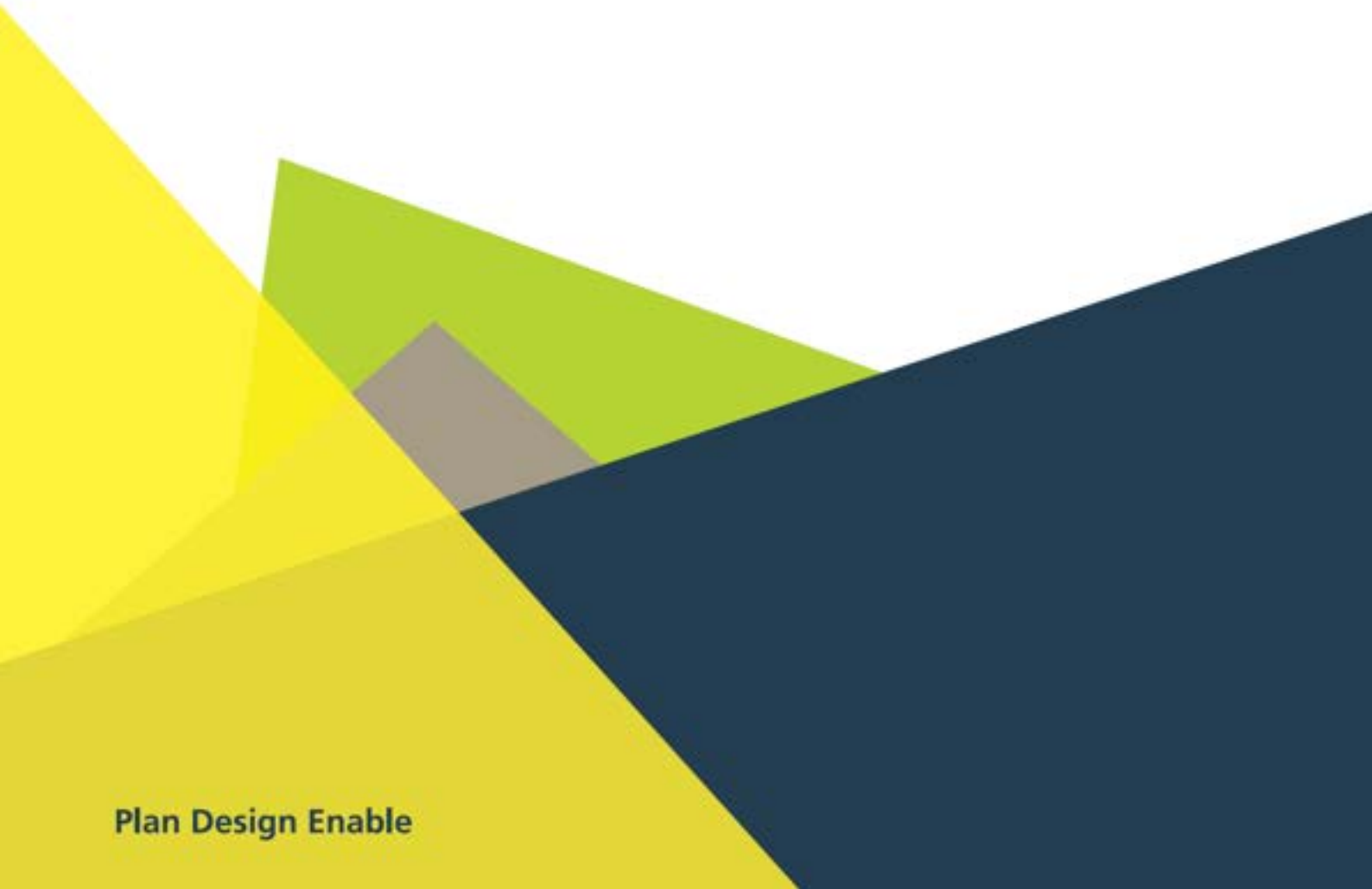
London 2012 Olympic Park

London Organising Committee of the Olympic and Paralympic Games (LOCOG)

Consolidated Validation Report (Stage 3) -
Planning Delivery Zone 3

July 2013

Final



Plan Design Enable

ATKINS
The official engineering design services provider for the London 2012 Games

London 2012 Olympic Park

London Organising Committee of the Olympic and Paralympic Games (LOCOG)

Consolidated Validation Report – (Stage 3) Planning Delivery Zone 3

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Notice

This document and its contents have been prepared and are intended solely for the London Organising Committee of the Olympic and Paralympic Games' (LOCOG's) information and use in relation to summarising their remediation and validation works within Planning Delivery Zone 3 of the Olympic Park site.

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1. Introduction

1.1 Scope

The aim of this Stage 3 Consolidated Validation Report (CVR) is to provide a high level summary of the remediation related activities carried out in Planning Delivery Zone 3 (PDZ3) by the London Organising Committee of the Olympic and Paralympic Games (LOCOG) on the London 2012 Olympic Park in Stratford, London (herein referred to as the "Site"). This Stage 3 CVR summarises LOCOG's remediation-based works up to Olympic and Paralympic Games following its progressive handover by the Olympic Delivery Authority (ODA). The ODA remediation-based scope has been reported separately within the Enabling Works (Stage 1) and Follow on Project (Stage 2) CVRs[1&2]. Together, these three CVRs form the complete summary of remediation works within each Planning Delivery Zone up to the Olympic and Paralympic Games.

This Stage 3 CVR is produced on the basis that LOCOG's Sponsors' remediation-based reports have previously been submitted to the Local Planning Authority (the London Legacy Development Corporation Planning Policy and Decisions Team, LLDC PPDT, formerly the ODA Planning Decisions Team (PDT)) for approval. Therefore, this report does not reproduce or re-evaluate any of the site specific details, results, or assessments that may have been previously reported within these reports. Where relevant, additional site information has been included herein, which has not previously been supplied to LLDC PPDT, to support the validation process. This includes site construction records, namely the Permit to Proceed (PTP) pro forma, which provide details of excavations into previously remediated ground at the site.

This document has been prepared to discharge LOCOG's obligation under Condition OD.0.36 ('Protection and Validation of Remediation') of the 2007 Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and Their Legacy Transformation Planning Application[3] as well as a number of related Slot-In validation Planning Conditions, as outlined in Section 1.3 below.

1.2 Report Objectives

As the focus of the CVRs is principally to discharge OD.0.36, it also serves to capture the other remediation related Planning Conditions on the Olympic Park set out in Section 1.3. The CVRs have been prepared so as to be issued in stages to provide clarity and ensure progressive regulatory approval is achieved.

- **Stage 1** – *submitted separately via the Enabling Works CVR[1]* – comprises Part I (Background) and Part II (Implementation of Design – Site Preparation (Enabling Works)). Part I sets out the completed remediation works within the context of the preceding remedial design. Part II discusses the implementation and validation works completed by the Enabling Works Team. The objective of this CVR (Stage 1) is to fully discharge the ODA's obligations under Condition SP.0.35 of the Olympic, Paralympic and Legacy Transformation Planning Applications: Site Preparation Planning Application[4].

