Project Risk Assessment		
Contract/Project name: Herbert Road, Newport	**Date of F10 notification:**	**Date of assessment:** TBC
Client: Green Hill	**Time allowed for planning/preparation:** TBC	**Carried out by:** GC
CDM Co-ordinator: Andrew Edwards	**Maximum numbers on site any one time:**	**Issue:** 1
Designer(s): Green Hill Construction Ltd	**Planned site start:** april 2014	**Revision: - A**
Principal contractor: Green Hill Construction Ltd	**Planned duration Wk's:** 12 months	**Rev Date:**

PROJECT DETAILS:

The project comprises the filling of the herbert Road site to an AOD of 9.8m in accordance with Outline Planning Consent No.00/0768. Materials are to be imported into site mainly from the anjacent Herbert Road Depot site. All construction trafffic is to use Herbert road to access the site.

Materails are to be placed in a controlled manner under the supervision of a consulting Geotechnical Engineer. All imported materail is to be tested in accordance with the site remediation strategy – Extant Consent February 2014 Ref 12032/RS-V3

The works will include the diversion of an existing HV cable.

NEW BUILD WORKS

The construction of 169 flats and houses and all associated infrastruture in accordance with approved drawning 5369 TP-01 A.

ADJACENT PROPERTY, CURRENT/PREVIOUS USE:

The site is situated on eastern bank of the River Usk. The site is currently derelict former industrial land. Last recorded use was as a compound for Vinci Construction during the construction of the adjacent school and prior to that as a cloths factory. Adjoining land

	uses and accesses include: **1. River Usk** **a. SSSI** **b. SAC** **2. Reen** **a. Direct communication with River Usk** **3. Network Rail** **a. Live lines** **4. Primary school** **a. Access to school** **b. Emergency access route** **5. Industrial land** **a. Currently unoccupied** **6. Rights of access to be maintained** **a. NRW access to river bank** **b. Public right of way** **c. Emergency access to school** d. **Access to Sea Cadets** 7. **Services** a. **HV Cable** b. **DCWW drainage** c. **Possible unidentified drainage runs on site**
Delivery and removal of materials including waste and work equipment taking into account any risks to the public	A designated Banksman is to be used at all times to control traffic on and off site. A wheel wash station is to be incorporated into the traffic management plan along with road cleaning operations to ensure the public roads surrounding the site are kept as clean as is reasonably practicable. Included within the PMP is a traffic management plan which shows how vehicles will assess and egress the site. Deliveries, where possible, are to arrive during day time only and care should be taken to minimise noise.

Dealing with services	We will establish the following procedures to ensure that any unidentified services are located in advance of works in the area and that services are correctly shown and described. Services located on site will be carefully checked to determine if they are live or contain any hazardous materials or substances and all details recorded. All existing services will be identified to all Contractors involved with the project, to ensure all persons working on site are fully aware of the location and state of services. Great care must be taken to ensure all services are accurately identified, using CAT & Genny where appropriate and using existing services drawings from all the statutory utilities, physically accurately located, plotted on drawings and suitably marked and identified with warning signage/warning tape on site. Any diversion work of existing services must only be carried out by competent persons. A site specific safe system of work will be required by the site management prior to any works commencing on site which will be vetted by Green Hill before any such works proceed It will be clarified to all Contractors by our site management that no work on live services will be undertaken unless the above procedures have been followed. Services can be found within existing structures such as risers and buried in floors, cavities, fitted to roofs etc. If a service suffers damage during works, the owner/operator must be informed. In the case of electricity cables, gas pipes, other pipelines or high-pressure water mains, arrangements should be made to keep people well clear of the area until it has been repaired or otherwise made safe by the owner/operator. Whenever an excavation is to be carried out close to services or existing buildings or structures, including earthworks such as railway embankments, streetlight columns, pylons etc. care should be taken to ensure that the services or foundations of such buildings or structures are not disturbed or undermined.
Dealing with services	**Water -** Although damage to water pipes is less likely to result in injury, the following may occur; a jet of water from a main can injure a person. It may also contain stones or other hard objects ejected from the ground around the pipe; leaks of water from underground pipes can affect adjacent services and reduce support for other structures, for example: damage to mains can result in flooding, leading to subsequent risks from drowning or the rapid collapse of support to the sides of an excavation; water can enter gas pipes if they are also damaged. To avoid the effects of frost, water mains and sewers are generally laid at depths of 900 mm or more; water services to premises are normally at about 750 mm cover, unless local circumstances necessitate shallower depths. Precautions should include where work is carried out near water mains, plans should be obtained from the relevant water company and a pipe locator used. However, plastic pipes will not be detectable by most locating devices. Safe digging practices should be followed; using hand tools as far as is practicable; at bends in mains concrete thrust blocks may be used. Under no circumstances should either thrust blocks or the ground supporting them be disturbed, as this can cause sudden failure of the main; exposed water pipes should be supported as necessary and the correct method of backfilling used. If a water pipe or its wrapping is damaged, the relevant water company or water authority and the owners of any other underground services which may be affected should be informed immediately. Unauthorised

Dealing with services	repairs should not be made. Should any damage occur resulting in water leaks, contact the provider as detailed within the emergency contacts notice and where appropriate shut any valves off as soon as possible. **Electricity cables (Underground)** - Injuries are usually caused by the explosive effects of arcing current, and by any associated fire or flames which may result when a live cable is penetrated by a sharp object such as the point of a tool. Injuries are typically severe, potentially fatal, burns to the hands, face and body and electric shock is less likely. Incidents may also arise from cables which have been damaged but left unreported and unrepaired. Other nearby services, such as plastic gas pipes, may also be at risk from damaged live electricity cables. This could result in explosions and a greater fire risk. Most service cables belong to the regional electricity company, however it is possible that some cables belong to other bodies such as the highway or roads authority, the street lighting authority, electricity generating companies, National Grid Company, Ministry of Defence, railway operator (usually Network Rail) or other companies. For electricity cables more than other services, there may be a need to make dead for the work to proceed safely. Allowances of time should be made for making dead services. In most cases there will be no permanent surface marker posts or other visible indication of the presence of a buried cable. Even if no cables are shown on plans or detected there may still be cables present, which could be live and a close watch should be kept for any signs which could indicate their presence. Most underground cables are laid in trenches between 450 mm and 1 m deep. Some high-voltage (HV) cables will be deeper however **depths should never be assumed.** Cables can be found just below the surface and even shallow excavations (for example for removal of a footpath base course) may be a source of danger. Remember this, particularly where the ground has been disturbed; or lifting paving slabs or kerb stones; or there are cellars or structures such as bridges in the area which may have prevented cables being laid at standard depths. On the railway infrastructure, yellow plastic mesh is often used to cover cables. Any cable protection may have been disturbed and moved and should not be relied upon to give an accurate indication of a cable position. Although most HV cables would normally have tiles or marker tapes laid over them, low voltage (LV) cables and some HV cables, where they have been installed in ducts as 'trenchless' installations, may be laid without separate protective cover. A cable is positively located only when it has been safely exposed. Even then, digging should still proceed with care as there may be other cables and services adjacent or lower down. In addition, some lines of 11 kV or greater can be laid out as separate single phase cables, spread out up to 600 mm across, particularly near cable joints. Occasionally, cables are terminated in the ground by means of a seal, sometimes with external mechanical protection. These 'pot-ended' or 'bottle-ended' cables should be treated as live and should not be assumed to be abandoned or disused. They can be difficult to detect with locators even when 'live'. Sometimes there may also be joints in cables. These may be enclosed in earthenware pipes, filled compound, or be of cast iron or plastic epoxy-filled casings. They need proper support and should not be roughly treated. They should not be moved except in consultation with the owner. Using hand-held power tools or mechanical means to break up hard surfaces often leads to accidents. Where practicable, such power tools should only be used 500 mm or more away from the indicated

