; copies of the disposal documentation will be held on site. Only licensed waste carriers will remove waste from site. All skips and roll on/off containers will be placed such that they do not present an obstruction to means of access and egress for personnel, plant or vehicles. They will be based on firm level ground and filled with discretion (i.e. not overloaded). Proper transportation will be provided to move waste skips and roll on/off containers; movement on site using unsuitable equipment will not be permitted. Whilst it is the drivers responsibility to ensure that his load is safe when being transported, the Site Supervisor will ensure that waste skips are suitably sheeted, scrap containers are not overloaded before leaving site and necessary waste documentation is available and in order for all waste materials leaving site.	
9.12.3	Waste shall be segregated into material type and placed into suitable waste containers for removal from site.	
9.12.4	Drop zones shall be used to remove soft strip arising from the structure.	
9.12.5	Drop zone areas shall be segregated from access and other activities on site by the use of Heras fencing. Safety and warning signs shall be posted to the fencing.	
9.12.6	A banksman shall be positioned to the exterior of the drop zone under a watching brief. He shall be in direct contact with the soft strip team via two-way radio. He shall suspend the use of the drop zone should any unsafe situation arise or if the drop zone requires to be cleared. The use of the drop zone shall only resume under the banksman's instruction.	
9.12.7	Flyable materials shall be placed into bags prior to being placed into the drop zone area.	
9.12.8	Mechanical demolition arising shall be segregated into material type with brick and concrete materials being stockpiled for crushing and all other materials being placed into suitable waste containers for removal from site.	
9.12.9	Asbestos waste shall be double bagged and placed into a lockable waste container, designated for asbestos waste, for removal from site to a licensed waste disposal facility.	
9.12.10	The SSW.RA formed for this project shall outline the safe removal of demolition arising.	

9.13	**STABILITY OF STRUCTURES**	
9.13.1	The information supplied by the PC and Site assessment will identify the stability of structures. Personnel will not enter any building suspected to be unstable, in such cases, appropriate methodology, generally by demolition by mechanical methods, i.e. machine external to the structure, will be utilised. When demolishing structures, the basic principles of structural demolition (as detailed in BS6187:2011), i.e. progressive, deliberate collapse or deliberate removal will be considered. Demolition methodologies will take cognisance of the stability of the structure prior to demolition works commencing and the ongoing stability of the structure during the course of demolition works.	

9.14	CONTROL OF LIFTING OPERATIONS	
9.14.1	Lifting operations if any will be performed in accordance with the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998. All plant and equipment used for lifting on the site, which requires inspection and/or testing under the requirements of LOLER will be correctly tested and be accompanied by the appropriate Test Certificates. All lifting operations will be planned in accordance with BS 7121 and an appointed person will be present when lifting is taking place. The weight of all lifts will be assured such that the proposed lifting down by crane can be completed within the crane manufacturer's stated safe working load and radius.	

9.15	MAINTENANCE OF TOOLS, PLANT & EQUIPMENT	
9.15.1	All tools, plant and equipment are serviced maintained and inspected in accordance with the requirements of appropriate legislation, this includes the Provision and Use of Work Equipment Regulations (PUWER), the Lifting Operations and Lifting Equipment Regulations (LOLER) and Electricity at Work Regulations. The service, maintenance and inspection controls for all work equipment are commensurate with the use and exposure to adverse conditions to which the work equipment is exposed whilst in use. Plant and equipment are divided into two basic categories:	
9.15.2	Either powered, Stihl saws, grinders, drills, etc., or manually used, mattocks, crowbars, hammers, etc. Prior to use, all hand tools are subject to a visual inspection by the user. Any faulty or damaged equipment will be taken out of use and replaced. The faulty/damaged equipment may either be scrapped or sent for repair. All electrical tools and equipment to be used on site will be 110 volt or less unless otherwise permitted. Any 240V AC or 440 V AC equipment permitted (e.g. plasma cutters) will be fitted with a suitable residual current device. All portable electric equipment will be accompanied by valid PAT documentation. Oxy-propane torches and related equipment will be fitted with check valves adjacent to the cutting torch and flash back arrestors to the regulators.	

9.15.3	Excavators, telehandlers, forklift trucks, powered access equipment, etc. Drivers are required to record details of inspections onto the Weekly Plant Inspection, this document is returned to the Plant Manager on a weekly basis and contains information as below: • Details of the inspection – engine, hydraulics, electrics, etc. • Hours worked and/or standing time (broken down). • Details of any faults identified. Serious faults are notified to the Plant Manager immediately to enable appropriate action to be taken. This generally involves either use of the Company plant fitters or suitable third party. The Plant Manager maintains Spreadsheets to identify service, maintenance and inspection intervals and individual files for all Company owned Plant and equipment. Services, maintenance inspections and repairs carried out by third parties are recorded onto appropriate documentation.	

9.16	TRAFFIC ROUTES (including segregation of vehicles and pedestrians)	
9.16.1	Traffic routes, both for access/egress to and from the Site and for movement within the Site will be identified prior to commencement of works activities. Wherever practicable, a one-way system will be in place on Site. If not practicable, vehicles will not be allowed to reverse unless controlled by a banksman. Vehicle traffic will be segregated from pedestrians by suitable methods. These routes will be documented within the task/area specific Method Statements.	
9.16.2	Refer to Site Plan. Site Supervisor/Manager to update plan as work dictates and relay changes through to all site personnel.	☐ Check

9.17	STORAGE OF MATERIALS	
9.17.1	Demolition activities do not use significant amount of materials as part of the process. Deliveries to Site are generally PPE, plant/equipment, hand tools and diesel. All materials will be unloaded in nominated lay down areas and transported to working areas as required. Oxygen and Propane storage will be in a suitable location on site and will be in a separate secure steel cage. All loose bottles will be secured in a vertical position. Diesel fuel will be stored in a fully bunded fuel bowser, spill material will be available in the immediate vicinity. Materials will be moved around the site by suitable vehicles e.g. telehandler, crane etc.	

9.18	**FIRE**	
9.18.1 	Firefighting equipment shall be positioned at each working area on site and at pertinent locations throughout the site. A fire point shall be located at the welfare facilities and the designated smoking / vaping area. These shall be identified to TRD operational staff during the site inductions held by the Principal Contractor.	
9.18.2 	The type of fire alarm system for the site shall be identified to TRD operational staff during the site inductions held by the Principal Contractor.	
9.18.3	Soft strip arising shall be removed from the working area as it created as far is reasonably practical. The arising shall be transited from the working areas to designated waste loading areas around the building / working area.	
9.18.4	The TRD site manager / supervisor deployed to these works shall be the designated fire marshal for TRD works. The emergency procedure for a fire shall form part of the site inductions undertaken by TRD operational staff, sub-contractors and visitors to site.	
19.18.5	All hot works shall be undertaken under a hot works permit. On completion of the hot works, prior to the end of the day or during break times, a fire watch shall be undertaken for the minimum of 1-hour. The person undertaking the fire watch during break times shall take their break on completion of the fire watch or if they are substituted by another fire watchmen.	

9.19	**EXPLOSIVES (Schedule 3 – 9 Work involving explosives)**	
9.19.1	Explosive demolition will only be carried out after specific and careful consideration of the suitability of the structure for demolition by explosives, techniques appropriate to the structure and location and associated exclusion zones. Demolition by explosives will take cognisance of BS5607:1998 Code of practice for the safe use of explosives in the construction industry and BS6187:2011 Code of practice for full and partial demolition. All explosives demolition will be under the control of a competent explosives engineer. Only explosives engineers who can demonstrate the necessary qualifications, experience and training will be employed. The explosives engineer will be responsible for selection of the use of explosives, storage, security, liaison with statutory authorities, carrying out risk assessments and generation of the Method Statement(s).	

9.20	LIGHTING	
9.20.1	Poor light is not only low light but also bright light such as sunshine for example. For high levels of light (e.g. sunshine) operatives should be provided with safety sunglasses, particularly machine operators. The machine operators are permitted to remove their hi-vis vests in the cabs of their machines as they can cause glare on the windscreen during high levels of sunshine. The vest must be put back on before leaving the cab of the machine. Where machine operatives leave a low light area into a high light area (and vice versa) then yellow lens safety glasses can be worn or the machine operator must stop once they leave one area and enter another until their eyes have become accustomed to the light level. Machine operations must be segregated from pedestrian walkways and speed limits are to be put in place	
9.20.2	Poorly lit areas (low light) are to be illuminated using task lighting. Cables from task lighting are to be hung from the floor to prevent trip hazards where possible and hung cables should be hung thoughtfully i.e. at high level or against walls so that operatives do not have to bend down or manoeuvre around them; however, if the cables cannot be hung then they should be placed against walls or covered over to prevent tripping.	

9.21	ANY OTHER WORK INVOLVING PARTICULAR RISKS	
9.21.1	Demolition activities do not generally involve work involving particular risks as detailed in Schedule 3: • Work which puts workers at risk of burial under earthfalls or engulfment in swampland (Schedule 3 – 1 [part]); • Work with ionising radiation requiring controls required by the Ionising Radiations Regulations (Schedule 3 - 3); • Work near high voltage power lines (Schedule 3 - 4); • Work exposing workers to the risk of drowning (Schedule 3 - 5); • Work on wells, underground earthworks and tunnels (Schedule 3 - 6); • Work carried out by divers having a system of air supply (Schedule 3 - 7); • Work carried out in a caisson with a compressed air atmosphere (Schedule 3 - 8); In the event that any of these safety risks being present on site, a full risk assessment will be carried out and appropriate method statements generated (RAMS); demolition methodologies will take cognisance of the appropriate safety risk.	

10 HEALTH RISKS

10.1	MANUAL HANDLING	
10.1.1	To comply with the Manual Handling Regulations, the Company has carried out an assessment. To carry out the assessment, the Company have: • Identified the manual handling operations undertaken by their employees • Made an appraisal, as far as is reasonably practicable, of all manual handling operations to determine if there is a risk of injury to employees. In addition, assessments based upon criteria defined in HSE publication ‘Manual Handling Assessment Charts’ (INDG383) will be carried out. Wherever practicable, manual handling will be eliminated by use of mechanical methods of both demolishing and transporting material.	

10.2	**EXPOSURE TO UV RADIATION (FROM THE SUN)**	
10.2.1	Demolition activities require the use of full body protection at all times – either polycotton overalls, disposable overalls or chemically resistant overalls. Operatives do not work 'uncovered' - as a result, exposure to sunlight (UV radiation) will not generally be an issue.	

10.3	**HAND & ARM VIBRATION (HAV'S) & WHOLE-BODY VIBRATION**	
10.3.1	Whole body and hand arm vibration will be subject of risk assessments specific to the task being carried out/equipment being used. Measures taken to minimise exposure the effect of vibration include, but are not limited to: • Elimination of use of vibrating hand tools. • Selection of suitable plant/equipment. • Ensuring all plant & equipment is serviced and maintained. • Minimising exposure to vibration by controlling periods of use. • Monitoring employee's exposure. Demolition methodologies will take cognisance of the risks entailed in the work activities and exposure to vibration.	
10.3.2	Work that is required to be carried out with vibratory hand tools shall require the TRD Site Manager /Supervisor shall carry out HAVS assessments on all operatives deployed to these works. He shall use the HSE HAVS calculator to work out the exposure times for the chosen equipment. The name of the operatives and their exposure times shall be recorded in a HAVS register which shall be kept in the site file and available to view on request. The works shall be shared amongst the operatives to reduce the effect of HAVS on the individuals.	
10.3.3	When purchasing or hiring vibratory hand tools the manufacturer's data and guidance should be obtained to assess the vibration level, and usage should be in line with this guidance. The limits shall be communicated to all operatives involved in the works. Only trained and authorised TRD operational staff are to use specialist equipment such as breakers or rotating still-saws. Operational staff are to be risk assessed and anyone suffering from arthritis, or with a previous history of upper limb disorders, will not be authorised to use this type of equipment.	
10.3.4 !	For all operatives using vibratory hand tools Form 7.2J MUST be completed. Site safety hold point – Site manager/supervisor to sign _____ date _____	!

10.4	**ASBESTOS**	
10.4.1	All controls as set out in the Control of Asbestos Regs 2012 and HSE Asbestos Essential guidance https://www.hse.gov.uk/asbestos/essentials/ are to be adopted. Any person carrying out NNLW works are to receive medicals via an HSE approved contractor. All persons on site are to have received annual asbestos awareness training.	
10.4.2	NNLW exposure records are to be recorded on a weekly basis and held at head office;	
10.4.3	Any suspect / uncontrolled exposure is to be reported immediately to phil@totalreclaims.co.uk by the TRD Site Manager/Supervisor and investigated.	

10.5	LEAD	
10.5.1	All controls as set out in the Control of Lead at Work Regs and HSE Guidance – Lead and You & Working Safely with Lead are to be adopted.	
10.5.2	The company will: Review work processes and workplaces for opportunities to reduce workers' exposure to lead by reducing the number of people exposed, the amount of lead to which they are exposed and the length of time each worker is exposed. Ensure the right controls are being used in line with industry good practice Ensure the controls are always used when needed. Keep all controls in good working order. This means mechanical controls (e.g. extraction, respiratory protection), administrative controls (e.g. supervision, medical surveillance) and operator behaviour (following instructions). Keep records to show that controls are being sustained. Consult an appointed doctor about the medical surveillance which is appropriate for the work activities / workplace.	

10.6	TEMPERATURE & WEATHER PROTECTION	
10.6.1	Regulation 34 of CDM deals specifically with the issue of temperature: *(1) Suitable and sufficient steps shall be taken to ensure, so far as is reasonably practicable, that during working hours, the temperature at any place of work indoors is reasonable having regard to the purpose for which that place is used.* *(2) Every place of work outdoors shall, where necessary to ensure the health and safety of persons at work there, be so arranged that, so far as is reasonably practicable and having regard to the purpose for which that place is used and any protective clothing or work equipment provided for the use of any person at work there, it provides protection from adverse weather.* The principal contractor must take steps right from the start of the project to implement regulation 34. What is a reasonable temperature for outdoor working is not defined and it is up to the principal contractor to consider the circumstances of their particular project and take action to protect the health, safety and welfare of all those involved on site.	
10.6.2	In hot and sunny conditions, it is advisable that operatives wear long sleeved clothing to prevent the risk of sun burn; however, long sleeve clothing can cause operatives to overheat when carrying out labour intensive tasks. TRD will provide high factor sun cream for operatives to use on exposed skin. Operatives shall be allowed to take regular drink breaks during hot and sunny conditions especially persons that are carrying out labour intensive works to combat the risks of dehydration and ailments such as heat stroke.	
10.6.3	Safety sunglasses or safety glasses with anti-glare (conforming to EN166 and EN170) can be worn to help with too much light i.e. strong sunlight. If travelling from light to dark / dark to light areas, then yellow tinted safety glasses can be worn.	
10.6.4	In freezing conditions, grit or salt should be spread to walkways to prevent the potential risk of slips and falls.	

	10.6.5	Operatives should wear extra layers to combat cold conditions then if they get too warm then they can remove layers. Hats (beanies, woollen etc.) are not allowed to be worn under hard hats as it can make the hard hat easy to fall off? Only helmet liners, designed for the helmet being worn should be used. TRD shall provide insulated gloves for when working in cold conditions.	
	10.6.6	During windy conditions wind speeds shall be measured using an anemometer, especially when working at height. The measurements shall be recorded onto the TRD site manager / supervisors' daily diaries.	
	10.6.7	All operational staff and visitors are to wear hi-vis clothing so that they can be more easily seen during poor weather conditions such as heavy rain or snow. TRD provide their workforce with workwear including waterproof coats/jackets. The welfare facilities provided by TRD shall include a drying room for wet clothing to be dried in.	
	10.6.8	Plant with enclosed cabs are to be fitted with window wipers. TRD site manager / supervisor and plant operators are to continually assess ground conditions during inclement weather conditions.	

11 METHODOLOGIES

11.1	**SOFT STRIP**	
11.1.1	The following Safe Systems of Work (SSW.RA) shall be used on this site: • SSW.RA - Soft Strip Works inc. abandoned waste This will cover the removal of identified items such as, but not limited to: • Plasterboard & Partitions. • Blockwork Walls. • Fluorescent Light Tubes. • Suspended Ceilings. • Cables. • Pipework. • Vinyl Floor & Carpet Tiles. • Carpets. • Sanitary ware. • Architrave & Skirting. • Windows.	☐ Check
11.1.2	The relevant risk assessment shall form part of the SSW.RA.	

11.2	**STRUCTURAL DEMOLITION**	
11.2.1	The following Safe Systems of Work (SSW.RA) shall be used on this site: • SSW.RA	☐ Check
11.2.2	The relevant risk assessment shall form part of the SSW.RA.	

11.3	**SUB-STRUCTURE REMOVAL**	
11.3.1	The following Safe Systems of Work (SSW.RA) shall be used on this site: • SSW.RA Substructure Removal	☐ Check
11.3.2	The relevant risk assessment shall form part of the SSW.RA.	

11.4	**CRUSHING**	
11.4.1	The following Safe Systems of Work (SSW.RA) shall be used on this site: • SSW.RA Crushing	☐ Check
11.4.2	The relevant risk assessment shall form part of the SSW.RA.	

12. THE HEALTH AND SAFETY FILE

12.1 CONTENTS

12.1.1

Contents of the Health and Safety File will take cognisance of Appendix 4 of CDM 2015 and input from the Client, Principal Designer, Principal Contractor, Contractors and Temporary Works Designers / Contractors, if applicable.

Where practicable, the contents will be agreed prior to commencement of the demolition (construction) works period; the nature of demolition works renders some of the defined contents to be irrelevant, the suggested contents, in the absence of defined requirements at commencement of the works are:
Brief description of the work carried out;
Any hazards that have not been eliminated through the demolition processes, and how they have been addressed (e.g. surveys or other information concerning asbestos or contaminated land);
Location and markings of significant services, including underground cables; gas supply equipment; fire-fighting services etc.;

i) Waste Disposal Information (Waste Streams and Destinations);
ii) Asbestos Data, including clearance documentation;
iii) Service Information/Isolation Certificates.

There will be enough detail to allow the likely risks to be identified and addressed by those carrying out any works, however, the level of detail will be proportionate to the risks Information will be in a convenient form, clear, concise and easily understandable.

If the Client or PC requires any further information to be included, this will be identified prior to works commencing to enable information to be collected.

12.2 ARRANGEMENTS FOR THE COLLECTION AND GATHERING OF INFORMATION

12.2.1

Information for inclusion within the Health & Safety File will be collected and retained within the Project File throughout the Project duration.

Upon completion of the Project, the necessary information will be extracted from the Project File and utilised to generate the Health & Safety File.

12.3 STORAGE/PRESENTATION OF INFORMATION

12.3.1

'Hard' copy of the Health & Safety File is issued to the PC for issue to the Principal Designer for retention within the Client CDM documentation; if required electronic copy, in the required media, generally DVD or USB stick, will be provided.

13. APPENDICES – APPENDIX A - SITE INFORMATION

A1 SITE PLAN INC. LOGISTICS & SEQUENCE

To be provided by the Client / Principal Contractor

A2	PHOTOS

A3	DRAWINGS

A4	INFORMATION FROM CLIENT

A5	F10

To be provided by the Client / Principal Contractor

13. APPENDICES – APPENDIX B – EMERGENCY INFORMATION

B1 SITE PLAN – EMERGENCY EXITS/ROUTES

To be provided by the Client / Principal Contractor

B2	EMERGENCY GUIDE	
	ACTION	**CONTACT**
B2.1	**FIRE ON SITE - IN PLANT, BUILDINGS OR PORTABLE ACCOMMODATION** • Raise the alarm • Stop Working and evacuate any buildings or plant near the fire • Dial **999** and state **FIRE** – follow all instructions given. • If safe to do so, remove any plant from the area – **DO NOT** put yourself or others at risk! • Inform the site manager / supervisor or your foreman immediately • Where possible, possible isolate all electrical supplies and make safe in the area of the fire - **DO NOT** put yourself or others at risk! • Assemble at the fire assembly point and check that all contractors, sub-contractors and visitors are accounted for. • Stop personnel and vehicles from re-entering the area.	**999** **Site manager / supervisor or designated person**
B2.2	**ACCIDENT / INCIDENT** • Remove any casualties from immediate danger – **DO NOT** put youreslf at risk. • Ensure the area is made safe but do not disturb / clear the area – ask others to assist. • The First Aider is to administer First Aid as required. • If serious injury has occurred dial **999** and ask for an **ambulance** – follow all instructions given. • If possible, photograph the injury • Take photos of the accident / incident area – include plant and equipement • Contact the H&S Manager (Phil Stevenson 07817 598162) for further instruction and guidance. • Complete the accident / incident form in the site file **AND** the accident book. • Take witness statements from the injured person(s) and all who where in the area at the time.	**999** **Site manager / supervisor or designated person**
B2.3	**ELECTRICAL** • Isolate the supply and/or casualty, if safe to do so – **DO NOT** put yourself at risk. • Do not touch anything until the supply is isolated. • Follow the actions in section B2.2..	**999** **Site manager / supervisor or designated person** **Western Power: -** **0800 6783 105**

	B2.4	**SPILLS OR LEAKS** • For small spillages: ○ Use absorbent materials – spill kits etc. • For large spillages: ○ Bund with an inert material (soil, sand etc.) • Report to the site manager / supervisor or your foreman immediately. • Consult the COSHH file, safety data sheet and consignment note for emergency information. • Prevent spill from entering drainage runs. • If the spill cannot be contained call the EA (Environmental Agency) • Follow actions for incident in section **B2.2**	**Environment Agency - Incident hotline Telephone:** **0800 80 70 60** **Site manager / supervisor or designated person**
	B2.5	**EXPOSURE TO CHEMICALS / HAZARDOUS SUBSTANCES (Known & Un-Known)** • Remove casualty from danger, if safe to do so – **DO NOT** put yourself in danger. • Casualty to remove contaminated clothing and use emergency shower (if available) or hose down with a water hose. Casulaty to be provided with paper coveralls to wear. • If the substance is known, consult the COSHH file, safety data sheet and consignment note for emergency information. • Arrange for the casualty to go to hospital, this may require dialing **999** and asking for an **ambulance**. Send a copy of the COSHH data and/or sample of substance with the casualty. • Contact the H&S Manager (Phil Stevenson 07817 598162) for further instruction and guidance. • Follow the actions in **B2.2**	**999** **Site manager / supervisor or designated person**
	B2.6	**UXO's (UNEXPLODED ORDNANCE) – Explosives / Bombs** • Stop all works immediately – isolate plant and equipment. • Inform the site manager / supervisor immediately • Evacuate the area and keep clear – prevent persons and/or vehicles from entering the area. • Dial **999** and state the nature of the emergency – follow all instructions given.	**999** **Site manager / supervisor or designated person**
	B2.7	**GAS (LANDFILL OR OTHER)** • If you smell gas or strike a gas supply, isolate all plant and equipment immediately. • Inform the site manager / supervisor immediately, ask others to help with this. • Isolate all electrical supplies, if safe to do so – DO NOT put youreslf in danger. • Isolate the gas supply if possible – DO NOT put yourself in danger. • Ventilate the working area, if possible – DO NOT put yourself in danger. • Evacuate the area and kep clear. Prevent persons or vehicles from entering the area. • Contact the gas supplier or environmental agency (EA), state what has happened and follow all instructions.	**British Gas** **0800 111 999** **Environment Agency - Incident hotline Telephone:** **0800 80 70 60** **Site manager / supervisor or designated person**

	B2.8	**FLOODING** • Inform the site manager / supervisor immediately, ask others ro help with this. • Isolate the water supply if possible – DO NOT put yourself in danger. • Isolate all electrical supplies, if safe to do so – DO NOT put youreslf in danger. • Contact the environmental agency (EA), state what has happened and follow all instructions.	**Environment Agency - Incident hotline Telephone:** **0800 80 70 60** **Site manager / supervisor or designated person**
	B2.9	**ASBESTOS** • See section B5 for Abestos Unexpected Discovery Flowchart	
	B2.10	**MEWP** • See section B6 for MEWP Rescue Plan	

	B3	**SITE SPECIFIC FIRE / EMERGENCY ARRANGEMENTS**

	B3.1	**SITE PRECAUTIONS (ARRANGEMENTS)**	
	B3.1.1	Escape routes are as detailed on the Site Layout Drawing/s provided by the Client / Principal Contractor.	
	B3.1.2	In the event of the alarm going off, Operational staff shall follow the instructions provided to them at the site inductions held by the Client / Principle Contractor and make their way to the assembly point	
	B3.1.3 !	A separate assembly point must be formed for asbestos workers and not in close proximity to the general site assembly point. The assembly point for asbestos workers should be set up to allow them to decontaminate – bucket of water with sponge/rags, spare disposable coveralls, wet wipes and asbestos bags for asbestos contaminated waste. Site safety hold point – Site manager/supervisor to sign _____ date _____	!
	B3.1.4	**LIFTS MUST NOT BE USED IN THE EVENT OF THE ALARM SOUNDING**	
	B3.1.5	Fire Points comprising of fire alarms, fire extinguishers and any other relevant firefighting equipment, safety signs and site plan locations shall be identified to TRD operational staff during the site inductions held by the Client / Principal Contractor.	

B3.2	FIRE ESCAPE & COMMUNICATIONS	
B3.2.1	Emergency Procedures: As provided by the Client / Principal Contractor or if not in place or not sufficient for TRD works then provided by TRD. There are no variations from the documented Emergency Procedures – these must be followed.	
B3.2.2	Fire Escape Routes (including distances): The structure is deemed to be a 'Higher Hazard' area during the soft strip phase, becoming a 'Lower Hazard' area upon completion of soft stripping.	

B3.3	SMOKING / VAPING AREAS	
B3.3.1	Smoking / Vaping areas will be advised during site inductions by the Client / Principal Contractor. These areas shall be clearly identified on site.	
B3.3.2	Smoking / Vaping is not allowed in any buildings or anywhere else on site apart from in the designated area.	
B3.3.3	Anyone found smoking / vaping outside the designated area will be subject to disciplinary action.	

B3.4	PERMITS	
B3.4.1	A Permit to Work (PTW) will be utilised to impose more stringent controls for hazardous / high risk activities. PTW requirements will be clearly identified within the related safe system of works and risk assessments.	
B3.4.2	Work activities / tasks that require a permit to be undertaken are: • Hot Works (Oxy/propane burning, disc cutting etc.) • Dig / Excavate (Substructure removal) • Confined Space Working • Working at Height (MEWP's, mobile scaffold, ladders etc.) • Demolition • Permit to enter (dangerous structures etc.)	

B3.5	TEMPORARY BUILDINGS, ACCOMMODATION & TEMPORARY ELECTRICAL INSTALLATIONS	
B3.5.1	Welfare facilities will be regularly maintained and kept in a clean and good condition.	
B3.5.2	All portable electrical equipment will be PAT tested and the mains circuits checked by a competent electrician.	
B3.5.3	Any faults with the welfare facilities, particularly electrical equipment must be reported to the Site manager / supervisor immediately so that repairs / replacements can be arranged.	

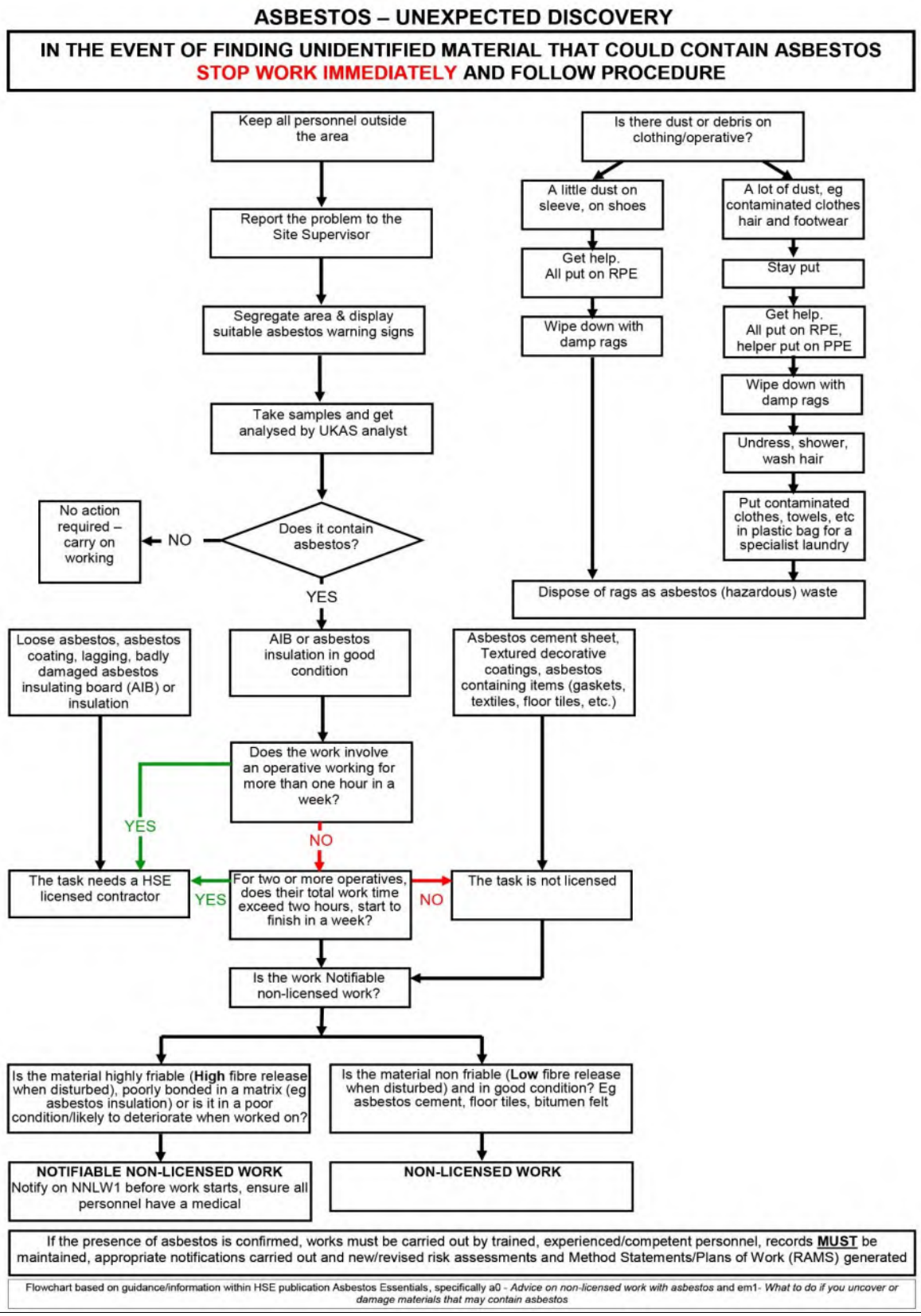
B3.6	MATERIALS STORAGE & WASTE CONTROL	
B3.6.1	Any materials brought to Site for use by Company personnel must be stored in a lockable container. COSHH assessments are to be carried out for hazardous substances.	
B3.6.2	Fuel must be stored in double bunded container and on a drip tray / plant nappy. A spill kit is to be kept in close proximity to the fuel container.	
B3.6.3	All waste arising is to be moved on an ongoing basis to the designated waste container area.	
B3.6.4	Soft strip arising MUST NOT be allowed to accumulate in the work areas due to the increased risk of a fire hazard.	

B4 EMERGENCY FIRE REGISTER

B4.1

EMERGENCY AND FIRE REGISTER																		Project No:	
EQUIPMENT CHECK (WEEKLY)																			
SITE AREA	EQUIPMENT CHECKED	Date																	
		By (initial)																	
Satisfactory (S) Unsatisfactory (U) – If 'U' record details of corrective action																			
Corrective Actions																			

EMERGENCY EVACUATION AND FIRE DRILLS				
Date	Time	Performance (Speed of response, Operatives attitude, head count, time for full assembly, etc.),	Number of Operatives	Supervised by (Initial)

B5	ASBESTOS UNEXPECTED DISCOVERY FLOWCHART
B5.1	

B6	MEWP RESCUE PLAN
B6.1	The use of MEWPs on site are a potentially dangerous operation. Under normal circumstances the backup systems built in to the machine will allow the operator to bring the platform safely down to floor level under controlled conditions. In the case of an emergency, see below rescue plans for differing situations:

B6.2

MEWP Rescue Plan

The use of MEWPs on site are a potentially dangerous operation. Under normal circumstances the backup systems built in to the machine will allow the operator to bring the platform safely down to floor level under controlled conditions.

In the case of an emergency, see below rescue plans for differing situations:

	Emergency Situation	Rescue Plan
1	Failure of basket control functions while elevated	Where the normal upper control functions fail, a suitably trained operative will utilise the auxiliary controls from the platform to lower the boom back down to safety.
2	Failure of basket and ground controls	If both sets of controls fail to work, a suitably trained operative will return the person stranded back to ground level using the emergency auxiliary controls. Should the steel work impede lowering to the ground level, operatives should be lowered to the nearest safe working platform, i.e. installed decking. A footed ladder can be used to assist exit from the basket.
3	Failure of basket, ground and auxiliary controls	Should both of the back-up controls fail, the machine supplier should be contacted immediately requesting an engineer be sent to site to lower the basket. Every effort should be made to keep the operator calm.
4	Unconscious operative within the basket	If the operative is unconscious within the basket at height, the emergency services must be contacted immediately on 999 and the principal contractor informed. The basket should then be lowered in accordance with the rescue plans stipulated between situations 1, 2, or 3.
5	Person thrown from the basket but is conscious	If the operative is suspended by their work restraint lanyard, the emergency services must be contacted immediately on 999 and the principal contractor informed. Action must be taken quickly to get the suspended operative to the ground level as soon as possible. **Option A** (Lower to the ground) - Lower the basket using the ground controls providing it is safe to do so and there are no obstructions between the suspended operative and the ground. **Option B** (Mid-air rescue) - If there is an obstruction between the suspended operative and the ground and Option A is not feasible, steps must be taken to support the weight of the suspended operative, to release pressure caused by the work restraint PPE. The procedure should be as follows:

		Step 1 - Instruct the suspended operative to raise their knees towards their chest if they can. This will assist to reduce the build-up of toxins in their blood. **Step 2** - Instruct the closest MEWP operator to manoeuvre their MEWP basket below the suspended operative so that they can approach the operative from below. **Step 3** - The basket of the rescuing MEWP should be slowly elevated to the height of where the suspended operative is. Once in the basket, the operative's work restraint can be removed and the rescued operative must sit on the floor of the basket. **Step 4** - Both individuals can be lowered to ground level and exit the basket.
6	Person thrown from the basket and is unconscious	This is the worst-case scenario. The emergency services must be contacted immediately on 999 and the principal contractor informed. Rescue to proceed as per situation 5.

13. APPENDICES – APPENDIX C – OTHER

C1 PERSONAL PROTECTIVE EQUIPMENT (PPE) ASSESSMENT

C1.1

PERSONAL PROTECTIVE EQUIPMENT (PPE) ASSESSMENT

PARTS OF BODY AT RISK	RISK															
	FALLS FROM HEIGHT	BLOWS, IMPACTS, CUTS	STABS, CUTS, GRAZES	VIBRATION	SLIPS, TRIPS & FALLS	HEAT / FIRE	COLD / INCLEMENT WEATHER	IMMERSION	NON-IONISING RADIATION	IONISING RADIATION	ELECTRICAL	NOISE	DUST / FIBRES	FUMES	SPLASHES / SPURTS	GASES / VAPOURS
Cranium																
Ears																
Eyes																
Respiratory Tract																
Face																
Whole Head																
Hands																
Arms (parts)																
Feet																
Legs (parts)																
Skin																
Trunk / Abdomen																
Whole Body																

OTHER FACTORS WHICH MAY BE RELEVANT IN SELECTION / USE OF PPE.

Is a combination of PPE (If appropriate) a factor?	**YES / NO**
Is physical effort a factor in choice of PPE?	**YES / NO**
Any other factors in choice of PPE? (specify)	**YES / NO**
Is visibility a factor in choice of PPE?	**YES / NO**
Is communication a factor in choice of PPE?	**YES / NO**

PPE to minimise the risks identified includes:

MANDATORY PPE:

- Safety helmet
- S3 safety boots
- Light eye protection
- Gloves (general use)
- Hi-vis clothing (vest or jacket as a minimum)
- Wet weather gear

If TRD are not deployed in the principal contractor role on site then the contractor deployed as principal contractor shall identify the minimum PPE requiremnets during the site inductions.

TASK SPECIFIC:

- Ori-nasal masks (with appropriate filter and face fitted to operative)
- Dust mask
- Visor (clear or shaded)
- Gloves (task specific – cut resistant, welders gauntlets etc.)
- Harness and fall restraint lanyard (or other specified fall arrest systems)
- Flame retardent overalls
- Disposable coveralls
- Safety wellingtons

This assessment takes into account general demolition activities – additional / different PPE required as a result of processes outside the scope of this assessment will be detailed in the relevant safe system of work and risk assessment as a separate issue.

IMPORTANT NOTE: PPE is used as the last option of protection – not the first! Wherever reasonably practicable, the methodology selected is to remove personnel from the hazard and related risk.

Assessment reviewed by the generator of this document prior to issue.

Appendix F

TRD Control Measures for Safe Works Near to Network Rail

Control Measures for Safe Works Near to Network Rail Site Boundary

Client	Sladen Estates / B&K	Project No.	4508	Revision	1
Site Address	Napier Court, Napier Road, Reading. RG1 8BW				
Prepared By	Phil Stevenson MIDE	Date	19.07.2024		
Approved By	Melvyn Cross MIDE	Date	19.07.2024		

1. Control Measures for Safe Works Near to Network Rail Site Boundary

The following control measures are proposed by TRD; however, we (TRD) understand that these control measures are to be approved by Network Rail prior to any works commencing in this area. Network Rail may desire for one or more of their engineers to be present on site during works near to their asset. TRD will gladly oblige this.

TRD propose to erect a Heras fence line along the Network Rail boundary wall that sits 2mtrs from the said wall. This will be classed as a no-go area for any plant or site storage. Although this area is currently a car parking area, by making this area a full exclusion zone, there is very little chance of anything striking and thus damaging the boundary wall.

When it is time to remove the hardstanding within this area, the exclusion zone shall be widened to a proposed 5mtr exclusion zone. The 5mtr exclusion zone will be a ‘no tracking area’ for demolition excavators. Fencing will not be able to be erected to form the exclusion zone as this will hamper the works of the excavator. The ground will be marked with a suitable waterproof marker paint. Traffic cones can be put out as more physical marker. A banksman will be utilised to aid the excavator operator to ensure he does encroach the no track area. The banksman will be stood in a safe standing area and will be in direct contact with the demolition excavator operator via two-way radio.

The hard standing outside of the 5mtr exclusion zone will have been removed firstly. This will allow the hardstanding to be removed within the exclusion zone to be ‘pulled’ into the site.

The relationship between the hardstanding and the Network Rail boundary wall is still to be confirmed (are they joined together, is there a physical separation etc.). If the hardstanding is joined to the boundary wall, then it can be separated by either a floor saw making a cut in the hard standing or by use of a breaker to break the hardstanding. This is to be agreed with Network Rail and Bowmer & Kirkland.

Once the hardstanding has been removed from the exclusion zone, the 2mtr exclusion zone using Heras fencing can be re-erected to prevent access into the area.