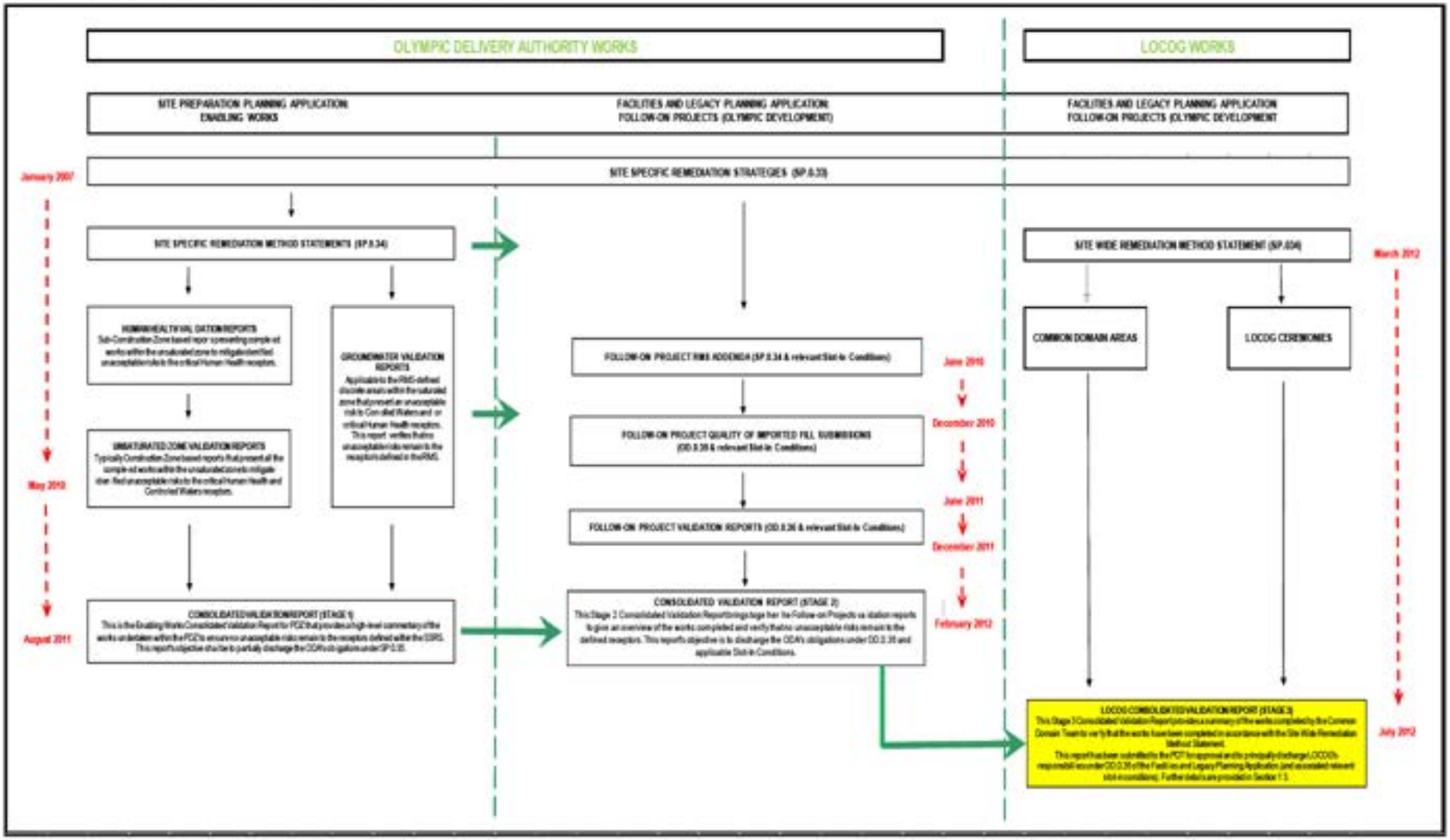
- **Stage 2** – *submitted separately via the Follow on Project CVR*[2] – comprises Part III (Implementation of Design – Olympic Development (Follow-on Projects)). Part III presents the ODA completed construction and remediation works as required to facilitate the development aspects of the works such as infrastructure, venues and landscaping. The objective of this CVR (Stage 2) is to fully discharge the ODA's obligation under Condition OD.0.36 of the Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and Their Legacy Transformation Planning Application[3] and subsequent applicable Slot-In Planning Conditions for Permissions relating to construction variations.

- **Stage 3** – *this document* – discusses remediation-related works completed by LOCOG to facilitate the Olympic Games only and the associated temporary construction of tents, cabins, utilities, sponsor showcases and the installation of hardcover to complete the Human Health Separation Layer (HHSL). The individual Sponsors have submitted their own respective validation reports to PPDT for approval. The objective of this CVR (Stage 3) is to fully discharge LOCOG's obligation under Condition OD.0.36 of the Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and Their Legacy Transformation Planning Application[3] and subsequent applicable Slot-In Planning Conditions for Permissions relating to construction variations.

This Stage 3 CVR, along with the ODA CVRs reports (Enabling Works (Stage 1) and Follow-on Project (FoP) (Stage 2)) intends to inform the landowner (LLDC) of the remediation and validation works completed to the satisfaction of the PPDT. In addition, these reports will track residual actions / issues which will need to be considered as part of any future redevelopment of the site.

The approach taken for reporting the remediation-related documentation, including validation, is presented in Table 1.1 below.

Table 1.1: Validation Reporting Structure for PDZ3



1.3 Relevant Planning Conditions

The LOCOG site layout for the Park is shown on Drawing 1 and reporting boundary for this PDZ 3 (Stage 3) CVR is presented in Drawing 2.

This document is principally submitted to discharge OD.0.36 from the 2007 Park-wide Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and Their Legacy Transformation Planning Application[3]. In some instances, there are a number of subsequent Slot-In Planning Applications with similar conditions, but with specific variations to cover the construction of certain infrastructure, such as utilities and temporary buildings. In the case of PDZ3, there are no slot-in permissions. The original wording for OD.0.36 is reproduced in Table 1.2 below.

Table 1.2: Principal Planning Condition to be discharged by this Report

Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and Their Legacy Transformation Planning Application (No. 07/90010/OUMODA):		
OD.0.36	*Protection and Validation of Remediation*	*'Validation of the Remediation Works for the purposes of human health protection must be provided within two months of completion of the Final Build Layer within any Construction Zone. When all works for the protection of human health are completed within each Planning Delivery Zone, a Consolidated Validation Report, drawing together the Construction Zone validations, shall be submitted to the Local Planning Authority.'*

1.3.1 Relevant Planning Conditions

In addition to discharging OD.0.36, there are a number of other remediation related conditions that have either been discharged progressively or will be by this report. The typical remediation-related conditions generally contain similar wording to that noted below. A site specific narrative concludes the applicability of each condition.

