

Construction Environment Management Plan

SITE:

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What is a Construction Environmental Management Plan

The following is the framework of our environmental strategy which shall govern the undertaking of enabling and construction works that may give rise to an environmental impact. The procedures and commitments outlined within must be adopted and adhered by all site workers and contractors prior to undertaking works and during the construction period.

It is recognised that statutory requirements and legislation are subject to changes and that unidentified issues may arise on-site and therefore this plan will require periodic review and updating to incorporate changes of a technically specific or broader environmental nature.

The main body of this document is generic and defines the general strategic approach to environmental management of projects by:

- Identifying common environmental impacts of construction and associated control measures
- Outlining roles and responsibilities of those who have been tasked with managing environmental issues
- Briefly detailing how persons involved will communicate and co-ordinate their actions most effectively for the benefit of others
- Giving guidance to site workers and contractors and provide the case for the necessity of being suitably qualified/experienced
- Explaining how operational procedures on-site are to be subject to a controlled procedure
- Explaining how it shall be confirmed that activities on-site are to be checked and subject to review to ensure compliance with the CEMP
- Listing typical control measures based on best practice to effectively overcome the impacts of construction

This document also builds on basic principles and addresses project specific issues by:

- Producing a Register of Environmental Risks identifying likely environmental impacts that could arise
- Producing Construction Method Statements to assist the workforce appropriately carry out construction works of an environmentally sensitive nature
- Producing a CEMP Checklist to provide a means of verifying compliance with the CEMP

Potential impacts during demolition and construction

A review has been undertaken of the potential sources of adverse impacts associated with demolition and construction works. The results of this have been presented in Table 1. However, a Register of Environmental Risks will be produced to detail the specific environmental risks associated with the project. This Register will be used to inform the environmental procedures required to be set out and assist the Environmental Co-Ordinator when preparing construction method statements. The Register will be regularly updated throughout the construction phase.

Table 1:

Issue	Potential Impact
Noise	Increased road noise levels from vehicles. Increased noise levels from plant during deconstruction, piling and general construction works (e.g. from the use of air compressors and diamond cutters) on-site.
Vibration	Increased vibration levels from vehicles. Increased vibration levels from plant during deconstruction, piling and general construction works (e.g., from piling rigs attached to slave cranes).
Dust/Air Quality	Wind-blown dust from ground surfaces, stockpiles, vehicles, work faces and cutting and grinding of materials. Exhaust emissions from lorries and plant delivering and removing materials including dust and particulates.
Energy	Carbon emissions from site fuel consumption and electrical energy use. Natural resources depletion.
Water & Water Usage	Increased sediment loadings to stormwater system and water courses. Potential contamination of stormwater runoff, groundwater and soils from spills of harmful substances or contaminated soils. Natural resources depletion.
Archaeology & Architecture	Loss of remains of archaeological significance.
Ecology	Disturbance to protected species such as birds, bats, reptiles, badgers. Loss of or damage to wildlife supporting habitat (trees, hedges, species-rich grassland. Loss of biodiversity.
Waste	Waste generation and its disposal.
Traffic	Traffic congestion caused by site traffic. Increased vehicle movements mainly consisting of HGVs. Transfer of mud and material from vehicles onto the public highway. Disruption from abnormal or hazardous loads. Exhaust emissions.

Roles and Responsibilities

The Construction Manager would have overall responsibility for the project, with an Environmental Co-Ordinator being responsible for the development and implementation of the CEMP. Other members of the project team would also be assigned specific roles and would be responsible for the correct application of the CEMP. Individual specialists may also be appointed to provide expert advice. Suggested specific roles are described below:

Construction Manager

The Construction Manager will have overall responsibility for environmental performance throughout the construction period and will ensure that appropriate resources are made available and any agreed or appropriate protection measures are implemented. The Construction Manager will carry out the following duties:

- Monitor construction activities and performance to ensure compliance with the CEMP and that identified and appropriate control measures are being effective;

Environmental Co-Ordinator (Site Manager)

The Environmental Co-Ordinator will be responsible for co-ordinating and managing all the environmental activities during the construction phase. The Environmental Co-Ordinator will carry out the following duties:

- Develop and review the CEMP and specialist procedures;
- Ensure delivery of environmental training to personnel within the project team;
- Act as a main point of contact between the regulatory authorities and the project on environmental issues.
- Ensure compliance with Duty of Care at all times; and,
- Implement and monitor measures to ensure correct waste minimisation, segregation and disposal.