Total Reclaims Demolition TRD

Control Measures for Safe Works Near to Network Rail Site Boundary

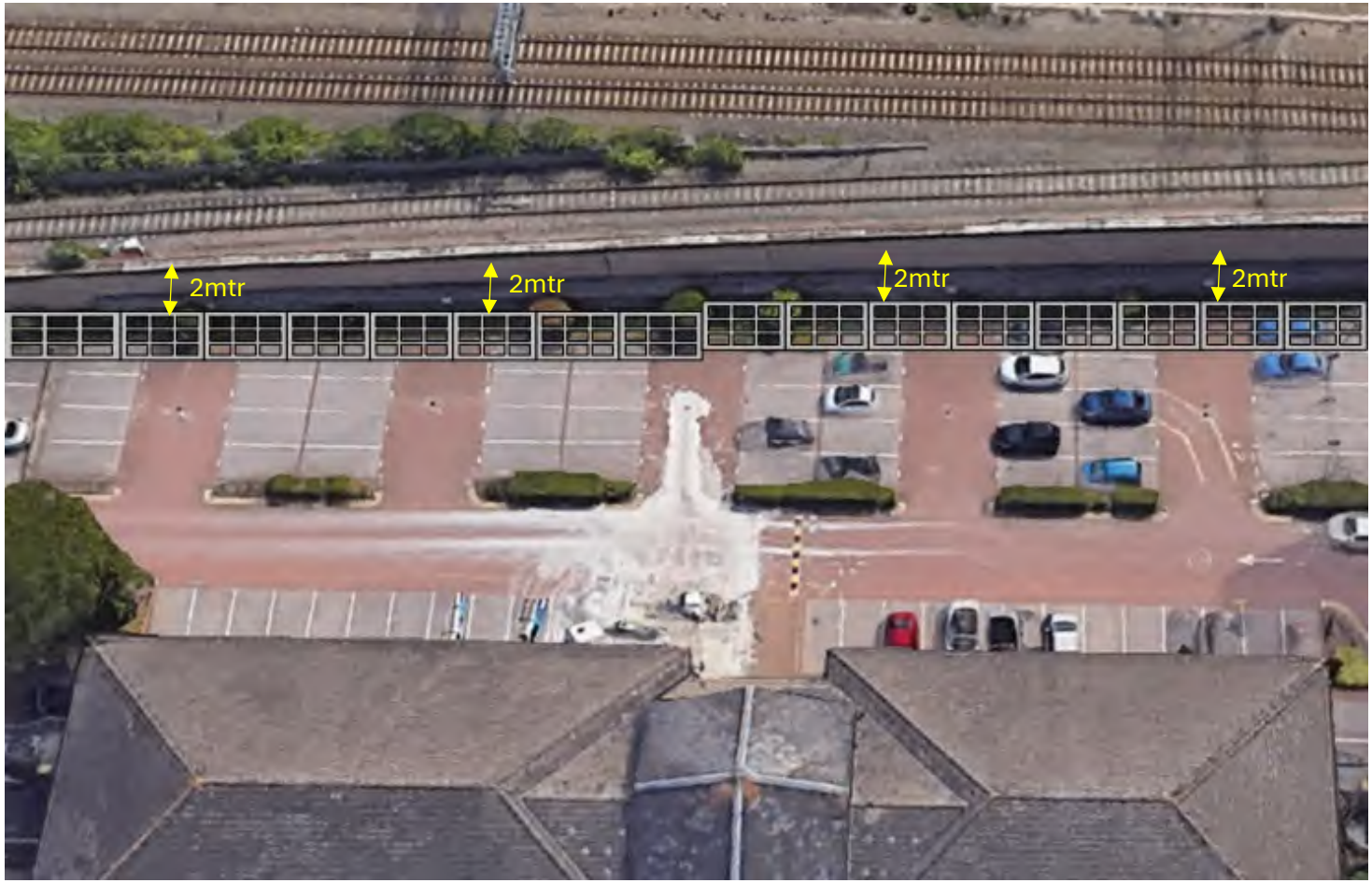


Image showing Heras fencing erected 2mtrs from Network Rail boundary

Control Measures for Safe Works Near to Network Rail Site Boundary

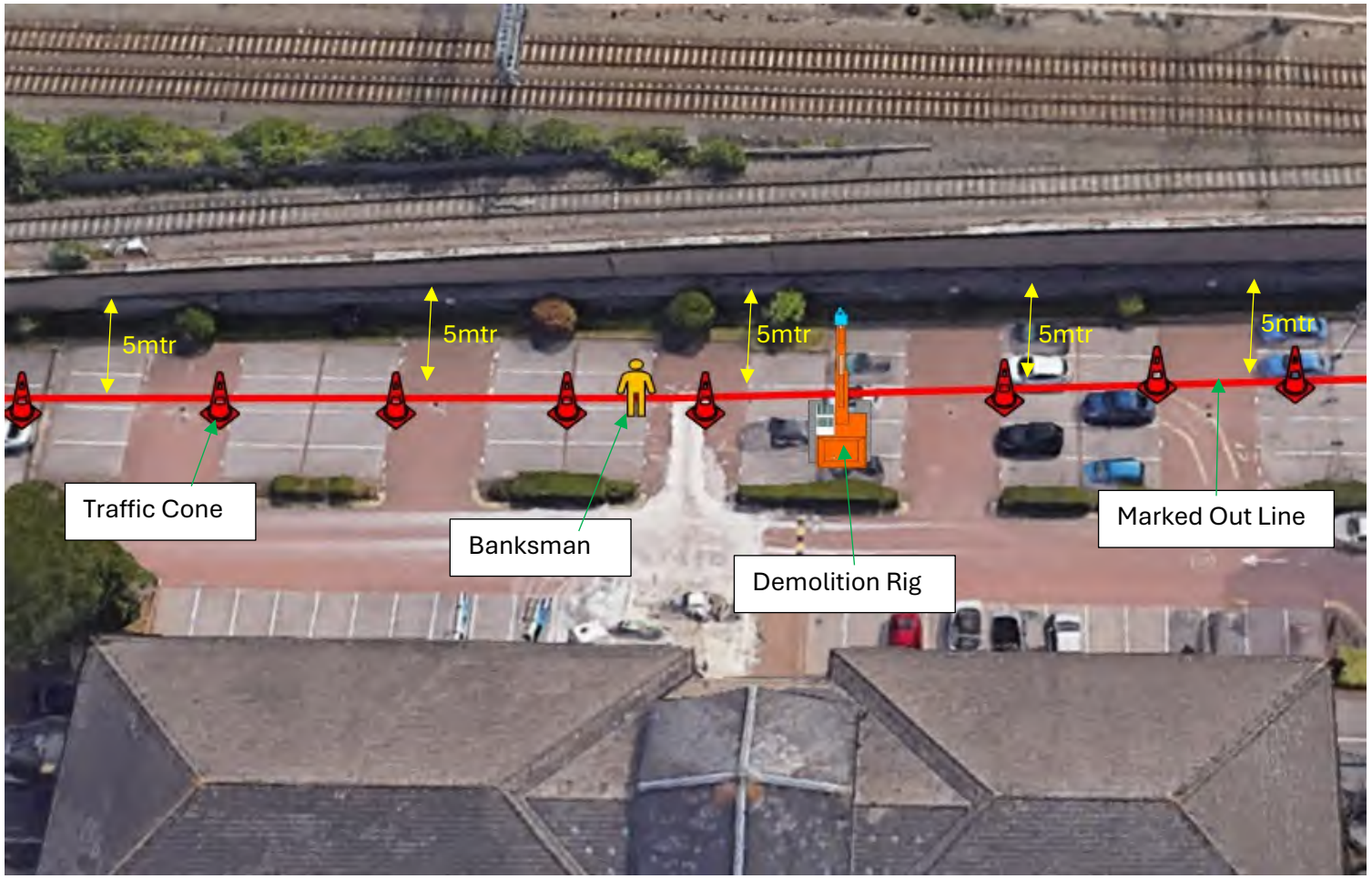


Image showing 5mtr exclusion zone and how it will be managed.

Appendix G

TRD Dust Management Plan

B+K

Dust Management

Client	Peveril Securities / B&K	Project No.	4508
Site Address	Napier Court, Napier Road, Reading. RG1 8BW		
Prepared By	Phil Stevenson MIDE	Date	19.07.2024
Approved By	Melvyn Cross MIDE	Date	19.07.2024
Revision	1		

1. Management of Dust During Demolition Activities

MECHANICAL DEMOLITION

Dust suppression units will be used to control the migration of dust from the mechanical demolition activity. Dust suppression units direct a water mist over the working area. The water droplets encase the dust microns, causing them to be heavier and, as far as is reasonably practical, fall within the working area.
The dust suppression is sited taking into consideration wind direction and speed. The TRD site manager and the TRD demolition rig operatives will monitor the effectiveness of the dust suppression throughout the day and for the duration of the mechanical demolition. If the dust suppression is ineffective for any reason (wind direction change, material creating more dust etc.), the works will be temporarily suspended, and the dust suppression unit manoeuvred or additional unts introduced to ensure effectiveness is maintained.




Images Showing Dust Suppression Units in Use.

In addition to dust suppression, boundary fencing (Railings, Palisade Fencing, Temporary Fencing such Heras etc.) can be wrapped in debris netting to aid in the prevention of dust migrating from site. Brick / Stone walls, timber fencing, or solid hoarding will also aid in the containment of dust.

Dust Management





Images Showing Debris Netting on Heras Fencing

In sensitive areas dust monitoring can be used to ensure that the control measures that have been put in place are effective. The monitors have sensors built into them that measure the amount of airborne dust in the air. The monitor will be set to trigger if dust exceeds PM10 (PM10 is a term for particle pollution that describes inhalable particles with a diameter of 10 micrometres or less). The monitor will send an SMS message to chosen mobile phones. If this happens during working hours, the works will be stood down and the alarm investigated. The monitor forms a report of dust activity in a 24hour period, these reports get sent to chosen email addresses. The monitor also records wind direction which can help prove if the dust has come from the site or from elsewhere.



Image Showing a Dust Monitoring Unit

Dust Management

SUBSTRUCTURE REMOVAL
Dust controls for substructure removal are the same as mechanical demolition, the difference being that the water mist is directed to the ground where the working is being undertaken.
CRUSHING
the mobile crushing unit has water sprays built in that direct jets of water over the conveyor belt. Dust suppression units will be directed over the hopper where material is loaded into the crusher and also to the end of the belt where the made product feeds of the belt. Some crusher units have a spray bar fitted at the end of the belt to supress dust. Brick and concrete material that has been stockpiled for crushing, will be dampened down in dry conditions with water from a charged hose. This will help prevent dust from migrating as the arising is loaded into the crusher. Stockpiles of the crushed material will also be dampened down in dry conditions so that wind does not cause the dust to become airborne and migrate.
GENERAL SITE
Roadways within site can become dusty in dry conditions. Roadways / vehicle transit routes will be sprayed with water from a charged hose or jet wash to prevent dust from becoming airborne and migrating.

Appendix H
TRD Soft Strip Works

B+K

SSW.RA – Soft Strip Removal Works

Client	Peveril Securities / B&K	Project No.	4508
Site Address	Napier Court, Napier Road, Reading. RG1 8BW		
Prepared By	Phil Stevenson	Date	19.04.2024
Approved By	Melvyn Cross	Date	22.04.2024
Revision	2 – 24.07.2024		

A. Task to be undertaken using this SSW (Safe System of Work)

This SSW covers the following areas of soft strip removal:

1. Abandoned waste incl. semi-stripped soft-strip items
2. Removal of Pressurised Container (Extinguishers etc.)
3. Plasterboard & Partition Wall Removal
4. Brick / Blockwork Wall Removal
5. Fluorescent Light Tube Removal
6. Suspended Ceiling Removal
7. Cable Removal
8. Pipework & Ducting Removal
9. Window Removal (Glass & Frame)
10. Vinyl Floor Tile, Carpet Tile & Lino Removal
11. Carpet Removal
12. Sanitary Removal
13. Doors, Architrave & Skirting Removal
14. Plasterboard Ceilings
15. Lath & Plaster Removal
16. Timber Floor Removal
17. Screed Removal
18. Ceramic Tile Removal
19. Air Conditioning Unit Removal
20. Formation and Use of a Drop Zone

***This SSW is to be used in connection with the associated risk assessment.*

Operatives are to sign to acknowledge the element of soft strip works that they are undertaking, for example:

SSW Number	Name	Sign	Date
1	A Jones	A Jones	19.12.2018
8, 9	A Smith	A Smith	19.12.2018

SSW.RA – Soft Strip Removal Works

B. Site Specific Information Regarding this Project	
B1	The TRD site manager / supervisor is to arrange on day 1 of the project for light coffins to be delivered to site if fluorescent tubes are present on site and are to be removed as part of the works. Site safety hold point – Site manager/supervisor to sign _____ date _____
B2	Each structure is to be stripped of respective items. Carry out inspection of each structure both before (to determine waste streams) and post strip (to ensure any structural abnormalities are identified) Site safety hold point – Site manager/supervisor to sign _____ date _____

SSW.RA – Soft Strip Removal Works

1. Removal of Abandoned Waste

1.1 Task to be undertaken using this SSW (Safe System of Work)

- The safe removal of abandoned waste
- The safe removal of semi-stripped out soft-strip items

1.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

1.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Working at Height (PASMA, IPAF)
- Site induction
- Daily safety briefing

1.4 Additional documentation requirements inc. permits & registers

- Permit to Enter (following environmental sweep – drug items etc)
- Asbestos R&D Survey
- 4 Stage Air Clearance Certificates for Licensed Asbestos Removal
- Service isolation/disconnection certificates
- Working at Height Permit
- MEWP Inspection Form
- MEWP Certificate
- Mobile Tower Inspection Form
- Harness Inspection Form

Site safety hold point – Site manager/supervisor to sign _____

date _____

SSW.RA – Soft Strip Removal Works

1.5 Equipment required for the task

- Long handled shovels
- Long handled brush
- Litter Pickers
- Crow bars / Pry bars
- Suitable waste containers
- Access equipment
- Variety of hand tools
- Task lighting (on assessment)
- Wheelbarrows / wheeled bins
- Skid Steer

1.6 PPE requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- FACE FITTED RPE - P3
- Gloves
- Kevlar arm protectors
- Hearing protection
- Harness and Fall Restraint

1.7 Additional Information

SSW.RA – Soft Strip Removal Works

1.8	Methodology	
1.8.1	Operatives using long handled tools will initially remove any loose items at height to prevent falling/injury issues;	
1.8.2	Once safe to enter the initial section (at entry door to area) will, using long handled tools, carefully sift the items to ensure drug use items etc are not present.	
1.8.3	The sifted items will now, employing shovels, be transferred to barrows and transferred to the appropriate skip;	
1.8.4	This method of clearing hanging items, abandoned waste will now continue working methodically through each room.	
1.8.5	Where there is any evidence of structural damage – report this immediately to your site supervisor and inform others around you and vacate the area – remaining items to be removed by mechanical extraction as part of the structural demolition operations.	
1.8.6	Where access allows, a Skid Steer can remove abandoned waste from the structure. The area of where a skid steer is being used shall be deemed an exclusion zone. This will be controlled by the use of temporary fencing and banksman as required.	
1.8.7	The Skid Steer will remove arising from the structure and transit it to a waste container for removal from site. The transit route must be controlled by use of temporary fencing and where required, a banksman.	
1.8.8	When using a skid steer inside the structure, noise and fumes must be considered. Mandatory hearing protection signs must be posted to the area. Natural ventilation shall be utilised by opening external windows / doors / openings. If this cannot be done then a scrubber must be fitted to the exhaust system. Site safety hold point – Site manager/supervisor to sign _____ date _____	

2. Removal of Pressurised Containers

2.1 Task to be undertaken using this SSW (Safe System of Work)

- The safe removal of pressurised containers from a structure. In the main this will include fire extinguishers and gas cylinders left behind when a building is vacated; however, items such as compressors, aerosols, or even sealed containers exposed to heat can be present.

2.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

2.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Site induction

2.4 Additional documentation requirements inc. permits & registers

- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

2.5 Equipment required for the task

- Heras Fencing or similar to create an exclusion zone
- Cylinder trolley
- Stair trolley

2.6 PPE requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- FACE FITTED RPE - P3
- Gloves
- Hearing protection

2.7 Additional Information

Shared Industry Learning
Ruptured Fire Extinguisher

Incident

As part of ongoing demolition work, an operative was removing materials from a redundant boiler house, which has been left derelict and used for storage for different items over many years. In conjunction with metals, timber, and general waste, several old and corroded fire extinguishers had to be removed.



The extinguishers were being removed and placed in an external storage area prior to removal from site. During this process the operative picked up an A-FFF (Foam) extinguisher from inside the building, carried it outside and proceeded to place it down onto the ground. As the extinguisher was placed onto the ground, the extinguisher exploded and struck the operative on his hand.

Injury



The resulting violent discharge of the extinguisher propelled it vertically towards the operative causing blunt force trauma resulting in the operative sustaining a broken wrist, a broken finger and a fractured finger.

Cause

The extinguisher was circa 30 years old and was left in-situ within the building in poor damp conditions over a significantly prolonged period of time without any maintenance or inspection. The extinguisher ultimately degraded into a corroded, unstable and unsafe state.

The movement and placement back on the floor of the full extinguisher caused the separation of the outer corroded shell resulting in a full uncontrolled release of its pressurised contents, propelling the cannister vertically and striking the operatives on his wrist/hand.

Actions

- A more thorough site inspection when undertaking a pre-demolition audit/inspection.
- Pay closer attention to the condition of any compressed cylinders, considering their age and the conditions in which they have been stored.
- Request PD, PC or Client to take responsibility prior to hand over.
- STOP work and DO NOT touch cylinders not previously identified during the pre-demolition audit and report any concerns to safety department/representative.

SSW.RA – Soft Strip Removal Works

2.8	Methodology	
2.8.1	Items shall be removed from the structure and placed into a quarantine area on site.	
2.8.2	The quarantine area shall be formed using Heras fencing along with signage.	
2.8.3	Prior to removal of any pressurised container, a visual inspection is to be carried out. If there is heavy corrosion to the container then it should be left in situ and an amendment to this document will be formed to best deal with the container. Site safety hold point – Site manager/supervisor to sign _____ date _____	
2.8.4	Large dints or heavy scratches (gouging) should also be treated with caution. Containers should be carried carefully and sensitively placed down – NOT DROPPED OR THROWN.	
2.8.5	For heavy cylinders (e.g. 50ltr gas cylinder), a bottle trolley can be used to transit the cylinders to the quarantine area.	
2.8.6	For containers that are situated ‘upstairs’ then a stair crawling trolley can be used. Elevators can be used if they are still in use.	
2.8.7	**NOTE** **If extinguishers left behind are in date and, ones fitted with pressure gauges are showing in the green, then they can be left in the structure as fire points BUT must be removed prior to commencement of the mechanical demolition.** Site safety hold point – Site manager/supervisor to sign _____ date _____	

3. Removal of Plasterboard & Stud Partition Walls

3.1 Task to be undertaken using this SSW (Safe System of Work)

- The safe removal of Plasterboard
- The safe removal of Timber Stud work
- Disposal of arising

3.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

3.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

3.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D Survey
- 4 Stage Air Clearance Certificates for Licensed Asbestos Removal
- Service isolation/disconnection certificates
- Working at Height Permit
- HAVS Register
- MEWP Inspections
- MEWP Certificate
- Rescue Plan (Available in CPDP)
- Mobile Tower Inspections
- Harness Inspection
- RPE Inspections

Site safety hold point – Site manager/supervisor to sign _____

date _____

3.5 Equipment required for the task

- Crow bars / Pry bars
- Recip saws
- Suitable waste containers
- Access equipment
- Variety of hand tools
- Task lighting (on assessment)
- Wheelbarrows / wheeled bins

SSW.RA – Soft Strip Removal Works

3.6 PPE requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- FACE FITTED RPE - P3
- Gloves
- Hearing protection

3.7 Additional Information

-

3.8 Methodology

3.8.1	Operatives using crow bars or pry bars shall prise the plasterboard from the timber framework.	
3.8.2	Where skirting boards or architrave have been removed shall expose a leading edge for the crow bars and pry bars to get behind the plasterboard to remove it.	
3.8.3	The plasterboard may break in places as it is brittle.	
3.8.4	The resulting arising shall be transited from the working area to a suitable waste container for removal from site.	
3.8.5	Plasterboard is to be kept separate from other waste streams as far as is reasonably practical.	
3.8.6	The timber stud work can now be removed. This shall be removed by operatives using Recip saws and a variety of hand tools.	
3.8.7	If the stud work is tied into brickwork, then it shall be prised away using crow bars or pry bars where possible.	
3.8.8	The resulting arising shall be transited from the working area to a suitable waste container for removal from site to a licensed waste disposal facility.	

4 Removal of Brick / Blockwork Walls

4.1 Task to be undertaken using this SSW (Safe System of Work)

- To work blockwork walls down by hand using a variety of hand tools and where necessary access equipment.

4.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

4.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Working at Height (IPAF / PASMA)
- Site induction

4.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D Survey
- 4 Stage Air Clearance Certificates for Licensed Asbestos Removal
- Service isolation/disconnection certificates
- Working at Height Permit
- HAVS Assessment
- HAVS Register
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Tower Scaffold Inspection
- Harness Inspection
- RPE Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

SSW.RA – Soft Strip Removal Works

4.5 Equipment required for the task

- Hand held breakers
- Access equipment
- Variety of hand tools
- Task lighting (upon assessment)
- Suitable waste containers
- Dust suppression (garden type sprayer c/w water)
- Wheelbarrows / wheeled bins

4.6 PPE requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- FACE FITTED RPE - P3
- Gloves
- Hearing protection (on assessment)

4.7 Additional Information

-

4.8 Methodology

4.8.1	The brick / blockwork wall is to be worked down on a brick-by-brick / block-by-block, course by course.	
4.8.2	Operatives using hand held breakers and/or a variety of hand tools shall work the brick / blockwork down.	
4.8.3	The brick / blockwork shall be removed by the chisel of the breaker or a bolster chisel being used on the mortar bed of the blockwork.	
4.8.4	For removal of brick / blockwork at height, access equipment shall be used – see section 3.4 for additional document requirements and the risk assessment at the end of the document for control measures.	
4.8.5	The resulting arising shall be placed into suitable waste containers for removal from site to a licensed waste disposal facility. The works shall be periodically halted to move arising that is building up from the working area.	
4.8.6	Dust from the works shall be controlled at the source by operatives dampening the working area by use of a garden type sprayer.	

5 Removal of Fluorescent Light Tubes

5.1 Task to be undertaken using this SSW (Safe System of Work)

- To safely remove and dispose of fluorescent light tubes – ensure light coffins are ordered on day one of the project.

Site safety hold point – Site manager/supervisor to sign _____

date _____

5.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

5.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

5.4 Additional documentation requirements inc. permits & registers

- Service isolation/disconnection certificates
- Working at Height Permit
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Scaffold Tower Inspection
- Harness Inspection
- Emergency procedure for Broken Fluorescent Light Tubes (Incorporated within 4.7 Additional Information)

Site safety hold point – Site manager/supervisor to sign _____

date _____

5.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Task lighting (upon assessment)
- Light coffin
- Heavy duty polythene bags
- Tape
- Rags

5.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face Fitted RPE – P3
- Gloves
- Hearing protection
- Harness and Fall Restraint

5.7 Additional Information

Emergency Procedure for Broken Fluorescent Light Tubes

- Leave the room and ventilate for 15 minutes or more
- Operatives to put on their face fitted RPE and gloves, scoop up glass shards and debris from the bulb with a dustpan (do not brush) or a stiff piece of cardboard or similar
- **Avoid creating or inhaling dust from the broken bulb**
- Don't use a vacuum or broom to clean up after a broken bulb on hard surfaces
- Place the remains in a polythene bag
- Wipe up the immediate area with a damp rag and put it in the bag as well.
- Tape the bag shut in swan neck fashion
- If the light tube has broken on a carpet or carpet tile, cut the contaminated area of carpet with a trimming knife and carefully roll the carpet up. Place this in the polythene bag. If on a carpet tile, tape of the carpet tile and remove the carpet tile. Place in the polythene bag.
- Wash your hands after finishing the clean up
- Bagged arising to be removed from site with the light coffins

SSW.RA – Soft Strip Removal Works

5.8	Methodology	
5.8.1	Operatives working from suitable access equipment shall firstly remove the protective cover to the light fitting.	
5.8.2	The light covers shall be transited to a suitable waste container for removal from site.	
5.8.3	With the covers removed the fluorescent tubes can now be removed. They shall be carefully removed from their fitting.	
5.8.4	The fluorescent tube shall be placed into a specialist light coffin for removal from site to a licensed waste facility.	

6 Removal of a Suspended Ceiling

6.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove the ceiling tiles of a suspended ceiling
- To remove the framework of a suspended ceiling
- Disposal of arising

6.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

6.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

6.4 Additional documentation requirements inc. permits & registers

- Service isolation/disconnection certificates
- Working at height permit
- Asbestos R&D survey
- HAVS Register
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Tower Inspection
- Harness Inspection
- RPE Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

SSW.RA – Soft Strip Removal Works

6.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Recip Saw
- Variety of Hand Tools
- Suitable waste containers
- Task Lighting (on assessment)
- Wheelbarrows / wheeled bins

6.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face Fitted RPE - P3
- Gloves
- Hearing protection
- Harness and Fall Restraint

6.7 Additional Information

-

6.8 Methodology

6.8.1	Operatives working from suitable access equipment shall lift out and remove the ceiling tiles.	
6.8.2	The removed tiles shall be transited to a suitable waste container for removal from site.	
6.8.3	With the ceiling tiles remove the framework of the suspended ceiling can be removed.	
6.8.4	Operatives working from suitable access equipment shall use a variety of tools to remove the framework. The wires that suspend the framework shall be carefully cut so as to progressively lower the framework.	
6.8.5	The lowered framework shall be processed and transited to a suitable waste container for removal from site.	

7 Removal of Cable

7.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove electrical cables from a structure

7.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

7.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Working at Height (PASMA, IPAF)
- Site induction

7.4 Additional documentation requirements inc. permits & registers

- Service isolation/disconnection certificates
- Working at height permit
- Asbestos R&D survey
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- HAVS Register

Site safety hold point – Site manager/supervisor to sign _____

date _____

7.5 Equipment required for the task

- Access Equipment
- Recip saws
- Variety of Hand Tools
- Suitable waste containers
- Task Lighting (on assessment)
- Wheelbarrows / wheeled bins

7.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- RPE (on assessment)
- Gloves
- Hearing protection
- Harness and Fall Restraint

7.7 Additional Information

-

7.8 Methodology

7.8.1	Prior to commencement of this work, TRD must be in possession of isolation / disconnection certificates. Site safety hold point – Site manager/supervisor to sign _____ date _____	
7.8.2	Where cables are to be removed that are in close proximity to live cables then the client is to clearly identify and mark the cables for removal prior to commencement of the works. Site safety hold point – Site manager/supervisor to sign _____ date _____	
7.8.3	Operatives working from access equipment shall remove electrical cables by cutting them with a Recip saw into manageable lengths.	
7.8.4	Cables come in a variety of diameters so an on-site assessment shall have to be made with regards to the length that the cable is cut for manual handling purposes.	
7.8.5	All arising shall be placed into suitable waste containers for removal from site to a licensed waste disposal facility.	

8 Removal of Pipework & Ducting

8.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove pipework and/or ducting

8.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

8.3 Training requirements

- CCDO
- CPCS
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

8.4 Additional documentation requirements inc. permits & registers

- Service isolation/disconnection certificates **including purging**
- Working at height permit
- Hot works permit and fire watch register
- Asbestos R&D survey
- HAVS Register
- MEWP Certificate
- MEWP Inspection
- Mobile Access Tower Inspection
- Harness Inspection
- RPE Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

8.5 Equipment required for the task

- MEWP / Mobile Access Tower
- Recip saws
- Genie Lift
- Forklift
- Oxy/propane burning equipment
- Variety of Hand Tools
- Suitable waste containers
- Task Lighting (on assessment)

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8.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Gloves
- RPE (on assessment)
- Hearing protection (on assessment)
- Burning PPE – gauntlets, flame retardant overalls, face visor
- Harness and Fall Restraint

8.7 Additional Information

- If hot works are required to be used to carry out these works, then a hot works permit will be required.
- On completion of the hot works, prior to the end of the working day or during break times, a minimum of a 1-hour fire watch will be required to be undertaken. The person undertaking the fire watch at break time will take their break on completion of the fire watch or if substituted by another fire watchman.
- The exception to the 1-hour fire watch is if the hot works are to resume on completion of the break; therefore, the fire watch is only required to be undertaken for the duration of the break time (30mins?).
- All fire watches must be recorded on the fire watch register.

Site safety hold point – Site manager/supervisor to sign _____

date _____

8.8 Methodology

8.8.1	Prior to commencement of these works, any pipework / ducting that is to be removed must be identified as to its previous use, for example air, water, gas, fuel etc. Site safety hold point – Site manager/supervisor to sign _____ date _____	
8.8.2	All pipework to be removed must be confirmed as isolated/disconnected and in some cases purged or cleaned by use of a ‘pig’. The TRD site manager/supervisor must be in possession of the relevant certification relating to the pipework. Site safety hold point – Site manager/supervisor to sign _____ date _____	

SSW.RA – Soft Strip Removal Works

8.8.3	Any pipework that is lagged must be sampled by an asbestos surveyor prior to removal. If the lagging is identified as an asbestos containing material then it shall have to be removed first by a licensed asbestos removal contractor. Site safety hold point – Site manager/supervisor to sign _____ date _____	
8.8.4	To remove the pipework, it shall be either cut using Recip saws or oxy/propane burning equipment or be disassembled by unbolting flanges or collars by use of hand tools.	
8.8.5	If the pipe work is situated at height, then suitable access equipment shall be used to access the pipework.	
8.8.6	All arising shall be transited to a suitable waste container for removal from site.	
	Ducting Removal	
8.8.7	**The size and location will determine how the ducting shall be removed. This SSW.RA shall be amended to suit the ducting to be removed.**	

9 Removal of Windows (Glass & Frame)

9.1 Task to be undertaken using this SSW (Safe System of Work)

- To safely remove window panes and window frames

9.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

9.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

9.4 Additional documentation requirements inc. permits & registers

- Working at height permit
- Asbestos R&D survey
- HAVS register
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

9.5 Equipment required for the task

- Access Equipment
- Variety of Hand Tools
- Battery powered screwdriver
- Suitable waste containers
- Glass suckers
- Duct tape or Sticky Back Plastic
- Sweeping brushes, dust pans
- Wheelbarrows / wheeled bins

SSW.RA – Soft Strip Removal Works

9.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection – **Goggles***
- FACE FITTED RPE - P3
- Gloves – **cut 5 rated***
- Hearing protection

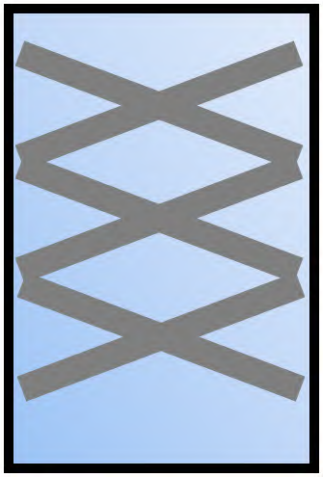
*Site safety hold point – Site manager/supervisor to sign _____

date _____

9.7 Additional Information

-

9.8 Methodology

9.8.1	Consideration of the size and/or type of glass to be removed must be taken prior to removal of the window pane.	
9.8.2	If a window pane is required to be broken to remove it then operatives shall apply duct tape in a criss-cross pattern or sticky back plastic to the pane.  Image showing a window pane taped in a criss cross pattern	
9.8.3	An operative shall strike a corner of the window pane using a hammer or suitable blunt instrument causing the pane to break. The tape / sticky back plastic shall prevent the glass from falling in an uncontrolled manner.	

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9.8.4	The arising shall be cleared up by operatives wearing cut 5 gloves and placed into suitable waste containers for removal from site.	
9.8.5	If the window pane is required to be removed whole then operatives shall use glass suckers to do this.	
9.8.6	The glass suckers shall be applied to the window pane and an operative shall take hold of the suckers.	
9.8.7	A second operative shall remove the beading of the window using a suitably sharp tool. As the beading is removed the window pane shall become free.	
9.8.8	The operative holding the suckers shall carefully remove the window pane. If the window pane is too large for one operative to handle then the second operative shall assist with the removal.	
9.8.9	With the window pane now removed, the window frame can be removed.	
9.8.10	The retaining screws to the window pane shall be removed by operatives using hand tools or battery powered screwdrivers.	
9.8.11	The window frame shall then be worked out from its location.	
9.8.12	All arising shall be transited to a suitable waste container for removal from site.	

10 Removal of Vinyl Floor Tiles, Carpet Tiles & Lino

10.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove vinyl floor tiles (Non-asbestos)
- To remove carpet floor tiles
- To remove vinyl lino
- Disposal of arising

10.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

10.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Site induction

10.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D survey
- RPE Inspections

Site safety hold point – Site manager/supervisor to sign _____

date _____

10.5 Equipment required for the task

- Variety of Hand Tools (Long Handled Scraper)
- Trimming Knife
- Suitable waste containers
- Task Lighting (on assessment)
- Wheelbarrows / wheeled bins

10.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves

SSW.RA – Soft Strip Removal Works

10.7	Additional Information
	•

10.8	Methodology	
10.8.1	The blade of a hand held scraper shall be positioned between the joint of two tiles (vinyl or carpet). The scraper shall then be worked under one the tiles.	
10.8.2	As the tile begins to lift the operative can pull on the tile with his free hand whilst working the tile up with the scraper.	
10.8.3	With the first tile removed, it leaves a leading edge for the remainder of the tiles to be removed. A long handled scraper can now be used for removal of the remainder.	
10.8.4	The arising shall be transited to suitable waste containers for removal from site.	
10.8.5	To remove lino, an operative shall use a trimming knife to cut the lino.	
10.8.6	This will create a leading edge. The long-handled scraper shall be used under the leading edge to work the lino up.	
10.8.7	Once sufficient has been worked up, operatives will pull the lino back on itself to ‘peel’ the lino from the floor. Where required the long-handled scrape shall be used to assist.	
10.8.8	The arising shall be rolled up and removed from the working area to a suitable waste container for removal from site.	

11 Removal of Carpets

11.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove carpets
- Disposal of arising

11.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

11.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Site induction

11.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D survey
- RPE Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

11.5 Equipment required for the task

- Variety of Hand Tools (Long Handled Scraper)
- Trimming Knife
- Crow Bar
- Tape or Rope or suitable alternative
- Suitable waste containers
- Task lighting (on assessment)

SSW.RA – Soft Strip Removal Works

11.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face Fitted RPE – P3
- Gloves – **Cut 5 rated***

*Site safety hold point – Site manager/supervisor to sign _____

date _____

11.7 Additional Information

-

11.8 Methodology

11.8.1	The carpet shall be lifted to one edge using hand tools such as crow bars to start the lift off. As the carpet is lifted it shall be rolled	
11.8.2	If an adhesive has been used under the carpet then scrapers maybe required to aid in the removal.	
11.8.3	Operatives shall remove carpet grippers using pry bars.	
11.8.4	If the rolls of carpet are to be removed manually from the working area then consideration shall be made to cutting the carpets into sections to make the rolls smaller.	
11.8.5	Whenever and wherever possible mechanical aids shall be used to transit the carpets.	
11.8.6	All arising shall be placed into suitable waste containers for removal from site to a licensed waste disposal facility.	

12 Removal of Sanitary Ware

12.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove sanitary installations
- Disposal of arising

12.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

12.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Site induction

12.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D survey
- Service isolations/disconnections
- RPE Inspections

Site safety hold point – Site manager/supervisor to sign _____

date _____

12.5 Equipment required for the task

- Variety of hand tools
- Suitable waste containers
- Task lighting (on assessment)
- Wheelbarrows / wheeled bins

12.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves – **Standard & PVC / Rubber***
- Hearing protection

*Site safety hold point – Site manager/supervisor to sign _____

date _____

12.7 Additional Information

- If sanitaryware is heavily soiled / contaminated with human waste then an amendment will be made to this SSW.RA.

Site safety hold point – Site manager/supervisor to sign _____

date _____

12.8 Methodology

12.8.1	Checks shall be carried out to ensure that toilets are empty prior to isolation / disconnection of the water supply. Any waste is to be flushed away and then the toilet systems drained. Site safety hold point – Site manager/supervisor to sign _____ date _____	
12.8.2	Site manager/supervisor is ensure that the water has been isolated / disconnected prior to the sanitary ware being removed. Site safety hold point – Site manager/supervisor to sign _____ date _____	
12.8.3	Sanitary ware shall be removed whole wherever is possible and practical. Operatives shall use a variety of hand tools to remove the sanitary ware from its location.	
12.8.4	If the sanitary ware has to be transited a great distance to remove it from the structure then it can be carefully broken using hammers and placed into a wheelbarrows or wheeled to transport to remove the arising from the structure to a suitable waste container.	

13 Removal of Doors, Architrave & Skirting Boards

13.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove doors, architrave and skirting boards.
- Disposal of arising

13.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

13.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- Site induction

13.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D survey
- Service isolations/disconnections
- HAVS Register

*Site safety hold point – Site manager/supervisor to sign _____

date _____

13.5 Equipment required for the task

- Variety of hand tools
- Battery operated tools
- Suitable waste containers
- Task lighting on assessment
- Wheelbarrows / wheeled bins

13.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3 (on assessment)
- Gloves
- Hearing protection

SSW.RA – Soft Strip Removal Works

13.7	Additional Information	
	•	
13.8	**Methodology**	
13.8.1	Operatives to work in pairs and utilise chocks to support the door and prevent crushing injuries	
13.8.2	Operatives shall use pry bars or crow bars to remove the doors, architrave / skirting boards from the wall. If doors are to be retained then they shall be removed by unscrewing the hinges using a screwdriver (manual or battery).	
13.8.3	Nails that are protruding from the removed timber shall be hammered over by the operatives carrying out the removal works. Site safety hold point – Site manager/supervisor to sign _____ date _____	
13.8.4	Long lengths of removed timber will be cut down using a Recip saw for removal from the area.	
13.8.5	All the arising shall be transited from the structure to a suitable waste container for removal from site.	

14 Boarded Ceiling Removal

14.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove the ceiling boards
- To remove the framework of ceiling boards
- Disposal of arising

NOTE: If the ceiling has asbestos containing Artex to it then SSW.RA Removal of asbestos containing Artex shall be used for safe removal.

14.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

14.3 Training requirements

- CCDO
- Asbestos Awareness
- H&S Touchscreen Test
- PASMA / IPAF
- Site induction

14.4 Additional documentation requirements inc. permits & registers

- Service isolation/disconnection certificates
- Working at height permit
- Asbestos R&D survey
- MEWP certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- RPE Inspection
- HAVS Register

Site safety hold point – Site manager/supervisor to sign _____

date _____

14.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Recip Saw
- Variety of Hand Tools
- Suitable waste containers
- Task Lighting (on assessment)
- Wheelbarrows / wheeled bins
- LEV unit
- Hand held spray units (damping down)

14.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves
- Hearing protection
- Harness and Fall Restraint

14.7 Additional Information

- Open windows / doors to create natural ventilation
- Introduce LEV dust extraction if required
- Further operative to carry out damping down operations to contain dust release
- Carry out environmental monitoring of the area

14.8 Methodology

14.8.1	Windows to be protected – boards could cause damage and create ejection of glazing to both operatives and others outside of the building Site safety hold point – Site manager/supervisor to sign _____ date _____	
14.8.2	Operatives working from suitable access equipment shall pan through a section of the initial board adjacent to the access / egress point and locate the fixing point/run.	
14.8.3	Splice will be inserted to the mid-point of the panel to allow a natural break to occur during removal	

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14.8.4	Positioned clear of the panel, operatives will be barred off the panel into the footprint of the area allowing the initial half to naturally fall at the splice point – any exposed insulation to be removed;	
14.8.5	Access equipment now to be relocated and the remaining section barred off to remove complete	
14.8.6	Nails to be hammered over (where appropriate) to prevent injury during further removal works. Site safety hold point – Site manager/supervisor to sign _____ date _____	
14.8.7	Items 13.8.3 : 13.8.6 to be repeated until all items are clear	
14.8.8	The removed arising shall be transited to a suitable waste container for removal from site.	
14.8.9	With the ceiling removed, the framework can now be removed.	
14.8.10	Operatives working from suitable access equipment shall either bar off or unscrew the framework. This will be carried out in a controlled manner ensuring matrials are dropped into a controlled drop zone	
14.8.11	The lowered framework shall be processed and transited to a suitable waste container for removal from site.	