Table 1.3: Summary of Other Applicable Remediation Related Planning Conditions

Planning Condition	Description	Applicability to PDZ3
OD.0.26: **Foundation Details**	*"Before the construction of each building is commenced, details of the foundations and piling, the means by which previously installed remediation measures are to be safeguarded and any measures to prevent ingress of gaseous contaminants into that building or the contamination of controlled waters, shall be submitted to and approved by the Local Planning Authority".*	No piles have been installed. Ground gas and soil vapour has been assessed as part of the PDT-approved Site Wide Remediation Method Statement. See Section 3 for further details.
OD.0.37: **Protection and Validation of Remediation**	*"Approved post-remediation monitoring and maintenance of the remediated land shall continue, as set out in the validation reports, until such dates or events as are approved by the Local Planning Authority.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters."*	This condition is not directly applicable to LOCOG works as sampling/monitoring of waters is outside of LOCOG's scope across the whole Site. However, LOCOG has complied with the PTP process as part of the maintenance of the installed remedial works. Chemical testing of soils was not considered necessary as virgin-sourced aggregates were used. See Section 3 for further details.
OD.0.38 **Unexpected Contamination**	*"If at any time during the construction of the Olympic Development, contamination is encountered which was not previously identified or treated or has been brought to the surface by construction activity, construction work in that Construction Zone shall not proceed (except to the extent that it would not further disturb that contamination) until a Remediation Change Note, containing an assessment of that contamination and a scheme and timetable to contain, treat or remove it has been submitted to and approved by the Local Planning Authority and any necessary remediation has been carried out.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters."*	No instances of unexpected contamination were encountered within LOCOG works in PDZ3. See Section 3 for further details.
OD.0.39 **Quality of Imported Fill**	*"No soils or infill materials (including silt dredged from watercourses), shall be imported onto the Site until it has been satisfactorily demonstrated that they present no risk to human health, planting and the environment. Documentary evidence to confirm the origin of all imported soils and infill materials, supported by appropriate chemical analysis test results, shall be submitted to and approved by the Local Planning Authority prior to that import. The import onto the Site of material classified as 'waste' is only acceptable with the prior approval of the Local Planning Authority.* *Reason: To ensure that no contaminated material is brought onto Site."*	LOCOG imported unbound materials on to PDZ3 to complete the Human Health Separation Layer (hardcover) as noted in Section 3. It has been previously agreed with the PDT, that due to the timeframes involved, this condition will be closed out through approval of this CVR.

1.4 Site Location

PDZ3 is located approximately 1.1 km west of Stratford, London and comprises primarily the Main Olympic Stadium, within CZ3a, and the Pumping Station, which along with the Athletics Warm-Up Track (WUT) are located in CZ3b. The internal boundary that divided CZ3a and CZ3b was a notional boundary formed by the Greenway.. CZ3a is a triangular parcel of land covering approximately 20ha that is bounded by surface watercourses (City Mill River to the east and the River Lea Navigation to the west and northwest) and the Greenway to the south. CZ3b is a rough triangular parcel of land and is bounded by the River Lea Navigation to the west, the railway line to the south and east and the Greenway to the north.

For a summary of the wider site context / background of PDZ3, including the history, geology, hydrogeology, hydrology and site investigations completed, please refer to the Enabling Works (Stage 1) CVR[1].

1.5 Olympic and Legacy End Use

The Olympic and Legacy end uses for PDZ3 are set out in the ODA CVRs[1&2] and reproduced below:

Olympic Mode (see Drawing 3): The Olympic Stadium forms approximately 50% of the total site area for CZ3a. The remainder of the site is covered with hard landscaping with a relatively small proportion of soft landscaping bordering the surface watercourses. The pumping station, deep sewer shaft and the Warm-Up Track (WUT) will occupy CZ3b.

Legacy Mode (see Drawing 4): The Main Olympic Stadium will remain in use as a legacy facility. The surrounding areas will be used for a combination of: residential; educational use; a permanent road; deep foul sewer; soft river bank; and soft landscaping. The Pumping Station part of CZ3b is designated as residential use.

Upon completion of the Olympic and Paralympic Games the WUT will be removed and the site will be returned to its original land owner, and therefore there is no legacy land use in this area.

1.6 Outstanding / Excluded Works

This Stage 3 CVR only covers LOCOG's works up to Olympic Mode to reflect the works completed pre-Games. It should be noted that LOCOG's scope extended to the end of 2012 to take into account Reinstatement Works, which effectively refers to the deconstruction of all temporary overlay, particularly Sponsor Showcases.

These Reinstatement Works are not captured herein, but in line with a PPDT agreed approach, records for these works have been collated and are to be provided to LLDC for inclusion in the Stage 4 CVR process. This is discussed further in Section 4.1.

1.7 Terminology

Several key terms have been used in this and preceding CVRs, as defined below and in Appendix A:

- Reinstatement – this relates to the removal and decommissioning of all the temporary structures and features installed by LOCOG prior to handover to LLDC (please see Section 4.1).
- Human Health Separation Layer (HHSL) – this is the PPDT approved thickness of surface materials placed above the general fill/*in-situ* undisturbed material. The HHSL provides the main barrier to prevent direct contact with the underlying materials in terms of potential risks to human health. This HHSL typically consists of topsoil, subsoil and/or hardstanding and the overall thickness varies based on the defined end use of an area. Unless otherwise agreed with the PPDT the thickness of the HHSL is no less than 600 mm. In addition, the PPDT has subsequently agreed that in areas of hardcover the HHSL thickness can be reduced should there be justification to do so and with explicit PPDT agreement prior to carrying out the works.
- Interim Separation Layer – forms the base layer (100mm to 300mm) of the HHSL. The Enabling Works Formation Level (EWFL) forms its upper surface.
- Final Build Layer (also known as the Final Construction Finishes) – forms the upper 300 to 500 mm of the HHSL. The EWFL is at its base and the Final Finished Level (FFL) forms its upper surface.
- Marker Layer – a brightly coloured (typically orange) geogrid and/or geotextile placed immediately below the HHSL (including hard cover) to mark the base of the separation layer (unless otherwise stated).
- Olympic Delivery Authority – are responsible for delivering the landform and associated infrastructure for the Site. The ODA works were split into two key workstreams:
    - Enabling Works, who were responsible for the demolition, ground contamination assessment and remediation and the delivery of a chemically and geotechncially acceptable platform; and
    - Follow-On Projects (FOPs), who were responsible for the delivery of the venue and infrastructure, such as the Aquatics, Main Stadium, Bridges, Highways and Landscaping.
- Enabling Works Formation Level (EWFL) – is the platform that the Enabling Works typically completed to, which is usually 500mm below the Final Finished Level.
- Final Finished Level (FFL) – this represents the final finished surface which the human health receptors will be exposed, in general this will consist of either soft cover surfaces (landscaping etc.) or hard cover (including buildings). It forms the top of the HHSL.
- General Fill – is the chemically and geotechnically acceptable backfill materials placed by the ODA Teams (Enabling Works and Follow On Projects) below the HHSL and marker layer. The majority of these materials have been have been placed by the Enabling Works Team and comprises predominantly remediated Made Ground soils demonstrated to be compliant with the prevailing SSRS/RMS requirements.