Dealing with services	line of a cable buried in or below a hard surface. Having done so, the cable should then be positively located by careful hand digging under the hard surface. The hard surface should be gradually removed until the cable is exposed. If the cable is not so exposed then it must be assumed to be embedded within the surface. Where possible a cable locator should be used as a depth guide down the side of the excavation. Because of the difficulty in confirming depth, hand-held power tools should never be used over the cable unless either: the cable has already been exposed by digging under the surface to be broken out and it is at a safe depth (at least 300 mm) below the bottom of the hard surface material; or physical precautions have been taken to prevent the tool striking the cable. Excavating close to electricity cables buried in concrete is dangerous. Cable owners are likely to want to attend the site to verify the circumstances surrounding any request to make dead. **Work with the cable live should only be done if it is unreasonable in all the circumstances for the cable to be dead and suitable precautions are taken to prevent injury.** If there is no alternative route, and the cable cannot be made dead, then alternative safe methods of excavation should be agreed with the cable owners. Where cables have been exposed for more than 1 m and they cross a trench, support should be provided. Where advice and help is needed to do this, the cable owner should be contacted. If the exposed cable length is shorter than 1m, support should still be considered if joints have been exposed or the cable appears otherwise vulnerable to damage. Cables should not be moved aside unless the operation is supervised by the cable owners; precautions should be taken to prevent access by members of the public, especially children. **Electricity cables (Overhead) –** The local electricity company must be consulted before any works start to have a GS6 survey carried out which will identify the safe system of work to be implemented. Appropriate site signage will be displayed to communicate the presence of the overhead cables located on the approach to the site. **Gas -** Damage to gas pipes can cause leaks which may lead to fire or explosion. There are two types of damage; that which causes an immediate leak and that which causes a leak some time later. The damage may occur at the time the work is carried out or subsequently; for example poor reinstatement may leave a pipe inadequately supported or subject to unequal forces. Most underground gas pipes are operated by either BG Transco or other public gas transporters (PGT), the main exception is estates fed from bulk-stored liquefied petroleum gas (LPG) where the pipes may be owned by the estate owners or other private individuals. Further information may also be obtained from the LPG supplier whose name and telephone number should be displayed at the bulk storage vessel compound, or for buried LPG tanks, at the segregated area above the tanks. Where heavy plant may have to cross the line of a gas pipe during construction work, the number of crossing points should be kept to a minimum. They should be clearly indicated and crossings not allowed at other places along the line of the pipe. Where the pipe is not adequately protected by an existing road, crossing points should be suitably reinforced with sleepers, steel plates or a specially

Dealing with services	constructed reinforced concrete raft as necessary. The PGT will advise on the type of reinforcement necessary. The depth of cover for gas mains laid in a roadway is normally about 750 mm, and for those laid in a footway about 600 mm. The depth of cover for gas service connections is normally about 450 mm in both roads and footways. However; on private property, including at entry positions to buildings, the depth of cover for the service connection may be less, about 375 mm. High-pressure gas transmission pipelines are usually buried with at least 900 mm cover. Remember that these depths **are only a guide,** and that pipes may be found at shallower depths. Gas pipes are generally laid directly in the ground, although in certain soils selective backfill may have been used as a bed and pipe surround and on occasion pipes may be laid in ducts. Ductile iron pipe will sometimes be found wrapped in loose-fit polyethylene (PE) sleeving as protection against corrosion. PE mains may be inserted into redundant iron gas mains and PE service connection pipes may be inserted into yellow convoluted ducting on new housing estates. Markers may also have been used to indicate gas services, namely: marker tiles, which may have been used above gas pipes, for example when they have been laid at shallow depths in bridges or above cellars; coloured plastic markers, including for PE mains; marker posts/plates, which may show the position and size of valves or test points on gas mains. However, such markers may have been disturbed and should not be relied upon as an accurate indicator of position. PE gas pipes should be located by hand digging before mechanical excavation begins. This may also be necessary for metallic pipes if they have not been successfully located by a pipe-locating device. This is particularly important for service connection pipes which will not be marked on plans. A suitable hand digging method is to dig a trial trench along the road near the kerb or in the footway where the service connection pipes are likely to be at their shallowest. When the positions and depth of the pipes have been determined, work can proceed. Gas pipes may have projections such as valve housings, siphons and stand pipes which are not shown on the plans. To allow for this, mechanical excavators should not be used within 600 mm of a gas pipe. Greater safety distances may be advised by the PGT or operator, depending on pressure. It is worth remembering that the effects of damage may not only occur at the point of impact, for example: damage to a service connection may result in unseen damage to the connection inside the building; gas from a damaged pipe may travel along the line of a service pipe into a building, causing a dangerous build-up of gas there. Hand-held power tools can also damage buried gas pipes and should be used with care until the exact position of a buried pipe has been determined. They may be used to break a paved or concrete surface above a gas pipe, unless there are any indications that the pipe is particularly shallow or close to the surface to be broken up. Where pipe restraints or thrust blocks are close to gas mains, these (and the ground supporting them) should never be disturbed, as this