Environmental Site Representative (Construction Manager)

The Environmental Site Representative would be responsible for recording the progress of the Environmental Works. The Environmental Site Representative would carry out the following duties:

- Support the Project Manager in delivering the environmental component of the project;
- Monitor construction activities and performance to ensure control measures are effective;
- Maintain regular contact and liaison with the Environmental Co-Ordinator; and,
- Carry out audits as required by the CEMP.

Communication and Co-ordination

Co-ordination within the project would be achieved through periodic meetings between the Construction Manager, the Environmental Co-Ordinator and Environmental Site Representative attended by representatives from the construction teams and major subcontractors. Representatives from the Statutory Authorities would also be invited to attend these meetings. Environmental discussions will consider past performance – from the results of inspections, environmental monitoring, and any complaints - and would look ahead to plan actions required to prevent or mitigate forthcoming risks and disseminate best practice.

Training and Awareness

A task specific training plan will be produced to ensure personnel allocated with environmental responsibilities are competent to carry out their duties. As a minimum, all staff would receive an environmental briefing as part of their site induction. Supervisors would support information provided at induction through completing briefings and 'toolbox talks' prior to specific activities commencing.

Operational Control

All activities on site would be reviewed against the requirements of the CEMP via an integrated risk assessment and method statement procedure. The relevant construction teams would review environmental risks associated with the construction process and appropriate control measures included in method statements. All Method Statements will be approved by the Construction Manager and Environmental Co-Ordinator and where necessary a relevant specialist. Mitigation or protection measures will be implemented prior to the undertaking of any potentially polluting activities.

Checking and Corrective Action

Construction teams using method statements will carry out checking of construction activities. The results of these checks would be discussed at the periodic Environmental Discussion. The Environmental Site Representative will carry out a monthly assessment of the project's environmental performance, based upon the environmental monitoring undertaken and own site inspections. Regular audits would be completed to verify that the Project is compliant with the established CEMP, contractual requirements and legislation.

Environmental Control Measures

Specific procedures to manage the key environmental aspects of the project will be developed prior to work commencing. These would include the following:

Noise and Vibration Management

Predicted noise levels, based on the requirements of BS5228, have been calculated for construction activities associated with the works. The duration of the works close to the site boundary is likely to be short in comparison with the total duration of the construction programme, hence the worst-case noise levels are likely to be less frequent than the average noise levels.

To reduce the potential of nuisance being caused by construction activities, control measures will be introduced when developing construction programmes and methods of work. Strict controls on the sequencing of works and providing noise protection would be developed on an activity-by-activity basis. The adoption of Best Practicable Means, as defined in the Control of Pollution Act 1974 is usually the most effective means of controlling noise from construction sites. In addition, the following measures should be considered, where appropriate:

- All mitigation bunds would be constructed at the earliest opportunity.
- On site noise levels would be monitored regularly, particularly when changes in process are required or in response to complaints. The monitoring would be in accordance with the guidance set out in Annex E of BS5228: Part 1:1997.
- Any compressors brought onsite would be silenced or sound reduced models fitted with acoustic enclosures.
- All pneumatic tools would be fitted with silencers or mufflers.
- Deliveries would be programmed to arrive during daytime hours only. Care would be taken when unloading vehicles to minimise noise. Delivery vehicles would be routed so as to minimise disturbance to local residents. Delivery vehicles would be prohibited from waiting within the site with their engines running.
- All plant items would be properly maintained and operated according to manufacturer's recommendations in such a manner as to avoid causing excessive noise. All plant would be sited so that the noise impact at nearby noise sensitive properties is minimised.
- Local hoarding, screens or barriers would be erected as necessary to shield particularly noisy activities.
- Working hours would be restricted to 0800 – 1800 Monday to Friday and 0900 – 1300 on Saturdays. No construction works are currently proposed to occur on Sunday or Public Holidays and variations from the above would only occur with the prior written consent of the Planning Department of the relevant Local Authority.

