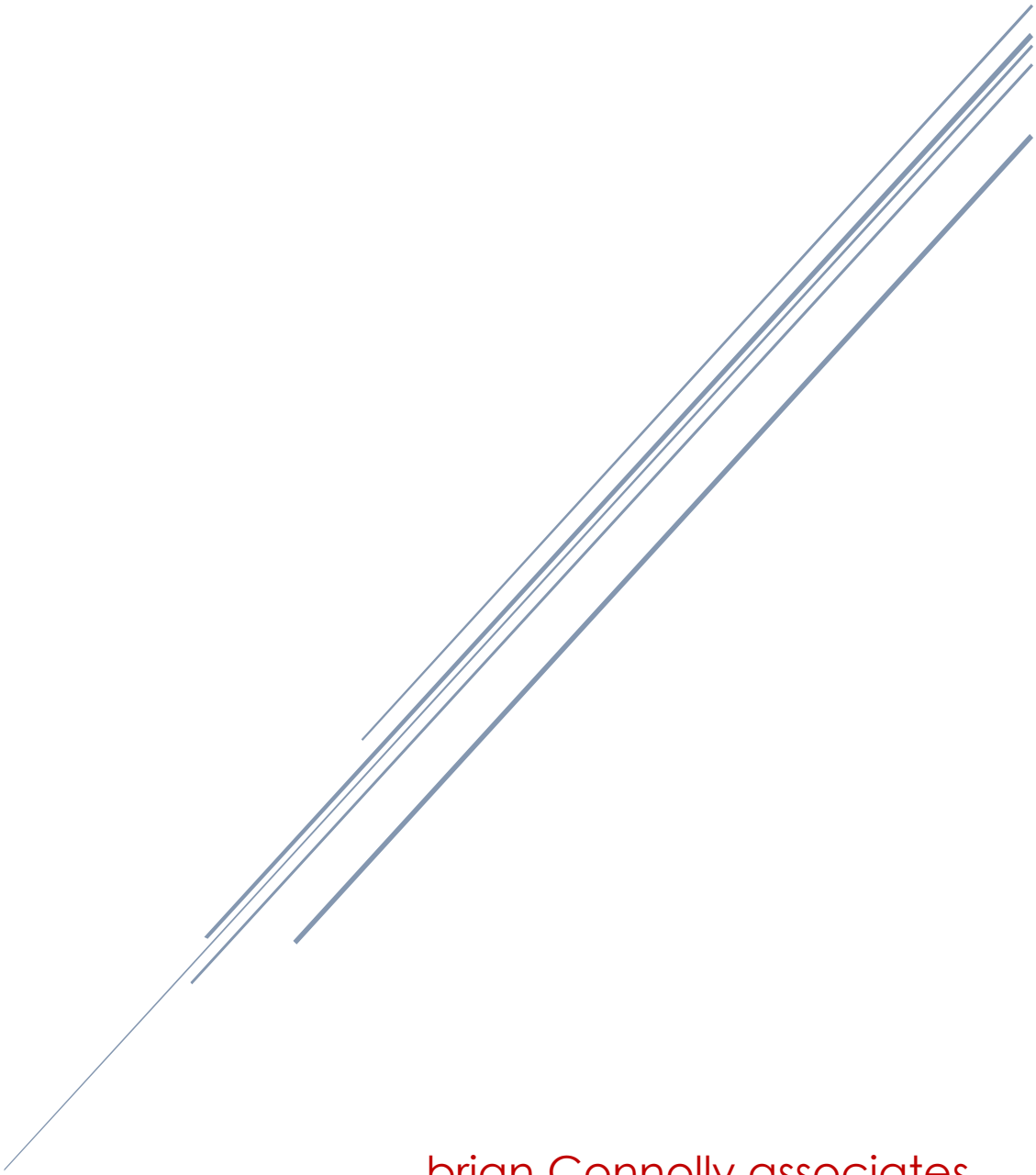
PRELIMINARY CONSTRUCTION & ENVIRONMENTAL MANAGEMENT PLAN

For a development at Capdoo & Abbeylands, Clane, Co. Kildare



brian Connolly associates

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1.0 Introduction – Project Description & Detail

This Preliminary Construction & Environmental Management Plan has been prepared by Brian Connolly Associates on behalf of Westar Investments Limited to accompany an SHD planning application for construction of 333 residential units, creche accommodation and all associated site works on lands at Capdoo & Abbeylands, Clane, Co Kildare.

This report outlines the intended approach to managing the execution of this proposed construction project. The plan has been formulated based on best practice and current guidelines. The document outlines a management plan that will ensure, as far as is reasonably practicable, minimum disruption to residents and the local environment and promote a safe working environment

The plan provides and overview of key project activities and areas. Statements and objectives will be extended and clarified at the appropriate stage of the project, together with relevant procedures and detailed method statements. This plan will be used as the template for developing the construction phase health and safety plan in tandem with the construction Method Statement.

NOTE: This plan will be updated prior to commencement of construction and shared with the Local Authority for discussion and/or amendment. The document and other information will be updated also to take account of local conditions including guidance relating to COVID-19 and or any other Governmental guidance.

Description of the Project

This project consists of an application for a Strategic Housing Development by Westar Investments Limited (the applicant) for a new residential development on lands measuring approximately 10.36 hectares at Capdoo & Abbeylands, Celbridge Road, Clane, Co. Kildare.

The application is for a development that includes 333 dwellings consisting of: 121 no. 2, 3 & 4 bedroom housing units, 144 no. 1, 2 & 3 bedroom apartments, 68 no. 1, 2 & 3 bedroom duplex & maisonette type units, a crèche and a public park adjacent to the River Liffey with 3 no. vehicular/pedestrian accesses and site, landscaping and associated infrastructural works. The subject site is situated on the eastern side of Regional Road R403 in the eastern environs of Clane Town, c. 650m from the Town Centre'.

The proposed development site consists of a large irregularly-shaped parcel of land, 3.6 Ha in size, and is comprised of two undeveloped agricultural fields situated on the eastern side of Regional Road R403 in the eastern environs of Clane Town. Vehicular access is provided to the site via the Brooklands Housing Estate.

The site abuts agricultural landholdings on its northern and in part on north-western site boundary, whilst existing residential developments, in the form of The Brooklands, Abbey Park and Alexander Walk Housing Estates, are located to the immediate south and abut the subject sites eastern and western boundaries. The River Liffey extends the length of the site boundary on the eastern side.

As noted above, the site is situated within close proximity to a number of existing residential developments including: 'The Brooklands', 'Abbey Park' and 'Alexander Walk' Housing Estates. These developments provide a mix of semi-detached and terraced dwellings.

The subject site is located c. 400m from existing supermarket facilities provided by a Tesco Metro and Lidl on Regional Road R403, with this road also providing access to Bus Éireann Route Nos. 120, 121, 126 and 126 which provide direct access to Dublin City Centre and University College Dublin. In addition, Kenneally's Bus Service provides direct transport to Naas via bus stops situated c. 650m from the site within the centre of Clane town.

This proposed project would represent development of lands located within Key Development Area (KDA) 1 as identified in the Clane Local Area Plan, 2017-2023. Development is proposed for the entirety of lands zoned C: New Residential within the KDA, while extensive linkages are proposed to allow for future connection northwards to lands currently zoned SR: Strategic Reserve. Two number main access points area proposed at the south-western and south-eastern boundaries of the site, through the existing Brooklands and Alexander Walk housing developments respectively

Proposals would also see extension of the existing river walkway/green belt along entire eastern boundary of the subject site; from its current end point at the northern boundary of the Alexander Walk housing estate, northwards along the River Liffey to the northernmost boundary of the subject site. Provision will be made for future extension of the green belt along the Liffey, while a cycle and pedestrian route back towards westward through the development towards Clane Town Centre (via Brooklands and the R403) would be delivered in the early stages of the proposed project.

A central green spine, traversing the site east west, will contain a central public playground and amenity space. The central spine will connect with proposed green belt and parkland at the River Liffey. The Clane Local Area Plan, 2017-2023 identifies objective for a 'future town park' located north of the subject site – future linkages to the park have been allowed for in the design of the subject site.

Project Duration

Intended Commencement Date	Proposed August 2021 - Pending Grant of PP
Expected Duration of the Works	48-60 Months

Site Working Hours

Monday to Friday	7am to 6pm
Saturday	8am to 1pm
Sundays & Bank/Public Holidays	Closed

2.0 Safety, Health & Environment– Principles and Objectives

This project will be carried out in such a way that the various activities will comply with the requirements of the Safety, Health, and Welfare at Work (Construction) Regulations 2013, any other relevant statutory requirements, and current good practices, as far as is reasonably practicable. To this end only competent sub-contractors with adequate provision for Safety, Health and Welfare will be employed.

Objectives

- Elimination of accidents for the duration of the project.
- Active management of safety, to improve the safety awareness of all personnel connected with the project.
- Establishment of safe working practices throughout the project.
- Provision of the necessary training to enable all employees to work safely.
- Provision through the means of site meetings the collection, discussion and dissemination of up to date, authoritative information on health and safety.
- Active encouragement of all personnel, to participate in improving health and safety standards within the project.
- Minimise as much as possible all interaction with the public, the site will have site hoarding in place at the perimeter of the site to prevent unauthorised entry.
- Protection of the environment. All works must be carried out in accordance with the mitigation measures as outlined in the sections below.

Environment & Adjoining Land Uses

Figure 1 – Site Location

The site boundary is outlined in red in Fig. 1 above. Construction and vehicular access to the site will be from the Dublin Road via Brooklands housing estate.

As noted above, the site is bounded to the north and north-west by agricultural lands, to the east by the River Liffey, and to the west and south by existing residential developments (Abbey Park/ Alexandra Walk / Brooklands). Note agricultural lands to the north and north-west are in control of the applicant.

Westar Investments Limited will ensure that the boundary is appropriately secured for the duration of the works with fencing (standard 2.4m construction type) to prevent any unauthorised entry.

Principals – Construction & Environmental Management

Access & Site Compound

Access to the development will be established by constructing the proposed main entrance for the development from the Brooklands Estate. An existing entrance point was constructed as part of the Brooklands estate meaning minimal works are required to safely complete the new entrance – see Fig. 2 below.

Appropriate measures will be taken to ensure that all construction traffic can enter and exit the site safely without causing obstruction to traffic and pedestrians in the Brooklands Estate.

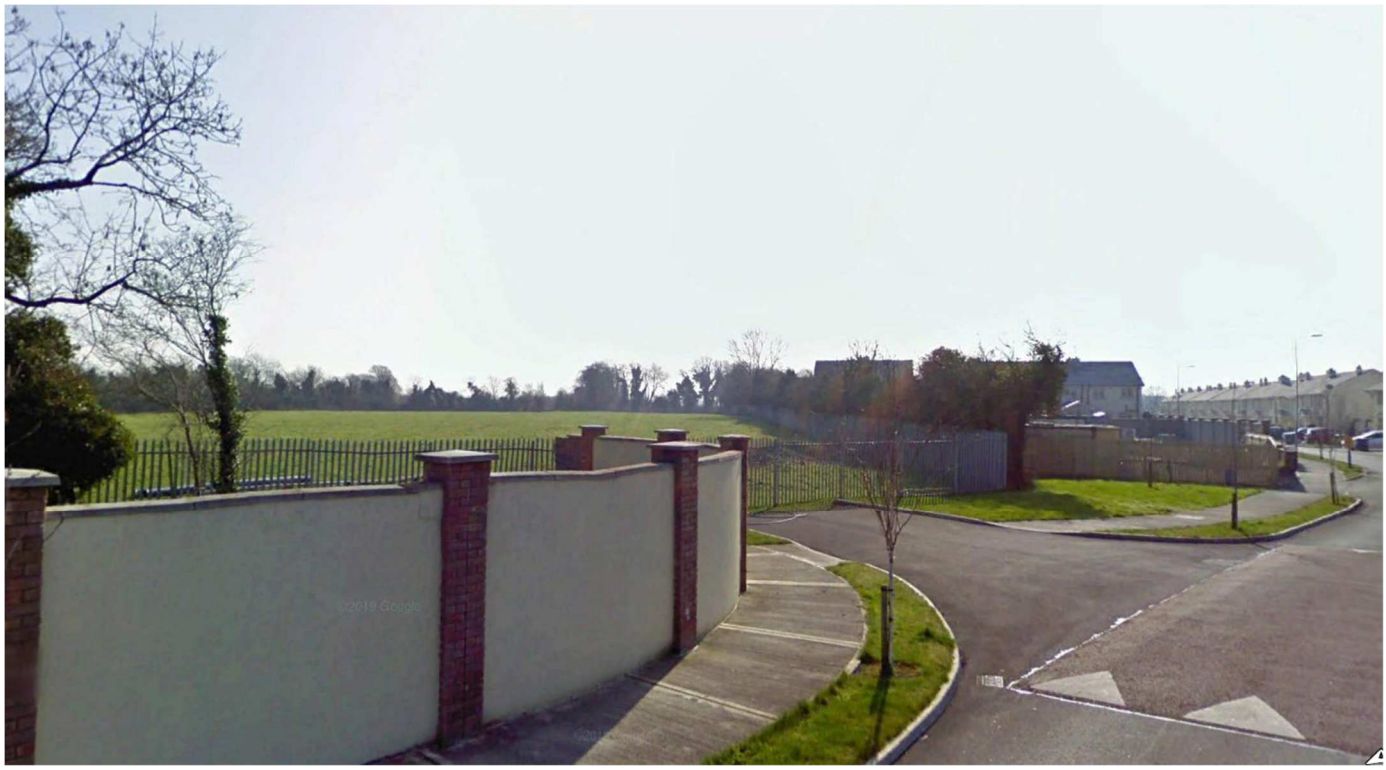

Figure 2 – View of main entrance to site from Brooklands Estate

The proposed location of site compound including vehicle parking and storage area is identified below in Fig. 3. Details regarding measures for safe storage of materials are discussed in sections below and also in separate Preliminary Construction Waste Management Plan prepared by RedKite. Note: A temporary mortar silo may located for the construction stage.

