

Hydrock

# Kestrel Park, Bursledon

## Final Verification Report

*For Taylor Wimpey UK Ltd. (Southern Counties)*

*Date:* *27 April 2023*

*Doc ref:* *08162-HYD-XX-XX-RP-GE-5001*

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# Executive Summary

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| *SITE INFORMATION AND SETTING* | |
| Client | Taylor Wimpey Ltd. (Southern Counties) |
| Site name and location | Kestrel Park, off Bursledon Road, Southampton, SO31 8GN. |
| Proposed development | The development includes:<br>• The construction of 200 residential units and associated infrastructures.<br>• A new access road and signal-controlled junction off Bursledon Road, to be constructed under a Section 278 agreement.<br>• Provision of Public Open Space (POS), Play Area and Country Park area (CP) as part of a Section 106 agreement. |
| Objectives | • Validate remediation works outlined in Hydrock Detailed Remediation Method Statement included in report ref: HYD-XX-REM-RP-GE-3000 P1.4; and<br>• Satisfy relevant outstanding planning requirements. |
| Site Summary | The site comprises approximately 10.44 ha. Formerly the site of regular car boot sales and now a new residential development and country park area.<br>Previous investigations indicate:<br>• Potential risk to human health, plant life and potable water supplies posed by the concentrations of contaminants identified in the Made Ground associated with former landfill activities; and<br>• Migration of ground gases from the Made Ground potentially affecting future site users through inhalation and/or through accumulation in new buildings/infrastructure. |
| *REMEDIATION* | |
| Remediation measures | According to the RMS produced by Hydrock in 2018, the following remedial actions were required:<br>• Demolition and removal, as required for the development, of any existing structures not to be retained as part of the development;<br>• excavation, segregation, screening and processing of site demolition material and Made Ground materials as part of any cut to fill earthworks, with a part time watching brief to be kept during the works by an independent environmental engineer;<br>• off-site disposal of the materials to be kept to a minimum;<br>• re-use and placement of soils which have been determined to be suitable for use at depth below hard standing in accordance with a Materials Management Strategy;<br>• over-excavation of service runs and installation of Protectaline (or similar) pipework (where potable water supply routes cross areas of Made Ground);<br>• construction of floor slabs, hardstanding or the installation of an engineered cover system for landscaping areas;<br>• on-going watching brief (for asbestos containing materials (ACM) as well as areas of unexpected contamination) by the ground workers;<br>• validation of the cover system and imported Topsoil for the soft landscaping in areas of POS; and<br>• validation of the gas protection measures installed. |
| Remediation | • Remediation works for the remaining Japanese knotweed areas were undertaken by |

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|---|---|
| works | Japanese Knotweed Ltd. between October / December 2018. Areas JK2 to JK6 were fully excavated. All knotweed arisings with exception of asbestos contaminated spoil from JK4 was placed within the burial cell. Areas JK1, JK8 and JK9 site side of tree canopy knotweed were fully excavated. Vertical root barrier installed along edge of tree canopy. Remaining knotweed under tree canopy within bund/ditch will be treated under herbicide programme.<br>• Gas protection membranes were installed by NEA Contractors Ltd. between October 2018 and June 2019.<br>• An engineered cover system (comprising topsoil, clean subsoil and a high visibility permeable geomembrane) was implemented in soft landscaping of POS areas in the former landfill (north west of the site). Subsoil was imported from Taylor Wimpey Burridge Green site. Soft landscaping remediation works were undertaken by Gracelands between June 2020 and November 2021. |
| *VERIFICATION* | |
| Validation and verification works | • Hydrock undertook a series of watching briefs (WB) and technical design support meeting/visits (TDS) to supervise construction works progress in accordance with the MMS, CEMP and RMS.<br>• Hydrock undertook a series of gas membrane validation visits to verify the correct installation of the gas membrane. Where small defects are noted in gas protection measures, these have subsequently been addressed by the installers and independently validated, or addressed by the groundworkers as necessary where not related to membranes. Hydrock considered that the standard of installation was good and note that NEA Contracts Ltd. are a specialist gas membrane installer with NVQ Level 2 qualifications.<br>• To provide proof of suitability of the mixed subsoil stockpile and south bund present on the site, Hydrock undertook a supplementary ground investigation comprising of 16 trial pits. Laboratory testing indicated the construction of the bund was suitable, however within the mixed subsoil stockpile, the presence of loose asbestos fibres was identified in 4 of the locations. Therefore, Hydrock consider the materials in the mixed subsoil stockpile were not suitable for re-use and recommended disposal off-site.<br>• To provide proof of suitability of the soils present on the north bund at the north west of the site, Hydrock undertook a supplementary ground investigation comprising of 15 hand excavated trial pits. Laboratory testing indicated there were no exceedances of the respective GAC. Therefore, Hydrock consider this material was suitable for re-use.<br>• Hydrock undertook verification and validation works of the cover system in the soft landscaping - POS country park area (former landfill) on 13th October 2021. A total of 35 trial pits were excavated. A minimum of 150mm of clean topsoil and 300mm subsoil overlying by a high-visibility geomembrane was encountered in all locations during the validation of the Cover System. One isolated fragment of visible cement bound Chrysotile asbestos was encountered at location CPV01. However, as no further visible fragments were found and laboratory testing indicated the absence of loose fibres of asbestos, no further works are considered necessary. Some of the locations within the former haul road presented a shortfall of soils with respect to a cover system, measured between 0.15m and 0.40m thickness of topsoil overlying the geomembrane with no subsoil present. However, as this will be part of a footpath, it is considered that a potential pollutant linkage is unlikely to exist and no further considerations are required. |
| *CONCLUSIONS* | |
| Conclusions | Based on the remediation and verification/ validation works discussed in this report, it is considered that the remediation of the site is complete. |

This Executive Summary forms part of Hydrock Consultants Limited report number 08162-HYD-XX-XX-RP-GE-5001 and should not be used as a separate document.

# 1. INTRODUCTION

## 1.1 Terms of reference

In May 2018, Hydrock Consultants Limited (Hydrock) was commissioned by Taylor Wimpey UK Ltd to prepare a Detailed Remediation Method Statement (RMS), Materials Management Strategy (MMS), Construction Environmental Management Plan (CEMP) and validation/verification works at the site known as the Kestrel Park development off Bursledon Road, Southampton, SO31 8GN.

The development includes:

- The construction of 200 residential units and associated infrastructure.
- A new access road and signal-controlled junction off Bursledon Road, to be constructed under a Section 278 agreement.
- Provision of Public Open Space (POS), Play Area and Country Park area (CP) as part of a Section 106 agreement.

A site location plan (drawing ref: BRL-HYD-XX-ZZ-DR-GE-0001) is presented in Appendix A.

Hydrock undertook the following tasks:

- Production of a detailed remediation method statement (RMS) (Planning Condition 19(iii), 21);
- Production of a Materials Management Strategy (MMS);
- Production of a Construction Environmental Management Plan (CEMP) (Planning Condition 4);
- Site visits to ensure compliance with the MMS, RMS and CEMP (including validation of Cover System and gas protection measures where appropriate) (Planning Condition 20);
- Environmental laboratory testing for verification support (Planning Condition 20);
- Production of a Final Verification Report (this document) (Planning Condition 20, 21); and
- Design team support.

The works have been undertaken in accordance with Hydrock's proposal referenced (ref: C-08162-E/001-Rev01 dated 26/04/2018) and the Client's instructions to proceed (purchase order HM-20628/00030).

Gas protection validation works have been undertaken in accordance with Hydrock's proposal referenced (ref: C-08162-E/002 dated 27/11/2018) and the Client's instructions to proceed (purchase order HM-20628/00117).

## 1.2 Objectives

Works were undertaken by Hydrock for validation and verification purposes with the following objectives:

- Validate remediation works outlined in Hydrock Detailed Remediation Method Statement included in report ref: HYD-XX-REM-RP-GE-3000 P1.4; and
- Satisfy relevant outstanding planning requirements.

## 1.3 Sources of information

In preparing this verification report, the following documents were consulted:

- Hydrock, Materials Management Strategy (MMS) - Kestrel Park, Bursledon, reference BRL-HYD-XX-MMS-RP-GE-4000, dated August 2019.
- Hydrock, Detailed Remediation Method Statement (RMS) - Kestrel Park, Bursledon, reference BRL-HYD-XX-REM-RP-GE-3000 P1.4, dated December 2018.
- Hydrock, Construction Environmental Management Plan - Kestrel Park, Bursledon, reference BRL-HYD-XX-VAL-RP-GE-5001, dated June 2018.

In addition, previous investigations were also consulted in preparation of this verification report, these were carried out by:

- Digital Terrain Surveys LLP, Topographic Site Survey, Drawing Ref: DTS070714-0R8, dated July 2014.
- Geo Consulting Engineering Ltd, Phase 1 Desk Study and Phase 2a Ground Investigation Report, Ref: GCE00449/R1, dated October 2014 (no appendices included);
- Geo Consulting Engineering Ltd, Phase 2 Supplementary Intrusive Investigation Report, Ref: GCE00449/SR1, dated April 2015;
- Geo-Environmental Services, Ground Investigation Report, Ref: GE16128GIR-AUG17, dated August 2017;
- Greenspan Projects, After Dig Report for control of Japanese Knotweed, ref: C1893, 14 July 2017;
- Elcot Environmental, Controlled Waste Acceptance Note, ref: 1423, 14 July 2017
- Japanese Knotweed Ltd, Knotweed Management Plan (Remediation Report), ref: JKLE14863.1, 10 August 2018;
- Geo-Environmental Services, Ground Gas Addendum, Ref: GE16128/FG01/180323, dated 23 March 2018; and
- Cooper Baillie Ltd, Planning Layout, Drawing Ref: CB_84_120_001-Rev K, dated 26 March 2018.

## 1.4 Regulatory context and guidance

The investigation work has been carried out in general compliance with recognised best practice, including (but not limited to) BS 5930:2015+A1:2020, BS 10175:2011+A2:2017 and the AGS (2006) Good Practice Guidelines for Site Investigations.

The geo-environmental section of this report is written in broad agreement with BS 10175:2011+ A2:2017, Land Contamination: Risk Management (LCRM, Environment Agency 2021) and the AGS (2006) Good Practice Guidelines for Site Investigations.

The methods used follow a risk-based approach, with the first stage being a Phase 1 desk study (already completed) and field reconnaissance with the potential geo-environmental risk assessed qualitatively using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990).

Professional judgement is then used to evaluate the findings of the risk assessments and to provide recommendations for the project.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential contamination).

# 2. BACKGROUND

## 2.1 Site referencing

The site is located to the south of Bursledon Road, in Southampton. The nearest postcode is SO31 8GN, national Grid Reference 447540 E, 110970 N.

## 2.2 Site Setting

The site comprises approximately 10.44 ha. Formerly the site of regular car boot sales and now a completed residential development and country park area.

Geology at the site is recorded to comprise River Terrace Deposits of sand and gravel overlying Wittering Formation. Significant Made Ground was present as a result of historical landfilling activities following extraction of gravel. Therefore, the proposed development has been designed such that all houses in the development were built outside of the boundary of the former landfill area.

Various drainage ditches traverse the site and a small surface water course (stream) is present to the north west of the newly constructed Vosper Lane, flowing south west.

## 2.3 Previous investigation findings

Previous ground investigations carried out on site between 2014 and 2017 indicate:

- As a result of historical landfilling activities following extraction of gravel, areas of significant Made Ground were present with variable thicknesses.
- The Made Ground consisted asbestos containing materials, loose asbestos fibres, and concentrations of contaminants (typically metals and PAH) above the human health Generic Assessment Criteria (GAC).
- Risks to Controlled Waters were considered to be acceptable since surface water sampling of the main receptor (stream) has shown that it was not significantly impacted and development of the site including remediation would facilitate a “betterment” of site conditions.
- Elevated concentrations of ground gas were identified in parts of the site in relation to Made Ground from the former landfilling. A Characteristic Situation 2 (CS2) scenario was determined in line with BS 8485: 2015.
- Japanese Knotweed has been identified in numerous areas across the site and was subject to ongoing treatment and management.

## 2.4 Conceptual Site Model

Based on the findings of the previous reports detailed in Section 1.3 and according to the RMS produced by Hydrock (2018), the Conceptual Site Model identifies potentially unacceptable source-pathway-receptor linkages in Table 2.1:

*Table 2.1: Source-Pathway-Receptor linkages*

| Source | Pathway | Receptor |
|---|---|---|
| Elevated concentrations of metals and PAH above the human health GAC in the Made Ground. | Ingestion, inhalation or dermal contact. | Site users. |
| Asbestos fibres, present either as free fibres in soils or asbestos containing materials in the Made Ground. | Inhalation of dust and fibres. | Site users.<br>Neighbours. |
| Elevated concentrations of metals above the GAC for phytotoxicity. | Root uptake. | Plant life. |
| Elevated concentrations of metals in Made Ground. | Direct contact. | Pipework for water supplies. |
| Ground gas from Made Ground. | Inhalation. | Site users. |
| | Migration through permeable deposits to houses | New buildings/infrastructure. |
| Presence of Japanese Knotweed onsite | Invasive species | Buildings/infrastructure in the vicinity. |

No significant risks were identified to controlled waters, and no further consideration of these receptors in respect of remediation was required. Contaminated soils placed within the Japanese Knotweed deep cell burial area were to be contained via the impermeable membrane around the cell.

The remaining sections of the report seek to meet the following objectives with regards to contamination of the site.

- Removal of risks to human health from contaminants in Made Ground.
- Removal of risks to plant life from contaminants in Made Ground.
- Removal of risks to potable water supplies from contaminants in Made Ground.
- Removal of risks to human health and buildings/infrastructure from ground gas.
- Removal of risks to buildings/infrastructure from Japanese Knotweed.

## 2.5 Planning Context

The Local Planning Authority, Eastleigh Borough Council (EBC) issued a Decision Notice dated 29 March 2018 in response to Planning Application ref: F/18/82322. This report is prepared specifically to address Planning Conditions 4, 19(iii), 20 and 21, as follows:

### *Planning Condition 4*

*"No construction or demolition work shall start until a Construction Environment Management Plan (CEMP), has been submitted to, and approved in writing by, the Local Planning Authority. Demolition and construction work shall only take place in accordance with the approved details which shall include:*

*a) a programme and phasing of the demolition and construction work, including roads, landscaping and open space;*

*b) location of temporary site buildings, compounds, construction material and plant storage areas used during demolition and construction;*

*c) safeguards to be used within the construction process to ensure surface water contains no pollutants on leaving the site;*

*d) safeguards for fuel and chemical storage and use, to ensure no pollution of the surface water leaving the site;*

*e) the arrangements for the routing / turning of lorries and details for construction traffic access to the site;*

*f) the arrangements for deliveries associated with all construction works, loading / unloading of plant & materials and restoration of any damage to the highway [including vehicle crossovers and grass verges].*

*g) the parking of vehicles of site operatives and visitors;*

*h) dust management measures to control the emission of dust and dirt generated by demolition and construction;*

*i) a scheme, following assessment, for controlling noise and vibration impacts on noise sensitive properties from demolition, site preparation and construction activities [to include piling if proposed];*

*j) provision for storage, collection, and disposal of rubbish from the development during construction period;*

*k) measures to prevent mud and dust on the highway during demolition and construction;*

*l) the erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;*

*m) temporary lighting designed to protect bats during construction; and*

*n) the relevant recommendations as outlined in the Updated Ecological Assessment report (Hampshire Ecological Services Ltd, 15 January 2018) and the correspondence from Hampshire Ecological Services dated 12 March 2018.*

*Reason: To limit the impact the development has on the amenity of the locality and neighbouring residents, and to ensure no adverse impact on biodiversity and hydrology during the construction process."*

### *Planning Condition 19(iii)*

*"19. No work shall commence on any phase of the development until the following has been submitted to and approved in writing by the Local Planning Authority for that phase:*

*(iii) A detailed scheme (including a programme for implementation and a soil management plan) for remedial works and measures to be undertaken to avoid the risk from contaminants and/or gases when each phase of the site is developed and proposals for future maintenance and monitoring. Such a scheme shall include nomination of a competent person to oversee the implementation of the works and development shall be carried out in accordance with the approved schemes".*

### *Planning Condition 20*

*"The development hereby permitted shall not be occupied/brought into use until there has been submitted to the Local Planning Authority verification by the competent person approved under the provisions of Condition 19 (iii) that any remediation scheme required and approved under the provisions of Condition 19 (iii) has been implemented in full in accordance with the approved details (unless varied with the written permission of the Local Planning Authority in advance of implementation). Unless otherwise agreed in writing with the Local Planning Authority such verification shall comprise:*

*(i) Built drawings of the implemented scheme;*

*(ii) Photographs of the remediation works in progress;*

*(iii) Certificates demonstrating that imported and /or material left in situ is free from contamination.*

*Thereafter the scheme shall be monitored and maintained in accordance with the approved scheme under Condition 19 (iii).*

*Reason: To minimise the risks of pollution and to ensure the site is satisfactorily de-contaminated."*

### *Planning Condition 21*

*"If, during development, contamination (liquid or solid) not previously identified is found to be present on the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall then be implemented as approved. Reason: To ensure that the development is not put at unacceptable risk from, or adversely affected by, unacceptable levels of pollution from previously unidentified contamination sources."*

Planning documents are presented in Appendix B.

# 3. REMEDIATION STRATEGY (RMS)

As set out in the Detailed Remediation Method Statement (RMS) produced by Hydrock (2018), to ensure that upon completion of the development the soil conditions are suitable for the site's intended use and that it will not pose an unacceptable contamination risk to identified receptors, the following remedial actions were required:

- Demolition and removal, as required for the development, of any existing structures not to be retained as part of the development;
- excavation, segregation, screening and processing of site demolition material and Made Ground materials as part of any cut to fill earthworks, with a part time watching brief to be kept during the works by an independent environmental engineer;
- off-site disposal of the materials to be kept to a minimum;
- re-use and placement of soils which have been determined to be suitable for use at depth below hard standing in accordance with a Materials Management Plan;
- over-excavation of service runs and installation of Protectaline (or similar) pipework (where potable water supply routes cross areas of Made Ground);
- construction of floor slabs, hardstanding or the installation of an engineered cover system for landscaping areas;
- on-going watching brief (for asbestos containing materials (ACM) as well as areas of unexpected contamination) by the ground workers;
- validation of the cover system and imported Topsoil for the soft landscaping in areas of POS; and
- validation of the gas protection measures installed.

The proposed remediation for the site comprises the following tasks:

- Task 1: Project setup and management including liaison with Local Authority and Building Control to agree this remediation strategy, and otherwise as necessary;
- Task 2: Appointment of an appropriate contractor and appropriate permits / licences / consents / approvals;
- Task 3: Implementation of Japanese Knotweed Management Plan (including excavation and burial of JK impacted areas JK2-6 and the herbicide treatment of JK1 and JK8-9. It is been reported that JK7 has been remediated and no longer requires consideration);
- Task 4: Site set up;
- Task 5: Site strip, excavation and re-use of suitable material;
- Task 6: Over-excavation of service runs (if appropriate) and installation of services (Protectaline pipework in areas where services cross former landfill area or Made Ground);
- Task 7: Off-site disposal of waste material;
- Task 8: Installation of the engineered cover system in soft landscaping of POS areas in the former landfill, comprising (from bottom up):
  - a high visibility permeable geomembrane (marker layer); under
  - at least 300mm of suitable clean subsoil; overlain by;
  - at least 150mm of clean topsoil.

The total area of the cover system is estimated to be 41,000m2. Validation sampling will be on 1 in 500m3 basis.

- Task 9: Installation of gas protection measures for all plots across the site, based on CS2 scenario. The programme of validation works for the gas protection measures comprised visual inspection and membrane pick test (where appropriate). The frequency of testing included inspection of every plot for the first 30% (circa 60 plots) and if installation was found to be of a consistently high standard, the inspection ratio could be reduced to 1 in 4 plots thereafter.
- Task 10: Supervision, validation, verification and reporting, including:
  - » Site watching briefs;
  - » Collection of samples, on a 1 in 500m$^3$ sample regime in POS areas (results of chemical testing were compared with the site import criteria presented in Table 3.1);
  - » Records of material's management, suitability of imported soils, cover system in areas of landscaping and gas protection measures;
  - » Reporting, comprising confirmation of confirmation of the source(s) of imported material, the chemical test results for the samples taken from the imported soils, confirmation of the capping thicknesses and presence of the marker layer, and confirmation of the physical suitability of the material, details of all waste removed from the site (waste carrier transfer notes etc.).
- Task 11: Review and written approval of verification by appropriate regulators and the NHBC.

All remediation works were undertaken in accordance with the RMS, CEMP, structural designs and the approved Materials Management Plan. The works will be overseen by suitably experienced site staff and under a site watching brief or periodic visits will be made by suitably qualified persons to undertake the necessary verification works detailed.

*Table 3.1: Import and Re-use Criteria as part of the Cover System*

| Chemical of Concern | Residential without plant uptake (POS) - Proposed RTV mg/kg | Residential with plant uptake (Private Gardens) - Proposed RTV mg/kg |
|---|---|---|
| Arsenic | 79 | 37 |
| Beryllium | 92 | 73 |
| Boron | 21,000 | 300 |
| Cadmium | 120 | 14 |
| Chromium (III) | 1500 | 890 |
| Chromium (VI) | 7.7 | 6.1 |
| Copper | 12,000 | 2,500 |
| Lead | 630 | 200 |
| Mercury, inorganic | 470 | 170 |
| Nickel | 290 | 130 |
| Selenium | 1,400 | 360 |
| Vanadium | 2,000 | 410 |
| Zinc | 81,000 | 3,900 |
| Cyanide (free) | 1,600 | 790 |
| Phenol (total) | 1,500 | 560 |
| Total petroleum hydrocarbons (TPH) | 50* | 50* |
| Asbestos | <0.001% | <0.001% |
| Acenaphthene | 15,000 | 520 |

| | | |
|---|---|---|
| Acenaphthylene | 15,000 | 430 |
| Anthracene | 74,000 | 5,500 |
| Benz(a)anthracene | 18 | 6.7 |
| Benzo(a)pyrene | 2.6 | 1.5 |
| Benzo(b)fluoranthene | 18 | 9.4 |
| Benzo(ghi)perylene | 120 | 69 |
| Benzo(k)fluoranthene | 26 | 14 |
| Chrysene | 26 | 11 |
| Dibenz(a,h)anthracene | 2.3 | 1.3 |
| Fluoranthene | 3,100 | 560 |
| Fluorene | 9,900 | 410 |
| Indeno(1,2,3,cd)pyrene | 11 | 5.5 |
| Naphthalene | 4,100 | 5.2 |
| Phenanthrene | 3,100 | 220 |
| Pyrene | 7,400 | 1,200 |
| *Where TPH is found to exceed 50mg/kg, the sample shall be subjected to further, speciated petroleum hydrocarbon testing (Level 2, aliphatic / aromatic split) | | |

The Detailed Remediation Method Statement (reference BRL-HYD-XX-REM-RP-GE-3000-P1.4) is presented as Appendix C.

# 4. MATERIALS MANAGEMENT STRATEGY

## 4.1 Summary of Material Management Strategy

A Materials Management Strategy (MMS) Report (reference BRL-HYD-XX-MMS-RP-GE-4000), dated 16/08/2019 was produced for the development to outline material reuse at the site.

Any material excavated on site would have been classified as waste as soon as it was excavated, unless there was a clear plan in place outlining the re-use of soils at the site. One of the ways this can be achieved is set out in the Contaminated Land: Applications In Real Environments (CL:AIRE) document: The Definition of Waste: Development Industry Code of Practice (Version 2), dated March 2011.

If materials are dealt with in accordance with the CoP, the Environment Agency considers that those materials are unlikely to be waste at the point when they are to be used for the purpose of land development.

The procedures to be followed for the delivery of the MMS need to follow the protocols outlined for 'Route B' – Design Statement (as outlined by CL:AIRE) for the re-use of materials on the site of origin (ref CL:AIRE Code of Practice, Annex1).

The MMS outlines:

- material suitability, including chemical and geotechnical suitability;
- certainty of use;
- quantity of use;
- on site material management processes;
- validation procedures; and
- a contingency plan if additional materials or out of specification materials are identified.

The re-use of materials on site was discussed in the outline remedial strategy issued in February 2018 and submitted to EBC. EBC requested a detailed Remediation Method Statement to be provided which was submitted in June 2018. Following subsequent discussions, the RMS was revised and formal approval by EBC gained in January 2019. The Materials Management Strategy was not submitted to CL:AIRE for formal declaration as a Materials Management Plan due to works commencing on site prior to receipt of full regulatory planning approval. The principle of material re-use has remained consistent since prior to commencement of the construction phase and a watching brief has been undertaken by Hydrock for the duration of works.

The Materials Management Strategy Report (reference BRL-HYD-XX-MMS-RP-GE-4000) is presented in Appendix D.

## 4.1 Principles of Material Reuse

Reuse of soils was undertaken in general accordance with the CL:AIRE "Definition of Waste: Development Industry Code of Practice" (DoW CoP).

The applicable scenario as described in DoW CoP was Scenario 1 - reuse on site of origin.

A significant volume of soils were required to complete the remediation cover system at the development, as well as form landscaping bunds that were part of the development plan. Suitable

materials were also used beneath roads and hardstanding, as well as making up general development levels.

It was established that there would be a deficit of materials required to complete the development and it was identified that a suitable donor site was available at the Taylor Wimpey Burridge Green development.

A watching brief over groundworks at Kestrel Park was undertaken by Hydrock from the commencement of the construction phase works. It is recognised that although the commencement of construction works prior to production of a Materials Management Plan is not recommended by Hydrock, a course of actions was outlined to assist the developer in maintaining good practices as far as possible and follow the general principals of DoW CoP, demonstrating that the soils were not determined as a waste, showing suitability and certainty of use.

Soils that were to be re-used were outlined in the MMS and accompanied with supporting evidence and it was demonstrated that the soils were not a waste since they were required for reuse on site to complete the development.

## 4.2 Summary of Material Reuse

The project comprised the necessary earthworks to provide the formation level, services, paths, roadways, landforms and drainage infrastructure for the construction of residential properties and the country park area. Two large attenuation basins were excavated in the south west. Finally, a deep burial cell for Japanese Knotweed was excavated in the country park area. Suitable arisings from these excavations were subject to reuse.

Topsoil was stripped from suitable areas of the site and re-used in the final scheme as topsoil to gardens and areas of soft landscaping. Made Ground and natural deposits (River Terrace Deposits and Wittering Formation) were excavated to allow installation of services and foundations.

## 4.3 Materials Tracking

### *4.3.1 Soil reuse on site*

The raising of formation levels was undertaken making use of clean and naturally occurring subsoils of the River Terrace Deposits and Wittering Formation.

Topsoil was stripped and stockpiled in a designated area for reuse once gardens were constructed.

Stockpiles were inspected by Hydrock during watching brief visits, subjected to testing to confirm conclusions from the desk study and ground investigations and also monitored by site staff during the construction phase.

Materials management was undertaken by the site groundworker Gracelands Ltd.

### *4.3.2 Direct transfer*

Surplus clean and naturally occurring subsoils of the London Clay Formation excavated through construction works at the Taylor Wimpey Burridge Green development were imported via a direct transfer to Kestrel Park to form part of the remediation cover system in the country park area, as outlined below:

Donor site address:
Taylor Wimpey Burridge Green development
Botley Road
Curbridge
Hampshire
SO30 2HB

Groundworks contractor:
Chris Nichols – Site Manager
Gracelands Ltd
Highbridge Estate
Highbridge Road
Eastleigh
SO50 6HS
chrisn@gracelandsltd.com
07469 993719

Desk study and ground investigation reports including laboratory testing of the imported soils for the donor site at Burridge Green are outlined below:

- Hydrock, Desk Study and Ground Investigation, report ref: BRY-HYD-XX-GI-RP-GE-0001, 28/09/2018;
- Campbell Reith, Remediation Strategy, report ref: MPjwc-12867-080818-RS D1, August 2018; and
- Hydrock, Desk Study and Ground Investigation R/161299/001, July 2016.

A watching brief over groundworks at Burridge Green was undertaken by Hydrock from the commencement of the construction phase works.

The direct transfer was subject to materials tracking in the form of consignment notes/delivery tickets. Copies of these are presented in Appendix H.

# 5. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

The CEMP is designed to set out the standards of construction logistics and practices that will minimise (if not eliminate) the impacts of the project upon the local environment and local community surrounding the site. As such, the CEMP forms part of the "Embedded Mitigation" used to assess the potential effects of the proposed development on the environment.

The environmental issues relating to the works are considered systematically and procedures are outlined for dealing with issues as they arise during the course of the works.

The sections on the CEMP outline how the construction project will mitigate or minimise, so far as reasonably practicable, its effects on the environment and surroundings, by:

- Describing the environmental conditions relevant to the construction works.
- Highlighting stakeholder requirements (further detailed in the Environmental Statement).
- Ensuring that the development is compliant with current environmental legislation.
- Indicating detailed Environmental Management Systems to be implemented.
- Detailing the planned mitigation and how it will be delivered on site.
- Ensuring that any adverse effects are minimised during construction.
- Describing any site-specific method statements required.

Regular environmental audits were outlined to be undertaken to ensure that the requirements of the CEMP were implemented.

The Construction Environmental Management Plan (reference BRL-HYD-XX-VAL-RP-GE-5001) is presented in Appendix E.

# 6. REMEDIATION WORKS

## 6.1 Summary of Japanese Knotweed remediation works

A Knotweed Management Plan was produced by Japanese Knotweed Ltd. (reference JKLE14863.1 dated 10/08/2018) presented in Appendix F, which identified 9 areas of Japanese Knotweed (JK). The JK remediation strategy recommended for the site is summarized in Table 6.1.

*Table 6.1: Japanese Knotweed remediation summary*

| Reference | Remediation measure | |
|---|---|---|
| | Treatment type | Disposal Type |
| JK1 (on-site) | Full excavation - vertical root barrier installed along the boundary to prevent future ingress from offsite as necessary. | On-Site Buried as Cell-Burial* |
| JK2 (on-site) | Full excavation | On-Site Buried as Cell-Burial* |
| JK3 (on-site) | Full excavation | On-Site Buried as Cell-Burial* |
| JK4 (on-site) | Full excavation | On-Site Buried as Cell-Burial* |
| JK5 (on-site) | Full excavation | On-Site Buried as Cell-Burial* |
| JK6 (on-site) | Full excavation | On-Site Buried as Cell-Burial* |
| JK7 (off-site) | Area remediated by Greenspan Projects. The knotweed was no longer visible during latest survey. Only bare soil being visible in the area and no aerial growth was identified. No remediation measures required. | |
| JK8 (off-site) | Herbicide Treatment Programme | In-Situ |
| JK9 (off-site) | Herbicide Treatment Programme | In-Situ |
| * The burial cell will be 1.5 metres in depth and positioned at level 2 metres below the current ground levels. | | |

Previous remediation works of area JK7 were undertaken by Greenspan Projects between 11/07/2017 and 14/07/2017. An after-dig report is presented in Appendix G. The removal of 950kg of Japanese Knotweed contaminated soil was carried out by Greenspan on 14/07/2017, and transported by Elcot Environmental Ltd., registered as a waste carrier in the Environmental Agency under the Registration No. CB/ZN5015WZ, to be disposed at the waste disposal site in Kingsdown Lane, Blunsdon, Swindon SN25 5DL, under the order Nos. 45818 and 44431 (see Appendix F).

Remediation works for the remaining areas were undertaken by Japanese Knotweed Ltd. between October / December 2018. A summary of the remediation works was sent via email by Diane Phippen from Japanese Knotweed Ltd. on 19/12/2018 (Appendix F). The summary states the following:

- JK1 – site side of tree canopy knotweed was fully excavated. Vertical root barrier installed along edge of tree canopy. Details of the barrier used are presented in Appendix F. Remaining knotweed under tree canopy within bund/ditch will be treated under herbicide programme.
- JK2 – full excavation.
- JK3 – full excavation.
- JK4 – full excavation.
- JK5 - full excavation.
- JK6 - full excavation.

- JK7 – works carried out by other contractors.
- JK8 & JK 9 - site side of tree canopy knotweed was fully excavated. Vertical root barrier installed along edge of tree canopy. Remaining knotweed under tree canopy within bund/ditch will be treated under herbicide programme.
- All knotweed arisings with exception of asbestos contaminated spoil from JK4 was placed within the burial cell.
- The pit for the burial cell was stripped in layers, topsoil and subsoil were placed on separate stockpiles. Details of the burial cell design is presented in Appendix F.
- Temporary balancing pond was excavated to receive water pumped from the burial pit during the works – and backfilled on completion.
- Burial cell base and sides were lined with non-porous root barrier, after filling with knotweed soils the top of the cell was capped with porous root barrier. All joins were sealed with butyl tapes.
- Asbestos contaminated waste remains on site as a stockpile and is fenced with Heras Fencing.

## 6.2 Summary of ground gas remediation works

According to the RMS, gas protection measures for all plots across the site were required, based on a CS2 scenario. Installation of gas protection measures was undertaken by NEA Contracts Ltd. between 24/10/2018 and 07/06/2019.

Gas membranes were installed by NEA Contractors Ltd. Installation Completion Certificates are presented in Appendix G. In addition, Hydrock have undertaken visual inspections of the gas protection measures, this is discussed further in Section 7.2.

## 6.3 Summary of soft landscaping remediation works

An engineered cover system (comprising topsoil, clean subsoil and a high visibility permeable geomembrane) was installed in soft landscaping of POS areas in the former landfill (north west of the site). Drawing reference BCP-HYD-XX-ZZ-DR-GE-0002 shows the extent of the Cover System (see Appendix A). Details of the high visibility permeable membrane (marker layer) are presented in Appendix L.

A total of 5,000 m3 of imported clean soil was transported to site from Taylor Wimpey Burridge Green site by Avon Material Supplies Limited and Emmerson Transport Ltd. between 11/11/2019 and 12/12/2019, registered as a waste carrier in the Environmental Agency under the License No. CB/YM3989NK and CB/VE5059MW respectively. Imported soils were placed on site in two stockpiles to be used as subsoil. Transfer notes are presented in Appendix H. Further details of the soil import are discussed above in Section 4.3.2.

Hydrock have undertaken laboratory testing in on-site stockpile soils to verify suitable re-use of these soils. Results are discussed in Section 7.3.

Installation of the cover system as part of soft landscaping remediation works were undertaken by Gracelands between June 2020 and November 2021. Additional topsoil had to be imported to complete the cover system.

Verification and validation works were undertaken by Hydrock, and detailed in Section 7.4.

# 7. VERIFICATION/ VALIDATION OF REMEDIATION WORKS

## 7.1 Hydrock Watching Brief

Hydrock undertook a series of watching briefs (WB) and technical design support meeting/visits (TDS), as summarised in Table 7.1. Site visit reports are presented in Appendix I.