- 'Clean' import – material, meeting the chemical and geotechnical criteria, imported and stockpiled in designated clean areas of the site. These materials are subject to the Quality of Fill Framework Letter in order to discharge Condition OD.0.39.
- Legacy Transformation Development (LTD) – refers to development relating to the transformation of the facilities for the 2012 Games (Olympic and Paralympic) following the 2012 Games and their subsequent use.
- Legacy Transformation Phase – commences after the end of the 2012 Paralympic Games closing ceremony and ends on 31st December 2014 and is tasked with undertaking the LTD.
- Site Specific Remediation Strategy (SSRS) – the remedial design that sets out the requirements to be protective of both human health and controlled waters. This document sets out the acceptable contamination / chemical concentrations.
- Site Specific Assessment Criteria (SSAC) – the contamination / chemical criteria derived through the Site Specific Remediation Strategy (SSRS), which show the upper bound contaminant concentrations considered to be protective of either controlled waters or human health. As with SSRTs chemical concentrations above the SSAC are likely to necessitate further consideration or action.
- Site Specific Remediation Target (SSRT) – the combined contamination / chemical criteria protective of both controlled waters and human health established by the SSRS. As with the SSAC chemical concentrations above these criteria will typically require further consideration.
- Sub-grade – this is the lowest level of ODA excavations in cut and fill areas. This is always underlain by undisturbed materials and may be coincident with sub-formation in areas of excavation.
- Sub-formation – this is the level at which the marker layer has been installed (or where it would have been installed if it has been agreed with PPDT that it can be omitted).
- Planning Delivery Zones (PDZs) – are used to segregate the Site into Delivery Zones.
- Construction Zone (CZ) – Sub-divisions of the Planning Delivery Zones (PDZs) used for the organisation of construction works in the Enabling Works Contract.
- Site wide Detail Design – Civil Specification (ATK-C-O-XX-XX-ALL-SPE-XX-0002 Rev C00) (or design specification as appropriate) which sets out the minimum geotechnical requirements for the placement of materials. Any materials deposited on Site should confirm to this specification.

1.8 Report Limitations

This CVR is based on third party information made available to Atkins from LOCOG, and their Contractors, as well as the ODA from the sources listed as references and the information is assumed to be accurate and complete at the time of preparing this report.

This CVR should be read in light of the legislation, statutory requirements and/or industry good practice applicable at the time of the works being undertaken. Any subsequent changes in this legislation, guidance or design may necessitate the findings to be reassessed in the light of these circumstances.

2. Basis of Remedial Design and LOCOG Amendments

2.1 Background

LOCOG were responsible for completing the temporary overlay of the London 2012 Olympic and Paralympic Games to facilitate operation during the Olympic Mode. This included the provision of temporary services, facilities (including Sponsor Showcases) and the installation of the overlay (hardcover) with limited excavations in discrete areas of the Site. Drawings 5 and 6 show the locations in the South Park where LOCOG undertook limited excavations to: install pop-up connections to the existing utilities and services systems and to install below ground duct routes; and the areas within which works were undertaken to install the showcase venues, respectively[1]. Drawing 7 details the areas within PDZ3 where LOCOG were responsible for installing the temporary facilities and sponsor showcase venues for the purposes of the Olympic Games and undertaking validation.

As part of these works, LOCOG and their Contractors have completed the remediation profile where required and ensured that the remediation works already completed by the ODA were maintained. To this end LOCOG prepared and obtained PDT approval to the Site Wide Remediation Method Statement [(5)].

These overlay works were built on the platform constructed by the ODA whose remit comprised site preparation and construction of the permanent structures and infrastructure such as roads, bridges, utilities and landscaping.

The remedial strategy for the Site was set out in a series of increasingly focussed documents which commenced with a Global Remediation Strategy (GRS). The GRS is a high level roadmap that was further developed by the Construction Zone SSRS. The SSRSs were informed by the investigation works completed in accordance with the Intrusive Investigation Method Statement (IIMS) that presents a framework and provides a generic specification for undertaking contamination intrusive investigations across the Site. The design documentation was further refined in a series of SSRS Addenda as new data became available, to ensure the remedial works were reflective of the encountered ground conditions. These documents are discussed in further detail within Appendices in the ODA CVRs[(1&2)].

Within the SSRS and SSRS Addenda, a Conceptual Site Model (CSM) was developed for CZ3a and the Pumping Station part of CZ3b presenting potential sources, pathways and receptors. Individual contaminant concentrations protective of either controlled waters or human health, termed Site Specific Assessment Criteria (SSAC), were derived through the SSRS risk assessment process.

The CZ3a CSM identified several human health critical receptors associated with the Olympic Park and Legacy end uses. It is on this basis that the CZ3a CSM was split into two Human Health zones based on the end use of the site: Zone I to the north which

[1] Please note that whilst Drawings 5 and 6 show post-Games validation locations, they demonstrate the locations where LOCOG completed, disturbed or added to the existing remediation profile across the South Park. Any supporting information regarding the post-games validation of all these locations will be provided to LLDC for inclusion in the Stage 4 CVRs.

predominantly represented the Main Stadium and the surrounding landscape areas; while Zone II to the south covered the residential and education end uses. The critical receptors in Zone I were determined to be both a child and female adult; the child receptor is considered for the outdoor air pathway (in a residential scenario representative of soft landscaping) and the female commercial receptor for indoor air which represents Stadium occupancy. For Zone II a child receptor is considered the appropriate receptor. The key sources and pathways to these receptors include dermal contact/ingestion/inhalation of placed soils, especially within soft landscape areas and communal residential landscape space.

The critical controlled waters receptors were considered to be the City Mill River (east of the site), the River Lea (flows to the west of the site) and the Waterworks River (located 200m from the eastern boundary of CZ3a). In addition discontinuous perched water, a potential contamination source, was identified within the lower portion of the Made Ground above the Alluvium, with groundwater present within the River Terrace Deposit Minor Aquifer. Deeper groundwater was present in the Lambeth Group, the Thanet Sands Formation and the Upper Chalk. In the context of the site, the groundwater within the River Terrace Deposits and Lambeth Group are not considered to be sensitive receptors on the basis that they have little resource potential and rather constitute potential pathways for contamination migration. The Thanet Sand Minor Aquifer is in continuity with the Chalk Major Aquifer which is considered to be a sensitive receptor. The Chalk is provided protection by a substantial thickness of low permeability soil in the upper overlying Lambeth Group, which acts as an aquitard to downward contaminant migration. On this basis there is not considered to be a direct pathway between the overlying River Terrace Deposits aquifer and the deeper Chalk aquifer and hence a pollutant linkage is not formed. However, in discrete areas within the Banner section of PDZ3 it is considered likely that the Lambeth Group has been compromised to allow the downward migration of contaminants.

For the CZ3b Warm Up Track section of PDZ3 a Contamination Assessment Position Paper was issued for the area. This document was designed to provide an indication of the soil and groundwater quality in terms of risks to human health during the Olympic phase only. The site will return to its original owner upon completion of its usage during the Olympics phase.

Following on from this, the ODA issued a series of Remediation Method Statements (RMSs) that sets out how the remedial design will be implemented and subsequently validated to achieve discharge of the prevailing planning conditions[4].

The Detailed Quantitative Risk Assessment process identified unacceptable risks to both human health and controlled waters receptors across PDZ3a that required excavation, treatment and/or further investigation/delineation. These unacceptable risks were addressed as part of the earthworks and remediation works carried out by the ODA and verified in a series of validation reports[1&2]. However, due to a number of factors, it emerged that a limited number of actions that were originally intended to have been completed by the ODA were transferred to LOCOG and/or LLDC to complete. These are set out in Table 3.1 below.