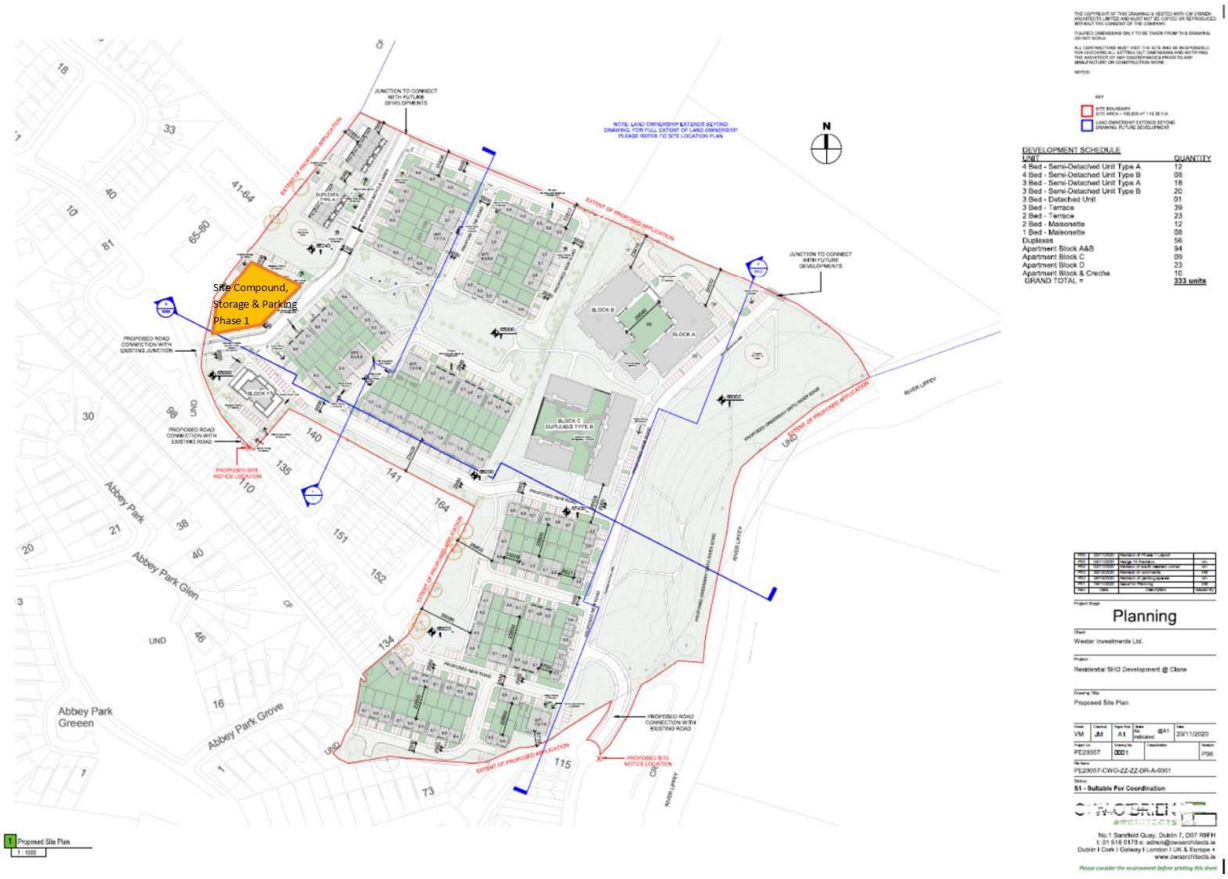

Figure 3 – Site Compound, Parking & Storage Location

Air Quality & Climate - Noise / Dust / Vibrations

The potential impacts on air quality and related effects during the site development and construction phases are mainly related to:

- Dust deposition on high sensitivity receptors such as adjacent residential areas in Brooklands, Abbeypark and Alexander Walk housing estates;
- Effects on human health arising from PM10 and PM2.5 particles in suspended matter (dust);
- Dust deposition and smothering of vegetation.

A number of HGVs will be used during the site development and construction phase. However, it is considered that there is little potential for significant impact on ambient air quality arising from exhaust emissions from a limited number of vehicles.

Westar Investments Limited will ensure that noise/dust/vibrations are kept to a minimum, as far as reasonably practicable. Noise emissions on site must comply with Part 5 Chapter 1 of the Safety, Health, and Welfare (General Application) Regulations S.I. No. 299 of 2007.

Construction environmental noise levels will adhere to applicable Category A noise level threshold values set out in report E3.2, Table E.1 of BS5228:2009 + A1:2014 Part 1.

In this regard, general measures include:

- The operation of certain pieces of equipment will be managed through monitoring and timing of use.
- Temporary acoustic screening will be considered along site boundaries, particularly with Brooklands, Abbeypark and Alexander Walk housing estates, where works take place close to the boundary. As a general rule of thumb, temporary screening will break the "line of sight" from the sources to the windows of the nearest NSLs where possible.
- All equipment will be required to comply with noise limits set out in EC Directive 2000/14/EC and the 2005/88/EC amendment on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors. The directive covers equipment such as compressors, welding generators, excavators, dozers, loaders and dump trucks.
- A site representative will be appointed for matters related to noise and vibration.
- Any complaints received will be thoroughly investigated.
- A written complaints log will be maintained by the Site Manager. This will at a minimum record the name of the complainant, date and time of the complaint and a record of the details of the complaint including the date and time of when the effect was observed. This will ensure that the concerns of local residents who may be affected by site activities are considered during the management of activities at the site.
- Monitoring of typical levels of noise will be conducted during critical periods at sensitive locations to ensure that excessive levels above the threshold value for daytime are addressed immediately.
- Suitable mitigation measures taken at the time of excessive noise/complaints such as restricting the use of noisy equipment will be taken.

Vibration monitoring will be conducted during the construction phase at the nearest sensitive receptors when sources likely to cause vibration will be in use. In this regard, test monitoring will be conducted with the equipment on at low levels before increasing incrementally to operational levels. Works will be ceased and mitigation measures implemented during the construction phase where monitoring detects vibration levels associated with the construction phase of the facility above the relevant guidance values.

With regard to dust and mud, the following general measures apply:

- Activities with potential for significant emissions will wherever possible be located at a position as far as possible removed from the nearest residential receptors;
- The areas on site which vehicles will be travelling on will generally be hard-surfaced or compressed ground thus significantly reducing the potential for dust emissions from the vehicles;
- Stock piles of soil and sub-soil and activities potentially giving rise to soil erosion will be strictly controlled;
- The construction compound area will have hard standing areas to minimise dust generation from wind-blow;
- In order to minimise the potential for wind-generated emissions from material storage bays, these bays will be oriented away from the dominant wind direction to minimise the effects of wind on release of dust and particulate;
- Existing vegetation along the boundaries will be retained as screening where possible;

- Fixed and mobile water sprays will be used to control dust emissions from material stockpiles and road and yard surfaces as necessary in dry and/or windy weather;
- A wheel-wash will be used where necessary to reduce mud deposition on local roads;
- A daily inspection programme will be formulated and implemented in order to ensure that dust control measures are inspected to verify effective operation and management, and,
- A dust deposition monitoring programme will be implemented at the site boundaries for the duration of the construction phase in order to verify the continued compliance with relevant standards and limits.
- The haul routes will be built up at the outset thus minimising carry-over of mud on HGVs to the adjoining road network.
- HGVs and other construction traffic will be required to use the designated haul routes.
- Access roads to the development site will be keep clean at all times, and a road sweeper will be required where necessary.

All planning conditions relating to noise, dust and vibration control must be complied with. Westar Investments Limited site management are fully aware of the live surrounding environment.

Biodiversity & Ecology

NOTE: A separate review of the biodiversity of the subject site and surroundings was carried out by OPENFIELD Ecological Services and this included a study of existing information from the area and a site survey. A dedicated bat survey was carried out by Brian Keeley of Wildlife Surveys Ireland. Studies and surveys were carried out within the optimal period for such surveys. Please refer to these separate reports for further information.

These studies found that the site is not within or adjacent to any area that is designated for nature conservation at a national or international level. There are no plants recorded from the site that are listed as rare or of conservation value. There are no habitats that are examples of those listed on Annex I of the Habitats Directive. There are no alien invasive plant species as listed on Schedule 3 of SI No. 477 of 2011. The site can be described as agricultural fields with traditional hedgerow and treeline boundaries. Many of the hedgerows, as well as the treelines, were assessed as of 'higher significance' using methodology from the Heritage Council. The site is close to the River Liffey, which is of significant fisheries value. Overall the habitats on the site were evaluated as 'low local value' although the treelines and hedgerows are of 'high local value'. The site contains suitable roost locations for bats in mature trees however no roosts were found. Five species were recorded using the area for foraging and/or commuting. There was no evidence of Badgers using the site.

Equipment Certification & Use

All equipment brought onto the site must be certified and all operators must carry the appropriate certification of training for each machine. Note: SOLAS, CSCS Certification.

All machines onsite will be fitted with auxiliary devices and visual aids as per schedule 6 of the construction regulations. Any lifting equipment will have the relevant GA1 certification and a weekly GA2 check will be performed by the trained driver.

In the interest of safety all portable power equipment used on site shall operate on 110V. All electrical equipment brought onto the site must be of safe design and construction and properly maintained at all times. All equipment which may be exposed to mechanical damage, the effects of weather, wet conditions or flammable / explosive environments must be protected. The use of fuses or circuit breakers to protect electrical systems is required.

Construction works will require the use of mobile cranes at various intervals (e.g. erection of timber frame house components). Safe exclusion zones will be created in appropriate locations for each visit and works completed per job specific method statement.

Hedgerows

NOTE: A separate Arboricultural Assessment and Tree Impacts Plan, prepared by The Tree File Ltd., has been submitted as part of this application. This work includes description of perceived development impacts drawing which illustrated graphically on drawing "Capdoo Tree Impacts Plan", within which trees denoted with "Dashed Pink" crown outlines will be removed and those denoted with "Continuous Green" crown outlines will be retained.

This report finds that, "for the most part, the site is devoid of vegetation of Arboricultural interest. Nonetheless, note is made of substantial field demarcation hedges and alignments that supports much larger vegetation and areas of natural regeneration that tends to be the basis for this report".

While the nature and extent of the proposed development and its unavoidable need to convert or otherwise disturb much of the existing site conditions, effectively requires the removal of some trees and/or hedges; hedge losses are limited to the punctuation or shortening of hedge lines to allow for buildings or roads. Otherwise existing hedgerows are to be retained.

A Tree Protection Plan will be developed prior to commencement (provision of a "Preliminary Arboricultural Method Statement", i.e. Appendix 1 of the Tree Impacts Plan will provide the basis of a tree protection plan should the development proceed). All recommended protection measures must be installed prior to the commencement of any site works and must remain in situ (unless under the guidance of the site Arborist) until all site works are completed.

Preliminary recommendations identified in the Arboricultural Report are as follows:

- It will be necessary for the project Arborist to re-assess all retained trees after primary site clearance, so that changes in site usage, aspect and shelter loss can be better assessed and accounted for.
- As shelter-loss is already an issue on this site, then it should be considered as likely that additional works will be recommended that are orientated towards addressing such issues, such as the application of crown-reduction type works.
- In respect of this and regardless of any possible site development, it is advised that all trees be reviewed on regular basis and particularly, after any actions that may affect the trees, be those site development works, or tree management works that involve tree removal or pruning.
- It should be appreciated that some of the concerns raised in the tree survey were based on evidence suggesting ongoing decline or mechanical failure. Such deterioration may well continue to a point where additional trees need to be removed. For this reason, trees must be reviewed regularly so that early intervention and action can be applied in a timely manner.
- Additionally, many of the sites larger trees were affected by Ivy development. Whilst itself not an indicator of ill-health, Ivy cover can readily obscure signs and symptoms of ill-health or physical defect. Therefore, and whilst nominal assessments have been made for the purposes of this survey, the true condition of trees affected by Ivy cover might not be fully known until Ivy cover has been dealt with, either by cutting resulting in shedding or by the undertaking of climbing inspections.
- As much of the site's vegetation has not been managed in the past, a large proportion is substantially overgrown. What may have been narrow hedge alignments are now broad thicket belts, some of which will require substantial cutting back to allow for the positioning of boundary treatments. A similar scenario

applies to tree specimens, particularly where they might be retained adjoining proposed homes and where some degree of cutting back may be required to address issues of encroachment and overhang.

Material Assets

Material Assets as defined in the 'Advice Guidelines on the Information to be contained in Environmental Impact Assessment Reports DRAFT' (EPA, 2017) as 'built services and infrastructure'. This includes roads and traffic, electricity, telecommunications, gas, water supply infrastructure and sewerage (built infrastructure). The EPA Advice Notes for Preparing Environmental Impact Statements, Draft 2015 refer to material assets as "resources that are valued and intrinsic to specific places." Accordingly, material assets can be a broad and less easily definable subject for assessment.

Generally, the objective of the assessment of impact on such assets is to ensure that they are used in a sustainable manner, so ensure continued availability for future generations after the development of a project.

A separate section dealing with Water is included below. This section also contains the assessment of impact on water supply, foul water infrastructure and the potential for impact on properties downstream as a result of flooding.

Accordingly, this section deals with the impact on the following material assets:

- *Traffic and transportation infrastructure*

NOTE: Additional reports relating to traffic and transport Infrastructure (TIA and Mobility Management Plan) have been prepared by Roadplan Ltd. These reports should be read in conjunction with the detail outlined here and elsewhere in reports prepared by HPDC.

Site development and construction phase traffic will be routed through the existing Brooklands residential development onto the Dublin Road (R403) via the R403/Brooklands/Capdoo Park Crossroads. The likely impact of the construction works on the surrounding road network will be short-term, slight negative in nature.

HGVs accessing the proposed Development Site will be greatest during early stages of internal road construction which requires the delivery of stone. Up to 40 trucks may move to and from the site per day. However, as the development is phased, this is only expected to occur over a maximum period of 2 weeks during each phase.

Outside of that period the number of HGV movements into and out of the site during each development phase is expected to reduce significantly to 15 – 20 HGVs on busy days and 5 – 10 HGVs on quiet days.