15 Lath & Plaster Removal

15.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove Lath & Plaster

15.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

15.3 Training requirements

- CCDO
- PASMA / IPAF
- Asbestos Awareness
- Site induction

15.4 Additional documentation requirements inc. permits & registers

- Permit to work at Height
- Asbestos R&D Survey
- Service Isolation / Disconnection Written Confirmation
- HAVS Register
- Daily Task Briefing
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- RPE Inspection

Site safety hold point – Site manager/supervisor to sign _____

date _____

15.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Recip Saws
- Variety of Hand Tools
- Waste Containers

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15.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves
- Hearing protection

15.7 Additional Information

- Open windows / doors to create natural ventilation

15.8 Methodology

15.8.1	Operatives working from mobile scaffold towers to the interior of the roof shall commence to remove the lath and plaster covering to the underside of the roof structure.	
15.8.2	They will use pry bars, crow bars and mattocks to remove the plaster.	
15.8.3	Operatives undertaking this task must be wearing face fitted RPE, Goggles, gloves and disposable coveralls in addition to the minimum PPE requirements.	
15.8.4	The removed arising shall be handed down top operatives sited at floor level and progressively removed from the structure via a drop zone erected to the courtyard area.	
15.8.5	The courtyard shall be fenced off to all personnel. A banksman shall be positioned at ground level in a safe standing area under a watching brief.	
15.8.6	The banksman shall be in direct contact with the strip out team via two-way radio and shall instruct the strip out team to suspend the use of the drop zone should an unsafe situation arise.	

16 Timber Floor Removal

16.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove a timber floor – floorboards and joists, working from access equipment

16.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

16.3 Training requirements

- CCDO
- PASMA / IPAF
- Asbestos Awareness
- Site induction

16.4 Additional documentation requirements inc. permits & registers

- Permit to work at Height
- Asbestos R&D Survey
- Service Isolation / Disconnection Written Confirmation
- HAVS Register
- MEWP certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- RPE Inspection
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

16.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Recip Saws
- Variety of Hand Tools
- Waste Containers

16.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3 – JSP Click to Fit FFP3
- Gloves
- Hearing protection

16.7 Additional Information

16.8 Methodology

16.8.1	Operatives using a variety of hand tools shall remove two to three floorboards to the floor at the furthest point from the access door to the room.	
16.8.2	The floorboards shall be removed from the room. All operatives shall leave the room and the door to the room shall be nailed/screwed shut so that it can no longer be accessed.	
16.8.3	From the floor below, a mobile scaffold tower or podium steps shall be erected by trained operatives beneath the area of where the floorboards have been removed.	
16.8.4	Using Recip saws and a variety of hand tools the operatives shall continue to remove the floorboards to the floor.	
16.8.5	The arising shall be passed down to ground level and transited from the area by operatives to a suitable waste container.	
16.8.6	This will leave the joists to remove.	
16.8.7	Operatives shall position the scaffold tower or podium beneath a joist. Sit cuts shall be made to each end of the joist using a Recip saw.	
16.8.8	The operatives shall then carefully lift the joist from its location and pass it down to operatives at ground level.	

16.8.9	The joist shall then be removed from the area to a suitable waste container.	
16.8.10	If the joists are too heavy to be manually handled then the TRD site supervisor is to contact the H&S Manager to amend this method to an agreed method of doing the works. Site safety hold point – Site manager/supervisor to sign _____ date _____	!

17 Screed Removal

17.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove a concrete screed

17.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

17.3 Training requirements

- CCDO
- Asbestos Awareness
- Site induction

17.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D Survey
- Service Isolation / Disconnection Written Confirmation
- HAVS Register
- RPE Inspection
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

17.5 Equipment required for the task

- Hand Held Breakers
- Variety of Hand Tools
- Waste Containers

17.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3 – JSP Click to Fit FFP3
- Gloves
- Hearing protection

17.7 Additional Information

17.8 Methodology

17.8.1	Operatives using hand held breakers shall remove the screed from the floor.	
17.8.2	The chisel of the breaker shall be used to initially cause a fracture in the screed to leave a leading edge.	
17.8.3	The chisel of the breaker will then be used to lift the screed from the floor.	
17.8.4	The resulting arising shall be cleared into wheelbarrows / wheeled bins and removed from the building by either the scaffold waste chute, directly into a waste container or via the scaffold hoist and then into a waste container.	

18 Ceramic Tile Removal

18.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove ceramic wall and floor tiles

18.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

18.3 Training requirements

- CCDO
- Asbestos Awareness
- Site induction

18.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D Survey
- Service Isolation / Disconnection Written Confirmation
- HAVS Register
- RPE Inspection
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

18.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Hand Held Breakers
- Variety of Hand Tools
- Waste Containers

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18.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves – Cut 5 Level*
- Hearing protection
- Harness and fall restraint

*Site safety hold point – Site manager/supervisor to sign _____

date _____

18.7 Additional Information

18.8 Methodology

18.8.1	Using a hammer and chisel, a tile shall be broken out to create a leading edge.	
18.8.2	Using a crow bar or handheld breaker with a flat chisel, the tiles shall be removed	
18.8.3	Where tiles are to be removed at high level, access equipment shall be utilised. The tiles shall be removed from the top down.	
18.8.4	The working area will be deemed an exclusion zone, formed using temporary fencing or barrier tape, due to the falling materials.	
18.8.5	All arising shall be removed from the working area to a suitable waste container for removal from site.	

19 Removal of Air Conditioning Units

19.1 Task to be undertaken using this SSW (Safe System of Work)

- To remove air conditioning units

19.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

19.3 Training requirements

- CCDO
- Asbestos Awareness
- Site induction

19.4 Additional documentation requirements inc. permits & registers

- Asbestos R&D Survey
- Service Isolation / Disconnection Written Confirmation – De-gassing of the Units
- HAVS Register
- RPE Inspection
- MEWP Certificate
- MEWP Inspection
- Rescue Plan (in CPDP)
- Mobile Access Scaffold Inspection
- Harness Inspection
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

19.5 Equipment required for the task

- MEWP / Mobile Access Scaffold
- Hand Held Breakers
- Variety of Hand Tools
- Waste Containers

SSW.RA – Soft Strip Removal Works

19.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves – Cut 5 Level*
- Hearing protection
- Harness and fall restraint

*Site safety hold point – Site manager/supervisor to sign _____

date _____

19.7 Additional Information

19.8 Methodology

19.8.1	Confirmation that the power to the units has been isolated / disconnected and that the units have been de-gassed. Site safety hold point – Site manager/supervisor to sign _____ date _____	
19.8.2	The methodology of removal will depend on the size and location of the air conditioning units. Once this information is obtained the methodology can be formed.	
19.8.3		
19.8.4		
19.8.5		

20 Formation of a Drop Zone

20.1 Task to be undertaken using this SSW (Safe System of Work)

- To form and use a drop zone for the removal of arising from a structure 1st floor and above.

20.2 Personnel required for the works

- Site Manager / Supervisor
- Demolition Operatives

20.3 Training requirements

- CCDO
- Site induction

20.4 Additional documentation requirements inc. permits & registers

- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

20.5 Equipment required for the task

- Heras Fencing
- Two-Way Radio
- Waste Containers
- Polythene Bags & Tape
- Edge Protection (TBC – required if window ledge below 950mm)

20.6 PPE Requirements

- Hard Hat
- Hi-vis clothing (vest as a minimum)
- S3 safety boots
- Safety eye protection
- Face fitted RPE - P3
- Gloves
- Hearing protection

SSW.RA – Soft Strip Removal Works

20.7	Additional Information	
20.8	**Methodology**	
20.8.1	The drop zone shall be sited so that it causes no apparent risk to members of the public or other contractors working on site. Site safety hold point – Site manager/supervisor to sign _____ date _____	
20.8.2	An exclusion zone shall be erected using Heras fencing around the drop zone area.	
20.8.3	Safety and warning signs shall be posted to the fencing warning people of the dangers.	
20.8.4	A waste container shall be positioned into the exclusion zone. The Heras fencing should not be placed tight to waste container. A minimum distance of two metres should be used around the waste container when depositing arising from the first floor.	
20.8.5	If arising is to be deposited from 2nd and 3rd floors, then the exclusion zone will be required to be made greater. Discuss this with the TRD H&S manager before proceeding, the area will be reviewed, and an amendment will be made to this document. Site safety hold point – Site manager/supervisor to sign _____ date _____	
20.8.6	A banksman shall be deployed to the exterior of the exclusion zone fencing, under a watching brief for any unsafe situation arising. The banksman shall be in direct contact with operatives that are depositing waste into the drop zone via two-way radio.	
20.8.7	Should any unsafe situation arise then the banksman shall instruct the operatives to temporarily suspend the use of the drop zone area until the unsafe situation has been resolved or removed.	
20.8.8	The works shall only recommence on the instruction of the banksman.	
20.8.9	If the drop zone is located in an open area, then any ‘flyable’ materials shall be placed into suitable polythene bags and taped shut prior to being placed into the drop zone area.	

20.8.10	If the height from the floor to the bottom of the opening used as the drop zone depositing area is less than 950mm, then edge protection shall be required to be installed prior to use of the opening. This can be in the form of scaffolding, temporary fencing or even substantial timber batons secured to the walls.	
20.8.11	The edge protection will require to be inspected continually to ensure of its suitability. Any defects are to be reported immediately to the TRD site manager / supervisor and the use of the drop zone suspended until the edge protection is replaced or sufficiently repaired.	

SSW.RA – Soft Strip Removal Works

Acknowledgement of Operatives		
I, the undersigned, acknowledge that I have read and been briefed upon this safe system of work and the relevant risk assessments, that I understand what I am being asked to do and confirm that I will comply with all the requirements communicated to me		
Name	**Date**	**Signed**

Amendment to the Safe System of Work	
Amended by	
Signed	
Date	

Remember – your amendment to the safe system of work could result in additional risks being added to the works that are not covered in the risk assessment – control measures for these new risks must be recorded and implemented.

Amendment

SSW.RA – Soft Strip Removal Works

Acknowledgement of Operatives for Amendment		
I, the undersigned, acknowledge that I have read and been briefed upon the amendments to this safe system of work and the relevant risk assessments, that I understand what I am being asked to do and confirm that I will comply with all the requirements communicated to me		
Name	**Date**	**Signed**

SSW – Soft Strip Removal Works

Risk Assessment Calculation Guide

Likelihood Rating (L)						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Hazard Potential (HP)				

DEFINITIONS:
A hazard is something with the potential to cause harm to someone or something. This could include damage or adverse health effects. **Each Hazard will be given a number to define its Hazard Potential (HP).**
Risk is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard. This also includes something being damaged from exposure to a hazard. **Each Risk will be given a number to define its Likelihood Rating (L).**
When the **HP** is multiplied by the **L** this gives you a **Risk Rating Score (R)**

Likelihood Rating (L)			Hazard Potential (HP)
5	1/10	**Probable**	5 – **Catastrophic** - Serious Injury, Multiple Persons Injured, Permanent Incapacity, Fatality
4	1/100	**Likely**	4 – **Major** - Multiple Injuries, Long-term Incapacity, Disability, Absent from Work 7+ Days
3	1/1000	**Possible**	3 – **Moderate** – Sprain, Strain, Ill Health, Absent from Work for 3+ days but less than 7 Days
2	1/10,000	**Unlikely**	2 – **Minor** – Cuts, Bruises, Illness (fainting) requiring First Aid – No Absence from Work
1	1/1,000,000	**Extremely Unlikely**	1 – **Insignificant** – Minor Injury not Requiring First Aid Treatment.

Risk Rating (R)			
1 – 4	Low Risk		Acceptable, continue to monitor and implement current control measures – continue to review!
6 - 12	Medium Risk		Continue but look to introduce additional control measures to further reduce the risk as far as is reasonably practicable.
15.- 25	High Risk		**DO NOT Start the works!** Introduce additional controls to reduce the risk from the hazard to a medium risk or, preferably, a low risk.

SSW – Soft Strip Removal Works

Risk Assessment – Soft Strip

Key: L = Likelihood HP = Hazard Potential R = Risk Rating
5 = High 1 = Low (Based on a 5x5 Matrix) – The higher the number the greater the severity

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
1	Soft Strip Works	Manual Handling	Employees	3	4	12	• Operatives to be trained in manual handling • Mechanical aids used wherever possible • Transit routes to be clear of trip hazards and as short as is possible. • For large items, 'buddy up'. • Use T.I.L.E to assess the lift (Task, Individual, Load, Environment) • TRD Manual Handling Assessment	1	4	4
2		Dust	Employees	5	4	20	• TRD operatives to be face fitted for RPE • Dust suppression or extraction to be used where practicable • Eye protection to be worn • Working area to be well ventilated whenever and wherever possible. • Working areas to be dampened down using a light water spray from a garden type pump spray or adjustable nozzle to a hose pipe.	1	4	4

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
3	Soft Strip Working at Height	Mobile access scaffold	Employees	4	5	20	• Mobile access scaffold should only be erected by suitably competent, trained persons (PASMA). Likewise, inspections should only be carried out by those trained in the regulations, safe construction and codes of practice involved in mobile access scaffold erection. • Check that it is vertical and square and that the horizontal braces and platforms are level. • Check outriggers or stabilisers are correctly positioned and secured. • Check that all baseplates or castor wheels are fully in contact with the ground, including those on stabilisers or outriggers. All castors should be properly locked. • Check that all the spigot and socket joint locks holding the frames together are secured. • Check that all the bracing members have been located exactly in accordance with the instructions in the supplier's manual. • Check that all guardrails and toe boards are in position as required. • Check that all access stairways and ladders are in position and are firmly located. • Check that the base to height of platform ratio does not exceed 1.3 when working externally; or at a ratio of 1:3.5 when working internally. • During use, the mobile access scaffold should be kept in good order. A competent person should inspect the tower regularly to see that the structure has not been altered in any way. Should parts become lost or damaged, they must be replaced before the tower is used again. Any mobile tower that is erected for more than a week should undergo a formal weekly inspection by a competent person, with the results entered in the temporary works register.	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
4	Soft Strip Working at Height	Podium steps	Employees	5	5	25	• Podiums should only be erected by suitably competent persons who have had training to erect them (PASMA). Users should be aware of the dangers of working at height and from instability caused by over-reaching outside the work platform. • After a podium has been erected, the following checks should be made before it is used: • Check that it is vertical and square and platforms are level. • Check that all castor wheels are fully in contact with the ground. All castors should be properly locked. • Check that all the joints holding the frames together are secured. • Check that all guardrails and toe boards are in position as required. • Check that all access stairways are firmly located. • Should any parts become lost or damaged, they must be replaced before the podium is used again. N.B. Podiums must only be used as a work platform if • They are not placed in a situation where they block access for others. • The equipment is fully built with a barriered platform and toe board and the platform is fully enclosed and secured before work starts. • The operative remains within the work platform enclosure and does not attempt to over-reach or stretch outside the confines of the platform which could result in instability. • The wheel locks are properly secured	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
5	Soft Strip Working at Height	MEWPs	Employees	5	5	25	• Operatives should be trained (IPAF) and competent for the use of any mobile access equipment with copies of training certificates held on site. • Plant and machinery statutory test and examination certificates to be held on site. • Safe working load should be marked on the equipment and never exceeded during operation. • Ensure working platform is suitably guarded with rails and perimeter toe board to prevent falls from height and falling objects. • Operatives to only access working platform when lift platform is fully lowered. Always lower work platform fully before moving the platform to another location. • Exclusion zone to be formed around the MEWP using temporary fencing or barrier tape. • Only required personnel to be in the exclusion zone. • Keep equipment on firm solid ground and away from unprotected edges on floor. If necessary, use MEWPs fitted with stabilisers to ensure greater stability. • Harnesses, attached to the lift basket anchor point, should be worn at all times when working from a cherry picker. • MEWP Rescue plan included in the TRD CPDP. • Do not locate in access routes. • MEWP pre-use inspection to be carried out. Pre-use Checks. • Prior to any operative entering the man-riding basket of the MEWP it shall be operated using the ground controls to ensure that they work. An operative who is trained and authorised to operate the cherry picker shall be deployed at ground level in case of an emergency situation arising and the ground controls require to be operated.	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
6	Soft Strip Works	Use of Hand Tools & Power Tools	Employees	4	4	16	• Operatives to be trained in use of equipment (where training is available). • Tools to be inspected prior to first use. • Tools to be maintained. • Broken / damaged tools to be taken out of use. • Services to be disconnected prior to commencement. • HAVS – ○ Usage times to be obtained ○ HAVS register to be completed ○ Task to be shared between operatives to reduced HAVS • PPE ○ Eye protection to be worn ○ Gloves to be worn – type determined by task • Face fitted P3 RPE to be worn for dust omitting tasks (cutting, drilling etc.)	1	4	4
7		Noise	Employees	4	4	16	• Exclusion zone to be formed around noisy operations. • Hearing protection to be provided for persons working in or closely to noisy operations. (noise levels greater than 80dB(A)) • Work to be rotated between operatives where possible. • TRD Noise Assessment Handbook to be used to identify the controls and level of hearing protection required for each task.	1	4	4
8		Slips, Trips and Falls	Employees	4	4	16	• Transit routes to be kept clear at all times • Arising to be cleared away as it is created • If arising cannot be cleared away as it is created then stockpiles to be created thoughtfully, ensuring clear transit routes are maintained • Working area to be well lit	1	4	4

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
9	Soft Strip Works	Fluorescent Tubes (inc sharp edges)	Employees	4	4	16	• Fluorescent tubes to be removed whole – DO NOT break to remove • Tubes to be placed into a light tube coffin, collected by specialist hazardous waste removal contractor. • Broken tubes – ○ Ventilate the area, leave area for 10-15mins ○ Operatives to wear cut resistant gloves, eye protection and RPE ○ Dampen breakage with a garden type sprayer or low charged hose ○ Use a scraper to scrape the waste onto a shovel/dust pan. ○ Place waste into a polythene bag, wipe the floor the floor with paper towels and place into the bag. ○ Tape the bag shut. ○ Bag to be removed from site by a specialist hazardous waste removal contractor	1	4	4
10		Falling Materials	Employees	4	5	20	• Exclusion zone to be formed to the working area. • Only permitted personnel to be in the working area. • Hard hats to be worn at all times. • Safe system of work formed for the works • Structural assessments at site level to be undertaken prior to commencement	1	5	5
11		Sharp Edges	Employees	4	3	12	• Cut resistant gloves to be provided when working with sharp edged materials (glass, metal etc.) • Long sleeve clothing to be worn so skin is not exposed. • Kevlar sleeves can be provided, particularly in hot conditions • Broken glass to be cleared away immediately and shards removed from framing of windows and doors. • If sharp edges cannot be removed make them safe by placing tape or foam roll over them or even boarding over them. • Cuts to be treated by a first aider - cleaned and covered (plasters, bandages). Information to be recorded in the accident book and incident report to be completed.	1	3	3

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
12	Soft Strip Works	Contact with live services	Employees	5	5	25	• Isolations / disconnections to be in place prior to commencement • Services to remain live are to be clearly marked • Service plans to be obtained • Operatives to observe open ends before cutting the cable • If you are unsure – stop and ask the question.	1	5	5
13		Disease	Employees	3	4	12	• Practice good hygiene. Wash hands with warm water and soap prior to any food, drink, rest, smoking and toilet breaks • If you feel unwell after carrying out these soft strip works visit your GP and tell them what you have been doing. • Some degree of contamination will exist in any existing premises. The pre-construction info (if provided) shall be reviewed to help identify any areas of contamination. • These could cause health problems, if there is inadequate protection against exposure. To overcome the harmful effects of any contaminants on existing surfaces, the following should apply:- ○ Minimise contact between humans and contaminated area. ○ Use mechanical means where possible to work on and move contaminated surfaces. ○ Use PPE to protect operatives, including protective overalls and gloves. ○ Thorough washing and cleaning procedures should be followed for humans, equipment and plant. ○ Clean surfaces in the welfare facilities after use.	1	4	4

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
14	Soft Strip Works	Plant Operations (Skid Steer, Demo Rigs, Telehandler etc.)	Employees, 3rd Parties,	4	5	20	• Plant to be certified as fit for use. • Plant and machinery statutory test and examination certificates to be held on site. • Daily inspections to be carried out and recorded (Fleetcheck, plant inspection book) • Operatives to be trained and authorised to use plant and equipment • Exclusion zones to be formed around plant operations • Only required personnel to be working in the plant operations exclusion zone AND with the plant operator's knowledge and permission. • Persons working in exclusion zones to be wearing hi-vis clothing and in vision of plant operators. • Refuelling to take place in dedicated refuelling areas with firefighting equipment, spill kits and drip trays/bunds. • When not in use, plant and equipment is to be isolated and any keys removed. • At the end of the working day plant and equipment is to be isolated, secured and any keys removed.	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
15	Soft Strip Works	Asbestos	Employees, 3rd Parties, Environment.	5	5	25	• Asbestos R&D Surveys to be carried out and available for all structures that are to be worked on. • All asbestos containing materials to be identified using the traffic light system. • Any areas that could not be accessed at the time of the survey are to be surveyed prior to being worked on. • Where possible asbestos containing materials are to be removed first. Where this is not possible the location of the asbestos containing materials are to be identified and briefed to operatives working in this area. • All TRD operational staff are asbestos awareness trained. • Emergency procedures are to be briefed to all operational staff during the site inductions. • Asbestos containing materials are to be removed under controlled conditions by trained and authorised personnel. • **If a material thought to be asbestos is found during normal contract work, work must cease until one of the following has been achieved:-** • The asbestos is removed using controlled stripping techniques by a licensed contractor and the area certified as clear of asbestos. or • The material is encapsulated by a licensed contractor and the area certified as safe for contractors to work in without having exposure to asbestos. or • The material thought to be asbestos is verified as non-asbestos by proper analysis. In such cases it may still be necessary to take additional precautions such as respiratory, body and eye protection as determined by the COSHH risk assessment for that material. or • If the material is verified as asbestos and is in good condition and can remain undisturbed, a safe working method can be devised whereby the contractor does not need to come into	1	5	5

							contact with or disturb the material. In such cases there must be a clear marking of the asbestos material and a thorough briefing of asbestos hazards and the safe working methods to be used to the operatives. or • If the material is low level asbestos and outside the licensing regulations, it can be worked on using an approved method. If so, a prescribed method of working as per HSE guidance (HSG 210) will be used to work with the material.			

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
16	Soft Strip Works	Hot Works Oxy / Propane	Employee's, 3rd Parties, Structures, Environment	5	5	25	• Hot works permit to be issued, • One-hour fire watch to be completed upon completion, • firefighting equipment to be available in close proximity to working area, • Operatives to wear fire retardant PPE. • Equipment to be thoroughly inspected prior to commencement. • Working area to be dampened down, • Heat / Fire Protection to be used if required on assessment. • Equipment to be stored safely and securely. • Prior to the use of oxy/propane burning/cutting equipment a leak detection test shall be performed. • Any faulty/damaged equipment shall be repaired or replaced prior to the work commencing. If any equipment has been repaired or replaced then the leak detection test shall be repeated. • Only a purpose bought leak detection spray shall be used to carry out a leak detection test, soapy water is not to be used. • PTFE tape shall not be used to repair any leaks on oxygen cylinders or equipment as it is combustible. • Oxy Propane cylinders must be protected and kept clean at all times. • Hoses at the point of connection should be armoured. • Gas bottles should be used only in a secure upright position with a flash back arrestor. • A suitable fire extinguisher or a charged hose should be available for immediate use. • Torches are to be lit for as short a time as possible before use and extinguished immediately after use. • No lighted torches must be left unattended. • When leaving the site / working area, cylinders must be isolated at the valve and returned to the storage area.	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
17	Soft Strip Works	Hot Works Abrasive Wheel	Employee's, 3rd Parties, Structures, Environment	5	5	25	• Hot works permit to be issued, • One-hour fire watch to be completed upon completion, • Firefighting equipment to be available in close proximity to working area, • Equipment to be thoroughly inspected prior to commencement. • Working area to be dampened down if flammable materials present cannot be removed, • Heat / Fire Protection to be used if required on assessment, again if flammable materials cannot be removed. • Operatives to have abrasive wheel training.	1	5	5
18		Human waste	Employee's,	5	5	25	• Drug users bottle their urine to drink as this is a way of getting the drugs back in their system. Any bottled fluids found in derelict buildings should not be opened, sniffed or emptied. • If human waste (faeces and urine are evident in buildings then it shall be treated the same as animal faeces or asbestos. • Operatives are to wear disposable coveralls, safety wellingtons, face fitted RPE, protective eyewear and either PVC or rubber gloves. • The 'waste' is to be removed using shovels and placed into thick polythene bags. • The bags are to be tied off and taped shut using duct tape in a swan neck fashion. • The area that has been cleaned shall be sprayed with a disinfectant from either a trigger bottle or garden type sprayer – this will require a COSHH assessment to be in place. • Disposable coveralls are to be removed so they are inside out and they too shall be placed into thick polythene bags. • Operatives are to follow good personal hygiene. They shall wash their hands prior to any food/drink, smoking/vaping or toilet breaks. • Should any operative begin to feel unwell or feel unwell weeks after working with human waste they must contact their GP and inform them of the works they are or have been undertaking?	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
19	Soft Strip Works	Poor Light	Employees	3	4	12	• The working area to be assessed • Task light to be put in place • 110v lighting to be used • Poor light is not only low light but also bright light such sunshine. • Poorly lit areas (low light) are to be illuminated using task lighting • Cables from task lighting are to be hung from the floor to prevent trip hazards. • Hung cables should be hung thoughtfully i.e. at high level or against walls so that operatives do not have to bend down or manoeuvre around them. • If the cables cannot be hung then they should be placed against walls or covered over to prevent tripping. • For high levels of light (e.g. sunshine) operatives should be provided with safety sunglasses, particularly machine operators. • Machine operators are permitted to remove their hi-vis vests in the cabs of their machines as they can cause glare on the windscreen. The vest must be put back on before leaving the cab of the machine. • Where machine operatives leave a low light area into a high light area (and vice versa) then yellow lens safety glasses can be worn or the machine operator must stop once they leave one area and enter another until their eyes have become accustomed to the light level. • Machine operations must be segregated from pedestrian walk ways. • Speed limits to be put in place	1	4	4

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
20	Soft Strip Works	Drug Paraphernalia – Hypodermic Needles	Employees	5	5	25	• Any building or structure shall be surveyed by the TRD operations department during pre-start site visits and also by the TRD site manager/supervisor prior to putting men to work in the building or structure. • If evidence is found of needles/sharps then a safe system of work shall be formed to accommodate this. • Operatives shall wear puncture resistance gloves during the strip out/clean up works. • Litter pickers shall be used to pick up hypodermic needles and place them into sharp boxes or alternatively; • They shall use shovels and brushes to pick up waste and place it into either wheel barrows or wheeled bins to remove them from the building and then into suitable waste containers. • No operative shall use their hands to pick up waste materials.	1	5	5
21		Waste Removal	Employees	5	4	20	• Waste will be recycled where possible. Waste to be segregated in different material streams. • Waste to be sent to a licensed recycling / disposal facility • Plant loading waste to be certified as fit for use • Waste loading area to be deemed an exclusion zone • Waste removal from site will be strictly controlled. • All movement of waste from site will be recorded. • All waste on site will be stored to prevent spread either by placing it directly into containers or creating stockpile areas.	1	4	4
22		Pressurised Containers	Employees, 3rd Parties	5	5	25	• All pressurised containers are to be removed from the structure and placed into a quarantine area on site. • Pressurised containers that are heavily corroded, dinted and/or gorged are to be assessed prior to removal. Contact the H&S Manager for further guidance • Use cylinder trolley's to manoeuvre large containers from structures. • Use stair trolley's to remove containers from first floor and above.	1	5	5

SSW – Soft Strip Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
23	Soft Strip Works	Batteries and Charging of Batteries for Battery Operated Tools	Employees, 3rd Parties, Environment, Structures	3	5	15	• Charge in a dry, cool and well-ventilated place. • Only charge batteries whilst you are present on site – DO NOT charge overnight. • Keep battery handling / charging areas free from flammable or combustible materials, and free from sharp objects that may puncture battery cells. • Always use the charger that came with the device or from a reputable supplier. • Do not place the charger or its lead in transit routes. • Use only batteries that are provided with the tool or, if a replacement battery, it must be purchased from a reputable supplier. • Visual inspection of the tool and its battery to be carried out prior to use. • DO NOT use damaged batteries. Report and return damaged batteries to your supervisor who will arrange for their replacement and suitable disposal. • Provide smoke detection in areas where batteries are being charged (ideally a combined smoke & carbon monoxide (CO) detector). EMC cabins used by TRD on most of their sites are fitted with smoke / CO detectors. • Avoid storing in areas of excessive heat and humidity. • Avoid placing batteries in direct sunlight. • Once the battery is fully charged remove from the charger. • Ensure fire fighting equipment (Co2 extinguisher) is in proximity to the area where batteries are being charged. • EWC Code for disposal of batteries is 20 01 33 – Absolute Hazardous.	1	5	5

Appendix I
TRD Demolition of Structures

B+K

SSW.RA – Demolition of Structures to Site

Client	Peveril Securities / B&K	Project No.	4508
Site Address	Napier Court, Napier Road, Reading. RG1 8BW		
Prepared By	Phil Stevenson	Date	19.04.2024
Approved By	Melvyn Cross	Date	22.04.2024
Revision	2 – 24.07.2024		

1. Task to be undertaken using this SSW.RA (Safe System of Work / Risk Assessment)

Demolition of structures Hawker House, Emerald House and Pennant House.

The structures are steel frame with brick infill walls. The roof structures are timber frame with concrete tiles.



***This SSW is to be used in connection with the associated risk assessment.*

SSW.RA – Demolition of Structures to Site

2. Personnel required for the works

- TRD Site Manager / Supervisor
- Demolition Rig Operator
- Demolition Operative / Banksman

3. Training requirements

- CCDO
- CPCS
- Site induction

4. Additional documentation requirements including permits and registers

- Permit to Demolish
- Asbestos R&D Survey
- Service Isolation / Disconnection Certificates
- Plant Certs
- Plant Inspections
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

5. Equipment required for the task

- Specialist Demolition Rig c/w Grab and Bucket Attachments.
- Dust Suppression Units.
- Waste Containers

6. PPE requirements

- Hard hat
- Hi-vis clothing (vest as minimum)
- S3 safety boots
- Eye protection
- Hearing protection
- Gloves

7. Additional Information

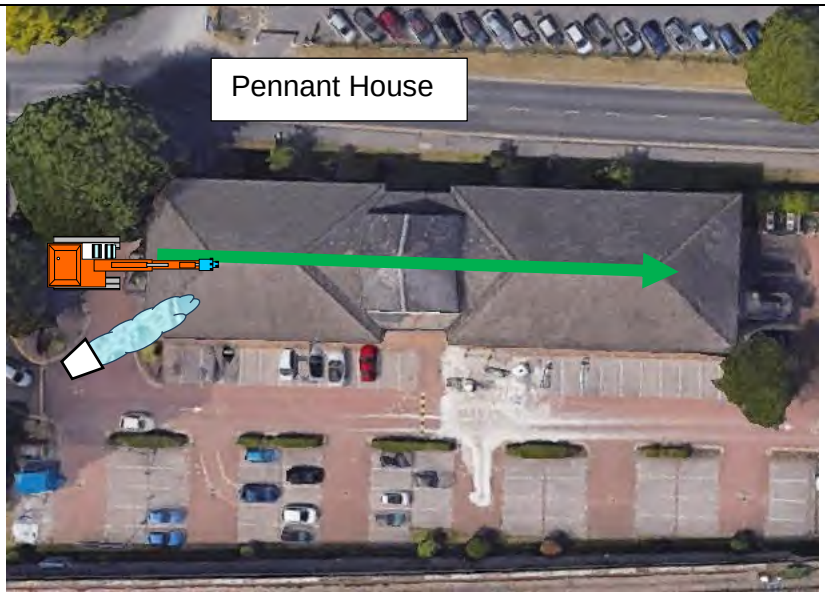
- B&K are to advise if the demolition of the structures on site are subject to Network Rail approval (BAPA).

  Site safety hold point – Site manager/supervisor to sign _____

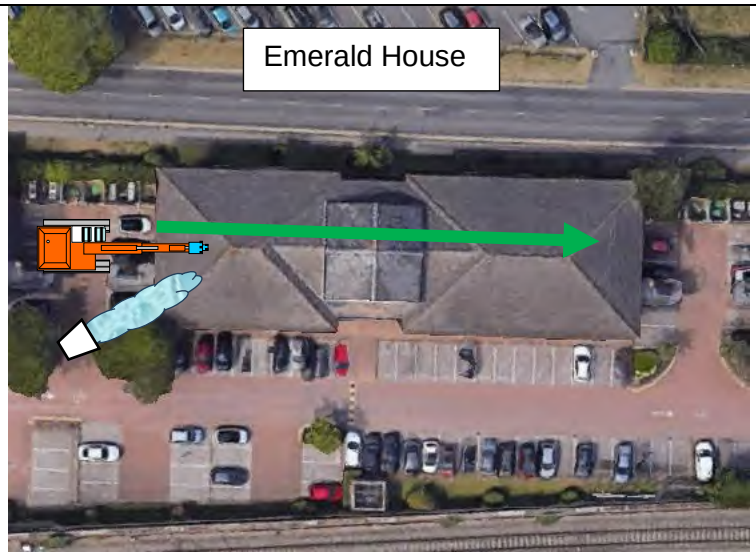
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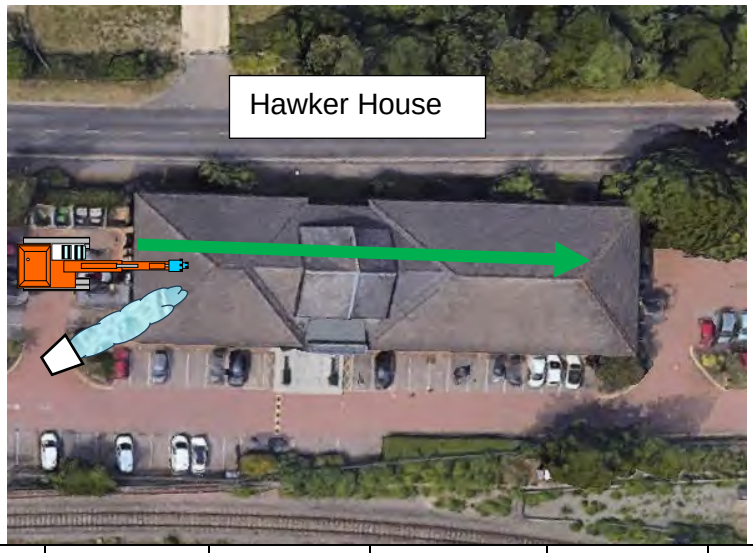
- Pennant House and Emerald House will be demolished in the first phase of the works. Hawker House will be demolished in the second phase of the works.

8. Methodology

	Demolition Sequence	
		

SSW.RA – Demolition of Structures to Site

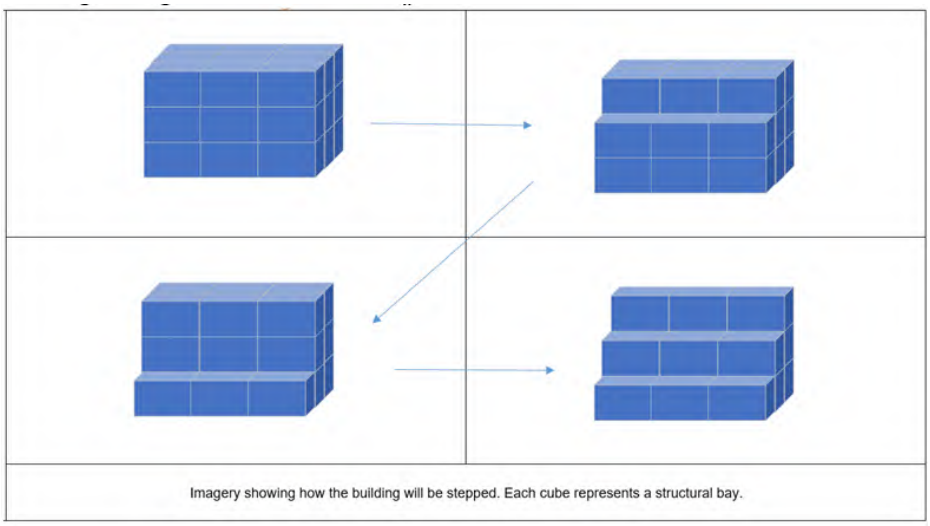




Demolition Rig		Dust Suppression		Direction of Demolition	

	Methodology	
8.1	The Demolition rig fitted with its 360° grab attachment will expose the roof element of the building and the steel frame by removing bricks at the corner of the gable and side wall at high level.	
8.2	Masonry infill of the first structural bay will be guided into the exclusion zone directly in front of the Demolition rig.	
8.3	The removed brickwork will be cleared from the work area before the removal of the roof element and structural steel elements.	

SSW.RA – Demolition of Structures to Site

8.4	The exposed roof system will be removed using the 360° grab attachment. The timber trusses will be grabbed from their location, a separate waste pile will be created for the timber arising.	
8.5	Internal floors will be removed as they are exposed.	
8.6	When a section of building has had its roof removed then the Demolition rig will relocate and remove more infill brickwork to the next structural bay.	
8.7	Steelwork will be removed as it is exposed. Beams will be sheared free and placed into a separate stockpile for processing.	
8.8	Steel columns will be removed by shearing as close to the base of the column as is possible and then folding the column into the footprint of the building.	
8.9	The building will be stepped to ensure structural stability is maintained throughout the demolition.  Imagery showing how the building will be stepped. Each cube represents a structural bay. For illustration purpose only.	
8.10	The Demolition rig will progress through the structure using the above methodology a single structural bay at a time.	
8.11	The arising shall be segregated into material type and placed into suitable waste containers for removal from site to a licensed waste disposal facility.	
8.12	Dust created from the works shall be controlled by directing a water mist onto the working area.	

Acknowledgement of Operatives

I, the undersigned, acknowledge that I have read and been briefed upon this safe system of work and the relevant risk assessment and that I understand what I am being asked to do.

Name	Date	Signed

SSW.RA – Demolition of Structures to Site

Amendment to the Safe System of Work	
Amended by	
Signed	
Date	

Amendment

Acknowledgement of Operatives for Amendment		
I, the undersigned, acknowledge that I have read and been briefed upon this amendment to the safe system of work and the relevant risk assessment and that I understand what I am being asked to do.		
Name	**Date**	**Signed**

SSW.RA – Demolition of Structures to Site

Risk Assessment Calculation Guide

Likelihood Rating (L)						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Hazard Potential (HP)				

DEFINITIONS:
A hazard is something with the potential to cause harm to someone or something. This could include damage or adverse health effects. **Each Hazard will be given a number to define its Hazard Potential (HP).**
Risk is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard. This also includes something being damaged from exposure to a hazard. **Each Risk will be given a number to define its Likelihood Rating (L).**
When the **HP** is multiplied by the **L** this gives you a **Risk Rating Score (R)**

Likelihood Rating (L)			Hazard Potential (HP)
5	1/10	**Probable**	5 – **Catastrophic** - Serious Injury, Multiple Persons Injured, Permanent Incapacity, Fatality
4	1/100	**Likely**	4 – **Major** - Multiple Injuries, Long-term Incapacity, Disability, Absent from Work 7+ Days
3	1/1000	**Possible**	3 – **Moderate** – Sprain, Strain, Ill Health, Absent from Work for 3+ days but less than 7 Days
2	1/10,000	**Unlikely**	2 – **Minor** – Cuts, Bruises, Illness (fainting) requiring First Aid – No Absence from Work
1	1/1,000,000	**Extremely Unlikely**	1 – **Insignificant** – Minor Injury not Requiring First Aid Treatment.