*Table 7.1: Hydrock watching briefs*

| Date | Works undertaken | Relevant Notes |
|---|---|---|
| 13/09/2018 | TDS | Office meeting. |
| 19/09/2018 (site visit report) | WB | Japanese Knotweed areas inspected. Burial cell may require dewatering during installation.<br>Large topsoil stockpile, mixed materials and natural soils noted. Topsoil and mixed material stockpiles on marker membrane as recommended.<br>Further sample shallow soils around JK1 area. |
| 21/09/2018 (email) | TDS | Soil sampling of topsoil stockpile and JK1 area.<br>Soil sampling from JK01 area. Lead concentrations in JK106 – JK110 are above the GAC, further consideration required. |
| 03/10/2018 (site visit report) | WB | Stockpiling inspection. Marker layer observed and stockpiling segregated by material type. Site topsoil strip nearly completed. Excavation and pouring foundations ongoing. |
| 09/10/2018 (site visit report) | TDS | To plan and discuss upcoming gas membrane installation methods. Silt management to avoid pollution to stream discussed. |
| 16/10/2018 (site visit report) | WB | Ongoing groundworks. Construction of northern attenuation basin, roads, foundations. Natural soil arisings being stockpiled. Site strip close to completion. Detached garages not currently allowed for membrane - NHBC consulted. Basin dewatering during construction – Move pump and add straw bales to protect ditch. |
| 08/11/2018 (email) | TDS | Site meeting with EBC, RPS, TW, JKL. Discussed JK1 area and hedgerows, general walkover with Neil Scott of EBC. RMS updated accordingly. |
| 15/11/2018 (site visit report) | GMV / WB | Signed off membranes Plots 103-109.<br>Stockpiling of materials ongoing. Stockpiles appear to be segregated. Silt management continue.<br>Brickwork, floors and gas membrane works ongoing.<br>Japanese knotweed deep cell burial completed and backfilled. |
| 08/01/2019 (site visit report) | GMV / WB | Signed off gas membranes Plots 94-98.<br>Recommended relocation of fuel bowser, materials and tools to be kept off installed gas membranes to remove risk of damage, notify TW/Hydrock of any significant contamination identified during groundworks, survey stockpiles regularly to track volume of soils recovered, continued silt management. |
| 06/02/2019 (site visit report) | WB | Stockpiles and stream inspected. Recommended asbestos impacted soils should be disposed off-site, any materials to be reused on site should be won from the main stockpile of drainage basin, road construction and foundation excavation arisings. Surveying of the existing stockpiles on a regular basis to provide tracking data for materials management. |
| 13/02/2019 (site visit report) | GMV / WB | Signed off Membranes plots 37-38.<br>Stockpiles and stream inspected. Site meeting with Gracelands and TW on new borrow pit issue and outstanding requirements in regards capping layer for former landfill area. |
| 20/03/2019 (site visit report) | GMV / WB | Signed off membranes Plots 110 -118.<br>Stockpiles and stream inspected. Recommended topographic surveying of all |

| Date | Works undertaken | Relevant Notes |
|---|---|---|
| | | stockpiles to be undertaken regularly, stockpiles should be appropriately managed to ensure retention of good quality materials for reuse, prior to placement of capping layer, high visibility geotextile marker layer must be placed. |
| 11/04/2019 (site visit report) | GMV / WB | Signed off membranes Plots 60-62, 65-66 and 136-138.<br>Soils being used/taken from stockpiles in north west of the site. Asbestos impacted materials remain west of compound area. Site appears tidy and well organised. Various materials have been stored on top of screeded plots. |
| 29/04/2019 (site visit report) | WB | Stockpiles and stream inspected.<br>Imported aggregate is present separate in several small stockpiles to the west of the TW compound. An access track has been constructed to the west of the TW compound.<br>Asbestos impacted stockpile from Japanese Knotweed remediation works is no longer present. |
| 22/05/2019 | TDS | Site meeting with TW and NHBC.<br>Discussion on design of membrane installation |
| 19/07/2019 (site visit report) | WB | Stockpiles and stream inspected. Noted extension of parking area to the west of the TW compound to accommodate contractors' vehicles. Ongoing construction continues across the site with building works nearing completion in the west of the site and<br>commencing from foundations in the east. Surfacing of roads has occurred in various areas of the site.<br>Junction with Bursledon Road has been constructed and area to the west has had topsoil placed and show homes appear to be completed. |
| 29/07/2019 | WB | General watching brief visit. |
| 13/08/2019 (site visit report) | TDS / WB | Gracelands planning on starting to place materials stockpiled for reuse (19/08/2019). New landscaping bund to the south west of the remediation area targeted as the first area to begin materials placement. Material to be reused as subsoil from the existing mixed materials stockpile should be subject to processing to remove large objects such as whole bricks, breeze blocks, concrete blocks etc. Asphalt materials must be removed from the soils for suitable disposal off-site, asphalt materials cannot be placed as part of the Cover System. A review of anticipated soil volumes available for reuse is recommended based on recent survey data to confirm sufficient materials are present. Topsoil transferred for reuse from adjacent Heron Walk phase. |
| 20/08/2019 | TDS | Site meeting with TW. |
| 09/10/2019 (site visit report) | WB | Stockpiles inspected. Subsoil sample collection for validation of bund and mixed materials stockpile. No exceedances were detected above the GAC. However, asbestos containing materials were identified at some locations. |
| 28/11/2019 (site visit report) | WB | Import of material from Burridge Green began on 11/11/2019. Material being stockpiled upon an orange membrane in the area directly to the west of the TW compound. Material volume estimated: 5,000m3 total. |
| 12/12/2019 (site visit report) | WB | Import of material continued. Stockpile extending to the edge of the storage area, up to the boundary fence. |
| 08/01/2020 (site visit report) | WB | General construction works progressing. Import of soil from Burridge Green to be stockpiled for reuse in cover system (ongoing). Inspection of stockpiles. |
| 18/02/2020 (site visit report) | GMV / WB | Met Nick Rogers Survey team to outline which stockpiles to survey and level of detail. Stockpile inspection. Reinspection of gas membranes, P60-64, 67-69, 181-187. Recommendations made to contractor. |
| 05/06/2020 (site visit report) | GMV / WB | Sign-off gas membranes, P60-64, 67-69, 181-187, cover system installation in progress in country park area. |
| 10/08/2020 (site visit report) | WB | TW construction of houses nearing completion.<br>Inspection of import of soil from Burridge Green placed in soil bunds and stockpiles. |

| Date | Works undertaken | Relevant Notes |
|---|---|---|
| 07/10/2020 (site visit report) | WB | Watching brief and subsoil validation of bund 2 near haul road entrance in north west - 15 samples of subsoil tested from bund. |
| 25/06/2021 (site visit report) | WB | Cover system must include Japanese Knotweed deep burial. Inert Recycling UK Ltd working on POS country park area. Works currently going on to prepare the site area. |
| 16/07/2021 (site visit report) | WB | Works ongoing by Inert Recycling UK Ltd to process materials and level out area beneath former compound. Crushed materials were taken off site by Waltet on behalf of Gracelands (no records). Started stripping the former haul road, recommended cover system as per rest of former landfill area. |
| 23/07/2021 (site visit report) | TDS | Site meeting with Inert Recycling UK Ltd. Former compound area and knotweed burial area all levelled ready for placement of cover system. |
| 26/07/2021 | TDS | Site meeting with Gracelands and Inert Recycling UK Ltd – watching brief of cover system installation in country park area. |
| 13/10/2021 (site visit report) | TDS | Final verification of cover system – Validation trial pits excavated across country park area (46 soil samples) |

## 7.2 Validation for Gas Protection Measures

Hydrock have undertaken visual inspection of gas protection measures in 132 plots from a total of 200, representing 66% of plots inspected across the development.

*A summary of site inspection visits undertaken is presented in*

Table 7.2. Where small defects were noted in gas protection measures, these were subsequently addressed by the membrane installers and independently validated, or addressed by the groundworkers as necessary where not related to gas protection.

Hydrock considered that the standard of installation was good and note that NEA Contracts Ltd. are a specialist gas membrane installer with NVQ Level 2 qualifications..

Record of plots inspected are presented in Appendix J.

*Table 7.2: Hydrock validation of gas membrane details*

| Date | Works undertaken | Notes |
|---|---|---|
| 22/10/2018 | GMV | Initial inspection of membranes on NEA first day of installation. 100mm overlap on joints. Self-adhesive tape used around periscopes and service penetrations etc. Discussion with NEA. |
| 24/10/2018 | GMV | Signed off membranes Plots 180, 188, 189-197, 198-200. |
| 31/10/2018 | GMV | Signed off membranes Plots 181-187. |
| 13/11/2018 | GMV | Signed off membranes Plots 173-176. |
| 14/11/2018 | GMV | Signed off membranes Plots 163-165, 166-171, 177-179. |
| 15/11/2018 | GMV | Signed off membranes Plots 103-109. |
| 20/11/2018 | GMV | Signed off membranes Plots 6-7. |
| 23/11/2018 | GMV | Signed off membranes Plots 1-5, 8, 14-17. |
| 03/12/2018 | GMV | Signed off membranes Plots 9-13. |
| 10/12/2018 | GMV | Inspected plots 25-28. Plots 25,26 and 28 all damaged by wind. Gravel spilled onto plot 26. Signed off membranes 27, 127-132, 152-155. |
| 14/12/2018 | GMV | Signed off membranes Plots 25, 26, 28 (reinspection), 124-125, 145-150. |
| 08/01/2019 | GMV | Signed off Membranes Plots 94-98. |
| 16/01/2019 | GMV | Signed off membranes Plots 30-31. |
| 13/02/2019 | GMV | Signed off Membranes Plots 37-38. |

| Date | Works undertaken | Notes |
|---|---|---|
| 22/02/2019 | GMV | Signed off membranes Plots 52-46, 55, 43-45. |
| 01/03/2019 | GMV | Signed off membranes Plots 56-59 and 159-161. |
| 20/03/2019 | GMV | Signed off membranes Plots 110 -118. |
| 11/04/2019 | GMV | Signed off membranes Plots 60-62, 65-66 and 136-138. |
| 23/05/2019 | GMV | Inspected plots 67, 69, 71-73. Plots 71-73 presented non-conformities. Signed off membranes 67, 69. |
| 07/06/2019 | GMV | Signed off membranes Plots 74-76, 77, 140-141. |
| 05/06/2020 | GMV | Signed off membranes P60-64, 67-69, 181-187. |

## 7.3 On-site subsoil verification works

### *7.3.1 Subsoil stockpile and south bund verification works on 09/10/2019*

To provide proof of suitability of the subsoil stockpile present on the site and bund constructed south west of the haul road using subsoil from the stockpile, Hydrock undertook a supplementary ground investigation comprising hand-excavated inspection pits and mechanically excavated trial pits to allow collection of samples for chemical and geotechnical laboratory analysis based on the testing regime outlined in Hydrock Detailed Remediation Method Statement (ref: BRL-HYD-XX-REM-RP-GE-3000, December 2018).

*Summary of works*

The works took place on 9th October 2019 (see site visit report dated 09/10/2019 in Appendix I) and is summarised in Table 7.3: . The approximate site investigation locations were positioned evenly across the subsoil stockpile and bund and are shown on Hydrock Sampling Location Plan Reference BCP-HYD-XX-ZZ-DR-GE-1001 in Appendix A. The trial holes located within the subsoil stockpile were excavated using a tracked excavator, whilst the six trial holes within the bund were hand-excavated.

*Table 7.3: Summary of site works for collection of samples to prove suitability of on-site subsoil*

| Activity | Method | Number | Area | Designation | Depth (range m bgl) |
|---|---|---|---|---|---|
| Trial pits | Machine excavated | 10 | Stockpile | SSV01 to SSV10 | 1.0 to 2.0 |
| | Hand excavated | 6 | Bund | SSV11 to SSV16 | 0.2 to 0.5 |

*Physical ground conditions*

Ground conditions encountered within the stockpile comprised of subsoil to the maximum depth of investigation of 2.0m bgl. The bund comprised between 0.10 and 0.40m of topsoil overlying the subsoil. The subsoil that was encountered within the bund was of the same general lithology as was found within the stockpile, however the coarse fractions, that are found within the stockpiled soil, had been screened out. Photographs of the ground conditions encountered during the ground investigation are located in Appendix K.

*Topsoil*

Topsoil was encountered at the locations within the bund only. Topsoil was between 0.10m and 0.40m thick and comprised dark brown very silty gravelly CLAY. Gravel was composed of flint.

*Subsoil*

The subsoil consisted of dark brown silty sandy very gravelly CLAY with occasional cobbles and pockets of brown mottled orange silty very gravelly clay; with local lenses of medium to coarse orange sand and grey fine sand. The gravel consists of flint and within the stockpile only, occasional anthropogenic inclusions up to cobble-size locally including brick, concrete, glass, plastic, rope, pipework, asphalt and other general building materials.

### *Geo-environmental laboratory analyses and assessment*

The chemical test certificates and geo-environmental assessment datasheets are provided in Appendix K. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The geo-environmental analyses undertaken on soils are summarised in Table 7.4.

*Table 7.4: Geo-environmental analyses of on-site subsoil*

| Determinand Suite | Subsoil |
|---|---|
| Hydrock Default Soil Suite | 21 |
| TPH Level 2 | 21 |

A Tier 2 assessment using site import criteria screening values for POS areas (presented in Table 3.1) was used. The soil screening values used are generic assessment criteria (GAC). The Category 4 Screening Levels (C4SL) for lead have been used as there are no recognised GAC and the use of the term 'GAC' in this report includes these.

In terms of human health, the individual analytical results have been compared with the relevant GACs. No exceedances of the respective GAC were identified. No clearly identifiable ACM has been seen during the site walkover or during the excavation works; however, asbestos fibres have been detected at four of the locations, detailed in Table 7.5.

*Table 7.5: Asbestos detected in on-site subsoil samples*

| Exploratory Hole where asbestos was detected | Depth (m bgl) | Asbestos quantification |
|---|---|---|
| SSV03 | 2.00 | <0.001% |
| SSV04 | 0.50 | <0.001% |
| SSV04 | 1.50 | <0.001% |
| SSV08 | 1.50 | 0.002% |

In regards to plant life, priority phytotoxic chemical concentrations have been screened against published values to determine the likely risk to plant growth. No exceedances of the respective GAC were identified.

### *Geotechnical laboratory analysis and assessment*

The geotechnical test certificates are provided in Appendix K. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The geotechnical analyses undertaken on soils are summarised in Table 7.6.

*Table 7.6: Summary of geotechnical tests of on-site subsoil*

| Test | Subsoil |
|---|---|
| Natural moisture content | 8 |
| Atterberg limit determination | 8 |
| PSD (wet sieve) | 4 |
| Sedimentation | 4 |

*Plasticity*

The volume change potentials in terms of NHBC Standard (Chapter 4.2) with respect to building near trees have been determined from the results of plasticity index tests on samples of soil. These are summarised in Table 7.7.

*Table 7.7: Volume change potential*

| Stratum | No. of tests | Plasticity Index | | | Modified Plasticity Index | | | Plasticity designation | Volume Change Potential |
|---|---|---|---|---|---|---|---|---|---|
| | | Min. | Max. | Av. | Min. | Max. | Av. | | |
| Subsoil | 8 | 10 | 25 | 16.8 | 5.4 | 10.5 | 7.8 | Low | Low<br>Locally Medium |

*Particle size distribution*

Particle Size Distribution tests (PSDs) are summarised in Table 7.8 and summary descriptions and PSD plots of the material analysed are given in Appendix K.

*Table 7.8: PSD results summary*

| Stratum | No. of tests | Silt/Clay % | Sand % | Gravel % | General description |
|---|---|---|---|---|---|
| Subsoil | 4 | 17.2 – 26.4 | 18.5 – 25.6 | 48 – 58.1 | Clayey silty sandy gravel. |

*Conclusions of suitability of re-use of subsoil stockpile*

As asbestos fibres were detected within the subsoil stockpile as well as occasional anthropogenic components up to cobble size, Hydrock consider this material is not suitable for re-use. This material should not be utilised or moved, and should be properly disposed off-site to a suitable facility.

### *7.3.2 North bund verification works on 07/10/2020*

To provide proof of suitability of the soils from second large bund constructed in the north west of the site, Hydrock undertook a supplementary ground investigation comprising hand-excavated inspection pits to allow collection of samples for chemical laboratory analysis based on the testing regime outlined in Hydrock Detailed Remediation Method Statement (ref: BRL-HYD-XX-REM-RP-GE-3000, December 2018).

*Summary of works*

The works took place on 7th October 2020 and are summarised in Table 7.3: Table 7.9. The approximate site investigation locations were positioned evenly across the bund (located to the west of

the construction traffic access road) and are shown on Hydrock Sampling Location Plan Reference 08162-HYD-XX-XX-DR-GE-5001 in Appendix A.

*Table 7.9: Summary of site works for collection of samples to prove suitability of on-site subsoil*

| Activity | Method | Number | Designation | Depth (range m bgl) |
|---|---|---|---|---|
| Trial pits | Hand excavated | 15 | TP01 to TP15 | 0.20 - 0.30 |

### *Physical ground conditions*

*Topsoil*

Topsoil was encountered at the locations within the bund comprising soft to firm, dark brown, slightly gravelly, slightly sandy SILT with abundant roots and rootlets. Gravel is subrounded to subangular fine to medium of flint.

### *Geo-environmental laboratory analyses and assessment*

The chemical test certificates and geo-environmental assessment datasheets are provided in Appendix K. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The geo-environmental analyses undertaken on soils are summarised in Table 7.4.

*Table 7.10: Geo-environmental analyses of on-site soils*

| Determinand Suite | Topsoil |
|---|---|
| Hydrock Default Soil Suite | 15 |
| TPH Level 2 | 15 |

A Tier 2 assessment using site import criteria screening values for POS areas (presented in Table 3.1) was used. The soil screening values used are generic assessment criteria (GAC). The Category 4 Screening Levels (C4SL) for lead have been used as there are no recognised GAC and the use of the term 'GAC' in this report includes these.

In terms of human health, the individual analytical results have been compared with the relevant GACs. No exceedances of the respective GAC were identified.

In terms of plant life, priority phytotoxic chemical concentrations have been screened against published values to determine the likely risk to plant growth. No exceedances of the respective GAC were identified.

### *Conclusions of suitability of re-use on-site soils*

Hydrock consider this material is suitable for use in the bund.

## 7.4 Validation of cover system in the soft landscaping - POS country park area

A high-vis geotextile marker layer was required to be placed at the base of the Cover System over areas of soft landscaping within the former landfill (area noted on site remediation plan drawing ref: BCP-HYD-XX-ZZ-DR-GE-0002). The specification for the geotextile is presented in Appendix L.

The required depth of clean cover was to be a minimum of 300mm of suitable clean subsoil overlain by at least 150mm of clean topsoil. As detailed in Sections 4.3.2 and 6.3, clean subsoil was imported from Taylor Wimpey Burridge Green site. Transfer notes are presented in Appendix H.

### *Summary of works*

Verification and validation works were undertaken by Hydrock on 13th October 2021 and are summarised in Table 7.3: Table 7.9. The approximate site investigation locations were positioned evenly across the entire POS soft landscaping area on a 1 in 500m$^3$ basis. Based on an estimated area of remediation of 41,000m$^2$ and sampling strategy of 1 on 500m$^3$, a total of 19 samples were collected within the topsoil and 27 samples were collected from the subsoil and are shown on Hydrock Sampling Location Plan Reference 08162-HYD-XX-XX-DR-GE-5001 in Appendix A.

*Table 7.11: Summary of site validation works of the cover system in the POS area*

| Activity | Method | Number | Designation | Depth (range m bgl) |
|---|---|---|---|---|
| Trial pits | Mechanically excavated | 35 | CPV-01 to CPV-35 | 0.15 - 1.20 |

### *Physical ground conditions*

*Topsoil*

Topsoil was encountered at all locations from ground level and up to 0.40m, with an average thickness of 0.24m, generally comprising dark brown, slightly gravelly, sandy SILT with abundant roots and rootlets. Gravel was rounded to subangular fine to medium of flint.

*Subsoil*

Subsoil was encountered below the topsoil at the majority of the locations, from 0.15m bgl and up to 1.20m bgl, with an average thickness of 0.40m. It generally comprising firm (occasionally stiff – desiccated), yellowish brown, slightly sandy slightly gravelly CLAY with rare rootlets. Gravel was rounded to subangular fine to coarse of flint. Rare anthropogenic materials such as concrete, brick, plastic, metal, ceramic, timber and asphalt fragments. Subsoil was not encountered at locations CPV13, CPV14, CPV15, CPV16, CPV33, CPV34 and CPV35 (these were located within the former haul road). Below subsoil (or topsoil where no subsoil encountered), an orange geomembrane was encountered in all locations except CPV13. However, this location CPV13 was mechanically excavated to 0.40m bgl, hand excavation was not possible due to stiffness of the ground. An isolated fragment of visible asbestos in the form of Chrysotile-Hard/Cement Type Material was encountered at location CPV01.

### *Geo-environmental laboratory analyses and assessment*

Representative soil samples were obtained during the site inspection to validate the Cover System materials. The chemical test certificates and geo-environmental assessment datasheets are provided in Appendix K. Wherever possible, UKAS and MCERTS accredited procedures have been used.

The geo-environmental analyses undertaken on soils are summarised in Table 7.12.

*Table 7.12: Geo-environmental analyses of soils from cover system POS area*

| Determinand Suite | Topsoil | Subsoil |
|---|---|---|
| Hydrock Default Soil Suite | 19 | 27 |
| TPH banc C6-C10, C10-25, C25-C40 | 19 | 27 |

A Tier 2 assessment using site import criteria screening values for POS areas (presented in Table 3.1) was used. The soil screening values used are generic assessment criteria (GAC). The Category 4 Screening Levels (C4SL) for lead have been used as there are no recognised GAC and the use of the term 'GAC' in this report includes these.

In terms of human health, the individual analytical results have been compared with the relevant GACs. No exceedances of the respective GAC were identified.

In terms of plant life, priority phytotoxic chemical concentrations have been screened against published values to determine the likely risk to plant growth. No exceedances of the respective GAC were identified.

### *Conclusions of validation of cover system*

A minimum of 150mm of clean topsoil and 300mm subsoil overlying by a high-visibility geomembrane was encountered in all locations during the validation of the Cover System works within the soft landscaping POS areas in the former landfill.

The isolated fragment of visible asbestos encountered at location CPV01 is considered atypical, particularly given no other evidence for asbestos containing materials were encountered at the remaining 34 positions. Furthermore, laboratory testing indicated both topsoil and subsoil do not contain any loose fibres of asbestos. Therefore, the isolated cement bound asbestos fragment was considered an anomaly in the data and no further work is considered necessary.

Some of the locations within the former haul road did not contain the full thickness of cover system, being between 0.15m and 0.40m thickness of topsoil overlying the geomembrane with no subsoil. However, as this will be part of the footpath, it is considered that a potential pollutant linkage is unlikely to be present and no further considerations are required.

One area in the vicinity of historical investigation positions TP9 and TP10, south west of the former haul road and north of the newly constructed attenuation basins, proposed for cover system on the site remediation plan drawing ref: BCP-HYD-XX-ZZ-DR-GE-0002 was not subject to cover system or validation works due to the overgrown, heavily vegetated and inaccessible nature of the area.

Based on all the above, it is considered that the cover system installed in the area of POS country park over the former landfill area is suitable for use as part of the development.

# 8. DISCOVERY STRATEGY

A discovery strategy was included as part of the remediation strategy in the event that any unexpected contamination was encountered during the construction phase works.

Hydrock were not notified of any unexpected contamination encountered outside of works discussed above during the construction phase works.

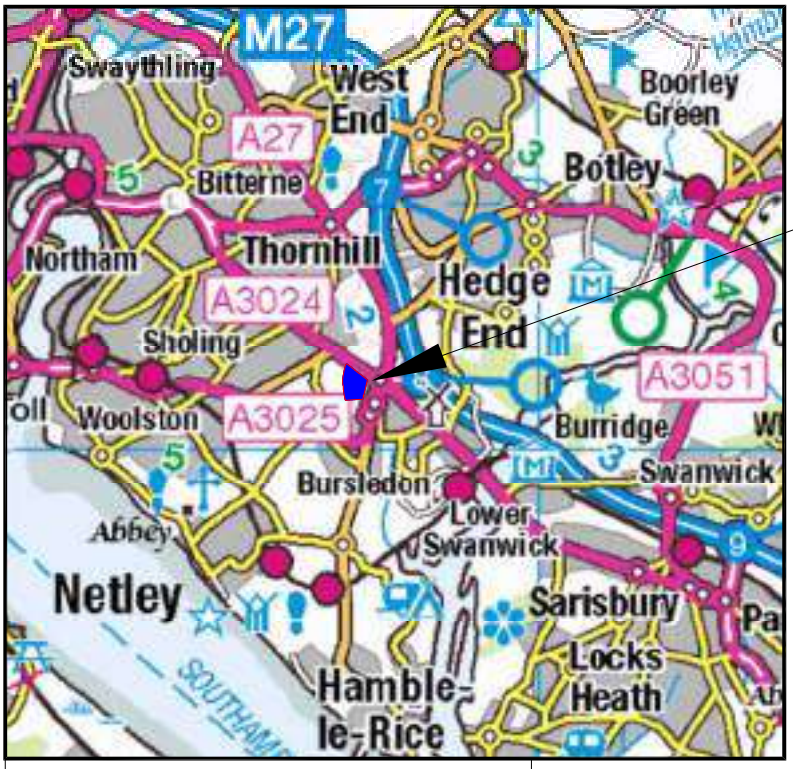
# 9. CONCLUSIONS

Based on the remediation and verification works discussed in this report, it is considered that the remediation of the site is complete and it is recommended that planning conditions 20 and 21 be discharged.

# Appendix A Drawings

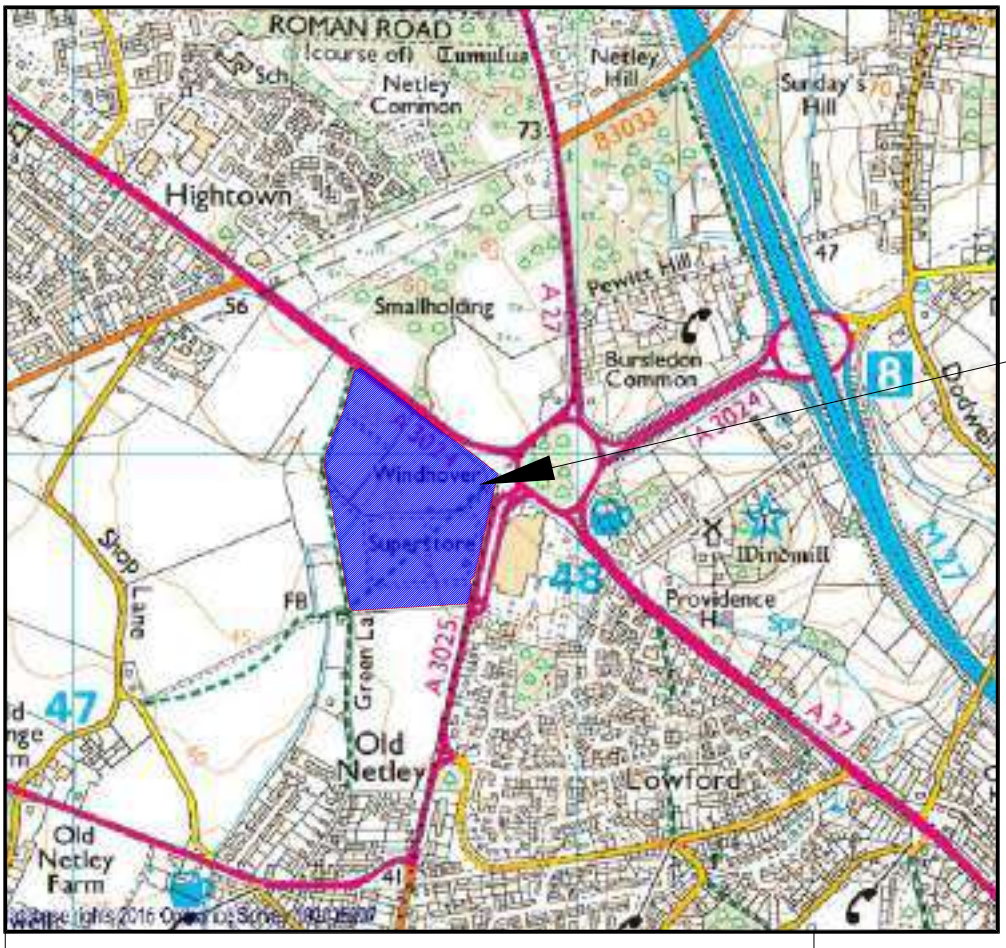
Notes:

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THE SITE




THE SITE

| Rev | Date | Description | By | Ckd |
|---|---|---|---|---|
| | | | | |

Architect :

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NN6 8LD
T +44 (0)1604 842888
northampton@hydrock.com
www.hydrock.com

Client :

TAYLOR WIMPEY UK LTD

Project Title:

BURSLEDON COUNTRY PARK DEVELOPMENT

Drawing Title:

Site Location Plan

Reference:

BRL-HYD-XX-ZZ-DR-GE-0001

Hydrock Job No:

C-08162-C

| Drawn | Checked | Scale @ A4 | Date | Issue Date |
|---|---|---|---|---|
| SD | AJ | See Drawing | 15/06/18 | 15/06/18 |

Revision: P1

Status: S2

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# LAND SOUTH OF BURSLEDON ROAD 200

SCHEDULE OF DWELLINGS

| REF | DESCRIPTION | HT | SQ.FT (Gross) | NO | SQ.FT. TOT. |
|---|---|---|---|---|---|
| **PRIVATE** | | | | | |
| NB50 | 5 BEDROOM HOUSE | 2.5 | 1604 | 6 | 9624 |
| NA44 | 4 BEDROOM HOUSE | 2 | 1385 | 4 | 5540 |
| NT41 | 4 BEDROOM HOUSE | 2 | 1243 | 9 | 11187 |
| NT40 | 4 BEDROOM HOUSE | 2 | 1243 | 5 | 6215 |
| NA42 | 4 BEDROOM HOUSE | 2 | 1175 | 5 | 5875 |
| NB40 | 4 BEDROOM HOUSE | 2.5 | 1249 | 5 | 6245 |
| NB32 | 3 BEDROOM HOUSE | 2.5 | 1153 | 19 | 21907 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 12 | 12792 |
| NA32 | 3 BEDROOM HOUSE | 2 | 975 | 13 | 12675 |
| SP32 | 2 BEDROOM HOUSE | 2 | 975 | 4 | 3900 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 3 | 2325 |
| **SUB TOTAL** | | | | 85 | 98285 |
| **EASTLEIGH PRIVATE RENT** * | | | | | |
| NB32 | 3 BEDROOM HOUSE | 2.5 | 1153 | 12 | 13836 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 3 | 3198 |
| NT31 | 3 BEDROOM HOUSE | 2 | 1026 | 5 | 5130 |
| NA31 | 3 BEDROOM HOUSE | 2 | 975 | 9 | 8775 |
| NA22 | 2 BEDROOM HOUSE | 2 | 864 | 2 | 1728 |
| 2BCH | 2 BEDROOM HOUSE | 2 | 775 | 5 | 3875 |
| BLOCK A | 2 BEDROOM FLAT | 3 | 757 | 9 | 6813 |
| **SUB TOTAL** | | | | 45 | 41355 |
| **HA RENT** * | | | | | |
| AA43 | 4 BEDROOM HOUSE | 2 | 1170 | 1 | 1170 |
| AA33 | 3 BEDROOM HOUSE | 2 | 1025 | 7 | 7175 |
| AA25 | 2 BEDROOM HOUSE | 2 | 866 | 13 | 11258 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 6 | 4650 |
| BLOCK C | 2 BEDROOM FLAT | 3 | 837 | 3 | 2511 |
| BLOCK C | 2 BEDROOM FLAT | 3 | 825 | 3 | 2475 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| BLOCK D | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK D | 1 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| **SUB TOTAL** | | | | 45 | 38323 |
| **HA SHARED OWNERSHIP** * | | | | | |
| AB31 | 3 BEDROOM HOUSE | 2.5 | 1008 | 6 | 6048 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 2 | 2132 |
| NT31 | 3 BEDROOM HOUSE | 2 | 1026 | 2 | 2052 |
| AA33 | 3 BEDROOM HOUSE | 2 | 1025 | 4 | 4100 |
| AA25 | 2 BEDROOM HOUSE | 2 | 866 | 3 | 2598 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 2 | 1550 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| **SUB TOTAL** | | | | 25 | 23022 |
| **GRAND TOTAL** | | | | 200 | 202985 |

SITE ACCESS
SERVICE PARKING
BURSLEDON ROAD
PROW
PROPOSED CROSSING POINT
PLAY AREA
PEDESTRIAN ACCESS
HAMBLE LANE
SuDS
PROW
VEHICULAR LINK
LINK
PROW
CYCLE LINK
PEDESTRIAN ACCESS

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Scale 1:500
NORTH

| Rev | Date | Drawn | Checked |
|---|---|---|---|
| K | 26.03.18 | TDT | BB |
| AMENDED FOLLOWING HCC COMMENTS | | | |
| J | 05.03.18 | TDT | BB |
| DRIVEWAY AND FOOTPATH ADJUSTED SERVING PLOTS 189-200 | | | |

Date: DECEMBER 2017
Drawn by: TDT Checked by: SJC
Drg No: CB_84_120_001 Rev: K

Project: LAND WEST OF HAMBLE LANE, BURSLEDON
Title: PLANNING LAYOUT
Client: Taylor Wimpey

COOPERBAILLIE

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## LAND SOUTH OF BURSLEDON ROAD 200

**SCHEDULE OF DWELLINGS**

| REF | DESCRIPTION | HT | SQ.FT (Gross) | NO | SQ.FT. TOT. |
|---|---|---|---|---|---|
| **PRIVATE** | | | | | |
| NB50 | 5 BEDROOM HOUSE | 2.5 | 1604 | 6 | 9624 |
| NA44 | 4 BEDROOM HOUSE | 2 | 1385 | 4 | 5540 |
| NT41 | 4 BEDROOM HOUSE | 2 | 1243 | 9 | 11187 |
| NT40 | 4 BEDROOM HOUSE | 2 | 1243 | 5 | 6215 |
| NA42 | 4 BEDROOM HOUSE | 2 | 1175 | 5 | 5875 |
| NB40 | 4 BEDROOM HOUSE | 2.5 | 1249 | 5 | 6245 |
| NB32 | 3 BEDROOM HOUSE | 2.5 | 1153 | 19 | 21907 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 12 | 12792 |
| NA32 | 3 BEDROOM HOUSE | 2 | 975 | 13 | 12675 |
| SP32 | 2 BEDROOM HOUSE | 2 | 975 | 4 | 3900 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 3 | 2325 |
| **SUB TOTAL** | | | | 85 | 98285 |
| **EASTLEIGH PRIVATE RENT** * | | | | | |
| NB32 | 3 BEDROOM HOUSE | 2.5 | 1153 | 12 | 13836 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 3 | 3198 |
| NT31 | 3 BEDROOM HOUSE | 2 | 1026 | 5 | 5130 |
| NA31 | 3 BEDROOM HOUSE | 2 | 975 | 9 | 8775 |
| NA22 | 2 BEDROOM HOUSE | 2 | 864 | 2 | 1728 |
| 2BCH | 2 BEDROOM HOUSE | 2 | 775 | 5 | 3875 |
| BLOCK A | 2 BEDROOM FLAT | 3 | 757 | 9 | 6813 |
| **SUB TOTAL** | | | | 45 | 43355 |
| **HA RENT** * | | | | | |
| AA43 | 4 BEDROOM HOUSE | 2 | 1170 | 1 | 1170 |
| AA33 | 3 BEDROOM HOUSE | 2 | 1025 | 7 | 7175 |
| AA25 | 2 BEDROOM HOUSE | 2 | 866 | 13 | 11258 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 6 | 4650 |
| BLOCK C | 2 BEDROOM FLAT | 3 | 837 | 3 | 2511 |
| BLOCK C | 2 BEDROOM FLAT | 3 | 825 | 3 | 2475 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| BLOCK D | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK D | 1 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| **SUB TOTAL** | | | | 45 | 38323 |
| **HA SHARED OWNERSHIP** * | | | | | |
| AB31 | 3 BEDROOM HOUSE | 2.5 | 1008 | 6 | 6048 |
| NT32 | 3 BEDROOM HOUSE | 2 | 1066 | 2 | 2132 |
| NT31 | 3 BEDROOM HOUSE | 2 | 1026 | 2 | 2052 |
| AA33 | 3 BEDROOM HOUSE | 2 | 1025 | 4 | 4100 |
| AA25 | 2 BEDROOM HOUSE | 2 | 866 | 3 | 2598 |
| 2BCH | 2 BEDROOM COACH HOUSE | 2 | 775 | 2 | 1550 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 758 | 3 | 2274 |
| BLOCK B | 2 BEDROOM FLAT | 3 | 756 | 3 | 2268 |
| **SUB TOTAL** | | | | 25 | 23022 |
| **GRAND TOTAL** | | | | 200 | 202985 |

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Scale 1:1000
NORTH

| Rev | Date | Drawn | Checked |
|---|---|---|---|
| K | 27.03.18 | TDT | BB |
| AMENDED FOLLOWING HCC COMMENTS | | | |
| J | 05.03.18 | TDT | BB |
| DRIVEWAY AND FOOTPATH ADJUSTED SERVING PLOTS 189 - 200 | | | |

Date: DECEMBER 2017
Drawn by: TDT Checked by: SJC
Drg No: CB_84_120_001 Rev: K

Project: LAND WEST OF HAMBLE LANE, BURSLEDON

Title: OVERALL PLANNING LAYOUT

Client: Taylor Wimpey

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2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

Legend

- Site boundary (approximate)
- WS# / TP# — Borehole/Trial Pit location confirming presence of landfill materials or soils exceeding GAC
- Extent of area proposed for Cover System (approximately 41000m²)
- Proposed Roadways and Pavements




| Rev | Date | Description | By | Ckd |
|---|---|---|---|---|
| P1.1 | 08/08/2018 | Updated spine road and development layout, basins and capping area | DP | AJ |

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Client :

TAYLOR WIMPEY
SOUTHERN COUNTIES

Project Title:

BURSLEDON COUNTRY PARK
DEVELOPMENT

Drawing Title:

Site Remediation Plan

Reference:

BCP-HYD-XX-ZZ-DR-GE-0002

Hydrock Job No: C-08162-C

| Drawn | Checked | Scale @ A1 | Date | Issue Date |
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Revision: P1.1

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   Topographical Survey No: DTS060815-6M6C Revision 3 by Digital Terrain Surveys LLP. Dated: December 2011.
   Layout supplied by the Client.

## Legend

- Site boundary (approximate)
- Stockpile (approximate)
- Area of Japanese Knotweed (approximate)
- XX## Sampling location
- Proposed buildings.
- Access road with footpaths.
- Shared surface lane.
- Visitor parking bays.
- Existing vegetation.
- Proposed trees.
- Key elevations at three storeys.
- Existing public right of way.
- Proposed public right of way.
- Approved development.