A development of this type and scale would on average necessitate approximately 30 - 40 staff on site at any one time, subsequently generating no more than 10 - 15 two-way vehicle trips during the peak AM and PM periods over the period of the construction works, (construction workers will use shared transport). On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. These employees will generally depart after 16:00. Parking will be provided on site for construction employees.

- *Other networks including telecommunications and gas supply*

Known Services: The site is greenfield although the following electricity lines run along the boundaries:

- An existing electricity MV overhead line runs along the northern boundary of the site from the R403 to the west to development to the east across the River Liffey.
- An existing electricity MV/LV underground line enters the site from Brooklands and runs along the western site boundary to the northern boundary where the overhead line is located.

- A medium pressure gas distribution pipes in the vicinity of the site in Alexandra Walk and Brooklands.
- Telecommunications infrastructure is located along the R403 road to the west of the site, with the housing developments to the south and west the site containing numerous telecommunications cables.

Westar Investments Limited will ensure that a full survey of all existing services is carried out and made available prior to commencing work. Where deemed necessary, all work on or close to these services shall be undertaken using the guidelines for working under and in close proximity to identified services. Method statements shall be developed and communicated to all parties involved in the works.

Where possible existing services will be disconnected if required by the relevant bodies/service providers prior to commencing works. Westar Investments Limited will highlight the location of all services at the site induction and the contractor should take all normal precautions to live services during the works.

Consultation with the ESB after award of contract may require the overhead lines to be rerouted underground. Contractors involved in excavation work shall carry out work on the basis that services are in the ground and shall carry out all excavation work in conjunction with methods of locating services.

Westar Investments Limited will a) refer to drawings before any civil works and b) scan the area (scan performed by a CSCS trained operative in LUG's).

Site Rules, Visitors etc.

There will be no unauthorised access to the work area other than to those who are directly involved in the work. All work areas must be cordoned off from the general public and relevant NO ENTRY signage posted. This will be achieved by fencing/hoarding and the erection of exclusion zones where required to avoid interaction with members of the public & the local residents

A banksman/spotter shall be utilized for all plant and equipment coming to site or working on or near public areas to ensure the safety of members of the public. Where required exclusion zones shall be established. Exclusion Zone and signage will be checked before and after each shift.

All visitors entering the site on behalf of Westar Investments Limited are to check-in with site manager. Visitors will be accompanied by an employee of Westar Investments Limited at all times while on the site. Visitors are to be made aware and obey the site safety rules and emergency procedures e.g. the wearing of personal protective equipment etc.

A diligent housekeeping policy will be operated to prevent a build-up of waste and construction materials. A 'Clean as you Go' policy will be implemented and managed. Westar Investments Limited have a responsibility to ensure, as far as is reasonably possible, the safety of visitors and contractors while on the site.

To that end the following non-exhaustive list of policies will apply:

- Banksmen should be used during all crane operations, excavation work, soil stripping and machine works and near live cables as outlined below.
- Access roads to be keep clean of all debris
- There will be no access to the area other than to those who are directly involved in the work. All work areas must be cordoned off from the public and relevant NO ENTRY signage posted.
- All Employees using abrasive wheels must have the appropriate abrasive wheels training qualification.

- Existing services will be identified by observing relevant drawings and using Cat scanners. Only someone with a CSCS qualification for cat scanning should perform the CAT scanning
- Hand Digging will be performed around any live services. Hand digging should be performed anywhere the dig supervisor is less than 100 % certain that live services may be interfered with by the bucket. Also, point A is applicable.
- Protective goggles, dust masks and hearing protection should be worn on the road saw and consaw and the Employee must be trained to use the machine- i.e. abrasive wheels.
- Westar Investments Limited management should provide PPE to those under their direct control.
- Contractors should provide PPE for their own Employees.
- Great care must also be taken not to come into contact with live services when hammering rebar into the ground to support a line or set up screeds for concrete.
- Adequate lighting must be available at all times for pedestrians. Lighting should be provided to light up the temporary pedestrian walkway where the existing lighting is not suitable.
- All Plant/ machinery operating on this site must be fitted with flashing beacons suitable rear view mirrors and or reversing cameras.
- The excavator/ Machinery will have the relevant GA1 certification and the driver will fill out the GA2 weekly to declare the machine is in good working order.
- All waste material will be removed from site asap via tipper trucks. This will be removed by a licensed haulier.
- Temporary pedestrian walkway must be made if the construction work will interfere with existing pedestrian routes. This is to ensure that pedestrians not directly involved with the works cannot be harmed in any way as a result of the ongoing works. The pedestrian walkway should be at least 1.2 metres wide and cater for blind members of the public.
- A competent person as outlined in schedule 4 of the 2013 Construction Regulations (part r and s) shall be present for the duration of this work. Part r refers to signing lighting and guarding on roads and part s is a CSCS award for cat scanning.
- A competent banks man must be present for the duration of this work so that lorry drivers / excavator drivers can be adequately directed.

Soils, Geology & Hydrology

As with any civil engineering project of this nature, it is vital to ensure that prior to works commencing on site, adequate mitigation measures are put in place to prevent potential impacts to Soils, Geology and Hydrology, and environmental impacts in general.

The potential impacts of the proposed Development on soils, geology and hydrogeology include:

- Soil Erosion & Dewatering

Stripping of top-soil during the construction phase may result in the exposure of underlying sub-soils to weather and construction traffic that may result in sub-soil erosion leading to dust emissions and indirect impact on air quality and generation of sediment laden run-off leading to potential indirect impacts on water quality and effects on aquatic ecological receptors. Dewatering can cause soil erosion or contamination of water courses with silt and/or oils or chemicals where pumped water has been contaminated.

To mitigate against this potential impact Dewatering will be conducted whereby soil erosion does not occur as a result. In this regard, removed liquid may be directed to suitable wooded buffers where possible or alternatively

settlement ponds. Dewatering will be discontinued where signs of erosion occur and under heavy rain conditions where infiltration slows down.

- Compaction of soils by construction traffic

The site development and construction works will be phased. This measure will inherently prevent the potential for large scale soil erosion. All stripping of topsoil and excavation works will be completed in a controlled manner. Topsoil and subsoil spoil heaps will be covered and protected from adverse weather conditions. Construction traffic will be confined to pre-determined haul routes to minimise soil compaction across the site.

Disturbed sub-soil layers will be stabilised as soon as practicable (e.g. backfilling of service trenches, construction of road capping layers, construction of building foundations and completion of landscaping). The duration that subsoil layers are exposed will be minimised in order to mitigate against weather effects.

- Accidental spills & leaks

Direct contamination of soils and groundwater can occur through the ingress of oils, chemicals and construction materials such as concrete. Refuelling and servicing of construction machinery will take place in a designated hard-stand area which is also remote from any surface water ditches.

All oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area to prevent ingress into soils and groundwater.

- Contamination of soils and groundwater due to the entry of deleterious materials from permeable surfaces;

The surface water system for the proposed Development has been designed to comply with the requirements of the Greater Dublin Strategic Drainage Study (GDSUDS) policies and guidelines and the requirements of Kildare County Council.

Permeable paving has been proposed for driveways which will also collect run-off from adjacent private footpaths and run-off from house roofs. The permeable paving proposed will be underlain with aggregate stone further lined with geogrid geotextile. The proposals will filter run-off thus ensuring that there is no significant impact on the underlying groundwater quality. The nature of the proposed Development does not pose a significant risk of the entry of contaminants to groundwater. Furthermore, in this regard, measures proposed under the Climate Action Plan for Ireland will also indirectly have a positive impact on reducing risk of contamination of groundwater with hydrocarbons and mineral oil

- Contamination of groundwater arising as a result of incorrect disposal of domestic sewage;

The foul drainage system has been designed in accordance with the Building Regulations and specifically in accordance with the principals and methods set out in the Irish Water Code of Practice IS EN752 (2008), IS EN12056 Part 2 (2000) and the recommendations of the GDSUDS.

All new foul drainage lines will be pressure tested and be subject to a CCTV survey in order to identify any possible defects prior to being made operational. Accordingly, it is not anticipated that the foul sewerage system can potentially leak sewage into the underlying soils and groundwater.

- Reduction of recharge to the underlying bedrock aquifer as a result of increased impermeable surfaces.

As noted previously, the surface water drainage system contains permeable surfaces taking run-off from roofs, drives and private pathways. The overall amount of impermeable surface in the proposed development has been minimised

to mimic the existing drainage regime. The development is therefore unlikely to significantly impact on groundwater recharge to the underlying aquifer which covers a total area of 42km^2.

Surface Water

NOTE: A separate SSFRA study and report have been prepared by IE Consulting. In the context of the '*Planning System and Flood Risk Management Guidelines, DOEHLG, 2009*' the SSFRA prepared by IE Consulting has determined that the entirety of the proposed Development Site is not at significant risk of fluvial, coastal or direct pluvial flooding and therefore falls within Flood Zone 'C'.

As the proposed surface water drainage regime has been designed in accordance with the GDSDS and SuDS methodologies are being implemented as part of a treatment train approach, there are no predicted impacts on surface water quality or the hydrological regime arising as a result of the proposed Development.

The north-west part of the proposed site slopes moderately from a high point at the centre of the site towards the north, north-west and north-east site boundaries at an average gradient of approximately 1.23% (1 in 81). Existing ground elevations within the site boundary are approximately 67.56 mOD (Malin) at the centre of the site. The existing site is greenfield and is bounded to the north and northwest by agricultural lands and to the east by the River Liffey. The most significant water feature in the vicinity of the proposed Development Site is the River Liffey.

The proposed Development will be served by separate surface and foul water drainage systems as detailed in the Engineering Services drawings prepared. No trade or commercial effluent will be generated as a result of the long-term development. Surface water management is designed to comply with the GDSUDS policies and guidelines and the requirements of Kildare County Council.

The surface water drainage system will collect storm water run-off generated from the proposed residential development using traditional pipe-work and manholes laid along the main access roads collecting run-off from impermeable road surfaces via gullies and adjoining areas. In accordance with SUDS principals, permeable paving is provided for all driveways which will also collect run-off from adjacent private footpaths and run-off from house roofs. Permeable paving will provide in curtilage attenuation storage and soakage for run-off. There will be no surface water discharges to existing piped drainage systems.

Surface water will be attenuated in underground "Stormtech" systems before discharging to the open drain and the River Liffey at controlled flow rates. Flow rates will be controlled by a hydrobrake flow control device to limit discharge to greenfield run-off rates thus preventing downstream flooding.

The attenuation tank is sized to provide for the 100year pluvial storm event and include for climate change for each catchment. Based on infiltration tests, the attenuation tanks will be wrapped in bentonite to ensure they are fully protected and sealed.

Oil interceptors will be installed at the entrance to the attenuation tanks to prevent downstream hydrocarbon contamination of watercourses. Furthermore, the placement of interceptors at the entrance to the tanks will ensure that hydrocarbons will be prevented from entering the tanks and adversely affecting the tank material or attenuation capacity. The interceptors will also be placed upstream of the flow control devices to prevent emulsification of hydrocarbons.

Due to the sensitivity of receiving waters (i.e. River Liffey), specific mitigation measures will be implemented to manage potential impacts to hydrology during construction stages, and they include:

- Interception, channelling and discharge of surface water from sumps, excavations and exposed soil surfaces via silt traps and / or settlement lagoons;
- Cordoning off of the drainage ditchs to protect from spillages and contamination form construction materials;
- Construction of silt traps, settlement lagoons / ponds and hydrocarbon interceptors at sensitive outfalls in the early stage of the construction project.
- Construction of cut-off ditches to prevent surface water runoff from entering excavations;
- Placing of granular materials over bare soil in the vicinity of watercourses in order to prevent erosion of fines and rutting by site traffic;
- Storage of fuel, oils and chemicals on impermeable base away from drains and within designated construction compound areas secured against vandalism and unauthorized entry. Fuel storage areas will be bunded to provide adequate retention capacity in the event of a leak or spill occurring;
- Re-fuelling of plant and vehicles on impermeable surfaces away from drains;
- Provision of spill kits, oil booms or oil soakage pads on the site and in particular at areas of high risk with regard to spillage;
- Raw or uncured waste concrete will be disposed of by removal from the site;
- Before release to the environment, wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks will be treated to a level which will ensure that total suspended solids in discharges to surface waters (including drains) will not exceed 25mg/l. Furthermore, wash out water will not be released to the environment until it has reached a neutral pH;
- Only the chute of the concrete delivery truck will be cleaned on site, using the smallest volume of water necessary. Concrete trucks will be directed back to their batching plant for washout;
- Clearly visible signs will be placed in prominent locations close to concrete pour areas, stating that washout of concrete lorries is not permitted on the site;
- The arrangements for concrete deliveries to the site will be discussed with suppliers before commencement of work, agreeing routes, prohibiting on-site washout and discussing emergency procedures;
- So as to avoid spillage, concrete will not be transported around the site in open trailers or dumpers. All concrete used will be pumped directly into the shuttered formwork from the delivery truck;
- Concrete pours will be avoided where prolonged periods of heavy rain are forecast and covers will be available for freshly placed concrete to avoid the surface washing away in heavy rain;
- Installation of wheel wash and plant washing facilities with fluid retention for appropriate treatment and disposal;
- Effluent generated on the site from the contractor's sanitary facilities will be discharged to a holding tank and removed off site by a certified waste removal contractor in accordance with the requirements of the Waste Management Acts of 1996 and 2001, and,
- Implementation of waste minimisation measures with correct handling, storage and disposal of waste.
- A contract will be entered into with a suitably qualified contractor for maintenance of the attenuation system, Hydrobrake and full retention fuel / oil separator noted above.

The following measures with regard to fluvial flood risk have been recommended by IE Consulting and will be implemented as part of the proposed Development:

- Proposed finished ground levels (road levels, etc) will be constructed to a minimum level of 0.15m above the maximum predicted 0.1% AEP flood level upstream of the site – i.e. 65.18m + 0.15m = 65.33m OD.
- Proposed finished floor levels will be constructed to a minimum level of 0.30m above the maximum predicted 0.1% AEP flood level upstream of the site – i.e. 65.18m + 0.30m = 65.48m OD.