2.2 LOCOG Scope of Works

LOCOG were primarily required to complete the remediation, by placing the Final Build Layer of the HHSL, and to ensure the protection of the remediation already carried out by the ODA. In addition, LOCOG were required to demonstrate that their proposed works such as placement of temporary structures did not pose unacceptable risks to Human Health from ground gas and soil vapour. This work included:

- The completion of the Final Build Layer, where required, which will also, in itself, complete the HHSL required as part of the remediation of the site.
- The appropriate reinstatement of any excavations on Site (including replacement of the separation layer and Marker Layer where breached) using chemically and geotechnically complaint materials, such that the integrity of the existing remediation works is maintained.
- Appropriate ground gas mitigation measures as set out in the PDT-approved Site Wide Remediation Method Statement[5] to safeguard the workforce during Games Mode. The PDT-approved RMS confirmed that soil vapour mitigation measures were not considered necessary as set out in Section 3.

The Site Wide Remediation Method Statement[5] set out LOCOG's proposed works on the London 2012 Olympic Park. The LOCOG works were separated into work streams to suit both delivery and contractual arrangements. The proposed scope of works across these work streams fell into two broad categories. The first category, which formed the majority of LOCOG works, comprised the placement of hardcover (a bound tarmacadam (asphalt / concrete) or similar) over the ODA handover level in order to complete the Final Build Layer (HHSL) to FFL. The second category, which formed a smaller proportion of LOCOG works, comprised some limited and discrete below ground penetrations across the Site, which could be split into single penetrations and larger scale excavations. These below ground activities across the work-streams are set out below:

- The installation of tent pegs to facilitate the erection of the temporary tents during Olympic Mode ranging from 0.3m to 1.2m in length.
- The limited and discrete excavations to connect shallow utilities across the Site (see Drawing 5 for the extent of these utility excavations).
- The (even more) limited and discrete excavations to connect deeper utilities across the Site (see Drawing 5 for the extent of these utility excavations).
- The construction of shallow concrete foundations to support temporary structures, such as those for Sponsor Showcases.
- The installation of fence-posts to facilitate new fencing across the Site.

In terms of PDZ3, the works included the installation of anchor rods, utility works and tent pegs as well as the placement of hardcover.

It should be noted that a number of areas across PDZ3 were not fully remediated by the ODA. These areas were identified in the Retained Areas Risk Assessment Report (RARAR)[6] and further updated in the RARAR Addendum[7], which coincided with the completion of the ODA's works. It should be noted that as part of LOCOG's works these

areas were not impacted and therefore the RARAR Addendum is still representative of these features.

3. Implementation

3.1 Summary of Works

The following sections summarise the key construction earthworks completed by LOCOG within PDZ3 taken from the Permit to Proceed Applications (PTP's). The PTP process is an internal control methodology for works undertaken in previously remediated ground in order to demonstrate that construction works have been carried out appropriately and not impacted the existing remedial provisions. The PTP documentation presented in this Stage 3 CVR has not been provided to or reviewed by PPDT as part of a previous submission but is summarised herein with the PTP records presented in Appendix B.

3.1.1 Temporary Venue (Warm-Up Track)

The temporary Warm-Up Track Venue in CZ3b was completed by the LOCOG Team following initial work by the ODA, which created a development platform by temporarily raising levels to make the area suitable for use during the Games (see PTP Reference: 0049_WUT_PRW_0004 presented in Appendix B1). Engineering fill materials were placed directly onto the original hard surfacing which acted as both a separator and visual demarcation between the placed material and original ground. Where hardstanding was not present at the original ground level, a brightly coloured marker layer was placed to allow demarcation between this and the temporary fill materials during decommissioning of the Warm-Up Track venue post Games. The ODA also installed surface water drainage within the imported placed material although some excavation below the existing site surface was necessary for connection to the existing drainage network. The site was finished to FFL by LOCOG who were responsible for completing the final finishes, which necessitated the importation of approximately 14,000m^3 of virgin-sourced aggregates and approximately 3,500m^3 of virgin-sourced topsoil. These final finishes comprised different combinations dependent upon the temporary end use:

For the hardstanding areas (Drawing 8):

- the placement of 490mm of virgin-sourced aggregates and tarmacadam in hardstand areas (refer to the light blue areas marked as PV1 on Drawing 8); and
- the placement of 430mm of imported material to deliver the Mondo athletic track using virgin-sourced aggregate, tarmacadam and 13mm of a bound athletics track surface (refer to the purple area, marked PV1A and Warm-Up-Track on Drawing 8).

For soft landscaped areas (Drawing 8):

- 150mm of virgin-sourced topsoil for the soft landscaped areas; and
- 250mm virgin-sourced topsoil for the throws field and infield.

LOCOG also installed drainage beneath the Warm-Up Track (comprising a Warm-Up Track and Throwing Field) and in surrounding areas up to 1.5 metres below Final Finished Level (mbFFL) as shown on Drawing 1413/DR/01 presented in Appendix B1. In

addition, LOCOG also installed fence-posts up to 600mmbFFL to facilitate the construction of fencing up to 5m high (see Drawing 1413/FEN/01 presented in Appendix B1). These fence-posts were backfilled with concrete and remained above the marker layer.

All the works were carried out above the marker layer and arisings were reused, where applicable. This temporary venue has been decommissioned and completely removed following the Olympic Mode. This is further discussed in Section 4.1 but, as agreed with the PPDT, all reinstatement works will be closed out via LLDC in the Stage 4 CVR. The land has since been returned to its previous landowner.

3.1.2 Common Domain Areas

3.1.2.1 LOCOG Ceremonies

LOCOG Ceremonies installed up to 28 No. Platypus ground anchors up to 5mbFFL in the Main Stadium 'field of play'. These anchors were driven into the ground using rods, which were subsequently retracted during the Reinstatement Works. The dimensions of each of the work areas were 0.3 x 0.15 m. Given the site history and the fact that these anchors would penetrate not only the marker layer but also the subgrade, it was considered appropriate for LOCOG Ceremonies to procure specialist radiological protection advisors, Nuvia Ltd., to prepare and oversee these activities on site. Nuvia supervised these works not only from an occupational perspective, but also from a land contamination viewpoint. The NUVIA Method Statement, presented within Appendix B2-1, specifies the background concentrations, the appropriate trigger levels and their general supervision methodology.

In addition the Environment Agency, in their role as the regulatory body and responsible party with respect to Radioactive Substances Regulation, were consulted by phone and email regarding the installation and removal of the ground anchors. Notification was issued to the Environment Agency that works were being carried out in an area known to have previously encountered radiological materials in excess of the set thresholds. The LOCOG Team set out their proposed approach to the Environment Agency, which was consistent with Schedule 23 of EPR10 and proportionate to the ODA Teams previous approach. The LOCOG Team also agreed that should the thresholds be exceeded, works would stop and the Environment Agency would be notified immediately. Email correspondences with the Environment Agency, including their approval and comments regarding the method of anchor installation, are presented in Appendix B2-1.

