CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Virginia Park Remediation

October 2020

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1. INTRODUCTION

1.1 DESCRIPTION OF THE PROJECT

GHR Developments are to remediate the former golf course and landfill site at Virginia Park, Caerphilly to provide a clean, safe development plateau ready for housing development.

1.2 PROJECT ORGANISATION AND RESPONSIBILITIES

1.2.1 Overall project organisation

Figure 1 shows an overall management structure for the project from Prichard's with roles and responsibilities of key team members.

The main responsibility for the project will be with Contracts Manager Meyrick Williams, Project Manager Jason Austin and Site Foreman Neil Walker.

Operations Manager Frank O'Kelly will be responsible for the resourcing of all plant and labour.

Health and Safety Manager Sam Tantum will oversee all health and safety related to the project and will carry out monthly safety audits on site, but Project Manager Jason Austin will be responsible for the health and safety on site.

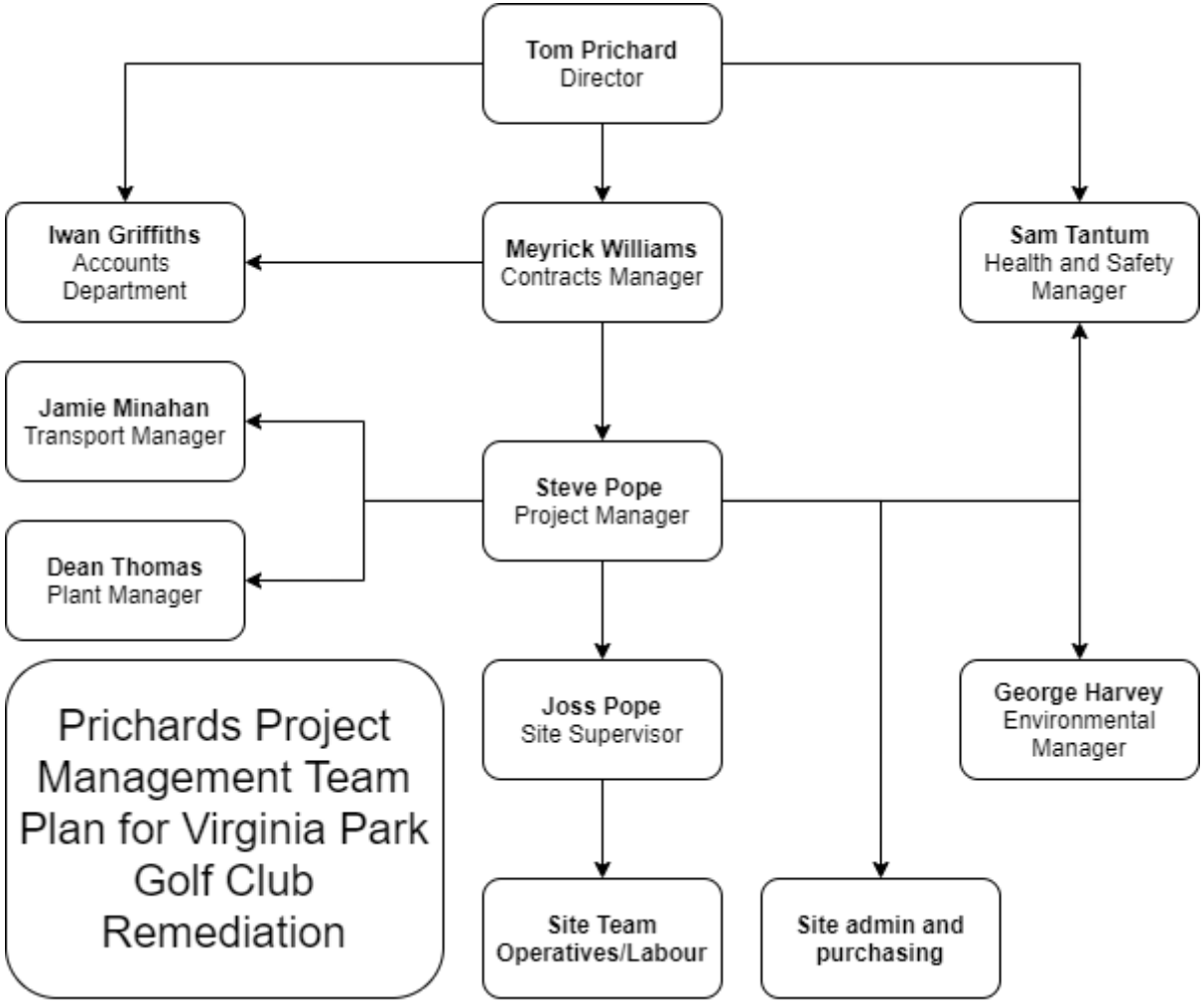

Figure 1: Project Management Structure for Prichard's.

1.2.2 Responsibilities of the Environmental Manager

George Harvey is the companies Environmental Manager who is responsible for all of the company's Environmental activities. George will visit site at the start of the project to ensure environmental compliance and aid the site setup. He will then call into site fortnightly to advise and ensure that all potential risks are mitigated against throughout the operations. George will also be responsible for the deployment of any environmental permits for the treatment of contaminated land, if any such contamination is encountered.

Prichard's trainee Environmental Manager, Callum Mitchell will be responsible for setting up the monitoring of dust and PM10 and for taking the appropriate samples.

The environmental team will collate all waste movements to and from the site during the project to input into the final Health and safety files.

1.2.3 Supply chain

Prichard's have a robust system in place to ensure the competencies of our supply chain and sub-contractors. Prichard's are not proposing to use any sub-contractors to aid the remediation works, but if any are used they will be vetted against the companies stringent requirements.

1.3 CEMP REVIEW AND UPDATING

The CEMP is designed to be dynamic in nature throughout the course of the project. It will be updated monthly as the project progresses and different milestones are reached.