Dust and Air Quality

Dust levels within the construction zone are not expected to be problematic, although dust suppression would be required during dry conditions. Particular care is required to maintain dust emissions at a practicable minimum near sensitive agricultural and ecological receptors. Appropriate regard to the control of dust and exhaust emissions during the construction works will be considered. The use of Best Practicable Means (BPM) (as defined in Part III of the Environmental Protection Act 1990) will be employed, examples of which are given below:

- Seeding and sealing of topsoil stockpiles;
- Sheeting of vehicles transporting materials to and from the site;
- Limiting the speed of site vehicles to 20mph (not including dump trucks);
- Applying a coarse gravel surface (or similar) along the haulage road, where considered

appropriate;

- Placing plant as far as possible from sensitive areas and switching engines off when not in use;
- Provision of wheel washing facilities and/or regular use of road sweepers at access points and on local roads (to remove mud from public highways);
- Damping down of haul roads;
- Using water sprays when using brick/tile cutters;

Visual monitoring would be carried out at sensitive locations on a daily basis.

Water Pollution (N/A on this development)

Consents would be required from the Environment Agency (EA) under Section 339 of the Highways Act for the design of permanent outfalls to surface waters, and under the Water Resources Act 1991 and Land Drainage Act 1991 for temporary discharges or works affecting controlled watercourses. Applications for consents would be made to the EA in accordance with these requirements and works would be undertaken in accordance with any conditions imposed. Suitable protection for watercourses potentially affected by the works would be installed prior to relevant works proceeding. These measures would be in-line with Environment Agency Pollution Prevention Guidelines. Protection measures would be developed in consultation with the Environment Agency and would include:

throughout the construction period.

- Water collected in excavations would be pumped into designated 'v' ditches where available or into dedicated settlement lagoons.
- A 3m filter strip of vegetation would be left (or established) adjacent to watercourses and a silt-retaining fence built along the outer edge of this vegetation (and maintained on a minimum weekly basis).
- The main compound would have an impermeable and bunded surface to its vehicle maintenance and fuel storage areas, with a closed drainage system equipped with both a silt settlement facility and oil interceptor.
- Bunded storage areas, located in main compounds, would be provided for the duration of the construction period for the storage of oils, fuels, chemical and other hazardous construction materials. Local storage of these materials would also be within bunded facilities.
- All plant and equipment would utilise biodegradable hydraulic oil.
- Plant and equipment would be stored in those areas designated as being less susceptible to possible pollution incidents, or on dedicated hard standing. Plant would be refuelled in areas approved or using an approved technique.
- The site manager will obtain a daily flood risk report from the Environment Agency at the commencement of each working day, and take measures to prevent adverse environmental, economic, and health and safety outcomes. (Not applicable on this development)
- All mobile plant would be equipped with spill kits.
- Wastewater from the temporary staff toilets and washing facilities would be discharged to the foul sewer system.

In addition, periodic monitoring would be carried out by the Environmental Site Representative comprising:

- Visual assessments for oil and silt;
- Analysis of Ph levels using mobile indicator equipment, where necessary.

Cultural Heritage (N/A)

The whole of the construction footprint where the ground would be disturbed could be subject to archaeological mitigation including:

- Open area archaeological excavation;
- Archaeological strip, map and sample techniques, and;
- Earthwork survey.

Ecology

Appropriate regard for the protection of local habitats and protected species during the construction works would be included within a detailed method statement and will incorporate the following measures:

- All site clearance works would be undertaken outside bird nesting season (March to August inclusive), or alternatively measures would be taken to prevent birds nesting within the construction footprint between March and August;
- In areas that are considered to have potential for bat roosts, an ecologist should conduct a watching brief and those houses that are scheduled for demolition should be examined before any work is conducted. Prior to any works that could affect the buildings containing a confirmed bat roost; a license should be obtained from Natural England
- An ecologist has carried out a survey immediately prior to site clearance works in order to ensure that there are no protected species present. In the event of protected species being found, works would be delayed until mitigation measures have been agreed with English Nature;
- Protection would be provided to create physical separation between construction operations and ecologically sensitive areas. This would include temporary fencing where necessary;
- All areas used for temporary construction operations, for example site compounds, would be subject to complete restoration to agriculture with appropriate aftercare procedures;
- Specialist ecologists would provide expertise throughout the construction period in respect of the following species at the indicated time of year:

Table 4: Ecological Constraints

Issue	Timing
Amphibians	All year but key period late March through to October
Breeding birds	Nesting season – March to August inclusive
Bats	All year depending on species and what is being affected e.g. trees and buildings
Water voles	All year – main activity March to October