Traffic Management Plan - Site Access/ Egress, Haul Routes & Traffic Management

Note: a separate Mobility Management Plan and Traffic Impact Assessment report have been prepared Roadplan Consulting Ltd. All site personnel will be made aware of these plans and of their recommendations.

Site access will be maintained to the site at all times by Westar Investments Limited who will be responsible for traffic management on site. Minimum disruption is expected (where reasonably practicable).

Construction access will be via Brooklands estate to the R403 as outlined above. Construction traffic is not permitted via Clane Main Street and traffic coming the south/south-east is to travel via the bypass/ring road – Refer Fig. 4 below.

Figure 4 – Local Road Network, Entrance from Brooklands Estate from R403 & Clane Bypass/Ring Road

Access to the designated work site will be via the existing entrance off Brooklands estate. Road and existing sightlines will be kept clear always. The parking of contractor's vehicles will be set out on site in the designated site compound (refer Fig. 3 above), ensuring traffic does not cause any unnecessary congestion and potential traffic hazards along Brooklands estate.

The compound area (as identified in Fig. 3 above) will be fenced off by hoarding and locked each evening as part of our security on site. Fencing will be erected at the main entrance to the site from Brooklands and will be tied off; fencing will also be erected around the site as required. No debris/plant/tools etc. will be left in an area where a

member of the public could trip or injure themselves in any way. The work site will be secured at the end of each working day.

All deliveries/trucks must enter the site immediately, i.e. with no parking along the public footpath or roadways of Brooklands estate. To this end, the site entrance and related fencing/temporary hoarding will be set back from the road as indicated previously.

Delivery of materials to site will be timed separately and it is envisaged that there will be no interruption to main traffic on this route. Due consideration will be given to peak traffic periods, including morning and evening school runs, with site deliveries and collections to be scheduled outside of these times where possible. In the event of abnormal loads being delivered to site, Westar Investments Limited will ensure there will be a banksman present on the main road to instruct vehicles on where they are to go.

Relevant warning signs as per traffic management plan will be erected at 25m and 50m distances of each side of all approaches to the site entrance to advise the public and motorists of construction activities. Slow Down signs indicating 10 kmph will be required along entrance road into Brooklands Estate and the site compound. The signage will indicate construction traffic and general warnings to the passing public. Signage used will be in accordance with the Department of Transport, Tourism and Sport (DTTAS) Traffic Signs Manual.

Access roads to the development site will be keep clean at all times, and a road sweeper/wheel wash will be required where necessary.

Waste Management

NOTE: separate preliminary Construction Waste and Operational Waste Management Plans have been prepared by RedKite and recommendations should be read in conjunction with detail below.

It is the policy of Westar Investments Ltd to comply with statutory provisions of the Waste Management Act (WMA), 1996 as amended and associated regulations create a "cradle to grave" responsibility for the management of waste. A separate Preliminary Construction Waste Management Plan has been prepared in accordance with *Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects'* produced by the National Construction and Demolition Waste Council (NCDWC) in July 2006.

Prior to commencement of works, a further full detailed and comprehensive Construction Waste Management Plan will be prepared and copies made available to all personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the Waste Management Plan and informed of the responsibilities which fall upon them as a consequence of its provisions.

Westar Investments Limited Site Foreman shall be designated as the Responsible Person and have overall responsibility for the implementation of the on-site Construction Waste Management Plan.

The final CWMP will include the below measures aimed at *reducing* the amount of waste produced, *reusing* waste materials where possible (e.g. timber off cuts), segregating and *recycling* waste materials:

- Building design will make use of 'off-site' construction techniques and pre-fabricated building components (e.g. timber frame) where possible to reduce waste created on site.
- A "just in time" system will be implemented for material supply to prevent waste generation.
- Non-hazardous waste generated will be segregated on site.
- Hazardous material will be segregated and stored in appropriate containers on site (e.g. bunding of fuel tanks). Hazardous waste materials leaving site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licensed facilities.
- Waste skip and recycle skip on site at all times during the project.
- Waste bins, containers, skip containers and storage areas will be clearly labelled with waste types which they should contain including photographs as appropriate.
- The site will be maintained to prevent litter and regular litter picking will take place throughout the site.
- Excavated soils (sub-soils and topsoil) will be mounded on site and re-used.
- Waste material not fit for recycling or re-use on site will be transported to an authorised waste disposal facility by permitted haulier.
- All waste leaving the site will be recorded and copies of relevant documentation maintained.
- Waste collection permits for registered Hauliers and certs of registration/ licenses/permits for authorised waste facilities will be kept on file at head office.

3.0 Organisation & Management

Project Directory

Function	Organisation	Contact Details	Address
Client	Westar Investments Ltd	T: 045 989000 E: info@westargroup.ie	Dublin Rd Clane Co Kildare
Engineer	Brian Connolly Associates	T: 045 892211 E: bca.brian@gmail.com	Woods Way Clane Co Kildare
Architect	CW + O'Brien	T: 01 5180170 E: info@cwoarchitects.ie	No. 1 Sarsfield Quay, Dublin 7
Project Supervisor Construction Stage	Westar Investments Ltd	T: 045 989000 E: info@westargroup.ie	Dublin Rd Clane Co Kildare
Arborist (to be retained for duration of the works)	The Tree File Ltd	T: 01-2804839 E: thetreefile@eircom.net	Dun Laoghaire Co. Dublin
Landscape Consultant (to be retained for the duration of the works)	Landmark Designs Ltd	T: 086 851 9296 E: info@landmarkdesigns.ie	Prosperous Co. Kildare

Coordination of Contractors

Westar Investments Limited will co-ordinate/direct the various contractors in matters of Health & Safety and the Environment will be through set-up and ongoing site meetings. As particular activities are further assessed there may be a requirement for task specific method statements for those activities outlining work methodologies and any impact on activities by others, evaluating any risks and the controls to be put in place to minimize any risk, any co-operation required from other contractors etc.

Managing Directors

The Managing Directors are responsible for ensuring that arrangements are in place so that the following lists of criteria can me met or implemented.

- Coordinate and prioritise for action health and safety and environmental issues raised through audits or by individual employees or managers.
- That Safety Procedures are complied with at all times.
- Ensuring that all contractors are capable and willing to carry out work in a safe manner in accordance with the Westar Investments Limited's policy.
- Identifying safety and environmental training needs and ensuring that appropriate training is carried out.
- Ensuring that all employees are capable and willing to carry out work in a safe manner in accordance with statutory obligations and the Company's Safety Management System.
- Ensure that all employees are aware of actions to be taken in case of emergency and that properly maintained fire-fighting equipment is available.
- Ensure that an Accident Report form is completed thoroughly and promptly for all reported accidents and when necessary, ensure accident reports have been filed with the Authority.

- All persons who are employed are made aware of the Company Safety Statement
- Co-ordinate and prioritise for action health and safety issues raised by the health and safety audits or by individual employees or managers.
- That training as required is provided for all employees.
- That accidents, incidents, near misses and dangerous occurrences are fully investigated and appropriate action taken. All accident reports are forwarded to the financial Controller. All reportable accident details are forwarded to the Health & Safety Authority.
- That all statutory and recommended safety inspections/certifications are recorded for equipment such as lifting machinery, slings, pressure vessels and fire equipment.
- That all Machinery, Equipment, etc. Within Westar Investments Limited is of safe design, safe to use, and regularly maintained.
- That Contractors, etc. are fully aware of the Company Safety Procedures. They must comply (without exception) with these requirements at all times.
- Those Contractors at all times adopt a safe system of work, and that the safety standards within Westar Investments Limited are not lowered by the work of any Contractors.
- Lead by example in promoting a safety conscious attitude amongst all employees by showing good example.

Site Foreman

The Foreman is responsible for ensuring that arrangements are in place so that the following lists of criteria can me met or implemented.

- Ensuring that an analysis of the hazards and assessment of the risks associated with the execution of a project has been carried out and arrangements made to ensure that all work is carried out safely.
- Ensuring adequate welfare, first aid and firefighting facilities and equipment are available on site.
- Communicating all relevant information included in the Safety Statement to employees, contractors, or clients by means of company inductions and toolbox talks.
- Ensure that safety standards laid down in the Safety Statement are adhered to and obeyed.
- Verifying that all Westar Investments Limited personnel on site have received proper induction training to include a review of the site safety rules, the use of personal protective equipment, emergency procedures, first aid, accident reporting and any other relevant safety issues.
- Verify that all Westar Investments Limited employees and contractors have appropriate safety training and that they are trained and competent in their relevant task.
- Ensuring that all equipment brought onto each site is maintained and carries the appropriate certification and that the operators are trained and competent in their specific use.
- Be aware of all identified hazards in their area of responsibility and specific measures are taken to reduce the risks associated with these hazards e.g. the use of specific plant and equipment, etc.
- Ensure that all employees are aware of actions to be taken in case of emergency and that properly maintained fire-fighting equipment is available.
- Ensure that an Accident Report form is completed thoroughly and promptly for all reported accidents by the supervisors. Obtain and file any accident investigation reports, when necessary ensure accident reports have been filed with the Health and Safety Authority.
- Monitor the activities of Westar Investments Limited visitors and contractors on site to ensure their safety.
- Notify the Managing Directors of any situations, which may present a safety hazard to contractors, or the public.

- Provide information to operatives regarding any work on site, which may present unusual, or significant risks to health and safety.
- Ensure all measures for protection of the environmental as set out in the EIAR are implemented.

Employees

In accordance with the requirements of Section 13 of the Safety, Health and Welfare at Work Act 2005, employees have the following responsibilities:

- All employees are required to co-operate fully with all provisions taken by the company for ensuring the safety, health and welfare of other employees, contractors, and clients.
- All employees are required to immediately report all incidents, dangerous occurrences, unsafe conditions, and unsafe acts to their immediate supervisor/foreman.
- All employees are required to adhere to all safe systems of work, use appropriate personal protective equipment and use all safety equipment provided.
    - All employees must wear protective footwear
    - All employees working on roadwork's must wear safety helmets
    - All employees working on noisy machines must wear hearing protection i.e. tar spreaders
    - All employees must wear breathing masks, eye and ear protection and other PPE as deemed necessary.
- Employees are also responsible for reporting damage to equipment and the need for repair/replacement of items of personal protective equipment to their immediate superior.
- All employees are required to discharge their work in a safe manner so as to avoid injury to themselves/other staff and avoid damage to equipment and property.
- Any member of staff who does not adhere to Company safety rules will be subject to appropriate disciplinary action.
- All employees that have been trained in the SOLAS Safe Pass Programme must carry an up to date registration card at all times while working on site.
- It will be the duty of the employee not to be under the influence of any intoxicant to the extent that they endanger their own safety or the safety of others around them.
- To submit to tests for intoxicants, if reasonably required, with the tests being carried out by or under the direct supervision of a registered medical practitioner, who is a competent person.
- It will be the duty of the employee to inform their employer if they are suffering from any disease or illness, which may add to risk.

All employees are required to adhere to instructions related to waste management and environmental protection.

4.0 Safety & Health Standards

Project Standards

The minimum standards for Safety & Health on this project will be to comply fully with the Statutory Requirements of the Safety Health & Welfare at Work Act, 2005 the Safety Health & Welfare at Work Construction Regulations 2013 & General Application 2007 regulations and other relevant Statutory Regulations and amendments hereto, as far as is reasonably practicable.

Should any situation arise that might impinge on project activities directions will be given requiring compliance with specific associated rules. Should time permit, advance notice will be given regarding site meetings - otherwise direction will be given to the various contractor's site management as the need arises.

Communicating Safety & Health Risks

The principle source of communication for Health & Safety issues and risks and environmental management will be through:

- Site Induction
- Tool Box Talks
- Site meetings.
- Method statements

Selection Procedures

A review of contractors will take place on a regular basis to determine their competency in the matters of Health and Safety.

- *Contractors*

Evidence of appropriate insurance's being in place, evidence of Safety Statement with Method Statements in particular circumstances showing provisions for Safety & Health. All method statements must be signed off by the relevant contractor's employees.

- *Material Suppliers*

Material Suppliers are to supply relevant Health & Safety information on their products particularly by way of Safety Data Sheets relevant to the PSCS for inclusion in the Safety File, or as otherwise required.

- *Machinery & Plant*

Machinery & Plant to be selected complying with CE mark of approval, used only for the purpose for which it is intended, and properly maintained. To be operated only by trained operators.

Statutory records (schedule 1 part A-E of the 2007 general applications) are to be kept where appropriate and to be made available for inspection by the PSCS.

5.0 Communications & Cooperation

Communicating with anyone who's Safety & Health might be affected

The Categories of people who might be at risk are:

- Members of the project team on site visits.
- Construction Site workers.
- Client representatives, visitors, and others.
- Members of the public
- Adjoining estates residents
- Vehicular Traffic

Site hoarding fencing will be erected at the site boundary lines. Temporary work certification will be required to be signed off for the erected hoarding. Directional signage and warning signage will be erected on the perimeter fencing.

The members of the project team will be made aware of any Safety & Health risks through this Safety and Health Plan, Inductions, and Site Meetings. Site workers will be aware of their various company Safety Statements, and through meetings on site, as necessary, will be made aware of any particular risks to which they might be exposed. All site personnel will be inducted when starting work on this project.

There will be on-going safety awareness programs/tool box talks to keep site workers up to date with changing events. A Copy of this Health and Safety Plan will be available in the site office.

Visitors, on reporting to the site office will be made aware of any risks they might encounter before being allowed on to the site.

Arrangements for Securing Contractors

All contractors are to produce the following:

- Evidence of relevant training.
- Evidence of Safe Pass
- Company Safety Statement
- Site Specific Method Statement.
- Relevant insurances.

Minimum safety Requirements:

- The Construction Stage, Health and Safety Plan will be brought to the attention of all Subcontractors at the pre-commencement meeting or shortly thereafter.
- All sub-contractors must comply with the terms of this document.
- All Subcontractors' "responsible person" is required to attend a Site Safety Meeting arranged by Westar Investments Limited
- All sub-contractors must ensure that their employees are adequately trained for the duties assigned to them.