2. SCOPE AND BENEFITS OF A CEMP

2.1 PURPOSE OF THE CEMP

The CEMP is written to provide all relevant parties to the site to be informed of all potential environmental concerns and issues that could result from the construction activities being carried out on site and the measures to be put in place to mitigate against any negative consequences. The CEMP allows all parties to provide their input into the site and to discuss any other relevant environmental concerns.

3. COMMUNICATION

3.1 MEETINGS

Monthly progress meetings will take place on site between Prichard's (Principal Contractor), Integral Geotechnique (Principal Designers) and GHR Developments / Landmatters (Client). Environmental concerns will be on the agenda for each of these meetings. Records of these meetings will be recorded and stored. A Prichard's contract directory is included at the end of this document for any party to communicate with at any time to discuss concerns.

3.2 SUB-CONTRACTORS AND THE SUPPLY CHAIN

As Principal Contractor, Prichard's will be responsible for the site sub-contractors and supply chain and ensure the highest standard of environmental safety is upheld across the project.

3.3 TRAINING

Tool-box talks shall be provided to all operatives on site on a weekly basis and daily briefings will be given to the site team by the site supervisor. Environmental awareness will be a regular topic to ensure it is always fresh in the operative's minds.

3.4 ENVIRONMENTAL RECORDS

Records will be kept in the site file of any environmental incidents on site. GHR and Integral Geotechnique will be immediately informed of any such incident and Prichard's environmental manager will be responsible for following up on incidents and keeping track of records. All monitoring records and sample results will be kept throughout the project and records of material movements around the site and imported materials and exported wastes will be kept throughout the project.

4. SITE REQUIREMENTS

4.1 SITE OPERATIONS

Figure 2 shows a development layout of the site with the houses in the 'Development area' and the southern public open space 'POS'. The sub-surface in the development area comprises of topsoil underlain by made ground, landfill waste and peat deposits above the natural ground.

The POS area sub-surface comprises of topsoil underlain by made ground, landfill material on top of the natural ground.