Dealing with services	can cause sudden failure of the main. Because of the risks they pose, the following should not be undertaken without consultation with the PGT: the use of explosives within 30 m of any gas pipe; piling or vertical boring within 15 m of any gas pipe; excavation work within 10 m of any above-ground gas installation; building a manhole, chamber or other structure over around or under a gas pipe; work which results in a reduction of cover or protection over a pipe. If welding or other hot work involving naked flames is to be carried out within 10 m of exposed gas plant, the PGT should be asked to check the atmosphere before work begins and monitoring should continue during the work. Care should be taken to ensure that no damage occurs, particularly to plastic gas pipes or to the protective coatings on other gas pipes. If a gas leak is suspected, repairs should not be attempted. Instead the following action should be taken immediately: evacuate everyone from the immediate vicinity of the escape. If the service connection to a building or the adjacent main has been damaged, warn the occupants to leave the building, and any adjoining building, until it is safe for them to return; prohibit smoking, and extinguish all naked flames and other sources of ignition, within **at least 10m** of the leak. It is important to report any damage, however slight, to the owner. Where an excavation uncovers a gas pipe with a damaged wrapping, the owner should be told so that repairs can be made to prevent future corrosion and leakage. Where gas pipes cross or run alongside excavations, changes in backfill etc may cause differential ground settlement and increased stress in the pipe. For pipes alongside excavations, the degree of risk depends upon the depth of the excavation, the distance of the pipe from the excavation and the type of soil. Wherever an excavation may affect support for a gas pipe, the owner should be consulted. In some cases it may be necessary to divert the gas pipe before work begins. **Other pipelines -** While some sewage is pumped at pressure, sewers are generally gravity-fed, and the main hazard from damage to a sewer is the possibility of contamination. The danger arising from damage to other pipelines depends on the nature of the conveyed fluid. Fluids and their associated dangers include: flammable liquids and gases - risk of fire and explosion; all fluids at elevated pressure - risk of injury from sudden release of contents; toxic liquids and gases - risk of poisoning; and gases such as nitrogen, argon etc - risk of asphyxiation. Liaison with the pipeline operator is important, as information can be provided about not only the location but also the nature of the fluid being transported, any restrictions on excavations in the vicinity of the pipeline, the precautions to be taken during excavating and action to be taken in an emergency. Accordingly, where work is proposed near pipelines, the specific requirements of pipeline operators should be adhered to. The majority of these pipelines are of welded steel construction and locators of the radio frequency detection or the transmitter/receiver types can be used to locate them before excavation. These pipelines may be laid directly in the ground, although sometimes selective backfill will have been used as a bed and pipe surround. They are normally buried with at least 900 mm cover and may be even deeper where they cross roads and railways. Therefore they are unlikely to be affected by shallow excavations. Although marker posts/plates are sometimes used to indicate the position, size and ownership of pipelines, such markers may have been disturbed and should not be relied upon as an accurate indicator

	of position. Pipelines should be located by hand digging before mechanical excavators are used nearby. In any event, mechanical excavators should not be used within 500mm of a pipeline. Most pipelines will be protected against corrosion by a coating. This will normally be: coal tar or bitumen - coloured black sometimes with traces of white limewash; polyethylene cladding - usually yellow; or fusion-bonded epoxy powder - can be any colour - usually green or beige. In the event of a sewage leak, wash and treat footwear with a mild disinfectant, wear rubber gloves when clearing up, look out for sharp objects and always wash your hands. In the unlikely event of feeling unwell, contact your GP, call an electrician to check flooded circuits or equipment and keep children and pets out of the contaminated area. **Telecommunications -** Damage to telecommunication and cable TV cables may require expensive repairs and can cause considerable disruption to those relying on the system. However, the risk of personal injury is normally very low. Flammable and toxic gases can enter cable-carrying ducts, particularly if the duct has been damaged, Such gases can accumulate in chambers, manholes etc and pose a risk to operatives who may need to work there. Owners of the cables should be consulted on precautions, to avoid costly damage. No special precautions are required to prevent danger. **Existing Services Searches** **The site is crossed by a HV cable. Quotes have been obtained from WPD for its diversion. The route of the cable is to be identified on site and clearly marked out to prevent accidental damage. The division works are to be coordinated with the fill work operations.** **The development is crossed by a public sewer several public sewers. Only the existing 750mm diameter sewer running parallel with the railway lines is affected by the fill operations. Fill works will not encroach on the sewer easement to ensure the sewer is not filled over and manhole covers are maintained at existing levels**
Accommodating adjacent land use	Green Hill shall take such steps as necessary, which will be communicated during induction training, to protect adjacent properties from structural damage and to prevent our workforce from trespassing on neighbouring sites. Party wall agreements will be in place prior to work near adjacent structures. Access for Police, Ambulance and Fire Service to the surrounding properties is to be maintained. Particular note must be made on ensuring parking by contractors does not cause a nuisance to the local residents. Due to the site location within a residential area Green Hill Construction will endeavour to keep disruption to the general public and residents to a minimum. Information letters will be posted to local residents before commencing street works. External works will

	be planned and site hoarding / fencing will be employed to partition the works away from the public. This method will also be used for certain high risk activities which are undertaken internally within the site to ensure the protection of the other contractors. Appropriate signage will be used to indicate the works and to direct the public along designated routes. The site will be securely fenced and locked up, using hoarded/steel heras type fencing and Green Hill Construction will ensure the integrity of site fencing for the duration of the project. The access gate will be locked when the site is unattended. All materials must be securely stored within the site area. Skips will be provided on site for waste disposal.
Stability of structures whilst carrying out construction work, including temporary structures and existing unstable structures	During the preparation of temporary works designs, the Temporary Works Designer (TWD) will assess the risks associated with the design. Any residual risks will be identified and communicated to the project team. Residual risks may include, but not be limited to, collapsing structures (falling from or onto), hit by falling materials, excavation collapse, falling into poorly guarded excavations, plant/equipment damage arising from any of the aforementioned or manual handling injuries. The control measures for all temporary work will be as follows; the allocation of duties and responsibilities to competent staff for all temporary works activities, the formal appointment, in writing, of persons to carry out individual duties, the production and maintenance of a temporary works register (appended to this PMP), the correct classification and assessment of all temporary works, the preparation of the concept and design brief based on hazard identification and risk assessment, the formal allocation of individual responsibilities to a Temporary Works Co-ordinator (TWC), Temporary Works Designer(s) (TWD), Temporary Works Design Checker(s) (TWDC) and a Temporary Works Supervisor(s) (TWS), the checking of all materials for adequacy, prior to erection, the formal checking of the temporary works design, the thorough inspection of the temporary works arrangement before any works or loadings commence, the provision of safe access, egress and protective measures to all elevated areas, work areas below ground level, and routes over and across Works, regular inspection and maintenance of temporary works, formal confirmation that the temporary works is no longer required so that it can be dismantled, and the provision of and compliance with the wearing of all required personal protective equipment.
Work with or near fragile materials	**N/A**
Preventing falls	The hierarchy of control will be adopted when selecting work at height equipment – AVOID – PREVENT- MITIGATE. **Scaffolding -** All tube and fitting scaffolding works will be carried out by a competent CISRS trained scaffolding contractor. They are to submit a suitable and sufficient risk assessment and method statement for review prior to commencement. All scaffolding will comply