Scale 1:500

Scale 1:1250

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| Rev | Date | Description | By | Ckd |
|---|---|---|---|---|

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Client :

Taylor Wimpey UK Ltd

Project Title:

Kestrel Park, Burlesdon Road, Southampton

Drawing Title:

Sampling Location Plan

Reference:

BCP-HYD-XX-ZZ-DR-GE-1001

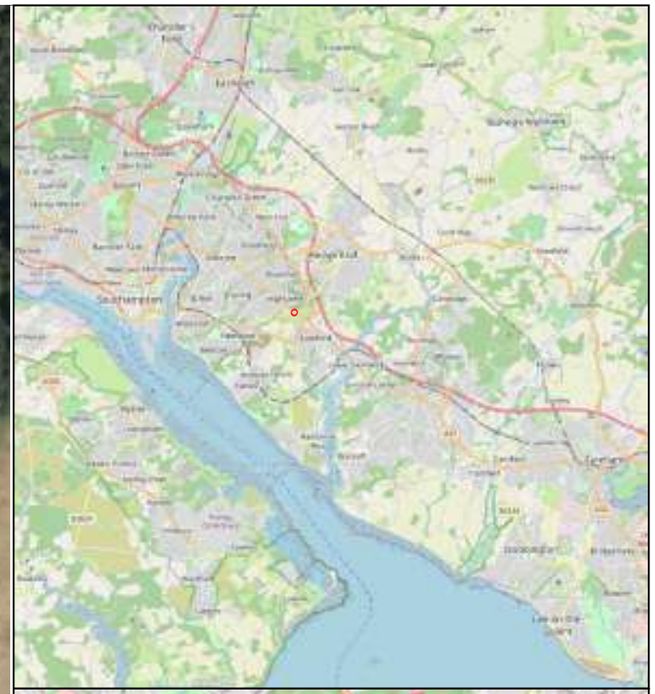
Hydrock Job No: C-08162-C

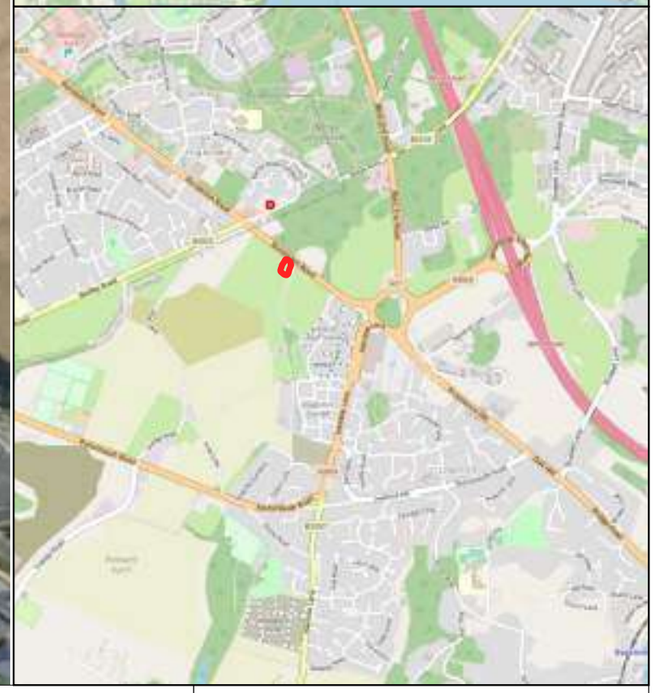
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|---|---|---|---|---|
| SD | MW | As shown | 18/12/19 | 18/12/19 |

Revision: P1

Status: S2





KEY PLAN

Locations

Trial Pit

Bund Boundary

NOTES

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REVISIONS

| | | | | |
|---|---|---|---|---|
| P01 | ORIGINAL ISSUE | | | |
| | DRAWN BY YP | CHECKED BY AJ | APPROVED BY AJ | DATE 26/10/2020 |
| REV. | REVISION NOTES/COMMENTS | | | |
| | DRAWN BY YP | CHECKED BY AJ | APPROVED BY AJ | DATE 26/10/2020 |

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White Building
1-4 Cumberland Place
Southampton
SO15 2NP
Tel: +44 (0)2382 140 907

TITLE
Sample Location Plan

HYDROCK PROJECT NO.
C-08162-C

SCALE @ A3
1:1

CLIENT
Taylor Wimpey UK Ltd.

PURPOSE OF ISSUE
SUITABLE FOR INFORMATION

STATUS
S2

PROJECT
Kestrel Park, Burlesdon Road, Southampton

DRAWING NO.
08162-HYD-XX-XX-DR-GE-5001

REVISION
P01




KEY PLAN

Locations

Trial Pit

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REVISIONS

| | | | | |
|---|---|---|---|---|
| P01 | ORIGINAL ISSUE | | | |
| | DRAWN BY YP | CHECKED BY AJ | APPROVED BY AJ | DATE 14/10/2021 |
| REV. | REVISION NOTES/COMMENTS | | | |
| | DRAWN BY YP | CHECKED BY AJ | APPROVED BY AJ | DATE 14/10/2020 |

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CLIENT
Taylor Wimpey UK Ltd.

PROJECT
Kestrel Park, Burlesdon Road, Southampton

TITLE
Country Park Validation - Sample Location Plan

HYDROCK PROJECT NO.
08162-GELS

SCALE @ A3
1:1,500

PURPOSE OF ISSUE
SUITABLE FOR INFORMATION

STATUS
S2

DRAWING NO.
08162-HYD-XX-XX-DR-GE-5002

REVISION
P01

# Appendix B Planning information

Application F/18/82322
Please ask for David Huckfield
Direct dial 023 8068 8811
Working hours Mon to Fri 8:30am to 5pm
Email david.huckfield@eastleigh.gov.uk

LOUISE CUTTS
WESSEX PLANNING
MEADOWSWEET COTTAGE
MORLEYS LANE
AMPFIELD
ROMSEY
HAMPSHIRE
SO51 9BJ

Thursday 29 March 2018

**Town and Country Planning Act 1990**
**The Town and Country Planning (Development Management Procedure) (England) Order 2015**

Application No. F/18/82322

In pursuance of their powers under the above Act and in accordance with your application received on Friday 12 January 2018 the Council, as Local Planning Authority, hereby **PERMIT** the following:

**Description:** Construction of 200no. dwellings with associated public open space, landscaping, roads, drainage and diversion of public footpath No. 1, with associated access from Bursledon Road and vehicular link to land to the south, and laying out of new country park. (The development is contrary to the development plan and affects a public right of way).

**Site:** Land south of Bursledon Road, Bursledon, Southampton, SO31 8EY

**SUBJECT TO THE FOLLOWING CONDITIONS:**

(1) The development hereby permitted shall be implemented in accordance with the following plans numbered: CB_84_120_001_K, CB_84_120_001/1_K, CB_84_120_007_G, BRL-HYD-XX-XX-DR-C-2001, BRL-HYD-XX-XX-DR-C-2200, JSL2984 701 Rev B, JSL2984 702 Rev A, and the Drawings as listed within Drawing Issue Sheet (Produced by Cooper Baillie Limited dated 05.03.18, Project Number CB_84_120, Sheets 1, 2 and 3) with the exception of Drawing Numbers: CB_84_120_001_J, CB_84_120_001-1_J, CB_84_120_007_F, CB_84_120_010_F. Reason: For the avoidance of doubt and in the interests of proper planning.

(2) The development hereby permitted shall be commenced prior to the expiration of three years from the date of this permission. Reason: To comply with Section 91 (as amended) of the Town and Country Planning Act 1990.

(3) Notwithstanding the submitted plans, no residential development above slab level shall take place until the following details have been submitted to and approved in writing by the local planning authority. Development shall then be carried out in accordance with the approved details:

- Details and samples of the materials to be used in the construction of the external surfaces of the development; and
- Details of the on-site provision of cycle storage facilities for dwellinghouses without garages.

Reason: In order to ensure a satisfactory visual appearance to the development and secure adequate cycle storage provision.

(4) No construction or demolition work shall start until a Construction Environment Management Plan (CEMP), has been submitted to, and approved in writing by, the Local Planning Authority. Demolition and construction work shall only take place in accordance with the approved details which shall include:

a) a programme and phasing of the demolition and construction work, including roads, landscaping and open space;
b) location of temporary site buildings, compounds, construction material and plant storage areas used during demolition and construction;
c) safeguards to be used within the construction process to ensure surface water contains no pollutants on leaving the site;
d) safeguards for fuel and chemical storage and use, to ensure no pollution of the surface water leaving the site;
e) the arrangements for the routing / turning of lorries and details for construction traffic access to the site;
f) the arrangements for deliveries associated with all construction works, loading / unloading of plant & materials and restoration of any damage to the highway [including vehicle crossovers and grass verges].
g) the parking of vehicles of site operatives and visitors;
h) dust management measures to control the emission of dust and dirt generated by demolition and construction;
i) a scheme, following assessment, for controlling noise and vibration impacts on noise sensitive properties from demolition, site preparation and construction activities [to include piling if proposed];
j) provision for storage, collection, and disposal of rubbish from the development during construction period;
k) measures to prevent mud and dust on the highway during demolition and construction;
l) the erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;
m) temporary lighting designed to protect bats during construction; and
n) the relevant recommendations as outlined in the Updated Ecological Assessment report (Hampshire Ecological Services Ltd, 15 January 2018) and the correspondence from Hampshire Ecological Services dated 12 March 2018.

Reason: To limit the impact the development has on the amenity of the locality and neighbouring residents, and to ensure no adverse impact on biodiversity and hydrology during the construction process.

(5) Other than in regards to the works associated with the provision of the access and link road to the development to the south, no development shall start until details for the disposal of foul sewerage from the development hereby permitted, and a timetable for its implementation, have been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved details. Reason: To ensure satisfactory provision of foul drainage.

(6) Prior to the commencement of development, measures for the protection of the public water apparatus in the proximity of the site shall be submitted to and approved in writing by the local planning authority, in consultation with Southern Water. The development shall then be carried out in accordance with the approved details. Reason: To ensure the protection of the public water system.

(7) The surface water drainage scheme for the development shall fully accord with the submitted Drainage Strategy (produced by Hydrock and dated January 2018) incorporating drawing numbers BRL-HYD-XX-XX-DR-C-2001 (Drainage Strategy Sheet 1 of 2) and BRL-HYD-XX-XX-DR-C-2200 (Drainage Strategy Sheet 2 of 2). Reason: To provide satisfactory surface water drainage and to ensure no adverse impact upon water quality from pollution within the operational phase.

(8) Prior to first occupation, the following details shall be submitted to and approved in writing by the local planning authority:

(i) A timetable for the implementation of the surface water drainage scheme approved under Condition 7; and,
(ii) A management and maintenance plan for the surface water drainage scheme for the lifetime of the development, which shall include the arrangements for adoption by any public body or statutory undertaker, or any other management and maintenance arrangements to secure the operation of the scheme throughout its lifetime (to include the identification of a management company if applicable).

Reason: To ensure the satisfactory management and maintenance of the surface water drainage scheme.

(9) No residential development above slab level shall be carried out until a detailed final landscaping scheme has been submitted to and approved in writing by the Local Planning Authority. The scheme shall cover all hard and soft landscaping [including trees, boundary treatments, and hard surfacing to include details of how any parking spaces are to be demarcated and numbered] and provide details of timings for all landscaping and any future maintenance and management. The works shall thereafter be carried out in accordance with the approved details and to the appropriate British Standard. Reason: In the interests of the visual amenity of the locality.

(10) No residential development above slab level shall be carried out until a Landscape and Ecological Management Plan (LEMP) has been submitted to and approved in writing by the local planning authority. The LEMP shall include the following:

i. The detail and extent of new planting;
ii. Details of maintenance regimes;
iii. Details of proposed species enhancements;
iv. Details of any habitat created/retained on site;
v. Details of any new wetland/SuDS created on site and their future management;
vi. Details of treatment of site boundaries and/or buffers around water bodies;
vii. Timings for the implementation of proposed ecological mitigation, compensation and enhancement measures; and,
viii. Details of management responsibilities.

The development shall thereafter be carried out in accordance with the approved details.

Reason: To ensure the protection of wildlife and supporting habitat found on the site and to secure opportunities for the improvement of wildlife corridors and wider enhancement of the nature conservation value of the site.

(11) All hard & soft landscaping, tree planting and boundary treatments shall be carried out in accordance with the approved details and to the appropriate British Standard. For a period of no less than 5 years after planting, any trees or plants which are removed, die or become seriously damaged or defective, shall be replaced as soon as is reasonably practicable with others of the same species, size and number as originally approved in the landscaping scheme. Reason: In the interests of the visual amenity of the locality and to safeguard the amenities of neighbouring residents.

(12) The development shall be carried out in accordance with the recommendations for mitigation, compensation and enhancement measures as set out within the submitted ecological surveys comprising: Extended Phase 1 Ecological Assessment (Ecosa Ltd – August 2015), Phase 2 Ecological Assessment (Ecosa Ltd – June 2015), Badger Mitigation and Monitoring Plan (Hampshire Ecological Services Ltd – August 2017), Breeding Bird Survey Report (Hampshire Ecological Services Ltd – July 2017), Reptile Survey Report (Hampshire Ecological Services Ltd – July 2017), Updated Ecological Assessment report (Hampshire Ecological Services Ltd, 15 January 2018), and the correspondence from Hampshire Ecological Services dated 12 March 2018. Reasons: In the interests of biodiversity.

(13) No development shall commence until a detailed method statement for either the removal or the long-term management / control of Japanese Knotweed on the site has been submitted to and approved in writing by the local planning authority. The method statement shall include proposed measures that will be used to prevent the spread of Japanese Knotweed during any operations e.g. spraying and/or injection or soil movement. It shall also contain measures to ensure that any soils brought to

the site are free of the seeds / root / stem of any invasive plant covered under the Wildlife and Countryside Act 1981, as amended. Development shall proceed in accordance with the approved method statement. Reason: To prevent the spread of Japanese Knotweed which is an invasive species.

(14) The development must accord with the arboricultural report "JSL2984_775 Rev B" and tree protection plans "JSL2984 701 Rev B" and "JSL2984 702 Rev A". No excavation, demolition or development related works shall commence until evidence has been submitted to and approved by the LPA that the tree protection measures have been installed, as detailed in the tree protection plan. Once approved, no access by vehicles or placement of goods, chemicals, fuels, soil or other materials shall take place within the fenced area. Tree protection measures shall be retained in their approved form for the duration of the work. This condition may only be fully discharged upon completion of the proposed development, subject to the submission of satisfactory supervision and monitoring. Reason - To retain and protect the existing trees which form an important part of the amenity of the locality.

(15) No excavation, demolition or construction related works shall take place on site until a proposed arboricultural monitoring statement, detailing supervision activity and inspections of tree protection measures, has been submitted to and approved by the LPA. The approved proposed arboricultural monitoring statement must be adhered to in full, and may only be modified subject to written agreement from the LPA. This condition may only be fully discharged upon completion of the proposed development, subject to submission of monitoring reports detailing supervision activity. Reason: To retain and protect the existing trees which form an important part of the amenity of the locality.

(16) No residential development above slab level shall take place until details of the proposed fenestration, including the specific proposed products and their acoustic performance, have been submitted to and approved in writing by the local planning authority. Unless otherwise agreed in writing by the local planning authority, the submission must demonstrate that the products will meet the minimum acoustic specification shown in Section 8.13 and located as shown in Section 9 in the Sound Advice report SA-4969-4 dated February 2018, or be of a higher specification as shall be necessary to achieve compliance with the night time LAmax criterion for bedrooms specified in Figure 2 of the joint CIEH, IoA, ANC Guidance: ProPG Planning and Noise – New Residential Development Guidance dated May 2017. The approved fenestration shall thereafter be installed in accordance with the approved details prior to occupation. Reason: In order to provide a satisfactory internal environment in the interests of amenity.

(17) No residential development above slab level shall take place until details of the proposed Mechanical Ventilation with Heat Recovery (MVHR) system have been submitted to and approved in writing by the local planning authority. The MVHR proposals shall demonstrate that sufficient ventilation can be provided to the dwellings and that the design will ensure that system noise is acceptable. The approved ventilation system shall thereafter be installed in accordance with the approved details prior to occupation. Reason: In order to provide a satisfactory

internal environment in the interests of amenity.

(18) No residential development above slab level shall take place until details of the proposed passive ventilation system have been submitted to and approved in writing by the local planning authority. Unless otherwise agreed in writing by the local planning authority, the proposals shall comprise products with a Dnew rating when open, as shown in Section 8.12 located as shown in Section 9 of the Sound Advice report SA-4969-4 dated February 2018. The approved passive vents shall thereafter be installed in accordance with the approved details prior to occupation. Reason: In order to provide a satisfactory internal environment in the interests of amenity.

(19) No work shall commence on any phase of the development until the following has been submitted to and approved in writing by the Local Planning Authority for that phase:

(i) A Report of Preliminary Investigation comprising a Desk Study, Conceptual Site Model, and Preliminary Risk Assessment documenting previous and existing land uses of the site and adjacent land in accordance with national guidance and as set out in Contaminated Land Report Nos. 11, CLR11, and BS 10175:2011+A1:2013 Investigation of potentially contaminated sites - Code of Practice;

(ii) A Report of a site investigation documenting the ground conditions, including ground and surface water, of the site and incorporating chemical and gas analysis identified as appropriate by the Preliminary Investigation and in accordance with BS 10175:2011+A1:2013, and BS 8576:2013 and unless otherwise agreed with the Local Planning Authority;

(iii) A detailed scheme (including a programme for implementation and a soil management plan) for remedial works and measures to be undertaken to avoid the risk from contaminants and/or gases when each phase of the site is developed and proposals for future maintenance and monitoring. Such a scheme shall include nomination of a competent person to oversee the implementation of the works and development shall be carried out in accordance with the approved schemes.

The development shall not be carried out otherwise than in accordance with the approved details.

Reason: To allow risk assessment and effective risk management solutions in order to minimise the risks of pollution and to ensure the site is satisfactorily decontaminated.

(20) The development hereby permitted shall not be occupied/brought into use until there has been submitted to the Local Planning Authority verification by the competent person approved under the provisions of Condition 19 (iii) that any remediation scheme required and approved under the provisions of Condition 19 (iii) has been implemented in full in accordance with the approved details (unless

varied with the written permission of the Local Planning Authority in advance of implementation). Unless otherwise agreed in writing with the Local Planning Authority such verification shall comprise:

(i) Built drawings of the implemented scheme;
(ii) Photographs of the remediation works in progress;
(iii) Certificates demonstrating that imported and /or material left in situ is free from contamination.

Thereafter the scheme shall be monitored and maintained in accordance with the approved scheme under Condition 19 (iii). Reason: To minimise the risks of pollution and to ensure the site is satisfactorily de-contaminated.

(21) If, during development, contamination (liquid or solid) not previously identified is found to be present on the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall then be implemented as approved. Reason: To ensure that the development is not put at unacceptable risk from, or adversely affected by, unacceptable levels of pollution from previously unidentified contamination sources.

(22) Prior to the commencement of development, a scheme of work detailing the extent and type of piling and other penetrative methods to be used in the construction of the development, shall be submitted to and approved in writing by the local planning authority. Each phase of development shall not be carried out otherwise than in accordance with the approved details. Reason: In the interests of amenity and to ensure that the development does not harm groundwater resources.

(23) Prior to the commencement of any construction or demolition works, a walkover badger survey shall be undertaken and a subsequent survey report submitted to and approved in writing by the Local Planning Authority. Should any badger setts be discovered, the survey should include details of proposed mitigation, which shall thereafter be adhered to in full. Reason: In the interests of the protection of biodiversity.

(24) Prior to the occupation of the development hereby permitted, details of any external lighting, including street lighting, shall be submitted to and approved in writing by the Local Planning Authority. The lighting scheme shall be designed to minimise spillage and avoid impacting upon flight corridors used by bats. The development shall then accord with the approved details. Reason: In the interests of amenity and biodiversity.

(25) Prior to the occupation of any building within this development (or, in accordance with a timetable to be agreed in writing with the Local Planning Authority), the following shall be submitted to and approved in writing by the Local Planning Authority:

As built stage SAP data and as built stage water calculator confirming energy efficiency and the predicted internal mains water consumption to achieve:

- In respect of energy efficiency, a standard of a 19% improvement of dwelling emission rate over the target emission rate as set in the 2013 Building Regulations.
- In respect of water consumption, a maximum predicted internal mains water consumption of 105 litres/person/day.

The development shall not be carried out otherwise than in accordance with the approved details.

Reason: To support a comprehensive approach to high quality design across the site, in line with the guidance set out in the Government's Ministerial Statement of 25 March 2015 which states that Local Planning Authorities should, from the date of its publication, take into account the Government's intentions in the statement and not set conditions with requirements above a Code level 4 equivalent.

(26) The vehicular access to the site shall be provided broadly in accordance with the details shown on Drawing Number EC/RJ506114/110 Revision D. No dwelling shall be occupied until the means of access have been constructed, unless otherwise agreed in writing by the local planning authority. Reason: In the interest of highway safety.

(27) The new access shall not be brought into use until the existing vehicular access(es) to the application site have been stopped up and abandoned and the footway/verge/crossing has been reinstated in accordance with details to be approved by the Local Planning Authority in conjunction with the Highway Authority. Reason: To ensure that there is only one vehicular access to the development and in the interests of visual amenity.

(28) Prior to the commencement of development, details of the type of construction proposed for the roads and footways including all relevant horizontal cross sections and longitudinal sections showing the existing and proposed levels together with the method of disposing of surface water and details of the programme of implementation for the making up of the roads and footways, must be submitted to and approved by the Local Planning Authority in writing. The development shall not be carried out otherwise than in accordance with the approved details. Reason: To ensure that the roads are constructed to a standard which will enable them to be taken over as publicly maintainable highways.

(29) The roads and footways within each phase must be laid out and made up in accordance with the specification, programme and details for that phase approved and in any event shall be so constructed that, by no later than the time any building erected on the land is occupied, there shall be a direct connection from it to an existing highway. The final carriageway and footway surfacing must be completed within six months from the date upon which the erection is commenced of the penultimate dwelling or building within the phase for which permission is hereby permitted. Reason: To ensure that the roads are constructed to a standard which

will enable them to be taken over as publicly maintainable highways.

(30) The development hereby permitted shall not be brought into use until the visibility splays shown on submitted Drawing No. BRL-HYD-XX-XX-DR-C-2300 Revision P03 have been provided. Nothing over 0.6m in height above the level of the carriageway shall be placed or permitted to remain within the visibility splays. Reason: In the interests of highway safety.

(31) The garages hereby approved shall only be used for the purpose of parking private motor vehicles in connection with the residential use of the property and shall not, at any time, be used for living accommodation, business, commercial or industrial purposes. Reason: To ensure the adequate provision of on-site parking in the interests of highway safety.

(32) The development hereby permitted shall not be brought into use until the areas shown on the approved plan for the parking of vehicles shall have been made available, surfaced and marked out. The parking areas shall then be permanently retained and reserved for that purpose at all times. Reason: To make provision for adequate off-street parking in the interests of highway safety.

(33) No vegetation clearance shall occur on site during the bird nesting season (between 1st March & 31st August) unless supervised by an appropriately qualified ecologist. Reason: To prevent harm to breeding birds.

(34) No construction or demolition related activities or deliveries to the site shall take place during the construction period except between the hours of 0800 to 1800 Mondays to Fridays or 0800 to 1300 on Saturdays and not at all on Sundays or Bank Holidays, unless otherwise prior agreed in writing with the local planning authority. Reason: To protect the amenities of the occupiers of nearby dwellings.

(35) No burning of materials obtained by site clearance or any other source shall take place during the demolition, construction and fitting out process. Reason: To protect the amenities of the occupiers of nearby properties.

**Note to Applicant:** In accordance with paragraphs 186 and 187 of the National Planning Policy Framework, Eastleigh Borough council take a positive approach to the handling of development proposals so as to achieve, whenever possible, a positive outcome and to ensure all proposals are dealt with in a timely manner.

**Note to Applicant:** A formal application for connection to the water supply is required in order to service this development. Please contact Southern Water, Sparrowgrove House Sparrowgrove, Otterbourne, Hampshire SO21 2SW (Tel: 0330 303 0119) or www.southernwater.co.uk

Yours faithfully



Andy Grandfield
Lead Specialist for Housing and Development

N.B. See Attached Notes

Eastleigh Borough Council, Eastleigh House, Upper Market Street, Eastleigh, Hampshire SO50 9YN
T: 023 8068 8000 E: direct@eastleigh.gov.uk W: www.eastleigh.gov.uk

# Appendix C RMS

# Appendix D MMS

# Appendix E CEMP

# Appendix F Japanese Knotweed Information

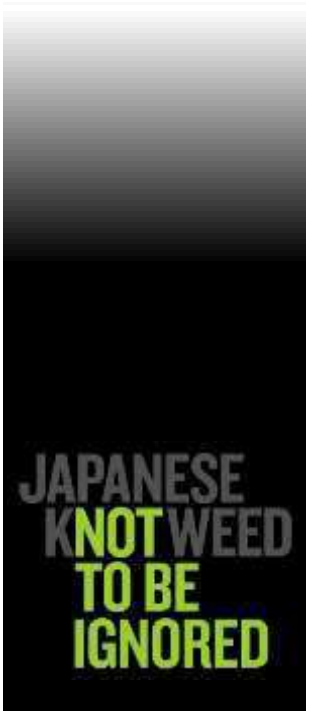
JAPANESE KNOTWEED

# KNOTWEED MANAGEMENT PLAN



## [Remediation Report]

| | |
|---|---|
| NAME OF SITE: | **Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN** |
| TENDER/PROJECT No: | **JKLE14863 / 2265** |
| CLIENT NAME: | **Codex Land PCC Limited** |
| SPECIALIST: | **Japanese Knotweed Ltd** |
| DATE PREPARED: | **15 December 2014** |
| DATE UPDATED: | **07 September 2016** |




Environment Agency

Knotweed Management Plan drafted in accordance to the;
Environment Agency 'The Knotweed Code of Practice' 2013 (version 3) – on NNSS, and
PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7)

www.japaneseknotweed.co.uk

LONDON – MANCHESTER – CARDIFF – SOUTHAMPTON – LINCOLN – BRIGHTON – GLASGOW

| REMEDIATION OF: | Japanese knotweed (*Fallopia japonica*) |
|---|---|



# DUTY OF CARE:
# JAPANESE KNOTWEED AND YOUR OBLIGATIONS

This site has been identified as containing Japanese knotweed. Japanese knotweed needs to be handled in a responsible manner to protect the environment, be socially responsible and prevent property risk.

Any works conducted to control or eradicate this invasive weed should be completed in accordance to the Environment Agency 'The Knotweed Code of Practice' 2013 (version 3) – on NNSS, and Property Care Association (PCA) (2014) Code of Practice for the management of Japanese knotweed, (V2.7).

The spread of Japanese knotweed is governed under the Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985. Part I (Wildlife – Miscellaneous), Section 14, Clause 2 of the Act states: … if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence. Schedule 9 (animals and plants to which section 14 applies), Part II (Plants) lists Japanese knotweed. It is therefore a defence to the provision of the Act to undertake all reasonable steps to control Japanese knotweed on, or infringing onto, your land.

The plant is not cited under any legislation that requires its presence to be notified to either DEFRA (Department for Environment Food and Rural Affairs) or local planning authorities, and neither is it listed under The Weeds Act of 1959.

Under the Environmental Protection Act 1990, Duty of Care Regulations 1991, Japanese knotweed material and those material contaminated with Japanese knotweed must be removed to a licensed landfill site for disposal, accompanied by appropriate Waste Transfer documentation.

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# 1 INTRODUCTION

## 1.1 CONTACTS

### 1.1.1 JAPANESE KNOTWEED SPECIALIST DETAILS

| | |
|---|---|
| NAME: | **Japanese Knotweed Ltd** |
| ADDRESS: | **Unit 7 Belbins Business Park, Cupernham Lane, Romsey, Southampton, SO51 7JF** |
| CONTACT: | **Ben Lindley BSc (Hons)** |
| TEL: | **01794 330 196** |
| EMAIL: | **ben@knotweed.co.uk** |
| WEBSITE: | **www.japaneseknotweed.co.uk** |




### 1.1.2 CLIENT CONTACT DETAILS

| | |
|---|---|
| NAME: | **Codex Land PCC Limited** |
| ADDRESS: | **Land Promotion Cell, 1 Castle Street, Castletown, Isle of Man, IM9 1MF** |
| CONTACT: | **Ernest Urquhart** |
| TEL: | **01725 511 411** |
| EMAIL: | **ernest.urquhart@gmail.com** |

## 1.2 ENVIRONMENT AGENCY GUIDELINES

**The Environment Agency advocate the use of 'Knotweed Management Plans' (KMP) where ever possible on development sites where Japanese knotweed is present. Our KMP's are drafted in accordance to the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7).**

**The 'Survey & Remediation Report' forms the first section of a KMP.**

**The KMP records Remedial Activities, Objectives and Evaluations. It stores recordable documents such as: Photos, Pesticide Application Records (PAR), Waste Transfer Notes (WTN) and Landfill Weighbridge Tickets (WBT).**

**An active or completed KMP should be included with a development sites Operation and Maintenance manual.**

# 2 KNOTWEED MANAGEMENT PLAN

## 2.1 FULL SITE ADDRESS

**Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN**

## 2.2 PLAN OVERVIEW

### 2.2.1 DESCRIPTION OF MANAGEMENT PLAN

The management plan should be implemented to control the spread of Japanese knotweed on and out from the site. The plan details the problem and the remedial and management works implemented. The Plan should be overseen by the Site Manager, and in his absence, his deputy. The Plan, its appendices and revisions shall be kept for future site owners. The Management Plan should be read in conjunction with the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7).

### 2.2.2 CONTACT DETAILS

**Japanese Knotweed Specialist: Japanese Knotweed Limited**

Ben Lindley (Commercial Manager) – ben@knotweed.co.uk – 01794 330 196

Andy Hillier (Contracts Manager) – andy@knotweed.co.uk – 07813 683 126

**Principle Development Contractor: Codex Land PCC Limited**

Ernest Urquhart – ernest.urquhart@gmail.com – 01725 511 411

### 2.2.3 JAPANESE KNOTWEED LTD - QUALIFICATIONS

Japanese Knotweed Ltd is a specialist knotweed contractor working throughout England, Wales and Scotland for Commercial and Private clients. All our staff are fully trained to undertake their works - we have a 100% CSCS policy for all staff involved with the management and undertaking of operational works on construction sites. All team leaders (Site Foreman) working on construction sites are SSSTS qualified, and all plant operators have the applicable CPCS qualification. All operational staff that undertake herbicide application works have the statutory NPTC PA1 and PA6 license (and PA6 AW for those spraying on or near water). Our technical staff have also completed the PCA Technician Training course.

### 2.2.4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The development proposals consist of new residential housing within a natural setting that retains the open field areas to the west along with a small wooded area.

The development will require site vegetation clearance and demolition, with removal of waste from site. The construction will involve the installation of service road and installation of drainage and services, and the importation of fill and construction materials. The proposal is for the construction of new residential housing, with car parking, private gardens and public open space.

| | |
|---|---|
| Development commencement date | To Be Advised |
| Development completion dates *(including soft & hard landscaping)* | To Be Advised |

See Appendix Section 3.3.2 for Site Plan of Proposed development

### 2.2.5 SITE MANAGEMENT OBJECTIVES

See Appendix Section 3.5 for Japanese knotweed impact on development objectives

## 2.3 SPECIFIC CONTROL/TREATMENT FOR JAPANESE KNOTWEED

### 2.3.1 PLAN MANAGEMENT

| | |
|---|---|
| SITE NAME: | **Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN** |
| DATE PLAN LAST UPDATED: | 07.09.2016 |

### 2.3.2 SETTING PRIORITIES

| | PRIORITY | | | |
|---|---|---|---|---|
| | **HIGH** | **MEDIUM** | **LOW** | |
| | *Removal* | *Treatment* | *Monitoring* | **Japanese knotweed Remedial requirement* |
| **ACTIONS** | | | | |
| Isolation/Exclusion | **Y** | | | All Japanese knotweed areas to be isolated. Isolation zone should be to at least 7 metres laterally from any visible knotweed growth to ensure rhizomes close to surface are not disturbed. |
| Monitoring | | **Y** | | A scheme for monitoring will be agreed with the Site Manager, who will ultimately be responsible for overseeing the control of Japanese knotweed on site. |
| Management | | **Y** | | This Management Plan will be reviewed on a regular basis and in any case every 12 months from site acquisition to completion of works. |
| **KNOTWEED AREAS** | | | | |
| JK7 | **Y** | | | **Instant eradication (excavation)** – the knotweed area is proposed for disturbance under development |
| JK1-7 | | **Y** | | **Treatment (in-situ chemical application) –** the knotweed area is not proposed for disturbance under development |
| JK8, 9 | | | **Y** | **Monitoring only from site** – Knotweed located off site and not under control of our client |

### 2.3.3 PREVENTING FURTHER SPREAD

All areas affected by Japanese knotweed should be fenced off and isolated from any activities on site immediately to avoid potential knotweed spread.

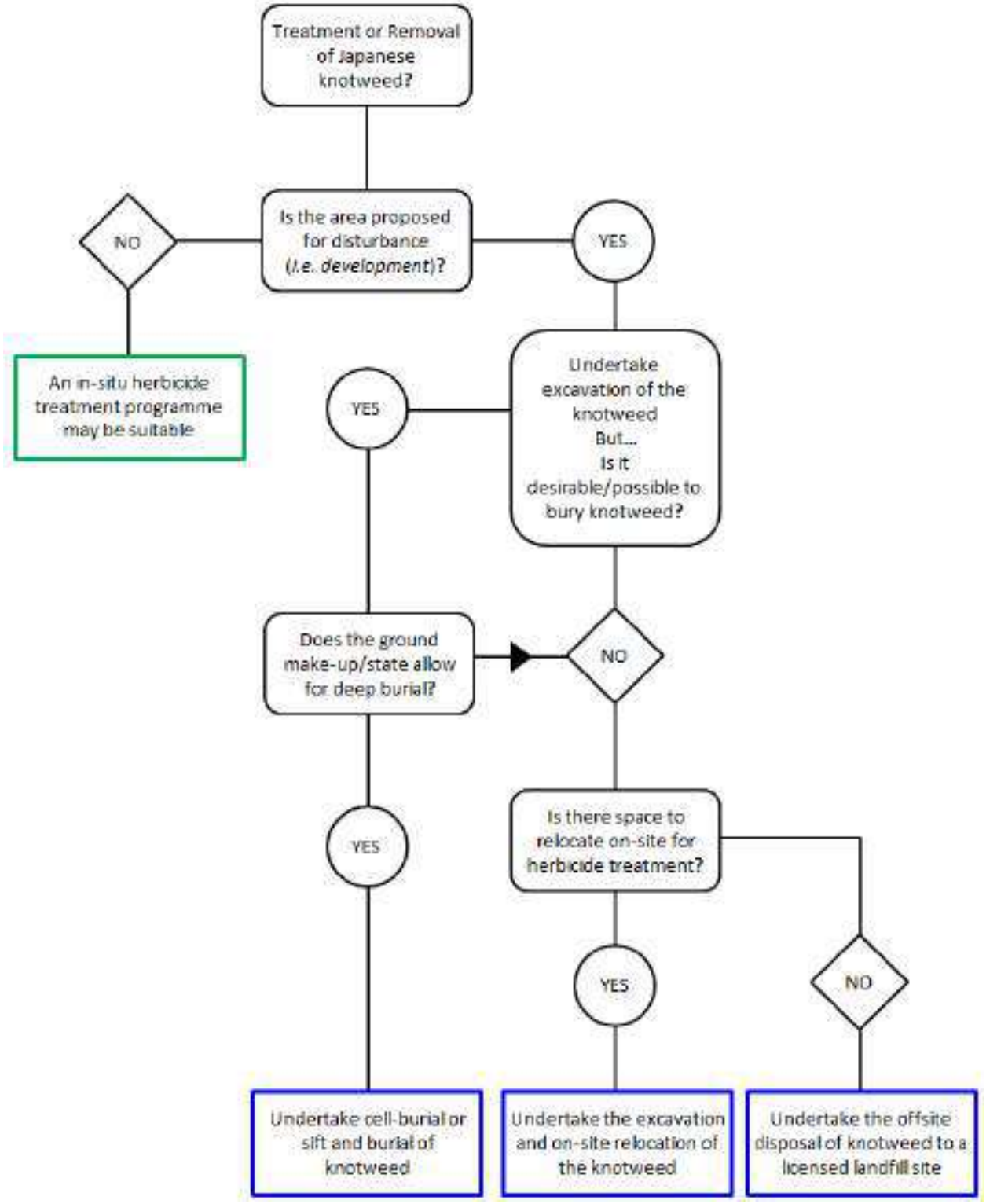
The fencing should be erected at least 7 metres away from any visible knotweed growth to protect rhizomes close to the surface from disturbance (*see PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7).*

No material is to leave site from the knotweed areas, except as part of specially supervised knotweed treatment works. No new materials are to be stored in or adjacent to isolated Japanese knotweed areas.

Where there is a high risk of knotweed infestation from neighbouring land. Contact the landowner and agree on a co-ordinated treatment programme.