The purpose of the remediation operations is to remove all of the peat underlying the development area and transport this via site haul routes to the POS area, then remove the made ground, landfill materials and some of the natural ground excavated from the POS area to be deposited in the development area to build up the site levels.

The landfill wastes will be processed using screens to remove any oversize or unsuitable materials before it is placed and compacted in engineered fill layers in the ground.

The POS area is currently part of a floodplain, so the site operations will be careful to avoid raising the site levels in this area and materials will be stockpiled in segregated piles before being reused on site.

If there is a deficit of material available to fill the development area, then materials will be imported to site and placed.

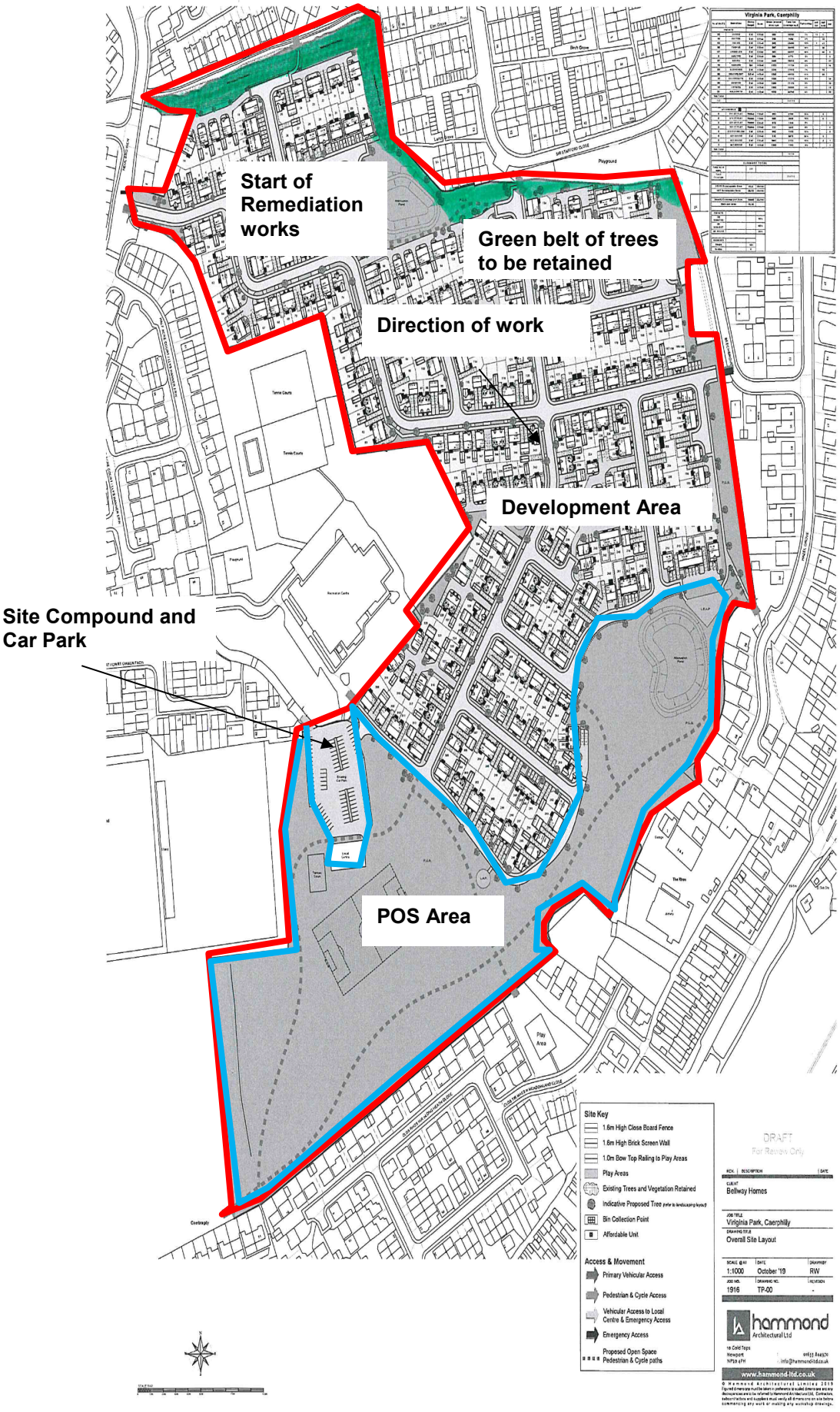

Figure 2: Development plan for the site

4.2.1 Pollution control and contingency plan

There are several watercourses that exist throughout the site, the known ones are shown in Figure 3. Prichard's will erect some drift style silt fences around the pond and the watercourse on the eastern boundary to prevent any silt accessing the watercourses. The other watercourses throughout the site will be excavated through and the water will be controlled as part of the earthworks through a series of settlement lagoons away from the excavation working area. these lagoons will also be surrounded by silt fencing.

It is not anticipated that any herbicides shall be used on the site, or that any contaminated material will be encountered during the earthworks to have the potential to cause pollution to the site watercourses.

Diesel for site plant shall be stored in double bunded bowsers capable of storing 110% of the volume of the tank, hydraulic oil shall be stored in the site compound area COSHH area complete with drip trays and suitable bunding. It is not anticipated that any other COSHH items are to be used during the remediation works.

An enclosed skip will be situated in the site compound area for the disposal of any oil drums, rags and grease cartridges.

All plant contains drip and spillage trays to control any fuel spills and will be stored near to the site compound area when not in use.

Should any pollution occur, the works will be halted immediately and GHR and Integral Geotechnique will be informed, an action plan will then be put in place to control the pollution event the spillage will be cleaned up immediately using the site spill kits.

The site access road at the entrance to the car park will be cleaned using a road sweeper to prevent any debris being taken out onto the surrounding roads during periods of vehicle movement.