	with current legislation, BS codes of practice and HSE guidance requirements. Ladders and Haki stairs are to be used for access to scaffolding. These are to have locked anti climb features attached to them at the end of each working day. This is to ensure they cannot be used by unauthorised people such as site trespassers or children. All temporary access/working platforms will only be erected and inspected by competent persons. Access to temporary platforms will be restricted when not in use. Any scaffold adjacent to occupied properties or road elevations will be fitted with debris netting, in addition to the standard protection of brickguards to provide full protection to any third party. All inside standards that protrude through the top lift of the scaffold must be a minimum of 1.2 m in height – this may be achieved by either using a suitable length tube or by sleeving and adding shorter tube. **Open Stairwells/lift shafts/riser voids** - All open stairwells will be protected by using either Green Hill's own proprietary bracket and tube system or a dedicated tube and fitting guardrail system which is to be maintained in position at all times. **Roof void –** Any trade that needs to access the roof void must ensure that the work area is suitably boarded. Working from the top of ceiling cords/joists is strictly forbidden. **Mobile Towers** - The erection of mobile towers, should the need arise; will be carried out by competent, trained personnel only on firm, level and stable ground in accordance with the manufacturer's recommendations. A specific risk assessment is to be prepared prior to erection.
Preventing falls	**Edge Protection -** Any holes or openings in floors will be temporarily securely covered with a suitable strength material and signage will be placed. Large openings will be barriered off using a suitable strength barrier i.e. crowd control barrier. All edges will have suitable strength protection put in place and where there is a risk of injury should persons fall, full edge protection will be installed to a minimum overall height of 950mm with a suitable height toeboard put in place and have no gaps greater than 470mm in between, and will be supported at the manufacturers recommended centres. Any apertures that are created in the roof structure for Velux windows, PV units etc, must be suitably protected by covering the aperture with suitable thickness board material which is to be screwed into position either on the underside of the roof truss rafter or by creating a framework and fitting the board material flush with the top of the rafter; the cover is to state 'Do not remove' or similar and must not be removed until the final component is ready to be fitted.

Preventing falls	**Falling Objects -** Brick guards will be used where materials are to be stacked above toeboard height. Fully meshed cantilever type loading bay gates will be used and are to remain closed at all times after loading. All palletized materials are to be stored no more than 2 high on a level firm base. **Soft Landing Systems** To prevent injury if a fall occurs internally during the timber frame erection process a soft landing system will be used. The following bullet points are to be checked prior to use. • Area to be clear and free from debris • All bags in good condition and in date • Installed by competent personnel • No gaps or voids • No access to unprotected areas • Area to be inspected prior to starting works The above points are to be checked via the use of the soft landing system permit within the Greenhill Construction Procedures. Before any soft landing system is put in place the permit must be in place signed by Green Hill Site management and the competent person installing the landing system.
Control of lifting operations	**CRANES** - the following requirements are specific to Green Hill and are additional to basic statutory standards. Cranes are to be thoroughly examined by a competent person at intervals not exceeding 6 months if used for persons or 12 months if for goods/materials with a written report obtained and must also be visually inspected weekly by the operator. If faults are discovered they must be reported to the relevant persons so that repairs can be instigated.

Control of lifting operations	Green Hill shall only accept cranes that are fully hydraulically powered and have fully hydraulically powered clutches. We require that crane drivers are to be aged 21 years or over and that they hold a current CPCS card (no other accepted). We require locking hooks to be used for all situations where loads are to be slung over people's heads, particularly where they are not aware that it is taking place. We require all crane work to be supervised by a trained crane co-ordinator. We will not permit the use of free fall facility to lower the hook block. The crane must work in power raise and lower at all times. We require crane forks, concrete skips etc. to be secured by a dedicated single leg chain which is fixed to the fork/cage with a locking shackle. No hooks are permitted in this operation. We require six turns of rope to be left on the hoist drum when the hook is at its lowest working point. A suitable lifting plan is to be produced before any lifting operations commence. Loads must be correctly slung and made secure to prevent any part of them slipping and falling. Exclusion zones are to be created under the lifting area. Machines are to be isolated and secured when left unattended with no loads left suspended. Certification of appointed persons and crane supervisors must be obtained and verified by site management before allowing lifting to commence. Cranes must be clearly marked to indicate their safe working load. Where manned tower cranes are used, an adequate rescue plan is to be produced and relevant equipment and competent persons available on site at all times. Tower cranes to be registered with the HSE following erection and subsequently following thorough examination. **MEWPS -** Any MEWP used must be suitable for the job to be undertaken as identified by risk assessment with all guard railing and toeboards in place on the basket or platform. MEWPS must never be overloaded and all stability devices provided used to make the machine stable. The location and work area must be kept away from vehicle routes or where there is a need, temporarily reroute traffic until the task is complete. All operators of MEWPS must be either CPCS or IPAF trained and be suitably competent, experienced and authorised by Green Hill site management. Any person within the basket or platform must wear a restraint lanyard harness which is to be suitably anchored to the designated anchorage point provided on the machine. Risk assessment is to include emergency procedure particularly rescue should the operator become incapacitated. Operatives must never leave or climb on the basket or platform whilst it is suspended to gain additional height, if the machine itself does not reach the required height, it is the wrong machine for the task and an alternative will need to be sought. MEWPS must never be used as props or supports or as a crane of lifting appliance. Machines are to be isolated and secured when left unattended with no loads left suspended. MEWPS are to be thoroughly examined by a competent person at intervals not exceeding 6 months with a written report obtained and must be visually inspected weekly by the operator and an entry made into the 'Working Equipment and Lifting Equipment Register' (HSE 016) or contractors equivalent with any faults discovered reported to the relevant persons so that repairs can be instigated. MEWPS must be clearly marked to indicate their safe working load.

HOISTS - Hoists must be of adequate strength with the equipment stable for every lift. Hoists used for lifting persons must be constructed and used so as to protect the safety of the persons being carried. Hoists must be positioned and installed so as to prevent the hoist and its load striking a person. The hoist must be under full and proper control at all times. Landing areas must be fitted with suitable device to prevent a person or materials falling into the hoist way. The hoist must be clearly marked with its safe working load and other markings if used for lifting persons. Hoists are to be thoroughly examined by a competent person at intervals not exceeding 6 months if used for persons or 12 months if for goods/materials with a written report obtained and must also be visually inspected weekly by the operator and an entry made into the 'Working Equipment and Lifting Equipment Register' (HSE 016) or contractors equivalent with any faults discovered reported to the relevant persons so that repairs can be instigated. All operators of hoists must be CPCS trained and be suitably competent, experienced and authorised by Green Hill site management. Risk assessment is to ensure that the hoist can only be operated from one position at a time. It is not to be operated unless measures have been taken to prevent a person using it being crushed, trapped, struck or from falling. Operator must have a clear view of all levels or if not, have made arrangements for signals to be given to them at each level. The above applies to mobile hoists and conveyors also. Machines are to be isolated and secured when left unattended with no loads left suspended. Hoists must be clearly marked to indicate their safe working load and appropriate use.