Waste Management

Appropriate regard for the treatment of construction waste during the construction works would be included within a detailed method statement and will incorporate the following measures:

- Storing and reusing earthwork/demolition materials and general arisings to negate the export or import of inert materials.
- Reduction of site generated waste through waste minimisation and re-cycling initiatives, including the source-segregation of re-usable and recyclable materials.
- Appropriate methods of waste disposal linked to a robust waste disposal audit trial.
- All topsoil and subsoil would be handled and stored carefully to minimise the potential for damage to the soil structure. A detailed method statement would be produced clearly identifying correct stripping, soil handling, storage, placement and programming requirements to avoid

compaction and moving the material in unsuitable weather conditions.

- Construction and demolition arisings being reused within the site as structural or non-structural fill.
- Where practicable, all concrete and redundant road pavements would be transported to a dedicated crushing and recycling facility for return and re-use on the project
- Detailed procedures and guidance would be developed and implemented through the construction process to minimise the import of non-sustainable raw materials and for identifying opportunities for re-using or re-cycling waste.

Traffic Management

- **Contractors Parking.**

Construction workers will be instructed to park on site which is next to the development. Should there be any anomalies in this plan, they will be monitored and any action taken to minimise disruption to surrounding residents.

- **Routes for construction traffic.**

See map attached at Appendix C

- **Hours of operation.**

Will be between the hours of 0800 and 1800 hrs Monday to Friday and 0900 and 1300 hrs Saturday and at no time on Sundays or recognised public holidays

- **Method for prevention of mud being carried onto the highway.**

Pressure washer for wheel washing will be on site for the duration of construction.

- **Pedestrian and cyclist protection.**

Cyclists and road users will be protected by banksman guiding vehicles on and off the site. It is envisaged that large deliveries will reverse onto site and leave in a forward gear guided by banksman and site operatives.

- **Proposed temporary traffic restrictions.**

Restrictions are envisaged when utility companies, gas, water, electric and telecommunications are installed. Full traffic management will be in operation during this process.

Appendix A

Company Environmental Policy

Environmental Policy

Environmental Policy Statement

- To comply with relevant legislation and regulations
- Continually strive to improve the quality of new homes.
- Support improvements in the environmental performance of **TRADESMEN ON SITE**
- Identify the environmental impacts of site and office transportation and take steps to mitigate the environmental impact of these activities.
- Adopt the practice of responsible fuel and energy management through the encouragement of reducing energy consumption.
- Where appropriate provide training and information to employees to ensure the objectives in this statement are fulfilled.
- Take environmental factors into account in the procurement of materials.
- Take all measures that are reasonably practicable to reduce waste at source and recycle where possible.

Legislation & Regulations

Comply with relevant legislation and regulations.

A list of current legislation are attached and items relevant to a specific site or office can be downloaded from the internet for inclusion in that specific site or office Environmental Policy.

New Home Quality

Continually strive to improve the quality of new homes.

Continual monitoring of construction trade magazines and news items to keep abreast of new and innovative trends in the quest to improve the quality of new homes should be encouraged.

Strict quality control is to be adopted to maintain high standards and reduce aftercare with particular emphasis in reducing heat loss and reducing sound transmissions in line with the Government's Code for Sustainable Homes.

Environmental Performance

Support improvements in the environmental performance of Orchard (Special Projects) Ltd.

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Any improvement made to the environmental policy is to be supported by all staff and continuing monitoring by management at all levels is to be on going to ensure those improvements continue.

Environmental Impacts of Site and Office Transportation

Identify the environmental impacts of site and office transportation and take steps to mitigate the environmental impact of these activities.

Ensure strict scheduling of materials and plant to minimise transportation impact to be carried out by site management and the buying department.

Part loads to be discouraged.

Quantities to be worked out in advance to minimise wastage.

Switching off lights in unmanned areas and generally trying to reduce power consumption and water usage.

Fuel and Energy Management

Adopt the practice of responsible fuel and energy management through the encouragement of reducing energy consumption.

Where possible, low energy lighting is to be specified.

Lighting to be left on only when necessary.

Only security lighting and fridges left on at weekends.

Proper tanks used for the storage of fuel and correct hoses, fillers and nozzles will minimise the wastage of fuel as well as ensuring the ground is not contaminated.