Risk Rating (R)			
1 – 4	Low Risk		Acceptable, continue to monitor and implement current control measures – continue to review!
6 - 12	Medium Risk		Continue but look to introduce additional control measures to further reduce the risk as far as is reasonably practicable.
15.- 25	High Risk		**DO NOT Start the works!** Introduce additional controls to reduce the risk from the hazard to a medium risk or, preferably, a low risk.

Risk Assessment – Demolition of a Brick-Built Structure

Key: L = Likelihood HP = Hazard Potential R = Risk Rating
5 = High 1 = Low (Based on a 5x5 Matrix) – The higher the number the greater the severity

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
1	Demolition of Brick-Built Structure	Falling materials	Employees & third parties	3	5	15	• Cabs to demolition rigs to be fitted with FOPS. • Exclusion zones to be erected around machines and structure being demolished. • Demolition rig operators to be trained and authorised	1	5	5
2		Uncontrolled collapse of structure	Employees & Third Parties inc. Public	3	5	15	• Demolition rig operatives to be trained and authorised. • A detailed specific method statement / Safe system of work to be formed for the works. • Structure to be made an exclusion zone to all persons on commencement of remote demolition. • Exclusion zone to be formed around the demolition rig and working area. • Building to be stepped during demolition process to ensure structural stability maintained.	1	5	5
3		Dust, Noise & Vibration	Employees & Third Parties	4	4	16	• Dust suppression to be used to control dust migration. • Working hour restrictions in place for sensitive receptors. • Plant and Equipment to be lowest noise and vibratory emitting as possible. • Plant and Equipment to be well maintained. • Plant and Equipment to be fit for use and correct for the task in hand. • Plant and Equipment to be isolated when not in use.	1	4	4

SSW.RA – Demolition of Structures to Site

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
4	Demolition of Brick-Built Structure	Weather Conditions	Plant operator, Employees	3	5	15	• Windscreen wipers to be fitted to plant where applicable. • Pedestrian access routes to be defined by use of pedestrian barriers. • Hi-vis clothing to be worn at all times on site. • Dust suppression equipment to be thoughtfully positioned in high wind conditions. • Salt / grit to be used on frozen ground, spread before ground freezes where possible.	1	5	5
5		Plant Operations	Plant Operator, Employees, Third Parties, structures to be Retained	5	5	25	• Plant operators to be trained and authorised to operate plant. • Plant to be certified as fit for use and maintained / serviced to the manufacturer's guidelines. • An exclusion zone must be formed around the plant and the working area. • Only required and authorised personnel are to be present in the working area and with the consent of the plant operator. • Required & authorised personnel in the working area must be wearing hi-vis clothing and within site of the plant operator. • Unauthorised persons in the working area will result in the works being stood down until said person is removed. Any unauthorised access is to be reported to the TRD site manager / supervisor. • Refuelling to be carried out in dedicated areas on site, away from watercourses / runoff. All refuelling areas must have a spill kit, fire extinguisher and drip tray. • Fuel is to be stored in double bunded tanks on site. • Spillages to be cleaned up following TRD emergency procedure for spills. • Keys to be removed from plant when not in use. Engines to be turned off when not in use. • Plant only to be used within the time constraints identified in the planning conditions.	1	5	5

Appendix J
TRD Substructure Removal

B+K

SSW.RA – Substructure Removal Works

Client	Peveril Securities / B&K	Project No.	4508
Site Address	Napier Court, Napier Road, Reading. RG1 8BW		
Prepared By	Phil Stevenson	Date	22.04.2024
Approved By	Melvyn Cross	Date	22.04.2024
Revision	2 – 24.07.2024		

1. Task to be undertaken using this SSW.RA (Safe System of Work / Risk Assessment)

To remove the slab of the former structures, footings / foundations to 2mtr below ground level and identified areas of hard standing on site.
Some of the hard standing areas may fall within a Network Rail exclusion zone and require a BAPA for these areas to be worked within. Network Rail may insist on one of their engineers being present on site under a watching brief whilst these works are undertaken.

The Network Rail asset is higher at one end of the site, tapering down to the same level at the other.



This SSW.RA is subject to change depending on the discussions and potential restraints placed on the works by Network Rail. This SSW.RA is based on similar works undertaken by TRD next to a Network Rail asset.

***This SSW is to be used in connection with the associated risk assessment.*

2. Personnel required for the works

- TRD Site Manager / Supervisor
- TRD Demolition Operatives
- TRD Plant Operatives
- Floor Saw Operator
- Network Rail Engineer (Watching Brief – TBC)

3. Training requirements

- CCDO
- CPCS
- CAT & GENNY

4. Additional documentation requirements including permits and registers

- BAPA
- Service Isolation / Disconnection / Diversion Written Confirmation
- Service Plans
- Plant Certs
- Plant Inspections
- CAT & GENNY Certs
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

5. Equipment required for the task

- Demolition Rig c/w Breaker and Bucket Attachment
- CAT & GENNY
- Handheld Breakers
- Variety of Hand Tools
- Floor saw (Provided by Sub-contractor)

6. PPE requirements

- Hard hat
- Hi-vis clothing (vest as minimum)
- S3 safety boots
- Eye protection
- Hearing protection
- Gloves
- Face Fitted RPE P3 Filter

7. Additional Information

- Investigative works will be undertaken to ascertain if there is a physical separation between the hard standing of the site and the boundary of the Network Rail asset.
- If there is no physical separation, then a floor saw contractor will be deployed by TRD to form a physical separation in the hard standing between the site and the Network Rail asset. If this is required, the contractor will provide RAMS for this task.
- NETWORK RAIL EMERGENCY 24HR HELPLINE CONTACT NUMBER
  - 03457 11 41 41

8. Methodology

8.1	**Service Investigations**	
8.2	Prior to the substructure works commencing, service plans shall be obtained and reviewed. Service isolation / disconnection certs shall be obtained. The area to be removed shall be scanned with a cat and genny for any rogue services. Any live services found shall be hand dug around using a SSW.RA Hand Digging Around Live Services. Site safety hold point – Site manager/supervisor to sign _____ date _____	
8.3	**Management Of Excavations and Backfilling Generally**	
8.4	In addition to the service checks, prior to any excavations undertaken reference to the ground surveys will be carried out and a suitable check will be made to determine and mark the positions of all underground services that may be encountered. All excavations shall be managed using TRD's Permit to Dig system. Controls: - • Ground conditions to be assessed prior to commencement of the works and daily during the works. • Particular attention shall be required during inclement weather conditions. • Pedestrians and plant/equipment to be segregated by use of pedestrian barriers • Only required personnel to be in the area. Hi-vis clothing to be worn at all times. • Ensure excavations sides are of suitable repose to prevent uncontrolled collapse. • Do not track adjacent to an excavation to prevent risk of collapse/overturning.	

	• Do not permit entry by any person into an excavation due to risk of fumes / collapse – backfill as soon as possible Mark all excavations on site hazard board – update daily – use to inform all security staff of locations at hand-over.	
8.5	Backfilling: - • Mark areas on site plan. • Liaise with client engineer (where required) to confirm backfilling permitted. • Utilise only certified materials. • Carry out backfill in layers as per spec suitably compacted employing excavator and/or roller – all as per client engineers' instructions	
8.6	**Concrete Slab Removal of Former Structures**	
8.7	Using the breaker attachment of the demolition rig, the demolition rig operator shall fracture the slab to create a leading edge.	
8.8	The demolition rig operator shall change his breaker attachment to a suitable bucket attachment.	
8.9	The fractured slab shall now be started to be lifted by the demolition rig operator by healing and crowding the bucket.	
8.10	As the slab is lifted it shall break up.	
8.11	The arising shall be stockpiled on site for crushing into a re-usable aggregate material.	
8.12	**Footing / Foundation Removal to the former Structures – 2mtr Below Ground Level**	
8.13	The ground to the side of the footing / foundation shall be removed by the demolition rig operator using a bucket attachment.	
8.14	The demolition rig operator shall then pull the footing / foundation into the excavation.	
8.15	The demolition rig operator shall select his breaker attachment and break the footing/ foundation up.	
8.16	The demolition rig operator shall select his bucket attachment and remove the broken footing / foundation from the excavation.	
8.17	The arising shall be stockpiled on site for crushing into a re-usable aggregate material.	
8.18	Dust shall be controlled by directing a water mist onto the working area.	

SSW.RA – Substructure Removal Works

8.19	**Identified Hard Standing Removal / Tarmac Removal Outside of any Network Rail Exclusion Zone.**	
8.20	With the slab already removed there shall be a leading edge to the hard standing.	
8.21	The demolition rig operator shall use his bucket attachment to lift the hard standing by healing and crowding.	
8.22	As the hard standing is lifted it shall break up.	
8.23	The arising shall be stockpiled on site for crushing into a re-usable aggregate material.	
8.24	Dust shall be controlled by directing a water mist onto the working area.	
8.25	Tarmac will be grubbed up at the final stage to minimise dust/nuisance to neighbouring properties.	
8.26	Prior to removal, Tarmac should be tested for Coal Tar. This can be done by spraying the Tarmac with PAK spray (Polycyclic Aromatic Hydrocarbon). The white spray will turn yellowish/brown if Coal Tar is present.	
8.27	If Coal Tar is present, then the Tarmac must be removed from site as hazardous waste.	
8.28	The demolition rig operator shall use his bucket attachment and strip the Coal Tar contaminated Tarmac and load it directly into an awaiting skip at all times working from the furthest point inside the site, back towards the access/egress point.	
8.29	If the Tarmac does NOT contain Coal Tar, then it can be stockpiled and crushed on site, if the client agrees or placed directly into suitable waste containers for removal from site to a licensed waste recycling facility.	
8.30	Dust shall be controlled by directing a water mist onto the working area as required. Dust from Tarmac will be minimal due to the bitumen product used to bond the materials together.	
8.31	Any drops in ground level will be chamfered back to prevent tripping/fall risk.	
8.32	**Removal of hardstanding within a Network Rail exclusion zone**	
8.33	If the demolition rig is not permitted to track within the Network Rail exclusion zone, then the following shall be carried out. Using a bucket attachment, the demolition rig operative shall extend the arm of the rig and place the teeth of the bucket along the exposed edge of the hardstanding.	
8.34	**If there is a physical separation:** Using a bucket attachment, the demolition rig operative shall extend the arm of the rig and place the teeth of the bucket along the exposed edge of the hardstanding.	

8.35	The demolition rig operative will then heel and crowd the bucket and track back to lift and break the hardstanding	
8.36	Once a section has been broken out the demolition rig operative can work along the remainder of the area pulling and lifting the hardstanding away from the boundary.	
8.37	The removed hardstanding will be moved into the site and processed by other demolition rigs.	
8.38	If no physical separation: A floor saw contractor will cut two lines, in line with the Network Rail boundary and close to the boundary line. The distance between the two lines needs to be sufficient to allow the teeth of the bucket to remove the hard standing that is required to be removed.	
8.39	Operatives will use a variety of hand tools and handheld breakers to remove the arising between the two cut lines.	
8.40	The removal will then be undertaken as previously described.	

Acknowledgement of Operatives

I, the undersigned, acknowledge that I have read and been briefed upon this safe system of work and the relevant risk assessment and that I understand what I am being asked to do.

Name	Date	Signed

Amendment to the Safe System of Work	
Amended by	
Signed	
Date	

Amendment

Acknowledgement of Operatives for Amendment		
I, the undersigned, acknowledge that I have read and been briefed upon this amendment to the safe system of work and the relevant risk assessment and that I understand what I am being asked to do.		
Name	**Date**	**Signed**

SSW.RA – Substructure Removal Works

Risk Assessment Calculation Guide

Likelihood Rating (L)						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Hazard Potential (HP)				

DEFINITIONS:

A hazard is something with the potential to cause harm to someone or something. This could include damage or adverse health effects.
Each Hazard will be given a number to define its Hazard Potential (HP).

Risk is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard. This also includes something being damaged from exposure to a hazard.
Each Risk will be given a number to define its Likelihood Rating (L).

When the **HP** is multiplied by the **L** this gives you a **Risk Rating Score (R)**

Likelihood Rating (L)			Hazard Potential (HP)
5	1/10	**Probable**	5 – **Catastrophic** - Serious Injury, Multiple Persons Injured, Permanent Incapacity, Fatality
4	1/100	**Likely**	4 – **Major** - Multiple Injuries, Long-term Incapacity, Disability, Absent from Work 7+ Days
3	1/1000	**Possible**	3 – **Moderate** – Sprain, Strain, Ill Health, Absent from Work for 3+ days but less than 7 Days
2	1/10,000	**Unlikely**	2 – **Minor** – Cuts, Bruises, Illness (fainting) requiring First Aid – No Absence from Work
1	1/1,000,000	**Extremely Unlikely**	1 – **Insignificant** – Minor Injury not Requiring First Aid Treatment.

Risk Rating (R)			
1 – 4	Low Risk		Acceptable, continue to monitor and implement current control measures – continue to review!
6 - 12	Medium Risk		Continue but look to introduce additional control measures to further reduce the risk as far as is reasonably practicable.
15.- 25	High Risk		**DO NOT Start the works!** Introduce additional controls to reduce the risk from the hazard to a medium risk or, preferably, a low risk.

Risk Assessment

Key: L = Likelihood HP = Hazard Potential R = Risk Rating
5 = High 1 = Low (Based on a 5x5 Matrix) – The higher the number the greater the severity

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
1	Substructure Removal Works	Noise and Vibration	Employees	3	4	12	• Exclusion zone to be formed around noisy operations. • Hearing protection to be provided and worn when noise levels are greater then 80dB(A) • Works to be rotated between operatives to reduce exposure. • Minimal use of the breaker attachment to be used. Use of the bucket attachment to be mainly used where possible. • TRD operatives to undertake annual occupational health screening.	1	4	4
2		Dust	Employees, 3rd parties surrounding area	3	4	12	• TRD manager to assess the dust migration on site. • Dust suppression to be used on site • TRD operatives to wear face fitted RPE. • Refer to CPDP Sec 9.7	1	4	4
3		Substructure Services	Employees, plant and equipment	3	5	15	• Service location plans to be obtained prior to commencement. • Services to be isolated/disconnected where possible prior to commencement. • Known live services to be identified by use of a CAT & GENNY, marked up and protected from our works. • Any live services found in the ground shall be hand dug around using SSW.RA Hand Digging Around Live Services. • Use HSE Guidance Document HSG47 Avoiding Danger from Underground Services when carrying out substructure demolition works	1	5	5

SSW.RA – Substructure Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
4	Substructure Removal Works	Plant and Equipment	Employees, 3rd parties, plant and equipment	5	5	25	• Plant to be certified as fit for use. • Plant and machinery statutory test and examination certificates to be held on site. • Daily inspections to be carried out and recorded (Fleetcheck, plant inspection book) • Operatives to be trained and authorised to use plant and equipment. • Exclusion zones to be formed around plant operations. • Plant not permitted to enter the Network Rail 5mtr exclusion zone with the tracks of the machine. When fencing is taken down to allow the removal of the hardstanding, marker paint, barrier tape or stop blocks can be used as a visual aid to prevent plant operators from entering the area with their tracks. • Only required personnel to be working in the plant operations exclusion zone AND with the plant operator's knowledge and permission. • Persons working in exclusion zones to be wearing hi-vis clothing and in vision of plant operators. • Refuelling to take place in dedicated refuelling areas with firefighting equipment, spill kits and drip trays/bunds. • When not in use, plant and equipment is to be isolated and any keys removed. • At the end of the working day plant and equipment is to be isolated, secured and any keys removed.	1	5	5
5		Excavations	Employees, third parties	3	5	15	• Sign on TRD's Permit to Dig having checked all PTW requirements are met; • Excavations to be backfilled at the end of the working day wherever possible. • If not possible, the excavation is to be fenced off using Heras fencing and safety and warning signs to be posted. • Do not permit entry to any excavation by personnel • Before digging any trench pit, tunnel, or other excavations, decide what temporary support will be required and plan the precautions to be taken. Make sure the equipment and precautions needed (trench sheets, props, baulks etc) are available on site **before** work starts.	1	5	5

							• Battering the excavation sides to a safe angle of repose may also make the excavation safer. • In granular soils, the angle of slope should be less than the natural angle of repose of the material being excavated. In wet ground a considerably flatter slope will be required. • **Loose materials** may fall from spoil heaps into the excavation. Edge protection should include toeboards or other means, such as projecting trench sheets or box sides to protect against falling materials. Head protection should be worn. • **Undermining other structures** – Check that excavations do not undermine scaffold footings, buried services or the foundations of nearby buildings or walls. Decide if extra support for the structure is needed before you start. Surveys of the foundations and the advice of a structural engineer may be required. • **Effect of plant and vehicles** – Do not park plant and vehicles close to the sides of excavations. The extra loadings can make the sides of excavations more likely to collapse. • A competent person who fully understands the dangers and necessary precautions should inspect the excavation at the start of each shift. • Excavations should also be inspected after any event that may have affected their strength or stability, or after a fall of rock or earth. • A record of the inspections will be required and any faults that are found should be reported to the TRD Site Manager/Supervisor and corrected immediately. Remember: • No ground can be relied upon to stand unsupported in all circumstances. • Depending on conditions, a cubic metre of soil can weigh in excess of 1.5 tonnes.			

SSW.RA – Substructure Removal Works

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
6	Substructure Removal Works	Network Rail Asset	Network Rail Asset, operatives, third parties	3	5	15	• BAPA to be issued by Network Rail prior to commencement of these works. • Network Rail Engineer to be present on site under a watching brief (TBC)	1	5	5

Appendix K
TRD Crushed Material Stock Piles

B+K

SSW.RA – CRUSHING & STOCKPILES

Client	Peveril Securities / B&K	Project No.	4508
Site Address	Napier Court, Napier Road, Reading. RG1 8BW		
Prepared By	Phil Stevenson	Date	22.04.2024
Approved By	Melvyn Cross	Date	22.04.2024
Revision	2 – 24.07.2024		

1. Task to be undertaken using this SSW (Safe System of Work)

To crush demolition arising (brick/concrete/stone) on site to a re-usable aggregate material

***This SSW is to be used in connection with the associated risk assessment.*

2. Personnel required for the works

- TRD Site Manager / Supervisor
- TRD Plant Operatives

3. Training requirements

- CCDO
- CPCS
- Site Induction
- Face Fit
- Asbestos Awareness
- Site induction

SSW.RA – CRUSHING & STOCKPILES

4. Additional documentation requirements including permits and registers

- Hot Works Permit & Fire Watch Register
- COSHH Assessments
- WRAP Protocol
- T5 notification / Deployment to EA
- Ashfield LAPPC – Part B Permit
  - EMS 01 Environmental Management System April 2019 V1.0 MP.pdf
  - EMS 02 Daily Site Diary.pdf
  - EMS 03 Complaint Report.pdf
  - EMS 04 Environmental Risk Assessment.xls
  - QMS 01 Quality Management System April 2019 V1.0 MP.pdf
  - QMS 02 Daily Process Control.pdf
  - QMS 03 Sample Frequencies.pdf
  - QMS 04 Waste Acceptance Procedures.pdf
  - QMS 05 Non-conformance Report for Incoming Materials.pdf
  - QMS 06 Non-conformance for Processed Materials.pdf
  - QMS 07 Site Plan.pdf
  - TRD QMS 1.1 Daily Process Control.pdf
  - TRD QMS 1.2 Sample Frequencies v2.pdf
  - TRD QMS 1.3 Waste Acceptance Proc.pdf
  - TRD QMS 1.4 Non Conformance Incomin V2.pdf
  - TRD QMS 1.5 Non Conforming Process.pdf
  - TRD QMS 1.6 Waste Handling V2.pdf
- Daily Task Briefing

Site safety hold point – Site manager/supervisor to sign _____

date _____

5. Equipment required for the task

- Mobile Crusher
- 360 Excavator
- Loading Shovel
- Dust Suppression Units
- Water Supply
- Metered stand-pipe
- Variety of Hand Tools
- Disc Cutter / Stihl Saw
- Segregation Fencing
- Safety Signage

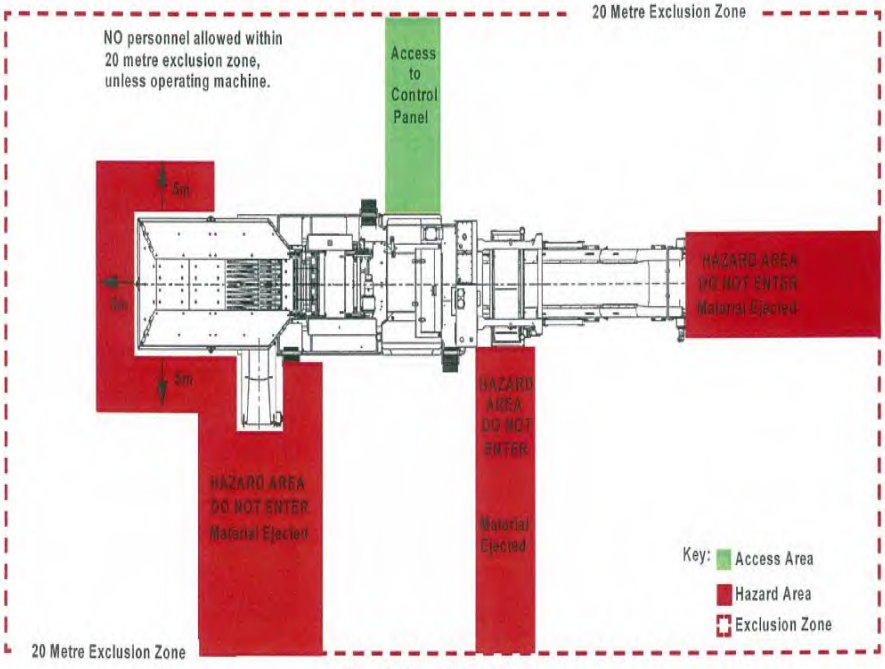
6. PPE requirements

- Hard hat
- Hi-vis clothing (vest as minimum)
- S3 safety boots
- Eye protection
- Hearing protection
- Gloves
- Face Fitted RPE P3

7. Additional Information

- Crusher operator to complete WRAP crusher booklet incl.
  - Site Layout Drawing
  - Daily inspections
  - Daily monitoring
  - Required testing
  - Recording of all information

8. Methodology

8.1	This method statement covers the operation of mobile crushing equipment and its support equipment e.g. 360° excavator and wheeled loading shovel. All works are to be carried out to WRAP protocol.	
8.2	Health & Safety precautions will be enforced at all times to look after all those involved with the operation and those who may be affected by the crushing process and all its activities.	
8.3	**PREPARATION WORKS - SET UP OF WORKING AREA**	
8.4	• Segregate your working area incl. transit routes for transfers to stockpiles etc. from surrounding site areas to prevent interaction with others; • Post warning signs to alert others of prohibited access; • Designate working zone as mandatory hearing protection zone – post signage; • Prepare excavator standing pads – these should be suitable (stable) and should be high enough for the operator to be able to monitor the feed hopper from the cab.	
8.5	  	
8.6	Limit access to equipment and surroundings, erect barriers 20 metres around the perimeter of the machine.  Figure 1-1: Hazard Exclusion Zone	

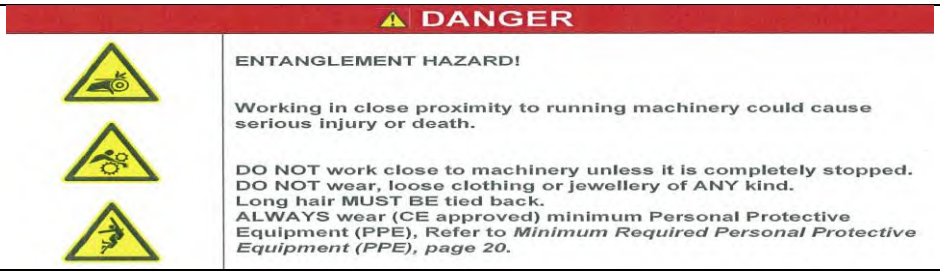
SSW.RA – CRUSHING & STOCKPILES

8.8	**PRE-COMMENCEMENT**	
8.9	Do not permit commencement of any crushing operations until you have witnessed that the crusher WRAP compliance folder is prepared/completed and environmental assessments documented as required – remember – these are to be carried out three times per day!	
8.10	Do not permit commencement of any crushing operations until all requirements as set out in the Ashfield DC LAPPC Permit conditions are adequately installed/controlled.	
8.11	REMEMBER - Dust management is considered to be a major part of the crushing programme and MUST be set up and monitored throughout all operations.	
8.12	The crusher will be manoeuvred into the appropriate position as agreed and assessed – to be at a suitable point to minimise disturbance from noise/dust/vibration etc. to sensitive receptors/boundaries.	
8.13	Position stand-alone working platform adjacent to the platform of the crusher (to prevent whole body vibration issues) and ensure sited on firm level ground and on road-plates where necessary to ensure stability – ALL operations are to be carried out from this viewing platform, NO ACCESS IS PERMITTED ONTO THE CRUSHER PLATFORM unless it is switched and locked off.	
8.14	A re-bar (20ton) low sided skip is to be placed in front of the mag-belt to prevent access by others to this hazardous area.	
8.15	**SAFETY PROCEDURES FOR THOSE NOT DIRECTLY INVOLVED WITH THE CRUSHING OPERATION.**	
8.16	Anyone not involved with the actual crushing and handling process should stay a safe distance away from all activities associated with any aspect of the operations including pre-crushing preparation works - This could be achieved successfully by simply and politely blocking the access, in a suitably agreed way, to all unnecessary vehicles and persons or alternatively installing segregation fencing – see Set Up above;	
8.17	Taking into consideration such obvious hazards as noise, dust, flying debris, moving plant and vehicles etc. it is recommended that an exclusion zone of at least 10m is established and enforced.	
8.18	This could be enforced, by agreement with any main contractors concerned or by the operators involved with the crushing and associated operations	

8.19	Where it is necessary for persons to enter the work zone then they should get the attention of the operators involved first and then proceed carefully (preferably escorted by a site representative) via the indicated route, leaving the area as quickly as possible afterwards.	
8.20	If anyone enters the work zone they must have or be issued with suitable PPE which offers the same degree of protection as that used by the process operators themselves.	
8.21	**INSPECTIONS:**	
8.22	Prior to commencement of operations it will be inspected for fitness for work and any adjustments made. A written record of this inspection will be kept on site for inspection.	
8.23	To avoid unnecessary engine emissions the crusher must be regularly serviced – ensure servicing is in line with hours/timescale required;	
8.24	3 no. environmental inspections to be carried out daily to determine presence of dust emissions and plotted and signed off within WRAP folder (as required by LAPPC permit) – Record on appropriate ISO form;	
8.25	Inadequate guarding is a major cause of injury. Guarding integrity to be checked at regular intervals, particularly after cleaning or maintenance work. All guards will be secured properly, before and during operations. Guards will only be removed for the purposes of servicing or unblocking a machine following lock off procedures and refitted or closed before work recommences.	
8.26	Correct manufacturers procedures, including shut down as needed, will be followed to ensure safety during unblocking the crusher for removal of materials such as stone or re-bar from the belts etc.	
8.27	At the end of each shift the machine will be made secure, after the appropriate shut down procedures	
8.28	**OPERATIVES RESPONSIBILITIES - SORTERS RESPONSIBILITIES**	
8.29	Be aware of moving parts – do not enter within 5m of the crusher to eliminate risk of entanglement/entrapment etc.	
8.30	Place 20yd skip to front of mag-belt to ensure access is prevented to the crushing point.	
8.31	The wearing of the stated personal protective equipment is mandatory.	
8.32	Be aware of moving vehicles at all times.	

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8.33	Take care when working on piles with steep gradients and beware of unstable ground.	
8.34	Do not attempt to remove heavy and awkward wastes. Obtain assistance or remove by mechanical means.	
8.35	Do not attempt to remove any suspicious materials or articles which may be hazardous and report such a find to your supervisor in charge.	
8.36	Any defects/malfunctions must be reported as soon as possible.	
8.37	Sorter to act as banksman during operations of loading shovel or other vehicular movement.	
8.38	Before entering the sorter area permission must be gained from the banksman/operator.	
8.39	Clear line of communications to be established between banksman and machine drive/lorry driver.	
8.40	Sorter to ensure a clear access/egress route is maintained to other work areas	
8.41	**OPERATIVES RESPONSIBILITIES – CRUSHER OPERATORS RESPONSIBILITIES**	
8.42	The crusher operator is to carry out the crushing operations from the separate standalone working platform or ground level and NOT the crushing platform. This will aid in the prevention of whole body vibration. NO ACCESS IS PERMITTED ONTO THE CRUSHER PLATFORM UNLESS IT IS SWITCHED OFF.	
8.43	Place 20yd skip to front of mag-belt to ensure access is prevented to the crushing point – ensure emptied regularly and replaced prior to commencement of operations;	
8.44	Responsible, competent operators who have undergone the necessary training must operate all equipment.	
8.45	The crushing equipment must be inspected for defects BEFORE use and if any defect found the equipment is to be locked off and ‘DO NOT USE’ signage erected and suitably repaired by a competent person.	

8.46	All operations are to be carried out in line with the guidelines laid down by the manufacturer.	
8.47	All operators are to be aware of the specific layout / hazards of the site.	
8.48	All operators have a shared responsibility for the safe operation as a whole.	
8.49	All operators have an equal right to stop the operation if any risk or potential risk is noted.	
8.50	All operators will ensure that the crushing process and any other activities are carried out in the most productive and safe manner possible, within the practical limitations of each specific site.	
8.51	All operators have a duty to look after everyone who may be affected by their operations. This may involve the setting up of safety measures e.g. enforcing a 10m exclusion zone for non-essential persons.	
8.52		
8.53	**OPERATIVES RESPONSIBILITIES – 360° EXCAVATOR OPERATOR RESPONSIBILITIES**	
8.54	The operator of this equipment has a major role in achieving high outputs over the crusher by ensuring regular, even placement of suitable material into the receiving hopper.	
8.55	The machine should be operated in strict accordance with the manufacturer's recommendations and in accordance with the following key guidance:	

8.56	• ALWAYS read the safety manual supplied with the machine; • ALWAYS have regard for your personal safety & others; • ALWAYS undertake daily visual inspection of the equipment and maintain records; • ALWAYS work in accordance with the specific risk assessment and method statement; • ALWAYS seek further training in machine operation if necessary; • ALWAYS plan your work programme with site management; • ALWAYS report safety issues to site management; • ALWAYS ensure appropriate and sufficient ground investigation has been carried out; • ALWAYS acknowledge pedestrians before permitting them to approach the demolition rig; • ALWAYS turn off engines and remove keys on exiting. Buckets/attachments placed on the floor and auto throttle switched to minimum. • ALWAYS engage the "dead man" handle to isolate machine when machine is stationary or off. • NEVER cause any side load to the machine; • NEVER strike the work with the attachment; • NEVER assist the machine to turn by lifting the tracks with the equipment; • NEVER crane or pull with the machine; • NEVER move about the site with the equipment fully raised; • NEVER approach a high voltage wire; • NEVER carry out works in extremely high winds; severe fog or driving rain; • NEVER operate the machine 'side-saddle' – always operate track face on; • NEVER carry out works in extremely high winds; severe fog or driving rain • NEVER permit a person is to walk beneath the boom/dipper of plant	
8.57	**PERSONAL HYGIENE**	
8.58	1. Always wash hands before eating, drinking and smoking; 2. Never keep or consume foodstuffs where cross contamination with waste is possible. Use the facilities provided; 3. Do not take work clothing home, change on site and shower on your return home;	
8.59	**BLOCKAGE / STALLED CRUSHER PROCEDURE:**	
8.60	Causes of crusher blockages can be grouped under two main headings:	
8.61	• Stalling due to: ○ Electrical or mechanical failure ○ Material jammed in the chamber causing an overload ○ Overfeeding material ○ Entry of tramp metal or wood ○ Accumulation of material in the crash box ○ Accumulation of fine material in the crusher discharge chute	

8.62	• Bridging due to: ○ Oversize feed material ○ Excessive clay or other fines in the crushing cavity preventing small material passing through the crusher ○ A foreign body in the crusher feed or discharge chamber obstructing the feed material	
8.63	Working on the premise that prevention is better than cure, every effort will be made to prevent oversize material or tramp metal entering into the crusher feed hopper by: • Reducing oversize material by drop ball or hydraulic hammer or other means; • Training and instructing the loader driver not to load oversize material • Sizing bars on crusher feeds • Following the manufacturer's recommendations on the rate, presentation of feed and crusher settings • Instituting a programme of good housekeeping to prevent scrap steel entering into shovel buckets • Ensuring the size of buckets are appropriate to the capacity of the crusher • Regular inspection of metal parts (e.g. bucket teeth, dumper wear plates and drilling components etc.) to ensure they are unlikely to break off and enter the crusher feed • The strategic placing of electrical magnets and/or the installation of metal detectors to prevent tramp metal from entering the crusher • The use of level indicators for feed control • Maintenance of drive systems • Removal and adequate cleaning of the discharge chute	
8.64	**ACTION WHEN A CRUSHER BECOMES BLOCKED**	
8.65	• Have a nominated person to supervise the activity and call for assistance as necessary • Stop the feed at the earliest opportunity • Remove excess material by mechanical means where possible before the cause of the blockage can be dealt within. • In some cases, however, an amount of removal by hand will be involved and when this occurs the crusher and associated plant must be stopped and isolated. • Manual removal should only be carried out by suitably trained and competent persons.	

8.66	**CLEARING BLOCKAGES - BRIDGED CRUSHERS**	
8.67	The preferred method of clearing a bridged crusher is by the use of a hydraulic arm (typically a 360 excavator fitted with a quick hitch bucket attachment and either a static pick or a hydraulic hammer available).	
8.68	Depending on the result of the on-site risk assessment, clearing out a bridging blockage with a hydraulic arm (with pick attachment) may be carried out with or without the crusher still operating however the former is not recommended due to the risk of damage to the breaker boom and breaker	
8.69	Contact to be made with the author of this document for change to method if required	
8.70	**CLEARING BLOCKAGES - USE OF CRANES (INCLUDING MANUALLY OPERATED LIFTING TACKLE), LIFTING AND SLINGING**	
8.71	When hydraulic arms are not available and cranes slung with hooks have proved ineffective, other methods are necessary. When it becomes necessary for a person to enter the crusher to position hooks or slings, the crusher and feeder must be stopped, isolated and locked off (in accordance with manufacturers/suppliers instructions) and safety harness worn.	
8.72	Where access is required this MUST be assessed and agreed, with specific RAMS produced, by a competent person in advance of any works.	
8.73	**CLEARING BLOCKAGES - OTHER AVAILABLE OPTIONS**	
8.74	Where other options are to be considered they should be subject to a detailed and thorough risk assessment - contact to be made direct with TRD Contracts Director and/or H&S competent person to discuss and implement change options. • The crusher should be shut off and isolated before considering the use of bars and hand hammers. • Careful consideration should be given to the risk of large pieces of feed material moving and causing trap or crush injuries. • Wedges should not be used due to the risk of them becoming a projectile (This has caused fatalities in the past). • Other options, which require more specialist expertise and competence, include: gas or chemical expansion, hydraulic ramp plates, permanently mounted hydraulic breaker (may include the use of closed circuit television CCTV to assist the operator), use of explosives MUST be assessed and agreed, with specific RAMS produced, by a competent person in advance of any works.	

8.75	**STALLED CRUSHERS**	
8.76	A stalled crusher should be treated as possibly being jammed with tramp metal, which could be ejected with fatal consequences.	
8.77	Plant operators MUST:- • Isolate the motive power to the crusher and associated plant procedure in operation at the site • Clear the area of all personnel • Notify the site manager of the stalled crusher	
8.78	If, after careful examination, there appears to be no electrical or mechanical reason why the crusher has stalled, it may indicate that the crusher is jammed by tramp metal.	
8.79	A "stalled crusher permit to work" system will be implemented. This work will only be carried out by person/s who are suitably trained and competent.	
8.80	Wherever possible any inspection of the crushing cavity of a jaw crusher will be carried out from below the crusher, not from above.	
8.81	**Remember: -** Fatal accidents (due to material being ejected) have occurred to people who have examined the crushing cavity of a stalled crusher from above.	
8.82	**CRUSHING OPERATIONS:**	
8.83	The operator will be suitably trained, competent and experienced in operating the crusher. The required PPE will be used at all times which is to include, but not limited too – Safety Helmet, Safety Footwear, Ear Protection, Eye Protection, high visibility clothing, Half Face Masks to P3 standard. 	

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8.84	A properly designed mobile crushing operation should not need any person to be present on the crusher access platform during normal crushing operations.	
8.85	Being on the access platform during normal operation presents the following risks: • Struck by objects ejected from the crusher, such as bits of stone or metal. • The operation of the crusher catches being struck by any reinforcing bar as it. • Being pulled into the crushing chamber when attempting to pull out contaminants (e.g. reinforcing bar). • Struck by the loader bucket if the access platform is within the working radius of the loading machine (for 360 degree excavators). • Falling if adequate guardrails and access arrangements are not provided. • Noise. Process noise at this level can cause deafness and adequate hearing protection is required. • Dust, especially in the case of crushing concrete or bricks or any other high silica content material. Breathing silica dust can cause serious respiratory diseases. • Whole body vibration. Anyone on the platform would be subjected to constant low frequency vibration.	
8.86	It may be necessary for a person equipped with the appropriate PPE (e.g. ear defenders, dust mask, eye protection, hard hat, protective footwear, high visibility outer garment) to spend a few minutes setting the feed speed initially if there is no remote facility. The feed should then be controlled from the machine feeding the crusher by varying the loading rate into the feed hopper.	
8.87	Hazards encountered may be: • Poor or difficult access • Accidental start-up of feeder, crusher or adjacent plant • Being struck by material from the feeder, chute or projected material • The movement of any material present inside the crusher • Slipping and falling • Manual handling of rocks and equipment • Unexpected movement of crusher components • Damaged electrical cable • Noise • Stored energy from electrical, hydraulic, compressed air, mechanical sources and gravity • Unsafe placement of material removed from the crusher.	

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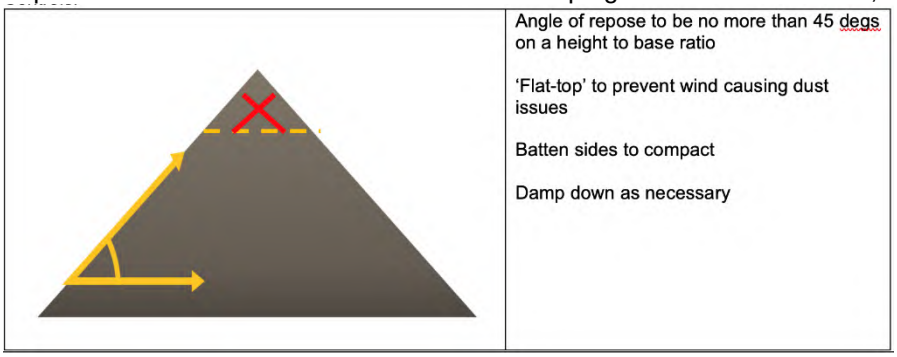
8.88	If the mobile crusher is to be fed directly by a loading shovel or excavator, then: • Excavator standing pads MUST be suitable (stable) and MUST be high enough for the operator to be able to monitor the feed hopper from the cab. Safe access to the excavator must be provided for the operator. • Where wheeled loading shovels are used, then the ramp should be wide enough to allow for adequate edge protection (min 1.5m high) on either side of the ramp as well as for the travel of the machine. • The maximum gradient of the ramp should be within the capacity of the loader (a maximum gradient of 1:10 is recommended) • The last few metres of the ramp should be level so that the machine is not discharging uphill, thus enabling operators to more easily monitor the feed. The loading shovel will also be more stable. • Ensure pedestrians and obstructions are excluded from the bucket operating arc.	
8.89	If the crusher is to be fed directly by a conveyor: • All dangerous parts of machinery MUST be suitably guarded. • Failure to replace guards (on crushers and conveyors) after cleaning or maintenance work is a major cause of injury and MUST NOT occur.	
8.91	Crushing of Arising • The tracked crushing machine will be located at the designated point; • Pre-crushing preparation of the material e.g. by excavator and hydraulic breaker etc. is assumed to have produced suitable size material to fit within the capacity of the crusher. • Problems caused by reinforcing wire etc. should be eliminated wherever possible before this material reaches the pre-crushed stone pile. • Dust management is considered to be a major part of the crushing programme - Materials are to be damped down using a low pressure spray system prior to loading through to the crushing unit; • The arising will be loaded by 360 excavator through the crushing plant and exit via the conveyor belt – on-board suppression will be in play during this process; • The crushed arising will now exit via the conveyor into a pile – on board suppression supplemented by low pressure spray system will assist with dust containment; • Either a 360 excavator or wheeled loading shovel will then move the crushed concrete to a second stockpile area ready for re-use or loaded directly into tipper transport for removal from site.	