### 2.3.4 REMEDIATION METHODS

**The following chart provides a simple representation of the decision process required in selecting the appropriate Japanese knotweed remediation method(s) that could be deployed on a site:**



**The following table displays a range of Japanese knotweed remediation methods that could be deployed and feasibility in relation to this site and any development plan information we have been provided:**

**✅ = Feasible and Recommended | Y = Feasible | P = Possible* | × = Not feasible**

(*Further risk assessment may be required in relation to any proposed development plans)

| JAPANESE KNOTWEED REMEDIATION METHOD - FEASIBILITY CHART | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Remediation Methods** | | **Japanese knotweed growth locations** | | | | | | | | | |
| **Treatment Type** | **Disposal Type** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **-** |
| **Full Excavation** (total lateral and vertical extent of rhizome within site) | **Off-Site in Landfill [DIG and DUMP]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Sifted and Buried [DIG and SIFT]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Buried as Cell-Burial [CELL-BURIAL]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Relocated for Treatment [DIG and RELOCATE]** | P | P | P | P | P | P | ✅ | × | × | - |
| **Reduced Level Excavation** (remaining rhizome contaminated ground is capped with root barrier) | **Off-Site in Landfill [DIG and CAP]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Sifted and Buried [DIG and SIFT]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Buried as Cell-Burial [CELL-BURIAL]** | P | P | P | P | P | P | P | × | × | - |
| | **On-Site Relocated for Treatment [DIG and RELOCATE]** | P | P | P | P | P | P | P | × | × | - |
| **Herbicide Treatment Programme*** | **In-Situ** | ✅ | ✅ | ✅ | ✅ | ✅ | ✅ | × | ✅ | ✅ | - |

See Appendix Section 3.4 for detail on our remediation methods (with 'Pros' and 'Cons' analysis)

***Question: Why is 'Herbicide Treatment' not a feasible remediation strategy where the ground in which the knotweed resides is due for disturbance under development (or any other planned ground disturbance)?***

*Answer: Herbicide application alone can ultimately render the plant unable to produce new growth (deemed as eradication), but it is unlikely to remove viability from 100% of the underground rhizome system.*

*Therefore, disturbance of ground containing herbicide treated knotweed is likely to produce re-growth (even after a successful herbicide programme, which has resulted in no recordable above ground growth).*

*This is an important note, especially for developers. The Environment Agency deem that any ground containing dead knotweed (even after a specialist has declared eradication following herbicide treatment or even sifting), is to be classified as controlled waste if removed from site. This is the same waste classification given to living healthy knotweed material and soils containing live knotweed!*

## 2.3.5 REMEDIATION PROPOSAL

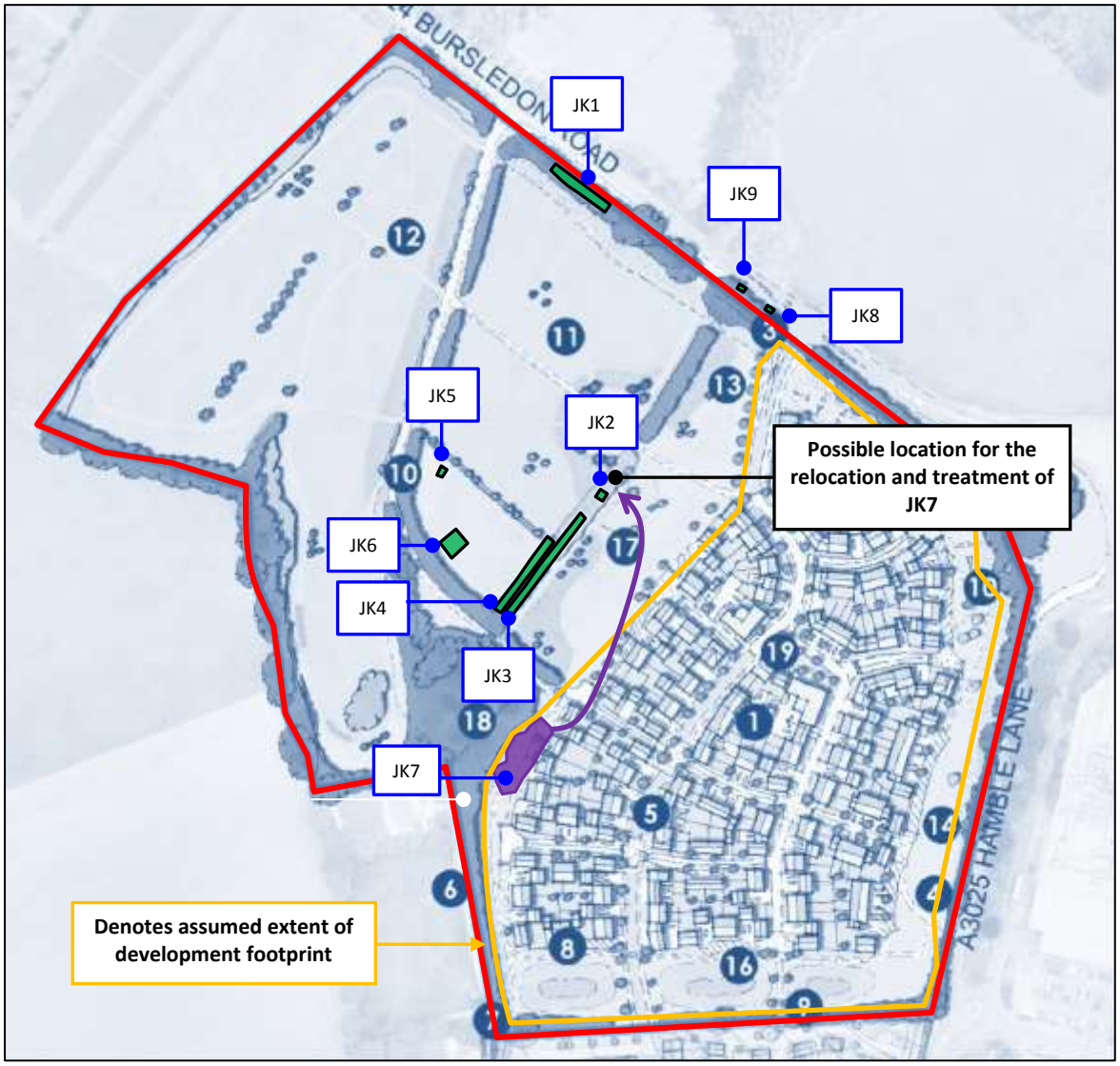
The proposed methods for the remediation of Japanese knotweed at this site are:

**For JK reference: 7** **= INTERIM HERBICIDE, then DIG and RELOCATE and TREAT**
**For JK reference: 1, 2, 3, 4, 5, 6** **= HERBICIDE TREATMENT PROGRAMME**

[**For Chemical Treatments** (Pre-treatments or Treatment programmes) - The herbicide to be used will be Round-Up Pro Bi-Active 450 (MAPP No. 12778). This is a Glyphosate based herbicide and will be applied using a knapsack sprayer at an application rate of 4L per Ha]

## 2.3.6 DRAWING SHOWING PROPOSED REMEDIAL WORKS

Image 1: Site Plan of proposed site layout showing remediation works




| | |
|---|---|
| Green Areas denotes knotweed stands treated with herbicide | Purple Area denote knotweed stand(s) to be excavated relocated to fields north of the development area |

### 2.3.7 SUMMARY OF WORKS

**The Herbicide Treatment Programme has been commenced, see the schedule of visits planned and completed below.**

(Including the interim treatment of JK7 prior to relocation)

| AREA TECHNICIAN SCHEDULE | | | |
|---|---|---|---|
| **Schedule of Works** | **Visit Schedule** | | **Date Completed** |
| Survey | Nov | 2014 | 28/11/2014 |
| Winter Dead Stem Brush Cut | Jan-Mar | 2015 | 23/02/2015 |
| Treatment | May-Jul | 2015 | 06/07/2015 |
| Treatment | Aug-Nov | 2015 | 26/09/2015 |
| Winter Dead Stem Brush Cut | Jan-Mar | 2016 | 29/02/2016 |
| Treatment | May-Jul | 2016 | 14/07/2016 |
| Treatment | Aug-Nov | 2016 | |
| Treatment | May-Jul | 2017 | |
| Treatment | Aug-Nov | 2017 | |
| Guarantee Visit | May-Nov | 2018 | |
| Final Guarantee Visit & Report | May-Nov | 2019 | |

**The relocation of JK7 will commence prior to construction of the south field.**

## 2.3.8 MANAGEMENT ACTIVITIES

We have established activities for the planned Japanese knotweed remediation. These are detailed below. The contractor will have responsibility to monitor progress of the knotweed remedial works.

| Activity | Description | Not Started | Commenced (Date) | Completed (Date) |
|---|---|---|---|---|
| 1 | Undertake herbicide programme to treat (control) Japanese knotweed **on-site – JK1-JK7** | | 23.02.2015 | |
| 2 | Conduct excavation of Japanese knotweed – **JK7** | **Y** | | |
| 3 | Dispose of Japanese knotweed material on-site as stockpile - **JK7** | **Y** | | |
| 4 | Install Root Barrier vertically to boundary to help prevent rhizome ingress from neighbouring property | **Y** | | |
| 5 | Undertake herbicide programme to treat (control) Japanese knotweed **off-site – JK8-JK9** | **Y** | | |
| 6 | Undertake Monitoring under cover of a Guarantee agreement to the site | **Y** | | |

## 2.3.9 SUMMARY OF WORKS

We are pleased to confirm that we have now commenced, to the best of our knowledge, the Japanese knotweed remedial works to the above site, as per our quotation **JKLE 14863** dated **15/12/2014** and our subsequent method statement.

**Please note we have commenced the following planned/quoted works:**

***Japanese knotweed areas JK1, JK2, JK3, JK4, JK5 JK6 & JK7 are being treated in-situ under a herbicide treatment programme, on the back of which we will provide a guarantee.***

***Remedial works were commenced 28/11/2014 and are still in progress.***

JK7 will require further remediation to allow for development. Planned remediation is full excavation and relocation to the north area of the site

The Japanese knotweed remedial works undertaken were in accordance with the Property Care Association (PCA) (2014) Code of practice for the management of Japanese knotweed, (V2.7) and the controlled (Japanese knotweed) waste was handled in accordance the Environmental Protection Act 1990 (EPA 1990) sections 33 and 34.

By having the knotweed remediated you should no longer be at risk of contravening The Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985, which governs the spread of Japanese knotweed into wild habitats. Part I (WILDLIFE – Miscellaneous), Section 14, Clause 2.

## 2.4 SUMMARY INFORMATION

### 2.4.1 PRIORITY AREAS

| Knotweed Area | Description / Justifications of Priority | Priority Level |
|---|---|---|
| JK7 | Area proposed for development | HIGH |
| JK 1-6 | Area **not** proposed for disturbance under development | MED |
| JK 8-9 | Located Off-Site | LOW |

### 2.4.2 CONTROL/TREATMENT METHODS

| Knotweed Area | Description of Control Method | To Be Carried Out By: |
|---|---|---|
| JK7 | Instant Eradication Method (Excavation) | T.B.C. |
| JK 1-7 | Long Term Treatment (Herbicide Programme) **on-site** | JK Ltd |
| JK 8-9 | Long Term Treatment (Herbicide Programme) **off-site** | T.B.C. |
| JK 1-6 | Long Term Monitoring (Guarantee) | T.B.C. |

### 2.4.3 CONTROL/TREATMENT IMPLEMENTATION SCHEDULE

| Knotweed Area | Control / Treatment Description | Date |
|---|---|---|
| JK 7 | Instant Eradication Method (Excavation) | T.B.C. |
| JK 1-7 | Long Term Treatment (Herbicide Programme) **on-site**<br>1 Dead Stem Winter Brush Cut Jan-Feb 2015<br>2 Monitoring/Treatment May-Jul 2015<br>3 Monitoring/Treatment Aug-Nov 2015<br>4 Dead Stem Winter Brush Cut Jan-Feb 2016<br>5 Monitoring/Treatment May-Jul 2016<br>6 Monitoring/Treatment Aug-Nov 2016<br>7 Monitoring/Treatment May-Jul 2017<br>8 Monitoring/Treatment Aug-Nov 2017 | Commenced |
| JK 8-9 | Long Term Treatment (Herbicide Programme) **off-site** | T.B.C. |
| JK 1-7 | Long Term Monitoring (Guarantee)<br>1 Guarantee site monitoring May-Nov 2018<br>2 Guarantee site monitoring May-Nov 2019 | |

# 3 APPENDICES

## 3.1 APPENDIX 1 - GUARANTEES

### 3.1.1 COMPANY BACKED GUARANTEE

A Company Guarantee Certificate **can be** issued to the client, which ensures they will be provided a monitoring and treatment service under the terms of the Guarantee with the following liability provided: '*On the proviso that the valued work is undertaken by Japanese Knotweed Ltd and paid for in full, and providing no actions have been undertaken by the client or any other party that breach our Terms and Conditions, Japanese Knotweed Ltd, for a period of 2-12 years, will accept liability for any work (chemical application) deemed necessary to treat any re-growth of Japanese knotweed.*'

*See Addendum to the Guarantee (page following the guarantee certificate)*

### 3.1.2 GPI - INSURANCE BACKED GUARANTEE

On the back of the Company Guarantee Certificate an Insurance Policy **can be** provided to back up the provision of the Guarantee service. As members of the Property Care Association (PCA) Invasive Weeds Group (IWG) we can provide an Insurance-Backed Guarantee (IBG) via Guaranteed Protection Insurance Ltd (GPI).

**Important Note:**

An application for an IBG policy will be lodged with the insurer (IBG).

The policy however will not become active until the insurer has been satisfied of the following conditions:

1. Two consecutive years of no recurrence of knotweed growth to the treatment area has been recorded post completion of the remedial works (excavation or herbicide treatment programme).
2. We have submitted a Completion Certificate to the insurer (following the 2 years of no re-growth), which confirmed that the remedial works have been successful.

The active policy will then cover the remainder of the Company Guarantee period.

If we go out of business at any time during the active policy guarantee period, then the policy will pay out for another PCA IWG member contractor to continue to provide the guarantee service so that the client may continue to benefit from the cover provided by that guarantee.

*See Addendum to the Guarantee (page following the guarantee certificate)*

### 3.1.3 THIRD PARTY BONDED GUARANTEE

A 'Service Performance Escrow Agreement' **can be** set up to provide a bond on the monitoring and treatment service for the period of the Guarantee. All guarantee funds will be secured in an escrow account managed by the third party solicitor. This provides full fund protection for the client if the contractor goes out of business. The contractor will apply for payments out of the escrow account for each year of the guarantee. Appropriate funds will remain in the account until completion of the guarantee service. If the contractor goes out of business the funds can be reclaimed by the client or used to facilitate another invasive weed specialist to undertake the liability of the guarantee.

# DRAFT GUARANTEE CERTIFICATE

Client: **Codex Land PCC Limited**

Property: **Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN**

Contract No: **2265**

Treatment/Excavation End Date: **DD/MM/YYYY**

Monitoring Period Ending: On or after **To Be Advised (requires construction end date)**

Guarantee Period Ending: **To Be Advised**

Work carried out and covered by this company guarantee to control the following invasive weeds:

| | | | |
|---|---|---|---|
| **Japanese knotweed (*Fallopia japonica*)** | ☒ | Giant hogweed (*Heracleum mantegazzianum*) | ☐ |
| Himalayan balsam (*Impatiens glandulifera*) | ☐ | Other please specify | _____ |

**TERMS OF GUARANTEE**

1. **Japanese Knotweed Ltd** hereinafter referred to as "The Company" hereby **GUARANTEES** that, save as hereinafter provided or as provided in the Company's standard Terms and Conditions of business applicable at the date of the Client's acceptance, in the event of the person entitled to the benefit of this Guarantee notifying the Company in writing within a period of ***** **YEARS** from the date of completion of the work of:

   (i) any continuance or recurrence of the invasive weed indicated above respectively to the work carried out in the areas identified in the report as the "treatment area"

   the Company, upon production of this Guarantee and all original relevant survey reports, quotations, specifications, drawings, plans, completion certificates and receipted invoices, with any amendments thereto issued by the Company (photocopies will not be accepted), will arrange for the land to be inspected at a mutually convenient time upon payment by such person of the Company's then current inspection fee, provided that the continuance or recurrence at issue is of a kind against which the Company carried out control treatment in the area in which such continuance or recurrence has taken place.

2. If upon such inspection it appears to the Company that the treatment carried out by the Company was in any way defective so as to have resulted in re-growth of the invasive weed within the treated areas, the Company will carry out, without further charge, such further treatments as shall to the Company appear to be necessary to control the invasive weed and will reimburse in full the inspection fee paid.

3. This Guarantee does not cover any loss (including consequential loss see 9 below) or damage sustained by the person entitled to the benefit of this Guarantee save as set out in 2 above, whether caused by the Company's negligence or otherwise.

4. This Guarantee shall be of no validity or effect and shall be unenforceable against the Company in any one or more of the following circumstances:

   (a) where the person entitled to the benefit of this Guarantee does not give written notice of the claim under this Guarantee to be received by the Company within three months from the date upon which the existence of such a claim could, with the exercise of reasonable diligence by a continuous occupier of the affected premises, have been discovered;

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(b) where all Works advised or recommended by the Company prior to, at the time of, or subsequent to, treatment carried out by the Company were not fully carried out effectively with good and proper materials and in a workmanlike manner by the Client's contractor.

(c) where the Client failed to pay the full price, any properly payable additional costs, and any interest due within six months of the date upon which the same fell due;

(d) where the land and property has not been kept in a good and proper state, so as to detect and prevent tipping or the early detection of growth by invasive weeds.

(e) where any recommendation given by the Company has not been complied with, whether such recommendation was given in the Company's report/quotation, or by separate leaflets. This may relate to cutting or pruning, the removal of waste, site clearance of the exclusion of plant materials from areas adjacent to the treatment area.

(f) where, subsequent to the completion of treatment by the Company, there has been any disturbance to the works carried out by the Company. This may include excavations in areas where herbicide treatments have been undertaken, where root barriers have been installed or contaminated waste has been subject to burial on site.

(g) where invasive plants have been re-introduced adjacent to watercourses or areas that have been subject to flooding, or by tipping or the uncontrolled propagation from adjacent land.

5. This Guarantee is to be read subject to, and is limited by, the Company's standard Terms and Conditions of business current at the date of the Client's acceptance of the Company's offer to carry out the treatment which shall be deemed to be incorporated herein. In the event of any ambiguity or uncertainty arising the Terms and Conditions of this guarantee shall apply.

6. In the event of disposal of the property, being the subject of this Guarantee, this Guarantee shall be assignable by the Client above named, to the new owner in which case the provisions hereof set out at 1-5 above shall apply in respect of that new owners as if the name of that new owner were substituted for any reference to the client PROVIDED THAT

   Within three months of the change of ownership of the property, the new owner shall have:

   (a) given written notice of the change to the Company;

   (b) paid the Company's then current transfer fee; and

   permitted the Company's surveyor to inspect the property (so as to discover any defects as might prejudice the works carried out by the Company) if the Company in its absolute discretion so require.

7. For the purposes of this Guarantee and the Contracts (Rights of Third Parties) Act 1999, the person entitled to the benefit of the rights conferred by this Guarantee shall be the owner from time to time of the Property ("the Relevant Third Party") **provided always that** the Relevant Third Party acknowledges and agrees that its rights under this Guarantee shall be subject to the terms and conditions set out in this Guarantee.

8. The Company shall be entitled in any action or proceedings by any Relevant Third Party to rely on any term in the Guarantee and to raise any equivalent rights in defence of liability as it would have against the Client or any previous Relevant Third Party. Furthermore, the Relevant Third Party agrees that it will be bound by any previous acts, omissions or default of the Client or any previous Relevant Third Party.

9. For the avoidance of doubt, the Client and each subsequent Relevant Third Party acknowledges and agrees that when it is no longer the owner for the time being of the Property, it shall no longer be entitled to the benefit of the rights conferred by this Guarantee and that furthermore, neither the Client, nor any Relevant Third Party shall be entitled to assign or transfer its rights and / or obligations under this Guarantee.

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10. All consequential losses are excluded from this Guarantee, and for the purposes of this Guarantee consequential loss means any indirect, special or consequential damages or losses suffered or incurred by the Guarantee holder and for the purposes of this guarantee indirect, special or consequential damages or losses shall include, but not be limited to damages to or losses of data, furniture or equipment, economic loss or damage, damage to or loss of profits, interest, business revenue, anticipated savings, business or goodwill, any losses costs or expenses which are not directly incurred by the Guarantee holder wholly in respect of or which are additional to the remedial work for which indemnity is provided by this guarantee, the costs and expenses of any redecoration, repainting or retiling work, the costs and expenses of removing and/or replacing any cupboards, carpets or other furniture, or any other fixtures or fittings and the incurring of liability for losses or damages of any nature whatsoever suffered by third parties (including in each case incidental and/or punitive damages), even if the Company is advised in advance of the possibility of any such losses and/or damages;

11. In the event of you wishing to make a claim under this guarantee, a fee (at the rate prevailing at the time of the claim) is payable and the following **ORIGINAL** documents must be produced by you:

    (a) Report(s), estimate and any drawings or plans relating to it
    (b) Receipted invoice or proof of payment
    (c) Certificate or letter of completion
    (d) This guarantee

    If the claim is justified, your payment will be returned in full. If your claim cannot be processed due to incomplete documentation or you decide not to pursue your claim, then an administration fee (at the rate prevailing at the time of the claim) will be deducted and the balance will be refunded.

12. In the event of a dispute arising under this guarantee as to the amount to be paid or the work to be performed the dispute may by agreement between the parties be referred for determination by an expert chosen by mutual agreement between the parties. If the parties are unable to agree on an expert within 7 days after the request by one party to another or if the expert agreed upon is unable or unwilling to act either party may apply to the General Manager of the Property Care Association for the appointment of a suitably qualified and experienced expert for the dispute in question.

Signature:



(For and on behalf of the Company)

**Japanese Knotweed Ltd**
Unit 7, Belbins Business Park
Cupernham Lane
Romsey, Hampshire
SO51 7JF

Tel: 01794 330 196
Email: Info@knotweed.co.uk

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## 3.1.4 ADDENDUM TO GUARANTEE

Dear Sirs

**Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN ("the Property")**
**Japanese Knotweed Guarantee Certificate ("the Certificate")**

We refer to the Certificate, a copy of which is attached with in the report document.

Unless expressed to the contrary the terms of this letter take precedence to the terms of the Certificate. We hereby confirm that **for the period of treatment/excavation end date to the Monitoring period end date** the following will apply:

A. Upon any continuance or recurrence of the Japanese knotweed, respectively to the remedial work carried out on the property, and on the proviso that the valued remedial work has been undertaken by the Company and paid for in full, and providing no actions have been undertaken by the Customer or any other party that breach the Company's Terms and Conditions;

   *(i) the Company will carry out such further treatments (chemical application only unless agreed otherwise) as shall to the Company appear to be necessary to control the Japanese knotweed.*

   The Company having been given the opportunity to undertake these necessary works will accept liability for the sole cost of these works (all consequential losses are excluded).

B. In completing regular inspections of the property we will not require the receipt of documentation as detailed in section 1 of the certificate to arrange these inspections.

C. The terms of paragraph 4(a) of the Certificate will not apply as we will make regular periodic inspections of the Property.

Unless expressed to the contrary the terms of this letter take precedence to the terms of the Certificate. We hereby confirm that the following will apply:

A. Notwithstanding the terms of Paragraph 1 & 11 of the Certificate the only documentation that we require to be produced to us prior to arranging an inspection of the Property is the Guarantee Certificate.

For and on behalf of Japanese Knotweed Ltd

[redacted]

Ben Lindley
Commercial Manager
**Japanese Knotweed Limited**

DRAFT

### 3.1.5 SITE PLAN SHOWING AREA COVERED BY GUARANTEE

To be inserted once agreed

| | |
|---|---|
| Area of the site covered by a **Company Guarantee** (*openly accessible areas of the site will be monitored during the guarantee period*) | Area of the site ('Treatment Area'), which can be covered by the **Insurance Backed Guarantee** |

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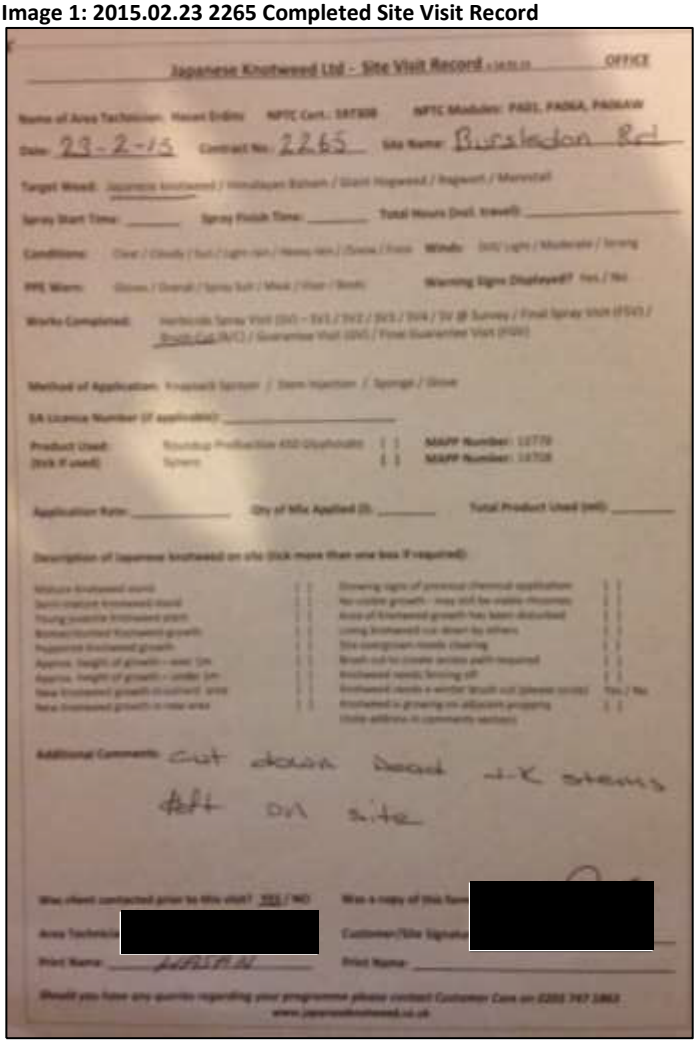
## 3.2 APPENDIX 2 - RECORD OF REMEDIAL WORKS

### 3.2.1 DURING AND POST REMEDIATION – PHOTOGRAPHS

To be inserted on completion of works

## 3.2.2 Site Visit Records (Monitoring) - Herbicide (Pesticide) Application Records

**Image 1: 2015.02.23 2265 Completed Site Visit Record**



Japanese Knotweed Ltd - Site Visit Record

Date: 23-2-15 Contract No: 2265 Site Name: Burslodon Rd

Additional Comments: Cut down Dead J-K stems left on site

**Image 2: 2015.02.23 BEFORE BRUSH CUT**



**Image 3: 2015.02.23 AFTER BRUSH CUT**



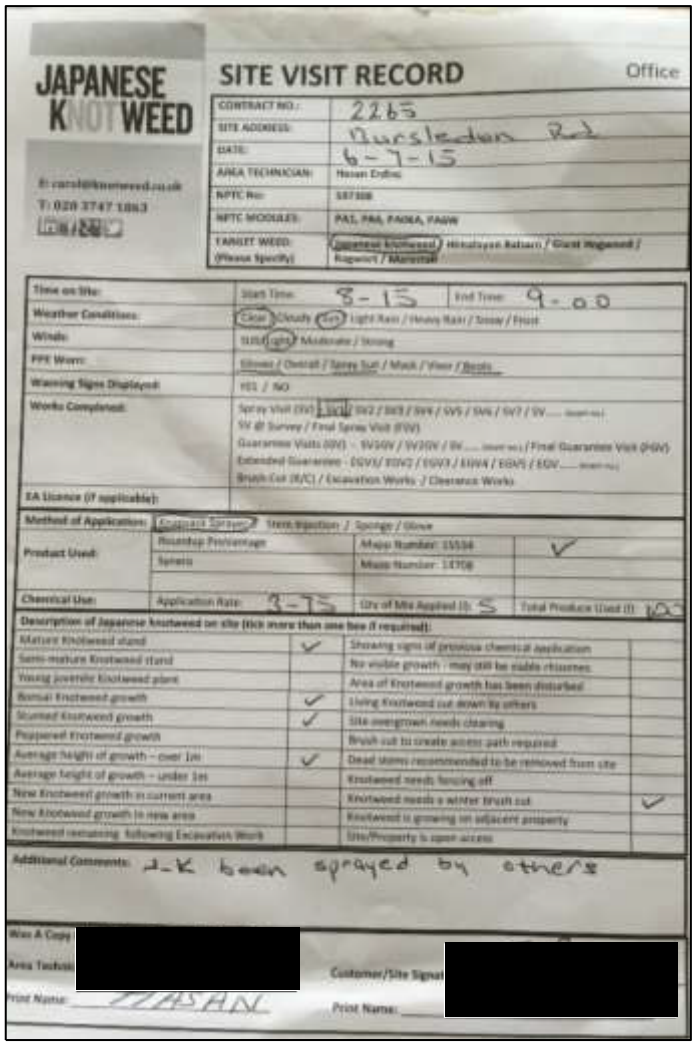
**Image 4: 2015.02.23 BEFORE BRUSH CUT**



**Image 5: 2015.02.23 AFTER BRUSH CUT**



**Image 6: 2015.07.06 Completed Site Visit Record**



JAPANESE KNOTWEED

SITE VISIT RECORD Office

| | |
|---|---|
| CONTRACT NO.: | 2265 |
| SITE ADDRESS: | Nursteden Rd |
| DATE: | 6-7-15 |
| AREA TECHNICIAN: | [redacted] |
| NPTC No: | [redacted] |
| NPTC MODULES: | PA1, PA6, PA06A, PA6W |
| TARGET WEED: (Please Specify) | Japanese Knotweed / Himalayan Balsam / Giant Hogweed / Ragwort / Marestail |

| | | | |
|---|---|---|---|
| Time on Site: | Start Time: 8-15 | End Time: 9-00 | |
| Weather Conditions: | Clear / Cloudy / Overcast / Light Rain / Heavy Rain / Snow / Frost | | |
| Winds: | Still / Light / Moderate / Strong | | |
| PPE Worn: | Gloves / Overall / Spray Suit / Mask / Visor / Boots | | |
| Warning Signs Displayed: | YES / NO | | |
| Works Completed: | Spray Visit (SV) SV1 / SV2 / SV3 / SV4 / SV5 / SV6 / SV7 / SV..... (insert no.) SV @ Survey / Final Spray Visit (FSV) Guarantee Visits (GV) - GV1GV / GV2GV / GV..... (insert no.) / Final Guarantee Visit (FGV) Extended Guarantee - EGV1/ EGV2 / EGV3 / EGV4 / EGV5 / EGV..... (insert no.) Brush Cut (B/C) / Excavation Works / Clearance Works | | |
| EA Licence (if applicable): | | | |

| | | | | |
|---|---|---|---|---|
| Method of Application: | Knapsack Sprayer / Stem Injection / Sponge / Glove | | | |
| Product Used: | Roundup Proforsage | Mapp Number: 15534 | ✓ | |
| | Synetic | Mapp Number: 13708 | | |
| Chemical Use: | Application Rate: 3-7.5 | Ltr's of Mix Applied (l): 5 | Total Product Used (l): 10 | |

| Description of Japanese Knotweed on site (tick more than one box if required): | | | |
|---|---|---|---|
| Mature Knotweed stand | ✓ | Showing signs of previous chemical application | |
| Semi-mature Knotweed stand | | No visible growth - may still be viable rhizomes | |
| Young juvenile Knotweed plant | | Area of Knotweed growth has been disturbed | |
| Bonsai Knotweed growth | ✓ | Living Knotweed cut down by others | |
| Stunted Knotweed growth | ✓ | Site overgrown needs clearing | |
| Peppered Knotweed growth | | Brush cut to create access path required | |
| Average height of growth – over 1m | ✓ | Dead stems recommended to be removed from site | |
| Average height of growth – under 1m | | Knotweed needs fencing off | |
| New Knotweed growth in current area | | Knotweed needs a winter brush cut | ✓ |
| New Knotweed growth in new area | | Knotweed is growing on adjacent property | |
| Knotweed remaining following Excavation Work | | Site/Property is open access | |

Additional Comments: 2-K been sprayed by others

Was A Copy [redacted]

Area Technician [redacted] Customer/Site Signature [redacted]

Print Name: [redacted] Print Name: [redacted]

**Image 7: 2015.07.06Plants showing signs of chemical treatment by others**



**Image 8: 2015.07.06 Plants showing signs of chemical treatment by others**



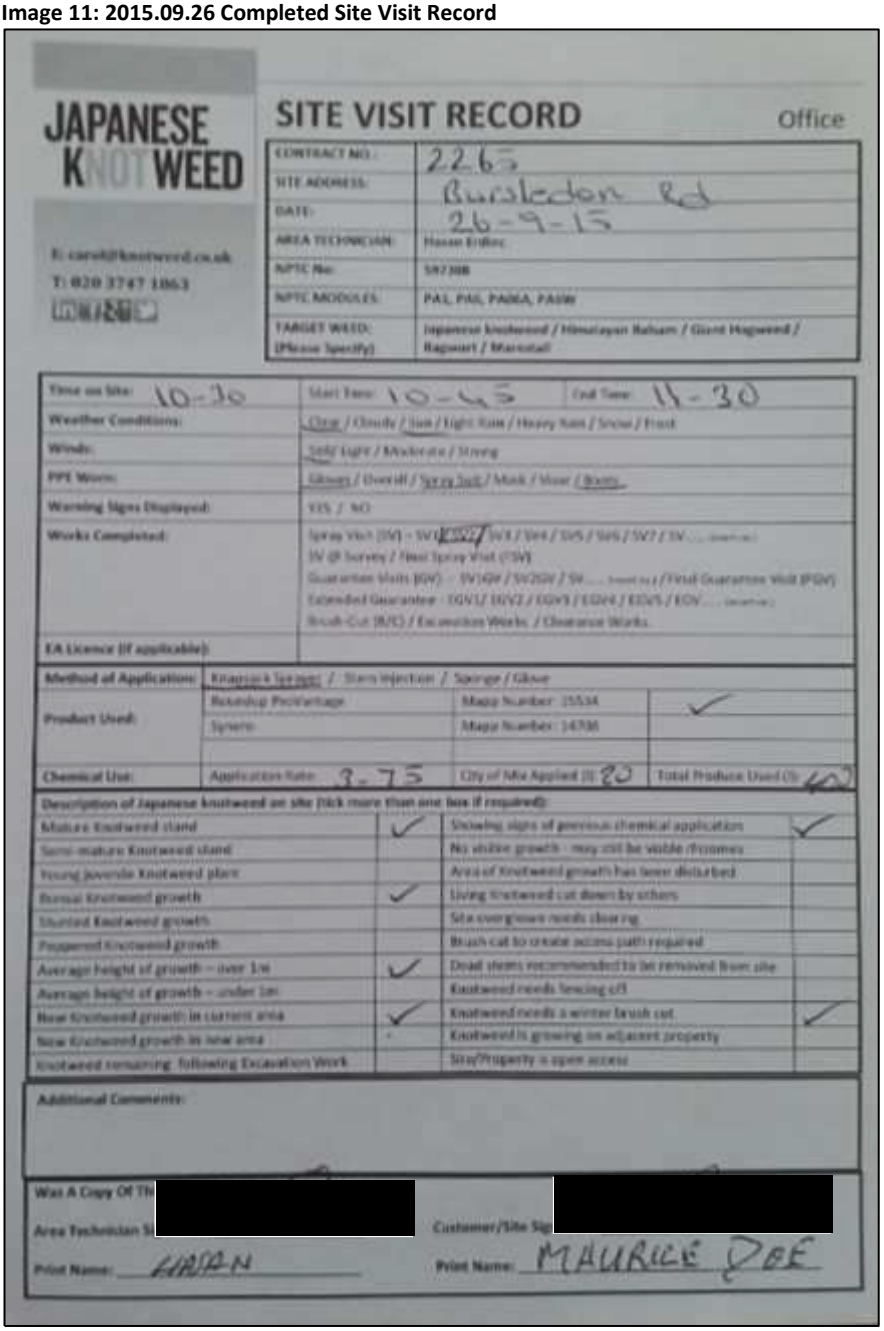
**Image 9: 2015.07.06 Plants showing signs of chemical treatment by others**