GIN WHEELS - Where gin wheels are used the tubes and hooks used must be strong enough to take the load which is to be lifted and be properly secured to prevent movement. All ropes used must comply with the relevant BS EN standards and be 18mm minimum thickness and fit the wheel correctly. They should be marked with a tag to confirm their safe working load. Ring type hooks with a swivel eye are preferable to open hook type when attaching the gin wheels to the tube. Where open hook type attachments are used they must be properly lashed and moused. All gin wheels must be secured by load bearing fittings to prevent any lateral movement. Any joints in standards where gin wheels are fitted should be made with sleeve couplers. Gin wheels should be suspended no more than 750mm from their outer support with the maximum loading being no more than 50kg at this distance. Hooks used for supporting materials should have spring loaded safety catches fitted and be spliced into the rope. Loads must be correctly slung and made secure to prevent any part of them slipping and falling. Exclusion zones are to be created under the lifting area. Access to the gin wheel is to be fully restricted when left unattended with no loads left suspended. Gin wheels must be tested and examined before use and every 12 months with a test certificate issued. They are to be visually inspected weekly by the operator and an entry made into the 'Working Equipment and Lifting Equipment Register' (HSE 016) or contractors equivalent with any faults discovered reported to the relevant persons so that repairs can be instigated. Gin wheels must be clearly marked to indicate their safe working load and appropriate use.

TELEHANDLERS - Telehandlers used on Green Hill sites must adhere to the Green Hill minimum specification requirements. All telehandler operators must be CPCS trained and be suitably competent, experienced, and authorised by Green Hill site management. Telehandlers are to be thoroughly examined by a competent person at intervals not exceeding 12 months with a written report obtained and must also be visually inspected weekly by the operator. Any faults discovered must be reported to the relevant persons so that repairs can be instigated. Reversing is to be avoided where possible; if unavoidable it must be done with the assistance of a banksman. Telehandler is to be fitted with reverse assisting "field of view" mirrors or similar 360° visibility aid. Vehicle routes are to be sited away from structures where practically possible. Operator is to ensure vehicle routes are adhered to – running on soil is to be avoided where at all possible by installing temporary haul roads etc. Where there is an unavoidable need to run on soil, excessive rutting is to monitored and kept to a minimum by grading off soil as necessary. Operator to ensure that the site speed limit is adhered to (10mph). Tyre pressures are to be checked every day and recorded – any discrepancies in pressure must be corrected prior to use. Where outriggers are provided on the machine, these are to be used when loading or unloading when the machine is stationary. Safe Working Load (SWL) of telehandler must be clearly marked and strictly adhered to. Telehandler is to be fitted with full Falling Object Protection Structures (FOPS). Telehandlers are to traverse gradients not exceeding manufacturer's recommendations and guidelines as taught during operator training. The operator is to familiarise themselves with every specific machine when delivered. Unattended telehandlers must be parked in a safe place, have the engine switched off, forks lowered to ground, the gear left in neutral, the handbrake applied, keys removed and doors locked. The operator has ultimate responsibility for all telehandler lifts. Consideration must be given to size, weight, centre of gravity, security of the load, terrain, weather conditions, distance, height, proximity to overhead power lines and other obstacles including site personnel. The operator must ensure that the safe working loads of the machine are not exceeded and the forks are suitably positioned to suit the load. Operator is to ensure that lay down areas are suitable for the load i.e. clean and clear, firm and even. The operator is to familiarise themselves with every specific machine when delivered. Telehandlers should always be driven with the boom lowered to ensure that the centre of gravity of the machine and the load is as low as possible. Driving with the boom raised should never be considered as "normal" practice. It introduces an extra risk that must be assessed. If the site is so restricted that manoeuvring is impossible without raising the boom, site management should re-assess the use of a telehandler at all or, at least, consider reselection of the machine chosen. Where areas of risk to the general public or limited visibility are identified, banksmen will be required; these must be suitably trained and appointed.

LIFTING ACCESSORIES - E.g. Chain, wire rope, fibre rope or flat nylon slings, strops, Jibs, shackles, hooks, eye bolts, spreader or equaliser beams etc. - All lifting accessories are to be thoroughly examined by a competent person at intervals not exceeding 6 months with a written report obtained and must be visually inspected weekly by the competent user with any faults discovered reported to the relevant persons so that repairs can be instigated. Lifting accessories must be clearly marked to indicate their safe working load,

	identification and appropriate use. **SLINGER/SIGNALLERS** (for all lifting operations) - Slingers/signallers will ensure that loads are securely and correctly attached to the lifting equipment and will initiate movement of the lifting equipment. All slingers and signallers must be CPCS trained in the techniques of slinging, signalling (the signal code), and the use of radios as necessary and be suitably competent, experienced and authorised by Green Hill site management. If in training they must be under the constant supervision of a competent trainer. They must be fit with regard to eyesight, hearing, reflexes, agility, and strength to handle lifting accessories. They must be able to judge distances, heights and clearances and establish weights and be able to balance loads.
The maintenance of plant and equipment	Green Hill Site Management must check the 12 month Thorough Examination Certificates or Conformance certificates if less than 12 months old for relevant items of plant before allowing them to start work on site, i.e. 360 Excavators, Telehandlers, Cranes, HIAB Vehicles. Copies of the certificates must be retained on site as required. The Contracts Manager/Site Manager must ensure that these certificates are on site**.** All operators of plant are required to carry out a visual inspection and record the findings in a suitable register at least every 7 days. Any defects discovered during these inspections will result in suitable engineers/mechanics being informed and the defects rectified as soon as practically possible. In addition, daily checks are to be carried out to ensure suitable maintenance of plant checking things such as tyre pressures, condition of brakes, lights, horns, audible warning systems, etc,. All plant and equipment not in use shall be isolated. All plant and equipment shall comply with current Provision and Use of Work Equipment Regulations. Items of portable plant not in use shall be securely stored and rendered safe and isolated. All portable and electrical power tools must operate at 110 volts or less and have appropriate 3 monthly PAT test records.
Work on excavation and work where there is poor ground	All excavations deeper than 600mm will be protected by a physical barrier i.e. a crowd control barrier or similar which will allow banksmen or other personnel to pass materials over and into the excavation but will prevent the person from falling into it. All excavations will be judged on its own merits as to whether it will require shoring or battering regardless of depth. Spoil from excavations will be kept as far away from the edges as is practically possible to avoid excessive weight. Timber stop blocks will be positioned to prevent plant from encroaching too close to the edges. Excavations will be inspected before each shift by a competent person i.e. someone who has considerable experience, knowledge, and training in excavation works. Checks will be made firstly with the utility companies when locating existing buried services and then with cable avoidance tools (CAT & Genny) to further locate them. Enquiries will be made with the utility companies to ascertain as to whether the service can be temporarily turned off, failing that the necessary precautions required whilst working near the service. Once located they will be marked and hand dug trial holes will be used to expose the service. No machinery is to encroach any closer than 0.5m of the exposed service. All existing services will be suitably