8.92	360 EXCAVATOR In addition to the standard controls detailed in 8.53 – 8.56, the following controls are to be adhered to specific to crusher operation matters: • ALWAYS ensure excavator standing pads are suitable (stable) and high enough for the operator to be able to monitor the feed hopper from the cab. Safe access to the excavator must be provided for the operator and be of adequate width and length to enable a 1m barrier to be formed to the front of the tracks, facing the hopper. • This heap must be formed on top and level and topped with suitable material to form a flat, even working platform • All round vision to be maintained at all times. • Materials are not to be loading from the front loading position so as not to undermine the stability of the machine; • The machine will load from the sides or rear of the spoil heap. • Materials to be crushed will be brought to these area's using a frontloading shovel or dump-truck, thus retaining the width of the working platform; • The created access/egress ramp is to be a minimum of 8m in length and preferably (though dependent on site layout issues) positioned on the same side of the mag / muck belt; • When the operation nears completion the machine will continue to load until all material surrounding the safe working platform are crushed. The machine will then egress from the platform and create a low level platform and load from this until operations are completed; • The remaining spoil will be loaded from ground level leaving the area clear. • The operator may, on occasion, also be responsible for dust control at the input end of the process. • The machine will always be left safe and secured at the end of each shift.	
8.93	The operator will also be responsible, where possible, for removing unsuitable material and stockpiling this to one side for further processing – i.e. large items of concrete for further breaking or the removal of larger items of re-bar / steel etc., which could cause hazards to the crusher operator or blockages to the machine.	
8.94	WHEELED LOADING SHOVEL The operator of this machine is responsible for removing processed materials from the crusher. This will either be carefully and safely stockpiled or loaded into vehicles for despatch and use. The machine may be involved in moving uncrushed materials within reach of the 360° excavator. The major hazard is looking after the welfare of people on foot or in vehicles who may enter the working space of the crusher operation and especially the stockpiling / loading area. To avoid risks of machine instability loads should be kept as low to the ground as possible. Articulated machines can fall over if the bucket is high, the machine is turned or the ground uneven. Where graded materials are being produced the operator must ensure they are not mixed. The machine will always be left safe and secured at the end of shift.	

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8.95	**ENVIRONMENTAL CONTROLS - CRUSHING**	
8.96	Crushing operations to be contained to central area away from sensitive receptors;	
8.97	All works carried out to WRAP protocol incl. inspections / testing and records maintained;	
8.98	Mobile Crushing Permits held under Section 3.5 of Schedule 1 to the Environmental Permitting (England & Wales) Regulations 2010 SI 2010 No. 675 via our local authority LAPPC (Ashfield District Council) for each of our 3 crusher units which covers T7 exemption and sets permit conditions which include, but not limited to:	
8.99	Visual assessments of emissions from the crusher when it is in use and associated process operations such as vehicle movements are to be made frequently and at least 3 times per day – NOTE: This is carried out and recorded onto the Crusher Daily Record sheet;	
8.100	Feeding area of the crusher is fitted with water sprays in order to minimise emissions at source;	
8.101	A supply of water shall be available to the crusher at all times – where supply is interrupted all operations will cease;	
8.102	Height drops from discharge conveyors and loading machines will be kept to an absolute minimum to prevent emissions of dust and additional damping down will be initiated;	
8.103	**ENVIRONMENTAL CONTROLS - STOCKPILES**	
8.104	Stockpiles of raw and crushed material shall be located in more sheltered areas of the site whenever possible.	
8.105	Stockpiles of aggregates must not exceed 4 m in height.	
8.106	Stockpiles of raw and crushed material shall be suitably profiled - sides battered to a safe angle of repose and ‘flat-topped’ as well as being thoroughly damped down to prevent wind entrainment. NOTE: where granular, the angle of slope will be less than the nature angle of repose of the material;	

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8.107	The stockpiles will be monitored and in dry conditions and/or when dust emissions are evident from stockpiles, wetting of stockpiles will be undertaken;	
8.108	The loading and unloading of materials to and from stockpiles will be undertaken in a way to minimise dust i.e. Height drops will be kept to an absolute minimum to prevent emissions of dust and additional damping down will be initiated;  Angle of repose to be no more than 45 degs on a height to base ratio 'Flat-top' to prevent wind causing dust issues Batten sides to compact Damp down as necessary	

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Acknowledgement of Operatives

I, the undersigned, acknowledge that I have read and been briefed upon this safe system of work and the relevant risk assessment and that I understand what I am being asked to do.

Name	Date	Signed

Amendment to the Safe System of Work	
Amended by	
Signed	
Date	

Amendment

Acknowledgement of Operatives for Amendment

I, the undersigned, acknowledge that I have read and been briefed upon this amendment to the safe system of work and the relevant risk assessment and that I understand what I am being asked to do.

Name	Date	Signed

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Risk Assessment Calculation Guide

Likelihood Rating (L)						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Hazard Potential (HP)				

DEFINITIONS:
A hazard is something with the potential to cause harm to someone or something. This could include damage or adverse health effects. **Each Hazard will be given a number to define its Hazard Potential (HP).**
Risk is the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard. This also includes something being damaged from exposure to a hazard. **Each Risk will be given a number to define its Likelihood Rating (L).**
When the **HP** is multiplied by the **L** this gives you a **Risk Rating Score (R)**

Likelihood Rating (L)			Hazard Potential (HP)
5	1/10	**Probable**	5 – **Catastrophic** - Serious Injury, Multiple Persons Injured, Permanent Incapacity, Fatality
4	1/100	**Likely**	4 – **Major** - Multiple Injuries, Long-term Incapacity, Disability, Absent from Work 7+ Days
3	1/1000	**Possible**	3 – **Moderate** – Sprain, Strain, Ill Health, Absent from Work for 3+ days but less than 7 Days
2	1/10,000	**Unlikely**	2 – **Minor** – Cuts, Bruises, Illness (fainting) requiring First Aid – No Absence from Work
1	1/1,000,000	**Extremely Unlikely**	1 – **Insignificant** – Minor Injury not Requiring First Aid Treatment.

Risk Rating (R)			
1 – 4	Low Risk		Acceptable, continue to monitor and implement current control measures – continue to review!
6 - 12	Medium Risk		Continue but look to introduce additional control measures to further reduce the risk as far as is reasonably practicable.
15.- 25	High Risk		**DO NOT Start the works!** Introduce additional controls to reduce the risk from the hazard to a medium risk or, preferably, a low risk.

Risk Assessment

Key: L = Likelihood HP = Hazard Potential R = Risk Rating
5 = High 1 = Low (Based on a 5x5 Matrix) – The higher the number the greater the severity

Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
1	Manoeuvring of vehicles & plant (Inc Reversing)	Site vehicle movements - Collision / entrapment / crushing injury / death	Employees & Third Parties	4	5	20	Defined operational / exclusion areas (20mtr from Crusher). It is essential where possible to segregate pedestrians from moving plant such as loading shovels, excavators and dump trucks by the use of physical barriers Designated safe site speed limit – clearly displayed and relayed to site personnel; Signage and instructions for traffic routes. All reversing to be undertaken under a banksman	2	5	10
2	Storage of materials (inc fuel / oils)	Hazardous materials	Employees	3	3	9	COSHH assessments to be in place for all hazardous materials Suitable storage to be in place incl. bunds, All required PPE to be worn, Trained operatives (CPCS, Asbestos Awareness) Adequate signage to be in place. All site personnel to be aware of reporting procedures where suspect materials are identified; Spill kits to be available positioned to the crushing zone + operatives aware of spillage procedure;	1	3	6
3		Fire occurrence	Employees / third parties	3	5	15	Fire plan to be in place for the site, Emergency provisions to be in place, Method of raising alarm to be in place for crushing zone – air horn etc. Muster point to be designated, Emergency escape routes to be in place, Fire protection and emergency procedures to be displayed and communicated during induction, Fire marshals to be in place, No smoking on site other than in designated areas Suitable containers for all materials, Generators and equipment to be switched off when not in use.	1	5	5

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Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
4	Storage of Aggregate	Dust - Inhalation / Respiratory disease / nuisance / complaints	Employees / third parties	5	5	20	Stockpiles to be suitably maintained at suitable levels, Materials to be stored in designated areas, Dust suppression system to be used throughout areas – both onboard and supplementary units. Eye protection to be used as dictated by conditions on site and the site manager / site rules	2	5	10
5		Falls from height / slips / trips falls	Employees	2	4	8	Materials to be stored in designated areas and managed to keep at suitable levels and gradients, Stockpiles to be accessed via machinery in place of operatives, Regular housekeeping checks to be undertaken.	1	4	4
6		Contamination of surrounding areas / and adjacent materials	Environment	2	4	8	Good material management, Materials to be stockpiled in designated bays or protected areas where possible, Stockpiles of raw and crushed material shall be suitably profiled - sides battered to a safe angle of repose and 'flat-topped' as well as being thoroughly damped down to prevent wind entrainment. Materials to be routinely inspected.	1	4	4
7	Loading / unloading	Tipping vehicles – overturning / crushing injury / collision / overhead service strike	Employees, third parties	3	5	15	Vehicles to be unloaded by competent operators, Vehicles to be positioned on level firm ground, Overhead obstructions to be observed.	1	5	5

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Ref	Activity Being Undertaken	Hazard	Who May be Harmed	Risk Rating			Control Measure	New Risk Rating (Residual)		
				L	HP	R		L	HP	R
8	Loading / unloading	Loading equipment – 360 Excavator / Loading shovel – overturning / crushing injury / collision / overhead service strike	Employees, third parties	3	5	15	Excavator standing pads should be suitable (stable) and should be high enough for the operator to be able to monitor the feed hopper from the cab. Safe access to the excavator must be provided for the operator. Where wheeled loading shovels are used, then the ramp should be wide enough to allow for adequate edge protection (min 1.5m high) on either side of the ramp as well as for the tracking of the machine. The maximum gradient of the ramp should be within the capacity of the loader (a maximum gradient of 1:10 is recommended) Vehicles to be unloaded by competent operators, Vehicles to be positioned on level firm ground, Overhead obstructions to be observed.	1	5	5
9		Moving plant – Crushing / collision / entrapment incidents	Employees / Third Parties	3	5	15	Restricted working areas (20mtr from Crusher) All visitors to be briefed on site rules, Drivers to remain in vehicle, Trained Banksman to be used. Only Plant operatives involved in Crushing Operations are permitted within the Processing Area and Designated Crushing Area. Access to these areas must always be restricted / segregated from other site activities. Plant Operators must check the mirrors to ensure that the area is clear prior to carrying out any manoeuvres. (If the mirrors become dirty they must be cleaned immediately – If the mirrors are broken it must be reported the site supervisor immediately and arrangements will be made for immediate replacements / repairs. If it is discovered that the Heras fencing segregation has been damaged or breached it must be secured immediately	1	5	5

Appendix L
TRD Plant Specifications

B+K

Volvo Construction Equipment

EC350E, EC380E

Volvo Excavators 36-42 t / 79,950-92,760 lb 308 hp



A passion for performance

At Volvo Construction Equipment, we're not just coming along for the ride. Developing products and services that raise productivity – we are confident we can lower costs and increase profits for customers around the globe. Part of the Volvo Group, we are passionate about innovative solutions to help you work smarter – not harder.

Helping you to do more

Doing more with less is a trademark of Volvo Construction Equipment. High productivity has long been married to low energy consumption, ease of use and durability. When it comes to lowering life-cycle costs, Volvo is in a class of its own.

Designed to fit your needs

There is a lot riding on creating solutions that are suited to the particular needs of different industry applications. Innovation often involves high technology – but it doesn't always have to. Some of our best ideas have been simple, based on a clear and deep understanding of our customers' working lives.





You learn a lot in 180 years

Over the years, Volvo has advanced solutions that have revolutionized the use of construction equipment. No other name speaks Safety louder than Volvo. Protecting operators, those around them and minimizing our environmental impact are traditional values that continue to shape our product design philosophy.

We're on your side

We back the Volvo brand with the best people. Volvo is truly a global enterprise, one that is on standby to support customers quickly and efficiently – wherever they are.

We have a passion for performance.

A strong, dedicated, capable dealer network

Our dealers are strategically located throughout North America to provide the equipment you need and the parts and service support you demand for a productive and profitable operation.

The strength of our dealer network is enhanced with extensive individualized product support training at our best-in-class Customer Center in Shippensburg and through hands-on training. Using a great Product Demonstration Center featuring a dedicated area for most commons applications, visitors operate equipment from our entire product line under a variety of simulated working conditions. This facility is in year-round use by our dealers and customers.

Building the best starts right here.

The products designed and manufactured by Volvo Construction Equipment have their beginnings at the most advanced Research & Design centers in the industry. Volvo CE machines are designed in 11 R&D centers and produced in 15 manufacturing facilities across the world.

The major R&D center and manufacturing plant in the Americas is located in Shippensburg, Pennsylvania. This facility has been in operation for over 30 years and – with its recently added 200,000 sq. ft. expansion – now covers 570,000 sq. ft. on an 80 acre campus. Dedicated work teams and highly advanced technologies and techniques using the Volvo Production System ensure continuous quality improvements, labor savings and cost control to reach the high quality that our customers have come to expect from Volvo.

















Volvo Trucks



Renault Trucks



Mack Trucks



UD Trucks



Volvo Buses



Volvo Construction Equipment



Volvo Penta



Volvo Financial Services

Elite efficiency

Fuel efficiency is at the center of the EC350E and EC380E crawler excavators. With advanced technology including Volvo's unique ECO mode and a new electro-hydraulic control system, these high production machines deliver up to 9% greater fuel efficiency. Experience efficient production at its best with Volvo.

Advanced hydraulics

The new electro-hydraulic system uses intelligent technology to control on-demand flow and reduce internal losses in the hydraulic circuit. This increases controllability, shortens cycle times and improves fuel efficiency – resulting in higher productivity and performance.



Automatic idling system

Engine speed is reduced to idle when the controls are inactive for a pre-set amount of time (between 3 and 20 seconds). This reduces fuel consumption and noise.

Auto engine shut down

To reduce fuel consumption, the engine will automatically switch off when the machine is inactive for a pre-set amount of time (five minutes is the default setting).

Work modes

Volvo's unique, integrated work mode system now includes the G4 mode for optimum fuel efficiency and machine performance. Operators can choose the best work mode for the task at hand – select from I (Idle), F (Fine), G (General) and H (Heavy).



Fuel consumption display

A gauge bar on the monitor measures both instantaneous fuel consumption and average fuel consumption. This allows machine owners and operators to monitor fuel usage on different job sites.





ECO MODE

Volvo's unique ECO mode optimizes the hydraulic system to reduce flow and pressure losses – resulting in improved fuel efficiency without any loss of performance in most operating conditions. ECO mode is automatically selected but can be switched off via the keypad.



HUMAN MACHINE INTERFACE (HMI)

All machine interfaces – including the joysticks, keypad and LCD monitor – are ergonomically positioned and designed for optimum control and efficiency. For operator convenience and ease of use, the number of switches has been significantly reduced.

Boost your productivity

It's a fact that operators work more efficiently when they're given the best tools for the job. That's why, on top of being a superior production machine, the EC350E and EC380E have an ergonomic design with ideally placed controls and switches. With built in comfort and optimized control, operators will work efficiently and productively all day long.

Keypad

The optimally positioned keypad allows the operator to easily navigate through the LCD monitor and activate machine functions in a safe and comfortable way. The functionality of the camera, air conditioning and lights can be customized via the hot key – enabling the operator to select and save desired configurations.



Shortcut switch

The windshield wipers, camera, audio mute or power max function can be assigned to a shortcut switch located on the joystick. This allows the operator to easily control the selected function by simply pressing a switch.



LCD monitor

The new, color, eight inch LCD monitor displays machine status information including fuel consumption data and service interval alerts – enabling increased uptime and high productivity. The user-friendly design is easy to read in any light conditions



Seatbelt warning alarm

If the seatbelt is not fastened when the ignition key is turned, a sensor triggers an alarm which sounds for three seconds.

Bluetooth®

For added convenience, operators can now connect a Bluetooth device to the machine.

Non-stop productivity

Experienced and skilled Volvo engineers have developed and rigorously tested Tier 4 Final engine systems that deliver the ultimate combination of high productivity and low fuel consumption. Benefit from Volvo's signature high torque at low rpm and experience superior performance and reduced fuel consumption.

Volvo After Treatment System

During the fully automatic regeneration process, particulate matter in the Diesel Particulate Filter is oxidized at low exhaust temperatures via passive regeneration. Volvo uses Selective Catalytic Reduction technology where Diesel Exhaust Fluid is heated to produce ammonia. This causes a chemical reaction which converts NOx to nitrogen and CO2 – both of which are naturally found in the air. Neither process interrupts machine operation, performance or productivity



Diesel-driven heater

The optional diesel-driven coolant heater helps to start the engine in low temperatures while simultaneously heating the cab. The heater can be set in advance to engage at a specific date and time.



Cooling fan

The hydraulically-driven, electronically controlled cooling fan regulates the temperature of the vital components. It automatically activates only when needed – reducing fuel consumption and noise. The optional reversible functionality – which blows air in the opposite direction – enables self-cleaning of the cooling units.





VOLVO ENGINE

Featuring proven, advanced technology and built on decades of experience, Volvo's robust D13 Tier 4 Final engine boasts more power while reducing both fuel consumption and emissions and delivering superior quality, reliability and durability.



REINFORCED UNDERCARRIAGE

With a strong three-piece undercarriage and a high strength tensile steel X-shaped frame, Volvo excavators are built to withstand tough conditions. For superior durability, the undercarriage components are reinforced – ensuring long life and high uptime.

Built to last

From quarries to mass excavation, these heavy-duty production machines have been built to work on tough job sites. Featuring a robust, reinforced structure and high quality welding, the EC350E and EC380E boast superior strength and durability. Experience reliability you can count on with Volvo.

Superstructure undercover

The heavy-duty superstructure undercover plates increase durability by providing additional protection to the underside of the machine in tough applications – preventing damage from rock and debris.



Doors and hinges

Volvo's durable design features a rigid side door with a robust handle and hinges for superior durability.



Robust design

The reinforced idler frame, track links, top and bottom rollers are built to withstand tough conditions for improved durability and reliability in demanding applications.



Up your uptime

At Volvo we believe that maintaining your machine should be as quick and easy as possible. That's why our designers and engineers have developed innovative methods to make maintenance easy. With large, wide opening compartment doors and grouped service points, checks will be carried out faster and you'll get the most out of every operating shift.

Service access

Grouped filters are quick and easy to access from ground level. To facilitate fast servicing, grouped greasing points are easily accessed with the machine in one position.



Storage space

A large storage compartment provides a safe and convenient location for items including a toolbox and grease can.



Anti-slip plates

Punched anti-slip plates provide superior grip and increased safety. The design facilitates easy cleaning.



Handrails

Handrails and full size fold-able guardrails provide safe and easy access to the cab and superstructure. The fold-able guardrail is to minimize transportation height when it is folded.



SINGLE MODULE COOLER

The radiator, charged air cooler and hydraulic oil cooler are situated side-by-side on a single layer to maximize efficiency, reduce blockages and aid cleaning. The system is easily accessed from ground level by simply opening the side door.



ATTACHMENTS

Volvo's durable attachments have been purpose-built to work in perfect harmony with Volvo machines, forming one solid, reliable unit. With functions and properties ideally matched, Volvo attachments are an integrated part of the excavator for which they're intended – delivering maximum productivity.

The perfect match

Maximize your productivity and profitability with the EC350E and EC380E and Volvo's durable range of attachments. Increase your versatility, access more applications and effectively perform a variety of tasks – all while experiencing faster cycle times and excellent control. Get the most out of your excavator with Volvo.

Bucket range

Volvo's general purpose buckets are the perfect tool for digging and re-handling in soft to medium conditions. Heavy-duty buckets are intended for productive digging in compact materials. Both provide maximum productivity and long life.



Optional auxiliary hydraulics

Factory fitted breaker and shear piping (X1) as well as tilt and rotator piping (X3) increase versatility by enabling a wide range of additional attachments to be used.



S-type quick coupler

The Volvo S-type quick coupler is designed to work with Volvo attachments – delivering ultimate compatibility and unrivalled performance.



Universal quick coupler

The Volvo universal quick coupler offers maximum versatility. It picks up a variety of attachments from various manufacturers and meets new safety regulations.



Genuine Volvo wear parts

Volvo offers a selection of economic, replaceable wear parts including high quality teeth, segments, side cutters, adapters and shrouds to protect the bucket and ensure long life.

Quality counts

Anti-slip plates

Punched anti-slip plates, handrails and full size fold-able guardrails provide safe and easy access to the machine.

HUMAN MACHINE INTERFACE (HMI)

All machine interfaces are ergonomically positioned and designed for optimum control and efficiency.

Advanced hydraulics

New electro-hydraulic system and main control valve use intelligent technology to control on-demand flow for high performance and efficiency.

Quick coupler

The Volvo quick coupler offers maximum versatility, picking up a wide variety of attachments.



ATTACHMENTS

Volvo's durable attachments have been purpose-built to deliver maximum productivity and long service life in combination with Volvo machines.

REINFORCED UNDERCARRIAGE

The undercarriage components are reinforced to ensure long life, high uptime and ultimate durability in tough conditions.

Diesel Exhaust Fluid (DEF)

Volvo offers a total DEF solution that is quality assured, cost efficient and easily accessible. Contact your Volvo dealer for more information.

LCD monitor

The new, eight inch LCD monitor clearly displays machine status information for easy operation and increased productivity.

ECO MODE

Volvo's unique ECO mode improves fuel efficiency without any loss of performance in most operating conditions.



Service access

Grouped filters are quick and easy to access from ground level via large, wide compartment doors.

VOLVO ENGINE

Volvo's D13 Tier 4 Final engine boasts more power while reducing both fuel consumption and emissions and delivering superior quality, reliability and durability.

SINGLE MODULE COOLER

The radiator, charged air cooler and hydraulic oil cooler are situated side-by-side on a single layer to maximize efficiency, reduce blockages and aid cleaning.

Volvo After Treatment System

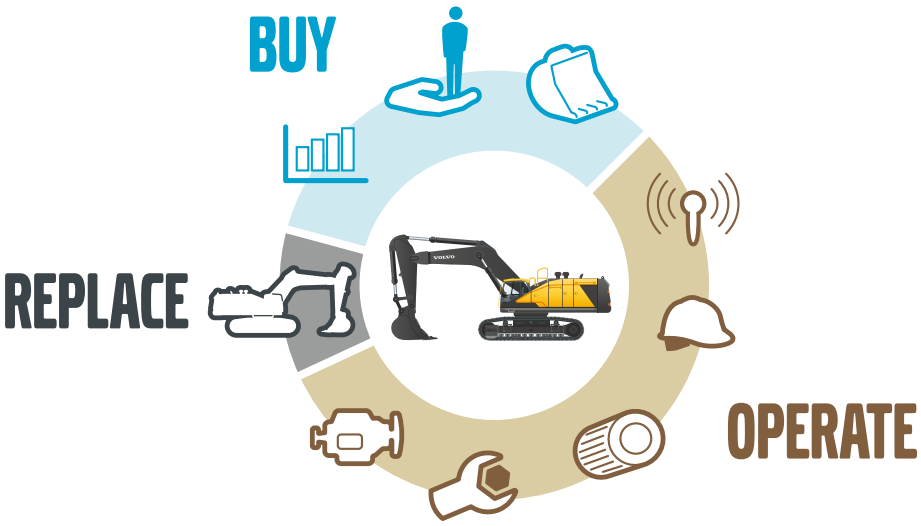
The automatic regeneration process takes place without interrupting machine operation, performance or productivity.

Adding value to your business

Being a Volvo customer means having a complete set of services at your fingertips. Volvo can offer you a long-term partnership, protect your revenue and provide a full range of customer solutions using high quality parts, delivered by passionate people. Volvo is committed to increasing the positive return on your investment and maximising uptime.

Complete Solutions

Volvo has the right solution for you. So why not let us provide all your needs throughout the whole life cycle of your machine? By listening to your requirements, we can reduce your total cost of ownership and increase your revenue.



Genuine Volvo Parts

Our attention to detail is what makes us stand out. This proven concept acts as a solid investment in your machine's future. Parts are extensively tested and approved because every part is vital for uptime and performance. Only by using Genuine Volvo Parts, can you be sure that your machine retains the renowned Volvo quality.



Service Network

In order to respond to your needs faster, a Volvo expert is on their way to your job site from one of our Volvo facilities. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.





CUSTOMER SUPPORT AGREEMENTS

The range of Customer Support Agreements offer preventive maintenance, total repairs and a number of uptime services. Volvo uses the latest technology to monitor machine operation and status, giving you advice to increase your profitability. By having a Customer Support Agreement you are in control of your service costs.

Volvo EC350E, EC380E in detail

Engine

The latest generation, Volvo engine Tier 4f emissions certified diesel engine fully meets the demands of the latest, emissions regulations. Featuring Volvo Advanced Combustion Technology (V-ACT), it is designed to deliver superior performance and fuel efficiency. The engine uses precise, highpressure fuel injectors, turbo charger and air-to-air intercooler, and electronic engine controls to optimize machine performance.
Air Filter: 3-stage with precleaner.
Automatic Idling System: Reduces engine speed to idle when the levers and pedals are not activated resulting in less fuel consumption and low cab noise levels.

		EC350E	EC380E
Engine	Volvo	D13J	D13J
Max power at	r/min (r/s)	1,700 (28.3)	1,700 (28.3)
Net, ISO 9249/SAE J1349	kW (hp)	229 (307)	229 (307)
Gross, ISO 14396/SAE J1995	kW (hp)	230 (308)	230 (308)
Max torque	Nm (ft lbf)	1,692 (1,248)	1,692 (1,248)
at engine speed	r/min (r/s)	1,275 (21.25)	1,275 (21.25)
No. of cylinders		6	6
Displacement	l (in³)	12.8 (781)	12.8 (781)
Bore	mm (in)	131 (5.16)	131 (5.16)
Stroke	mm (in)	158 (6.22)	158 (6.22)

Electrical system

High-capacity electrical system that is well protected. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard. Contronics provides advanced monitoring of machine functions and important diagnostic information.

		EC350E	EC380E
Voltage	V	24	24
Batteries	V	2 x 12	2 x 12
Battery capacity	Ah	200	200
Alternator	V/A	28/80	28/80

Swing system

The swing system uses an axial piston motors, driving a planetary gearbox for maximum torque. An automatic holding brake and antirebound valve are standard.

		EC350E	EC380E
Max. slew speed	r/min	10.2	10.2
Max. slew torque	kNm (ft lbf)	119 (878)	130.5 (96,252)

Travel System

Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.

		EC350E	EC380E
Max. drawbar pull	kN (lbf)	276.5 (62,160)	276.5 (62,160)
Max. travel speed (low)	km/h (mi/h)	3.4 (2.1)	3.4 (2.1)
Max. travel speed (high)	km/h (mi/h)	5.3 (3.3)	5.3 (3.3)
Gradeability	°	35	35

Undercarriage

The undercarriage has a robust X-shaped frame. Greased and sealed track chains are standard.

		EC350E
Track shoes		2 x 50
Link pitch	mm (in)	215.9 (8.5)
Shoe width, triple grouser	mm (in)	600 / 700 / 800 / 900 (24 / 28 / 32 / 36)
Shoe width, double grouser	mm (in)	600 (24)
Bottom rollers		2 x 8
Top rollers		2 x 2

		EC380E
Track shoes		2 x 50
Link pitch	mm (in)	215.9 (8.5)
Shoe width, triple grouser	mm (in)	600 / 600HD / 700 / 800 / 900 (24 / 24HD / 28 / 32 / 36)
Shoe width, double grouser	mm (in)	600 (24)
Bottom rollers		2 x 9
Top rollers		2 x 2

Hydraulic system

The new electro-hydraulic system and new MCV (main control valve) use intelligent technology to control on-demand flow for highproductivity, high-digging capacity and excellent fuel consumption.
The following important functions are included in the system for optimum performance:
Summation system: Combines the flow of both hydraulic pumps to ensure quick cycle times and high productivity.
Boom priority: Gives priority to the boom operation for faster raising when loading or performing deep excavations.
Arm priority: Gives priority to the arm operation for faster cycle times in leveling and for increased bucket filling when digging.
Swing priority: Gives priority to swing functions for faster simultaneous operations.
Regeneration system: Prevents cavitation and provides flow to other movements during simultaneous operations for maximum productivity.
Power boost: All digging and lifting forces are increased.
Holding valves: Boom and arm holding valves prevent the digging equipment from creeping.

		EC350E	EC380E
Main pump, Type 2 x variable displacement axial piston pumps			
Maximum flow	l/min (gal/min)	2 x 300 (2 x 79.3)	2 x 300 (2 x 79.3)
Pilot pump, Type Gear pump			
Maximum flow	l/min (gal/min)	32.6 (8.6)	32.6 (8.6)
Implement	MPa (psi)	32.4/35.3 (4,699/5,120)	32.4/35.3 (4,699/5,120)
Travel circuit	MPa (psi)	35.3 (5,120)	35.3 (5,120)
Slew circuit	MPa (psi)	25.5 (3,700)	27.9 (4,050)
Pilot circuit	MPa (psi)	3.9 (566)	3.9 (566)

Hydraulic Motors

Travel: Variable displacement axial piston motor with mechanical brake.
Slew: Fixed displacement axial piston motor with mechanical brake

Hydraulic Cylinders

		EC350E	EC380E
Mono boom		2	2
Bore x Stroke	ø x mm (ø x in)	160 x 1 530 (6.3 x 60.2)	160 x 1 530 (6.3 x 60.2)
Arm		1	1
Bore x Stroke	ø x mm (ø x in)	175 x 1 700 (6.9 x 66.9)	175 x 1 700 (6.9 x 66.9)
Bucket		1	1
Bore x Stroke	ø x mm (ø x in)	145 x 1 285 (5.7 x 50.6)	145 x 1 285 (5.7 x 50.6)
ME Bucket		1	1
Bore x Stroke	ø x mm (ø x in)	160 x 1 250 (6.3 x 49.2)	160 x 1 250 (6.3 x 49.2)

Service Refill

		EC350E	EC380E
Fuel tank	l (gal)	620 (163.8)	620 (163.8)
DEF/AdBlue® tank	l (gal)	62.5 (16.5)	62.5 (16.5)
Hydraulic system, total	l (gal)	500 (132.1)	500 (132.1)
Hydraulic tank	l (gal)	225 (59.4)	225 (59.4)
Engine oil	l (gal)	42 (11.1)	42 (11.1)
Engine coolant	l (gal)	60 (15.9)	60 (15.9)
Slew reduction unit	l (gal)	6 (1.6)	6.5 (1.7)
Travel reduction unit	l (gal)	2 x 6.8 (2 x 1.8)	2 x 6.8 (2 x 1.8)

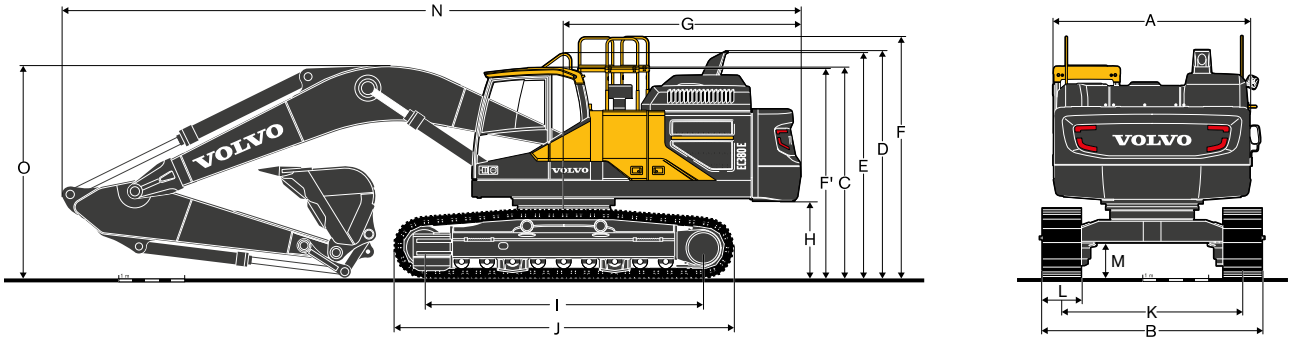
Cab

The operator's cab has easy access via a wide door opening. The cab is supported on hydraulic dampening mounts to reduce shock and vibration levels. These along with sound absorbing lining provide low noise levels. The cab has excellent all-round visibility. The front windshield can easily slide up into the ceiling, and the lower front glass can be removed and stored in the side door.
Integrated airconditioning and heating system: The pressurized and filtered cab air is supplied by an automaticallycontrolled fan. The air is distributed throughout the cab from 14 vents.
Ergonomic operator's seat: The adjustable seat and joystick console move independently to accommodate the operator. The seat has 12 different adjustments plus a seat belt for the operator's comfort and safety.
Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1430 CO2-eq.

Sound Level

		EC350E	EC380E
Sound level in cab according to ISO 6396			
LpA	dB(A)	71	71
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009			
LwA	dB(A)	105	105

Specifications



DIMENSIONS

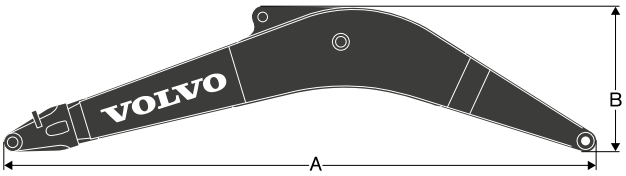
Description	Unit		EC350EL							
Boom	m (ft in)		6.2 (20'4")		6.45 (21'2")					
Arm	m	ft in	2.6	8'6"	2.6	8'6"	3.2	10'6"	3.9	12'10"
A. Overall width of upper structure	mm	ft in	2 990	9'10"	2 990	9'10"	2 990	9'10"	2 990	9'10"
B. Overall width	mm	ft in	3 390	11'1"	3 390	11'1"	3 390	11'1"	3 390	11'1"
C. Overall height of cab	mm	ft in	3 230	10'7"	3 230	10'7"	3 230	10'7"	3 230	10'7"
D. Overall height of diffuser	mm	ft in	3 475	11'5"	3 475	11'5"	3 475	11'5"	3 475	11'5"
E. Overall height of handrail	mm	ft in	3 445	11'4"	3 445	11'4"	3 445	11'4"	3 445	11'4"
F. Overall height of guardrail (unfolded)	mm	ft in	3 695	12'1"	3 695	12'1"	3 695	12'1"	3 695	12'1"
F'. Overall height of guardrail (folded)	mm	ft in	3 220	10'7"	3 220	10'7"	3 220	10'7"	3 220	10'7"
G. Tail swing radius	mm	ft in	3 600	11'10"	3 600	11'10"	3 600	11'10"	3 600	11'10"
H. Counterweight clearance *	mm	ft in	1 160	3'10"	1 160	3'10"	1 160	3'10"	1 160	3'10"
I. Tumbler length	mm	ft in	4 020	13'2"	4 020	13'2"	4 020	13'2"	4 020	13'2"
J. Track length	mm	ft in	4 957	16'3"	4 957	16'3"	4 957	16'3"	4 957	16'3"
K. Track gauge	mm	ft in	2 590	8'6"	2 590	8'6"	2 590	8'6"	2 590	8'6"
L. Shoe width	mm	ft in	800	31"	800	31"	800	31"	800	31"
M. Min. ground clearance *	mm	ft in	500	1'8"	500	1'8"	500	1'8"	500	1'8"
N. Overall length	mm	ft in	11 050	36'3"	11 310	37'1"	11 225	36'10"	11 270	37'
O.Overall height of boom	mm	ft in	3 755	12'4"	3 605	11'10"	3 350	11'	3 595	11'10"

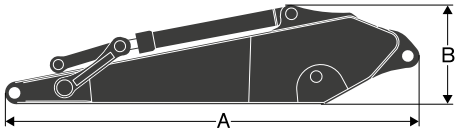
*Without shoe grouser

DIMENSIONS

Description	Unit		EC380EL								EC380ELR	
Boom	m (ft in)		6.2 (20'4")		6.45 (21'2")						8.5 (27'11")	
Arm	m	ft in	2.6	8'6"	2.6	8'6"	3.2	10'6"	3.9	12'10"	5	16'5"
A. Overall width of upper structure	mm	ft in	2 990	9'10"	2 990	9'10"	2 990	9'10"	2 990	9'10"	2 990	9'10"
B. Overall width	mm	ft in	3 540	11'7"	3 540	11'7"	3 540	11'7"	3 540	11'7"	3 540	11'7"
C. Overall height of cab	mm	ft in	3 220	10'7"	3 220	10'7"	3 220	10'7"	3 220	10'7"	3 220	10'7"
D. Overall height of diffuser	mm	ft in	3 470	11'5"	3 470	11'5"	3 470	11'5"	3 470	11'5"	3 470	11'5"
E. Overall height of handrail	mm	ft in	3 440	11'3"	3 440	11'3"	3 440	11'3"	3 440	11'3"	3 440	11'3"
F. Overall height of guardrail (unfolded)	mm	ft in	3 685	12'1"	3 685	12'1"	3 685	12'1"	3 685	12'1"	3 685	12'1"
F'. Overall height of guardrail (folded)	mm	ft in	3 215	10'6"	3 215	10'6"	3 215	10'6"	3 215	10'6"	3 215	10'6"
G. Tail swing radius	mm	ft in	3 600	11'10"	3 600	11'10"	3 600	11'10"	3 600	11'10"	3 600	11'10"
H. Counterweight clearance *	mm	ft in	1 155	3'9"	1 155	3'9"	1 155	3'9"	1 155	3'9"	1 155	3'9"
I. Tumbler length	mm	ft in	4 240	13'11"	4 240	13'11"	4 240	13'11"	4 240	13'11"	4 240	13'11"
J. Track length	mm	ft in	5 180	17'	5 180	17'	5 180	17'	5 180	17'	5 180	17'
K. Track gauge	mm	ft in	2 740	9'	2 740	9'	2 740	9'	2 740	9'	2 740	9'
L. Shoe width	mm	ft in	800	32"	800	32"	800	32"	800	32"	800	32"
M. Min. ground clearance *	mm	ft in	500	1'8"	500	1'8"	500	1'8"	500	1'8"	500	1'8"
N. Overall length	mm	ft in	11 060	36'3"	11 310	37'1"	11 225	36'10"	11 270	37'	13 065	42'10"
O.Overall height of boom	mm	ft in	3 510	11'6"	3 455	11'4"	3 275	10'9"	3 485	11'5"	4 500	14'9"

*Without shoe grouser





DIMENSIONS

Boom

Description	Unit		EC350EL				EC380EL				EC380ELR	
Boom	**m**	**ft in**	**6.2 ME**	**20'4"**	**6.45 GP**	**21'2"**	**6.2 ME**	**20'4"**	**6.45 HD**	**21'2"**	**8.5 LR**	**27'11"**
A	mm	ft in	6 460	21'2"	6 700	21'12"	6 460	21'2"	6 700	22'	8 750	28'8"
B	mm	ft in	1 740	5'9"	1 800	5'11"	1 740	5'9"	1 800	5'11"	1 610	5'3"
Width	mm	ft in	820	2'8"	820	2'8"	820	2'8"	820	2'8"	820	2'8"
Weight	kg	lb	3 355	7,390	3 345	7 380	3 355	7,390	3 310	7,300	4 855	10,710