**Image 10: 2015.07.06 Plants showing signs of chemical treatment by others**



**Image 11: 2015.09.26 Completed Site Visit Record**



JAPANESE KNOTWEED

SITE VISIT RECORD — Office

| | |
|---|---|
| CONTRACT NO: | 2265 |
| SITE ADDRESS: | Burslecton Rd |
| DATE: | 26-9-15 |
| AREA TECHNICIAN: | Hasan Erdinc |
| NPTC No: | 597388 |
| NPTC MODULES: | PA1, PA2, PA6A, PA6W |
| TARGET WEED: (Please Specify) | Japanese knotweed / Himalayan Balsam / Giant Hogweed / Ragwort / Marestail |

| | |
|---|---|
| Time on Site: | 10-30 |
| Start Time: | 10-45 |
| End Time: | 11-30 |
| Weather Conditions: | Clear / Cloudy / Sun / Light Rain / Heavy Rain / Snow / Frost |
| Winds: | Still/ Light / Moderate / Strong |
| PPE Worn: | Gloves / Overall / Spray Suit / Mask / Visor / Boots |
| Warning Signs Displayed: | YES / NO |
| Works Completed: | Spray Visit (SV) - SV1 SV2 / SV3 / SV4 / SV5 / SV6 / SV7 / SV... (insert no.) SV @ Survey / Post Spray Visit (PSV) Guarantee Visits (GV) - GV1GV / GV2GV / GV... (insert no.) / Final Guarantee Visit (FGV) Extended Guarantee - EGV1/ EGV2 / EGV3 / EGV4 / EGV5 / EGV... (insert no.) Brush-Cut (B/C) / Excavation Works / Clearance Works |
| EA Licence (if applicable): | |

| | | | |
|---|---|---|---|
| Method of Application: | Knapsack Sprayer / Stem Injection / Sponge / Glove | | |
| Product Used: | Roundup ProVantage | Mapp Number: 15534 | ✓ |
| | Sphere | Mapp Number: 14736 | |
| Chemical Use: | Application Rate: 3.75 | Qty of Mix Applied (l): 80 | Total Product Used (l): 40 |

| Description of Japanese knotweed on site (tick more than one box if required): | | | |
|---|---|---|---|
| Mature Knotweed stand | ✓ | Showing signs of previous chemical application | ✓ |
| Semi-mature Knotweed stand | | No visible growth - may still be visible rhizomes | |
| Young/juvenile Knotweed plant | | Area of knotweed growth has been disturbed | |
| Bonsai Knotweed growth | ✓ | Living knotweed cut down by others | |
| Stunted Knotweed growth | | Site overgrown needs clearing | |
| Peppered Knotweed growth | | Brush cut to create access path required | |
| Average height of growth – over 1m | ✓ | Dead stems recommended to be removed from site | |
| Average height of growth – under 1m | | Knotweed needs fencing off | |
| New Knotweed growth in current area | ✓ | Knotweed needs a winter brush cut | ✓ |
| New Knotweed growth in new area | | Knotweed is growing on adjacent property | |
| Knotweed remaining following Excavation Work | | Site/Property is open access | |

Additional Comments:

Was A Copy Of Th[redacted]

Area Technician Si[redacted] Customer/Site Sig[redacted]

Print Name: HASAN Print Name: MAURICE DOE

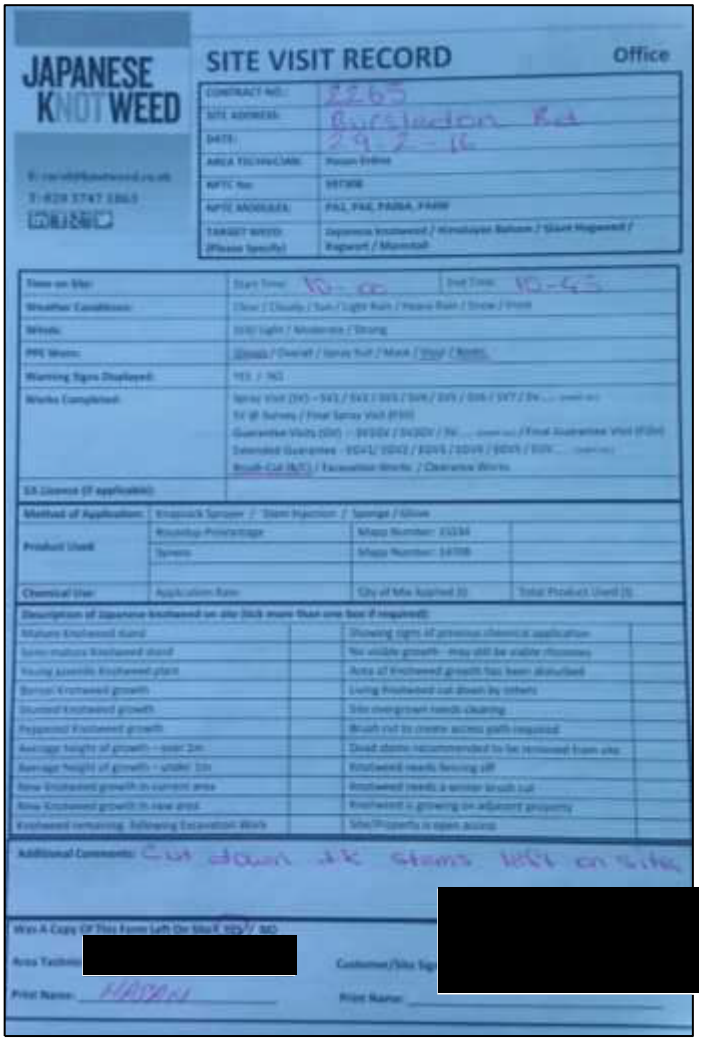
**Image 12: 2015.09.26 Sporadic re-growth of knotweed (stunted re-growth) following previous applications of herbicide**



**Image 13: 2015.09.26 Sporadic re-growth of knotweed (stunted re-growth) following previous applications of herbicide**



**Image 14: 2016.02.29 Completed Site Visit Record**



SITE VISIT RECORD

Office

**Image 15: 2016.02.29 BEFORE BRUSH CUT**



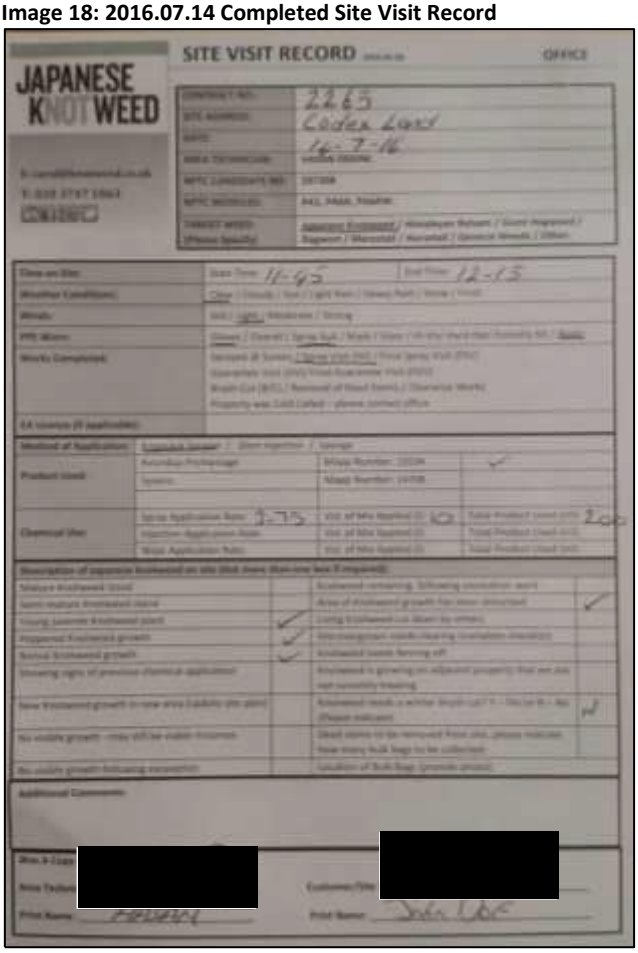
**Image 16: 2016.02.29 AFTER BRUSH CUT**



**Image 17: 2016.02.29 2265 AFTER BRUSH CUT**



**Image 18: 2016.07.14 Completed Site Visit Record**



SITE VISIT RECORD

2265
Cedar Lawn
14-7-16

**Image 19: 2016.07.14 Area of JK1 – 3rd herbicide treatment by JKL and the amount of the knotweed re-growth has been vastly reduced.**



**Image 20: 2016.07.14 Area of JK2 –3rd herbicide treatment by JKL and there is little to no re-growth of Japanese knotweed.**



**Image 21: 2016.07.14 Area of JK3 –3rd herbicide treatment by JKL and there is little to no re-growth of Japanese knotweed.**



**Image 22: 2016.07.14 Area of JK4 –3rd herbicide treatment by JKL and the amount of the knotweed re-growth has been vastly reduced.**



**Image 23: 2016.07.14 Area of JK7 – 3rd herbicide treatment by JKL and the amount of the knotweed re-growth has been vastly reduced.**



### 3.2.3 Site Waste Tracking Record

To be inserted on completion of works

### 3.2.4 Waste Transfer Notes

To be inserted on completion of works

### 3.2.5 Weighbridge Tickets

To be inserted on completion of works

# 3.3 APPENDIX 3 - PRE-REMEDIATION RECORDS

## 3.3.1 PRE-REMEDIATION - SITE PLAN / AERIAL PHOTOGRAPH



### 3.3.2 PROPOSED DEVELOPMENT PLAN



## 3.3.3 PRE-REMEDIATION SURVEY OF JAPANESE KNOTWEED

| | |
|---|---|
| Date of Survey: | **28/11/2014** |

### 3.3.3.1 DESCRIPTION OF THE SITE

The site consists of a large car boot and market area along with open maintained field areas to the west of the site. The north boundary meets Bursledon Road with Hamble Lane and the Tesco store to the east. The southern boundary meets the consented Taylor Wimpey housing development. The car boot and market area, with access from Hamble Lane, consists of maintained grass areas that are divided in sections by hard surface tracks. These connect to various access points to both Hamble Lane and Bursledon Road. The boundaries of the site are defined with both fencing and hedging, with further hedgerows that run across the site, that divide it in to sections.

See Appendix Section 3.3.1 for Image of site layout

### 3.3.3.2 DISTRIBUTION OF JAPANESE KNOTWEED

A thorough walk over of the site was undertaken to identify the presence, locations and extent of Japanese knotweed growth.

The survey was undertaken in accordance with current good practice published by the Royal Institute of Chartered Surveyors (RICS, 2012) and the Property Care Association (PCA, 2014).

The areas of Japanese knotweed identified are detailed below:

**Japanese knotweed Stand (JK1):**

This is a large mature area of growth that is situated along the shared boundary with Bursledon Road. This is emerging beneath the boundary planting in a bund and to the edge of the maintained field covering an area of 216m$^2$ along the boundary at varying depths. This has spread laterally off site and into the planting. The area appears to have been partially treated.

**Japanese knotweed Stand (JK2):**

This is to a bund area that divides a small field from the main car boot area. The bund measures 231m$^2$ running south to north. Peppered and semi mature knotweed growth could be seen to be emerging from this to the south end over an area of 20m$^2$. It may be possible that this bund contains further knotweed material that has not yet emerged.

**Japanese knotweed Stand (JK3):**

This is to the second part of the dividing bund that again runs south to north for a distance of 409m$^2$. The area displays a mixture of mature and peppered growth throughout, and there were also signs of recent disturbance to the face of bund.

**Japanese knotweed Stand (JK4):**

This is to the field side of the bund and is divided from this by a drainage ditch that has recently been excavated. This again shows a mixture of peppered and semi-mature growth over an area of 263m$^2$ within disturbed ground.

**Japanese knotweed Stand (JK5):**

This is a small area of semi-mature growth to the field that lies beyond JK3 and JK4 to the west. This is emerging within the grass and covers an area of 6m$^2$ and is positioned 29 metres from the central track to the field and 18 metres from the dividing hedgerow.

**Japanese knotweed Stand (JK6):**

This is to an area of disturbed ground that is within the maintenance waste and burning area. This appears to have recently been disturbed with young stem material to the surface, emerging peppered growth and rhizome material over an area of 156m$^2$.

**Japanese knotweed Stand (JK7):**

This is a large mature area of Japanese knotweed that was relocated from the area of JK2 and JK3 by the land owner. This has been relocated to the fringe of the woodland and the edge of the ditch/stream. This covers an area of 709m$^2$ and appears to have been under treatment.

**Japanese knotweed Stand (JK8 – OFFSITE):**

This is an off-site area of sparse, mature knotweed growth, to the planted verge of Bursledon Road that lies to the rear of the bus stop. This is emerging beneath the trees over an area of 8m$^2$.

**Japanese knotweed Stand (JK9 – OFFSITE):**

This is another area of sparse mature growth that is situated 15 metres from JK8 to the same planted off-site area. This covers 20m$^2$ and is again emerging from beneath the trees. There is also a large amount of Ragwort to the open fields to the north of the site.

| Ref | Growth Type | JK Avg. Stem Height | Veg Composition | Proximity to Water (<12m) | Slope / Gradient | JK Visible Area |
|---|---|---|---|---|---|---|
| JK1 | Mature | 1-2.5m | JK & Other | No | Flat | 216m² |
| JK2 | Semi-Mature | <1m | JK only | Yes | Moderate | 20m² |
| JK3 | Mature | 1-2.5m | JK only | Yes | Moderate | 409m² |
| JK4 | Semi-Mature | 1-2.5m | JK only | Yes | Flat | 263m² |
| JK5 | Semi-Mature | <1m | JK & Other | No | Flat | 6m² |
| JK6 | Peppered | <1m | JK only | No | Flat | 156m² |
| JK7 | Mature | 1-2.5m | JK only | Yes | Flat | 709m² |
| JK8 | Mature | 1-2.5m | JK & Other | No | Moderate | 8m² |
| JK9 | Mature | 1-2.5m | JK & Other | No | Moderate | 20m² |

See Appendix Section 3.3.3.3 for Photographs of the Site and Japanese knotweed

Image 1: Aerial Photograph of current site layout showing knotweed distribution




**LIMITATIONS OF SURVEY**

The findings of this survey are the result of a visual inspection only and should not be taken as a guarantee that Japanese knotweed, or other types of knotweed, are not present on the site or neighbouring land. The presence of Japanese knotweed can sometimes be concealed by property owners (occupiers) or contractors deliberately or by accident by way of: Physical removal of the plants stems and crowns through grounds maintenance, vegetation clearance or site demolition or by being covered over with turf, hard standing, landscape fabric, ornamental gravel, bark mulch and so on.

### 3.3.3.3 PRE-REMEDIATION - PHOTOGRAPHS OF JAPANESE KNOTWEED

**Image 24: CAR BOOT AREA**



**Image 25: RAGWORT TO TOP FIELD**



**Image 26: AREA OF JK1**



**Image 27: AREA OF JK2 AND BUND**



**Image 28: AREA OF JK6**



**Image 29: BUND AND JK2**



**Image 30: BUND AND JK3**



**Image 31: BURSLEDON ROAD**



**Image 32: CAR BOOT AREA**



**Image 33: DISTURBED AREA TO JK3 (2)**



**Image 34: DISTURBED AREA TO JK3**



**Image 35: FIELD AND CAR BOOT TO HAMBLE LANE**



**Image 36: FIELD AND CAR BOOT TO HAMBLE LANE**



**Image 37: FIELD BEYOND BUND**



**Image 38: FIELD TO BURSLEDON RD**



**Image 39: FIELD TO HAMBLE LANE**



**Image 40: GATES TO HAMBLEDON ROAD**



**Image 41: HAMBLE LANE**



**Image 42: JK1**



**Image 43: JK1**



**Image 44: JK2**



**Image 45: JK2**



**Image 46: JK3**



**Image 47: JK3**



**Image 48: JK3**



**Image 49: JK3**



**Image 50: JK4**



**Image 51: JK4**



**Image 52: JK5**



**Image 53: JK5**



**Image 54: JK6**



**Image 55: JK6**



**Image 56: JK6**



**Image 57: JK7**



**Image 58: JK7**



**Image 59: JK7**



**Image 60: JK8**



**Image 61: JK9**



**Image 62: TAYLOR WIMPEY PLOT**



**Image 63: TAYLOR WIMPEY PLOT**



**Image 64: TOP FIELDS (2)**



**Image 65: TOP FIELDS (3)**



**Image 66: TOP FIELDS**



**Image 67: TRACK TO WOODLAND AREA**



**Image 68: WOODLAND AREA (2)**



**Image 69: WOODLAND AREA**



## 3.4 APPENDIX 4 - REMEDIATION STRATEGIES

We can undertake the following methods of knotweed remediation to resolve a problem that, if handled the wrong way, can end up being a long term problem for the developer and land owner:

### 3.4.1 Dig and Dump

Our dig and dump programme provides an instant, hassle free and impressive rectification method. The Japanese knotweed is fully excavated to remove all material (all rhizomes). The excavation process is monitored by our site supervisors who not only ensure that all the knotweed is removed (via visual identification), but that only soils contaminated with knotweed are removed (i.e. we only excavate what needs to be excavated we don't excavate a blind 7m past the knotweed growth and to a set 3m depth, where it's not necessary). All knotweed material and knotweed contaminated arising from these works is removed from site as controlled waste. This requires removal via registered waste carriers to a landfill site fully licensed to receive and dispose of Japanese knotweed. There will be a full waste tracking record on completion.

| | |
|---|---|
| • No restrictions left on site<br>• Work can continue immediately after removal | • Can be more expensive than other on-site sustainable solutions |

### 3.4.2 Dig and Cap

As with the Dig and Dump method, the knotweed is accurately excavated, but only down to a depth required by the development or end use of the site. On a development site this will often mean excavation of the knotweed to construction formation levels only. The excavated knotweed and knotweed contaminated material can either be removed from site as controlled waste or disposed/treated on site. The remaining knotweed contaminated ground (beneath the excavation depth) will then be capped off with Japanese knotweed root barrier to prevent re-emergence of the knotweed from underneath. Where necessary (i.e. if the knotweed rhizome transverse the boundary of the site, or where knotweed in neighbouring property is in close proximity to the site boundary) the root barrier is returned vertically at the site boundary.

| | |
|---|---|
| • Limited restrictions left on site<br>• Work can continue immediately after removal | • Can be more expensive than other on-site sustainable solutions |

### 3.4.3 Dig and Sift

The Japanese knotweed is excavated either fully or to a reduced level. The excavated spoil is then passed through a mechanical screener. The sifting process crushes and fragments the knotweed, reducing its regenerative power. The sifted knotweed materials can then be re-used or buried on-site. The key benefit of this procedure is that the spoil which passes through the screener will only contain very small fragments of knotweed, which have lowered regenerative power. This allows for the sifted spoil to be re-used on-site as backfill subject to local Environment Agency Officer approval! To exploit the low regenerative power of these fragments the sifted spoil is buried, subjected to engineering compaction, and covered with an approved geo-synthetic membrane prior to clean backfill being installed above. The burial depth should be suitable as to avoid the risk of accidental disturbance and prevent any small knotweed fragments from producing growth capable of breaking the compaction and reaching the surface. Alternatively, the sifted spoil can be re-used on site at finished levels to areas of Public Open Space landscaping, but some limited re-growth will be expected. The re-use area would therefore need to be subject to a monitoring and herbicide treatment programme until successive years of no-growth have been recorded. The Knotweed Management Plan (KMP) should be used to record the position of the low level burial or re-use area, with this being marked upon an as-built site drawing. This will help prevent potential future disturbance of these locations. If these works are part of a site development project the KMP should then be included in the Operations and Maintenance (O&M) Manuals.

| | |
|---|---|
| • Moderately cost effective<br>• Allows development to be undertaken whilst | • Restrictions remain on site<br>• Limits use of area above burial site |

| | |
|---|---|
| treatment takes place elsewhere on-site | • Requires a large hole to receive material |

### 3.4.4 Cell-Burial

The Japanese knotweed is excavated either fully or to a reduced level and capped. The excavated knotweed material is then buried on site in a suitable location. The knotweed material is buried so it is encapsulated in knotweed root barrier (the cell) with the top of the cell residing 2m below finished ground levels. The depth of 2m is a pre-caution against burrowing animals penetrating the cell and bringing out knotweed material. If burial of knotweed is to take place without the encapsulation or root barrier it must be done so that the knotweed resides below a depth of 5m. Where on-site burial is undertaken it is strongly advised that to prevent potential disturbance and re-infestation the burial site location is recorded, and any future owners are advised of its position (i.e. on development site the cell-burial locations should be recorded in the O&M manuals for the site manuals for the site).

| | |
|---|---|
| • Does not require a set aside area for control<br>• Work can continue immediately after burial | • Restrictions remain on site<br>• Limits use of area above burial site<br>• Requires a large hole to receive material |

### 3.4.5 Dig and Relocation

The Japanese knotweed is excavated either fully or to a reduced level, and the arising knotweed waste is relocated to another area of the site, where it can be treated with herbicide. Relocation is normally carried out by loading the knotweed to dump trucks and transporting over site on a controlled haul route to a designated location. At the relocation point the knotweed is either; Stockpiled, Bunded or resides at ground level via a Cut and Fill procedure. The Cut and Fill procedure has the benefit of not producing a bund or stockpile of knotweed on site, and it provides back fill to the void created by the excavation of the Japanese knotweed.

| | |
|---|---|
| • Cost effective<br>• Allows development works to be undertaken whilst treatment takes place elsewhere on-site | • Requires undisturbed area<br>• Soil from stockpile must remain on site<br>• Restrictions remain in stockpile area |

### 3.4.6 Watching Brief (Supervision)

To guard against accidental spread of knotweed material, a 7m exclusion zone called a rhizome spread zone (RSZ) fencing will be erected around the visible knotweed growth area. Watching brief (site supervisor) will be provided to oversee others in undertaking site clearance/demolition/construction works within the RSZ to ensure knotweed contamination is not spread from the area. Arising from within the RSZ which is found to be contaminated with Japanese knotweed will either be; disposed of on-site (burial/relocation), removed from site (to landfill) or temporarily stockpiled and then returned to area on completion of works. Root Barriers can be introduced to cap or separate knotweed contaminated ground from clean or imported clean ground or to protect new services/structures/hard-standing. Watching brief (site Supervisor) will ensure that all personnel and machine are properly decontaminated before leaving the RSZ area. During and/or post completion of the development works any knotweed remaining on-site (original position or relocation area) should be treated under a herbicide application programme to control the plant, and aim at achieving eradication.

### 3.4.7 Root Barrier Control

Where knotweed exists either on-site or off-site and is to remain in-situ its spread can be controlled by the insertion of vertical root barrier. Knotweed root barrier can deflect knotweed rhizome growth and prevent the spread of the plant under the ground. These root barriers can be inserted to protect structures and services and have a life span of at least 50 years. Where knotweed exists off-site in close proximity to the site the insertion of root barrier to the boundary can help protect the site from rhizome encroachment. This control should always be backed up by a herbicide treatment programme wherever possible.

### 3.4.8 Herbicide Treatment Programme

Often the most cost effective treatment and control method is a Herbicide Treatment Programme. This requires methodical and carefully managed visits with correct use of chemical over a sustained period of time (2-5 years).

It should be noted that Japanese knotweed can take many years to eradicate via chemical application. Chemically induced eradication does not mean removal of the plants underground rhizome system. This will remain often in a dormant but viable state and could re-grow if disturbed.

The above is an important note for developers as the Environment Agency recognise the limitations of herbicide control and class the ground which contains knotweed treated or dead (even after a knotweed specialist has deemed the knotweed as eradicated under chemical treatment) to be classed as controlled waste if removed from site. This is the same classification that is given to viable living knotweed material and ground contaminated with untreated alive knotweed.

More often than not, if developing a site, you will need to adopt one of the instant remediation methods.

| | |
|---|---|
| • **Cost effective**<br>• **Treatment can be carried out in situ without risk of spreading plant further** | • **Takes 2-5 years**<br>• **Must be left undisturbed**<br>• **Restrictions remain on site**<br>• **Restricted use near valuable vegetation and waterways** |

## 3.5 APPENDIX 5 - THREATS TO SITE MANAGEMENT OBJECTIVES

A strategy for managing and/or removing the knotweed problem is required to allow the proposed site development/management objectives to be implemented without compromise of potential property and legal risks caused by Japanese knotweed.

***By NOT implementing our recommended remedial strategies (as detailed in section 3 of this report) you may be presented with the following complications and associated costs:***

### 3.5.1 JAPANESE KNOTWEED IMPACT ON DEVELOPMENT OBJECTIVES

SITE VEGETATION STRIP/CLEARANCE

During vegetation clearance disturbance of the knotweed can occur resulting in the translocation of knotweed material to other areas of the site or even unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

DEMOLITION

During demolition disturbance of the knotweed can occur resulting in the translocation of knotweed material to other areas of the site or even unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

FORMATION LEVEL EXCAVATIONS

Ground work excavation to reach construction formations levels (if site levels are to remain the same or be reduced) may encounter ground contaminated with knotweed rhizome. This can result in the translocation of knotweed material presenting structural risk and/or unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

BUILDING FOUNDATION EXCAVATIONS

Ground work excavation for proposed building foundations may encounter ground contaminated with knotweed rhizome. This can result in un-controlled or un-treated knotweed rhizome remaining under

building footprints (i.e. in ground underneath suspended Block and Beam floors) presenting a structural risks and/or unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

MATERIAL MOVEMENTS AND WASTE

The development project may necessitate the removal of material from site and/or the importation of soil material onto the site. It is imperative that all necessary steps are taken to ensure these materials are free of knotweed.

### 3.5.2 IMPACTS ON PROPOSED END USE

STRUCTURAL RISK

Japanese knotweed rhizome and crown growth has the potential to cause damage to services, structures and hard standing.

PLOT SALEABILITY

Japanese knotweed is a recognised property risk and will be flagged up on building surveys as part of the conveyance process. Where knotweed has been identified it can prevent lending agreements (i.e. on new residential development site this can stop sales of completed units!).

CONTAMINATION

Un-managed Japanese knotweed growth can be disturbed by site maintenance activities such as grounds maintenance. This can quickly translocate material to other areas of the site and spread and worsen an infestation and associated risks.

### 3.5.3 RE-INFESTATION

Any presence of knotweed off-site can present the likely potential for re-infestation of the site across site boundaries.

## 3.6 APPENDIX 6 - CONTACT INFO

| | |
|---|---|
| **Specialist Knotweed Contractor:** | **Japanese Knotweed Ltd** |
| **Email:** | **info@knotweed.co.uk** |
| **Website:** | **www.japaneseknotweed.co.uk** |

### LONDON

Room 8, Television House
269 Field End Road
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HA4 9XA

T 0203 463 2349
E london@knotweed.co.uk

### MANCHESTER

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Carrington Business Park
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M31 4DD

T 0161 393 6029
E manchester@knotweed.co.uk

### SOUTHAMPTON (HQ)

Unit 7 Belbins Business Park
Cupernham Lane
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SO51 7JF

T 01794 330 196
E southampton@knotweed.co.uk

### LINCOLN

Lavender House
South View Lane
South Cockerington
Lincolnshire
LN11 7ED

T 01522 305 616
E lincoln@knotweed.co.uk

### MERTHYR TYDFIL

10 Bethlehem Houses
Blaenant Road, Nantyglo
Ebbw Vale
Gwent
NP23 4PQ

T 01685 709 399
E southwales@knotweed.co.uk

### BRIGHTON

Hawthorns
Picketty Corner
Coolham Road, Thakeham
Sussex
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T 01903 252 084
E info@knotweed.co.uk

### GLASGOW

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2nd Floor
48 West George Street
Glasgow
G2 1BP

T 0141 375 7119
E glasgow@knotweed.co.uk

# 3.7 APPENDIX 7 - EXPERIENCE and QUALIFICATIONS

## 3.7.1 TRADE AFFILIATION: PROPERTY CARE ASSOCIATION – INVASIVE WEED CONTROL GROUP

Japanese Knotweed Ltd is an affiliated member of the Property Care Association (PCA) Invasive Weed Control Group (IWCG). Why was there a need for the PCA IWCG:

- National bodies such as the Royal Institute of Chartered Surveyors (RICS) and the Council of Mortgage Lenders needed to be able to refer customers to trusted/regulated invasive weed contractors.
- RICS selected PCA as a recognised professional trade association capable of hosting a trade body for the invasive weed industry.
- PCA are an independent association not run by other invasive weed industry contractors.
- PCA IWCG members have undergone a rigorous pre-qualification criteria to become affiliated
- Membership criteria set and established democratically by those who worked with the PCA to establish the group. These are publicly available and can be seen and reviewed by anyone – including clients.
- PCA IWCG members will undertake professional trustworthy site surveys and investigations delivering peace of mind through detailed investigation and correct diagnosis.
- PCA IWCG members provide these services with trained, experienced, vetted and qualified surveyors and inspectors.
- PCA IWCG members are able to complete highly specialised remediation treatments, effectively, efficiently and safely, using skilled experienced site operatives
- PCA IWCG members continue to be the only companies in the invasive weed industry that can provide consumers with access to Financial Conduct Authority (FCA) approved insurance products. These products include insured guarantees, insurance against structural defects caused by a reoccurrence of Japanese knotweed and protection for money paid in advance. These highly cost effective products continue to be developed to meet the needs of industry.
- The adoption of Codes of Ethics and Codes of Practice that are enforced by the members of the Association by a fully employed Executive.
- The establishment of a published disciplinary process that is used to ensure members who fail to meet standards can be disciplined or removed from the Association.
- An independent audited complaints management and mediation service designed to assist clients.
- The creation of operating standards that exceeds the Governments TrustMark standards, confirmed with annual audits. As such, all PCA contractor members automatically become accredited by the TrustMark scheme.
- PCA is ISO 9001 accredited to ensure published operating standards are maintained.
- PCA provides support services to members that include Health and Safety, Human Resources etc.

## 3.7.2 QUALIFICATIONS

All our staff are fully trained to undertake their works. We have a 100% CSCS policy for all staff involved with the management and undertaking of operational works on construction sites. All team leaders (Site Foreman) working on construction sites are SSSTS qualified and all plant operators have the applicable CPCS qualification. All operational staff that undertake herbicide application works have the statutory NPTC PA1 and PA6 license (and PA6 AW for those spraying on or near water). A majority of our technical staff have also now completed the PCA Technician Training course.

### 3.7.3 OUR AFFILIATIONS

**PCA** - Japanese Knotweed Ltd are members of the Property Care Association (PCA) Invasive Weed Group. Accreditation to this scheme demonstrates our professionalism in the industry of invasive weed management, treatment and removal.



**Trust Mark -** Is a government endorsed scheme where you can be sure that affiliated contractors have been vetted and approved to supply the highest quality of service delivery.

**CHAS** - Japanese Knotweed Ltd are registered contractors to the CHAS Government backed and SSIP Health and Safety scheme. Accreditation to this scheme demonstrates our proficiency to Public, Company, Employer and Employee Health and Safety.



**SAFE CONTRACTOR -** Japanese Knotweed Ltd are registered contractors to the SAFE CONTRACTOR, SSIP Health and Safety scheme. Accreditation to this scheme demonstrates our proficiency to Public, Company, Employer and Employee Health and Safety.



**BUILDERS PROFILE** - Japanese Knotweed Ltd are registered and approved suppliers on the BUILDERS PROFILE Supply Chain Management Assessment Scheme used by companies such as Balfour Beatty and Wates Group.



**RISQS** - Japanese Knotweed Ltd is a certified supplier on Achilles RISQS; recognised as best practise in qualifying suppliers for working on rail contracts. This scheme is governed by RISQS (Rail Industry Supplier Qualification Scheme)



**CONSTRUCTIONLINE** - Japanese Knotweed Ltd are registered and approved suppliers on CONSTRUCTIONLINE used by companies to ensure that contractors are health and safety vetted and proven in the industry they operate in.



### 3.7.4 TRUSTPILOT




We collect customer reviews through a third party company called Trustpilot. To see our customer reviews please click here:

https://www.trustpilot.co.uk/review/www.japaneseknotweed.co.uk

### 3.7.5 HEALTH and SAFETY

POLICY

All Japanese Knotweed Ltd staff are provided with the full Company Health and Safety Policy on joining the company. This is re-issued if amendments are made.

CSCS

Our operational staff are 100% CSCS qualified. All staff who operate machine also have CPCS qualification. Our site supervisors are SSSTS qualified.

RISK ASSESSMENTS and METHOD STATEMENT

Japanese Knotweed Ltd will produce a Risk Assessment following an assessment of the risks involved in carrying out the work.

A Japanese Knotweed Ltd Method Statement and Risk Assessment (MS/RA) document will include emergency procedures and the location of all emergency medical equipment.

The operative will fully review the MS/RA document before works and carry a copy on their persons during operations. If more than operative is on-site or other contractors are involved in the work the Lead Foreman (or appropriate appointed persons) will hold a tool box talk with all persons to ensure the MS/RA document is discussed and understood prior to commencement of works.

SITE PROCEDURES

Japanese Knotweed Ltd staff will be safety inducted. Safety induction training may be given by the client.

All operations will comply with the Property Care Association (PCA) (2014) Code of Practice for the management of Japanese knotweed, (V2.7) as well as the following legislation (where appropriate):

- Wildlife and Countryside Act (as amended) 1981
- Environmental Protection Act (as amended) 1990
- Environmental Protection (Duty of Care) Regulations 1991
- Food and Environment Protection Act (FEPA) Part III 1985
- Control of Pesticides Regulations (as amended) 1986
- Plant Protection Products Regulations 2005

- Plant Protection Products (Basic Conditions) Regulations 1997
- Health and Safety at Work Act 1974
- Control of Substances Hazardous to Health Regulations (COSHH) 2002
- Personal Protective Equipment at Work Regulations 1992
- Manual Handling Operations Regulations 1992
- Construction (Design and Management) Regulations 2007
- Provision and use of Work Equipment Regulations (PUWER) 1998

Welfare arrangements / First Aid will be provided by site personnel.

### 3.7.6 BEST WORKING PRACTICES and CODE OF PRACTICE

PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7)

Japanese Knotweed Ltd is stringent in ensuring we are working in accordance to the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7) at all times!

BASIS APPROVED HERBICIDES

Japanese Knotweed Ltd ensure that we are always using BASIS (Rigby Taylor used as regular advisor) approved herbicides for application in the treatment of Japanese knotweed.

### 3.7.7 WORKING IN ACCORDANCE TO CURRENT LEGISLATION

THE WILDLIFE AND COUNTRYSIDE ACT 1981

Japanese knotweed Ltd advise our clients and help them ensure they do not contravene The Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985 controls the spread of Japanese knotweed into wild habitats. Part I (WILDLIFE – Miscellaneous), Section 14, Clause 2. All our works are carried out in accordance the E.A. The Knotweed Code of Practice to ensure that we do not contravene this legislation in our activities.

ENVIRONMENTAL PROTECTION ACT 1981

Japanese Knotweed Ltd handle and dispose of Controlled Waste (also 'Contaminated Non-Hazardous' and 'Hazardous') waste in accordance to the Environmental Protection Act 1990

ENVIRONMENTAL PROTECTION (DUTY OF CARE) REGULATIONS 1991

Japanese Knotweed Ltd handle and dispose of Controlled Waste (also 'Contaminated Non-Hazardous' and 'Hazardous') waste in accordance to the Duty of Care Regulations 1991.

ANTI-SOCIAL BEHAVIOUR, CRIME AND POLICING ACT 2014

Guidance (Home Office 2014) has recently been released by the Home Office providing information on the reformed Anti-social Behaviour, Crime and Policing Act 2014. The guidance note provides information on how best to proceed if a neighbour is unwilling to control Japanese Knotweed (or other invasive species) on their property, i.e. they will not treat it with herbicide or remove it by excavation. The updated legislation means that if a neighbour 'fails to act' regarding controlling, or preventing the growth of Japanese knotweed (or other plants that are capable of causing serious problems to communities), then a Community Protection Notice can be issued requiring action to be taken. Breach of any requirement of a Community Protection Notice, without reasonable excuse, would be a criminal offence, subject to a fixed penalty notice (which attracts a penalty of £100) or prosecution. On summary conviction, an individual would be liable to a level 4 fine (£2,500). An organisation, such as a company, is liable to a fine not exceeding £20,000.

### 3.7.8 OUR INSURANCE

EMPLOYERS LIABILITY INSURANCE

Japanese Knotweed Ltd holds Employers Liability Insurance

Limit of Indemnity: £10,000,000

PUBLIC AND PRODUCT LIABILITY INSURANCE

Japanese Knotweed Ltd holds Public and Product Liability Insurance

Limit of Indemnity: £10,000,000

PROFESSIONAL INDEMNITY INSURANCE

Japanese Knotweed Ltd holds Professional Indemnity Insurance, which has been checked to ensure it covers advice given on Japanese knotweed.

Limit of Indemnity: £1,000,000

HIRE IN PLANT

Japanese Knotweed Ltd holds Hired-In Plant Liability Insurance.

Limit of Indemnity: £100,000

## 3.8 APPENDIX 8 - REFERENCES

Property Care Association (PCA) (2014) Code of practice for the management of Japanese knotweed, (V2.7).

RICS (2012) Japanese knotweed and residential property. RICS Information Paper IP 27/2012. RICS.

Home Office (2014) Reform of anti-social behaviour powers Japanese knotweed and other invasive non-native plants. Home Office.

Environment Agency and Cornwall County Council (2001) Japanese knotweed. Guidance for householders and landowners. Cornwall County Council.

Child, L.E. and Wade, P.M. (2000) The Japanese Knotweed Manual. Packard Publishing Limited, Chichester. ISBN 1 85341 127 2.