LOCOG Ceremonies confirmed that no readings were encountered in excess of the pre-determined thresholds set out in the NUVIA Method Statement, which is demonstrated in the Survey Reports presented in PTP Applications 0069_LOCOGCER_PRW_0001 and 0002 presented in Appendix B2-1. These findings and Survey Reports were communicated by email to the Environment Agency on 21 June 2012 (see email correspondences presented in Appendix B2-1).

It was confirmed to LOCOG Ceremonies that radiological support would be required to oversee the removal of the ground anchors and any other proposed below ground works during the Reinstatement phase of works. Nuvia were subsequently contacted and provided support during the removal of the ground anchors. As agreed with the PPDT, all reinstatement works will be closed out via LLDC in the Stage 4 CVR.

3.1.2.2 Temporary Structures

There is the potential for the upward (possibly also including lateral) migration of ground gas and volatile hydrocarbon vapours from the underlying soil and/or waters. As part of the remediation-related conditions, LOCOG and their Contractors ensured such works did not pose an unacceptable risk to Human Health receptors as a result of siting temporary structures above ground or the retention of existing temporary structures through the Olympic Mode.

There are principally two types of temporary structures that were present during the Olympic-Mode; the first were temporary tents, and the second the continued use of temporary site offices that were constructed by ODA and then transferred to LOCOG for their use.

3.1.2.2.1 Temporary Tents

To facilitate the Olympic Games, a series of temporary tents of various sizes were constructed across the Site to provide 'Front of House' and 'Back of House' facilities. In the majority of cases, these temporary tents were fitted using tent pegs ranging from 600mm to 1200mm in length, equating to ground penetration of between 550mm to 1150mm (see PTP Reference: 0066_LOC_PRW_0001 presented in Appendix B2-2). The use of tent pegs as a fixing method was agreed in the Site Wide Remediation Method Statement[5]. In addition to the use of intrusive tent pegs, non-intrusive counter-weights were also used as a fixing method. It should be noted that the PTP in this instance, can only be closed upon completion of the works, which will be upon removal of the tent pegs. All of the tent pegs have been removed and the PTP has been closed and is being formally issued to the PPDT by means of this Stage 3 CVR (see appendix B2-2). As these are considered reinstatement works, these will be closed out via LLDC in the Stage 4 CVR as agreed with the PPDT.

The risks posed to Human Health in temporary structures have previously been assessed as set out in the PDT-approved Site Wide Remediation Method Statement[5]. This assessment concluded that the tents with subfloor voids would be open on at least one side and therefore ventilated to some degree. Tents with no subfloor void were considered as fully enclosed and in these instances, it was specified that these needed to be adequately ventilated at all times on the basis that a tent with 100m^2 footprint area needed at least a pair of openings, each with an opening area of 6000mm^2, on opposite sides of the tent (or equivalent ventilation). This was sufficiently addressed by maintaining openings which are equivalent in area to standard airbricks (70mm x 215mm), with the tent openings being installed above ground level on opposite sides of the tent. This was considered sufficient for (the largest) 10m x 10m tent, and also applicable to the smaller sized tent structures. The Ground Gas Risk Assessment within the Site Wide Remediation Method Statement[5] concluded that the above measures would suitably mitigate such ground gas risks to acceptably low levels. However, it was noted that should any service penetrations be present through the floor, they would need to be appropriately sealed. Atkins has not been advised of any instances where services penetrated the tent floors, but it was considered unlikely given the prescriptive and rigid generic layout and construction of the tents.

The above mentioned mitigation measures were also considered as suitably appropriate to further safeguard against the low potential for the upward migration of vapours through the unsaturated zone.

3.1.2.2.2 Site Cabins

The continued use of temporary site cabins constructed by the ODA and then subsequently transferred to LOCOG, such as the former Team Stadium retained Site Offices have been assessed for risks to Human Health from ground gas and soil vapour. In addition new site offices were created by LOCOG specifically for the Olympic-Mode and both of the aforementioned cases have been previously assessed in the LOCOG Site Wide Remediation Method Statement[5] based on the prescribed office design. It should be noted that all the permanent structures have been constructed by the ODA and are therefore outside the scope of LOCOG works.

The LOCOG site offices all comprise Elliot cabins approximately 6m long, 3m wide and 2.5m high with the ODA cabins being comparable in size. These cabins have been bolted together to form large modular buildings which are up to three storeys' high, but typically are no greater than two storeys. The cabin floors are designed to be protected by a continuous steel sheet, with approximately 100mm of void space beneath the cabin floor allowing natural ventilation. In addition, these cabins are supported on plinths (approximately 0.7m high) at all four corners.

3.1.2.3 Installation of hardcover

Another integral component of ISG's Common Domain works, carried out by SpadeOak, was the installation of tarmacadam within the 'Back of House' area in the southern part of PDZ3a. LOCOG installed 100mm of tarmacadam in accordance with the Site standard Pavement Detail (Drawing 9) in the area shown on the enclosed Pavement Area Key Plan (Drawing 8), which is understood to 'complete' the Human Health Separation Layer to FFL. The development of this platform up to the level handed over to LOCOG was completed by the ODA Teams[1&2].

3.2 Residual Actions transferred from ODA Scope

Table 3.1 below presents the residual actions identified at the end of the ODA stage of the project, as summarised within the PDZ3 Follow-on Projects (Stage 2) CVR[2]. The table below summarises the works undertaken by LOCOG to address these actions.

Table 3.1: Residual Remedial Actions from the completion of the ODA Works (Table is taken from the PDZ3 Stage 2 CVR[2])

No. (from Table 4.1 of the Stage 2 CVR)	Title	Site Specific Actions Required	Action By	Action completed by LOCOG
2.1	Completion of groundwater monitoring for the Southern Plume	'Southern Plume' groundwater monitoring across the southern part of the Olympic Park shall continue for a period of approximately 12 months (current scheduled end date December 2013), although this will be subject to groundwater monitoring results and PPDT approval. The proposed (LLDC) groundwater monitoring period will commence as soon as reasonably practicable post Games. Any variation in the scope or details of this monitoring would need to be agreed with the Environment Agency and PPDT before implementation.	Future land owners and developers / LLDC	Not applicable to LOCOG Works
2.2	Completion of groundwater monitoring for the Thanet Sands	Post-remediation groundwater validation monitoring will continue in the Thanet sands and Chalk in the Banner Area of PDZ3 for a further twelve month period, which will commence as soon as practically possible after the Olympic Games. Any variation in the scope or details of this monitoring would need to be agreed with the Environment Agency and PPDT before implementation.	Future land owners and developers / LLDC	Not applicable to LOCOG Works
2.3	Placement of vapour barriers to buildings in CZ3a Banner	The LLDC has confirmed their agreement to the incorporation of appropriate vapour mitigation measures beneath all future (Legacy) structures constructed within the former Banner Area. On this basis reference should be made to the PDZ3 Stage 1 CVR[1] where information relating to the locations across the South Park that will potentially require further vapour assessment is contained. Depending upon the results of this assessment then further vapour mitigation measures may be required. If required these would need to be appropriately implemented and validated.	Future land owners and developers / LLDC	Not applicable to LOCOG Works as Games Mode ground gas and soil vapour risks were assessed as part of the PPDT-approved Site Wide Remediation Method Statement for the temporary facilities.
2.4	Removal of Temporary Structures / Areas	Removal of the Warm-Up Track, LOCOG compound and Outside Broadcast compound and subsequent placement and/or replacement of Marker Layer and full HHSL to FFL (where applicable). The location of the temporary structures is shown in Figure 4.	Future land owners and developers / LLDC	Not applicable to LOCOG Works. As agreed with the PPDT, all reinstatement works following decommissioning and removal of the temporary structures, facilities and infrastructure will be closed out via LLDC in the Stage 4 CVR.