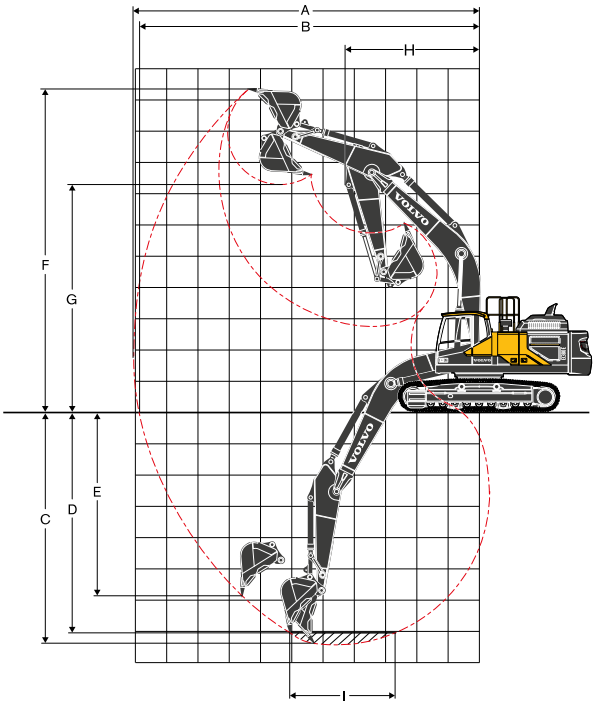
* Includes arm cylinder, piping and pin

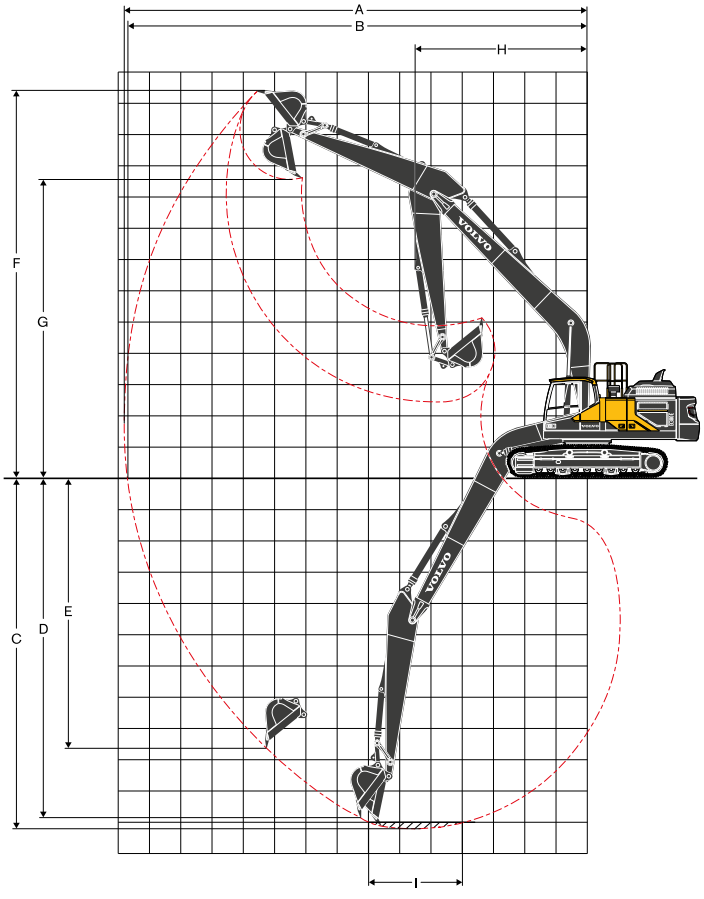
Arm

Description	Unit		EC350EL						EC380EL						EC380ELR	
Arm	**m**	**ft in**	**2.6 ME**	**8'6"**	**3.2 GP**	**10'6"**	**3.9**	**12'10"**	**2.6 ME**	**8'6"**	**3.2 HD**	**10'6"**	**3.9 GP**	**12'10"**	**5.0 LR**	**16'5"**
A	mm	ft in	3 780	12'5"	4 360	14'4"	5 080	16'8"	3 780	12'5"	4 360	14'4"	5 080	16'8"	6 180	20'3"
B	mm	ft in	1 145	3'9"	1 145	3'9"	1 145	3'9"	1 145	3'9"	1 145	3'9"	1 145	3'9"	1 040	3'5"
Width	mm	ft in	560	1'10"	560	1'10"	560	1'10"	560	1'10"	560	1'10"	560	1'10"	560	1'10"
Weight	kg	lb	2 050	4,520	2 180	4 810	2 300	5,070	2 050	4,520	2 180	4,810	2 300	5,070	2 525	5,570

* Includes bucket cylinder, linkage and pin

Specifications





WORK RANGES

Description		Unit		EC350E							
Boom		m (ft in)		6.2 (20'4")		6.45 (21'2")					
Arm		m	ft in	2.6	8'6"	2.6	8'6"	3.2	10'6"	3.9	12'10"
A. Max. digging reach		mm	ft in	10450	34'3"	10 695	35'1"	11220	36'10"	11 855	38'11"
B. Max. digging reach on ground		mm	ft in	10225	33'7"	10480	34'5"	11010	36'1"	11665	38'3"
C. Max. digging depth		mm	ft in	6 755	22'2"	6 990	22'11"	7 590	24'11"	8 290	27'2"
D. Max. digging depth (2.44 m/8' level)		mm	ft in	6 575	21'7"	6 805	22'4"	7 425	24'4"	8 145	26'9"
E. Max. vertical wall digging depth		mm	ft in	4 860	15'11"	5 000	16'5"	5510	18'1"	6 110	20'1"
F. Max. cutting height		mm	ft in	10 055	33'0"	10 195	33'5"	10 370	34'0"	10 640	34'11"
G. Max. dumping height		mm	ft in	6 800	22'4"	6 950	22'10"	7 140	23'5"	7 415	24'4"
H. Min. front slew radius		mm	ft in	4 090	13'5"	4 290	14'1"	4275	14'0"	4 305	14'1"
DIGGING FORCES WITH DIRECT FIT BUCKET											
Breakout force - bucket (Normal/Power boost)	SAE J1179	kN	lb	214.5	48,220	198.0	44,510	198.0	44,510	198.0	44,510
	SAE J1179	kN	lb	234.5	52,720	215.0	48,335	215.0	48,335	215.0	48,335
	ISO 6015	kN	lb	243.4	54,720	221.7	49,840	221.7	49,840	221.7	49,840
	ISO 6015	kN	lb	265.4	59,665	242.7	54,560	242.7	54,560	242.7	54,560
Tearout force - dipper arm (Normal/Power boost)	SAE J1179	kN	lb	187.7	42,195	195.9	44,040	161.9	36,395	141.3	31,765
	SAE J1179	kN	lb	205.7	46,245	212.9	47,860	176.9	39,770	154.3	34,690
	ISO 6015	kN	lb	193.9	43,590	201.1	45,210	166.0	37,320	144.4	32,460
	ISO 6015	kN	lb	211.9	47,635	219.1	49,255	181.0	40,690	157.4	35,385

WORK RANGES

Description		Unit		EC380E									
Boom		m (ft in)		6.2 (20'4")		6.45 (21'2")						8.5 (27'11")	
Arm		m	ft in	2.6	8'6"	2.6	8'6"	3.2	10'6"	3.9	12'10"	5.0	16'5"
A. Max. digging reach		mm	ft in	10 450	34'3"	10 695	35'1"	11 220	36'10"	11 855	38'11"	14 750	48'5"
B. Max. digging reach on ground		mm	ft in	10 225	33'7"	10 480	34'5"	11 010	36'1"	11 665	38'3"	14 595	47'11"
C. Max. digging depth		mm	ft in	6 755	22'2"	6 990	22'11"	7 590	24'11"	8 290	27'2"	10 980	36'0"
D. Max. digging depth (2.44 m/8' level)		mm	ft in	6 575	21'7"	6 805	22'4"	7 425	24'4"	8 145	26'9"	10 860	35'8"
E. Max. vertical wall digging depth		mm	ft in	4 860	15'11"	5 000	16'5"	5 510	18'1"	6 110	20'1"	10 075	33'1"
F. Max. cutting height		mm	ft in	10 055	33'0"	10 195	33'5"	10 370	34'0"	10 640	34'11"	12 610	41'4"
G. Max. dumping height		mm	ft in	6 800	22'4"	6 950	22'10"	7 140	23'5"	7 415	24'4"	9 605	31'6"
H. Min. front slew radius		mm	ft in	4 090	13'5"	4 290	14'1"	4 275	14'0"	4 305	14'1"	5 730	18'10"
DIGGING FORCES WITH DIRECT FIT BUCKET													
Breakout force - bucket (Normal/Power boost)	SAE J1179	kN	lb	214.5	48,220	198.0	44,510	198.0	44,510	198.0	44,510	148.3	33,339
	SAE J1179	kN	lb	234.5	52,720	215.0	48,335	215.0	48,335	215.0	48,335	148.3	33,339
	ISO 6015	kN	lb	243.4	54,720	221.7	49,840	221.7	49,840	221.7	49,840	166.4	37,408
	ISO 6015	kN	lb	265.4	59,665	242.7	54,560	242.7	54,560	242.7	54,560	166.4	37,408
Tearout force - dipper arm (Normal/Power boost)	SAE J1179	kN	lb	187.7	42,195	195.9	44,040	161.9	36,395	141.3	31,765	120.0	26,977
	SAE J1179	kN	lb	205.7	46,245	212.9	47,860	176.9	39,770	154.3	34,690	130.9	29,427
	ISO 6015	kN	lb	193.9	43,590	201.1	45,210	166.0	37,320	144.4	32,460	122.0	27,427
	ISO 6015	kN	lb	211.9	47,635	219.1	49,255	181.0	40,690	157.4	35,385	133.1	29,922

Specifications

BUCKET SELECTION GUIDE

Bucket type		Capacity			Cutting width		Weight		Teeth	EC350EL 800mm(24") shoe, 6 700kg(14,770lb) counterweight			
										6.2m(20'4") Boom	6.45m(21'2") Boom		
		L	m3	yd3	mm	ft/in	kg	lb	EA	2.6 m (8'6")	2.6 m (8'6")	3.2 m (10'6")	3.9 m (12'10")
Direct fit Buckets	General purpose	870	0.87	1.1	750	2'6"	1 274	2,808	3	C	C	C	C
		1 000	1.00	1.3	900	2'11"	1 368	3,017	4	C	C	C	C
		1 180	1.18	1.5	1 050	3'5"	1 460	3,218	4	C	C	C	C
		1 420	1.42	1.9	1 200	3'11"	1 612	3,554	5	C	C	C	C
		1 670	1.67	2.2	1 350	4'5"	1 726	3,807	5	C	C	C	C
		1 920	1.92	2.5	1 500	4'11"	1 866	4,116	5	C	C	C	C
	Heavy duty	870	0.87	1.1	750	2'6"	1 352	2,981	3	D	D	D	D
		1 000	1.00	1.3	900	2'11"	1 440	3,176	4	D	D	D	D
		1 420	1.42	1.9	1 200	3'11"	1 715	3,781	5	D	D	D	D
		1 670	1.67	2.2	1 350	4'5"	1 852	4,084	5	D	D	D	D
		1 920	1.92	2.5	1 500	4'11"	1 985	4,377	5	D	D	D	D

Bucket type		Capacity			Cutting width		Weight		Teeth	EC380EL 800mm(24") shoe, 7 250kg(15,980lb) counterweight			
										6.2m(20'4") Boom	6.45m(21'2") Boom		
		L	m3	yd3	mm	ft/in	kg	lb	EA	2.6 m (8'6")	2.6 m (8'6")	3.2 m (10'6")	3.9 m (12'10")
Direct fit Buckets	General purpose	870	0.87	1.1	750	2'6"	1 274	2,808	3	C	C	C	C
		1 000	1.00	1.3	900	2'11"	1 368	3,017	4	C	C	C	C
		1 180	1.18	1.5	1 050	3'5"	1 460	3,218	4	C	C	C	C
		1 420	1.42	1.9	1 200	3'11"	1 612	3,554	5	C	C	C	C
		1 670	1.67	2.2	1 350	4'5"	1 726	3,807	5	C	C	C	C
		1 920	1.92	2.5	1 500	5'	1 866	4,116	5	C	C	C	C
		2 330	2.33	3.0	1 750	5'9"	1 967	4,337	5	C	C	C	C
	Heavy duty	870	0.87	1.1	750	2'6"	1 352	2,981	3	D	D	D	D
		1 000	1.00	1.3	900	2'11"	1 440	3,176	4	D	D	D	D
		1 420	1.42	1.9	1 200	3'11"	1 715	3,781	5	D	D	D	D
		1 670	1.67	2.2	1 350	4'5"	1 852	4,084	5	D	D	D	D
		1 920	1.92	2.5	1 500	4'11"	1 985	4,377	5	D	D	D	D
		2 330	2.33	3.0	1 750	5'9"	2 175	4,796	5	D	D	D	B
Direct fit Buckets (UQC interface)	General purpose	870	0.87	1.1	750	2'6"	1 274	2,808	3	C	C	C	C
		1 000	1.00	1.3	900	2'11"	1 368	3,017	4	C	C	C	C
		1 180	1.18	1.5	1 050	3'5"	1 460	3,218	4	C	C	C	C
		1 420	1.42	1.9	1 200	3'11"	1 612	3,554	5	C	C	C	C
		1 670	1.67	2.2	1 350	4'5"	1 726	3,807	5	C	C	C	C
		1 920	1.92	2.5	1 500	4'11"	1 866	4,116	5	C	C	C	C
		2 330	2.33	3.0	1 750	5'9"	1 967	4,337	5	C	B	A	X
	Heavy duty	870	0.87	1.1	750	2'6"	1 352	2,981	3	D	D	D	D
		1 000	1.00	1.3	900	2'11"	1 440	3,176	4	D	D	D	D
		1 420	1.42	1.9	1 200	3'11"	1 715	3,781	5	D	D	D	D
		1 670	1.67	2.2	1 350	4'5"	1 852	4,084	5	D	D	D	D
		1 920	1.92	2.5	1 500	4'11"	1 985	4,377	5	D	D	D	C
		2 330	2.33	3.0	1 750	5'9"	2 175	4,796	5	D	D	B	B
Quick coupler Buckets (S3 Quick coupler)	General purpose	1 000	1.00	1.3	900	2'11"	1 321	2,913	4	C	C	C	C
		1 180	1.18	1.5	1 050	3'5"	1 412	3,114	4	C	C	C	C
		1 420	1.42	1.9	1 200	3'11"	1 564	3,449	5	C	C	C	C
		1 670	1.67	2.2	1 350	4'5"	1 679	3,702	5	C	C	C	C
		1 920	1.92	2.5	1 500	4'11"	1 802	3,974	5	C	C	C	C
	Heavy duty	1 000	1.00	1.3	900	2'11"	1 393	3,072	4	D	D	D	D
		1 420	1.42	1.9	1 200	3'11"	1 648	3,634	5	D	D	D	D
		1 670	1.67	2.2	1 350	4'5"	1 791	3,950	5	D	D	D	D
		1 920	1.92	2.5	1 500	4'11"	1 921	4,235	5	D	D	D	D
		2 330	2.33	3.0	1 750	5'9"	2 119	4,673	5	D	D	C	B
Quick coupler Buckets (UQC36 Quick coupler)	Heavy duty	830	0.83	1.1	750	2'6"	1 104	2,434	3	D	D	D	D
		1 000	1.00	1.3	900	2'11"	1 202	2,650	3	D	D	D	D
		1 240	1.24	1.6	1 100	3'7"	1 370	3,021	4	D	D	D	D
		1 450	1.45	1.9	1 200	3'11"	1 435	3,164	4	D	D	D	D
		1 670	1.67	2.2	1 350	4'5"	1 570	3,462	5	D	D	D	D
		1 910	1.91	2.5	1 500	4'11"	1 725	3,804	5	D	D	D	D

Bucket type		Capacity			Cutting width		Weight		Teeth	EC380ELR 800mm(32") shoe,8 200kg(18 080lb) counterweight 8.5m(27'11") Boom 5.0m(16'5") Arm
		L	m3	yd3	mm	ft/in	kg	lb	EA	
Direct fit Buckets	General purpose	1 400	1.40	1.8	1 495	4'11"	1 096	2,417	6	B
	Fixed Ditching	950	0.95	1.2	1 500	4'11"	796	1,756	-	B

Please consult with your Volvo dealer for the proper match of buckets and attachments to suit the application.
The recommendations are given as a guide only, based on typical operation conditions,
Bucket capacity based on ISO 7451, heaped material with a 1:1 angle of repose.
X : Not recommended

Maximum materal density

	kg/m3	lb/yd3	
A	1 200 ~ 1 300	2,000 ~ 2,200	Coal, Caliche, Shale
B	1 400 ~ 1 600	2,300 ~ 2,700	Wet earth and clay, Limestone, Sandstone
C	1 700 ~ 1 800	2,800 ~ 3,100	Granite, Wet sand, Well blasted rock
D	1 900	> 3,200	Wet mud, Iron ore

GROUND PRESSURE

EC350EL

Description	Shoe width		Operating weight		Ground pressure		Operating weight		Ground pressure	
	mm	in	kg	lb	kPa	psi	kg	lb	kPa	psi
Triple grouser	600	24	37 150	81,920	67.8	9.8	36 260	79,950	66.1	9.6
	700	28	37 780	83,300	59.1	8.6	36 890	81,340	57.7	8.4
	800	32	38 160	84,140	52.2	7.6	37 270	82,180	51.0	7.4
	900	36	38 660	85,250	47.0	6.8	37 770	83,280	45.9	6.7
Triple grouser(HD)	600	24	37 870	83,500	69.1	10.0	36 980	81,540	67.4	9.8
			EC350E with LC undercarriage, 6.2m/20'4" ME boom, 2.6m/8'6" ME arm, 1 574kg/3,470lb bucket, 6 700kg/14,770lb counterweight				**EC350E with LC undercarriage, 6.45m/21'2" boom, 3.2m/10'6" arm, 1 574kg/3,470lb bucket, 6 200kg/13,670lb counterweight**			

EC350EL

Description	Shoe width		Operating weight		Ground pressure		Operating weight		Ground pressure	
	mm	in	kg	lb	kPa	psi	kg	lb	kPa	psi
Triple grouser	600	24	36 760	81,060	67.0	9.7	36 950	81,470	67.4	9.8
	700	28	37 390	82,440	58.5	8.5	37 580	82,860	58.7	8.5
	800	32	37 770	83,280	51.7	7.5	37 960	83,700	51.9	7.5
	900	36	38 270	84,390	46.5	6.7	38 460	84,800	46.8	6.8
Triple grouser(HD)	600	24	37 480	82,640	68.4	9.9	37 670	83,060	68.7	10.0
			EC350E with LC undercarriage, 6.45m/21'2" boom, 3.2m/10'6" arm, 1 574kg/3,470lb bucket, 6 700kg/14,770lb counterweight				**EC350E with LC undercarriage, 6.45m/21'2" boom, 3.9m/12'10" arm, 1 574kg/3,470lb bucket, 6 700kg/14,770lb counterweight**			

EC380EL

Description	Shoe width		Operating weight		Ground pressure		Operating weight		Ground pressure	
	mm	in	kg	lb	kPa	psi	kg	lb	kPa	psi
Triple grouser	600	24	38 356	84,570	70.0	10.1	38 856	85,680	70.9	10.3
	700	28	38 798	85,550	60.7	8.8	39 298	86,650	61.4	8.9
	800	32	39 248	86,540	53.7	7.8	39 748	87,640	54.4	7.9
	900	36	39 692	87,520	48.3	7.0	40 192	88,620	48.9	7.1
Triple grouser(HD)	600	24	38 783	85,520	70.7	10.3	39 283	86,620	71.6	10.4
Double grouser	600	24	38 633	85,190	70.5	10.2	39 133	86,290	71.4	10.3
			EC380E with LC undercarriage, 6.45m/21'2" boom, 3.2m/10'6" arm, 1 574kg/3,470lb bucket, 6 200kg/13,670lb counterweight				**EC380E with LC undercarriage, 6.45m/21'2" boom, 3.2m/10'6" arm, 1 574kg/3,470lb bucket, 6 700kg/14,770lb counterweight**			

EC380EL							**EC380ELR**			
Description	**Shoe width**		**Operating weight**		**Ground pressure**		**Operating weight**		**Ground pressure**	
	mm	in	kg	lb	kPa	psi	kg	lb	kPa	psi
Triple grouser	600	24	39 406	86,890	71.9	10.4	40 732	89,810	74.3	10.8
	700	28	39 833	87,830	72.7	10.5	41 159	90,760	75.1	10.9
	800	32	39 848	87,860	62.3	9.0	41 174	90,790	64.4	9.3
	900	36	40 298	88,860	55.1	8.0	41 624	91,780	56.9	8.3
Triple grouser(HD)	600	24	40 742	89,840	49.5	7.2	42 068	92,760	51.2	7.4
Double grouser	600	24	39 683	87,500	72.4	10.5	41 009	90,420	74.8	10.8
			EC380E with LC undercarriage, 6.45m/21'2" boom, 3.2m/10'6" arm, 1 574kg/3,470lb bucket, 7 250kg/15,980lb counterweight				**EC380ELR with LC undercarriage, 8.5m/27'11" boom, 5.0m/16'5" arm, 1 096kg/2,415lb bucket, 8 200kg/18,080lb counterweight**			

Specifications

LIFTING CAPACITY EC350E

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	7.5 m kg							*10 700	*10 700					*10 880	9 580	6.7 m
	25 ft lb							*23,670	*23,670					*24,040	21,670	21.7 ft
	6 m kg							*11 230	*11 230	*10 740	7 890			*10 770	7 570	7.7 m
	20 ft lb							*24,500	*24,500	*23,740	16,930			*23,750	16,890	25.0 ft
	4.5 m kg					*15 870	*15 870	*12 680	10 920	*11 200	7 730			9 550	6 580	8.3 m
	15 ft lb					*34,100	*34,100	*27,490	23,550	24,150	16,640			21,170	14,590	27.1 ft
	3 m kg					*19 790	15 770	*14 480	10 360	10 940	7 470			8 900	6 100	8.6 m
	10 ft lb					*42,540	34,050	*31,340	22,370	23,570	16,100			19,650	13,470	28.1 ft
	1.5 m kg					*22 290	14 950	15 010	9 900	10 680	7 230			8 730	5 960	8.6 m
	5 ft lb					*48,160	32,220	32,310	21,370	23,010	15,590			19,260	13,140	28.2 ft
	0 m kg					*22 820	14 680	14 720	9 640	10 510	7 080			9 040	6 140	8.3 m
	0 ft lb					*49,500	31,590	31,660	20,790	22,660	15,270			19,940	13,530	27.3 ft
	-1.5 m kg			*17 820	*17 820	*22 000	14 700	14 650	9 580	10 500	7 060			9 970	6 740	7.8 m
	-5 ft lb			*40,560	*40,560	*47,770	31,620	31,510	20,660	22,650	15,270			22,030	14,890	25.5 ft
	-3 m kg			*26 470	*26 470	*19 840	14 930	14 810	9 730					12 110	8 110	6.9 m
	-10 ft lb			*57,500	*57,500	*42,950	32,140	31,890	21,000					26,930	18,040	22.4 ft
	-4.5 m kg					*15 280	*15 280							*12 270	11 800	5.4 m
	-15 ft lb					*32,470	*32,470							*26,940	26,740	17.4 ft
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	7.5 m kg							*10 330	*10 330					*10 490	8 920	7.0 m
	25 ft lb							*22,780	*22,780					*23,170	20,130	22.7 ft
	6 m kg							*11 090	*11 090	*10 430	7 950			10 350	7 190	8.0 m
	20 ft lb							*24,150	*24,150	*22,950	17,080			*23,020	16,020	25.9 ft
	4.5 m kg					*16 200	*16 200	*12 670	10 880	*11 060	7 750			9 120	6 310	8.5 m
	15 ft lb					*34,740	*34,740	*27,440	23,480	*24,110	16,700			20,200	13,990	27.9 ft
	3 m kg							*14 550	10 330	10 940	7 490			8 540	5 880	8.8 m
	10 ft lb							*31,460	22,310	23,570	16,150			18,850	12,980	28.9 ft
	1.5 m kg							14 970	9 900	10 680	7 250			8 390	5 750	8.8 m
	5 ft lb							32,230	21,360	23,010	15,650			18,500	12,680	29.0 ft
	0 m kg					*21 890	14 710	14 700	9 660	10 520	7 100			8 670	5 910	8.6 m
	0 ft lb					*49,710	31,650	31,630	20,840	22,660	15,330			19,110	13,040	28.2 ft
	-1.5 m kg			*14 940	*14 940	*22 090	14 750	14 640	9 610	10 490	7 080			9 490	6 450	8.1 m
	-5 ft lb			*34,100	*34,100	*47,970	31,730	31,500	20,720	22,620	15,290			20,970	14,250	26.4 ft
	-3 m kg			*26 570	*26 570	*20 130	14 970	14 780	9 730					11 330	7 650	7.2 m
	-10 ft lb			*57,790	*57,790	*43,610	32,210	31,820	21,010					25,180	17,000	23.4 ft
	-4.5 m kg			*21 150	*21 150	*16 220	15 430							*12 240	10 650	5.8 m
	-15 ft lb			*45,470	*45,470	*34,700	33,250							*26,920	24,030	18.7 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	7.5 m kg									*9 400	8 200			*8 190	7 880	7.7 m
	25 ft lb									*20,720	18,080			*18,140	17,710	24.9 ft
	6 m kg									*9 630	8 130			*7 980	6 540	8.5 m
	20 ft lb									*21,140	17,490			*17,610	14,560	27.9 ft
	4.5 m kg					*14 530	*14 530	*11 770	11 130	*10 410	7 910	8 490	5 900	*8 060	5 820	9.1 m
	15 ft lb					*31,220	*31,220	*25,510	24,010	*22,710	17,040	18,720	13,010	*17,750	12,900	29.7 ft
	3 m kg					*18 730	16 150	*13 790	10 570	11 080	7 620	8 360	5 780	7 890	5 460	9.3 m
	10 ft lb					*40,250	34,860	*29,830	22,810	23,870	16,440	17,990	12,450	17,420	12,050	30.6 ft
	1.5 m kg					*21 810	15 240	15 180	10 080	10 790	7 360	8 220	5 650	7 760	5 340	9.4 m
	5 ft lb					*47,070	32,850	32,660	21,760	23,250	15,870	17,710	12,180	17,110	11,780	30.7 ft
	0 m kg					*22 980	14 860	14 830	9 770	10 580	7 170	8 120	5 560	7 970	5 460	9.1 m
	0 ft lb					*49,790	31,970	31,900	21,080	22,800	15,460	17,900	12,260	17,570	12,040	29.9 ft
	-1.5 m kg	*10 640	*10 640	*15 150	*15 150	*22 740	14 790	14 690	9 650	10 490	7 080			8 600	5 870	8.6 m
	-5 ft lb	*23,470	*23,470	*34,280	*34,280	*49,330	31,810	31,590	20,810	22,610	15,290			19,000	12,980	28.3 ft
	-3 m kg	*17 630	*17 630	*23 890	*23 890	*21 310	14 920	14 740	9 700	10 560	7 140			9 970	6 780	7.8 m
	-10 ft lb	*39,510	*39,510	*54,150	*54,150	*46,180	32,090	31,710	20,920	22,780	15,450			22,120	15,030	25.5 ft
	-4.5 m kg			*24 740	*24 740	*18 290	15 250	*13 720	9 940					*12 050	8 800	6.6 m
	-15 ft lb			*53,320	*53,320	*39,340	32,850	*29,220	21,500					*26,590	19,760	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	9 m kg													*6 930	*6 930	7.3 m
	30 ft lb													*15,430	*15,430	23.3 ft
	7.5 m kg									*8 240	*8 240			*6 480	*6 480	8.4 m
	25 ft lb									*18,250	17,990			*14,330	*14,330	27.4 ft
	6 m kg									*8 610	8 250	*7 710	6 060	*6 330	5 780	9.2 m
	20 ft lb									*18,870	17,760	*14,690	12,990	*13,960	12,860	30.2 ft
	4.5 m kg							*10 490	*10 490	*9 490	7 990	8 560	5 960	*6 380	5 210	9.7 m
	15 ft lb							*22,750	*22,750	*20,690	17,220	18,400	12,810	*14,060	11,530	31.9 ft
	3 m kg					*16 610	16 570	*12 610	10 710	*10 640	7 670	8 380	5 790	*6 630	4 900	10.0 m
	10 ft lb					*35,710	*35,710	*27,280	23,110	*23,140	16,530	18,040	12,470	*14,570	10,810	32.7 ft
	1.5 m kg					*20 290	15 420	*14 630	10 140	10 800	7 350	8 200	5 620	6 980	4 790	10.0 m
	5 ft lb					*43,770	33,240	*31,670	21,870	23,260	15,850	17,650	12,110	15,400	10,560	32.8 ft
	0 m kg			*9 360	*9 360	*22 310	14 800	14 800	9 730	10 530	7 100	8 050	5 480	7 130	4 860	9.8 m
	0 ft lb			*21,280	*21,280	*48,290	31,850	31,820	20,980	22,680	15,320	17,340	11,820	15,720	10,730	32.1 ft
	-1.5 m kg	*9 550	*9 550	*14 260	*14 260	*22 790	14 570	14 560	9 520	10 370	6 960	7 980	5 420	7 600	5 170	9.3 m
	-5 ft lb	*21,320	*21,320	*32,220	*32,220	*49,410	31,350	31,300	20,520	22,350	15,020	17,210	11,700	16,780	11,420	30.6 ft
	-3 m kg	*14 870	*14 870	*20 600	*20 600	*22 020	14 600	14 520	9 490	10 360	6 950			8 580	5 820	8.6 m
	-10 ft lb	*33,290	*33,290	*46,610	*46,610	*47,720	31,420	31,230	20,460	22,330	15,000			19,020	12,910	28.0 ft
	-4.5 m kg	*21 230	*21 230	*27 870	*27 870	*19 860	14 850	14 690	9 640					10 630	7 170	7.5 m
	-15 ft lb	*47,770	*47,770	*60,150	*60,150	*42,830	31,970	31,630	20,810					23,770	16,030	24.3 ft
	-6 m kg			*21 090	*21 090	*15 340	*15 340							*11 490	10 710	5.7 m
	-20 ft lb			*44,720	*44,720	*32,370	*32,370							*25,300	24,550	18.4 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY EC350E

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m	kg							*10 700	*10 700					*10 880	9 910	6.7 m
	25 ft	lb							*23,670	*23,670					*24,040	22,410	21.7 ft
	6 m	kg							*11 230	*11 230	*10 740	8 180			*10 770	7 850	7.7 m
	20 ft	lb							*24,500	*24,500	*23,740	17,540			*23,750	17,500	25.0 ft
	4.5 m	kg					*15 870	*15 870	*12 680	11 300	*11 200	8 010			9 860	6 830	8.3 m
	15 ft	lb					*34,100	*34,100	*27,490	24,370	*24,470	17,250			21,840	15,140	27.1 ft
	3 m	kg					*19 790	16 330	*14 480	10 740	11 290	7 750			9 190	6 340	8.6 m
	10 ft	lb					*42,540	35,260	*31,340	23,180	24,320	16,710			20,290	14,000	28.1 ft
	1.5 m	kg					*22 290	15 510	15 490	10 280	11 030	7 510			9 020	6 200	8.6 m
	5 ft	lb					*48,160	33,430	33,340	22,180	23,760	16,210			19,900	13,660	28.2 ft
	0 m	kg					*22 820	15 240	15 190	10 020	10 860	7 360			9 340	6 380	8.3 m
	0 ft	lb					*49,500	32,800	32,690	21,610	23,400	15,880			20,600	14,080	27.3 ft
	-1.5 m	kg			*17 820	*17 820	*22 000	15 260	15 120	9 960	10 850	7 350			10 300	7 010	7.8 m
	-5 ft	lb			*40,560	*40,560	*47,770	32,830	32,540	21,470	23,400	15,880			22,760	15,480	25.5 ft
	-3 m	kg			*26 470	*26 470	*19 840	15 500	*15 040	10 100					12 500	8 430	6.9 m
	-10 ft	lb			*57,500	*57,500	*42,950	33,350	*32,380	21,810					*27,640	18,740	22.4 ft
	-4.5 m	kg					*15 280	*15 280							*12 270	12 240	5.4 m
	-15 ft	lb					*32,470	*32,470							*26,940	*26,940	17.4 ft
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m	kg							*10 330	*10 330					*10 490	9 230	7.0 m
	25 ft	lb							*22,780	*22,780					*23,170	20,820	22.7 ft
	6 m	kg							*11 090	*11 090	*10 430	8 230			*10 440	7 450	8.0 m
	20 ft	lb							*24,150	*24,150	*22,950	17,690			*23,020	16,610	25.9 ft
	4.5 m	kg					*16 200	*16 200	*12 670	11 260	*11 060	8 030			9 410	6 550	8.5 m
	15 ft	lb					*34,740	*34,740	*27,440	24,290	*24,110	17,310			20,850	14,520	27.9 ft
	3 m	kg							*14 550	10 710	11 290	7 770			8 820	6 110	8.8 m
	10 ft	lb							*31,460	23,120	24,310	16,760			19,460	13,490	28.9 ft
	1.5 m	kg							15 450	10 270	11 030	7 530			8 670	5 980	8.8 m
	5 ft	lb							33,250	22,180	23,760	16,260			19,120	13,190	29.0 ft
	0 m	kg					*21 890	15 270	15 180	10 040	10 860	7 390			8 960	6 150	8.6 m
	0 ft	lb					*49,710	32,860	32,660	21,650	23,410	15,940			19,750	13,570	28.2 ft
	-1.5 m	kg			*14 940	*14 940	*22 090	15 320	15 120	9 980	10 830	7 360			9 810	6 710	8.1 m
	-5 ft	lb			*34,100	*34,100	*47,970	32,940	32,530	21,530	23,360	15,900			21,670	14,830	26.4 ft
	-3 m	kg			*26 570	*26 570	*20 130	15 530	15 260	10 110					11 700	7 950	7.2 m
	-10 ft	lb			*57,790	*57,790	*43,610	33,420	32,850	21,820					26,000	17,660	23.4 ft
	-4.5 m	kg			*21 150	*21 150	*16 220	15 990							*12 240	11 040	5.8 m
	-15 ft	lb			*45,470	*45,470	*34,700	34,460							*26,920	24,920	18.7 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m	kg									*9 400	8 480			*8 190	8 150	7.7 m
	25 ft	lb									*20,720	18,690			*18,140	*18,140	24.9 ft
	6 m	kg									*9 630	8 410			*7 980	6 780	8.5 m
	20 ft	lb									*21,140	18,100			*17,610	15,100	27.9 ft
	4.5 m	kg					*14 530	*14 530	*11 770	11 510	*10 410	8 190	8 760	6 130	*8 060	6 050	9.1 m
	15 ft	lb					*31,220	*31,220	*25,510	24,830	*22,710	17,650	19,310	13,510	*17,750	13,400	29.7 ft
	3 m	kg					*18 730	16 710	*13 790	10 950	11 430	7 900	8 630	6 010	8 150	5 670	9.3 m
	10 ft	lb					*40,250	36,070	*29,830	23,620	24,620	17,050	18,580	12,940	18,000	12,530	30.6 ft
	1.5 m	kg					*21 810	15 800	*15 580	10 460	11 140	7 640	8 490	5 880	8 020	5 550	9.4 m
	5 ft	lb					*47,070	34,060	33,690	22,570	23,990	16,480	18,300	12,670	17,680	12,250	30.7 ft
	0 m	kg					*22 980	15 420	15 300	10 150	10 930	7 450	8 400	5 790	8 230	5 680	9.1 m
	0 ft	lb					*49,790	33,180	32,920	21,890	23,550	16,070	18,520	12,760	18,160	12,530	29.9 ft
	-1.5 m	kg	*10 640	*10 640	*15 150	*15 150	*22 740	15 350	15 170	10 030	10 840	7 370			8 890	6 110	8.6 m
	-5 ft	lb	*23,470	*23,470	*34,280	*34,280	*49,330	33,020	32,620	21,620	23,360	15,900			19,640	13,500	28.3 ft
	-3 m	kg	*17 630	*17 630	*23 890	*23 890	*21 310	15 480	15 220	10 070	10 900	7 430			10 300	7 040	7.8 m
	-10 ft	lb	*39,510	*39,510	*54,150	*54,150	*46,180	33,300	32,740	21,730	23,530	16,060			22,850	15,630	25.5 ft
	-4.5 m	kg			*24 740	*24 740	*18 290	15 820	*13 720	10 320					*12 050	9 140	6.6 m
	-15 ft	lb			*53,320	*53,320	*39,340	34,060	*29,220	22,310					*26,590	20,510	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	9 m	kg													*6 930	*6 930	7.3 m
	30 ft	lb													*15,430	*15,430	23.3 ft
	7.5 m	kg									*8 240	*8 240			*6 480	*6 480	8.4 m
	25 ft	lb									*18,250	*18,250			*14,330	*14,330	27.4 ft
	6 m	kg									*8 610	8 530	*7 710	6 290	*6 330	6 000	9.2 m
	20 ft	lb									*18,870	18,370	*14,690	13,480	*13,960	13,350	30.2 ft
	4.5 m	kg							*10 490	*10 490	*9 490	8 280	8 830	6 180	*6 380	5 410	9.7 m
	15 ft	lb							*22,750	*22,750	*20,690	17,830	18,990	13,300	*14,060	11,980	31.9 ft
	3 m	kg					*16 610	*16 610	*12 610	11 090	*10 640	7 950	8 650	6 020	*6 630	5 100	10.0 m
	10 ft	lb					*35,710	*35,710	*27,280	23,930	*23,140	17,150	18,630	12,960	*14,570	11,250	32.7 ft
	1.5 m	kg					*20 290	15 990	*14 630	10 510	11 150	7 630	8 470	5 850	*7 060	4 990	10.0 m
	5 ft	lb					*43,770	34,450	*31,670	22,680	24,010	16,470	18,240	12,600	*15,550	11,000	32.8 ft
	0 m	kg			*9 360	*9 360	*22 310	15 360	15 270	10 110	10 880	7 390	8 320	5 710	7 370	5 070	9.8 m
	0 ft	lb			*21,280	*21,280	*48,290	33,060	32,850	21,790	23,430	15,930	17,930	12,310	16,260	11,180	32.1 ft
	-1.5 m	kg	*9 550	*9 550	*14 260	*14 260	*22 790	15 130	15 030	9 890	10 720	7 250	8 250	5 650	7 860	5 390	9.3 m
	-5 ft	lb	*21,320	*21,320	*32,220	*32,220	*49,410	32,560	32,330	21,330	23,100	15,630	17,800	12,190	17,360	11,900	30.6 ft
	-3 m	kg	*14 870	*14 870	*20 600	*20 600	*22 020	15 170	15 000	9 860	10 710	7 230			8 870	6 060	8.6 m
	-10 ft	lb	*33,290	*33,290	*46,610	*46,610	*47,720	32,630	32,260	21,270	23,080	15,610			19,660	13,440	28.0 ft
	-4.5 m	kg	*21 230	*21 230	*27 870	*27 870	*19 860	15 410	*14 970	10 010					10 980	7 460	7.5 m
	-15 ft	lb	*47,770	*47,770	*60,150	*60,150	*42,830	33,180	*32,180	21,620					24,550	16,670	24.3 ft
	-6 m	kg			*21 090	*21 090	*15 340	*15 340							*11 490	11 110	5.7 m
	-20 ft	lb			*44,720	*44,720	*32,370	*32,370							*25,300	*25,300	18.4 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Specifications