- All personnel on site will receive Site Safety Induction. Each person attending the induction training must sign the attendance sheet at the end of the induction course.
- All Contractors must carry out Tool Box Talks regularly. Records must be returned to Site Manager or the Site Safety Officer.
- Appropriate PPE must be worn by all Workers, Managers, Directors, Supervisors and Visitors on site. Sub-Contract supervision must ensure that this requirement is monitored and enforced.
- All sub-contractors must comply fully with the Safety, Health and Welfare at Work Act 2005 and all other relevant legislation relevant to their operations.

Training

Note: All site personnel shall furnish Westar Investments Limited with adequate proof Safe Pass and CSCS training. Any person, who does not have a safe pass card, or formal confirmation from Solas that he/she has completed safe pass training or the relevant CSCS must not be allowed to enter the site.

All site personnel will undergo an initial induction talk and thereafter participate in Tool Box Talks taking place regularly carried out by site management or the subcontractor, dealing with specific areas in the building process. All Westar Investments Limited employees will receive the site specific induction and will sign the necessary sheets for confirmation of attendance at these talks.

Insurances

The Sub-contractor insurance cover must be checked prior to commencement of work on site, i.e., Employer's Liability, Public Liability and All Risk. As each subcontractor is appointed their insurance details are placed on the central database at Westar Investments Limited head office. The expiry date of the Subcontractors insurance will be recorded on the subcontractor register and any subcontractor whose insurance details has not been confirmed or has expired must be removed from site.

Safety Statements

Every Subcontractor, employer and self-employed person carrying out work on this project must have a safety statement in compliance with Section 20 of the Safety Health and Welfare at Work Act 2005.

Safety Statement may require revision during the course of the contract works relative to any new hazards/risks, which may arise.

6.0 Arrangements for Management of activities with risks to Safety & Health

Task specific Method Statements, in addition to describing the sequence and execution of the activity under consideration, will also include resources required. Task specific Method Statements will highlight the hazards as understood by the proposer, the risks associated with the particular hazard and the control mechanisms necessary, if the hazard cannot be eliminated.

Task specific Method Statements will state who might be harmed, the effects on, and the co-operation / attendance's required from other contractors and will, in the first instance, be prepared by those proposing to carry out the activity under consideration. The project management will assess or have the task specific method statement assessed, and amended if necessary, prior to the activity proceeding.

Westar Investments Limited will assess the information supplied and make all affected of the final outcome, by the most appropriate means.

Material will be stored within a secure site are enclosed with compound. Office and site storage area will be located at site entrance and securely locked after working hours.

Waste and debris will be removed from the site as required.

7.0 Activities with Particular Risk to Health & Safety

Risk Definition & Matrix

Please refer to Appendix 3

Emergency Procedures

Site specific method statements should include emergency procedures for identified hazards. In the event of any emergency, the emergency plan - which shall be updated and developed as the project progresses.

Any contractor engaging in hot work shall have an appropriate fire extinguisher and fire blanket available adjacent to the area of work at all times, and the relevant permit to work, as appropriate.

As part of the induction process all new comers to the site shall be made aware of the

Emergency procedures. An assembly area shall be designated and "Signed".

An assembly point will be positioned at the site access gate.

Reporting of Accidents, Dangerous Occurrences & Near Misses

After the incident, the site foreman will interview the personnel involved, all witnesses and fill in the following details:

- Accident location, department
- Description of work activity
- Date and time of accident
- Description of accident
- Name, Address & Contact Details of the Person Injured
- Injuries caused
- Damage caused
- Cause of accident
- Name of personnel involved
- Name of Witnesses
- Condition of area
- Sketch and/or photographs signed and dated
- Statements signed and dated
- Any other relevant information

A section on the report will be completed by the Occupational First Aider, including the description on injury, treatment given, if the emergency services were called and any other relevant information.

8.0 General Safety

Arrangements for Welfare Facilities

Westar Investments Limited shall make welfare provisions for their workers available; to be located in the site compound area in accordance with Regulation part 2 chapter 1 general application & part 14 of the Construction Regulations 2013.

Arrangements for Displaying Notification to the HSA

Westar Investments Limited will put on public display a copy of the Notification to the HSA (AF2) regarding the commencement of the project as required by Regulation 22 of the Construction Regulations) and any subsequent updating thereof at the site office.

Arrangements for Consultation regarding Safety & Health with people on site

Generally, matters regarding Health & Safety shall be communicated to People on site having being highlighted at site meetings or otherwise by site management at induction's or toolbox talks. However, Westar Investments Limited may reasonably be required to communicate on such matters directly with people on site. This shall be done efficiently and with the co-operation of the contractors on site.

Arrangements for Making Site Rules and notifying people on site

Should the need arise for making site rules, in addition to those already in Appendix 1, such rules shall be made in consultation with Senior Site Management, who will alert their workers immediately of such event

Arrangements for Monitoring in matters of Health & Safety

Westar Investments Limited shall arrange to monitor or cause to be monitored, by way of unannounced spot checks or audits, compliance with Statutory Requirements, site rules and procedures as set out or referred to in these documents or elsewhere in the package of documentation, from time to time. Any remedial action deemed necessary shall be responded to as soon as reasonably practicable, depending on its urgency / priority.

Tool Box Talks

Tool box talk topics will be issued to Subcontractors Foremen at the Site Safety Meetings if required. The first topic for the Subcontractors to discuss with their workers is their safety method statement for the work they are to carry out on site. All subsequent tool box talks must be relevant and particular to the type of work that the Subcontractor is carrying out on site.

9.0 Project Review & Safety File

Project Review

The project shall be reviewed at key points during its progress and particularly on completion by various trades. This review will be for sharing of information gathered and any lessons learned.

Where appropriate, specialist subcontractors will be asked to prepare as-built drawings, maintenance procedures etc.

Safety File

In accordance with Regulation 13 (a) & (b) it is the duty of the PSDP to prepare a safety file on completion of the project. In accordance with Regulation 21 (1) Westar Investments Limited acting as PSCS for the project shall coordinate arrangements among contractors to ensure the provision of relevant information, in writing, necessary for the project supervisor for the design process to complete the safety file. The co-operation of all contractors and the design team is sought to agree arrangements leading to the efficient gathering of information, so that the Safety File can be completed. Such information shall include,

- As built drawing and final specifications, maintenance manuals etc.,
- Safety Data Sheets.
- Specifications of building services.
- Information on any known hazardous materials or substances incorporated
- Instructions for routine maintenance requirements particular safety measures.
- Maintenance manuals and instructions for plant and machinery
- Any other information with particular reference to aspects of Safety & Health that might affect any subsequent construction work.

10.0 Emergency Plan

Accident & Emergency Plan

In the event of a major Emergency

- Raise the alarm
- Inform the fire brigade / emergency services
- Deal with the incident, only if it is safe to do so
- Evacuate in an orderly manner, to the designated assembly area.

The Supervisor for each sub-contractor:

- Must do a head count to see if anyone is missing,
- Must report to Westar Investments Limited management on the status of personnel
- Must ensure that nobody leaves the assembly point until the all clear has been given.

The Site Management:

- Must detail a person to man the telephone.
- Must detail a person to man to direct emergency services onto the site.
- Must receive and brief the emergency services
- Must make a safe office available for the emergency services
- Must check that all operatives are accounted for.
- Must check the situation at the assembly point.

In the Event of an Emergency

1. Dial 999 or 112 and ask for:
   a. Ambulance
   b. Fire Brigade
   c. Garda

2. Clearly and calmly give the following instructions
   a. Name of Company: Westar Investments Limited
   b. Site: Capdoo Clane Residential Development
   c. Site Telephone No: Give your number and remain at the scene.

3. Organize a First Aider to administer first aid to injured party if safe to do so

4. Ring Head Office and inform the Safety Manager.

Emergency Telephone Numbers

DESCRIPTION	LOCATION	NUMBER
Fire Brigade		999/911
Ambulance		999/911
Gardai		999/911
Local Garda Siochana	Clane	045 868262
Nearest Hospital	Naas	045 849500
Local Authority	Kildare County	045 980200
ESB Emergency Service		1850 372999
Bord Gáis Emergency Service		1850 205050
Eircom Emergency Service		01 9012345
Westar Investments Limited		045 989000

Fire Extinguisher Type

FIRE RISK	WATER	FOAM	CARBON DIOXIDE	DRY POWDER
LABEL COLOUR	**RED**	**CREAM**	**BLACK**	**BLUE**
Paper, Wood, Textile & Fabric (Class A)	□	□		□
Flammable Liquids (Class B)		□	□	□
Flammable Gases (Class C)				□
Electrical Hazards			□	□

Appendix 1: Site Rules / Inductions

Capdoo , Clane: Site Rules / Induction

- You must have a SOLAS SAFE PASS Card to work on this Project, letters confirming attendance at (Safe Pass Courses) must be accompanied by a recognized form of Identification (i.e. Passport or Driver's license)
- You must have a Construction Skills Certification Scheme (CSCS) Card for specified operations on site (banks man/ slinger, telescopic handler, site dumper, scaffolding basic or advanced. Copies of these must be submitted to Site Office
- You are NOT PERMITTED to carry out on works on this Project, if you have not been specifically trained to carry out those works (i.e. mounting of abrasive wheels, MEWP operation, operating cartridge tools).
- Falsification of safety documentation will result in instant dismissal from site and your detail passed on to the relevant authorities.
- You have a legal responsibility to report any situation / operation / plant / equipment you regard as dangerous on this project.
- Safety footwear, safety helmets and hi visibility vests must be worn at all times on site.
- Hearing protection must be worn when working with or near noisy machinery/ tools.
- Eye protection is compulsory and must be worn, when cutting, drilling, using air tools and pouring concrete.
- Overalls, dust masks, and heavy-duty gloves must be worn when working with / or near chemicals.
- Any chemicals, gas cylinders or potentially hazardous materials used on-site must be secured and locked when not in use, in an approved storage location. Safety Data Sheets for such chemicals/ gases must be maintained on-site. Personnel working with these substances must familiarize themselves with the SDS prior to handling/ working with the material.
- All work at height must be accompanied by risk assessments specific to that site before work commences. All working at height equipment (not mechanical) must be labelled and inspected at least once a week (or where required). A GA3 form must then be completed.
- Climbing Formwork shutters or working-off unprotected edges is strictly prohibited on-site.
- Ties/ handrails/ toe boards/ etc must not be removed without the authorization of Westar Investments Limited. Management; - Failure to comply will result in immediate dismissal from site.
- Only Qualified Scaffolder's are allowed to erect or modify scaffolding or edge protection on-site.
- Safe access and egress must be maintained at all times, this means ensuring that rubbish and materials are kept clear of access routes at all times. All employees must operate a clean-as you- work-policy at the end of the working day.
- If you have an accident or suffer injury in the course of your work in this building site, it is your responsibility to report the incident to your immediate supervisor and to the Health and Safety Officer or the Site Manager for Westar Investments Limited on site. Failure to report any incident or injury will result in disciplinary procedures being taken against you and your employer (if appropriate).
- The use of ladders as work platforms is allowed but other means of working at height must be considered by risk assessment before the use of ladders will be allowed. All Contractors using ladders must ensure full compliance with the working at Height Regulations 2013.
- Westar Investments Limited. Management reserve the right to stop work if it is deemed that work will pose a threat to health and safety of persons on site or third parties.
- All personnel have a responsibility for their own safety and the safety of others. You must conduct yourselves accordingly.

- Any persons who engage in horseplay or wilfully endanger others by their actions or neglect must be subject to disciplinary action.
- Any enquiry from a member of the public must be referred to Westar Investments Limited Management.
- Any person found to be under the influence of intoxicants while working on Westar Investments Limited development will be removed from site and disciplinary action taken immediately.
- Please read Westar Investments Limited. Policy Statement (located in induction/meeting room or canteen)
- First Aid is available in the site office
- Canteen / washing facilities and toilets are available in the compound – Keep them clean. Personnel found misusing welfare facilities or urinating on-site will be removed from site and prohibited from working on all future Westar Investments Limited developments.
- Personnel are strictly prohibited from eating in construction areas or in finished areas, canteen facilities must be used and cleaned after use.
- Assembly point in the event of emergency evacuation is: Front Gate
- Smoking is strictly prohibited in all enclosed areas of the site including; site offices, canteen, drying rooms, toilets, enclosed apartments. Persons found smoking in restricted zones are liable to be dismissed from site.
- Westar Investments Limited takes no responsibility for property lost or stolen onsite.

Safe Pass Expiry Date		Safe Pass No.	
Manual Handling expiry date		Abrasive Wheels expiry date (If applicable)	
CSCS Training Category		CSCS No.	
CSCS Training Category		CSCS No.	
CSCS Training Category		CSCS No.	
Name (PRINT)		Signed:	

Appendix 2: First Aid Requirements

The following is a list of recommended supplies, which should be contained in First Aid Boxes and Kits:

MATERIALS	**First Aid Travel Kit Contents**	**FIRST AID BOX**		
		1-10 persons	**11-25 persons**	**26-50 persons**
Adhesive Plasters	20	20	20	40
Sterile Eye Pads (Bandage Attached)	2	2	2	4
Individually Wrapped Triangular Bandages	2	2	6	6
Safety Pins	6	6	6	6
Medium Individually Wrapped Sterile Non-medicated Wound Dressings (approx 10 x 8 cm)	1	2	2	4
Large Individually Wrapped Sterile Non-medicated Wound Dressings (approx 13 x 9 cm)	1	2	6	8
Extra Large Individually Wrapped Sterile Non-medicated Wound Dressings (approx 28 x 17.5 cm)	1	2	3	4
Individually Wrapped Wipes	10	10	10	20
Paramedic Shears (Scissors)	1	1	1	1
Pairs of Latex Gloves	3	5	10	10
Additionally, where there is no clear running water, Sterile Eye Wash	2x20mls	1x500mls	2x 500mls	2x 500mls
Pocket Face Mask	1	1	1	1
Water Based Burns Dressing Small (10x10cm)	1	1	1	1
Water Based Burns Dressing Large	1	1	1	1
Crepe Bandage (7cm)	1	1	2	3

NOTES

Where more than 50 persons are employed pro rata provision should be made.

Where mains tap water is not readily available for eye irrigation, sterile water or sterile normal saline (0.9%) in sealed disposable containers should be provided. Each container should hold at least 300 ml. and should not be re-used once the sterile seal is broken. At least 900ml. must be provided.