Welsh Development Agency (1998) The control of Japanese knotweed in construction and landscape contracts: Model specification. Former Welsh Development Agency, now part of the Welsh Assembly Government.

# Elcot Environmental Controlled Waste Acceptance Note.

## *("Knotweed Material - for Incineration")*

Disposal Site Information

| | | | |
|---|---|---|---|
| Name :- | *Elcot Environmental* | Acceptance Ticket No | 1423 |
| Address:- | *Kingsdown Lane,*<br>*Blunsdon*<br>*Swindon SN25 5DL* | | |



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| E.A. - Exempt Waste Operation No: U4 - 2.1.1 | | | | | | WEX 080689 | |
| Waste Description:- | *Knotweed material for incineration* | | | | | | |
| EU Waste Code - (If known) | 0 | 2 | 0 | 1 | 0 | 3 | |
| How is the waste contained:- | Loose | | Skip Bags | 4.2.00 | 1t Bags | | |
| | | | Other | | | | |

| | | |
|---|---|---|
| What is the quantity of waste? | 950kgs | Weight/Volume |

Producer/Customer Information

| | | | |
|---|---|---|---|
| Full Name: | Elcot Environmental for | SIC Code: | 38.21 |
| Address:- | Bursledon Car Boot Sale & Market | Waste Transfer Note Number: | C1893 |
| | Southampton | Vehicle Registration Number: | OV65 JXO |
| | SO31 8ZX | Registered Waste Carrier No: | CBDU54905 |

| | | | |
|---|---|---|---|
| Transfer Information | | | |
| Transfer Date:- | 14.07.17 | Transfer Time:- | 13.00pm |

Signatures

| Drivers Signature | For Elcot Environmental |
|---|---|
| [redacted] | [redacted] |
| Full Name:- G Turner | Full Name: G Udal |
| Date:- 14.07.17 | Date. 14.07.17 |

GREENSPAN PROJECTS design | build

After Dig Report for control of Japanese Knotweed for

EASTLEIGH BOROUGH COUNCIL

at

# Bursledon Country Park

# Hamble Lane, Southampton, SO31 8GN

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# After Dig Handover

The following areas should be treated as containing knotweed (controlled waste) on site:-

JK AREAS 1, 2, 3, 4, 5, 6, 8 + 9

off site and boundary margin:-

Location and extent, including safe working margin of these areas are :-

Marked up on drawing or sketch ☑ with dimensions ☐

| | |
|---|---|
| Wooden pegs | ☐ |
| Steel road pins and plastic mesh | ☐ |
| Post and wire | ☐ |
| Heras type fence | ☐ |
| Warning signs | ☐ |
| Warning tape | ☐ |

On site burial areas of processed material have been identified by:-

Marked up drawing or sketch ☑ with position dimensions and depth to top of material ☑

With datum points or lines ☐

Height above sea level ☐

1.5M FROM CURRENT LEVEL OFF CAP

Provided by:

Elcot Supervisor ☑

Client Engineer ☐

Datum's are based on information supplied by:-

Drawing number _____ Or GPS ☐

Produced by: _____

Issued by: _____ These details attached ☐

The site having a history of the following knotweed management:-

Initial and follow up herbicide treatment ☑

Dig / Sift ☑

Monitoring ☑

Sifted bagged knotweed has been taken off site to SN25 5DL using Waste Carriers License No. CBDN013WZ for Incineration under an exemption from Waste Management Licensing - **(Registration Ref EPR/UE9537JN/A001)**

All as set out in the proposed and approved KMP. ☑

This site, apart from areas identified above, can now be developed as a site free of the risk of knotweed contamination, but with the best practice, which includes provision of further monitoring and the implementation of any other management controls proposed for specific residual risks identified in Elcot Environmental site survey report and management plan.

*(Refer to Contractors Duty of Care Responsibility Sheet - attached)* ☑

| Elcot Environmental | | Client | |
|---|---|---|---|
| Signed: | [redacted] | Signed: | |
| Printed: | A. TURNER | Printed: | |
| Dated: | 14.07.17 | Dated: | |



©Elcot Environmental

## CONTRACTOR'S DUTY OF CARE RESPONSIBILITY

In engaging Greenspan Projects to provide a Knotweed Management Plan (KMP), your company has identified and accepted the need to provide duty of care in managing knotweed issues to minimize costs and avoid risk of prosecutions leading, in the worst case, to unlimited fines and or imprisonment.
Greenspan have provided a KMP which identifies risks and provides management controls to minimize these risks and enable construction works to proceed on program.
Greenspan staff will be present on site at times and will implement and manage certain specific parts of this plan. They will also enact and record duty of care provisions.
However, Greenspan cannot and do not accept responsibility to control actions of others on site (other than persons who are employed by Greenspan or directly and specifically under the direction of Greenspan management at the time).
It is the responsibility of the Greenspan client to understand, follow and to ensure that all others present on site understand and follow control measures to maintain best practice duty of care.
In particular to prevent the spread and loss of identification of knotweed containing material;
1. Areas which have been identified as containing or suspected of containing

Knotweed should not be;
- Used to store materials.
- Driven over.
- Dug into.

2. Areas in which Greenspan have buried processed material should not be excavated into, closer than 500mm above top of processed material.
To assist the implementation of these controls Greenspan have provided information to identify these areas as set out in the attached documents. It is the contractor's responsibility to maintain and if necessary improve fencing or other demarcation lines.
Should the following occur;
- A breach of control such as points 1 & 2 above, but not limited to these.
- Alteration to proposals that would imply the likelihood of a breach.
- Any person believes knotweed is discovered elsewhere on site.

**It is essential to inform Greenspan by phone (02380476737), or email (peterm@greenspanltd.com) and where relevant include photos and as much other concise information as is available. If this is done, Greenspan will provide a remedy for any breach of controls to ensure the maintenance of any contractual warranties.**
Failure to inform Greenspan or to implement remedies may;
- Void Greenspan contractual warranties.
- Increase cost of further remedies.
- Incur risk of prosecution for failing to provide duty of care.

## Remember, we are here for your benefit.
## Help us to help you.

# Dig Control

| | | | |
|---|---|---|---|
| Client | EBC/GREENSPAN | | |
| Site | LAND OFF HAMBLE LANE SOUTHAMPTON | Job No: | C1893 |

| Area | (A) Dig to visual extent of Knotweed & search | (B) Dig a further 100mm layer & search | (C) Dig & locate a further 200 – 300 mm & search | Arisings to | Initial | Date |
|---|---|---|---|---|---|---|
| AREA 1 | ✓ | ✓ | ✓ | DSB | GT | 14.07.17 |
| Comment JK 7 | | | | | | |
| ..... Comment | | | | | | |
| ..... Comment | | | | | | |
| ..... Comment | | | | | | |
| ..... Comment | | | | | | |

Elcot Environmental

Signed [redacted] Dated 14.07.17

Printed G. TURNER

# Site Equipment Cleaning Check List

| | | | |
|---|---|---|---|
| Client | EDC, GREENSMAN. | | |
| Site | LAND OFF HAMBLE LANE SOUTHAMPTON | Job No | C1893 |

| Vehicle Equipment No | Tracks Tyres Drums | Under/ Carriage Chassis | Footwell/ Platform | Bucket/ skip | Swing Arm | Time Checked | Date Checked | Initial |
|---|---|---|---|---|---|---|---|---|
| 13 T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 10:40 | 11.7.17 | [illegible] |
| 13 T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 14.20 | 11.7.17 | [illegible] |
| 13 T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 11.20 | 12.7.17 | [illegible] |
| 13 T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 14:45 | 12.7.17 | [illegible] |
| 13T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 07:30 | 13.7.17 | [illegible] |
| 9T DUMPER | ✓ | ✓ | ✓ | ✓ | ✓ | 07:30 | 13.7.17 | [illegible] |
| 22T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 13:50 | 14.7.17 | [illegible] |
| 22T EXC | ✓ | ✓ | ✓ | ✓ | ✓ | 13.30 | 14.7.7 | [illegible] |

Elcot Environmental

Signed [redacted] Dated 14.7.17

Printed [illegible]

# Controlled Waste Transfer Note (Knotweed Material - for Incineration)

| | | | |
|---|---|---|---|
| Client | EBC/GREENSPAN | | |
| Site | LAND OFF HAMBLE LANE S'HAMPTON | Job No: | C1893 |

**Description of Waste:-** Knotweed material for Incineration

**How is the Waste Contained:-**

| | | |
|---|---|---|
| Loose | Elcot Bags ✓ K42 | H Bags |
| Covered | Other | |

Describe:- In bags labelled for incineration - +/-10-15kg/bag

**What is the quantity of waste?** Kgs/Tonnes 9508kg | MD

**SIC Code** 38.11

**EU Waste Code** 0 2 0 1 0 3

**Waste Contractor Information** (Company collecting the Waste)

| | |
|---|---|
| Full Name:- | Elcot Environmental |
| Address:- | Kingsdown Lane, Blunsdon<br>Swindon, SN25 5DL |

**Registered Waste Carriers Certificate No:-** CB/ZN5015WZ Expiry Date:- 01.08.2017

**Disposal Site Information** (Incinerator Site or Tip/Landfill Site where waste is being taken to)

Full Name:-(Block Capitals)
Address:- Elcot Environmental
Kingsdown Lane, Blunsdon
Swindon SN25 5DL

**Transfer Information** (Date & Time)
Transfer Date:- 14.7.17 Transfer Time:- 13.00
Vehicle Registration No:- OV65 JXO

**Elcot Environmental**

Signed [redacted] Dated 14 07 17

Printed G. TURNER


C1893 - BURSLEDON CAR BOOT SALE SO31 8GN
AS@ 14/07/17
JK1
ACCESS
JK9
JK8
JK5
JK2
JK6
JK3
JK4
JK7
LEGEND
SITE BOUNDARY
LIVE JK LOCATIONS
AREA 7 - DSG (REVERSE BUMP)
ACCESS
TESCO
TAYLOR WIMPEY PLOT









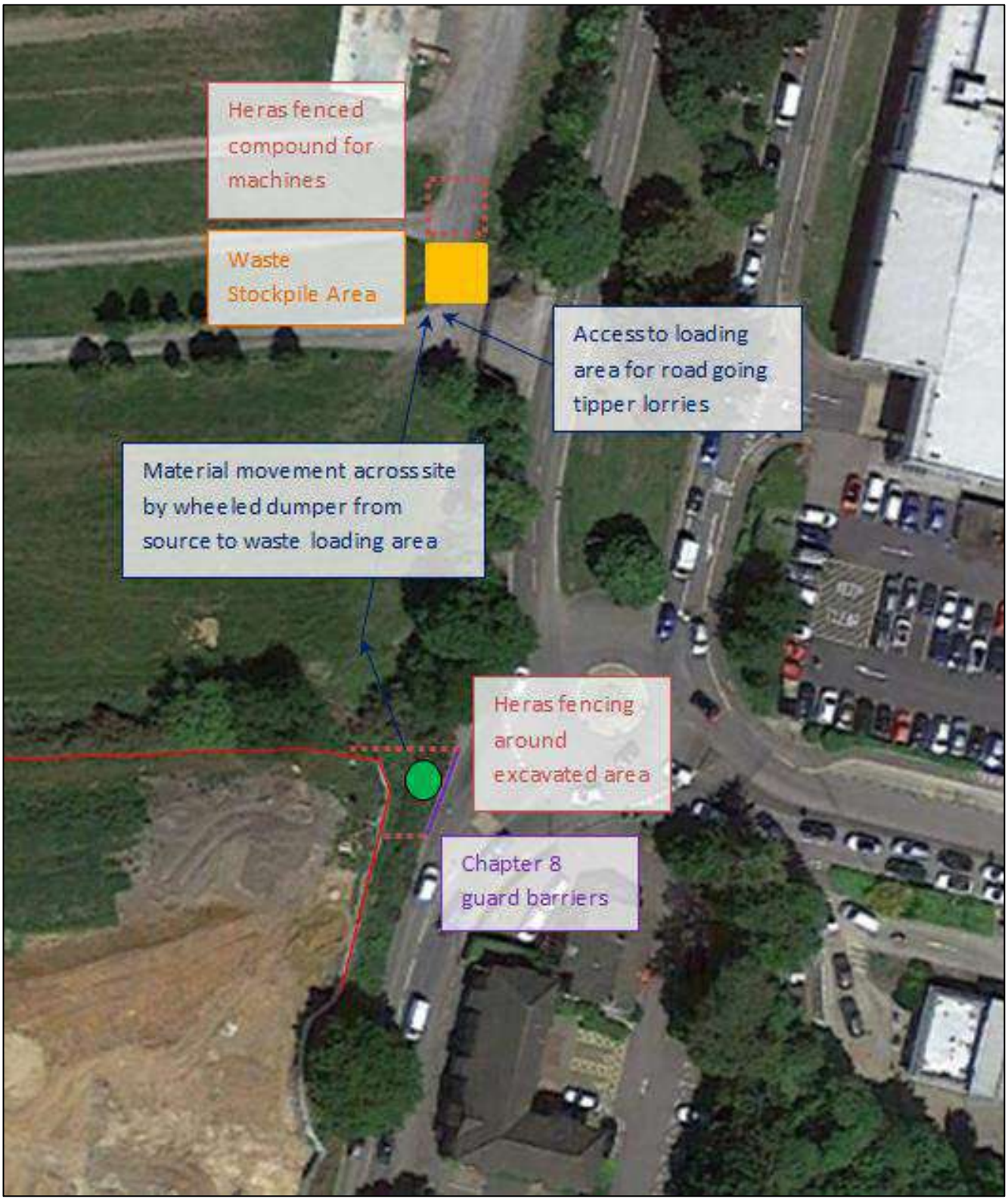






Material Movement Plan 19 February 2018

**Ref: JKLE 15994**
**Site: Hamble Lane, Bursledon, SO31 8BR**



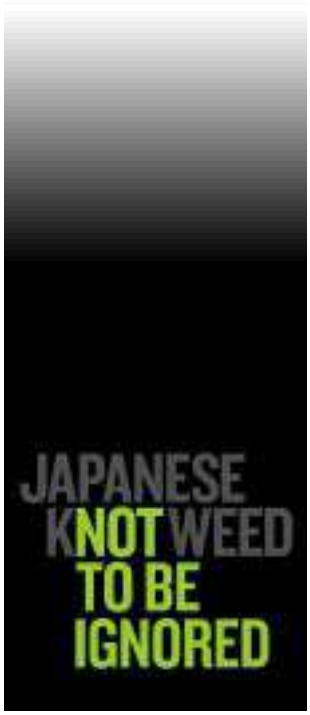
JAPANESE KNOTWEED

# KNOTWEED MANAGEMENT PLAN



## [Remediation Report]

| | |
|---|---|
| NAME OF SITE: | **Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN** |
| TENDER/PROJECT No: | **JKLE14863.1** |
| CLIENT NAME: | **Taylor Wimpey Southern Counties Ltd** |
| SPECIALIST: | **Japanese Knotweed Ltd** |
| DATE PREPARED: | **13th May 2018** |
| LAST UPDATED: | **10th August 2018** |




Environment Agency

Knotweed Management Plan drafted in accordance to the; Environment Agency 'Treatment and disposal of invasive non-native plants: RPS 178 (Nov 2016)' and 'PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7)'

www.japaneseknotweed.co.uk

LONDON – MANCHESTER – CARDIFF – SOUTHAMPTON – LINCOLN – BRIGHTON –

# DUTY OF CARE:



## JAPANESE KNOTWEED AND YOUR OBLIGATIONS

This site has been identified as containing Japanese knotweed. Japanese knotweed needs to be handled in a responsible manner to protect the environment, be socially responsible and prevent property risk.

Any works conducted to control or eradicate this invasive weed should be completed in accordance to the Environment Agency 'Treatment and disposal of invasive non-native plants: RPS 178 (Nov 2016)' and 'PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7)'

The spread of Japanese knotweed is governed under the Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985. Part I (Wildlife – Miscellaneous), Section 14, Clause 2 of the Act states: … if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence. Schedule 9 (animals and plants to which section 14 applies), Part II (Plants) lists Japanese knotweed.

The plant is not cited under any legislation that requires its presence to be notified to either DEFRA (Department for Environment Food and Rural Affairs) or local planning authorities, and neither is it listed under The Weeds Act of 1959.

Under the Environmental Protection Act 1990, Duty of Care Regulations 1991, Japanese knotweed material and those material contaminated with Japanese knotweed must be removed to a licensed landfill site for disposal, accompanied by appropriate Waste Transfer documentation.

## A PLAN OF ACTION

The Environment Agency advocate the use of 'Knotweed Management Plans' (KMP) where ever possible on development sites where Japanese knotweed is present. Our KMP's are drafted in accordance to the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7).

The KMP records Remedial Activities, Objectives and Evaluations. It stores recordable documents such as: Photos, Pesticide Application Records (PAR), Waste Transfer Notes (WTN) and Landfill Weighbridge Tickets (WBT).

An active or completed KMP should be included with
a development sites Operation and Maintenance manual.

# KNOTWEED MANAGEMENT PLAN

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# 1 INTRODUCTION

## 1.1 CONTACTS

### 1.1.1 JAPANESE KNOTWEED SPECIALIST DETAILS

| | |
|---|---|
| NAME: | **Japanese Knotweed Ltd** |
| ADDRESS: | **Unit 7 Belbins Business Park, Cupernham Lane, Romsey, Southampton, SO51 7JF** |
| TEL: | **0333 2414 413** |
| WEBSITE: | **www.japaneseknotweed.co.uk** |
| | Estimating Manager – Phil Batten: phil@knotweed.co.uk - 0333 2414 413 Option 1 + 1 |
| | Excavations Operations Manager - Andy Hillier: andy@knotweed.co.uk - 0333 2414 413 Option 4 |
| | Herbicide & Guarantees Operations Manager - Carol Caldwell: carol@knotweed.co.uk - 0333 2414 413 Option 3 |

#### 1.1.1.1 QUALIFICATIONS

Japanese Knotweed Ltd is a specialist knotweed contractor working throughout England, Wales and Scotland for Commercial and Private Clients. They are an affiliated member of the Property Care Association's (PCA), Invasive Weed Control Group (IWCG).

All our staff are fully trained to undertake their works - we have a 100% CSCS policy for all staff involved with the management and undertaking of operational works on construction sites.

All team leaders (Site Foreman) working on construction sites are SSSTS qualified, and all plant operators have the applicable CPCS qualification.

All operational staff that undertake herbicide application works have the statutory NPTC PA1 and PA6 license (and PA6 AW for those spraying on or near water). Our technical staff have also completed the PCA Technician Training course.

### 1.1.2 CLIENT DETAILS

| | |
|---|---|
| NAME: | **Taylor Wimpey Southern Counties Ltd** |
| ADDRESS: | **Colvedene Court, Wessex Business Park, Colden Common, Hampshire, SO21 1WP** |
| CONTACT: | **Darren Kennett** |
| TEL: | **01962 676774 \| 07921 070096** |
| EMAIL: | **darren.kennett@taylorwimpey.com** |

## 1.2 PLAN OVERVIEW

### 1.2.1 FULL SITE ADDRESS

**Land South of Bursledon Road**
**Bursledon**
**Southampton**
**Hampshire**
**SO31 8GN**

### 1.2.2 DESCRIPTION OF MANAGEMENT PLAN

The management plan should be implemented to control the spread of Japanese knotweed on and out from the site. The plan details the problem and the remedial and management works implemented.

The Plan should be overseen by the Site Manager, and in his absence, his deputy. The Plan, its appendices and revisions shall be kept for future site owners.

The Management Plan should be read in conjunction with the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7) and Environment Agency 'Treatment and disposal of invasive non-native plants: RPS 178 (Nov 2016)'.

### 1.2.3 PREVENTING FURTHER SPREAD

Where possible all areas affected by Japanese knotweed should be fenced off and isolated from any activities on site immediately to avoid potential knotweed spread. The fencing should be erected at least 7 metres away from any visible knotweed growth to protect rhizomes close to the surface from disturbance (*see PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7) and Environment Agency 'Treatment and disposal of invasive non-native plants: RPS 178 (Nov 2016)'.*

No material is to leave site from the knotweed areas, except as part of specially supervised knotweed treatment works. No new materials should be stored in or adjacent to Japanese knotweed areas.

Where there is a high risk of knotweed infestation from neighbouring land, contact the landowner and agree on a co-ordinated treatment programme.

# 2 PRE-REMEDIATION SURVEY

## 2.1.1 DESCRIPTION OF THE SITE

The site consists of a large area of land that has been used as car boot and market area along with open maintained field areas to the west of the site. The north boundary meets Bursledon Road with Hamble Lane and the Tesco store to the east. The southern boundary meets the consented Taylor Wimpey housing development.

The car boot and market area, with access from Hamble Lane, consists of maintained grass areas that are divided in sections by hard surface tracks. These connect to various access points to both Hamble Lane and Bursledon Road.

The boundaries of the site are defined with both fencing and hedging, with further hedgerows that run across the site, that divide it in to sections.

The original owners have now vacated the site and Taylor Wimpey has erected Heras fencing along the main access track and the site boundaries. Vegetation clearance has been undertaken to a section of the north site boundary, adjacent to JK8. Minor drainage works have also been started to the south boundary where this meets the Taylor Wimpey site that is being built.

See Appendix Report Section 5.2.1 for Image of site layout

## 2.1.2 DISTRIBUTION OF JAPANESE KNOTWEED

| | |
|---|---|
| Date of Survey: | **03/05/18** |

A thorough walk over of the site was undertaken to identify the presence, locations and extent of Japanese knotweed growth.

The survey was undertaken in accordance with current good practice published by the Royal Institute of Chartered Surveyors (RICS, 2012) and the Property Care Association (PCA, 2014).

The areas of Japanese knotweed identified are detailed below:

The whole site, including the area for the proposed country park and the area for the proposed new housing development, was originally surveyed as one site in 2014 on reference JKLE14863. The following knotweed stand details incorporate information from the previous and recent surveys

The site inspection and survey included all areas of the site that included the open fields, woodland, hedgerows, adjoining boundaries and the car boot and market areas.

**Japanese knotweed stand JK1:** Stand JK1 is a large mature area of growth that is situated along the shared boundary with Bursledon Road. The knotweed is emerging from beneath the boundary planting in a bund and to the edge of the maintained field and the knotweed has spread laterally off site and in to the planting. The area shows obvious signs of treatment, which consist of dead stem material and minor new growth.

**Japanese knotweed stand JK2:** Stand JK2 is located in a bund area that divides a small field from the main car boot area. Healthy new season knotweed material can be seen on the bund.

**Japanese knotweed stand JK3:** Stand JK3 is located in second part of the dividing bund that again runs south to north. The area displays a mixture of mature and peppered growth throughout. Herbicide treatment has had an effect on the original growth, but new season material was seen within the area.

**Japanese knotweed stand JK4:** Stand JK4 is to the field side of the bund and is divided from the field by a drainage ditch. This knotweed stand again shows a mixture of peppered and semi-mature growth. Herbicide treatment has had an effect on the original growth, but new season material was seen within the area.

**Japanese knotweed stand JK5:** Stand JK5 was a small area of semi-mature growth in the field that lies beyond JK3 and JK4 to the west. The knotweed area showed no visible, aerial growth or dead stem material.

**Japanese knotweed stand JK6:** Stand JK6 is an area of disturbed ground that is within the maintenance waste and burning area. This area appears to have recently been disturbed.

**Japanese knotweed stand JK7 (Offsite):** Stand JK7 was a large mature area of Japanese knotweed that was remediated by others. The knotweed is no longer visible with only bare soil being visible in the area and no aerial growth was identified.

**Japanese knotweed stand JK8 (Offsite):** Stand JK8 is an off-site area of sparse, mature knotweed growth, in the planted verge of Bursledon Road to the rear of the bus stop. The knotweed area has been disturbed by recent vegetation clearance along the north boundary and is now over a greater area which displays new growth.

**Japanese knotweed stand JK9 (Offsite):** Stand JK9 is another area of sparse mature knotweed growth in the planted verge of Bursledon Road. The area displays dead stem material with no apparent new growth within the planted area.

| Ref | Growth Type | JK Avg. Stem Height | Veg Composition | Proximity to Water (<12m) | Slope / Gradient | JK Visible Area |
|---|---|---|---|---|---|---|
| **JK1** | Mature | <1m | JK & Other | No | Moderate | 216.2 $m^2$ |
| **JK2** | Mature | <1m | JK Only | No | Moderate | 19.8 $m^2$ |
| **JK3** | Mature | <1m | JK Only | No | Moderate | 408.9 $m^2$ |
| **JK4** | Mature | <1m | JK Only | No | Moderate | 263.0 $m^2$ |
| **JK5** | No Found | Not Found | Not Found | No | Flat | 6.2 $m^2$ |
| **JK6** | Mature | <1m | JK Only | No | Flat | 381.2 $m^2$ |
| **JK7** | Not Found | Not Found | Not Found | Yes | Flat | 0 $m^2$ |
| **JK8** | Mature | <1m | JK & Other | No | Moderate | 33.6 $m^2$ |
| **JK9** | Mature | <1m | JK & Other | No | Moderate | 20.0 $m^2$ |

*See below for Site Plan of site showing knotweed distribution*

See Appendix Report Section 5.2.3 for Photographs of the Site and Japanese knotweed

Image 1: Aerial Photograph of proposed site layout showing knotweed distribution




**KEY**

Active Japanese knotweed growth areas, on and off site

7m Risk Zone: - Potential Japanese knotweed contaminated ground area

**LIMITATIONS OF SURVEY**

The findings of this survey are the result of a visual inspection only and should not be taken as a guarantee that Japanese knotweed, or other types of knotweed, are not present on the site or neighbouring land. The presence of Japanese knotweed can sometimes be concealed by property owners (occupiers) or contractors deliberately or by accident by way of: Physical removal of the plants stems and crowns through grounds maintenance, vegetation clearance or site demolition or by being covered over with turf, hard standing, landscape fabric, ornamental gravel, bark mulch and so on.

# 3 REMEDIATION PROPOSAL

## 3.1 EVALUATING APPROPRIATE METHODS

### 3.1.1 DESCRIPTION OF ANY PROPOSED DEVELOPMENT

The proposal is for the construction of a new public open space.

| | |
|---|---|
| Development commencement date | **To Be Advised** |
| Development completion dates *(including soft & hard landscaping)* | **To Be Advised** |

See Appendix Report Section 5.2.2 for Site Plan of Proposed development
See Appendix Report Section 5.4 for Japanese knotweed impact on development objectives

### 3.1.2 SETTING PRIORITIES

| | PRIORITY | | | |
|---|---|---|---|---|
| | **HIGH** | **MEDIUM** | **LOW** | |
| | *Removal* | *Treatment* | *Monitoring* | |
| **ACTIONS** | | | | |
| Isolation / Exclusion | **Y** | | | All Japanese knotweed areas to be isolated. Isolation zone should be to at least 7 metres laterally from any visible knotweed growth to ensure rhizomes close to surface are not disturbed. |
| Monitoring | | **Y** | | A scheme for monitoring will be agreed with the Site Manager, who will ultimately be responsible for overseeing the control of Japanese knotweed on site. |
| Management | | **Y** | | This Management Plan will be reviewed on a regular basis and in any case every 12 months from site acquisition to completion of works. |
| **KNOTWEED AREAS** | | | | |
| JK1 – JK6 | **Y** | | | **Instant eradication (Capping)** – the knotweed area is proposed for disturbance under development |
| JK8 –Jk9 | | **Y** | | **Treatment (in-situ chemical application)** – the knotweed area is not proposed for disturbance under development |
| JK1 – JK9 (Excluding JK7) | | | **Y** | **Monitoring only from site** – Knotweed located off site and not under control of our client |

### 3.1.3 METHODS OF CONTROL AND ERADICATION

The following table displays a range of Japanese knotweed remediation methods and the feasibility of being deployed in relation to this site and any development plan information we have been provided.

✅ = Recommended | Y = Feasible* | × = Not feasible

*(*Feasible but subject to further details of any proposed development plans, or specific details of the site)*

| JAPANESE KNOTWEED REMEDIATION METHOD – SITE SPECIFIC FEASIBILITY CHART | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Remediation Methods** | | **Japanese knotweed growth locations** | | | | | | | | | |
| **Treatment Type** | **Disposal Type** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **-** |
| **Full Excavation** (total lateral and vertical extent of rhizome within site) | **Off-Site in Landfill [DIG and DUMP]** | Y | Y | Y | Y | Y | Y | - | × | × | - |
| | **On-Site Sifted and Buried [DIG and SIFT]** | × | × | × | × | × | × | - | × | × | - |
| | **On-Site Buried as Cell-Burial [CELL-BURIAL]** | ✅ | ✅ | ✅ | ✅ | ✅ | ✅ | - | × | × | - |
| | **On-Site Relocated for Treatment [DIG and RELOCATE]** | × | × | × | × | × | × | - | × | × | - |
| **Reduced Level Excavation** (remaining rhizome contaminated ground is capped with root barrier) | **Cap in Situ – No \Excavation [DIG and CAP]** | Y | × | × | × | Y | Y | - | × | × | - |
| | **Excavate, Relocate & Cap [DIG and CAP]** | × | Y | Y | Y | × | × | - | × | × | - |
| | **Excavate, Relocate in Cutting & Cap [CUT, FILL and CAP]** | × | Y | Y | Y | × | × | - | × | × | - |
| | **On-Site Relocated for Treatment [DIG and RELOCATE]** | × | × | × | × | × | × | - | × | × | - |
| **Herbicide Treatment Programme*** | **In-Situ** | × | × | × | × | × | × | - | ✅ | ✅ | - |

See Appendix Report Section 5.3 for detail on our remediation methods (with 'Pros' and 'Cons' analysis)

***Question: Why is 'Herbicide Treatment' not a feasible remediation strategy where the ground in which the knotweed resides is due for disturbance under development (or any other planned ground disturbance)?***

*Answer: Herbicide application alone can ultimately render the plant unable to produce new growth (deemed as eradication), but it is unlikely to remove viability from 100% of the underground rhizome system.*

*Therefore, disturbance of ground containing herbicide treated knotweed is likely to produce re-growth (even after a successful herbicide programme, which has resulted in no recordable above ground growth).*

*This is an important note, especially for developers. The Environment Agency deem that any ground containing dead knotweed (even after a specialist has declared eradication following herbicide treatment or even sifting), is to be classified as controlled waste if removed from site. This is the same waste classification given to living healthy knotweed material and soils containing live knotweed!*

## 3.2 RECOMMENDATION FOR REMEDIATION

Japanese knotweed stand JK1 to JK6 will be fully excavated and the knotweed waste will be disposed of on site as a burial, encapsulated with root barrier membrane. The burial cell will be 1.5 metres in depth and positioned at level 2 metres below the current ground levels.

For stand JK1, a vertical root barrier will be installed along the boundary to prevent future ingress from offsite as necessary.

For the offsite knotweed stands JK 8 and JK9 we have quoted for a Herbicide Treatment Programme, which is appropriate as the areas in which the knotweed resides are not going to be disturbed by the development of the country park. We have also allowed for the provision of post and rail fencing of the knotweed areas to restrict access and prevent further spread by translocation of the plant material.

**In consideration, our appraisal of all remedial methods in relation to the site and any proposed development, we recommend the following options:**

### 3.2.1 Knotweed stands due for disturbance: JK1, 2, 3, 4, 5, 6

Our understanding of the site indicates that these knotweed areas may/will be disturbed by planned development works. This necessitates the instant removal of the knotweed contamination by way of excavation (as in-situ herbicide treatment is not applicable in these situations).

We have prepared quotes for the following methods for your perusal:

#### 3.2.1.1 Quote 2 & 3: Cell-Burial (Stands: JK1, 2, 3, 4, 5, 6)

*On site burial of Japanese knotweed provides a sustainable remediation process, which is applicable for 'Land Remediation Tax Relief' by the client.* Where there is suitable space onsite under proposed hard or soft landscaping areas (or car parks) burial of knotweed can be considered. The burial needs to be conducted so that the knotweed waste is encapsulated in root barrier forming a cell, with the top of the cell residing 2m below finished ground levels.

We will install vertical root barrier to the boundary of the site, to prevent future ingress of knotweed which is present under or beyond the boundary of the site.

### 3.2.2 Knotweed stands not due for disturbance: JK8, 9

Our understanding of the site indicates that these knotweed areas may/will not be disturbed by planned development works. This presents the option of leaving the knotweed in situ and treating it with herbicides. Treatment programmes take a minimum of 2 years and the treated area will need to be protected from disturbance which could spread the plant. It's important to note that the ground will remain contaminated with knotweed rhizome on successful completion of the treatment programme, which has a long term impact on amenity use of the area.

#### 3.2.2.1 Quote 2: Herbicide Treatment Programme (Stands: JK8, 9)

*On site treatment of Japanese knotweed provides a sustainable remediation process, which is applicable for 'Land Remediation Tax Relief' by the client.* Where there is no planned disturbance of the knotweed area and it is desirable for knotweed to be treated long term, then herbicide treatment can be considered. This is a cost effective control method, but it does not remove the knotweed contamination from the ground. The herbicide used will be a BASIS approved herbicide applied with correctly calibrated equipment using techniques proven to be effective on Japanese knotweed.

## 3.3 MANAGEMENT ACTIVITIES

We have established activities for the planned Japanese knotweed remediation. These are detailed below. Japanese Knotweed Ltd will have responsibility to monitor progress of the knotweed remedial works.