LIFTING CAPACITY EC350E

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 200kg (13,670lb)	7.5 m kg							*10 700	*10 700					*10 880	9 670	6.7 m
	25 ft lb							*23,670	*23,670					*24,040	21,860	21.7 ft
	6 m kg							*11 230	*11 230	*10 740	7 970			*10 770	7 640	7.7 m
	20 ft lb							*24,500	*24,500	*23,740	17,090			*23,750	17,050	25.0 ft
	4.5 m kg					*15 870	*15 870	*12 680	11 020	*11 200	7 800			9 650	6 650	8.3 m
	15 ft lb					*34,100	*34,100	*27,490	23,760	24,390	16,800			21,380	14,730	27.1 ft
	3 m kg					*19 790	15 920	*14 480	10 460	11 050	7 540			8 990	6 160	8.6 m
	10 ft lb					*42,540	34,360	*31,340	22,580	23,800	16,260			19,850	13,610	28.1 ft
	1.5 m kg					*22 290	15 100	15 170	10 000	10 790	7 300			8 830	6 020	8.6 m
	5 ft lb					*48,160	32,540	32,640	21,580	23,250	15,750			19,460	13,270	28.2 ft
	0 m kg					*22 820	14 830	14 870	9 740	10 620	7 150			9 140	6 200	8.3 m
	0 ft lb					*49,500	31,900	31,980	21,000	22,890	15,430			20,150	13,670	27.3 ft
	-1.5 m kg			*17 820	*17 820	*22 000	14 850	14 800	9 680	10 610	7 140			10 080	6 810	7.8 m
	-5 ft lb			*40,560	*40,560	*47,770	31,940	31,830	20,870	22,890	15,430			22,270	15,040	25.5 ft
	-3 m kg			*26 470	*26 470	*19 840	15 080	14 960	9 820					12 230	8 200	6.9 m
	-10 ft lb			*57,500	*57,500	*42,950	32,450	32,210	21,210					27,210	18,220	22.4 ft
	-4.5 m kg					*15 280	*15 280							*12 270	11 910	5.4 m
	-15 ft lb					*32,470	*32,470							*26,940	*26,940	17.4 ft
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 200kg (13,670lb)	7.5 m kg							*10 330	*10 330					*10 490	9 000	7.0 m
	25 ft lb							*22,780	*22,780					*23,170	20,310	22.7 ft
	6 m kg							*11 090	*11 090	*10 430	8 020			*10 440	7 260	8.0 m
	20 ft lb							*24,150	*24,150	*22,950	17,240			*23,020	16,170	25.9 ft
	4.5 m kg					*16 200	*16 200	*12 670	10 980	*11 060	7 830			9 210	6 370	8.5 m
	15 ft lb					*34,740	*34,740	*27,440	23,690	*24,110	16,860			20,410	14,120	27.9 ft
	3 m kg							*14 550	10 430	11 050	7 560			8 620	5 940	8.8 m
	10 ft lb							*31,460	22,520	23,800	16,310			19,040	13,110	28.9 ft
	1.5 m kg							15 120	10 000	10 790	7 330			8 480	5 810	8.8 m
	5 ft lb							32,550	21,570	23,250	15,810			18,700	12,820	29.0 ft
	0 m kg					*21 890	14 850	14 850	9 760	10 630	7 180			8 760	5 980	8.6 m
	0 ft lb					*49,710	31,960	31,960	21,050	22,900	15,490			19,310	13,180	28.2 ft
	-1.5 m kg			*14 940	*14 940	*22 090	14 900	14 790	9 710	10 600	7 150			9 590	6 520	8.1 m
	-5 ft lb			*34,100	*34,100	*47,970	32,040	31,820	20,930	22,850	15,450			21,190	14,400	26.4 ft
	-3 m kg			*26 570	*26 570	*20 130	15 120	14 940	9 830					11 450	7 730	7.2 m
	-10 ft lb			*57,790	*57,790	*43,610	32,520	32,150	21,220					25,440	17,170	23.4 ft
	-4.5 m kg			*21 150	*21 150	*16 220	15 570							*12 240	10 750	5.8 m
	-15 ft lb			*45,470	*45,470	*34,700	33,560							*26,920	24,260	18.7 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 900mm (36") CWT : 6 200kg (13,670lb)	7.5 m kg									*9 400	8 270			*8 190	7 950	7.7 m
	25 ft lb									*20,720	18,230			*18,140	17,870	24.9 ft
	6 m kg									*9 630	8 200			*7 980	6 600	8.5 m
	20 ft lb									*21,140	17,650			*17,610	14,700	27.9 ft
	4.5 m kg					*14 530	*14 530	*11 770	11 230	*10 410	7 980	8 580	5 960	*8 060	5 880	9.1 m
	15 ft lb					*31,220	*31,220	*25,510	24,230	*22,710	17,190	18,910	13,140	*17,750	13,030	29.7 ft
	3 m kg					*18 730	16 300	*13 790	10 670	11 190	7 700	8 450	5 840	7 970	5 510	9.3 m
	10 ft lb					*40,250	35,170	*29,830	23,020	24,110	16,600	18,180	12,580	17,600	12,170	30.6 ft
	1.5 m kg					*21 810	15 390	15 330	10 180	10 900	7 430	8 310	5 710	7 840	5 400	9.4 m
	5 ft lb					*47,070	33,160	32,990	21,970	23,480	16,030	17,890	12,310	17,290	11,900	30.7 ft
	0 m kg					*22 980	15 000	14 980	9 870	10 690	7 240	8 210	5 620	8 050	5 520	9.1 m
	0 ft lb					*49,790	32,290	32,220	21,290	23,030	15,620	18,100	12,390	17,760	12,170	29.9 ft
	-1.5 m kg	*10 640	*10 640	*15 150	*15 150	*22 740	14 930	14 840	9 750	10 600	7 160			8 690	5 940	8.6 m
	-5 ft lb	*23,470	*23,470	*34,280	*34,280	*49,330	32,120	31,920	21,020	22,850	15,450			19,210	13,110	28.3 ft
	-3 m kg	*17 630	*17 630	*23 890	*23 890	*21 310	15 060	14 890	9 790	10 670	7 220			10 070	6 850	7.8 m
	-10 ft lb	*39,510	*39,510	*54,150	*54,150	*46,180	32,410	32,040	21,130	23,020	15,600			22,350	15,190	25.5 ft
	-4.5 m kg			*24 740	*24 740	*18 290	15 400	*13 720	10 040					*12 050	8 890	6.6 m
	-15 ft lb			*53,320	*53,320	*39,340	33,170	*29,220	21,710					*26,590	19,950	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 900mm (36") CWT : 6 200kg (13,670lb)	9 m kg													*6 930	*6 930	7.3 m
	30 ft lb													*15,430	*15,430	23.3 ft
	7.5 m kg									*8 240	*8 240			*6 480	*6 480	8.4 m
	25 ft lb									*18,250	18,150			*14,330	*14,330	27.4 ft
	6 m kg									*8 610	8 330	*7 710	6 120	*6 330	5 840	9.2 m
	20 ft lb									*18,870	17,920	*14,690	13,120	*13,960	12,990	30.2 ft
	4.5 m kg							*10 490	*10 490	*9 490	8 070	8 640	6 020	*6 380	5 260	9.7 m
	15 ft lb							*22,750	*22,750	*20,690	17,380	18,590	12,930	*14,060	11,650	31.9 ft
	3 m kg					*16 610	*16 610	*12 610	10 810	*10 640	7 740	8 470	5 850	*6 630	4 950	10.0 m
	10 ft lb					*35,710	*35,710	*27,280	23,320	*23,140	16,690	18,220	12,590	*14,570	10,930	32.7 ft
	1.5 m kg					*20 290	15 570	*14 630	10 240	10 910	7 430	8 280	5 680	7 060	4 840	10.0 m
	5 ft lb					*43,770	33,560	*31,670	22,080	23,500	16,010	17,840	12,230	*15,550	10,670	32.8 ft
	0 m kg			*9 360	*9 360	*22 310	14 940	14 950	9 830	10 640	7 180	8 130	5 540	7 210	4 920	9.8 m
	0 ft lb			*21,280	*21,280	*48,290	32,170	32,150	21,190	22,920	15,480	17,530	11,950	15,890	10,850	32.1 ft
	-1.5 m kg	*9 550	*9 550	*14 260	*14 260	*22 790	14 720	14 710	9 620	10 480	7 040	8 070	5 480	7 680	5 230	9.3 m
	-5 ft lb	*21,320	*21,320	*32,220	*32,220	*49,410	31,660	31,630	20,730	22,580	15,180	17,400	11,830	16,970	11,540	30.6 ft
	-3 m kg	*14 870	*14 870	*20 600	*20 600	*22 020	14 750	14 670	9 580	10 470	7 020			8 670	5 880	8.6 m
	-10 ft lb	*33,290	*33,290	*46,610	*46,610	*47,720	31,730	31,560	20,670	22,570	15,160			19,220	13,040	28.0 ft
	-4.5 m kg	*21 230	*21 230	*27 870	*27 870	*19 860	15 000	14 840	9 730					10 740	7 250	7.5 m
	-15 ft lb	*47,770	*47,770	*60,150	*60,150	*42,830	32,290	31,950	21,020					24,020	16,200	24.3 ft
	-6 m kg			*21 090	*21 090	*15 340	*15 340							*11 490	10 810	5.7 m
	-20 ft lb			*44,720	*44,720	*32,370	*32,370							*25,300	24,790	18.4 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY EC350E

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb	7.5 m kg							*10 700	*10 700					*10 880	9 990	6.7 m
	25 ft lb							*23,670	*23,670					*24,040	22,600	21.7 ft
	6 m kg							*11 230	*11 230	*10 740	8 250			*10 770	7 920	7.7 m
	20 ft lb							*24,500	*24,500	*23,740	17,700			*23,750	17,660	25.0 ft
	4.5 m kg					*15 870	*15 870	*12 680	11 390	*11 200	8 080			9 950	6 900	8.3 m
	15 ft lb					*34,100	*34,100	*27,490	24,580	*24,470	17,410			22,050	15,290	27.1 ft
	3 m kg					*19 790	16 480	*14 480	10 840	11 400	7 830			9 280	6 400	8.6 m
	10 ft lb					*42,540	35,570	*31,340	23,390	24,550	16,870			20,490	14,140	28.1 ft
	1.5 m kg					*22 290	15 660	15 640	10 380	11 140	7 590			9 120	6 260	8.6 m
	5 ft lb					*48,160	33,750	33,660	22,390	23,990	16,360			20,100	13,800	28.2 ft
	0 m kg					*22 820	15 390	15 350	10 120	10 970	7 430			9 440	6 450	8.3 m
	0 ft lb					*49,500	33,120	33,010	21,820	23,640	16,040			20,810	14,220	27.3 ft
	-1.5 m kg			*17 820	*17 820	*22 000	15 410	15 280	10 050	10 960	7 420			10 400	7 080	7.8 m
	-5 ft lb			*40,560	*40,560	*47,770	33,150	32,860	21,680	23,640	16,040			22,990	15,640	25.5 ft
	-3 m kg			*26 470	*26 470	*19 840	15 640	*15 040	10 200					*12 530	8 510	6.9 m
	-10 ft lb			*57,500	*57,500	*42,950	33,660	*32,380	22,020					*27,640	18,920	22.4 ft
	-4.5 m kg					*15 280	*15 280							*12 270	*12 270	5.4 m
	-15 ft lb					*32,470	*32,470							*26,940	*26,940	17.4 ft
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb	7.5 m kg							*10 330	*10 330					*10 490	9 310	7.0 m
	25 ft lb							*22,780	*22,780					*23,170	21,000	22.7 ft
	6 m kg							*11 090	*11 090	*10 430	8 300			*10 440	7 520	8.0 m
	20 ft lb							*24,150	*24,150	*22,950	17,850			*23,020	16,760	25.9 ft
	4.5 m kg					*16 200	*16 200	*12 670	11 360	*11 060	8 110			9 510	6 620	8.5 m
	15 ft lb					*34,740	*34,740	*27,440	24,510	*24,110	17,470			21,050	14,660	27.9 ft
	3 m kg							*14 550	10 810	11 400	7 840			8 900	6 170	8.8 m
	10 ft lb							*31,460	23,330	24,550	16,920			19,660	13,630	28.9 ft
	1.5 m kg							15 600	10 370	11 140	7 610			8 760	6 040	8.8 m
	5 ft lb							33,580	22,390	24,000	16,420			19,310	13,330	29.0 ft
	0 m kg					*21 890	15 420	15 330	10 130	10 970	7 460			9 050	6 220	8.6 m
	0 ft lb					*49,710	33,170	32,980	21,860	23,650	16,100			19,950	13,710	28.2 ft
	-1.5 m kg			*14 940	*14 940	*22 090	15 460	15 270	10 080	10 940	7 430			9 910	6 780	8.1 m
	-5 ft lb			*34,100	*34,100	*47,970	33,260	32,850	21,740	23,600	16,060			21,890	14,970	26.4 ft
	-3 m kg			*26 570	*26 570	*20 130	15 680	15 410	10 210					11 820	8 030	7.2 m
	-10 ft lb			*57,790	*57,790	*43,610	33,740	33,180	22,030					26,260	17,830	23.4 ft
	-4.5 m kg			*21 150	*21 150	*16 220	16 140							*12 240	11 140	5.8 m
	-15 ft lb			*45,470	*45,470	*34,700	*34,700							*26,920	25,150	18.7 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb	7.5 m kg									*9 400	8 550			*8 190	*8 190	7.7 m
	25 ft lb									*20,720	18,850			*18,140	*18,140	24.9 ft
	6 m kg									*9 630	8 480			*7 980	6 840	8.5 m
	20 ft lb									*21,140	18,260			*17,610	15,240	27.9 ft
	4.5 m kg					*14 530	*14 530	*11 770	11 610	*10 410	8 260	*8 820	6 190	*8 060	6 110	9.1 m
	15 ft lb					*31,220	*31,220	*25,510	25,040	*22,710	17,800	*19,440	13,650	*17,750	13,530	29.7 ft
	3 m kg					*18 730	16 860	*13 790	11 040	*11 460	7 980	8 720	6 070	8 230	5 730	9.3 m
	10 ft lb					*40,250	36,380	*29,830	23,830	24,860	17,210	18,770	13,070	18,180	12,650	30.6 ft
	1.5 m kg					*21 810	15 950	*15 580	10 560	11 250	7 710	8 580	5 940	8 100	5 610	9.4 m
	5 ft lb					*47,070	34,370	*33,720	22,780	24,230	16,640	18,480	12,800	17,860	12,380	30.7 ft
	0 m kg					*22 980	15 560	15 460	10 250	11 040	7 520	8 480	5 850	8 320	5 740	9.1 m
	0 ft lb					*49,790	33,500	33,250	22,100	23,780	16,230	18,690	12,900	18,350	12,660	29.9 ft
	-1.5 m kg	*10 640	*10 640	*15 150	*15 150	*22 740	15 490	15 320	10 120	10 950	7 440			8 980	6 170	8.6 m
	-5 ft lb	*23,470	*23,470	*34,280	*34,280	*49,330	33,330	32,940	21,830	23,600	16,060			19,840	13,640	28.3 ft
	-3 m kg	*17 630	*17 630	*23 890	*23 890	*21 310	15 630	15 370	10 170	11 010	7 500			10 400	7 110	7.8 m
	-10 ft lb	*39,510	*39,510	*54,150	*54,150	*46,180	33,620	33,060	21,940	23,770	16,220			23,080	15,780	25.5 ft
	-4.5 m kg			*24 740	*24 740	*18 290	15 960	*13 720	10 420					*12 050	9 230	6.6 m
	-15 ft lb			*53,320	*53,320	*39,340	34,380	*29,220	22,520					*26,590	20,700	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 900mm (36") CWT : 6 700kg (14,770lb	9 m kg													*6 930	*6 930	7.3 m
	30 ft lb													*15,430	*15,430	23.3 ft
	7.5 m kg									*8 240	*8 240			*6 480	*6 480	8.4 m
	25 ft lb									*18,250	*18,250			*14,330	*14,330	27.4 ft
	6 m kg									*8 610	*8 610	*7 710	6 350	*6 330	6 060	9.2 m
	20 ft lb									*18,870	18,530	*14,690	13,610	*13,960	13,480	30.2 ft
	4.5 m kg							*10 490	*10 490	*9 490	8 350	8 920	6 240	*6 380	5 470	9.7 m
	15 ft lb							*22,750	*22,750	*20,690	17,990	19,180	13,420	*14,060	12,100	31.9 ft
	3 m kg					*16 610	*16 610	*12 610	11 190	*10 640	8 030	8 740	6 080	*6 630	5 150	10.0 m
	10 ft lb					*35,710	*35,710	*27,280	24,140	*23,140	17,300	18,810	13,080	*14,570	11,370	32.7 ft
	1.5 m kg					*20 290	16 130	*14 630	10 610	11 260	7 710	8 550	5 900	*7 060	5 040	10.0 m
	5 ft lb					*43,770	34,770	*31,670	22,890	24,250	16,620	18,420	12,720	*15,550	11,110	32.8 ft
	0 m kg			*9 360	*9 360	*22 310	15 500	15 420	10 200	10 990	7 460	8 410	5 770	7 450	5 120	9.8 m
	0 ft lb			*21,280	*21,280	*48,290	33,380	33,180	22,000	23,660	16,090	18,120	12,440	16,430	11,300	32.1 ft
	-1.5 m kg	*9 550	*9 550	*14 260	*14 260	*22 790	15 280	15 190	9 990	10 830	7 320	8 340	5 700	7 940	5 440	9.3 m
	-5 ft lb	*21,320	*21,320	*32,220	*32,220	*49,410	32,870	32,660	21,540	23,330	15,790	17,990	12,320	17,540	12,020	30.6 ft
	-3 m kg	*14 870	*14 870	*20 600	*20 600	*22 020	15 310	15 150	9 960	10 820	7 300			8 960	6 120	8.6 m
	-10 ft lb	*33,290	*33,290	*46,610	*46,610	*47,720	32,940	32,590	21,480	23,320	15,770			19,870	13,570	28.0 ft
	-4.5 m kg	*21 230	*21 230	*27 870	*27 870	*19 860	15 560	*14 970	10 110					11 090	7 530	7.5 m
	-15 ft lb	*47,770	*47,770	*60,150	*60,150	*42,830	33,500	*32,180	21,830					24,800	16,830	24.3 ft
	-6 m kg			*21 090	*21 090	*15 340	*15 340							*11 490	11 210	5.7 m
	-20 ft lb			*44,720	*44,720	*32,370	*32,370							*25,300	*25,300	18.4 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Specifications

LIFTING CAPACITY EC380ELC

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	7.5 m	kg							*10 280	*10 280					*10 420	9 350	7.0 m
	25 ft	lb							*22,670	*22,670					*23,030	21,080	22.7 ft
	6 m	kg							*11 020	*11 020	*10 360	8 320			*10 360	7 530	8.0 m
	20 ft	lb							*24,000	*24,000	*22,790	17,870			*22,840	16,780	25.9 ft
	4.5 m	kg					*16 080	*16 080	*12 580	11 380	*10 970	8 110			10 230	6 610	8.5 m
	15 ft	lb					*34,490	*34,490	*27,240	24,560	*23,930	17,480			22,650	14,640	27.9 ft
	3 m	kg							*14 430	10 800	*11 870	7 830			9 570	6 150	8.8 m
	10 ft	lb							*31,200	23,330	*25,810	16,900			21,140	13,580	28.9 ft
	1.5 m	kg							*15 940	10 340	12 010	7 580			9 410	6 010	8.8 m
	5 ft	lb							*34,500	22,320	25,870	16,360			20,760	13,260	29.0 ft
	0 m	kg					*21 850	15 340	16 650	10 090	11 830	7 420			9 730	6 180	8.6 m
	0 ft	lb					*49,270	33,000	35,800	21,760	25,490	16,020			21,450	13,630	28.2 ft
	-1.5 m	kg			*14 880	*14 880	*21 890	15 380	*16 550	10 030	11 800	7 390			10 660	6 740	8.1 m
	-5 ft	lb			*33,980	*33,980	*47,540	33,090	35,650	21,630	25,440	15,970			23,540	14,890	26.4 ft
	-3 m	kg			*26 310	*26 310	*19 940	15 610	*15 270	10 160					*12 160	7 980	7.2 m
	-10 ft	lb			*57,220	*57,220	*43,210	33,580	*32,970	21,920					*26,830	17,730	23.5 ft
	-4.5 m	kg			*20 930	*20 930	*16 070	*16 070							*12 110	11 090	5.8 m
	-15 ft	lb			*45,000	*45,000	*34,370	*34,370							*26,620	25,020	18.8 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	7.5 m	kg									*9 370	8 530			*8 200	*8 200	7.7 m
	25 ft	lb									*20,660	18,800			*18,150	*18,150	24.9 ft
	6 m	kg									*9 500	8 460			*7 980	6 800	8.5 m
	20 ft	lb									*20,840	18,200			*17,600	15,130	27.8 ft
	4.5 m	kg					*14 350	*14 350	*11 610	11 580	*10 260	8 220	*8 790	6 120	*8 060	6 040	9.1 m
	15 ft	lb					*30,820	*30,820	*25,170	24,990	*22,370	17,700	*19,380	13,490	*17,750	13,380	29.7 ft
	3 m	kg					*18 440	16 750	*13 580	10 970	*11 290	7 910	9 310	5 990	*8 390	5 650	9.3 m
	10 ft	lb					*39,640	36,160	*29,380	23,670	*24,530	17,050	20,040	12,900	*18,470	12,480	30.6 ft
	1.5 m	kg					*21 460	15 750	*15 330	10 430	12 060	7 610	9 160	5 850	8 640	5 520	9.4 m
	5 ft	lb					*46,320	33,950	*33,180	22,520	25,960	16,430	19,720	12,610	19,050	12,180	30.7 ft
	0 m	kg					*22 610	15 330	*16 410	10 100	11 820	7 410	9 050	5 750	8 870	5 640	9.1 m
	0 ft	lb					*48,990	32,990	*35,560	21,780	25,460	15,980			19,560	12,450	29.9 ft
	-1.5 m	kg			*15 110	*15 110	*22 370	15 250	16 510	9 960	11 720	7 320			9 580	6 070	8.6 m
	-5 ft	lb			*34,210	*34,210	*48,540	32,810	35,500	21,480	25,250	15,790			21,170	13,410	28.3 ft
	-3 m	kg	*17 590	*17 590	*23 840	*23 840	*20 970	15 400	*15 880	10 010	11 800	7 380			11 120	7 000	7.8 m
	-10 ft	lb	*39,430	*39,430	*54,050	*54,050	*45,430	33,130	*34,340	21,600	25,450	15,970			24,680	15,530	25.6 ft
	-4.5 m	kg			*24 300	*24 300	*17 980	15 770	*13 490	10 290					*11 830	9 100	6.6 m
	-15 ft	lb			*52,380	*52,380	*38,670	33,970	*28,730	22,240					*26,100	20,420	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 800mm (32") CWT : 6 200kg (13,670lb)	9m	kg															
	30 ft	lb													*15,410	*15,410	23.3 ft
	7.5 m	kg									*8 160	*8 160			*6 470	*6 470	8.4 m
	25 ft	lb									*18,070	*18,070			*14,300	*14,300	27.4 ft
	6 m	kg									*8 510	*8 510	*7 680	6 320	*6 310	6 030	9.2 m
	20 ft	lb									*18,670	18,530	*14,610	13,540	*13,930	13,410	30.2 ft
	4.5 m	kg							*10 380	*10 380	*9 380	8 340	*8 850	6 210	*6 370	5 420	9.7 m
	15 ft	lb							*22,510	*22,510	*20,450	17,960	*19,410	13,340	*14,030	12,010	31.9 ft
	3 m	kg					*16 410	*16 410	*12 460	11 170	*10 510	7 990	9 370	6 030	*6 600	5 100	10.0 m
	10 ft	lb					*35,300	*35,300	*26,960	24,090	*22,850	17,230	20,150	12,980	*14,530	11,250	32.7 ft
	1.5 m	kg					*20 040	16 040	*14 440	10 550	*11 650	7 650	9 160	5 850	*7 040	4 980	10.0 m
	5 ft	lb					*43,230	34,580	*31,270	22,760	*25,310	16,500	19,730	12,600	*15,500	10,980	32.8 ft
	0 m	kg			*9 320	*9 320	*22 030	15 360	*15 870	10 110	11 810	7 390	9 000	5 700	*7 760	5 060	9.8 m
	0 ft	lb			*21,210	*21,210	*47,680	33,080	*34,390	21,800	25,430	15,930	19,400	12,290	*17,100	11,150	32.1 ft
	-1.5 m	kg	*9 510	*9 510	*14 220	*14 220	*22 500	15 120	16 440	9 880	11 640	7 230	8 930	5 630	8 500	5 370	9.3 m
	-5 ft	lb	*21,230	*21,230	*32,130	*32,130	*48,790	32,530	35,330	21,310	25,070	15,600	19,250	12,160	18,760	11,860	30.6 ft
	-3 m	kg	*14 830	*14 830	*20 550	*20 550	*21 740	15 150	*16 250	9 850	11 620	7 220			9 600	6 050	8.6 m
	-10 ft	lb	*33,200	*33,200	*46,500	*46,500	*47,110	32,600	*35,180	21,240	25,050	15,580			21,270	13,400	28.1 ft
	-4.5 m	kg	*21 190	*21 190	*27 500	*27 500	*19 600	15 420	*14 770	10 010					*11 110	7 450	7.5 m
	-15 ft	lb	*47,670	*47,670	*59,360	*59,360	*42,270	33,190	*31,750	21,600					*24,540	16,640	24.3 ft
	-6 m	kg			*20 790	*20 790	*15 130	*15 130							*11 300	11 100	5.8 m
	-20 ft	lb			*44,070	*44,070	*31,910	*31,910							*24,880	*24,880	18.4 ft
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m	kg							*10 700	*10 700					*10 870	10 370	6.7 m
	25 ft	lb							*23,660	*23,660					*24,030	23,440	21.6 ft
	6 m	kg							*11 220	*11 220	*10 740	8 560			*10 760	8 230	7.7 m
	20 ft	lb							*24,490	*24,490	*23,730	18,380			*23,740	18,350	25.0 ft
	4.5 m	kg					*15 850	*15 850	*12 670	11 820	*11 200	8 400			*10 870	7 180	8.3 m
	15 ft	lb					*34,060	*34,060	*27,470	25,490	*24,460	18,090			*23,960	15,910	27.1 ft
	3 m	kg					*19 770	17 110	*14 470	11 260	*12 030	8 140			10 310	6 670	8.6 m
	10 ft	lb					*42,490	36,940	*31,310	24,310	*26,180	17,560			22,780	14,730	28.1 ft
	1.5 m	kg					*22 280	16 290	*15 980	10 800	12 420	7 900			10 150	6 530	8.6 m
	5 ft	lb					*48,130	35,110	*34,620	23,310	26,740	17,050			22,370	14,390	28.2 ft
	0 m	kg					*22 820	16 020	*16 750	10 540	12 250	7 750			10 510	6 730	8.3 m
	0 ft	lb					*49,480	34,470	*36,320	22,730	26,380	16,730			23,180	14,830	27.3 ft
	-1.5 m	kg			*17 770	*17 770	*22 010	16 040	*16 560	10 480	12 230	7 740			11 600	7 370	7.8 m
	-5 ft	lb			*40,440	*40,440	*47,770	34,500	*35,890	22,600	26,380	16,720			25,630	16,300	25.5 ft
	-3 m	kg			*26 490	*26 490	*19 850	16 270	*15 050	10 620					*12 530	8 860	6.9 m
	-10 ft	lb			*57,540	*57,540	*42,980	35,020	*32,410	22,930					*27,640	19,690	22.4 ft
	-4.5 m	kg					*15 320	*15 320							*12 280	*12 280	5.4 m
	-15 ft	lb					*32,540	*32,540							*26,950	*26,950	17.5 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY EC380ELC

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m kg													*10 420	9 660	7.0 m
	25 ft lb							*22,670	*22,670					*23,030	21,790	22.7 ft
	6 m kg							*11 020	*11 020	*10 360	8 600			*10 360	7 800	8.0 m
	20 ft lb							*24,000	*24,000	*22,790	18,500			*22,840	17,370	25.9 ft
	4.5 m kg					*16 080	*16 080	*12 580	11 770	*10 970	8 400			*10 480	6 850	8.5 m
	15 ft lb					*34,490	*34,490	*27,240	25,390	*23,930	18,100			*23,100	15,190	27.9 ft
	3 m kg							*14 430	11 190	*11 870	8 120			9 870	6 390	8.8 m
	10 ft lb							*31,200	24,160	*25,810	17,520			21,790	14,110	28.9 ft
	1.5 m kg							*15 940	10 730	12 380	7 870			9 710	6 250	8.8 m
	5 ft lb							*34,500	23,150	26,670	16,990			21,410	13,790	29.0 ft
	0 m kg					*21 850	15 910	*16 690	10 470	12 200	7 710			10 030	6 430	8.6 m
	0 ft lb					*49,270	34,240	*36,180	22,590	26,290	16,650			22,120	14,170	28.2 ft
	-1.5 m kg			*14 880	*14 880	*21 890	15 960	*16 550	10 410	12 170	7 680			10 990	7 000	8.1 m
	-5 ft lb			*33,980	*33,980	*47,540	34,320	*35,870	22,460	26,230	16,600			24,280	15,470	26.4 ft
	-3 m kg			*26 310	*26 310	*19 940	16 180	*15 270	10 540					*12 160	8 290	7.2 m
	-10 ft lb			*57,220	*57,220	*43,210	34,820	*32,970	22,750					*26,830	18,410	23.5 ft
	-4.5 m kg			*20 930	*20 930	*16 070	*16 070							*12 110	11 490	5.8 m
	-15 ft lb			*45,000	*45,000	*34,370	*34,370							*26,620	25,920	18.8 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	7.5 m kg									*9 370	8 820			*8 200	*8 200	7.7 m
	25 ft lb									*20,660	19,440			*18,150	*18,150	24.9 ft
	6 m kg									*9 500	8 750			*7 980	7 040	8.5 m
	20 ft lb									*20,840	18,820			*17,600	15,680	27.8 ft
	4.5 m kg					*14 350	*14 350	*11 610	*11 610	*10 260	8 500	*8 790	6 350	*8 060	6 270	9.1 m
	15 ft lb					*30,820	*30,820	*25,170	*25,170	*22,370	18,330	*19,380	14,000	*17,750	13,890	29.7 ft
	3 m kg					*18 440	17 330	*13 580	11 350	*11 290	8 190	9 600	6 220	*8 390	5 870	9.3 m
	10 ft lb					*39,640	37,400	*29,380	24,500	*24,530	17,670	20,660	13,400	*18,470	12,970	30.6 ft
	1.5 m kg					*21 460	16 330	*15 330	10 820	*12 280	7 900	9 450	6 080	8 910	5 740	9.4 m
	5 ft lb					*46,320	35,190	*33,180	23,350	*26,660	17,050	20,340	13,110	19,650	12,670	30.7 ft
	0 m kg					*22 610	15 900	*16 410	10 480	12 190	7 690	9 340	5 980	9 150	5 870	9.1 m
	0 ft lb					*48,990	34,230	*35,560	22,610	26,260	16,600			20,190	12,950	29.9 ft
	-1.5 m kg			*15 110	*15 110	*22 370	15 830	*16 640	10 350	12 090	7 610			9 890	6 310	8.6 m
	-5 ft lb			*34,210	*34,210	*48,540	34,050	*36,080	22,310	26,050	16,420			21,850	13,940	28.3 ft
	-3 m kg	*17 590	*17 590	*23 840	*23 840	*20 970	15 970	*15 880	10 400	12 170	7 670			11 470	7 270	7.8 m
	-10 ft lb	*39,430	*39,430	*54,050	*54,050	*45,430	34,370	*34,340	22,430	26,240	16,590			*25,430	16,140	25.6 ft
	-4.5 m kg			*24 300	*24 300	*17 980	16 340	*13 490	10 670					*11 830	9 440	6.6 m
	-15 ft lb			*52,380	*52,380	*38,670	35,200	*28,730	23,070					*26,100	21,180	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 800mm (32") CWT : 6 700kg (14,770lb	9 m kg													*6 920	*6 920	7.2 m
	30 ft lb													*15,410	*15,410	23.3 ft
	7.5 m kg									*8 160	*8 160			*6 470	*6 470	8.4 m
	25 ft lb									*18,070	*18,070			*14,300	*14,300	27.4 ft
	6 m kg									*8 510	*8 510	*7 680	6 550	*6 310	6 260	9.2 m
	20 ft lb									*18,670	*18,670	*14,610	14,040	*13,930	13,910	30.2 ft
	4.5 m kg							*10 380	*10 380	*9 380	8 630	*8 850	6 440	*6 370	5 630	9.7 m
	15 ft lb							*22,510	*22,510	*20,450	18,590	*19,410	13,850	*14,030	12,480	31.9 ft
	3 m kg					*16 410	*16 410	*12 460	11 550	*10 510	8 280	*9 430	6 260	*6 600	5 300	10.0 m
	10 ft lb					*35,300	*35,300	*26,960	24,920	*22,850	17,850	*20,600	13,480	*14,530	11,710	32.7 ft
	1.5 m kg					*20 040	16 620	*14 440	10 930	*11 650	7 940	9 450	6 080	*7 040	5 180	10.0 m
	5 ft lb					*43,230	35,810	*31,270	23,590	*25,310	17,130	20,350	13,100	*15,500	11,430	32.8 ft
	0 m kg			*9 320	*9 320	*22 030	15 940	*15 870	10 500	12 180	7 680	9 290	5 930	*7 760	5 270	9.8 m
	0 ft lb			*21,210	*21,210	*47,680	34,310	*34,390	22,630	26,230	16,550	20,020	12,790	*17,100	11,610	32.1 ft
	-1.5 m kg	*9 510	*9 510	*14 220	*14 220	*22 500	15 700	*16 510	10 270	12 010	7 520	9 220	5 860	8 770	5 590	9.3 m
	-5 ft lb	*21,230	*21,230	*32,130	*32,130	*48,790	33,770	*35,800	22,140	25,870	16,230	19,880	12,660	19,370	12,350	30.6 ft
	-3 m kg	*14 830	*14 830	*20 550	*20 550	*21 740	15 730	*16 250	10 230	11 990	7 510			9 900	6 290	8.6 m
	-10 ft lb	*33,200	*33,200	*46,500	*46,500	*47,110	33,840	*35,180	22,070	25,840	16,210			21,950	13,940	28.1 ft
	-4.5 m kg	*21 190	*21 190	*27 500	*27 500	*19 600	15 990	*14 770	10 390					*11 110	7 740	7.5 m
	-15 ft lb	*47,670	*47,670	*59,360	*59,360	*42,270	34,430	*31,750	22,440					*24,540	17,290	24.3 ft
	-6 m kg			*20 790	*20 790	*15 130	*15 130							*11 300	*11 300	5.8 m
	-20 ft lb			*44,070	*44,070	*31,910	*31,910							*24,880	*24,880	18.4 ft
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 7 250kg (15,980lb)	7.5 m kg							*10 700	*10 700					*10 870	10 670	6.7 m
	25 ft lb							*23,660	*23,660					*24,030	*24,030	21.6 ft
	6 m kg							*11 220	*11 220	*10 740	8 830			*10 760	8 480	7.7 m
	20 ft lb							*24,490	*24,490	*23,730	18,950			*23,740	18,920	25.0 ft
	4.5 m kg					*15 850	*15 850	*12 670	12 170	*11 200	8 660			*10 870	7 410	8.3 m
	15 ft lb					*34,060	*34,060	*27,470	26,250	*24,460	18,660			*23,960	16,430	27.1 ft
	3 m kg					*19 770	17 640	*14 470	11 610	*12 030	8 410			10 600	6 890	8.6 m
	10 ft lb					*42,490	38,070	*31,310	25,060	*26,180	18,130			23,410	15,230	28.1 ft
	1.5 m kg					*22 280	16 810	*15 980	11 150	12 760	8 170			10 430	6 750	8.6 m
	5 ft lb					*48,130	36,240	*34,620	24,060	27,490	17,620			23,000	14,880	28.2 ft
	0 m kg					*22 820	16 540	*16 750	10 890	12 590	8 010			10 810	6 960	8.3 m
	0 ft lb					*49,480	35,600	*36,320	23,490	27,130	17,300			23,840	15,340	27.3 ft
	-1.5 m kg			*17 770	*17 770	*22 010	16 560	*16 560	10 830	12 580	8 000			11 930	7 630	7.8 m
	-5 ft lb			*40,440	*40,440	*47,770	35,630	*35,890	23,350	27,120	17,290			26,350	16,850	25.5 ft
	-3 m kg			*26 490	*26 490	*19 850	16 800	*15 050	10 970					*12 530	9 150	6.9 m
	-10 ft lb			*57,540	*57,540	*42,980	36,150	*32,410	23,690					*27,640	20,340	22.4 ft
	-4.5 m kg					*15 320	*15 320							*12 280	*12 280	5.4 m
	-15 ft lb					*32,540	*32,540							*26,950	*26,950	17.5 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Specifications