Figure 3: Aerial view of the site showing the locations of the known watercourses on site and protection measures to be put in place.

Approximate location of known watercourses onsite	Location of Silt fencing to be erected.

5. EFFECTS

5.1 LANDSCAPE EFFECTS

5.1.1 Changes to the existing environment

The proposed development will improve the existing site by enhancing the public open space environment and drainage to allow local communities to fully enjoy the site. The landfill wastes will be processed and any contamination or unsuitable materials will be removed offsite to provide a safe, clean development area.

5.1.2 Potential construction impacts

The construction operations will alter the existing landscape in the short term creating segregated material stockpiles and haul routes throughout the site. Once an area has been completed and brought up to level the finished plateau will be dressed and look similar to the existing environment.

5.2 ECOLOGY EFFECTS

5.2.1 Existing environment

The existing site has widespread trees throughout, the majority of these will be removed during the development, but a 15m green corridor of trees will remain along the northern boundary. There is widespread Japanese Knotweed throughout the site which will also be removed from its current location.

5.2.2 Potential effects

The majority of trees throughout the site will be removed as part of the construction works, and also the Japanese Knotweed stands will be removed from the development area. Once the housing development and final landscaping has been completed there will be a large number of new trees planted throughout the site.

5.2.3 Management and mitigation

Appendix A shows an arboricultural method statement by Treescene showing the protection measures to be put in place along the northern boundary of the site.

5.3 WATER QUALITY EFFECTS

5.3.1 Existing environment

The Existing watercourses, shown in Figure 3 are deemed to be clean of contamination and it is unknown at this stage the level of contamination throughout the perched waters and site groundwater, but it is assumed to be clean and able to accommodate clean pumped water to be filtered back into the ground through site lagoons.

5.3.2 Potential effects

During the site operations there is a potential for silt runoff to the existing watercourses. These will be protected using silt fences in the locations shown in Figure 3. The groundwater is assumed to be clean and the quality will therefore not alter during the site operations. Any contamination in the soil will be removed and cleaned up as part of the works, which in turn will ensure that the groundwater stays clean.