	supported. Suitable access ladders will be positioned and secured as necessary. All excavations where there is a risk of injury should persons fall will have the required edge protection in place. Where excavations need to be traversed then suitable gangways with full edge protection will be positioned. A permit to excavate will be issued by the site management before any excavation work. All manholes, inspection chambers, rodding eye pits etc must have their correct covers fitted at all times when left unattended; if there is ever a need to remove a cover for any reason, suitable strength alternative measures, such as barriers must be put in place.
Traffic routes and segregation of vehicles and pedestrians	A traffic management layout plan has been drawn up and will be displayed on the site office and canteen notice boards. All roadways and pathways will be constructed to base course level with kerbs to form clean, safe vehicle and pedestrian routes. Plot drives will be constructed to hardcore level or base course level if asphalt for telehandler access. Where it is not possible to provide permanent road ways, temporary roads and safe pedestrian routes will be installed to the agreed specification to prevent flooding and mud contaminating safe routes. If service routes and street lighting have not been agreed then an allowance/provision for ducts will be required at strategic positions for cable / service runs. Segregated pedestrian routes will be of a secure material such as steel pedestrian barriers, not orange Netlon type barrier fencing. A purpose made crossing point barrier is to be used to indicate where pedestrians may cross. Roads, pedestrian routes, compounds and storage areas will be above existing ground levels to prevent flooding and mud. Specifications should consider concrete capping to wet sites to temporary roads. Concrete can be broken up and reused as hardcore for unadopted areas. Compound layout must include separate protected pedestrian pathways to facilities. Plant is to be banned from rear gardens unless it is work process equipment to avoid excessive churning up of soil. Site safety lighting to compound and pedestrian routes will be considered. The Traffic Management layout plan is to be updated as appropriate as the construction works develop, clearly identifying reversing areas and how they will be controlled. The Site Management will be responsible for explaining the Traffic Management plan to any contractors who bring their plant onto site and all new starters during the induction process. The provision of “holding areas” will be considered for delivery vehicles. Residents will be informed in writing of traffic management issues that may affect them i.e. speed ramps, speed limits, traffic flow, delivery vehicles. Where shared access is required with other Contractors, consideration will be given to material delivery time control, priority control and segregation issues.
Contaminated Soils	Before any works can commence on site a Site Investigation must be carried out in accordance with Environment Agency guidance CLR11. Within this report it must highlight whether any contamination is present on the site. Always check with the client or the designers of the building or structure that the presence of land contamination, and the potential for causing pollution and risks to human health and the environment have been assessed and taken into consideration during the design

Contaminated Soils	stage. Ensure that all actions required by regulators have been completed before any works start. Where contamination is present, poorly designed and installed structures could introduce pathways by which contaminants can migrate into water-bearing soil or rock layers, surface water or present risks to human health and the environment. If material excavated on site is suitable – in terms of engineering properties, health and environmental considerations – we may be able to reuse it as part of the development. For information on the licensing requirements associated with the reuse of contaminated material, contact the local environmental regulator. If the material is not suitable for use, it will need to be removed from site. Works are to be planned so that contaminated materials can be separated from non-contaminated materials, and stored without risk of pollution. Contaminated materials may need to be stored in a particular way, for example to prevent contaminants from leaching into the ground or into watercourses in the area where the contaminated material is being stored. Drainage from such storage areas may need to be contained or treated. If any unexpected materials are discovered during works, work is to be stopped until the materials have been adequately identified and control measures have been produced. Examples of such materials include: • buried drums, tanks, pipework or containers • soil or water with colour or odour • non-natural materials and wastes • Other evidence of contamination, for example iridescent sheens (like oil or diesel) on soil or water. Material excavated on site which is not able to be used will most likely be removed from the site. This material is considered to be waste and must be removed in accordance with the Duty of Care and hazardous/special waste regulations. A full and accurate description of any waste that is removed will be compiled for onwards transfer. To satisfy this requirement laboratory-testing information will be provided. The European Waste Catalogue and WM2 will be used to

	see if the type of waste being disposed of is listed as Hazardous Waste. Prior to import to site, soil material or aggregate used as clean fill or capping material shall be chemically tested to demonstrate that it meets the relevant screening requirements for the proposed end use. No other fill material shall be imported onto the site. **Site Specific Information** **All works will be carried out in accordance with the Remediation Strategy Extant Consent February 2014 Ref 12032/RS-V3 or as amended following approval by the planning authority.**
Storage of materials (particularly hazardous materials) and work equipment	A suitable area will be designated for storage of bulk materials such as bricks, blocks etc. This area will be constructed with hardcore to an even finish to ensure packs/pallets of materials can stand upright without any tilt. Lockable steel storage containers will be provided to store items such as ironmongery, 2nd fix timber, fixings etc. Any flammable materials will be stored within a purpose made 'Flamsafe' lockable container which will be sited away form sources of heat and ignition. All materials and/or substances for inclusion within the works shall be correctly stored prior to use in a suitably ventilated and/or secure area during working and non-working hours. All hazardous materials and substances shall be appropriately stored in accordance with manufacturer's instruction for storage and shall not be placed so as to cause a Health and Safety Hazard on site.
Demolition	No demolition works are required
Working near Water	**The danger of drowning whilst working on a construction site is usually present when the project involves working on, over or near water. Due to the close proximity of the River Usk this is a potential risk of drowning.** **Control Measures** • **River Usk is to be securely fenced off from the site to prevent personnel or plant accidently falling into the river and to protect the SAC/SSSI from any potential pollution incident or disruption to the natural environment** • **Reen is to be securely fenced off from the site to prevent personnel or plant accidently falling into the river and to protect the SAC/SSSI from any potential pollution incident or disruption to the natural environment**