LIFTING CAPACITY EC380ELC

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 800mm (32") CWT : 7 250kg (15,980lb)	7.5 m kg													*10 420	9 950	7.0 m
	25 ft lb							*22,670	*22,670					*23,030	22,430	22.7 ft
	6 m kg							*11 020	*11 020	*10 360	8 870			*10 360	8 040	8.0 m
	20 ft lb							*24,000	*24,000	*22,790	19,070			*22,840	17,920	25.9 ft
	4.5 m kg					*16 080	*16 080	*12 580	12 120	*10 970	8 660			*10 480	7 080	8.5 m
	15 ft lb					*34,490	*34,490	*27,240	26,150	*23,930	18,670			*23,100	15,680	27.9 ft
	3 m kg							*14 430	11 540	*11 870	8 390			10 150	6 600	8.8 m
	10 ft lb							*31,200	24,910	*25,810	18,090			22,400	14,580	28.9 ft
	1.5 m kg							*15 940	11 080	*12 710	8 140			9 990	6 470	8.8 m
	5 ft lb							*34,500	23,910	27,410	17,560			22,020	14,260	29.0 ft
	0 m kg					*21 850	16 440	*16 690	10 820	12 550	7 980			10 320	6 650	8.6 m
	0 ft lb					*49,270	35,370	*36,180	23,350	27,030	17,220			22,750	14,670	28.2 ft
	-1.5 m kg			*14 880	*14 880	*21 890	16 480	*16 550	10 760	12 510	7 950			11 300	7 240	8.1 m
	-5 ft lb			*33,980	*33,980	*47,540	35,450	*35,870	23,220	26,980	17,170			24,970	16,000	26.4 ft
	-3 m kg			*26 310	*26 310	*19 940	16 710	*15 270	10 890					*12 160	8 560	7.2 m
	-10 ft lb			*57,220	*57,220	*43,210	35,950	*32,970	23,510					*26,830	19,020	23.5 ft
	-4.5 m kg			*20 930	*20 930	*16 070	*16 070							*12 110	11 860	5.8 m
	-15 ft lb			*45,000	*45,000	*34,370	*34,370							*26,620	*26,620	18.8 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 800mm (32") CWT : 7 250kg (15,980lb)	7.5 m kg									*9 370	9 080			*8 200	*8 200	7.7 m
	25 ft lb									*20,660	20,020			*18,150	*18,150	24.9 ft
	6 m kg									*9 500	9 010			*7 980	7 270	8.5 m
	20 ft lb									*20,840	19,390			*17,600	16,180	27.8 ft
	4.5 m kg					*14 350	*14 350	*11 610	*11 610	*10 260	8 770	*8 790	6 560	*8 060	6 480	9.1 m
	15 ft lb					*30,820	*30,820	*25,170	*25,170	*22,370	18,900	*19,380	14,460	*17,750	14,350	29.7 ft
	3 m kg					*18 440	17 850	*13 580	11 700	*11 290	8 460	9 870	6 430	*8 390	6 070	9.3 m
	10 ft lb					*39,640	38,530	*29,380	25,260	*24,530	18,240	21,240	13,850	*18,470	13,410	30.6 ft
	1.5 m kg					*21 460	16 850	*15 330	11 170	*12 280	8 170	9 710	6 290	*9 030	5 950	9.4 m
	5 ft lb					*46,320	36,320	*33,180	24,100	*26,660	17,620	20,930	13,560	*19,860	13,110	30.7 ft
	0 m kg					*22 610	16 430	*16 410	10 830	12 540	7 960	9 610	6 190	9 420	6 080	9.1 m
	0 ft lb					*48,990	35,360	*35,560	23,360	27,000	17,170			20,770	13,400	29.9 ft
	-1.5 m kg			*15 110	*15 110	*22 370	16 350	*16 640	10 700	12 440	7 870			10 170	6 530	8.6 m
	-5 ft lb			*34,210	*34,210	*48,540	35,180	*36,080	23,070	26,790	16,990			22,470	14,430	28.3 ft
	-3 m kg	*17 590	*17 590	*23 840	*23 840	*20 970	16 500	*15 880	10 750	*12 270	7 930			*11 520	7 520	7.8 m
	-10 ft lb	*39,430	*39,430	*54,050	*54,050	*45,430	35,500	*34,340	23,190	*26,330	17,160			*25,430	16,690	25.6 ft
	-4.5 m kg			*24 300	*24 300	*17 980	16 870	*13 490	11 020					*11 830	9 750	6.6 m
	-15 ft lb			*52,380	*52,380	*38,670	36,330	*28,730	23,830					*26,100	21,880	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 800mm (32") CWT : 7 250kg (15,980lb)	9 m kg													*6 920	*6 920	7.2 m
	30 ft lb													*15,410	*15,410	23.3 ft
	7.5 m kg									*8 160	*8 160			*6 470	*6 470	8.4 m
	25 ft lb									*18,070	*18,070			*14,300	*14,300	27.4 ft
	6 m kg									*8 510	*8 510	*7 680	6 760	*6 310	*6 310	9.2 m
	20 ft lb									*18,670	*18,670	*14,610	14,500	*13,930	*13,930	30.2 ft
	4.5 m kg							*10 380	*10 380	*9 380	8 890	*8 850	6 650	*6 370	5 830	9.7 m
	15 ft lb							*22,510	*22,510	*20,450	19,160	*19,410	14,300	*14,030	12,900	31.9 ft
	3 m kg					*16 410	*16 410	*12 460	11 900	*10 510	8 540	*9 430	6 470	*6 600	5 490	10.0 m
	10 ft lb					*35,300	*35,300	*26,960	25,680	*22,850	18,420	*20,600	13,940	*14,530	12,120	32.7 ft
	1.5 m kg					*20 040	17 140	*14 440	11 290	*11 650	8 200	9 720	6 290	*7 040	5 370	10.0 m
	5 ft lb					*43,230	36,940	*31,270	24,350	*25,310	17,700	20,940	13,550	*15,500	11,840	32.8 ft
	0 m kg			*9 320	*9 320	*22 030	16 460	*15 870	10 850	12 530	7 940	9 560	6 140	*7 760	5 460	9.8 m
	0 ft lb			*21,210	*21,210	*47,680	35,440	*34,390	23,390	26,970	17,120	20,600	13,250	*17,100	12,040	32.1 ft
	-1.5 m kg	*9 510	*9 510	*14 220	*14 220	*22 500	16 220	*16 510	10 620	12 360	7 790	9 490	6 070	*8 930	5 800	9.3 m
	-5 ft lb	*21,230	*21,230	*32,130	*32,130	*48,790	34,900	*35,800	22,890	26,610	16,800	20,460	13,120	*19,720	12,800	30.6 ft
	-3 m kg	*14 830	*14 830	*20 550	*20 550	*21 740	16 250	*16 250	10 580	12 340	7 770			10 190	6 510	8.6 m
	-10 ft lb	*33,200	*33,200	*46,500	*46,500	*47,110	34,970	*35,180	22,820	26,590	16,780			22,590	14,440	28.1 ft
	-4.5 m kg	*21 190	*21 190	*27 500	*27 500	*19 600	16 510	*14 770	10 740					*11 110	8 000	7.5 m
	-15 ft lb	*47,670	*47,670	*59,360	*59,360	*42,270	35,560	*31,750	23,190					*24,540	17,880	24.3 ft
	-6 m kg			*20 790	*20 790	*15 130	*15 130							*11 300	*11 300	5.8 m
	-20 ft lb			*44,070	*44,070	*31,910	*31,910							*24,880	*24,880	18.4 ft
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb)	7.5 m kg							*10 700	*10 700					*10 870	10 460	6.7 m
	25 ft lb							*23,660	*23,660					*24,030	23,650	21.6 ft
	6 m kg							*11 220	*11 220	*10 740	8 640			*10 760	8 310	7.7 m
	20 ft lb							*24,490	*24,490	*23,730	18,550			*23,740	18,530	25.0 ft
	4.5 m kg					*15 850	*15 850	*12 670	11 930	*11 200	8 480			*10 870	7 250	8.3 m
	15 ft lb					*34,060	*34,060	*27,470	25,730	*24,460	18,270			*23,960	16,070	27.1 ft
	3 m kg					*19 770	17 270	*14 470	11 370	*12 030	8 220			10 420	6 740	8.6 m
	10 ft lb					*42,490	37,290	*31,310	24,540	*26,180	17,730			23,020	14,880	28.1 ft
	1.5 m kg					*22 280	16 450	*15 980	10 910	12 550	7 980			10 250	6 590	8.6 m
	5 ft lb					*48,130	35,450	*34,620	23,540	27,020	17,230			22,610	14,540	28.2 ft
	0 m kg					*22 820	16 180	*16 750	10 650	12 380	7 830			10 620	6 800	8.3 m
	0 ft lb					*49,480	34,820	*36,320	22,960	26,660	16,900			23,430	14,990	27.3 ft
	-1.5 m kg			*17 770	*17 770	*22 010	16 200	*16 560	10 580	12 360	7 820			11 720	7 450	7.8 m
	-5 ft lb			*40,440	*40,440	*47,770	34,850	*35,890	22,830	26,660	16,900			25,900	16,470	25.5 ft
	-3 m kg			*26 490	*26 490	*19 850	16 430	*15 050	10 730					*12 530	8 950	6.9 m
	-10 ft lb			*57,540	*57,540	*42,980	35,370	*32,410	23,170					*27,640	19,890	22.4 ft
	-4.5 m kg					*15 320	*15 320							*12 280	*12 280	5.4 m
	-15 ft lb					*32,540	*32,540							*26,950	*26,950	17.5 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY EC380ELC

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb)	7.5 m kg													*10 420	9 750	7.0 m
	25 ft lb							*22,670	*22,670					*23,030	21,980	22.7 ft
	6 m kg							*11 020	*11 020	*10 360	8 690			*10 360	7 870	8.0 m
	20 ft lb							*24,000	*24,000	*22,790	18,670			*22,840	17,540	25.9 ft
	4.5 m kg					*16 080	*16 080	*12 580	11 870	*10 970	8 480			*10 480	6 920	8.5 m
	15 ft lb					*34,490	*34,490	*27,240	25,630	*23,930	18,280			*23,100	15,340	27.9 ft
	3 m kg							*14 430	11 300	*11 870	8 200			9 970	6 450	8.8 m
	10 ft lb							*31,200	24,390	*25,810	17,700			22,020	14,250	28.9 ft
	1.5 m kg							*15 940	10 830	12 510	7 950			9 820	6 320	8.8 m
	5 ft lb							*34,500	23,380	26,950	17,160			21,640	13,930	29.0 ft
	0 m kg					*21 850	16 070	*16 690	10 580	12 330	7 790			10 140	6 500	8.6 m
	0 ft lb					*49,270	34,590	*36,180	22,820	26,570	16,820			22,360	14,320	28.2 ft
	-1.5 m kg			*14 880	*14 880	*21 890	16 120	*16 550	10 520	12 300	7 760			11 110	7 080	8.1 m
	-5 ft lb			*33,980	*33,980	*47,540	34,670	*35,870	22,690	26,510	16,770			24,540	15,630	26.4 ft
	-3 m kg			*26 310	*26 310	*19 940	16 340	*15 270	10 650					*12 160	8 370	7.2 m
	-10 ft lb			*57,220	*57,220	*43,210	35,170	*32,970	22,990					*26,830	18,600	23.5 ft
	-4.5 m kg			*20 930	*20 930	*16 070	*16 070							*12 110	11 600	5.8 m
	-15 ft lb			*45,000	*45,000	*34,370	*34,370							*26,620	26,180	18.8 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 900mm (36") CWT : 6 700kg (14,770lb)	7.5 m kg									*9 370	8 900			*8 200	*8 200	7.7 m
	25 ft lb									*20,660	19,620			*18,150	*18,150	24.9 ft
	6 m kg									*9 500	8 830			*7 980	7 110	8.5 m
	20 ft lb									*20,840	19,000			*17,600	15,840	27.8 ft
	4.5 m kg					*14 350	*14 350	*11 610	*11 610	*10 260	8 590	*8 790	6 420	*8 060	6 330	9.1 m
	15 ft lb					*30,820	*30,820	*25,170	*25,170	*22,370	18,500	*19,380	14,150	*17,750	14,030	29.7 ft
	3 m kg					*18 440	17 490	*13 580	11 460	*11 290	8 280	9 700	6 290	*8 390	5 930	9.3 m
	10 ft lb					*39,640	37,740	*29,380	24,740	*24,530	17,850	20,880	13,540	*18,470	13,110	30.6 ft
	1.5 m kg					*21 460	16 490	*15 330	10 930	*12 280	7 980	9 550	6 150	9 010	5 810	9.4 m
	5 ft lb					*46,320	35,540	*33,180	23,580	*26,660	17,230	20,560	13,250	*19,860	12,800	30.7 ft
	0 m kg					*22 610	16 060	*16 410	10 590	12 320	7 780	9 440	6 050	9 250	5 930	9.1 m
	0 ft lb					*48,990	34,580	*35,560	22,840	26,540	16,780			20,410	13,090	29.9 ft
	-1.5 m kg			*15 110	*15 110	*22 370	15 990	*16 640	10 450	12 220	7 690			10 000	6 380	8.6 m
	-5 ft lb			*34,210	*34,210	*48,540	34,400	*36,080	22,540	26,330	16,590			22,080	14,100	28.3 ft
	-3 m kg	*17 590	*17 590	*23 840	*23 840	*20 970	16 130	*15 880	10 500	*12 270	7 750			*11 520	7 350	7.8 m
	-10 ft lb	*39,430	*39,430	*54,050	*54,050	*45,430	34,720	*34,340	22,660	*26,330	16,770			*25,430	16,310	25.6 ft
	-4.5 m kg			*24 300	*24 300	*17 980	16 510	*13 490	10 780					*11 830	9 540	6.6 m
	-15 ft lb			*52,380	*52,380	*38,670	35,550	*28,730	23,300					*26,100	21,400	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 900mm (36") CWT : 6 700kg (14,770lb)	9 m kg													*6 920	*6 920	7.2 m
	30 ft lb													*15,410	*15,410	23.3 ft
	7.5 m kg									*8 160	*8 160			*6 470	*6 470	8.4 m
	25 ft lb									*18,070	*18,070			*14,300	*14,300	27.4 ft
	6 m kg									*8 510	*8 510	*7 680	6 610	*6 310	*6 310	9.2 m
	20 ft lb									*18,670	*18,670	*14,610	14,180	*13,930	*13,930	30.2 ft
	4.5 m kg							*10 380	*10 380	*9 380	8 710	*8 850	6 500	*6 370	5 690	9.7 m
	15 ft lb							*22,510	*22,510	*20,450	18,760	*19,410	13,990	*14,030	12,610	31.9 ft
	3 m kg					*16 410	*16 410	*12 460	11 660	*10 510	8 360	*9 430	6 330	*6 600	5 360	10.0 m
	10 ft lb					*35,300	*35,300	*26,960	25,160	*22,850	18,030	*20,600	13,620	*14,530	11,830	32.7 ft
	1.5 m kg					*20 040	16 780	*14 440	11 040	*11 650	8 020	9 550	6 140	*7 040	5 240	10.0 m
	5 ft lb					*43,230	36,160	*31,270	23,820	*25,310	17,300	20,570	13,240	*15,500	11,560	32.8 ft
	0 m kg			*9 320	*9 320	*22 030	16 100	*15 870	10 600	12 310	7 760	9 390	6 000	*7 760	5 320	9.8 m
	0 ft lb			*21,210	*21,210	*47,680	34,660	*34,390	22,870	26,510	16,730	20,240	12,930	*17,100	11,740	32.1 ft
	-1.5 m kg	*9 510	*9 510	*14 220	*14 220	*22 500	15 860	*16 510	10 380	12 140	7 600	9 320	5 930	8 870	5 660	9.3 m
	-5 ft lb	*21,230	*21,230	*32,130	*32,130	*48,790	34,110	*35,800	22,370	26,150	16,400	20,100	12,800	19,580	12,490	30.6 ft
	-3 m kg	*14 830	*14 830	*20 550	*20 550	*21 740	15 890	*16 250	10 340	12 120	7 590			10 010	6 360	8.6 m
	-10 ft lb	*33,200	*33,200	*46,500	*46,500	*47,110	34,190	*35,180	22,300	26,120	16,380			22,190	14,090	28.1 ft
	-4.5 m kg	*21 190	*21 190	*27 500	*27 500	*19 600	16 150	*14 770	10 500					*11 110	7 820	7.5 m
	-15 ft lb	*47,670	*47,670	*59,360	*59,360	*42,270	34,770	*31,750	22,670					*24,540	17,470	24.3 ft
	-6 m kg			*20 790	*20 790	*15 130	*15 130							*11 300	*11 300	5.8 m
	-20 ft lb			*44,070	*44,070	*31,910	*31,910							*24,880	*24,880	18.4 ft
Boom : 6.2m (20'4") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 7 250kg (15,980lb)	7.5 m kg							*10 700	*10 700					*10 870	10 770	6.7 m
	25 ft lb							*23,660	*23,660					*24,030	*24,030	21.6 ft
	6 m kg							*11 220	*11 220	*10 740	8 910			*10 760	8 560	7.7 m
	20 ft lb							*24,490	*24,490	*23,730	19,120			*23,740	19,100	25.0 ft
	4.5 m kg					*15 850	*15 850	*12 670	12 280	*11 200	8 740			*10 870	7 480	8.3 m
	15 ft lb					*34,060	*34,060	*27,470	26,480	*24,460	18,840			*23,960	16,590	27.1 ft
	3 m kg					*19 770	17 800	*14 470	11 720	*12 030	8 490			10 710	6 960	8.6 m
	10 ft lb					*42,490	38,420	*31,310	25,300	*26,180	18,300			23,650	15,380	28.1 ft
	1.5 m kg					*22 280	16 970	*15 980	11 260	*12 830	8 250			10 540	6 820	8.6 m
	5 ft lb					*48,130	36,580	*34,620	24,300	27,770	17,790			23,240	15,030	28.2 ft
	0 m kg					*22 820	16 700	*16 750	11 000	12 720	8 100			10 920	7 030	8.3 m
	0 ft lb					*49,480	35,950	*36,320	23,720	27,410	17,470			24,080	15,500	27.3 ft
	-1.5 m kg			*17 770	*17 770	*22 010	16 720	*16 560	10 940	12 710	8 080			12 050	7 700	7.8 m
	-5 ft lb			*40,440	*40,440	*47,770	35,980	*35,890	23,590	27,400	17,470			26,630	17,020	25.5 ft
	-3 m kg			*26 490	*26 490	*19 850	16 960	*15 050	11 080					*12 530	9 240	6.9 m
	-10 ft lb			*57,540	*57,540	*42,980	36,500	*32,410	23,920					*27,640	20,540	22.4 ft
	-4.5 m kg					*15 320	*15 320							*12 280	*12 280	5.4 m
	-15 ft lb					*32,540	*32,540							*26,950	*26,950	17.5 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Specifications

LIFTING CAPACITY EC380ELC

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		Max. Reach		
		Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 6.45m (21'2") Arm : 2.6m (8'6") Shoe : 900mm (36") CWT : 7 250kg (15,980lb)	7.5 m kg													*10 420	10 030	7.0 m
	25 ft lb							*22,670	*22,670					*23,030	22,630	22.7 ft
	6 m kg							*11 020	*11 020	*10 360	8 950			*10 360	8 120	8.0 m
	20 ft lb							*24,000	*24,000	*22,790	19,240			*22,840	18,080	25.9 ft
	4.5 m kg					*16 080	*16 080	*12 580	12 220	*10 970	8 740			*10 480	7 150	8.5 m
	15 ft lb					*34,490	*34,490	*27,240	26,380	*23,930	18,850			*23,100	15,840	27.9 ft
	3 m kg							*14 430	11 650	*11 870	8 470			10 250	6 670	8.8 m
	10 ft lb							*31,200	25,150	*25,810	18,270			22,630	14,730	28.9 ft
	1.5 m kg							*15 940	11 190	*12 710	8 220			10 090	6 530	8.8 m
	5 ft lb							*34,500	24,140	*27,600	17,730			22,250	14,410	29.0 ft
	0 m kg					*21 850	16 600	*16 690	10 930	12 680	8 060			10 430	6 720	8.6 m
	0 ft lb					*49,270	35,720	*36,180	23,580	27,310	17,390			22,990	14,820	28.2 ft
	-1.5 m kg			*14 880	*14 880	*21 890	16 640	*16 550	10 870	12 640	8 030			11 420	7 320	8.1 m
	-5 ft lb			*33,980	*33,980	*47,540	35,800	*35,870	23,450	27,260	17,340			25,230	16,170	26.4 ft
	-3 m kg			*26 310	*26 310	*19 940	16 870	*15 270	11 000					*12 160	8 650	7.2 m
	-10 ft lb			*57,220	*57,220	*43,210	36,300	*32,970	23,740					*26,830	19,210	23.5 ft
	-4.5 m kg			*20 930	*20 930	*16 070	*16 070							*12 110	11 970	5.8 m
	-15 ft lb			*45,000	*45,000	*34,370	*34,370							*26,620	*26,620	18.8 ft
Boom : 6.45m (21'2") Arm : 3.2m (10'6") Shoe : 900mm (36") CWT : 7 250kg (15,980lb)	7.5 m kg									*9 370	9 160			*8 200	*8 200	7.7 m
	25 ft lb									*20,660	20,190			*18,150	*18,150	24.9 ft
	6 m kg									*9 500	9 090			*7 980	7 340	8.5 m
	20 ft lb									*20,840	19,570			*17,600	16,330	27.8 ft
	4.5 m kg					*14 350	*14 350	*11 610	*11 610	*10 260	8 850	*8 790	6 630	*8 060	6 540	9.1 m
	15 ft lb					*30,820	*30,820	*25,170	*25,170	*22,370	19,070	*19,380	14,620	*17,750	14,490	29.7 ft
	3 m kg					*18 440	18 010	*13 580	11 810	*11 290	8 540	9 970	6 500	*8 390	6 140	9.3 m
	10 ft lb					*39,640	38,870	*29,380	25,490	*24,530	18,420	21,460	13,990	*18,470	13,550	30.6 ft
	1.5 m kg					*21 460	17 010	*15 330	11 280	*12 280	8 250	9 820	6 360	*9 030	6 010	9.4 m
	5 ft lb					*46,320	36,670	*33,180	24,340	*26,660	17,800	21,150	13,700	*19,860	13,250	30.7 ft
	0 m kg					*22 610	16 590	*16 410	10 940	12 670	8 040	9 710	6 260	9 520	6 140	9.1 m
	0 ft lb					*48,990	35,710	*35,560	23,600	27,280	17,350			20,990	13,540	29.9 ft
	-1.5 m kg			*15 110	*15 110	*22 370	16 510	*16 640	10 810	12 570	7 950			10 280	6 600	8.6 m
	-5 ft lb			*34,210	*34,210	*48,540	35,530	*36,080	23,300	27,070	17,160			22,710	14,580	28.3 ft
	-3 m kg	*17 590	*17 590	*23 840	*23 840	*20 970	16 660	*15 880	10 860	*12 270	8 020			*11 520	7 600	7.8 m
	-10 ft lb	*39,430	*39,430	*54,050	*54,050	*45,430	35,840	*34,340	23,420	*26,330	17,340			*25,430	16,870	25.6 ft
	-4.5 m kg			*24 300	*24 300	*17 980	17 030	*13 490	11 130					*11 830	9 850	6.6 m
	-15 ft lb			*52,380	*52,380	*38,670	36,680	*28,730	24,060					*26,100	22,090	21.3 ft
Boom : 6.45m (21'2") Arm : 3.9m (12'10") Shoe : 900mm (36") CWT : 7 250kg (15,980lb)	9 m kg													*6 920	*6 920	7.2 m
	30 ft lb													*15,410	*15,410	23.3 ft
	7.5 m kg									*8 160	*8 160			*6 470	*6 470	8.4 m
	25 ft lb									*18,070	*18,070			*14,300	*14,300	27.4 ft
	6 m kg									*8 510	*8 510	*7 680	6 830	*6 310	*6 310	9.2 m
	20 ft lb									*18,670	*18,670	*14,610	*14,610	*13,930	*13,930	30.2 ft
	4.5 m kg							*10 380	*10 380	*9 380	8 970	*8 850	6 710	*6 370	5 890	9.7 m
	15 ft lb							*22,510	*22,510	*20,450	19,330	*19,410	14,440	*14,030	13,030	31.9 ft
	3 m kg					*16 410	*16 410	*12 460	12 010	*10 510	8 630	*9 430	6 540	*6 600	5 540	10.0 m
	10 ft lb					*35,300	*35,300	*26,960	25,910	*22,850	18,600	*20,600	14,080	*14,530	12,240	32.7 ft
	1.5 m kg					*20 040	17 300	*14 440	11 390	*11 650	8 290	9 820	6 350	*7 040	5 430	10.0 m
	5 ft lb					*43,230	37,290	*31,270	24,580	*25,310	17,870	21,160	13,690	*15,500	11,970	32.8 ft
	0 m kg			*9 320	*9 320	*22 030	16 630	*15 870	10 950	*12 550	8 020	9 660	6 210	*7 760	5 520	9.8 m
	0 ft lb			*21,210	*21,210	*47,680	35,790	*34,390	23,620	*27,240	17,300	20,820	13,390	*17,100	12,170	32.1 ft
	-1.5 m kg	*9 510	*9 510	*14 220	*14 220	*22 500	16 380	*16 510	10 730	12 490	7 870	9 590	6 140	*8 930	5 860	9.3 m
	-5 ft lb	*21,230	*21,230	*32,130	*32,130	*48,790	35,240	*35,800	23,130	26,890	16,970	20,680	13,260	*19,720	12,940	30.6 ft
	-3 m kg	*14 830	*14 830	*20 550	*20 550	*21 740	16 410	*16 250	10 690	12 470	7 850			10 300	6 580	8.6 m
	-10 ft lb	*33,200	*33,200	*46,500	*46,500	*47,110	35,310	*35,180	23,060	26,870	16,950			22,830	14,590	28.1 ft
	-4.5 m kg	*21 190	*21 190	*27 500	*27 500	*19 600	16 680	*14 770	10 850					*11 110	8 080	7.5 m
	-15 ft lb	*47,670	*47,670	*59,360	*59,360	*42,270	35,900	*31,750	23,420					*24,540	18,060	24.3 ft
	-6 m kg			*20 790	*20 790	*15 130	*15 130							*11 300	*11 300	5.8 m
	-20 ft lb			*44,070	*44,070	*31,910	*31,910							*24,880	*24,880	18.4 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

LIFTING CAPACITY EC380ELR

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		0 m, 0 ft		1.5m, 5 ft		3.0m, 10 ft		4.5m, 15 ft		6.0m, 20 ft		7.5m, 25 ft		9.0m, 30 ft		10.5 m, 35 ft		12m, 40 ft		Max. Reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	max.
Boom : 8.5m (27'11") Arm : 5.0m (16'5") Shoe : 800mm (32") CWT : 8 200kg (18,080lb)	10.5 m	kg													*4 130	*4 130					*5 450	*5 450	10.1 m
	35 ft	lb													*8,940	*8,940					*12,110	*12,110	32.7 ft
	9 m	kg													*4 660	4 130	*5 390	*5 390			*5 180	5 160	11.2 m
	30 ft	lb													*10,090	8,910	*12,000	*12,000			*11,470	*11,470	36.4 ft
	7.5 m	kg													*5 140	3 770	*5 460	*5 460			*5 060	4 520	12.0 m
	25 ft	lb													*11,140	8,130	*12,040	*12,040			*11,160	10,050	39.2 ft
	6 m	kg											*6 000	*6 000	*5 540	3 490	*5 770	5 670	*5 700	4 480	*5 030	4 090	12.6 m
	20 ft	lb											*13,080	*13,080	*12,000	7,520	*12,630	12,200	*12,590	9,590	*11,100	9,070	41.1 ft
	4.5 m	kg									*7 540	*7 540	*6 720	*6 720	5 790	3 280	*6 210	5 480	*5 940	4 380	*5 090	3 810	12.9 m
	15 ft	lb									*16,310	*16,310	*14,600	*14,600	12,490	7,080	*13,570	11,800	*13,030	9,400	*11,220	8,430	42.4 ft
	3 m	kg							*11 130	*11 130	*8 820	8 650	*7 530	6 650	5 660	3 160	*6 740	5 270	*6 260	4 250	*5 240	3 640	13.1 m
	10 ft	lb							*23,950	*23,950	*19,070	18,690	*16,340	14,350	12,200	6,810	*14,680	11,350	*13,680	9,140	*11,540	8,040	43.0 ft
	1.5 m	kg							*13 040	10 990	*10 030	8 150	*8 330	6 330	5 600	3 110	*7 280	5 060	6 450	4 130	*5 480	3 560	13.1 m
	5 ft	lb							*28,120	23,760	*21,700	17,600	*18,070	13,660	12,070	6,700	*15,830	10,910	13,880	8,880	*12,070	7,860	43.1 ft
	0 m	kg					*7 650	*7 650	*14 360	10 460	*11 010	7 770	*9 020	6 070	5 610	3 120	7 680	4 890	6 330	4 020	5 650	3 570	13.0 m
	0 ft	lb					*16,860	*16,860	*31,060	22,590	*23,840	16,770	*19,570	13,100	12,110	6,730	16,560	10,540	13,650	8,660	12,470	7,890	42.6 ft
	-1.5 m	kg					*9 590	*9 590	*15 090	10 200	*11 670	7 530	9 380	5 890	*5 610	3 190	7 550	4 770	6 260	3 950	5 830	3 680	12.6 m
	-5 ft	lb					*21,960	*21,960	*32,680	21,990	*25,290	16,250	20,230	12,710	*12,060	6,910	16,280	10,280	13,510	8,530	12,880	8,130	41.4 ft
	-3 m	kg	*6 830	*6 830	*8 480	*8 480	*12 870	*12 870	*15 300	10 120	*11 990	7 420	9 280	5 800	*5 060	3 340	7 490	4 710	6 260	3 950	6 190	3 910	12.1 m
	-10 ft	lb	*15,300	*15,300	*19,140	*19,140	*29,350	*29,350	*33,160	21,810	*25,980	16,010	20,020	12,510	*10,780	7,240	16,160	10,170	13,800	8,710	13,690	8,650	39.6 ft
	-4.5 m	kg	*10 000	*10 000	*12 140	*12 140	*17 180	15 760	*15 050	10 170	*11 930	7 420	9 280	5 800	*4 100	3 580	7 510	4 730			6 810	4 310	11.3 m
	-15 ft	lb	*22,460	*22,460	*27,420	*27,420	*39,210	33,910	*32,600	21,930	*25,830	16,030	20,030	12,520	*8,460	7,830	16,240	10,240			15,100	9,560	37.0 ft
	-6 m	kg	*13 610	*13 610	*16 570	*16 570	*18 570	16 080	*14 270	10 350	*11 400	7 540	*9 300	5 900							*7 690	5 000	10.3 m
	-20 ft	lb	*30,630	*30,630	*37,570	*37,570	*40,140	34,620	*30,850	22,330	*24,610	16,300	*19,990	12,780							*17,010	11,150	33.5 ft
	-7.5 m	kg			*22 510	*22 510	*16 410	*16 410	*12 770	10 670	*10 150	7 800									*8 010	6 280	8.9 m
	-25 ft	lb			*48,280	*48,280	*35,230	*35,230	*27,370	23,070	*21,650	16,910									*17,720	14,180	28.7 ft
	-9 m	kg					*12 770	*12 770	*9 830	*9 830											*8 170	*8 170	6.9 m
	-30 ft	lb					*26,760	*26,760	*20,310	*20,310											*17,990	*17,990	21.8 ft
Boom : 8.5m (27'11") Arm : 5.0m (16'5") Shoe : 900mm (36") CWT : 8 200kg (18,080lb)	10.5 m	kg													*4 130	*4 130					*5 450	*5 450	10.1 m
	35 ft	lb													*8,940	*8,940					*12,110	*12,110	32.7 ft
	9 m	kg													*4 660	4 130	*5 390	*5 390			*5 180	*5 180	11.2 m
	30 ft	lb													*10,090	8,910	*12,000	*12,000			*11,470	*11,470	36.4 ft
	7.5 m	kg													*5 140	3 770	*5 460	*5 460			*5 060	4 560	12.0 m
	25 ft	lb													*11,140	8,130	*12,040	*12,040			*11,160	10,160	39.2 ft
	6 m	kg											*6 000	*6 000	*5 540	3 490	*5 770	5 730	*5 700	4 520	*5 030	4 130	12.6 m
	20 ft	lb											*13,080	*13,080	*12,000	7,520	*12,630	12,320	*12,590	9,690	*11,100	9,170	41.1 ft
	4.5 m	kg									*7 540	*7 540	*6 720	*6 720	5 790	3 280	*6 210	5 540	*5 940	4 420	*5 090	3 850	12.9 m
	15 ft	lb									*16,310	*16,310	*14,600	*14,600	12,490	7,080	*13,570	11,920	*13,030	9,500	*11,220	8,520	42.4 ft
	3 m	kg							*11 130	*11 130	*8 820	8 730	*7 530	6 710	5 660	3 160	*6 740	5 320	*6 260	4 300	*5 240	3 680	13.1 m
	10 ft	lb							*23,950	*23,950	*19,070	18,860	*16,340	14,490	12,200	6,810	*14,680	11,470	*13,680	9,240	*11,540	8,130	43.0 ft
	1.5 m	kg							*13 040	11 100	*10 030	8 230	*8 330	6 390	5 600	3 110	*7 280	5 120	6 520	4 170	*5 480	3 600	13.1 m
	5 ft	lb							*28,120	23,990	*21,700	17,770	*18,070	13,800	12,070	6,700	*15,830	11,030	14,040	8,980	*12,070	7,950	43.1 ft
	0 m	kg					*7 650	*7 650	*14 360	10 570	*11 010	7 850	*9 020	6 130	5 610	3 120	*7 750	4 940	6 400	4 070	5 720	3 620	13.0 m
	0 ft	lb					*16,860	*16,860	*31,060	22,820	*23,840	16,940	*19,570	13,240	12,110	6,730	16,740	10,660	13,800	8,760	12,610	7,980	42.6 ft
	-1.5 m	kg					*9 590	*9 590	*15 090	10 300	*11 670	7 610	9 490	5 950	*5 610	3 190	7 630	4 820	6 330	4 000	5 900	3 730	12.6 m
	-5 ft	lb					*21,960	*21,960	*32,680	22,220	*25,290	16,420	20,450	12,850	*12,060	6,910	16,460	10,400	13,660	8,630	13,020	8,220	41.4 ft
	-3 m	kg	*6 830	*6 830	*8 480	*8 480	*12 870	*12 870	*15 300	10 220	*11 990	7 500	9 390	5 860	*5 060	3 340	7 570	4 760	6 330	3 990	6 260	3 960	12.1 m
	-10 ft	lb	*15,300	*15,300	*19,140	*19,140	*29,350	*29,350	*33,160	22,040	*25,980	16,180	20,240	12,650	*10,780	7,240	16,340	10,280	13,950	8,800	13,850	8,750	39.6 ft
	-4.5 m	kg	*10 000	*10 000	*12 140	*12 140	*17 180	15 920	*15 050	10 280	*11 930	7 510	9 390	5 860	*4 100	3 580	7 600	4 790			6 880	4 360	11.3 m
	-15 ft	lb	*22,460	*22,460	*27,420	*27,420	*39,210	34,260	*32,600	22,160	*25,830	16,200	20,250	12,660	*8,460	7,830	16,420	10,360			15,270	9,670	37.0 ft
	-6 m	kg	*13 610	*13 610	*16 570	*16 570	*18 570	16 240	*14 270	10 460	*11 400	7 620	*9 300	5 970							*7 690	5 050	10.3 m
	-20 ft	lb	*30,630	*30,630	*37,570	*37,570	*40,140	34,960	*30,850	22,570	*24,610	16,470	*19,990	12,920							*17,010	11,280	33.5 ft
	-7.5 m	kg			*22 510	*22 510	*16 410	*16 410	*12 770	10 780	*10 150	7 880									*8 010	6 350	8.9 m
	-25 ft	lb			*48,280	*48,280	*35,230	*35,230	*27,370	23,300	*21,650	17,080									*17,720	14,330	28.7 ft
	-9 m	kg					*12 770	*12 770	*9 830	*9 830											*8 170	*8 170	6.9 m
	-30 ft	lb					*26,760	*26,760	*20,310	*20,310											*17,990	*17,990	21.8 ft

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Equipment

STANDARD EQUIPMENT	EC350E	EC380E
Engine		
Turbocharged, 4 stroke diesel engine with water cooling, direct injection and charged air cooler that meets Tier 4f requirements	•	•
Air filter with indicator	•	•
Air intake heater	•	•
Cyclone pre-cleaner	•	•
Electric engine shut-off	•	•
Fuel filter and water separator	•	•
Fuel filler pump: 50 l/min(13.2 gal/min), with automatic shut-off	•	•
Alternator, 80 A	•	•
Electric / Electronic control system		
Advanced mode control system	•	•
Self-diagnostic system	•	•
Machine status indication	•	•
Engine speed sensing power control	•	•
Automatic idling system	•	•
One-touch power boost	•	•
Safety stop/start function	•	•
Adjustable 8inch LCD color monitor	•	•
Master electrical disconnect switch	•	•
Engine restart prevention circuit	•	•
Frame-mounted 2	•	•
Boom-mounted 2	•	•
Batteries, 2 x 12 V / 200 Ah	•	•
Start motor, 24 V / 7 kW	•	•
Frame		
Access way with handrail	•	•
Tool storage area	•	•
Punched metal anti-slip plates	•	•
Hydraulic system		
Hose rupture valve: boom	•	•
Overload warning device	•	•
2-pump flow bucket circuit	•	•
Summation system	•	•
Boom priority	•	•
Arm priority	•	•
Swing priority	•	•
Boom, arm and bucket regeneration valves	•	•
Swing anti-rebound valves	•	•
Boom and arm holding valves	•	•
Multi-stage filtering system	•	•
Cylinder cushioning	•	•
Cylinder contamination seals	•	•
Auxiliary hydraulic valve	•	•
Automatic two-speed travel motors	•	•
Hydraulic oil, ISO VG 46	•	•
Cab and interior		
ROPS (ISO12117-2) certified cab	•	•
Silicon oil and rubber mounts with spring	•	•
Travel pedals and hand levers	•	•
Adjustable operator seat and joystick control console	•	•
Control joysticks with 4 switches each	•	•
Heater & air-conditioner, automatic	•	•
Flexible antenna	•	•
AM/FM stereo with MP3, USB and bluetooth input	•	•
Hydraulic safety lock lever	•	•
Cup holders	•	•
Door locks	•	•
Tinted glass	•	•
Floor mat	•	•
Horn	•	•
Large storage area	•	•
Pull-up type front window	•	•

STANDARD EQUIPMENT	EC350E	EC380E
Removable lower windshield	•	•
Seat belt	•	•
Safety glass	•	•
Sun screens, front, roof, rear	•	•
Rain shield	•	•
Windshield wiper with intermittent feature	•	•
Rear view camera	•	•
Master key	•	•
Undercover (heavy-duty)	•	•
Hydraulic track adjusters	•	•
Greased and sealed track link	•	•
Track Guard	•	•
800 mm(32") with triple grousers	•	•
6.45 m (21'2") GP	•	–
6.45 m (21'2") HD	–	•
3.2 m (10'6") GP	•	–
3.2 m (10'6") HD	–	•
Manual centralized lubrication	•	•

OPTIONAL EQUIPMENT	EC350E	EC380E
Engine		
Block heater: 120 V, 240 V	•	•
Oil bath pre-cleaner	•	•
Diesel coolant heater, 10 kW	•	•
Water separator with heater	•	•
Auto engine shutdown	•	•
Electric		
Extra work lights: Halogen/LED		•
Cab-mounted 3	•	•
Boom-mounted 2	•	•
Counterweight-mounted 1	•	•
Travel alarm	•	•
Anti-theft system	•	•
Rotating warning beacon	•	•
Undercarriage		
Full track guard	•	•
Hydraulic System		
Hose rupture valve: arm	•	•
Boom float function	•	•
Hydraulic piping:		•
Work tool management system (up to 20 programmable memories)	•	•
Breaker & shear, 1 and 2 pump flow	•	•
Breaker & shear:	•	•
variable flow and pressure pre-setting	•	•

OPTIONAL EQUIPMENT	EC350E	EC380E
Additional return filter	•	•
Slope & rotator	•	•
Grapple	•	•
Oil leak (drain) line	•	•
Quick coupler piping	•	•
Volvo hydraulic quick coupler S3	•	•
Volvo hydraulic quick coupler	•	•
VQC-HU,DR38	•	•
Hydraulic oil, ISO VG 32	•	•
Hydraulic oil, ISO VG 46	•	•
Hydraulic oil, ISO VG 68	•	•
Hydraulic oil, biodegradable 46	•	•
Hydraulic oil, longlife oil 32	•	•
Hydraulic oil, longlife oil 46	•	•
Hydraulic oil, longlife oil 68	•	•
Counterweight		
6 200 kg(13,670lb)	•	•
6 700 kg(14,770lb)	•	•
7 250 kg(15,980lb)	–	•
8 200 kg(18,080lb) for long reach	–	•
Cab and interior		
Fabric seat with heater	•	•
Fabric seat with heater and air suspension	•	•
Pilot control pattern change	•	•
Opening top hatch	•	•
Falling object guard (FOG)	•	•

OPTIONAL EQUIPMENT	EC350E	EC380E
Frame-mounted	•	•
Cab-mounted	•	•
Cab-mounted falling object protective structure (FOPS)	•	•
Smoker kit (ashtray and lighter)	•	•
Safety net for front window	•	•
Lower wiper with intermittent control	•	•
Anti-vandalism kit	•	•
Specific key	•	•
Track shoes		
Track shoes 600/700/800/900 mm(24/28/32/36") with triple grousers	•	•
Track shoes 600 mm(24") HD with triple grousers and HD links	–	•
Track shoes 600 mm(24") with double grousers	•	•
Digging Equipment		
6.2 m(20'4") ME	•	•
8.5 m(27'11") LR	–	•
2.6 m(8'6") ME	•	•
3.9 m(12'10") GP	•	–
3.9 m(12'10") HD	–	•
5.0 m(16'5") LR	–	•
Linkage with lifting eye	•	•
Service		
Tool kit, daily maintenance	•	•
Tool kit, full scale	•	•
Automatic lubrication system	•	•
Air compressor	•	•

SELECTION OF VOLVO OPTIONAL EQUIPMENT

Auxiliary hydraulics (Breaker/Shear, Tilt / Rotator)



Side-view camera



LED Lights



Air compressor



Long reach (EC380E only)



Mass excavation



Not all products are available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice.
The illustrations do not necessarily show the standard version of the machine.

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