Eye bath / eye cups / re-fill containers should not be used for eye irrigation.

Appendix 3: Risk Definition & Matrix

Probability Categories

Category	Definition
1	Practically Impossible
2	Not Likely
3	Possible
4	Likely
5	Very Likely

Consequence Categories (Safety)

Category	Definitions
1	First Aid, Near Miss
2	LTA (1 Day), Medical Treatment
3	LTA (3 Day), Dangerous Occurrence
4	Single Fatality
5	Multiple Fatality

Category	Definitions
Low	Acceptable level of risk. Risk is controlled as far as reasonably practicable. Existing Controls to be continuously monitored.
Medium	Should aim to reduce risk further to **A**s **L**ow **A**s is **R**easonably **P**racticable. (ALARP)
High	Unacceptable level of risk. Hazard **MUST** be avoided or level of Risk reduced significantly & reliably by controls.

Risk Matrix

		PROBABILITY				
		1	2	3	4	5
CONSEQUENCE	5	LOW	MED	HIGH	HIGH	HIGH
	4	LOW	MED	HIGH	HIGH	HIGH
	3	LOW	MED	MED	HIGH	HIGH
	2	LOW	LOW	MED	MED	MED
	1	LOW	LOW	LOW	LOW	LOW

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Housekeeping	Slips, Trips, Falls Inability to exit in case of emergency Unclean conditions	3	3	Medium	A high standard of housekeeping must be maintained at all times. Each contractor will be responsible for his or her own area ensuring that general clean up of the site takes place on a daily basis or upon the completion of work. All access/egress routes must be kept clear at all times. Combustible waste must be safely disposed of in appropriate containers. Materials should never be stored in positions, which would create hazards to workers. This includes storing materials on scaffolds, platforms, a roof or the materials storage areas. Each contractor supervisor and the Project Supervisor Construction Stage will monitor the work site to ensure housekeeping is maintained. All openings in floors, walkways, driveways etc. must be securely covered. Debris and materials must not be thrown or dropped from scaffolds or buildings unless a chute is provided or other suitable safe method used. Employees will be expected to maintain welfare facilities and leave them as close to the way they found them as possible. All contractors should understand site housekeeping requirements and tenders should take into account the labour required to comply with this standard.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Manual Handling	Muscle strains and sprains of arms, back or legs. Physical injuries from falling load.	3	2	Medium	Manual handling of loads will be carried out ONLY when mechanical equipment can not be used. Employees who are physically unsuited for the task will not be required or allowed to undertake manual handling operations. Where mechanical equipment can not be used, the appropriate manual handling training will be provided to all employees. Employees must assess loads prior to undertaking manual handling and reduce the risk of injury as far as possible	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Dust	Raised levels of dust Inhalation of dust Difficulty breathing	3	2	Medium	All workers exposed to dust from their work activities, must wear protective dust masks. Where there is a risk of eye irritation, workers must wear eye protection i.e. protective glasses / goggles. Workers will have access to protective gloves and barrier creams as necessary.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Noise	Noise Nuisance Noise Tinnitus	3	3	Medium	The company will ensure that every effort will be made to reduce workplace and environmental noise levels to a minimum, in so far as is reasonably practicable, so as to be safe and without risk to safety and health. In situations where noise levels are likely to exceed 80dBa suitable and adequate hearing protectors will be made available to all employees likely to be affected. In situations where noise levels are likely to exceed 85dBa, suitable and adequate hearing protectors will be provided and all employees likely to be affected will use the hearing protection, in accordance with manufacturer's instructions. Warning signs will be posted in all relevant work areas, indicating noise levels and the requirements regarding the use of hearing protectors. In compliance with the Safety, Health and Welfare at Work (General Application) Regulations 2007, audiometric testing will be made available to employees who are likely to be exposed to high levels of noise during their normal working day. Hearing protectors will be checked on a regular basis and replaced where necessary	2	2	Low

Material Risks:

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Cement dust/cement/Plaster	Skin irritation Skin disease Respiratory problems during demolition and floor cutting	3	2	Medium	Avoid breathing in dust, as well as the dust created by the surface treatment of hardened concrete, which may contain high silica content by wearing suitable respiratory protective equipment. Protect the skin from contact; wear long-sleeved clothing and full-length trousers, with rubber boots and gloves when required. If any cement gets into your eyes, rinse them immediately with plenty of warm water. Immediately wash off any dust, or freshly mixed cement that gets on to the skin.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Hazardous Substances	Burns Irritation Sensitisation Respiratory problems In severe cases cancer	3	2	High	The PSCS must carry out an assessment of health risks created by work involving substances hazardous to health. The PSCS must either prevent exposure of employees to substances hazardous to health or, where there is a reasonably practicable, adequately control exposure. Control measure must be developed and properly implemented and maintained by the PSCS's Safety Officer. Where engineering controls are introduced there must be regularly maintained and tested by a competent person. The atmosphere must be maintained in certain circumstances to ensure operatives are not being subjected to above the recommended OEL (Occupational Exposure Limits) for certain hazardous substances. Health surveillance, where it is appropriate for the protection of the health of employees, must be carried out and recorded. Information, instruction and training must be provided for persons who may be exposed to substances hazardous to health. A Material Safety Data Sheet must accompany all substances hazardous to health, which is permitted on site. This must be issued to site management and held within the safety management system. Employees have a duty to co-operate with their employer to enable them to comply with law and make full and proper use of any control measure, including PPE and must report any defects.	2	2	Low

Onsite Risks:

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Interaction with site Visitors	Pedestrians struck with plant at site entrance. Pedestrians struck with plant along footpath Unauthorized access.	3	3	Medium	All plant will work inside enclosed hoarding / palisade fencing throughout the project. All deliveries to and from the site will be marshalled to ensure the safety of the public Fencing will be erected and maintained enclosing all site work areas. Warning signage will be erected along pedestrian access routes and on perimeter fencing All site personnel will be made aware of the presence of pedestrian and vehicular traffic through tool box talks and site induction's. All works activities will be cordoned or fenced off Traffic management plans will be prepared for all works out side site boundary.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Civil Works / Site Preparation	Vehicle accidents Noise Struck by materials Collapse of excavation Trip / Fall Exposure to hazardous materials Portable power tools (moving parts and electricity)	3	4	High	All operators of excavation equipment must be competent and over 18 years of age. Operators are to be in safe positions at all times. Banksman will be used where necessary to assist a vehicle driver in manoeuvring. Traffic routes around / across the site will be designated prior to work with the right of way clearly indicated. Vehicles are subject to routine maintenance and certification in accordance with manufacturer instructions and current regulations. Vehicle engines are to be switched off when not in use. All employees are to wear hardhat protection and safety footwear. All excavations will be closely supervised by an experienced, competent, person The local authorities should be contacted to determine the position of electrical cables and sewer lines and the area scanned if necessary. Where possible, overhead lines will be de-energised or re-routed. Where this is not possible, adequate safeguards will be in place to protect vehicle contact with these lines. The safety of the public, particularly children must be considered when excavations are left open outside of working hours. No person is permitted to enter any unsupported excavation over 1.25 meters unless the sides are properly supported or sloped back to a safe	2	4	Medium

					angle for ground conditions which apply. Excavations will undergo thorough examinations on a daily basis; more often if weather conditions i.e. rain require it. Examinations will be recorded on the AF3 and maintained on site. Access to excavation with Materials must not be stacked or placed near the edges of excavations. Secure barriers must be provided around any excavation more than 2 meters deep or excavations of any depth in public areas. The potential presence of a toxic or flammable atmosphere in the excavation will be evaluated prior to entry and appropriate action taken. A competent person will be responsible for any demolition work on site. This person will ensure that services are cut/isolated to any area subject to demolition works and identify any potentially hidden services, asbestos, lead or other toxic materials before work commences. A risk assessment shall be carried out to identify potential hazards and develop appropriate controls. Hearing protection is to be worn while operating pneumatic drills and other demolition equipment when appropriate. When significant dust is generated during excavation and groundwork the soil is to be dampened and, when necessary, dust masks and goggles worn. The use of explosives on site for demolition or excavation will be carefully monitored by a competent person. Method statements will be required prior to using explosives on site. A thorough examination must be carried out after blasting in or near an excavation or existing structure. The use of explosives shall be administered accordance with Regulation (35) of the 2013 Safety, Health Welfare at Work			

					(Construction) Regulations. All portable power tools will be in good condition and suitably guarded. All equipment is to operate on 110V only.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Excavations	Collapse Material falling Vehicle over turning Water build up Unprotected edges	3	2	Medium	The location of electric cables, drains, gas and water mains etc. will be determined and marked prior to the commencement work. Local authorities and, where necessary, scanning are to be used to determine service locations. Excavations of 1.25 metres depth or greater will be properly sloped or shored at all times pending site based risk assessment. A competent person must approve trench designs prior to entry. Warning lamps must be used during hours of darkness, or low visibility. A competent person must adequately complete the appropriate AF3 Form daily when working with excavations. Reports and forms will be filed on site available for review. During excavation work the surrounding areas must be maintained in an orderly and tidy condition. Air monitoring will be performed before entry.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Plant and Equipment	Struck by site transport Falls from vehicles Contact with moving parts of machinery Struck by materials Noise Interaction with public traffic.	5	3	High	Westar Investments Limited. appointed plant contractor will ensure that all transport vehicles when delivered to site, are in good order and equipped with all safety devices, and guards. Any defective vehicle or piece of equipment will be isolated. The machine will not be used until the defect is rectified and the equipment is re-inspected / certified. Only authorised personnel are permitted to operate the plant. Only personnel who have undergone training from the equipment supplier and/or relevant contractor, are authorised to operate the plant. Plant will be parked in a safe area to minimise interaction with the client's employees and members of the public. Plant sub-contractor personnel shall be in attendance at all times during loading and unloading operations under the supervision of a training banksman with relevant CSCS. Exclusions zones shall be set up to ensure segregation from moving part and moving plant. Westar Investments Limited. will ensure segregation of pedestrian and vehicular traffic on the site location. All site personnel must wear High Visibility clothing.	3	1	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Rollers/ Dumpers	Unloading from trucks/driving on ramps Collision with people, equipment/buildings Machine runaway Overturning Noise Falling objects Fire Electrical	3	4	High	To load/unload the dumper from any transport vehicle, there must be a wire rope, hook and wrench attached from the machine to the trailer. All machines must have roll bars and safety belts/harnesses insitu. All equipment will be inspected and checked by fully trained personnel prior to its release from and return to the premises. Only trained personnel will operate the Rollers. The operator at the start of each day must check the roller. Operators must look in the direction of travel at all times. All personnel working in the vicinity of these machines must wear high visibility vests. Passengers are never to be carried on this machine, unless designed to do so. Safe access must be provided to the Roller. Long hair, jewellery, loose garments must not be worn when working near moving parts of the machinery. A suitable fire extinguisher should be installed on all rollers. The operators' instruction manual should be in place on all machines.	2	2	Low

					Rollers should always be parked in a safe manner and in a safe area. Adequate and suitable personal protective equipment should be worn by the operators, for e.g. steel toe capped shoes, and overalls. No modifications are to be made to equipment without the manufacturer's approval.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Use of Teleporter/Plant	Collision with people, equipment, buildings Machine runaway Unsupported raised forks Overturning Noise Falling objects Fire	3	2	High	Only trained and certified personnel may operate teleporters. The machine must be checked out by the operator at the start of each working day/shift. Operators must look in direction of travel at all times. A spotter shall be utilized for operations in the public areas surrounding 1 Proby Square. . Speed limits shall be obeyed at all times. The Safe Working Load (S.W.L.) of the machine must never be exceeded. Teleporter must never be driven with forks raised Passengers must never be carried, unless the machine is designed to do so. Safe access must be provided to all fork trucks Long hair, jewellery, loose garments must not be worn when working near moving parts of machinery All personnel should be trained in safe manual handling techniques. The operator must ensure that all loads are secure before lifting/moving	1	2	Low

					A suitable fire extinguishers should be installed on all fork trucks. Teleporter must be parked in a safe manner and in a safe area. In the event of a teleporterbreaking down while transferring goods, care must be taken to ensure the goods are secured and personnel are not exposed under the load. Adequate and suitable personal protective equipment must be used by fork truck operators. No modifications can be made to equipment without manufacturer's approval.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
360º Excavator	Collision Crushing and Entanglement Poor Visibility Overturning Noise	3	2	Medium	Only trained and certified personnel may operate the excavator. The training must meet CSCS standard. The machine must be examined by the operator at the start of every working day / shift. Normal diesel/engine checks must be carried out at the start of every working day. Certificates will be stored on file in the site office, available for review. Any defects must be reported to employer / supervisor. Before commencement of work, all underground services must be located and clearly marked. Overhead power lines must be identified and made safe, liaison must be made with the relevant bodies at this time. All personnel should keep clear of the swing radius of the excavator. The excavator will be fitted with adequate movement alarm and flashing beacons with CCTV or convex mirrors or a combination of both to allow vision from the driver's seat at all points more than 1 metre high and 1 metre from the machine as required by the 2013 Construction Regulations.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Existing Live Services	Electrocution	3	4	High	Existing services noted on drawings. Liaise with various utility service providers, especially ESB and local County Council. Use CAT to check all excavations prior to dig and location shall be investigated by hand dug trial holes prior to machine excavations. All plant drivers will be made aware of the locations on site of electrical services. Check existing drains run, levels and design to avoid clash with existing drainage/services.	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Working near high voltage power lines	Electrical shock Burns	4	4	High	Always assume that overhead power lines are "LIVE" unless it has been verified by ESB Networks that they have been "switched-out" and earthed. Operate high reach plant at a slower than normal rate when in the vicinity of overhead electricity lines. Exercise caution when travelling over uneven ground that could cause a high reach to weave or jolt close to overhead electricity lines. Keep all personnel well away from high reach plant whenever close to overhead power lines. Exercise caution near long spans of overhead power lines since wind can cause significant sway in the conductors and reduce the clearance between the plant and the line. All long objects should be carried horizontally below shoulder level in the vicinity over overhead power lines. Contact the appropriate service providers and request advice. Look around for obvious signs of services and overhead wires. Prior to digging, area to be scanned with CAT in conjunction with utilities drawings. Ensure supervisor has copies of known service plans and is familiar with code of practice "Avoiding danger from Underground Services".	2	2	Low