	• Ensure that working platforms are secure with no tripping hazards. Surfaces which become wet and slippery should be cleaned and treated with sand or industrial salt. • Access ladders, guard-rails and toe boards should be checked periodically to ensure they are firmly fixed. • Safety helmets should be worn at all times to prevent the possibility of workers being struck by something and falling into the water unconscious. • Ensure any safety nets or safety harness provided is used at all times. • Life buoys fitted with lifelines will be provided and be ready for use at all times.
Street Works	NRSA supervisor on site and operatives engaging in works to hold NRSA operatives training. All necessary permits will be obtained from the highways dept prior to works. All works carried out on the public highways will be in full accordance with the New Roads and Streetworks Act. All works will be protected in accordance with the Traffic Signs Regulations and General Directions. 2m high Heras type fully meshed fencing will be erected around any excavations that the public may have access to, full signage will be erected and if left overnight adequate lighting will be provided. Reference is to be made to the Traffic Management Act also.
Lone Working	When a member of staff is left alone in the compound, the following measures have been implemented to ensure their maximum safety: ○ Panic button/Personal Attack Alarm ○ Mobile phones ○ The telephone number of the local police station.

Health risks including;

Site specific contamination	**A site investigation has been undertaken and a Remediation strategy prepared. Identified contamination includes:** **Arsenic**

	Cyanide **Benzo pyrene etc** **PCB** **Chrysotile – loose bundles** **Risks to human health during the site works through the following pathways have been idenfied:** **1. Dermal contact with soil and dust** **2. Ingestion of soil and dust** **3. Inhalation of soil and dust** **4. Ingestion of ground water** **5. Inhalation of chrysotile fibres** **The site is to be filled to an AOD of 9.8m minimum in accordance with the remediation strategy therefore the risk from the above pathways in minimal. Bundles of asbestos fibres were identified and specific locations probably the result of fly tipping. Specific locations are identified in the Remediation Strategy. If excavations are undertaken in the area of TP7 then appropriate monitoring measures for airborne asbestos fibres will need to be employed. Excavations in this area are not envisaged.** **Normal dust suppression methods should be sufficient to deal with any potential risks from existing contamination on the site.**
Manual handling	Manual handling will be reduced where possible by use of mechanical means i.e. forklifts, cranes etc. Where this is not practical each load will be assessed and other methods will be adopted i.e. Team lifting, breaking down into smaller loads etc. For the handling of items such as road kerbs or manhole covers, suitable mechanical aids will be used to minimize the risk of MSD's. Where manual handling is unavoidable, routes are to be cleared as far as is practical before attempting to lift or move, safe lifting techniques are to be used, such as keeping back with a natural curve, bending using the legs, keeping the load as close to the body as possible. Avoid twisting the body, reposition feet instead. If 2 persons are performing the lift, ensure co-ordinated movements during the lift. Avoid upper body/top heavy bending and avoid leaning forwards or sideways. Suitable cut resistant gloves must be worn to protect against sharp edges and to assist in gaining a good grip.

Reducing noise and vibration	The use of vibrating tools will be reduced where possible by using mechanical means i.e. pecker attachments on excavators. All equipment selected for use will be of the newer type that incorporates anti vibration handles and suppression techniques. Regular breaks will be taken by all operatives engaging in vibrating works. Time limits relating to vibration limits as provided by the equipment manufacturer will be adhered to. All equipment will be well maintained. All measures will be taken to ensure all plant/machinery and other noisy operations are carried out as far as is reasonably practicable, to an acceptable level. If there are concerns over the level of noise then Noise assessments will be undertaken by the Company HSE department, and made available to all relevant personnel. The principle of Best Practicable means as defined in section 72 of the control of pollution act 1974 shall be applied. All plant brought on to site should comply with the relevant EC/UK noise limits applicable to that equipment or should be no noisier than would be expected based on the noise levels quoted in BS 5228. All works and ancillary operations which are audible at the site boundary shall only be carried out between the hours of 08:00 and 18:00 on Mondays to Fridays; 08:00 and 13:00 on Saturdays and no other times. Arrangements will be made to ensure that excessively noisy operations will only be undertaken after liaison with any third parties liable to be affected in the premises of the adjacent properties. There may be other time periods, determined by the Environmental Agency, which are designated quiet periods where noisy machinery cannot be used. These procedures are to be adhered to during both the demolition and construction phases.
Air Quality	Best Practicable means shall be employed to minimize the dust emissions from the site. Sufficient water along with dust suppression methods shall be made available for use in dry weather. All necessary plant and equipment to distribute the water shall be made available to contractors at all times. In conjunction with site hoarding, debris netting shall be used at particularly vulnerable areas of the site with heras fencing and scaffolding to control the release of dust.
Exposure to UV radiation (from the Sun)	Advice will be administered during induction training on working in the sun. This will include advice on keeping covered up during the hot summer months – especially at lunch time when the sun is at its hottest. Advising workers to regularly apply sunscreen of a suitable SPF.
Smoking and Fire	All personnel must adhere to the no smoking policy. Strictly no fires on site. Green Hill Construction will provide and maintain firefighting facilities within the site premises and instruct all employees and contractors regarding the fire escape procedure. Contractors will ensure fire escape routes are kept free from construction debris

	during the course of the project. The working area will be checked daily by the Green Hill Construction Site Manager to ensure this is carried out.
Respirable Crystalline Silica (RCS)	**Cutting, or breaking road/edging kerbs, paving slabs, bricks/blocks, concrete etc. –** effective water suppression systems and FFP3 or P3 RPE control measures are to be used. **Chasing or drilling masonry products as detailed above** – effective dust extraction to be fitted to the tool or equipment and FFP3 or P3 RPE control measures are to be used. **General clearing and removing rubble etc. -** damp down rubble before clearing and FFP3 or P3 RPE control measures are to be used. **Controlled Cutting -** Always use appropriate water suppression when cutting a tile with a cut-off saw. A minimum flow rate of around 0.5 litres per minute is required for effective dust suppression unless a manufacturer advises otherwise. Low flow rates will not properly control the dust. For the type of cutting being done, the simplest way of supplying water is likely to be a portable polypropylene hand pump bottle. This contains around eight litres of water that is pressurised by hand. However, an effective flow is sustained only for a limited time (up to 4 minutes) before re-pressurisation is needed. **Where water suppression is used the following guidelines should be followed:** ○ Good arrangements are needed to ensure that enough water is available at all times. This could include measures for refilling hand pump bottles or the use of a more permanent water supply. ○ Planning is required to prevent excessive handling. ○ Roof tile cutting should be carried out on the surrounding scaffolding. A dedicated cutting area(s) should therefore be established before work starts at the planning stage. ○ It is vital that the integrity of the scaffold boards is not compromised by the cutting operation. A suitable piece of sacrificial material must be placed between the tile and scaffold board. ○ Unless mechanical lifting aids are used, roofers are advised against cutting on the ground instead of the scaffolding. There is an increase in the risk of falls and manual handling associated with moving the tiles down and back to the roof area. **Respiratory Protective Equipment (RPE) -** RPE is an essential part of silica dust control. A minimum of FFP3 or P3 (i.e. a protection factor of 20) RPE should be used for all cutting activities even where water suppression is employed. Water suppression systems are not fully reliable and even when effective they do not eliminate all silica dust. The "residual" dust concentrations will be variable and unpredictable so additional control is necessary. RPE will also be required for those workers in the close vicinity of any cutting (e.g. workers assisting with a cutting task, or those nearby). Workers in more remote areas (i.e. away from the dust cloud) do not require RPE. This practice of 'segregation' should be considered as the primary control measure for reducing incidental exposure. To ensure adequate protection wearers must be clean shaven, properly instructed and trained in its use and have had an appropriate