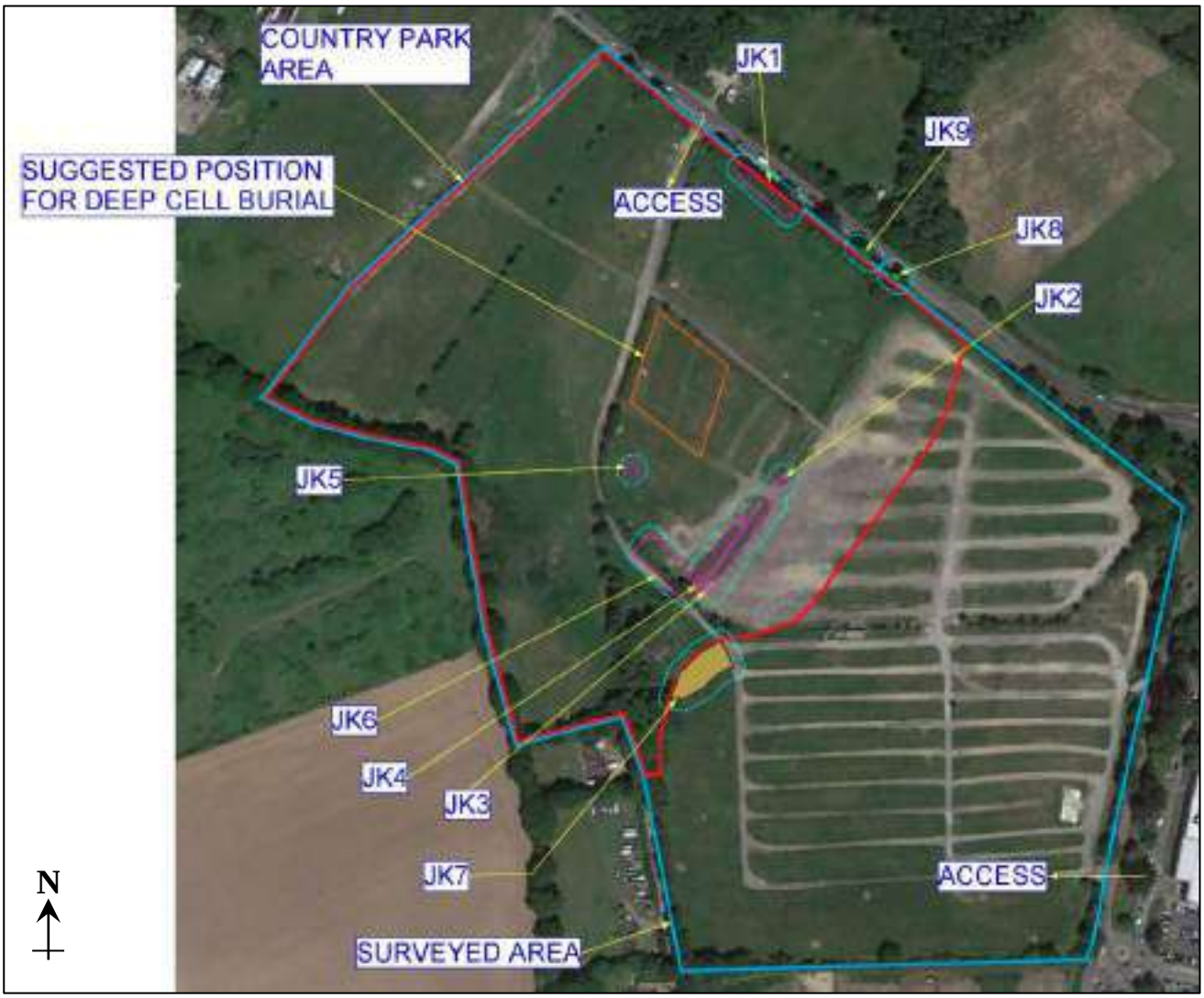
### 3.3.1 CONTROL/ERADICATION METHODS

| Knotweed Area | Description of Control Method | To Be Carried Out By: |
|---|---|---|
| JK1 –JK6 | Instant Eradication Method (Capping) | JK Ltd |
| JK8 –JK9 | Long Term Treatment (Herbicide Programme) **off-site** | JK Ltd |
| JK1 – JK9 (Excluding JK7) | Long Term Monitoring (Guarantee) | JK Ltd |

Please see below for our Proposed Site Remediation Drawing

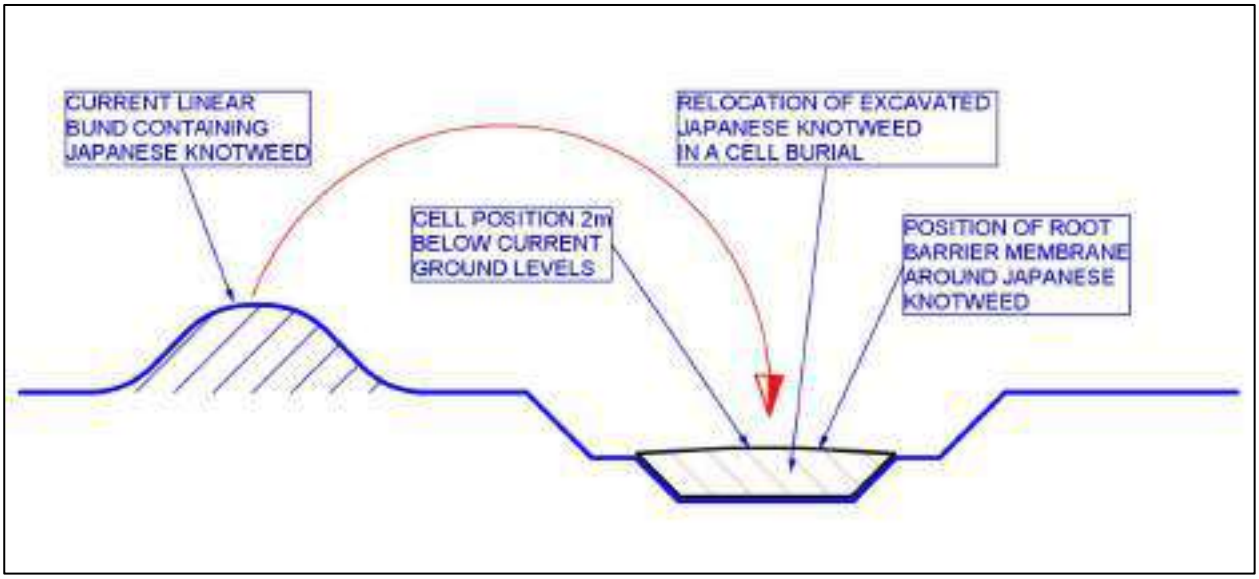
### 3.3.2 DRAWING SHOWING PROPOSED REMEDIAL WORKS

Image 2: Site Plan of proposed site layout showing remediation works




| | | | | |
|---|---|---|---|---|
| **Purple Areas** denote knotweed stand(s) to be excavated | **Green Area** denotes knotweed stands to be treated with herbicide | **Brown Area** denotes possible knotweed contaminated area | **Dotted Lines** denotes 7m knotweed risk zone | **Thick Black Lines** denote vertical root barrier to be installed |

Image 3: Schematic of proposed remediation method – Dig & Bury



# 4 REMEDIATION UNDERTAKEN

**This section of the report is used to detail any remedial works undertaken. Works records (i.e. photos and waste records if applicable) in relation to these works will be provided in the appendix.**

## 4.1 SUMMARY OF WORKS COMPLETED

*To be inserted here on completion of works*

## 4.2 METHOD OF WORKS

Please see the 'Pricing Notes and Method' footnotes on the accepted quote (Bill of Quantities), or separately supplied 'Risk Assessment and Method Statement' (RAMS) for the excavation works. For Methods in relation to herbicide works please see separately supplied 'Risk Assessment and Method Statement' (RAMS).

## 4.3 CONTROL/ERADICATION IMPLEMENTATION SCHEDULE

| Activity | Description | Not Started | Commenced (Date) | Completed (Date) |
|---|---|---|---|---|
| **1** | Installation of Root Barrier to control the spread of Japanese knotweed | **Y** | | |
| **2** | Undertake herbicide programme to treat (control) Japanese knotweed **off-site** | **Y** | | |
| **3** | Undertake Monitoring under cover of a Guarantee agreement to the site | **Y** | | |

## 4.4 DRAWING SHOWING COMPLETED REMEDIAL WORKS

Image 3: Site Plan of proposed site layout showing completed remediation works

*To be inserted here upon completion of works*

# 5 APPENDICES

## 5.1 APPENDIX 1 - GUARANTEES

### 5.1.1 COMPANY BACKED GUARANTEE

A Company Guarantee Certificate **can be** issued to the client, which ensures they will be provided a monitoring and treatment service under the terms of the Guarantee with the following liability provided:

*'On the proviso that the valued work is undertaken by Japanese Knotweed Ltd and paid for in full, and providing no actions have been undertaken by the client or any other party that breach our Terms and Conditions, Japanese Knotweed Ltd, for a period of 2-12 years, will accept liability for any work (chemical application) deemed necessary to treat any re-growth of Japanese knotweed.'*

*See Addendum to the Guarantee (page following the guarantee certificate)*

### 5.1.2 GPI - INSURANCE BACKED GUARANTEE

On the back of the Company Guarantee Certificate an Insurance Policy **can be** provided to back up the provision of the Guarantee service. As members of the Property Care Association (PCA) Invasive Weeds Group (IWG) we can provide an Insurance-Backed Guarantee (IBG) via Guaranteed Protection Insurance Ltd (GPI).

**Important Note:**

The ability to obtain insurance on our Company Backed Guarantee is subject to some criteria, which will need to be satisfied for the insurer (GPI) to issue an IBG 'Letter of Intent'. The criteria for issuing an IBG 'Letter of Intent' (to demonstrate that an insurance policy is pending) are detailed below:

1. Japanese knotweed located in neighbouring property, within 7m of the client's site/property boundary, will need to be treated by us or others with an approved programme of herbicide applications.
2. If the site is (or will be) developed, then we will require the development works start and end dates (including soft and hard landscaping)
3. If the site is (or will be) developed, then we will require the proposed development plan
4. On development sites, which will be developed into multiple properties, a single Insurance Backed Guarantee (IBG) cannot be provided to cover more than one property.
5. On multi-property development sites a separate monitoring programme will need to be instructed for each property which is to benefit from an IBG. An IBG insurance premium will need to be paid for each IBG.
6. The IBG will only apply to land which is within 7m of the surveyed Japanese knotweed area(s). On multi-property development sites, only properties which fall in or part within the 7m zone will be applicable for an IBG insurance application.

The criteria for providing a validated insurance policy are detailed below:

1. Following completion of the remedial works (treatment/excavation) the contractor (Japanese Knotweed Ltd) will need to conduct monitoring of the treatment area and record two consecutive years of no recurrence of knotweed growth. The contractor (Japanese Knotweed Ltd) can then submit a

'Certificate of Completion' to GPI Ltd (who in turn will issue a validated insurance policy to the beneficiary).

2. On construction sites the two-year monitoring period will need to follow the construction works end date.
3. The provision of, and remaining validity of, the IBG will be subject to the terms and conditions of the Guarantee.

The active policy will then cover the remainder of the Company Guarantee period.

If we go out of business at any time during the active policy guarantee period, then the policy will pay out for another PCA IWG member contractor to continue to provide the guarantee service so that the client may continue to benefit from the cover provided by that guarantee.

**Transferring benefits of the guarantee:**

The benefit of this Policy of Insurance may be passed to subsequent owners of the land in which the Defined Area is situated. Accordingly, this Policy of Insurance, along with a copy of the Contract, the Completion Certificate and the Written Guarantee should be kept in a safe place, preferably with the title documents to the land in which the Defined Area is situated.

Subsequent owners of the land should, within 30 days of acquiring title, contact the Insurer for this insurance in writing at PO Box 26332, Ayr, KA7 9BJ or by telephone during office hours on 01292 268020 in order to request that the benefit of this Policy of Insurance be transferred.

The Insurer may request that this Policy of Insurance is returned for amendment, or may endorse this Policy of Insurance with the particulars of the new Policy Holder. An administrative fee of £15 may be charged to the new Policy Holder.

*See Addendum to the Guarantee (page following the guarantee certificate)*

### 5.1.3 THIRD PARTY BONDED GUARANTEE

A 'Service Performance Escrow Agreement' **can be** set up to provide a bond on the monitoring and treatment service for the period of the Guarantee. All guarantee funds will be secured in an escrow account managed by the third-party solicitor. This provides full fund protection for the client if the contractor goes out of business. The contractor will apply for payments out of the escrow account for each year of the guarantee. Appropriate funds will remain in the account until completion of the guarantee service. If the contractor goes out of business the funds can be reclaimed by the client or used to facilitate another invasive weed specialist to undertake the liability of the guarantee.

# DRAFT GUARANTEE CERTIFICATE

Client: **Taylor Wimpey Southern Counties Ltd**

Property: **Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN**

Contract No:

Treatment End Date: **DD/MM/YYYY**

Monitoring Period Ending: On or after **To Be Advised (requires construction end date)**

Guarantee Period Ending: **To Be Advised**

Work carried out and covered by this company guarantee to control the following invasive weeds:

| | | | |
|---|---|---|---|
| **Japanese knotweed (*Fallopia japonica*)** | ☒ | Giant hogweed (*Heracleum mantegazzianum*) | ☐ |
| Himalayan balsam (*Impatiens glandulifera*) | ☐ | Other please specify | _____ |

## TERMS OF GUARANTEE

1. **Japanese Knotweed Ltd** hereinafter referred to as "The Company" hereby **GUARANTEES** that, save as hereinafter provided or as provided in the Company's standard Terms and Conditions of business applicable at the date of the Client's acceptance, in the event of the person entitled to the benefit of this Guarantee notifying the Company in writing within a period of **TEN YEARS** from the date of completion of the work of:

   (i) any continuance or recurrence of the invasive weed indicated above respectively to the work carried out in the areas identified in the report as the "treatment area"

   the Company, upon production of this Guarantee and all original or electronic copies of relevant survey reports, quotations, specifications, drawings, plans, completion certificates and receipted invoices, with any amendments thereto issued by the Company (photocopies will not be accepted), will arrange for the land to be inspected at a mutually convenient time upon payment by such person of the Company's then current inspection fee, provided that the continuance or recurrence at issue is of a kind against which the Company carried out control treatment in the area in which such continuance or recurrence has taken place.

2. If upon such inspection it appears to the Company that the treatment carried out by the Company was in any way defective so as to have resulted in re-growth of the invasive weed within the treated areas, the Company will carry out, without further charge, such further treatments as shall to the Company appear to be necessary to control the invasive weed and will reimburse in full the inspection fee paid.

3. This Guarantee does not cover any loss (including consequential loss see 9 below) or damage sustained by the person entitled to the benefit of this Guarantee save as set out in 2 above, whether caused by the Company's negligence or otherwise.

4. This Guarantee shall be of no validity or effect and shall be unenforceable against the Company in any one or more of the following circumstances:

   (a) where the person entitled to the benefit of this Guarantee does not give written notice of the claim under this Guarantee to be received by the Company within three months from the date upon which the existence of such a claim could, with the exercise of reasonable diligence by a continuous occupier of the affected premises, have been discovered;

   (b) where all Works advised or recommended by the Company prior to, at the time of, or subsequent to, treatment carried out by the Company were not fully carried out effectively with good and proper materials and in a workmanlike manner by the Client's contractor.

   (c) where the Client failed to pay the full price, any properly payable additional costs, and any interest due within six months of the date upon which the same fell due;

   (d) where the land and property has not been kept in a good and proper state, so as to detect and prevent tipping or the early detection of growth by invasive weeds.

   (e) where any recommendation given by the Company has not been complied with, whether such recommendation was given in the Company's report/quotation, or by separate leaflets. This may relate to cutting or pruning, the removal of waste, site clearance of the exclusion of plant materials from areas adjacent to the treatment area.

   (f) where, subsequent to the completion of treatment by the Company, there has been any disturbance to the works carried out by the Company. This may include excavations in areas where herbicide treatments have been undertaken, where root barriers have been installed or contaminated waste has been subject to burial on site.

   (g) where invasive plants have been re-introduced adjacent to watercourses or areas that have been subject to flooding, or by tipping or the uncontrolled propagation from adjacent land.

5. This Guarantee is to be read subject to, and is limited by, the Company's standard Terms and Conditions of business current at the date of the Client's acceptance of the Company's offer to carry out the treatment which shall be deemed

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to be incorporated herein. In the event of any ambiguity or uncertainty arising the Terms and Conditions of this guarantee shall apply.

6. In the event of disposal of the property, being the subject of this Guarantee, this Guarantee shall be assignable by the Client above named, to the new owner in which case the provisions hereof set out at 1-5 above shall apply in respect of that new owners as if the name of that new owner were substituted for any reference to the client PROVIDED THAT

   Within three months of the change of ownership of the property, the new owner shall have:

   (a) given written notice of the change to the Company;
   (b) paid the Company's then current transfer fee; and

   permitted the Company's surveyor to inspect the property (so as to discover any defects as might prejudice the works carried out by the Company) if the Company in its absolute discretion so require.

7. For the purposes of this Guarantee and the Contracts (Rights of Third Parties) Act 1999, the person entitled to the benefit of the rights conferred by this Guarantee shall be the owner from time to time of the Property ("the Relevant Third Party") **provided always that** the Relevant Third Party acknowledges and agrees that its rights under this Guarantee shall be subject to the terms and conditions set out in this Guarantee.

8. The Company shall be entitled in any action or proceedings by any Relevant Third Party to rely on any term in the Guarantee and to raise any equivalent rights in defence of liability as it would have against the Client or any previous Relevant Third Party. Furthermore, the Relevant Third Party agrees that it will be bound by any previous acts, omissions or default of the Client or any previous Relevant Third Party.

9. For the avoidance of doubt, the Client and each subsequent Relevant Third Party acknowledges and agrees that when it is no longer the owner for the time being of the Property, it shall no longer be entitled to the benefit of the rights conferred by this Guarantee and that furthermore, neither the Client, nor any Relevant Third Party shall be entitled to assign or transfer its rights and / or obligations under this Guarantee.

10. All consequential losses are excluded from this Guarantee, and for the purposes of this Guarantee consequential loss means any indirect, special or consequential damages or losses suffered or incurred by the Guarantee holder and for the purposes of this guarantee indirect, special or consequential damages or losses shall include, but not be limited to damages to or losses of data, furniture or equipment, economic loss or damage, damage to or loss of profits, interest, business revenue, anticipated savings, business or goodwill, any losses costs or expenses which are not directly incurred by the Guarantee holder wholly in respect of or which are additional to the remedial work for which indemnity is provided by this guarantee, the costs and expenses of any redecoration, repainting or retiling work, the costs and expenses of removing and/or replacing any cupboards, carpets or other furniture, or any other fixtures or fittings and the incurring of liability for losses or damages of any nature whatsoever suffered by third parties (including in each case incidental and/or punitive damages), even if the Company is advised in advance of the possibility of any such losses and/or damages;

11. In the event of you wishing to make a claim under this guarantee, a fee (at the rate prevailing at the time of the claim) is payable and the following **ORIGINAL** documents must be produced by you:

    (a) Report(s), estimate and any drawings or plans relating to it
    (b) Receipted invoice or proof of payment
    (c) Certificate or letter of completion
    (d) This guarantee certificate

    If the claim is justified, your payment will be returned in full. If your claim cannot be processed due to incomplete documentation or you decide not to pursue your claim, then an administration fee (at the rate prevailing at the time of the claim) will be deducted and the balance will be refunded.

12. In the event of a dispute arising under this guarantee as to the amount to be paid or the work to be performed the dispute may by agreement between the parties be referred for determination by an expert chosen by mutual agreement between the parties. If the parties are unable to agree on an expert within 7 days after the request by one party to another or if the expert agreed upon is unable or unwilling to act either party may apply to the General Manager of the Property Care Association for the appointment of a suitably qualified and experienced expert for the dispute in question.

Signature:

(For and on behalf of the Company)

**Japanese Knotweed Ltd**
Unit 7, Belbins Business Park
Cupernham Lane, Romsey
Hampshire, SO51 7JF
Tel: 0333 2414 413 | Email: info@knotweed.co.uk

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## 5.1.4 ADDENDUM TO GUARANTEE

Dear Sirs

**Land South of Bursledon Road, Bursledon, Southampton, Hampshire, SO31 8GN ("the Property")**
**Japanese Knotweed Guarantee Certificate ("the Certificate")**

We refer to the Certificate, a copy of which is attached with in the report document.

Unless expressed to the contrary the terms of this letter take precedence to the terms of the Certificate. We hereby confirm that **from the period of treatment/excavation end date to the Monitoring period end date** the following will apply:

A. Upon any continuance or recurrence of the Japanese knotweed, respectively to the remedial work carried out on the property, and on the proviso that the valued remedial work has been undertaken by the Company and paid for in full, and providing no actions have been undertaken by the Customer or any other party that breach the Company's Terms and Conditions;

   *(i) the Company will carry out such further treatments (chemical application only unless agreed otherwise) as shall to the Company appear to be necessary to control the Japanese knotweed.*

   The Company having been given the opportunity to undertake these necessary works will accept liability for the sole cost of these works (all consequential losses are excluded).

B. In completing regular inspections of the property we will not require the receipt of documentation as detailed in section 1 of the certificate to arrange these inspections.

C. The terms of paragraph 4(a) of the Certificate will not apply as we will make regular periodic inspections of the Property.

Unless expressed to the contrary the terms of this letter take precedence to the terms of the Certificate. We hereby confirm that the following will apply:

A. Notwithstanding the terms of Paragraph 1 & 11 of the Certificate the only documentation that we require to be produced to us prior to arranging an inspection of the Property is the Guarantee Certificate.

Signature:

(For and on behalf of the Company)

**Japanese Knotweed Ltd**
Unit 7, Belbins Business Park
Cupernham Lane, Romsey
Hampshire, SO51 7JF

Tel: 0333 2414 413 | Email: info@knotweed.co.uk

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### 5.1.5 SITE PLAN SHOWING AREA COVERED BY GUARANTEE

To be inserted once agreed




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Area of the site covered by a **Company Guarantee** (*openly accessible areas of the site will be monitored during the guarantee period*)

Option for each affected property to benefit from a separate **Company Guarantee** specific to that property and assignable to the new property owners

Areas ('Treatment Area') within site or within each affected property which is insurable (**Insurance Backed Guarantee)** upon the back of the company guarantees.

# 5.2 APPENDIX 2 - RECORD OF SITE AND REMEDIAL WORKS

## 5.2.1 AERIAL PHOTOGRAPH OF CURRENT SITE



## 5.2.2 PROPOSED DEVELOPMENT PLAN FOR SITE



## 5.2.3 PRE-REMEDIATION - PHOTOGRAPHS OF JAPANESE KNOTWEED

**Image 1: 2018.05.14 JKLE14863.1 ACCESS**



**Image 2: 2018.05.14 JKLE14863.1 ADJ TW SITE**



**Image 3: 2018.05.14 JKLE14863.1 AREA JKL EXCAVATION**



**Image 4: 2018.05.14 JKLE14863.1 AREA OF JK1**



**Image 5: 2018.05.14 JKLE14863.1 AREA OF JK2**



**Image 6: 2018.05.14 JKLE14863.1 AREA OF JK3,4,2.**



**Image 7: 2018.05.14 JKLE14863.1 AREA OF JK6**

**Image 8: 2018.05.14 JKLE14863.1 BOUNDARY CLEARANCE JK8**



**Image 9: 2018.05.14 JKLE14863.1 FIELD NORTH (2)**



**Image 10: 2018.05.14 JKLE14863.1 FIELD NORTH**



**Image 11: 2018.05.14 JKLE14863.1 FOOTPATH AND ACCESS TRACK**



**Image 12: 2018.05.14 JKLE14863.1 JK1 (2)**



**Image 13: 2018.05.14 JKLE14863.1 JK1 (3)**



**Image 14: 2018.05.14 JKLE14863.1 JK1 (4)**





**Image 15: 2018.05.14 JKLE14863.1 JK1**



**Image 16: 2018.05.14 JKLE14863.1 JK2 (2)**



**Image 17: 2018.05.14 JKLE14863.1 JK2 (3)**



**Image 18: 2018.05.14 JKLE14863.1 JK2**



**Image 19: 2018.05.14 JKLE14863.1 JK3 (2)**



**Image 20: 2018.05.14 JKLE14863.1 JK3**



**Image 21: 2018.05.14 JKLE14863.1 JK4 (2)**



**Image 22: 2018.05.14 JKLE14863.1 JK4 (3)**



**Image 23: 2018.05.14 JKLE14863.1 JK4**



**Image 24: 2018.05.14 JKLE14863.1 JK5 (2)**



**Image 25: 2018.05.14 JKLE14863.1 JK5**



**Image 26: 2018.05.14 JKLE14863.1 JK6 (2)**



**Image 27: 2018.05.14 JKLE14863.1 JK6 (3)**



**Image 28: 2018.05.14 JKLE14863.1 JK6 (4)**



**Image 29: 2018.05.14 JKLE14863.1 JK6**



**Image 30: 2018.05.14 JKLE14863.1 JK7 (2)**



**Image 31: 2018.05.14 JKLE14863.1 JK7**



**Image 32: 2018.05.14 JKLE14863.1 JK8 (2)**



**Image 33: 2018.05.14 JKLE14863.1 JK8**



**Image 34: 2018.05.14 JKLE14863.1 JK9 (2)**



**Image 35: 2018.05.14 JKLE14863.1 JK9**



**Image 36: 2018.05.14 JKLE14863.1 OLD CAR BOOT AREA (2)**



**Image 37: 2018.05.14 JKLE14863.1 OLD CAR BOOT AREA (3)**



**Image 38: 2018.05.14 JKLE14863.1 OLD CAR BOOT AREA**



**Image 39: 2018.05.14 JKLE14863.1 SITE BOUNDARY (2)**



**Image 40: 2018.05.14 JKLE14863.1 SITE BOUNDARY (3)**



**Image 41: 2018.05.14 JKLE14863.1 SITE BOUNDARY (4)**



**Image 42: 2018.05.14 JKLE14863.1 SITE BOUNDARY**



**Image 43: 2018.05.14 JKLE14863.1 STOCKPILE**



## 5.2.4 DURING AND POST REMEDIATION – PHOTOGRAPHS

To be inserted on completion of works

## 5.2.5 Site Visit Records (Monitoring) - Herbicide (Pesticide) Application Records

To be inserted on completion of works

### 5.2.6 Site Waste Tracking Record

To be inserted on completion of works

### 5.2.7 Waste Transfer Notes

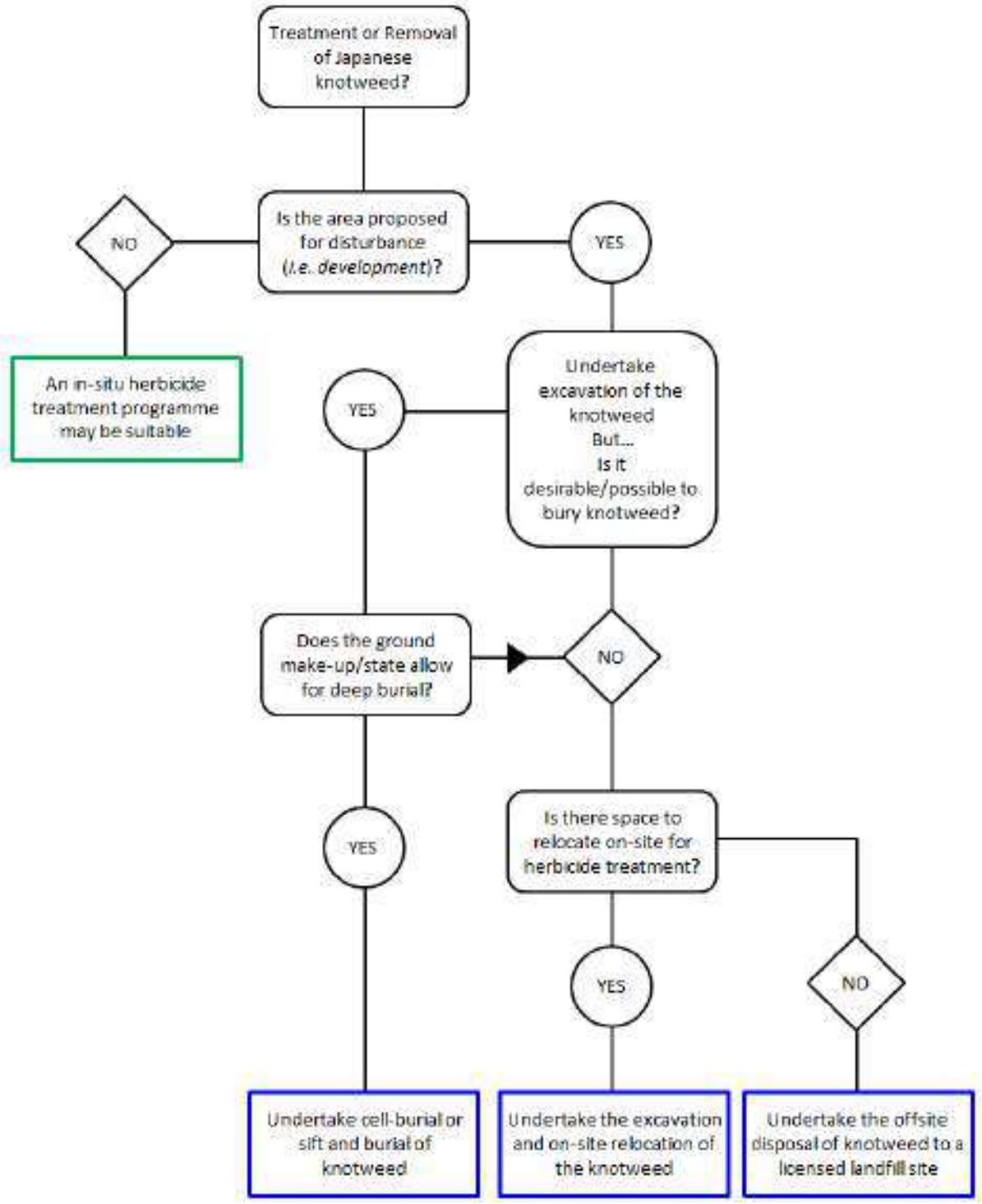
To be inserted on completion of works

### 5.2.8 Weighbridge Tickets

To be inserted on completion of works

## 5.3 APPENDIX 3 - REMEDIATION STRATEGIES

**The following chart provides a simple representation of the decision process required in selecting the appropriate Japanese knotweed remediation method(s) that could be deployed on a site:**



We can undertake the following methods of knotweed remediation to resolve a problem that, if handled the wrong way, can end up being a long-term problem for the developer and land owner:

### 5.3.1 Dig and Dump

Our dig and dump programme provides an instant, hassle free and impressive rectification method. The Japanese knotweed is fully excavated to remove all material (all rhizomes). The excavation process is monitored by our site supervisors who not only ensure that all the knotweed is removed (via visual identification), but that only soils contaminated with knotweed are removed (i.e. we only excavate what needs to be excavated we don't excavate a blind 7m past the knotweed growth and to a set 3m depth, where it's not necessary). All knotweed material and knotweed contaminated arising from these works is removed from site as controlled waste. This requires removal via registered waste carriers to a landfill site fully licensed to receive and dispose of Japanese knotweed. There will be a full waste tracking record on completion.

| | |
|---|---|
| • No restrictions left on site<br>• Work can continue immediately after removal | • Can be more expensive than other on-site sustainable solutions |

### 5.3.2 Dig and Cap

As with the Dig and Dump method, the knotweed is accurately excavated, but only down to a depth required by the development or end use of the site. On a development site this will often mean excavation of the knotweed to construction formation levels only. The excavated knotweed and knotweed contaminated material can either be removed from site as controlled waste or disposed/treated on site. The remaining knotweed contaminated ground (beneath the excavation depth) will then be capped off with Japanese knotweed root barrier to prevent re-emergence of the knotweed from underneath. Where necessary (i.e. if the knotweed rhizome transverse the boundary of the site, or where knotweed in neighbouring property is in close proximity to the site boundary) the root barrier is returned vertically at the site boundary.

| | |
|---|---|
| • Limited restrictions left on site<br>• Work can continue immediately after removal | • Can be more expensive than other on-site sustainable solutions |

### 5.3.3 Dig and Sift

The Japanese knotweed is excavated either fully or to a reduced level. The excavated spoil is then passed through a mechanical screener. The sifting process crushes and fragments the knotweed, reducing its regenerative power. The sifted knotweed materials can then be re-used or buried on-site. The key benefit of this procedure is that the spoil which passes through the screener will only contain very small fragments of knotweed, which have lowered regenerative power. This allows for the sifted spoil to be re-used on-site as backfill subject to local Environment Agency Officer approval! To exploit the low regenerative power of these fragments the sifted spoil is buried, subjected to engineering compaction, and covered with an approved geo-synthetic membrane prior to clean backfill being installed above. The burial depth should be suitable as to avoid the risk of accidental disturbance and prevent any small knotweed fragments from producing growth capable of breaking the compaction and reaching the surface. Alternatively, the sifted spoil can be re-used on site at finished levels to areas of Public Open Space landscaping, but some limited re-growth will be expected. The re-use area would therefore need to be subject to a monitoring and herbicide treatment programme until successive years of no-growth have been recorded. The Knotweed Management Plan (KMP) should be used to record the position of the low-level burial or re-use area, with this being marked upon an as-built site drawing. This will help prevent potential future disturbance of these locations. If these works are part of a site development project the KMP should then be included in the Operations and Maintenance (O&M) Manuals.

| | |
|---|---|
| • Moderately cost effective<br>• Allows development to be undertaken whilst treatment takes place elsewhere on-site | • Restrictions remain on site<br>• Limits use of area above burial site<br>• Requires a large hole to receive material |

### 5.3.4 Cell-Burial

The Japanese knotweed is excavated either fully or to a reduced level and capped. The excavated knotweed material is then buried on site in a suitable location. The knotweed material is buried so it is encapsulated in knotweed root barrier (the cell) with the top of the cell residing 2m below finished ground levels. The depth of 2m is a pre-caution against burrowing animals penetrating the cell and bringing out knotweed material. If burial of knotweed is to take place without the encapsulation or root barrier it must be done so that the knotweed resides below a depth of 5m. Where on-site burial is undertaken, it is strongly advised that to prevent potential disturbance and re-infestation the burial site location is recorded, and any future owners are advised of its position (i.e. on development site the cell-burial locations should be recorded in the O&M manuals for the site manuals for the site).

| | |
|---|---|
| • Does not require a set aside area for control<br>• Work can continue immediately after burial | • Restrictions remain on site<br>• Limits use of area above burial site<br>• Requires a large hole to receive material |

### 5.3.5 Dig and Relocation

The Japanese knotweed is excavated either fully or to a reduced level, and the arising knotweed waste is relocated to another area of the site, where it can be treated with herbicide. Relocation is normally carried out by loading the knotweed to dump trucks and transporting over site on a controlled haul route to a designated location. At the relocation point the knotweed is either; Stockpiled, Bunded or resides at ground level via a Cut and Fill procedure. The Cut and Fill procedure has the benefit of not producing a bund or stockpile of knotweed on site, and it provides back fill to the void created by the excavation of the Japanese knotweed.

| | |
|---|---|
| • Cost effective<br>• Allows development works to be undertaken whilst treatment takes place elsewhere on-site | • Requires undisturbed area<br>• Soil from stockpile must remain on site<br>• Restrictions remain in stockpile area |

### 5.3.6 Watching Brief (Supervision)

To guard against accidental spread of knotweed material, a 7m exclusion zone called a rhizome spread zone (RSZ) fencing will be erected around the visible knotweed growth area. Watching brief (site supervisor) will be provided to oversee others in undertaking site clearance/demolition/construction works within the RSZ to ensure knotweed contamination is not spread from the area. Arising from within the RSZ which is found to be contaminated with Japanese knotweed will either be; disposed of on-site (burial/relocation), removed from site (to landfill) or temporarily stockpiled and then returned to area on completion of works. Root Barriers can be introduced to cap or separate knotweed contaminated ground from clean or imported clean ground or to protect new services/structures/hard-standing. Watching brief (site Supervisor) will ensure that all personnel and machine are properly decontaminated before leaving the RSZ area. During and/or post completion of the development works any knotweed remaining on-site (original position or relocation area) should be treated under a herbicide application programme to control the plant, and aim at achieving eradication.

### 5.3.7 Root Barrier Control

Where knotweed exists either on-site or off-site and is to remain in-situ its spread can be controlled by the insertion of vertical root barrier. Knotweed root barrier can deflect knotweed rhizome growth and prevent the spread of the plant under the ground. These root barriers can be inserted to protect structures and services and have a life span of at least 50 years. Where knotweed exists off-site in close proximity to the site the insertion of root barrier to the boundary can help protect the site from rhizome encroachment. This control should always be backed up by a herbicide treatment programme wherever possible.

### 5.3.8 Herbicide Treatment Programme

Often the most cost-effective treatment and control method is a Herbicide Treatment Programme. This requires methodical and carefully managed visits with correct use of chemical over a sustained period of time (2-5 years).

It should be noted that Japanese knotweed can take many years to eradicate via chemical application. Chemically induced eradication does not mean removal of the plants underground rhizome system. This will remain often in a dormant but viable state and could re-grow if disturbed.

The above is an important note for developers as the Environment Agency recognise the limitations of herbicide control and class the ground which contains knotweed treated or dead (even after a knotweed specialist has deemed the knotweed as eradicated under chemical treatment) to be classed as controlled waste if removed from site. This is the same classification that is given to viable living knotweed material and ground contaminated with untreated alive knotweed.

More often than not, if developing a site, you will need to adopt one of the instant remediation methods.

| | |
|---|---|
| • **Cost effective**<br>• **Treatment can be carried out in situ without risk of spreading plant further** | • **Takes 2-5 years**<br>• **Must be left undisturbed**<br>• **Restrictions remain on site**<br>• **Restricted use near valuable vegetation and waterways** |

## 5.4 APPENDIX 4 - THREATS TO SITE MANAGEMENT OBJECTIVES

A strategy for managing and/or removing the knotweed problem is required to allow the proposed site development/management objectives to be implemented without compromise of potential property and legal risks caused by Japanese knotweed.

***By NOT implementing our recommended remedial strategies (as detailed in section 3 of this report) you may be presented with the following complications and associated costs:***

### 5.4.1 JAPANESE KNOTWEED IMPACT ON DEVELOPMENT OBJECTIVES

SITE VEGETATION STRIP/CLEARANCE

During vegetation clearance disturbance of the knotweed can occur resulting in the translocation of knotweed material to other areas of the site or even unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

DEMOLITION

During demolition disturbance of the knotweed can occur resulting in the translocation of knotweed material to other areas of the site or even unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

FORMATION LEVEL EXCAVATIONS

Ground work excavation to reach construction formations levels (if site levels are to remain the same or be reduced) may encounter ground contaminated with knotweed rhizome. This can result in the translocation of knotweed material presenting structural risk and/or unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

BUILDING FOUNDATION EXCAVATIONS

Ground work excavation for proposed building foundations may encounter ground contaminated with knotweed rhizome. This can result in un-controlled or un-treated knotweed rhizome remaining under

building footprints (i.e. in ground underneath suspended Block and Beam floors) presenting a structural risks and/or unintentional illegal removal of controlled (Japanese knotweed) waste from the site.

MATERIAL MOVEMENTS AND WASTE

The development project may necessitate the removal of material from site and/or the importation of soil material onto the site. It is imperative that all necessary steps are taken to ensure these materials are free of knotweed.

### 5.4.2 IMPACTS ON PROPOSED END USE

STRUCTURAL RISK

Japanese knotweed rhizome and crown growth has the potential to cause damage to services, structures and hard standing.

PLOT SALEABILITY

Japanese knotweed is a recognised property risk and will be flagged up on building surveys as part of the conveyance process. Where knotweed has been identified, it can prevent lending agreements (i.e. on new residential development site this can stop sales of completed units!).

CONTAMINATION

Un-managed Japanese knotweed growth can be disturbed by site maintenance activities such as grounds maintenance. This can quickly translocate material to other areas of the site and spread and worsen an infestation and associated risks.

### 5.4.3 RE-INFESTATION

Any presence of knotweed off-site can present the likely potential for re-infestation of the site across site boundaries.

# 5.5 APPENDIX 5 - EXPERIENCE and QUALIFICATIONS

## 5.5.1 CONTRACTOR (KNOTWEED SPECIALIST)

**Japanese Knotweed Ltd** is a private limited company solely dedicated to the trade of Japanese knotweed Survey, Management, Treatment and Removal.