					Services to be treated as LIVE until utility company has been contacted, digging can then proceed with care to ensure pipes, cables are not damaged. Personnel must be aware of what action to be taken in the event of damaging services. Use suitable signs to warn drivers. Site induction for all workers associated with scheme to identify the location of the electrical supply and controls/dangers of working near power lines. Use of banksman/spotter to ensure sufficient clearance between any elevated work activity and the power lines. Use smaller excavators with safe reach capability.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Work near Underground Electric Cables	Electrocution Machinery contacting cables Not identifying electric cables prior to work commencing	4	4	High	The ESB and Telecom will be consulted with prior to work commencing on site. Contractors to assume all underground lines and cables are live unless specifically advised otherwise by the local authority, work procedures should be established and documented. If necessary, scanning the site to detect hot lines. The route, depth and voltage of the cable should be identified and marked. Regard all buried cables as live. Excavators and power tools should not be used within one half meter of the line, the remainder should be hand dug. Once a cable is exposed it should be supported and protected against any damage.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Working at Height	Falls of persons from working place, or accesses Falls of materials or articles Contacting overhead beams, and other objects	3	4	High	The Supervisor, on request, will arrange any necessary notices warning of persons working above. All working areas at heights will be guarded to prevent falls of persons and materials.- i.e. scaffold , handrails or a combination of both Appropriate safety equipment will be used when necessary i.e. safety belts, harnesses, fall arrest devices etc. Safe access to all work must be provided in the form of scaffold towers, ladders, steps, walkways, etc. Working platforms must be fully boarded, with guardrails and toe boards. GA3 forms must be completed weekly. Employees must report any defect in equipment to the Supervisor, before working at a height. Roofing contractors shall be required to submit a Method Statement for their works.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Ladders	Not securing the ladder properly. Unsafe use of ladder (over-reaching, sliding down, etc.). Using ladder where a safer method should be provided. Using ladder with a defect. (Note: Painting of timber ladders, which could hide defects, is prohibited by Regulations.) Unsuitable base to ladder. Insufficient handhold at top of ladder or at stepping off position. Insufficient foothold at each rung. Using ladder near overhead electrical cables, crane contacts, etc. Ladder at unsuitable angle, swaying, springing, etc. Insufficient overlap of extension ladders.	3	2	Medium	Under the General Application regs, ladders will only be considered where the use of other more suitable work equipment such as tower scaffold are not appropriate. Ladders will only used as a work place for light work that indicates low risk and of short duration. Ladders with a defective rung must not be used. Ladders must be in good condition and of adequate length and strength for the work in progress. Ladders must be secured at the top and be long enough to extend 1.05 metres above the landing place. It is recommended that ladders be placed at an angle of 1:4. Place ladders on a firm level base Ensure that the step-off area is clear if using a ladder to reach a platform. Ladders should be positioned so that over reaching is not necessary and when working from the ladder, persons should not stand on the top three rungs. Ladders should be inspected as part of the regular inspection of scaffolding on the site.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Work at Height requiring use of Fall Protection Equipment, including: Safety Harness, Lanyard, Energy Absorbers, Inertia Reels, Inertia Belts, etc.	People falling from height Serious Personal Injury Fatality	3	5	High	All equipment used to protect against falls from height must be manufactured and marked to the appropriate European standard (e.g. IS EN 365: 1994 or BS EN 365: 1993 regarding Lanyards). The H.S.A. recommend that the wearer carry out "pre-use checks" prior to each time they wear the equipment (H.S.A. Guidance 2002). The H.S.A. also recommend "detailed inspections" at least "every six months". These "detailed inspections" should be carried out by a competent person and should be documented on a form such as the GA3 Form. The General Applications Regulations of 2007 require that "personal fall protection systems", fall arrest systems, work restraint systems should have their inspections documented on the GA3 Form. The wearer of these Personal Protective Equipment devices must be trained into their safe use, have demonstrated to them how to wear them properly and how to inspect them properly. A register/list of all such equipment should be kept on site. A competent person must examine fall arrest equipment after a fall or other circumstances in which the equipment has been deployed before it is reissued for use. Safety harnesses and lanyards should be taken out of use if found to be damaged or defective.	2	2	Low

					STORAGE: While not being worn, such equipment should be stored in a cool dry place and not subjected to direct sunlight. The use of a purpose-designed cabinet, which will allow ventilation, is recommended. If the appliances get wet, they should not be dried by direct heat. Ensure access to roofs and suspended ceilings made of materials of sufficient strength are not permitted unless: 1. Equipment is provided to ensure that the work can be carried out in a safe manner. 2. Appropriate warning signs in accordance with Part 7, Chapter 1 of the General Applications Regulations 2007 (SI No 299) are placed at such access points.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Scaffolding	Falls from Height. Serious Personal Injury Fatality. Material falling from height. Scaffold Collapse.	3	5	High	In Accordance with the General Applications Regulations 2007, SI No 299, Regulation 107, Part A. - Every scaffold and every part of it is of good design and construction, composed of suitable and sound material and is of adequate strength for the purpose for which it is intended to be used. - All scaffold must be erected as per the requirements of the 2008, Health and Safety Authority (H.S.A.) Code of Practice for Access and Working Scaffolds. **INSPECTIONS:** - All scaffold records should be kept on Form GA3, as per the General Applications Regulations 2007, SI No 299, Regulation No 119. - This must be completed in advance of the scaffold being used for the first time, as well as at least every 7 days, or after any additions, modifications or following exposure to adverse weather conditions. The findings of inspections should be recorded. - It is good work practice to also display a "Scaff Tag" type of identity system on all scaffolds. - Scaffolding must only be erected by a person in possession of a FETAC/FAS CSCS, or accepted alternative qualification. Level I training is acceptable to erect scaffolds to a height of 8 metres. A person with an Advanced Scaffolding qualification must erect heights above this. Such competent persons must have received appropriate and specific training in the operations envisaged that address specific risk that the operations may entail. - Prior to erection, a competent person should assess the likely uses of scaffold to ensure the right design of scaffold is erected for the intended work and ground conditions.	2	2	Low

					- The scaffolder, specifying that the scaffold is complete and complies with requirements of the General Applications Regulations 2007, should issue SI No 299, Regulation No 119 Handover certificates. **Additional requirements for scaffolding:** - Strength and stability calculations for scaffolding must be carried out, unless it is assembled in conformity with generally recognised standard configuration. Refer to the 2008 Code of Practice for Access and Working Scaffolds. - The dimensions, form and layout of scaffolding decks shall be appropriate to the nature of the work to be performed, suitable for the loads to be carried and permit work and passage in safety. - Depending on its complexity an assembly or dismantling Plan may be required. - While a scaffold is not acceptable for use, including during its assembly, dismantling, or alteration, it should be marked with warning signs in accordance with Safety Signs Regulations Part 7 of the General Applications Regulations 2007 SI No 299, Regulation 160, and where appropriate, be protected by barriers or other suitable means, to prevent unauthorised access or use. - Display warning signs on any incomplete or unsafe scaffold. - Standards (Uprights) must always rest on a steel base plate on timber sole boards, they must be built on level ground. - Scaffolds will be tied into the building, where possible, in accordance with the 2008 Code of Practice and the Manufacturer's recommendations. There should be at least one tie for every 32 sq. metres of scaffold. Additional ties are required if the scaffolding is sheeted. - Scaffolds will be adequately braced, in accordance with the 2008 Code of Practice and the manufacturer's recommendations, to prevent collapse and to provide a firm working platform. - Every working platform will be provided with guardrails and toe boards, as per the Work at Height Regulations 2007 specifically:			

					- As per regulation 103 of the General Application Regulations 2007: • The top handrail should be at least 950mm above the edge from which a person is likely to fall. • Toe boards must be fitted. • Intermediate guardrails must be fitted so as to ensure no gap of greater than 470 millimetres occurs. - All scaffold boards will be of sound construction, free of defects, decay or damage. - Scaffold boards should be butted on double transoms and should not be lapped. - It has been decided, following a risk assessment, that it is reasonably practicable to access our scaffolds via ladders. Ladders must be set at the correct angle of 1:4 and always secured. - These ladders will be used to access and exit from scaffold platforms and the ladders will extend 1 metre past the platform (3 rungs), unless another source of handhold is available at the top of the ladder. - Different types of scaffolds have different recommendations regarding ties, braces, loading capacity. Always refer to the 2008 Code of Practice and the manufacturer's recommendations. - Mr Tom Spight has been designated responsibility for all scaffolding operations/requirements on site.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Aluminium Tower Scaffolds	Falls of persons or material from the platform. Overturning due to overloading / uneven ground etc. Collapse due to incorrect erection.	3	4	High	Towers to be assembled to manufactures instructions Survey of ground conditions Survey for overhead power lines Assembled by competent person- i.e. CSCS qualification in erection of towers or scaffold ticket. Safety usage measure to be adhered to. Periodic documented checks to be carried out. Monitor weather conditions. Persons to climb tower internally. Break to be used when tower is in use. Persons not to be on tower when moving location	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Roof Work	Falls from heights. Struck by falling materials. Contact with overhead electrical cables. Electrical shock while using portable power tools. Tripping and falling. Manual handling injuries.	3	4	High	A specific method statement will be prepared by the roofing contractor. Netting and harnesses are two controls that should be considered. Final methodology of works will be agreed with Westar Investments Limited. who will consult with their safety consultants. Access arrangements and fall protection is to be determined during the design stage and implemented at the commencement of work. The main contractor on site will provide all scaffolding and each contractor will ensure the decking shall be at roof level and be equipped with a top rail at 950mm, a mid-rail and a toe-board. Arrangements for lifting materials will be made with the main contractor. All ladders used to access the roof will be in good condition and properly secured to prevent movement. Proper arrangements will be made for taking materials to the roof to prevent them from falling on employees working below. All materials on the roof will be secured to prevent them from falling. All portable equipment should be checked prior to use. All portable equipment should be tested and inspected by a competent person prior to use. All employees will be required to wear hard-hats and foot protection. Work is to cease if there is adverse weather such as snow, ice, high winds, etc.	2	2	Low

					All employees conducting roof work will be properly trained in safe working methods and statutory requirements under the Safety, Health and Welfare at Work (General Application) Regulations 2007. Materials must never be dropped or thrown down from roofs other than by means of a chute or other suitable safe method. All materials should be removed from the roof or properly secured at the end of each workday. Any work to be performed near overhead electric cables will be done on accordance with the Safety Statement and relevant legislation.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Mobile Elevated Working Platforms	Falls of persons or materials from the platform. Trapping in the platform mechanism or structure. Trapping between the platform and fixed obstruction. Overturning due to overloading, uneven ground, wind, etc. Collisions when in motion or use. Failure of the mobile elevating work-platform structure. Unintentional movement due to accidental or incompetent use of controls. Person stranded at high level due to power failure or breakdown. Contact with electricity (see separate section). Persons struck by the mobile elevating work platform. Use of mobile elevating work platform on public roads or at night.	3	4	High	Only trained and authorised persons will operate and work from this equipment. They will also check the equipment before each use e.g. tyres, brakes, lights', fuel/power, leaks, general defects etc. in accordance with the manufacturers guidance. Work surface areas should be level and firm. Where rough terrain equipment is available, the manufacturers' guidance on ground support requirements will be followed. Ensure there are no obstructions especially overhead cables etc., in the areas where the platform is to be taken or used. Ensure clear working areas around the equipment by the use of warning signs, barriers, cones etc. This is especially important if work takes place where the public have access. Ensure arrangements are made to ensure the stability of equipment if it is not possible to make full 'use of outriggers etc. that may be fitted. Ensure good visibility and lighting during work operations. Ensure that the safe working load for the machine is displayed and followed, and that all tests, inspections and examinations are carried out and recorded. Follow manufacturers' guidance on working in windy conditions, these platforms should generally not be operated in wind exceeding 16mph. If there is any doubt, then leave the platform at its lowest position and do not use until wind levels reduce.	2	3	Medium