Respirable Crystalline Silica (RCS)	face fit test. A qualitative fit test is acceptable. A "loose-fitting" type of respirator (e.g. powered hood, helmet or visor) should be worn by workers who have beards or are unable to obtain an adequate fit for the disposable or orinasal half masks. Models incorporating head and eye protection can also be selected. Users will require adequate information, instruction and training in the correct use of the chosen equipment and storage and maintenance arrangements implemented. Disposable masks should be replaced every shift or when damaged. Orinasal filters should be renewed frequently dependant on use; probably at least weekly. A supply of suitable spares should thus always be available. Maintenance procedures including suitable storage arrangements will also need to be implemented for such masks. **Benefits -** With the methods described above (or similar), it is accepted that significantly more time may be needed to complete the valley, and the roof overall, than when dry cutting in-situ. However, there are many advantages too: ○ Using water significantly increases the life of blades and prolongs the lifespan of the cut-off saw motor. ○ There is no need to rough cut first, ○ There is less risk of cut tiles breaking during cutting (and having to be re-cut) ○ The off-cuts can be saved and re-used on any hips on the roof (or forthcoming roofs) thus saving waste and money. ○ The Concrete Tile Manufacturers Association (CTMA) does not recommend cutting valley tiles in situ because it can make slits in the liner. There can also be problems with dust or slurry getting into the mortar, loss of bond from the vibration, and problems with long term durability of the mortar. NHBC has undertaken a study into pitch roof claims. They found that over half of these claims were due to mortar defects. ○ Subsequently, repairing damaged valley mortar can be expensive as scaffolding or other edge protection is often needed.
Weil's Disease (Leptospirosis)	**Due to the proximity of River Usk and the Reen to the site, it is assumed the leptospirosis bacteria are present from rats. Precautionary control measures are to be in place; all cuts are to be covered, hands and arms are to be washed thoroughly prior to eating, drinking or smoking. Leftover food is to be put in the waste bins/skips provided on site.**
Communicative Disease List	A list should be obtained from the Client identifying addresses with potential or actual dangerous and contagious diseases which site workers could possibly come into contact with if they were to enter certain properties.
Discarded hypodermic needles and other sharps.	As the site is bounded by public access routes, it is assumed that the site could contain discarded needles and broken glass. All personnel working on the project are to receive the Green Hill Discarded needles and other drug related waste awareness course and the site management are to receive the handling version of this course and be issued with the removal kits. If discarded needles are discovered, NEVER TOUCH THEM WITH ANY PART OF YOUR BODY. If possible cover the needle(s) with something heavy such as a block or slab or something obvious, warn all in the area that a needle has been discovered giving the location and inform them not to touch it. Inform site management as soon as possible giving location and amount and allow them to remove them safely using their safe disposal

	kits. No part of the body should be placed 'blind' into any cavity/space. The area is to be exposed as much as possible and suitable lighting provided. If skin is accidentally punctured by a needle, encourage the wound to bleed but do not squeeze as once the pressure is released the blood will be drawn into the body quicker. Wash the wound with cold running water, dry and cover it with a plaster, get the site management to recover the needle and place in a suitable container and attend the nearest Accident and Emergency Hospital as soon as possible taking the needle with you.
Vandalism and Trespass	**It has been reported that the site has been regularly accessed by children (trespassing). As mentioned above, in "accommodating adjacent land use", the site will be securely fenced and locked up, using hoarded/steel heras type fencing and Green Hill Construction will ensure the integrity of site fencing for the duration of the project. The access gate will be locked when the site is unattended. Legal access to the PRO and the emergency access path will be maintained.**
Arboriculture / Ecology/ Environment	**Greenhill Construction to work in line with appropriate actions as detailed in the ecology Reports prepared by Sturgess ecology in respect of the River Usk and the Reen. No other significant ecological features have been identified on the site. A summary is included below:** **Measures must ensure protection of the SSSI, SINC sites, protected species and key habitats. Mitigation measures should seek to: i. avoid damage to ecological interests within and without the proposed development boundary; ii. mitigate any unavoidable damage; The method statement should include a monitoring programme covering the natural heritage interests through construction and operational phases of the development. Monitoring should trigger the implementation of the relevant contingency measures identified in Environmental Management Plans (EMPs).** **Possible measures to avoid adverse impacts on the River Usk Special Area Of Conservation (SAC) include: Avoid any construction works that result in vibration, or works in the river, at sensitive times of the year i.e. fish migration and spawning period from 1 March – 30 June. Where construction works have to take place at sensitive times of year activities**

	should be regulated to ensure that fish migration can occur; avoid discharges of polluted or turbid water; seek advice from the Environment Agency on maintaining riparian habitats. Avoid operations within and immediately adjacent to the river at sensitive periods of the day e.g. dawn and dusk. Provide a buffer of at least 10 metres between the development and the river during both construction and operation phases. Identify and maintain an appropriate working corridor that does not impact on the buffer area. Restrict construction lighting to working areas. Do not light the riverbank. **All construction debris should be removed from the river and its banks; and the areas disturbed by construction should be restored to as natural a condition as possible.** **The River Usk and its adjacent mud banks and saltmarsh habitat should be strictly protected at all times. Measures should be taken to ensure that there is no accidental disturbance of the saltmarsh, or discharge of polluted water into the outfalls. It would probably be appropriate to install a temporary fence around the construction site to minimise the potential for accidental disturbance.** **The following guidance will be used where appropriate:** **CIRIA 692 Environmental Good Practice on Site** **CIRIA Environmental Toolbox Talks** **Environment Agency PPG1** **Environment Agency PPG5** **Environment Agency PPG6** **Environment Agency PPG1**
Open Spaces	NA