- Private Individuals
- Housing Associations
- Local and Regional Government
- Commercial Companies
- Construction Companies

## 5.5.2 TRADE AFFILIATION: PROPERTY CARE ASSOCIATION – INVASIVE WEED CONTROL GROUP

Japanese Knotweed Ltd is an affiliated member of the Property Care Association (PCA) Invasive Weed Control Group (IWCG). Why was there a need for the PCA IWCG:

- National bodies such as the Royal Institute of Chartered Surveyors (RICS) and the Council of Mortgage Lenders needed to be able to refer customers to trusted/regulated invasive weed contractors.
- RICS selected PCA as a recognised professional trade association capable of hosting a trade body for the invasive weed industry.
- PCA are an independent association not run by other invasive weed industry contractors.
- PCA IWCG members have undergone a rigorous pre-qualification criteria to become affiliated
- Membership criteria set and established democratically by those who worked with the PCA to establish the group. These are publicly available and can be seen and reviewed by anyone – including clients.
- PCA IWCG members will undertake professional trustworthy site surveys and investigations delivering peace of mind through detailed investigation and correct diagnosis.
- PCA IWCG members provide these services with trained, experienced, vetted and qualified surveyors and inspectors.
- PCA IWCG members are able to complete highly specialised remediation treatments, effectively, efficiently and safely, using skilled experienced site operatives
- PCA IWCG members continue to be the only companies in the invasive weed industry that can provide consumers with access to Financial Conduct Authority (FCA) approved insurance products. These products include insured guarantees, insurance against structural defects caused by a reoccurrence of Japanese knotweed and protection for money paid in advance. These highly cost effective products continue to be developed to meet the needs of industry.
- The adoption of Codes of Ethics and Codes of Practice that are enforced by the members of the Association by a fully employed Executive.
- The establishment of a published disciplinary process that is used to ensure members who fail to meet standards can be disciplined or removed from the Association.
- An independent audited complaints management and mediation service designed to assist clients.
- The creation of operating standards that exceeds the Governments TrustMark standards, confirmed with annual audits. As such, all PCA contractor members automatically become accredited by the TrustMark scheme.
- PCA is ISO 9001 accredited to ensure published operating standards are maintained.
- PCA provides support services to members that include Health and Safety, Human Resources etc.

### 5.5.3 QUALIFICATIONS

All our staff are fully trained to undertake their works. We have a 100% CSCS policy for all staff involved with the management and undertaking of operational works on construction sites. All team leaders (Site Foreman) working on construction sites are SSSTS qualified and all plant operators have the applicable CPCS qualification. All operational staff that undertake herbicide application works have the statutory NPTC PA1 and PA6 license (and PA6 AW for those spraying on or near water). A majority of our technical staff have also now completed the PCA Technician Training course.

### 5.5.4 OUR AFFILIATIONS

**PCA** - Japanese Knotweed Ltd are members of the Property Care Association (PCA) Invasive Weed Group. Accreditation to this scheme demonstrates our professionalism in the industry of invasive weed management, treatment and removal.



**Trust Mark -** Is a government endorsed scheme where you can be sure that affiliated contractors have been vetted and approved to supply the highest quality of service delivery.

**CHAS** - Japanese Knotweed Ltd are registered contractors to the CHAS Government backed and SSIP Health and Safety scheme. Accreditation to this scheme demonstrates our proficiency to Public, Company, Employer and Employee Health and Safety.



**SAFE CONTRACTOR -** Japanese Knotweed Ltd are registered contractors to the SAFE CONTRACTOR, SSIP Health and Safety scheme. Accreditation to this scheme demonstrates our proficiency to Public, Company, Employer and Employee Health and Safety.



**BUILDERS PROFILE** - Japanese Knotweed Ltd are registered and approved suppliers on the BUILDERS PROFILE Supply Chain Management Assessment Scheme used by companies such as Balfour Beatty and Wates Group.



**RISQS** - Japanese Knotweed Ltd is a certified supplier on Achilles RISQS; recognised as best practise in qualifying suppliers for working on rail contracts. This scheme is governed by RISQS (Rail Industry Supplier Qualification Scheme)



**CONSTRUCTIONLINE** - Japanese Knotweed Ltd are registered and approved suppliers on CONSTRUCTIONLINE used by companies to ensure that contractors are health and safety vetted and proven in the industry they operate in.



## 5.5.5 TRUSTPILOT

We collect customer reviews through a third-party company called Trustpilot. To see our customer reviews please click here:

https://www.trustpilot.co.uk/review/www.japaneseknotweed.co.uk

## 5.5.6 TESTIMONIALS

TESTIMONIALS FROM CONSTRUCTION / DEVELOPERS

**Dean Elvidge (Business Development Director) Jenner Ltd**

'We engaged with Japanese Knotweed Ltd on a regeneration project we are currently constructing at Newington, Ramsgate. The advice they provided in the early stages following the discovery of knotweed to an area of the site was provided in a professional way, which allowed the works to be undertaken at the earliest opportunity without causing any delays to our programme. The documentation provided following the works being undertaken was also submitted in a timely manner. We would recommend JKL to others and I am sure we will be seeking similar advice from them in the future.'

**Martin Bates (Managing Director) J W Stratton Ltd**

'I have been very pleased with the rapid response and professional service provided by JKL. They were able to provide us with a number of options for both knotweed eradication and warranty, and carried out the preferred method quickly and without fuss, leaving us with a clean and cleared site within a matter of days. I would use their services again without hesitation should the need arise.'

**Sean Leaning (Senior QS) Bowmer & Kirkland Ltd**

'We can only thank and praise JKL for their rapid and diligent response to our unexpected and untimely knotweed problem. From initial survey to quotation to carrying out of the works, JKL fulfilled all expectations and obligations to very high standards. We would not hesitate in making JKL the first point of contact should we be faced with a Japanese Knotweed problem in the future.'

# JAPANESE KNOTWEED™ TO BE IGNORED

SURVEY

TREATMENT

REMOVAL

GUARANTEE

**Japanese Knotweed Ltd has a proven track record for eradicating Japanese knotweed for private landowners, local authorities and major building developers. We pride ourselves on becoming one of the leading Japanese knotweed removal experts in the UK.**

Our highly knowledgeable and skilled staff provide a comprehensive service and are committed to providing the highest level of customer care. With a range of guaranteed, cost-effective and efficient eradication solutions, we work closely with our clients to meet all requirements.










DO YOU have Japanese knotweed at your property or site?

ARE YOU looking for tailor-made, efficient knotweed remediation options?

CONTACT US **0333 241 4413**

info@knotweed.co.uk

"Very professional and they dealt with our Japanese knotweed in a timely, practical and affordable manner."
- Christopher Hill, Taylor Wimpey West London Ltd

TRUSTPILOT

PCA Property Care Association

TRUSTMARK

CHAS

Constructionline

www.japaneseknotweed.co.uk

## 5.5.7 BEST WORKING PRACTICES and CODE OF PRACTICE

PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7)

Japanese Knotweed Ltd is stringent in ensuring we are working in accordance to the PCA (2014) Code of Practice for the management of Japanese knotweed, (V2.7) at all times!

BASIS APPROVED HERBICIDES

Japanese Knotweed Ltd ensure that we are always using BASIS (Rigby Taylor used as regular advisor) approved herbicides for application in the treatment of Japanese knotweed.

## 5.5.8 WORKING IN ACCORDANCE TO CURRENT LEGISLATION

THE WILDLIFE AND COUNTRYSIDE ACT 1981

Japanese knotweed Ltd advise our clients and help them ensure they do not contravene The Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985 controls the spread of Japanese knotweed into wild habitats. Part I (WILDLIFE – Miscellaneous), Section 14, Clause 2. All our works are carried out in accordance the E.A. The Knotweed Code of Practice to ensure that we do not contravene this legislation in our activities.

ENVIRONMENTAL PROTECTION ACT 1981

Japanese Knotweed Ltd handle and dispose of Controlled Waste (also 'Contaminated Non-Hazardous' and 'Hazardous') waste in accordance to the Environmental Protection Act 1990

ENVIRONMENTAL PROTECTION (DUTY OF CARE) REGULATIONS 1991

Japanese Knotweed Ltd handle and dispose of Controlled Waste (also 'Contaminated Non-Hazardous' and 'Hazardous') waste in accordance to the Duty of Care Regulations 1991.

ANTI-SOCIAL BEHAVIOUR, CRIME AND POLICING ACT 2014

Guidance (Home Office 2014) has recently been released by the Home Office providing information on the reformed Anti-social Behaviour, Crime and Policing Act 2014. The guidance note provides information on how best to proceed if a neighbour is unwilling to control Japanese Knotweed (or other invasive species) on their property, i.e. they will not treat it with herbicide or remove it by excavation. The updated legislation means that if a neighbour 'fails to act' regarding controlling, or preventing the growth of Japanese knotweed (or other plants that are capable of causing serious problems to communities), then a Community Protection Notice can be issued requiring action to be taken. Breach of any requirement of a Community Protection Notice, without reasonable excuse, would be a criminal offence, subject to a fixed penalty notice (which attracts a penalty of £100) or prosecution. On summary conviction, an individual would be liable to a level 4 fine (£2,500). An organisation, such as a company, is liable to a fine not exceeding £20,000.

## 5.5.9 OUR INSURANCE

EMPLOYERS LIABILITY INSURANCE

Japanese Knotweed Ltd holds Employers Liability Insurance
Limit of Indemnity: £10,000,000

PUBLIC AND PRODUCT LIABILITY INSURANCE

Japanese Knotweed Ltd holds Public and Product Liability Insurance
Limit of Indemnity: £10,000,000

PROFESSIONAL INDEMNITY INSURANCE

Japanese Knotweed Ltd holds Professional Indemnity Insurance, which has been checked to ensure it covers advice given on Japanese knotweed.
Limit of Indemnity: £1,000,000

HIRE IN PLANT

Japanese Knotweed Ltd holds Hired-In Plant Liability Insurance.
Limit of Indemnity: £100,000

## 5.6 APPENDIX 6 - HEALTH and SAFETY

POLICY

All Japanese Knotweed Ltd staff are provided with the full Company Health and Safety Policy on joining the company. This is re-issued if amendments are made.

CSCS

Our operational staff are 100% CSCS qualified. All staff who operate machine also have CPCS qualification. Our site supervisors are SSSTS qualified.

RISK ASSESSMENTS and METHOD STATEMENT

Japanese Knotweed Ltd will produce a Risk Assessment following an assessment of the risks involved in carrying out the work.

A Japanese Knotweed Ltd Method Statement and Risk Assessment (MS/RA) document will include emergency procedures and the location of all emergency medical equipment.

The operative will fully review the MS/RA document before works and carry a copy on their persons during operations. If more than operative is on-site or other contractors are involved in the work the Lead Foreman (or appropriate appointed persons) will hold a tool box talk with all persons to ensure the MS/RA document is discussed and understood prior to commencement of works.

SITE PROCEDURES

Japanese Knotweed Ltd staff will be safety inducted. Safety induction training may be given by the client.

All operations will comply with the Property Care Association (PCA) (2014) Code of Practice for the management of Japanese knotweed, (V2.7) as well as the following legislation (where appropriate):

- Wildlife and Countryside Act (as amended) 1981
- Environmental Protection Act (as amended) 1990
- Environmental Protection (Duty of Care) Regulations 1991
- Food and Environment Protection Act (FEPA) Part III 1985
- Control of Pesticides Regulations (as amended) 1986
- Plant Protection Products Regulations 2005
- Plant Protection Products (Basic Conditions) Regulations 1997
- Health and Safety at Work Act 1974
- Control of Substances Hazardous to Health Regulations (COSHH) 2002
- Personal Protective Equipment at Work Regulations 1992
- Manual Handling Operations Regulations 1992
- Construction (Design and Management) Regulations 2007
- Provision and use of Work Equipment Regulations (PUWER) 1998

Welfare arrangements / First Aid will be provided by site personnel.

## 5.7 APPENDIX 7 - REFERENCES

Environment Agency 'Treatment and disposal of invasive non-native plants: RPS 178' (Nov 2016)

Property Care Association (PCA) (2014) Code of practice for the management of Japanese knotweed, (V2.7).

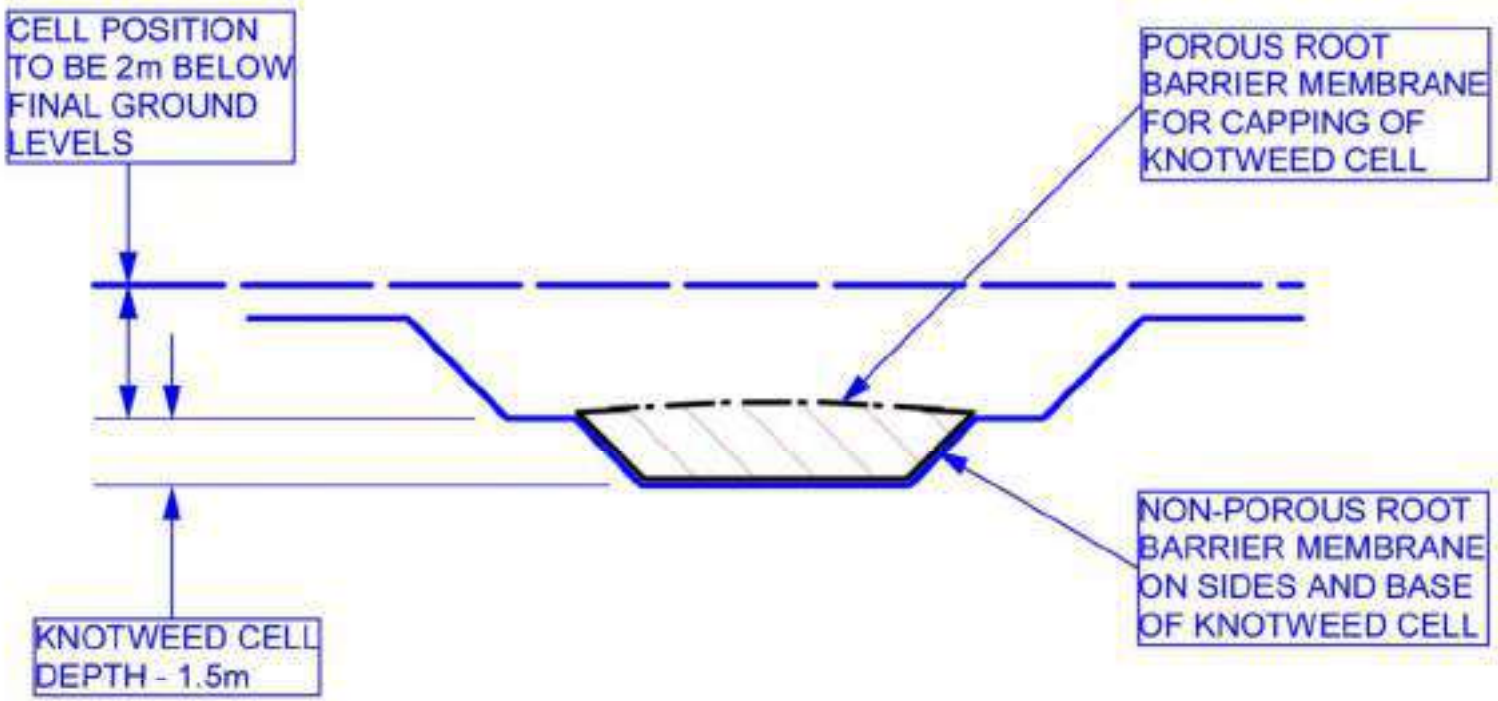
RICS (2012) Japanese knotweed and residential property. RICS Information Paper IP 27/2012. RICS.

Home Office (2014) Reform of anti-social behaviour powers Japanese knotweed and other invasive non-native plants. Home Office.

Environment Agency and Cornwall County Council (2001) Japanese knotweed. Guidance for householders and landowners. Cornwall County Council.

Child, L.E. and Wade, P.M. (2000) The Japanese Knotweed Manual. Packard Publishing Limited, Chichester. ISBN 1 85341 127 2.

Welsh Development Agency (1998) The control of Japanese knotweed in construction and landscape contracts: Model specification. Former Welsh Development Agency, now part of the Welsh Assembly Government.


CELL POSITION TO BE 2m BELOW FINAL GROUND LEVELS
POROUS ROOT BARRIER MEMBRANE FOR CAPPING OF KNOTWEED CELL
NON-POROUS ROOT BARRIER MEMBRANE ON SIDES AND BASE OF KNOTWEED CELL
KNOTWEED CELL DEPTH - 1.5m

# CuTex
## Copper Composite Root Barrier

**1. DESCRIPTION** A geocomposite root barrier system consisting of a copper sheet mechanically encapsulated between a woven polypropylene geotextile and a high strength nonwoven polypropylene geotextile. The copper acts as a signal layer that all plants avert their growth from. The copper foil only releases minute quantities of the copper ion. These do not constitute an ecosystem burden, or impact on groundwater.



**2. APPLICATIONS** CuTex geocomposite can provide a direct protection of utilities' infrastructures such as foundations and drains from root intrusion, landfill caps and "green roofs". It will also provide a protection to roads, railways and dams.

**3. FEATURES** Plant shoot/root primordia (growth tips) are averse to growing into the vicinity of copper concentrations. In essence, the roots/shoots turn their growth in a different direction when confronted with the copper foil. These principles make CuTex a suitable barrier for Japanese Knotweed growth as well as all other plants. The majority of the Japanese Knotweed rhizome exists in the upper layers of topsoil. It has been established that, in an infected area, 14,000kg/ha dry weight of Knotweed may exist in the top 250mm (Brock, 1994).

| | Test | Unit | MEAN VALUES |
|---|---|---|---|
| **4. MECHANICAL PROPERTIES** | | | |
| Static puncture (CBR) | EN ISO 12236 | kN | 2.5 |
| Tensile strength (MD/CMD) | EN ISO 10319 | kN/m | 20 |
| Tensile elongation (MD/CMD) | | % | 35 |
| **5. FILTER PROPERTIES** | | | |
| Water permeability $v_{H50}$ | EN ISO 11058 | l/(m²·s) | $3.10^{-4}$ |
| **6. PHYSICAL PROPERTIES** | | | |
| Copper thickness (nominal) | EN ISO 9863-1 | µ | 18 |
| Carbon black content (geotextile) | | | 1% active carbon black |
| Standard colour | | | Black |
| Polymer | | | 100% virgin polypropylene |

Notes:

a) Mean values indicate the arithmetic mean derived from the samples taken for any one test as defined in the standard – usually an overall mean of five samples. Mean values are subject to tolerances based on 95% confidence limits as published on the product CE declaration of performance.
b) Nominal Value (indicates an average manufacturing norm and not a controlled performance parameter).
c) MD: Machine Direction (longitudinal to the roll).
d) CMD: Cross Machine Direction (across the roll).
e) Tensile testing is performed using extensometers.

| | Test | VALUES |
|---|---|---|
| **7. DURABILITY** | | |
| Weathering 50 MJ/m² (1 month) | EN ISO 12224 | >90% Retained Strength |
| Microbiological resistance | EN ISO 12225 | No loss in strength |
| Resistance to acids & alkalis | EN ISO 14030 | No loss in strength |
| Oxidation at 112 days (100 years) | EN ISO 13438 | >90% Retained Strength |



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**8. TESTING**

All materials are tested every 6000m² in an UKAS accredited ISO 17025 laboratory to all mechanical properties prior to release.

In order to demonstrate the bio-barrier performance of the proprietary CuTex barrier system a laboratory test was undertaken by REC Ltd. The test was performed on a mixture of plant species including mustard, docks, meadow grass and Japanese Knotweed within a peat and compost based soil matrix. The trial was monitored over a duration of six months in which period it was evident that the rhizome fragments of Japanese Knotweed were actively growing beneath the Cutex barrier. The field trial was conducted within a climate controlled environment (20°C) with daily addition of moisture to the surface of the soil.

Upon careful exhumation of the CuTex barrier, it was evident that none of the plants were able to grow through the bio-barrier. Typically, the roots that made their way down to the copper foil were either stopped or took lateral route. None of the rootlets penetrated any of the needlepunched holes, demonstrating the growth inhibited effect caused by the chemical properties of the copper foil insert. It should be noted that the CuTex barrier is a permeable system capable of transferring moisture through the geotextile sandwich and copper foil and therefore not prone to water logging in field conditions. The laboratory trial proved that there was no water logging of the soil above the barrier.

**9. STORAGE**

The geocomposites are supplied in packaging designed to protect the product from damage during handling, storage and degradation as a result of UV exposure. The product should be kept in appropriate packaging until such time that it is required for installation. The product is clearly and indelibly marked with the product name along the edge of the roll at regular intervals no greater than 5m. The packaging is labelled clearly to identify the product supplied in accordance with EN ISO 10320: Geotextile and Geotextile related products – Identification on site. Use slings where provided. Product weights are given on roll tickets. Use equipment appropriate to weight and dimension. Store and handle in accordance with good occupational hygiene and safety practice.

| | Unit | VALUES | | | |
|---|---|---|---|---|---|
| **10. DIMENSIONS** | | | | | |
| Standard roll length | m | 25 | 25 | 50 | 50 |
| Standard roll width | m | 2.6 | 5.2 | 2.6 | 5.2 |
| Approximate roll weight | kg | 38.5 | 77 | 77 | 154 |



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HBB GeoSales LIMITED

Suppliers of Cover and Lining Solutions

# MATERIAL SPECIFICATION: PowerScrim 600 (0.61mm)

## Reinforced Composite Geomembrane

| | |
|---|---|
| Physical From: | Woven HDPE core coated on both sides with LDPE film with a LLDPE / LDPE blend film laminated on top |
| | |
| Roll / Panel detail: | 366cm wide rolls or panels up to 32m wide x 300m long |
| | |
| Weight: (ASTM D5261) | 425gms/m2 |
| | |
| Strip Tensile Strength: min. ave. (ASTM D7003) | 1179 N |
| | |
| Strip Tensile Elongation: min. ave. (ASTM D7003) | 21% |
| | |
| Tongue Tear: min. ave. (ASTM D5884) | 385 N |
| | |
| CBR Puncture: min. ave. (ASTM D6241) | 5502 N |
| | |
| Index Pin Puncture-Resistance: min. ave. (ASTM D4833) | 890 N |
| | |
| Hydrostatic Resistance: min. ave. (ASTM D751) | 1419 kPa |
| | |
| Dimensional Stability: % change max (ASTM D1204) | 3% - Pass |
| | |
| WVT: max. ave. (ASTM E96) | 0.5 G/M2 – day – Pass |
| | |
| UV Resistance: Fluorescent light method (ASTM D7238) | |
| a) Strength & elongation retained after 10 000 light hours | > 50% retained – Pass |
| b) Response to bending (GRI-GM16) | No cracking - Pass |

All values are 10% +-

The test data is based on an average taken over several production runs and should not be considered or interpreted as minimum or maximum values. Values are typical data and not limiting specifications.

# Appendix G Gas Protection measures information

# *Gas membrane barrier details*

premier COATINGS LTD

PRODUCT DATA SHEET

Headcorn Road · Smarden · Ashford · Kent · TN27 8PJ · United Kingdom
Telephone: + 44 (0) 1233 770 663 · Fax: + 44 (0) 1233 770 633
E-mail: enquires@premiercoatings.com

# PREMSEAL GMA

# GASPROOFING MEMBRANE

**USES**

PREMSEAL GMA is a sheet membrane constructed from an Aluminium / Polythene laminate coated on one surface with a layer of self adhesive polymer modified bitumen

The product is a tough, durable, self-adhesive sheet with an overall thickness of 1.0 mm.

## TYPICAL PROPERTIES

| PROPERTY | TEST METHOD | UNITS | DATA |
|---|---|---|---|
| **DIMENSIONS** | | | |
| Backing Thickness | - | mm | 0.1 Aluminium Polythene |
| Backing Type | - | - | Laminate |
| Adhesive Thickness | - | mm | 0.90 |
| Total Thickness | - | mm | 1.00 |
| Width | - | mm | 1050 |
| Length | - | m | 28.6 |
| Area | - | $m^2$ | 30 |
| Weight | - | $kg/m^2$ | 1.1 |
| Carton Weight | - | kg | 33 |
| **MECHANICAL PROPERTIES** | | | |
| Membrane Strength | ASTM D1000 | N/mm | 3.0 |
| Elongation | ASTM D1000 | % | 40 |
| Puncture Resistance | ASTM E154 | N | 250 |
| Adhesion (180º Peel) | ASTM D1000 | N/mm | 2.0 |
| **FUNCTIONAL DATA** | | | |
| Water Vapour Transmission | ASTM E96 | $g/m^2/24h$ | <0.1 |
| Methane Gas Permeability | - | $ml/m^2/24$ hrs | <0.03 |
| Radon Diffusion | - | $m^2/s$ | $5.0 \times 10^{-14}$ |
| Dimensional Stability | MOAT 27 5.1.6 (80ºC) | % | |
| Longitudinal | | | 0.0 |
| Lateral | | | 0.0 |

Note - the Typical Data shown in this leaflet is intended as a general guide and is based on tests carried out under controlled conditions. For further information on Product Specification consult Premier Coatings Ltd.

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# DESIGN GUIDANCE

**Product:** # GAS BARRIERS

This document is aimed at providing guidance for the use of Protective measures for Ground Gas (Methane, Carbon Dioxide and Radon), VOC, and moisture protection, for new buildings, and remediation for existing buildings. The guidance contained within is based on the most up to date standards and guidance contained within CIRA, BRE, NHBC guidance documents and BS8485:2015.

Interested parties are encouraged to contact JUTA UK directly to discuss specific product needs. It is recommended to engage with JUTA UK at the earliest possible opportunity when considering use of Gas Barriers. As a manufacturer of Gas Barriers we are well positioned to advise on all aspects of project conception, design and implementation; working closely with British Standards, (BSI), CIRIA, BRE and NHBC enables JUTA UK to stay abreast of current practices and proposed future changes so that the optimal solution is always proposed. Where applicable, JUTA UK can offer bespoke guidance, and provide training, seminars and presentations related to areas of interest.

JUTA UK encourages the use of the most up to date, and relevant guidance documents, and promoting the use of suitable, sustainable products which are fit for purpose for the proposed function.

For the avoidance of doubt, this information is provided in good faith, and is prepared for the use of all specifiers, installers, users and verifiers of JUTA UK's range of products. This guidance document does not provide a comprehensive review of all guidance, and its use extends so far as to provide a summary, and quick assessment of guidance documentation.

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## BS8485:2015: Guidance on use of Protective Measures

The first step to determining the Protective measures required, is to define the site 'Characteristic *Gas* Situation' (CS), from assessment of the 'Gas Screening Value' (GSV), which is derived from analysis of flow rates of a specific hazardous gas representative of a site or zone, derived from assessment of borehole concentration and flow rate measurements and taking account of all other influencing factors, in accordance with a conceptual site model.

A summary table of the site CS with the risk, building types, and minimum Protection Score requirements is shown below:

| BS8485:2015 - Gas Protection score by CS and Type of Building | | | | |
|---|---|---|---|---|
| CS | Minimum Gas Protection Score (points) | | | |
| | High Risk | | Medium Risk | Low Risk |
| | Type A Building | Type B Building | Type C Building | Type D Building |
| 1 | 0 | 0 | 0 | 0 |
| 2 | 3.5 | 3.5 | 2.5 | 1.5 |
| 3 | 4.5 | 4 | 3 | 2.5 |
| 4 | 6.5[a] | 5.5[a] | 4.5 | 3.5 |
| 5 | - [b] | 6.5[a] | 5.5 | 4.5 |
| 6 | - [b] | - [b] | 7.5 | 6.5 |

| Notes: | |
|---|---|
| | [a] Residential buildings should not be built on CS4 or higher sites unless the type of construction or site circumstances allow additional levels of protection to be incorporated, e.g. high-performance ventilation or pathway intervention measures, and an associated sustainable system of management of maintenance of the gas control system, e.g. in institutional and/or fully serviced contractual situations. |
| | [b] The gas hazard is too high for this empirical method to be used to define the gas protection measures. |

Once a CS has been defined, a suitable protection system can then be selected and proposed.

The gas protection system (score) as defined in BS8485:2015, should consist of at least two different elements; for example, a structural barrier element with either a membrane or a ventilation/dilution element (or both). The elements work independently and collaboratively, and a single element should not be used because there would be no redundancy to allow for defects in the component.

The Structural Barrier itself (floor slab and substructure) will offer an element of protection itself, scoring between 0 and 2.5 dependant on the proposed element.

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For guidance purposes on the selection of the most appropriate protection measures, please see the below table for JUTA UK products.

| BS8485:2015 - Gas Protection score by product | | |
|---|---|---|
| **Product** | **PROTECTION SCORE** | **Condition of Use** |
| **GROUND GAS BARRIER** | | |
| **JUTA UK GP1** | **2** | Full coverage - BBA Certified for use. |
| **JUTA UK GP HC** | **2** | Full coverage |
| **VENTILATION** | | |
| **Void Vent 25** | **0.5** | Laid as strips - (recommended minimum) |
| **Void Vent 25** | **1.5** | ≤CS4 or small-medium building (<15,000m width) Full coverage - vents at 1500mm2/m |
| **Void Vent 25** | **0.5** | Large building (>15,000mm width) Full coverage - vents at 2000mm2/m |
| **Void Vent 40** | **2.5** | ≤CS4 or small-medium building (<15,000m width) Full coverage - vents at 1500mm2/m |
| **Void Vent 40** | **1.0** | Large building (>15,000mm width) Full coverage - vents at 2000mm2/m |

Additional influences on the system should then be considered, such as the hydrostatic conditions, and the likelihood of the source contaminant being in direct contact with the protective measures proposed.

From C748: Guidance on the use of Plastic Membranes as VOC Vapour Barriers, states, 'The Membranes for building protection are most likely to be placed over the floor slab or below the floor slab on a prepared sub-base or ventilating layer. The membrane is not likely to be in direct contact with the source of any vapours and so the exposure is far less. The vapour concentrations should be low, which will minimise the risk of chemical degradation of the membrane. (Testing shows damage by VOC's to membranes is based on the use of 100% concentration of challenge chemicals, rather than a dilute solution. Vapour concentrations in the ground immediately below the slab are typically at concentrations less than 1% v/v in air).'

Care must therefore be taken to mitigate and prevent through design direct contact of barrier membranes with the source or vapours. Where it is unavoidable to prevent direct contact of the barrier membrane to the source, appropriate barrier selection should include for the potential of direct contact with the source contaminant.

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## NHBC: Guidance on use of Protective Measures

| NHBC: Typical expectation of Gas Protection Requirements and Verification | | |
|---|---|---|
| **Gas Regime** | **Minimum Gas Protection Expectations** | **Minimum Verification and information requirements** |
| **GREEN** | **N/A - Need to conform to BRE 211 requirements where applicable.** | |
| **AMBER 1** | **Ventilation – subfloor venting to achieve at least one air exchange per day (minimum 150mm void height; 1500mm²/m air vent opening or 500mm²/m² floor area spaced at not more than 2m centres on at least two opposing sides).Membrane – must be suitable for purpose. Membrane installation/design - to achieve complete integrity across entire building footprint. Penetrations and joints sealed** | **Construction drawings – showing position of membrane; sealing details and ventilation points to be provided. Membrane specification – technical data sheet(s) for gas membrane (including gas permeability data) to be provided. Installation – photographic evidence of installed membrane may be requested** |
| **AMBER 2** | **Ventilation – subfloor venting to achieve at least one air exchange per day. Membrane – must be suitable for purpose (criterion detailed in BS8485:2015 clause 7.2.4). Membrane installation and design to achieve complete integrity across entire building footprint. Penetrations and joints sealed. Installer – installers must be experienced and appropriately trained and/or qualified** | **Construction drawings showing position of membrane, sealing details and ventilation points to be provided. Membrane specification – technical data sheet(s) for gas membrane (including gas permeability data) to be provided. Installation – third-party verification report with supporting evidence to be included (i.e. photographic evidence and certificates of conformity, observations relating to sealing, location of ventilators and standards of installation). Integrity testing – may be requested; testing plan to be agreed in advance** |
| **RED** | **Standard residential housing is not generally acceptable without further ground gas risk assessment and/or possible remedial mitigation measures to reduce or remove the source of the ground gases** | |

| | |
|---|---|
| **Notes** | **NHBC supports the revised British Standard Code of Practice (BS8485:2015), which provides a standardised UK approach that can be used to demonstrate compliance with Building Regulations.** |
| | **The NHBC Traffic Light guidance can still be used where the development proposals are based on the 'typical house' used in the modelling for the traffic light classification system. A typical house is defined as a house (up to three storeys) with <100m2 footprint and minimum 150mm depth clear ventilated void achieving sub-slab ventilation of one complete air exchange per day.** |

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## PRODUCT SELECTION TOOL

| | BS8485:2015 Gas Protection by CS Score | | | NHBC Traffic Light Classification | | | |
|---|---|---|---|---|---|---|---|
| Product | CS 1-4 | CS 1-5 | CS 1-6 | Green | Amber 1 | Amber 2 | Hydrocarbon/VOC Barrier |
| GP1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | * ✓ |
| GP HC | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| GP2 | ✗ | ✗ | ✗ | ✓ | ✓ | ✗ | ✗ |
| GPL | ✗ | ✗ | ✗ | ✓ | ✓ | ✗ | ✓ |
| GPH | ✗ | ✗ | ✗ | ✓ | ✓ | ✗ | ✓ |

*** Provided GP1 is not in direct contact with the ground, or in hydrostatic conditions; where a clear void of ≥150mm (or Void Vent) is provided below the Ground Bearing slab to provide ventilation, then GP1 is suitable for use as a Hydrocarbon Barrier.**

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## ADDITIONAL INFORMATION

For additional information or assistance, please contact JUTA UK directly.

# *Installation Certificates*

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 1***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 2***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 3***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 4***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 5***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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# *Installation Completion Certificate*

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 6***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 7***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 8***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *19/11/2018* |

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 9***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *30/11/2018* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 10***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

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| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *30/11/2018* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 11***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 12***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 13***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

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# *Installation Completion Certificate*

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***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 14***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/11/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 15***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

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*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/11/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 16***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/11/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 17***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/11/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: APRT BK D 18-23***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *04/02/2019* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 24***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 25***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *27/11/18* |

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# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 26***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *27/11/2018* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 27***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 28***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 29***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 30***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 31***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 32***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 33***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 34***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 35***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 36***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 37***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 38***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/02/19* |
| | | |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 39***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 40***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 41***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 42***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 43***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 44***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 45***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 46***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 47***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 48***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 49***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 50***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 51***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 52***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 53***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *09/04/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 54***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *09/04/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 55***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *20/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 56***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *28/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 57***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *28/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 58***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *28/02/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 59***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/03/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 60***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 61***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 62***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 63***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 63***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *13/06/19* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 64***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 64***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *13/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 67***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 67***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 68***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 68***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 69***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 69***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 70***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 71***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 72***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 73***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *09/04/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 74***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 75***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 76***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 77***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 78***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 79***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 80***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 81***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 82***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 83***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 84***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 85***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *27/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 86***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/05/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 87***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 88***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 89***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/03/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 90***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/03/19* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 91***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/03/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 92***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 93***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *05/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 94***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 95***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 96***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 97***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 98***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 99***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *16/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 100***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *16/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 101***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *16/01/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 102***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 103***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 104***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 105***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 106***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 107***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 108***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 109***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *15/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 110***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *08/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 111***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 112***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 113***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 114***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 115***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 116***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 117***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 118***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 119***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 120***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 121***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 122***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *08/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 123***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *08/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 124***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *30/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 125***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *11/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 126***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *11/12/2018* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: Apartment Block B 127-132***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *10/12/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 133***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 134***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *09/04/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 135***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *09/04/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 139***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *06/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 140***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *06/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 141***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *06/06/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 142***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 143***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 144***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *18/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: Apartment Block C 145-150***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *10/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 151***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *02/07/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 152***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 153***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 154***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 155***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 156***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 157***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 158***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *23/01/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 159***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 160***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/03/2019* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 161***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/03/2019* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 162***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *07/10/19* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 163***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 164***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 165***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: Apartment BK B 166-171***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 172***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *03/12/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 173***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 174***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 175***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 176***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 177***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 178***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 179***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *12/11/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 180***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 181***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 181***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 182***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 182***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 183***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 183***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 184***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 184***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 185***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 185***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 186***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 186***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

Heathfields, Friars Lane, Hatfield Heath, Herts, CM22 7BE

# *Installation Completion Certificate*

***Certificate No:*** *19-080*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 187***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *01/06/2020* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 187***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *31/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 188***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: Apartment Block A (189-197)***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 198***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 199***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |

**NEA Contracts Ltd**

13 Little Heath, Hatfield Heath, Herts, CM22 7EP

# *Installation Completion Certificate*

***Certificate No:*** *18-186*

***Company Name:*** *Gracelands Ltd.*

***Project Address:*** *Taylor Wimpey Homes Ltd, Kestrel Park, Hamble Lane, Bursledon, Hants. SO31 8GN*

***Plot No: 200***

***Materials installed:*** *Juta GP1 and Premseal GMA.*

***Application:*** *Gas barrier installation.*

***Third Party Validation:*** *Yes – Hydrock*

*NEA Contracts Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*NEA Contracts Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| *Director* | *Signed* | *Date* |
|---|---|---|
| *Neil McNamara* | [redacted] | *22/10/18* |