					Ensure safety devices fitted are working correctly. Ensure safe access to the platform for boarding at ground level. Ensure any electrical supply is routed safely and is connected to the mains supply in an approved manner. Ensure the platform is fully guarded during use and provision is available and used for securing safety harnesses to the platform only during use. Work should be done only from within the platform area without having to lean out. Ensure guards are fitted and maintained on all moving parts where a person could be trapped or entangled. This may require a cage around the base, especially in public areas. Wherever possible, all movement controls should be sited to enable operation from the platform. If this is not possible, then clear communications should be established between the platform and ground. Emergency stop and isolation switches etc. should be clearly marked and operatives using the equipment should be aware of the emergency procedures. Platforms, when not in use or unattended, should be secured at ground level and immobilised to prevent unauthorised operation.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Abrasive Wheels	Bursting of the wheel or disc. Injuries from flying particles. Cuts to hands, legs, etc. Dusts from certain types of materials. Loose clothing tangled in disc. Electric shock. Noise. Fire and explosion.	3	3	Medium	Only trained competent persons to mount wheels in accordance with the SHWW (General Application) (Amendment) Regulations 2016. Ensure the disc or wheel is mounted correctly. This must only be done by a competent, appointed person. The machine must be regularly serviced to ensure that the speed of the machine spindle is correct. Guards must be fitted to all abrasive wheels and kept in position. Eye protection must be worn when using abrasive wheels. Ensure protection is provided against hazardous dusts, which may be generated. Avoid wearing, loose clothing especially ties, sleeves, scarf's etc. Hearing protection should be worn where necessary. All machines should be inspected regularly to ensure they are in good condition, this applies especially to electrically operated machines and associated power cables. Sparks from loose particles can cause fires or explosion if near to flammable materials. Ensure the work area is clear of such materials and also of people who may be affected by such sparks.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Con Saw / Angle Grinder	Contact with moving parts Entanglement Ejection Electrocution Noise Burns Fire	3	4	High	The operator is trained to use the tool in a safe manner and only authorised persons may operate it. The operator must carry out the required pre-operational checks on the tool. Eye protection to be worn at all times. Only trained competent persons to mount wheels in accordance with the SHWW (General Application) (Amendment) Regulations 2016. It is the duty of the operator to advise his supervisor and maintenance person of any repairs necessary to the portable tool. Adequate personal protective equipment must be worn to guard against ejected objects. No person, even the operator, is permitted to approach the dangerous moving parts of the tool while it is in operation. When the con saw is not in use, precautions must be taken to ensure that it is fully immobilised. The tool should be subject to a planned and recorded maintenance programme. Emergency stop button to be fitted. Following maintenance, the operator must ensure that all relevant guards have been replaced and secured.	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Kango/Core Drill	Electrocution Cuts and abrasions Serious personal injury Damage to property Entanglement Vibration injuries	3	3	Medium	In Accordance with the Physical Agents Regulations SI No 299. Regulation No 137 rest periods/work rotation to be scheduled where the machines are being used for long periods by operatives. To be maintained in good condition. To be regularly checked by a competent person. To be used by experienced personnel. Personal Protective Equipment to be provided and used as per manufacturer's guidelines. 110V operating voltage.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Pneumatic Hammers, Tools, and Compressors	Noise Vibration, Vibration White Serious personal injury. Eye injury. Penetration of skin. Dermatitis. Air entering body orifices causing severe and fatal Injury. Horseplay. Whiplash of airline.	3	3	Medium	Mandatory signs to be installed where necessary. Training and Information to be provided to all staff regarding safe use. Suitable eye and ear protection to be provided and used. Suitable noise reduction panels or air compressors to be fitted. Provision of isolation valves to be in place at each outlet and junction. Use of specified safety valves, hoses, and hose assemblies only. Make sure ends of airlines are secure. Compressors must be inspected and certified by a competent person. In Accordance with the Physical Agents Regulations SI No 299, Regulation No 137 rest periods/work rotation to be scheduled where the machines are being used for long periods by operatives.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Hand Tools	Sharp edges Flying objects Defective tools Noise Repetitive Strain Injury	3	1	Low	All personnel using hand tools must be adequately trained in their safe use. When selecting the tool for the job in hand, the correct type, size and weight of the tool should be considered. The cutting edges of tools should be kept sharp and when not in use they should be protected by a suitable cover. All hand tools must be maintained in a safe condition and discarded and replaced when found to be unsafe for use. Tool handles should be of a smooth finish and free from patent defect. Tools should be kept clean and free from grease and dirt. When not in use tools should be stored in the appropriate toolbox or crib, so as not to present a tripping or falling hazard. All employees involved in the use of hand tools must have an understanding of the associated hazards and take necessary precautions to avoid risks. Hearing protectors must be worn when working with hand tools, which emit high levels of noise. Suitable and adequate personal protective equipment must be worn to protect from the hazards associated with each individual tool being used.	2	1	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Cartridge Operated Tools	Cartridge being too powerful for task Voids in the structure being fired into material being fired into is too thin Changes in the consistency of material Stray cartridges Discarded live cartridges Defective tools Lack of maintenance Lack of PPE Inadequate training Entanglement	2	3	Medium	Cartridge operated tools will be used according to manufacturers' instructions. Only operators who are properly trained will use cartridge-operated tools. The operator will wear eye protection in the form of goggles. Hearing protection will be provided. The cartridge-operated tool will have proper maintenance carried out at regular intervals. The cartridge-operated tool will be kept in a secure place when not in use. Hold the tool at right angles to the job when firing. Check material into which bolt is to be fired, carry out a test fire first. Check there is nobody behind the target. Allow at least 75mm from edges of concrete or brickwork. Tools must be stored unloaded in a fireproof cabinet. Cartridges of different strengths should be stored separately and marked clearly.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Hand Arm Vibration	Numbness, tingling, reduced sense of touch or temperature in fingers. Cold and Pain in hands in cold, wet conditions. Vibration White Finger Reduced grip strength, loss of dexterity of fingers. May cause disability.	3	3	Medium	Implement low vibration purchase/hire policy for equipment. Training to be provided to all operators. Warning signs to be posted to highlight the dangers involved. Ensure equipment is suitable for the task, size, and weight of equipment etc. allowing access to the area of the task. Provide Personal Protective Equipment (suitable gloves). Rubber sleeving on metal handles can help keep hands warmer reducing risk of injury. Exercise hands during work periods to maintain circulation. Avoid smoking especially before using tools, increases risk. Operators to take frequent short breaks when operating equipment. Faulty, ineffective or poorly maintained tools to be reported, and not used until repaired or replaced. Comply with "Safety, Health and Welfare at Work (General Applications Regulations) 2007" Chapter 2, SI No 299. Procedure for reporting any symptoms resulting from vibration to be put in place.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Mobile Generator	Electrocution Fumes Fire or explosions Burns	3	5	High	Generator is used, maintained and earthed in accordance with the manufacturer's instructions Only trained and authorised employees operate the generator, and the operator's manual is available Generator is operated outside, in a well ventilated (To prevent the build-up of carbon monoxide fumes and reduce noise) area and as far away as possible from work areas Generator is not overloaded (Power requirements should be known and should not exceed the capacity of the generator) Generator is fitted with an RCD (Residual Current Device) Generator is checked (e.g. external plugs and sockets are waterproof and circuit breakers work) before use, reported defects are dealt with promptly and unsafe equipment is taken out of use External cables, connections and electrical sockets are suitable for outdoor use and are routed so as not to pose a trip hazard Generator is not refuelled (Turn off the generator and allow to cool before refuelling or putting into storage) while running Connecting a generator to a building supply is only carried out by a competent electrician	2	4	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Public accessibility to work area on site	Serious personal injury. Fatality. Slips, trips, fall – over goods, materials, and rough terrain, into excavations, manholes, sewers or from heights. Electrocution. Theft.	3	5	High	Warning signs to be posted to highlight the dangers involved. All access points to be closed/barricaded to prevent access to unauthorised persons. Entrance to be fully secured each evening/end of each work shift. Only authorised personnel allowed on site, signs to be posted. Responsible person to check site boundaries on a regular basis. Loose equipment to be removed outside of working hours. Fences shall be closed and locked to site at the end of each shift or during breaks.	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Fire	Burns. Fume inhalation. Serious personal injury. Loss of lives. Damage/Destruction of buildings and property. Explosion. Electrically Powered Tools.	3	5	High	No Smoking' policy in force except in designated areas. Proper evacuation procedure to be in place and checked regularly. Assembly point to be identified. Fire drills to be carried out and recorded. System of fire extinguishers to be installed and maintained. Training for all personnel in selection and use of fire extinguishers Extinguishers must always be provided near possible sources of fire. Fire points must be clearly identified, kept clear and maintained. Emergency lighting to be provided in crucial locations, stairs, passageways etc. and tested twice yearly. Fire tender route to be kept clear at all times	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Hot Work	Burns. Fire. Permanent disfigurement. Loss of limbs. Fatality. Hot objects, liquids, steam.	3	4	High	Survey of work area and underneath to cover or remove flammable materials. Provision of fire extinguishers and fire blankets to be in place. Provision of fire watch to be in place. Where required obtain a HOT WORK PERMIT from the PSCS	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Personal Protective Equipment and Clothing (PPE)	Employees not wearing PPE. Not supplied with appropriate PPE. Injury. Not being used properly.	3	5	High	PPE shall be provided for all employees in compliance with the SHWW (General Application) Regulations, 2007. Where equipment is not being used or maintained the company's disciplinary procedures will apply. All employees have a legal obligation to use and maintain the PPE provided to them. Appropriate safety footwear shall be worn, in designated areas such as on site and in warehouse areas. Rubber gloves, glasses, face protection and hearing protection must be worn as required/where mandatory. Suitable gloves to be worn when handling sharp objects or harmful, corrosive, staining materials. Other protective clothing/equipment shall be provided and worn as and when necessary. Monitoring of PPE will take place on a regular basis. Hi-visibility vests are worn where required i.e. on site and in warehouse and yard areas. Safety goggles to protect eyes. Ear muffs/plugs to be provided when noise exceed 80dB. Masks to be worn when working in dusty conditions such as cutting concrete, or breathing harmful fumes.	1	5	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Lone working	Inability of employees to seek assistance in the event of needing assistance	3	4	High	It is advised that site personnel are to work in teams or groups. Site personnel working during normal opening hours may be in the presence of Clients employees when requested to conduct on site operations. This will only be for a very short period however. Risk assessment to control potential hazard of lone worker risks to be detailed in method statement as applicable. Employees potentially exposed to lone working risks are encouraged to carry mobile phones. All site personnel are to check in and out of each shift. Sign in and out at client's premises	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Control and Disposal of Waste	Slips, trips and falls Increased fire risk Weils Disease	3	3	High	Site Management will ensure that a sufficient quantity of waste skips and bins are provided on site for the disposal of waste. Arrangements shall be put in place for the removal of all accumulated waste and debris waste skips. Waste Skips must be monitor to ensure the correct waste is being disposed in the designated skips. Operatives and sub-contractors must co-operate with the Principal Contractors good housekeeping policy. Contractors will be made aware of their duty to maintain a clean and tidy work environment. Debris or waste will not be permitted to be thrown from the edge of any building or structure. De-nailing of timber shall be carried out immediately to prevent risk of injury. Spillages shall be cleaned up immediately and disposed of in the correct manner. In the event of a chemical spillage, the MSDS sheet shall be consulted for the correct procedures in cleaning and disposing of the substances. All access routes will be kept clear at all times. Welfare facilities will be cleaned on a regular basis (at least daily). Operatives will be encouraged to use bins provided for the disposal of all domestic rubbish, this will assist in the reduction of vermin and subsequently the risk of contracting Weils Disease.	2	2	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Weils Disease	Not covering any cuts and abrasions on hands etc. Non-wearing of protective gloves. Poor personal hygiene practices.	2	5	Medium	Prior to commencing work employees should examine their hands for cuts or abrasions and cover them with waterproof plasters. Pre commencement risk assessment in place to identify any potential exposure to Weils Disease. Employees should use gloves at all times when working near drains or underground cavities or waste materials. Always check safety boots for leaks or cracks and replace immediately if they are inadequate to prevent contact with the water. Overalls should be worn at all times when operating in this area, and if exposure has been extensive, they should be sprayed with a disinfectant. To prevent means of entry, pants should be tucked into socks or safety boots before the overalls are put on. When putting on gloves pull the cuff of the glove over the wrist cuff of your overalls. Employees must wash their hands after every exposure to possible contaminated areas, before eating, smoking or using the welfare facilities, and also when finishing work. When removing gloves observe proper sequence so that bare hands do not come into contact with external glove area	1	5	Low

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Loading/Unloading Operations	Serious injury such as broken limbs, crush injuries and even death. **Possible causes:** Fall from loading / unloading area due to lack of edge protection. Being hit by falling objects due to improperly loaded vehicles. Being hit by a vehicle. Unsafe method of retrieving goods. Premature vehicle departure resulting in forklift or person falling off edge.	3	5	High	A designated, clearly marked, flat area is used for loading and unloading vehicles and access is restricted. Vehicles are braked, chocked and/or stabilised to prevent movement during loading/unloading. Loads are spread evenly, vehicles are not overloaded and all loads are secured. Lifting equipment used for loading/unloading is certified and the operator of lifting equipment is trained. Pallets and cages are checked for defects and if damaged are taken out of use. Loading bays are designed and located to ensure safe access. A designated safe area is provided for drivers during loading/unloading. Refuse sacks are located away from overhead electrical power lines. Loading and unloading on a construction site is done under site supervision. Roadside loading or unloading is carried out in a safe manner ensuring suitable precautions are taken with regard to pedestrians and road traffic movement.	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Demolition	Collapse of structure Falling objects Working at heights Exposure to hazardous substances Dust	3	4	High	A detailed method statement will be provided for the scope of the works. Demolition methods will be agreed with the site management prior to commencement. Operatives involved in demolition will be trained experienced. Guardrails and toe boards will be erected on edges over two meters in height. Operatives will wear harnesses where edge protection cannot be provided due to the nature of the work activities. The area will be cordoned off and access restricted. All persons working in the demolition area will wear appropriate PPE. Propping systems/under pinning/use of needles will be carried out by trained and experienced persons. Temporary systems erected will be inspected daily by a competent person. If burning equipment is being used fire extinguishers must be present at all times. The building may contain lead-based paints due to the age of the structure;	2	3	Medium

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Lifting Operations	Collapse of lifting device Overturning of lifting device Failure of rigging equipment Falling objects Raised materials hitting structures/objects/persons/overhead cables.	3	4	High	A method statement for lifting operations will be supplied to the site management on request. Only trained and experienced contractors will be employed to carry out these operations. Level, compact ground will be supplied for set up of lifting equipment, however the operator must satisfy himself that the set up area is adequate and will support the lifting equipment during operations. Relevant certificates of testing and examination will be provided with all lifting equipment (both lifting device and rigging equipment i.e. slings/wire ropes etc.). A trained and experienced person will supervise the lifting operations. A trained banksman will guide the lifting operations; two-way radios will be used where visibility is obstructed. A trained slinger/banksman will rig/tie lifts prior to directing the crane to lift. The work area will be inspected by the operator prior to setting up the lifting equipment to ascertain the location of any overhead cables, services or structures (including scaffolds) in the lift area. Under no circumstances must lifts be temporarily placed on scaffolds or other structures unless they are erected/constructed to support the lift.	2	3	Medium

					Loading towers must be constructed by experienced trained persons and erected in accordance with the manufacturers' instructions. Operators of lifting devices must be aware of impact loads applied during operations.			

Activity/hazards	Risks	Likelihood	Severity	Grade	CONTROL MEASURES	Likelihood	Severity	Grade
Craneage	Falling Objects Collisions Crushing	3	4	High	Only trained operators are allowed to operate this type of equipment. Each load must be inspected to ensure that it is adequately secured to the crane hook and that the safety catch is in place. Each load must be assessed as to its weight and at no time can the Safe Working Load be passed. Operators must ensure that the direction of intended travel is clear prior to commencement of move. All lifting is inspected in a regular basis, however, operators must maintain critical checks on equipment on a daily basis. Only trained employees shall act as signaller/banksman for crane operators.	2	2	Low