No. (from Table 4.1 of the Stage 2 CVR)	Title	Site Specific Actions Required	Action By	Action completed by LOCOG
2.5	Removal of Temporary Bridges	Removal of temporary Bridges F07, F17, H04 (northern section) and F08, F11 and F14 (southern section) together with subsequent placement of Marker Layer and full HHSL to FFL.	LLDC	Not applicable to LOCOG Works.
2.6	Investigation of the western portion of the CZ3b site	Following the removal of the Warm-Up Track and hand back of the site, the existing landowner should give consideration to the investigation of the site; in order to confirm if the soil and groundwater beneath the original ground level represents an unacceptable risk to the health of future site operatives or the surrounding controlled waters (in the form of the nearby rivers or the underlying aquifers). This may also need to include screening for possible radiological contamination as a precautionary measure as this part of the site has not previously been fully investigated. If remedial works are proposed then consideration will also need to be given to validating the works. The location of the Warm-Up Track is shown in Figure 4.	CZ3b land owners	Not Applicable
2.7	FoP SSAC exceedances removal	There was an exceedance of benzo(a)pyrene identified within imported fill used on the Warm-Up Track. It was deemed suitable for inclusion in the works for Games use but further assessment / consideration will be required if the material is to be re-used during Legacy Transformation works. Additional information is contained in Figure 10 and within Appendix E of the Stage 2 CVR[2].	Future land owners and developers / LLDC	Not applicable to LOCOG Works
2.8	Radiation	Any changes to the design of the Stadium Island in Legacy (particularly any excavation below the Marker Layer) will need to re-assess the risks from radiological contamination, as a precautionary measure. Refer to the Stadium Island Validation Addendum report for further information on this issue[8].	Future land owners and developers / LLDC	Not applicable to LOCOG Works.

No. (from Table 4.1 of the Stage 2 CVR)	Title	Site Specific Actions Required	Action By	Action completed by LOCOG
2.9	Placement of vapour barriers to buildings in accordance with the SSRS	Assessment of soil and gas vapour hazard and appropriate design and construction. If soil gas / vapour mitigation measures are required these would need to be appropriately implemented and validated. See also item 2.3 above.	Future land owners and developers / LLDC	Not applicable to LOCOG Works as Games Mode ground gas and soil vapour risks have been assessed as part of the PPDT-approved Site Wide Remediation Method Statement for the temporary facilities.
2.10	Placement of Marker Layer and HHSL	FoPs were required to provide survey plans within two months of completion of the entire HHSL to demonstrate to the PPDT an acceptable thickness of HHSL (minimum 600 mm thickness). These survey plans also identified any areas where the Marker Layer was not laid. Reference should be made to Figures 6 & 7 within the PDZ3 Stage 2 CVR[2] for the survey of extent of Marker Layer and HHSL placed or replaced during the works and non-remediated area drawing.	Future land owners and developers / LLDC	Below groundworks have been carried out by LOCOG as set out in Section 3.
2.11	Suitable infrastructure design	Future land owners and developers need to consider ground conditions when designing infrastructure. Infrastructure installed beneath the Marker Layer should assume ground conditions are impacted by chemical contamination and appropriate mitigation measures should be taken (e.g. use of barrier pipes for potable water, sulphate resistant concrete etc).	Future land owners and developers / LLDC	LOCOG utility works / connections and infrastructure were limited to the above marker layer materials and were for short-term duration only so did not require additional protection from aggressive ground conditions..
2.12	Suitable methods to protect contamination pathways	In agreement with PPDT the remedial designers have completed a Park-wide assessment of risks to controlled waters from removal of Alluvium (0241-OPS-SPK-C-REP-0003). Future land owners and developers need to consider protection of contamination pathways as part of their earthworks design.	Future land owners and developers / LLDC	LOCOG has not breached the alluvium other than in discrete and isolated instances as discussed in Section 3.

2.13	Protection of monitoring and groundwater remediation installations and facilities	Undertaking measures required to protect monitoring and groundwater remediation installations and facilities. Any damage to such installations or facilities is to be reported to the appropriate permitting parties as soon as practicable so that remedial works/decommissioning (as appropriate) can be undertaken.	Future land owners and developers / LLDC	The boreholes identified by ODA in PDZ3 were safeguarded during LOCOG's works and have been transferred to LLDC for future monitoring. A letter detailing these boreholes was issued to LLDC from ODA dated 28th September 2012 (ref. LET-ATK-PM-ZZZ-ZZZ-ZZZ-E-3581) and confirms 77 no. boreholes remain in PDZ3 for future post-Games monitoring (refer to details in Appendix B4).

No. (from Table 4.1 of the Stage 2 CVR)	**Title**	**Site Specific Actions Required**	**Action By**	**Action completed by LOCOG**
2.14	Excavation of soils at the Site	Future land owners and developers shall take appropriate health and safety measures to protect workers involved in excavation of soils. It is likely that a permitting system similar to PTP shall be implemented within the Olympic Park in post-Games mode. Future land owners/developers should be cognisant of utilities works below Enabling works sub grade completed by McNicholas Utilities. In certain areas the project re-used non validated materials around their utilities. As such below Marker Layer soils around utilities should be treated as potentially contaminated / harmful to health. This is highlighted in the applicable Asset Holders health and safety file. Health and safety risks to future workers assessing these utilities should be assessed in advance of undertaking works. In addition future developers should also be aware of the Root-X membrane installed to retard the spread of Japanese Knotweed within utility works in some parts of PDZ3.	Future land owners and developers / LLDC	Not applicable to LOCOG Works.

2.15	Completion of unremediated areas & Restrictions to remediation	An addendum[7] to the RARAR has been produced by the remedial designers for details of areas not remediated as part of the ODA works. Contractors shall also be cognisant of the Residual Actions detailed in the RARA Addendum report (0241-ENW-PWD-CM-REP-0001) and in particular when working in the proximity of the features referenced in this report.' Future developers also need to consider what additional information is required in these areas. This includes the ODA 'White Space Areas' where the full remedial scope has not been implemented.	Future land owners and developers / LLDC	Not applicable to LOCOG Works.
2.16	Risk assessments	Future land owners and developers shall undertake appropriate risk assessments with respect to UXO, pathogens, asbestos. Radiation and ground gas / vapours when undertaking excavations and/or construction activities during Legacy phase.	Future land owners and developers / LLDC	Not applicable as LOCOG works remained within the ODA Fill materials, other than the ground anchor works as discussed in Section 3.1.2.1. Ground gas and soil vapour have also been assessed as discussed in Section 3.1.2.2

No. (from Table 4.1 of the Stage 2 CVR)	Title	Site Specific Actions Required	Action By	Action completed by LOCOG
2.17	Future land use	Future land owners and developers shall ensure that areas designated for different land uses are not amended without reassessment of the soil conditions and that the Site is not used for growing edible crops or for private gardens. This includes the ODA 'White Space Areas' where the full remedial scope has not been implemented.	Future land owners and developers / LLDC	Not applicable. No works have been completed in 'retained areas'[6&7] and LOCOG have not altered or increased the sensitivity of any Olympic end use.
2.18	Changes in final levels	Any works by future land owners and developers involving a reduction of FFL will require a reassessment of the underlying soil and potentially additional investigation or remediation. The design levels used for the ODA remediation assume that a minimum 600 mm thickness HHSL will be provided.	Future land owners and developers / LLDC	LOCOG have, where required, completed the final finishes to form the temporary hardcover during Games Mode as set out in the Design.