Smaller fuel efficient company vehicles will be promoted to reduce fuel usage and CO2 emissions.

Training and Information

Where appropriate provide training and information to employees to ensure the objectives in this statement are fulfilled.

Primarily, the Site Manager will ensure that his site staff and other sub-contractors are aware of this policy. Subsequent monitoring by upper management should ensure conformity is maintained.

Material Procurement

Take environmental factors into account in the procurement of materials.

The buying department is aware that materials are to be procured from sustainable sources and where possible, local materials used.

Reducing Waste

Take all measures that are reasonably practicable to reduce waste at source and recycle where possible.

Waste Management plans are produce for each site in line with current legislation.

Quantifying and scheduling materials efficiently will reduce waste.

Environmental Awareness

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..... have a policy of commissioning a range of reports for each new development.

- Soil investigation report incorporating a bio-gas report for each site.
- An Ecological Report.
- An Ecological Mitigation & Habitat Enhancement Strategy report. Details are included in the landscape plan.
- A Pre-Construction Information Plan highlighting any possible source of contamination caused during construction.

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All properties incorporate a gas membrane as matter of course. If it is determined that a Radon barrier is required, the appropriate membrane would be used instead.

C. Mathers

For and on behalf of MAIDAN BUILD HOMES LTD

Appendix B

Contractor Parking

DURING INITIAL CONSTRUCTION THE SHADED AREA WILL BE USED FOR PARKING, ONCE THE HOUSE IS COMPLETE WE WILL REDUCE THE PARKING AREA SO THAT WE CAN CONSTRUCT THE GARAGE

PLAN

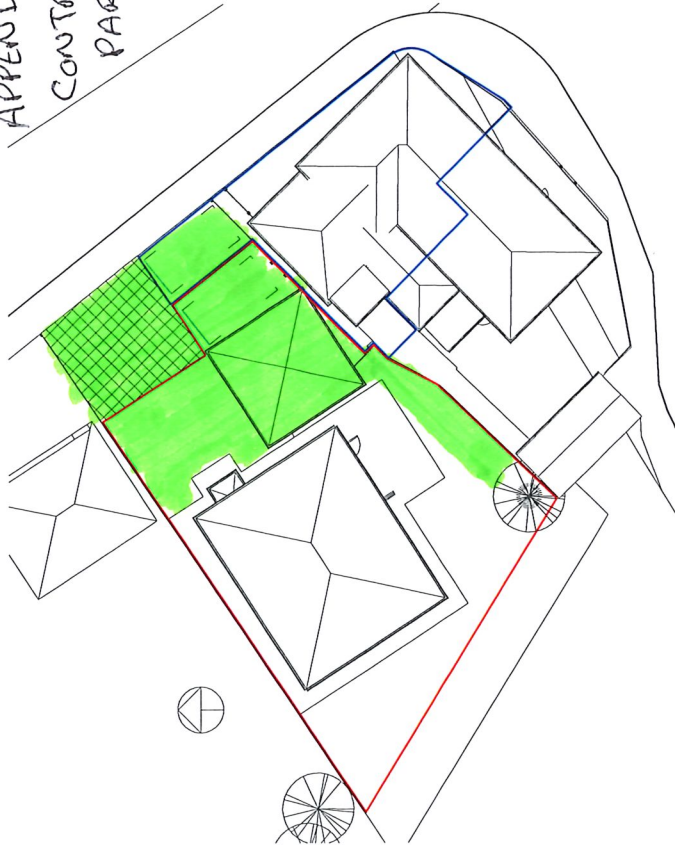
Appendix C

Routes for construction traffic

CONSTRUCTION TRAFFIC WILL BE REQUIRED TO EITHER REVERSE ON SITE WITH THE HELP OF A BANKSMAN OR DRIVE ON AND IF UNABLE TO TURN ON SITE, BE REVERSED OFF WITH THE HELP OF A BANKSMAN