5.3.3 Management and mitigation

Silt fencing will be erected in the locations shown in Figure 3. Throughout the earthworks the water will be managed by a series of settlement lagoons, where it will be pumped away from the working area to the middle/southern part of the site to allow the excavation areas to be dry and free of water. This pumping operation and lagoon location will alter as the programme of works progresses.

5.4 WASTE MANAGEMENT (DUTY OF CARE)

A materials management plan will be put in place to cover the material movements around site and into and out of the site. A Site waste management plan (SWMP) will be in place to cover all waste movements offsite. All landfill wastes encountered on site will be processed using a screen and a skip bin will be onsite for the oversize / unsuitable materials to be removed offsite. Prichard's are an upper tier registered waste carrier and all of Prichard's transport fleet are operated by ISYS intelligent systems, which record all material movements electronically and provide duty of care tickets directly to an online portal, which we can give the client and principal designer access to, to show transparency throughout the waste movements of the project. Prior to the commencement of the site works the SWMP will be produced to provide a forecast of the expected wastes to be removed offsite or recycled throughout the project, this will be updated monthly to reflect the site activities.

During the operations there will always be at least 5 operatives who are fully asbestos awareness trained. If any asbestos is encountered on site during the waste processing operations then the site supervisor will be informed and an asbestos awareness trained operative will collect the suspicious materials wearing the relevant respiratory protective equipment, double bag the material, seal it with tape and dispose of in an enclosed skip for offsite disposal in a licensed facility. Records will be kept of the positions and details of each discovery.

5.5 NUISANCE (INCLUDING NOISE, VIBRATION AND DUST)

5.5.1 Existing environment

The existing environment is quiet with residential properties and sports facilities in the adjacent area.

5.5.2 Potential effects

The site activities have the potential to be very noisy and can generate large amounts of dust and vibration throughout the project.

5.5.3 Management and mitigation

Working hours shall be limited to those stipulated in the planning conditions for the project. All plant and machinery used shall be well maintained and thoroughly checked before being used on site to ensure noise is kept within the operating standards. Dust shall be controlled on site by a towable water bowser, which will be used to dampen down haul roads or a portable dust boss suppression system where works are carried out adjacent to residential properties. Dust, PM10 and asbestos fibres will be monitored using frisbee style dust gauges situated at 8 locations around the site, the deposits will be sampled weekly and tested against control measures.

Baseline readings for noise and vibration will be taken at specific locations around the boundary of the site near to existing housing prior to the commencement of the works and readings will then be taken continuously throughout the project at the same locations during working hours. If any measured levels exceed threshold limits in the planning conditions then a management plan will be put into place and screens will be erected around the working areas. These measurements will take place 2 weeks prior to commencement on site.

A permanent wheel washing facility will be setup near to the site entrance as a self contained unit to clean any vehicles exiting the site to ensure no debris is spread across the road as a result of the development.

There shall be no waiting or idling of delivery vehicles and site traffic in nearby residential areas during the site operations, including any vehicles waiting for the site to open.

Site working hours are to be:

Monday – Friday 08:00 – 17:00

Saturday – 9:00 – 13:00.

Figure 4 shows the locations of the monitoring stations around the site.

Figure 4: Proposed location of dust monitoring stations throughout the site during the works.

6. CEMP CONTACT DETAILS

Role	Organisation	Name	Email Address	Mobile no.
Contracts Manager	**Prichard's**	**Meyrick Williams**	**Meyrick@prichardholdings.co.uk**	07945 761174
Project Manager	**Prichard's**	**Jason Austin**	**Jason.a@prichardholdings.co.uk**	07837 929819
Site Foreman	**Prichard's**	**Neil Walker**		07943 377952
Operations Manager	**Prichard's**	**Frank O'Kelly**	**Frank@prichardholdings.co.uk**	07495 761152
Environmental Manager	**Prichard's**	**George Harvey**	**George@prichardholdings.co.uk**	07771 484840
H&S Manager	**Prichard's**	**Sam Tantum**	**Sam@prichardholdings.co.uk**	07931 808268