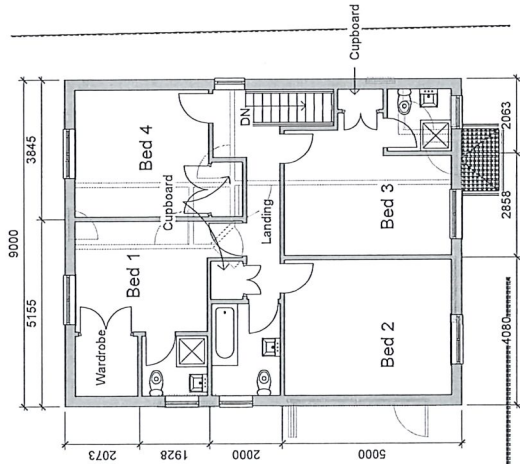
PLAN

APPENDIX B CONTRACTOR PARKING



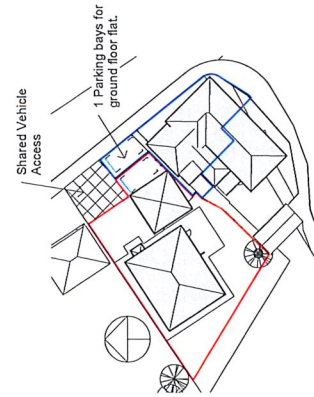
1 Site Proposed /Ajoining property line update

1 1:200



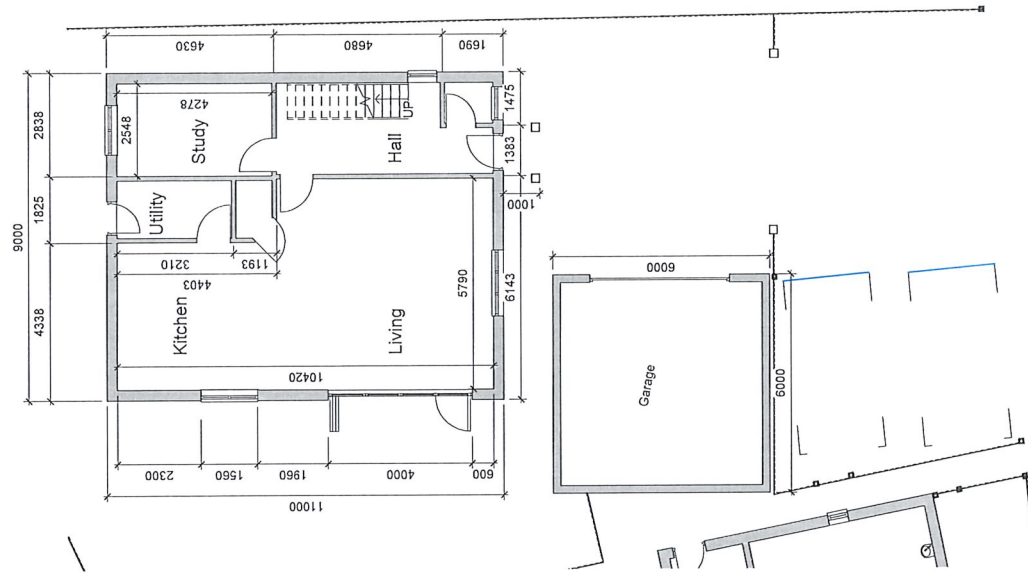
1 1st floor

3 1:100



4 Parking allocation

4 1:500



2 0 Groundfloor

2 1:100



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Builder to check and clarify all levels, dimensions, drainage construction and specification prior to any works on site and to bring to the clients attention any variation or deviations for written confirmation before being carried out on site.

Do not scale from these drawings - If in doubt always ask first

Report any discrepancies and omissions to owner. These drawings are copyright ©

Drawings are prepared for the purpose of obtaining Town & Country Planning Permission and building regulations approval only.

All materials shall be fixed applied or mixed in accordance with all of the manufacturers instructions. All recommendations & specifications. All materials shall be fit for the purpose that they are to be used for.

The contractor shall take into account everything necessary for the proper execution of the works and to the satisfaction of the Local Authority Building Surveyor, whether or not indicated on the drawings or in specification.

It is the responsibility of the owner / client to serve a notice on the adjoining or adjacent neighbours for the proposed works under 'The Party Wall Act 1996'. Explanatory booklets can be obtained free of charge from the D.O.E. publications dispatch centre, Blackhorse Road, London. SE99 6TT

PROJECT

Swaything Road

TITLE

Proposed Floor Plans

CLIENT

Maidan Build Ltd

DRAWN BY	CHECKED BY	DATE
GB	GB	Issue Date
SCALE (if A2)	PROJECT NUMBER	REV
As indicated	0065	
DRAWING NUMBER		
A102		

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