2.19	Outer Perimeter Security Fence Removal	An easement associated with the Outer Perimeter Security Fence (OPF) has meant that remediation and placement of Marker Layer and full HHSL has not been completed by ODA. The area of the OPF shall be assessed and corrective actions undertaken to complete the remedial design as part of the Legacy / Transformation phase. The location of the OPF is shown in Figure 4 of the Stage 2 CVR[2].	Future land owners and developers / LLDC	Not applicable to LOCOG Works.
2.20	Piling Risk Assessments	Piling risk assessments are required for any future structures constructed across the site.	Future land owners and developers / LLDC	Not applicable to LOCOG Works.
2.21	Invasive Species Monitoring	Ongoing monitoring of invasive species adjacent to river bank, as discussed in the Stage 2 CVR[2]. The location of invasive species requiring ongoing monitoring is shown in Appendix E of the Stage 2 CVR[2].	Future land owners and developers / LLDC	Not applicable to LOCOG Works.

No. (from Table 4.1 of the Stage 2 CVR)	Title	Site Specific Actions Required	Action By	Action completed by LOCOG
2.22	Validation reporting	Future works will need to be captured and recorded through the established validation process including further stages of Consolidated Validation Report production on a zonal basis. This includes the LLDC Stage 4 CVRs, infrastructure 'bump-out', where necessary and subsequent Transformation and Legacy stages of the project.	LOCOG, LLDC and future land owners and developers	All LOCOG's remediation-based works up to Olympic and Paralympic Games have been captured in this Stage 3 CVR. As agreed with PPDT, all reinstatement works following decommissioning and removal of the temporary structures, facilities and infrastructure will be closed out via LLDC in the Stage 4 CVR.

3.3 Safeguarding Remediation / Reinstatement of Protection Measures Post Games

LOCOG was required to comply with the 'Permit to Proceed' (PTP) system put in place by ODA, which aimed to ensure the completed remediation works were protected from subsequent works (Appendix C).

Prior to the commencement of ground excavation works that predominately penetrated the marker layer, the information required by the PTP team was provided on an ATK-084 'Protection of Remediation Works' proforma by LOCOG and submitted to the PTP team for approval. The PTP team informed LOCOG of the pertinent remedial aspects they should be aware of during their works. On completion of the ground excavation works LOCOG demonstrated to the PTP team (through the completion of Section C) that adequate protection of the existing remediation works had been undertaken.

This process was supported by periodic PTP Audits of the projects by the PTP team, which monitored materials management and protection of remediation works. If non-compliances were identified during these audits, the LOCOG project management team were notified and steps put in place to address the issues. PTPs are presented in Appendix B.

3.4 Mitigation Measures for Contamination Migration

Whilst a number of below ground works were undertaken in this PDZ as set out in Sections 2.2 and 3.1, the majority were predominantly limited to the above marker layer materials. A number of discrete locations did, however, penetrate the underlying Marker Layer but it is considered that these works had a minimal and confined impact to the Marker Layer due to these being small diameter punctures at isolated locations.

There were no recorded instances of the underlying relatively impermeable Alluvium being penetrated to potentially create a preferential migration pathway to the underlying River Terrace Deposits.

In addition, there are a number of existing boreholes in PDZ3 that require decommissioning post-Games during the reinstatement phase of works. This is discussed further in Section 4.1 with details of retained groundwater monitoring boreholes provided in Appendix B4.

3.5 Restrictions, Retained Areas & Residual List

It is understood that there were restrictions to the completion of the ODA Team's remediation works as a result of constraints such as third party boundaries and retained vegetation, these constraints are recorded on the ODA as-built drawings. As noted in Section 2.2, these retained areas have been recorded and updated as a result of the ODA's works though have not required updates due to LOCOG's works as no LOCOG temporary structures were placed on these restricted areas.

3.6 Sampling and Analytical Testing

Whilst no *in situ* sampling and validation chemical testing was considered necessary in PDZ3 by LOCOG's contractors, the chemical acceptability criterion (SSACs) for each Construction Zone is set out in the PDT-approved Site Wide Remediation Method Statement[5]. Nonetheless, in instances where chemical testing is required, the methodologies proposed would have been undertaken in accordance with recognised UK industry guidance and Park-wide protocols. Analyses of samples would have been undertaken by UKAS accredited laboratories using MCERTS accredited methods.

3.7 Radiological Material / Unexpected Contamination

No instances of unexpected contamination, as set out in Condition OD.0.38 in Section 1.3, were recorded during LOCOG works in this zone.

As referred to in Section 3.1.2.1, radiological assessment associated with ground anchor installation and extraction was undertaken by Nuvia on behalf of LOCOG Ceremonies as part of the works on the opening ceremony for the Games. The associated correspondence and summary survey records associated with these works are presented in Appendix B2-1.

3.8 Materials Management

In accordance with the PTP records presented in Appendix B, no materials were excavated from above or below the marker layer for the purposes of the stated LOCOG works in PDZ3. Similarly, no site derived unbound materials were re-used by LOCOG.

Imported materials comprised virgin Type 1 used as sub-base and surfacing materials in back of house areas to the south of Main Stadium (CZ3a) and virgin topsoil, used beneath the field of play turf and in limited soft landscape areas at the Warm Up Track in CZ3b. These latter materials have been subsequently removed from CZ3b as part of the transformation works and will be subject to subsequent validation, where re-used elsewhere. The Type 1 virgin aggregate used in the back of house areas was Torr Quarry limestone, sourced through the ODA Approved Supplier, Aggregate Industries and widely used across the Park. This material has been subject to previous PDT and PPDT approvals under applicable Quality of Imported Fill applications.

Temporary stockpiling of materials was managed by all LOCOG's contractors in accordance with the PDT approved Site Wide Remediation Method Statement[5]. This involved the segregation of above and below marker layer materials, where required, using ground sheeting and appropriate bunding of potentially contaminated material.

The PDT-approved LOCOG Site Wide Remediation Method Statement[5] discusses the agreement reached with the Environment Agency for use of a U1 Waste Management Exemption by the ISG Team. This type of exemption would have allowed the use of suitable "wastes" for small scale construction of up to 1000 tonnes per PDZ. In addition it would also have allowed the reuse of below marker layer materials. However, in practicable terms, it was unmanageable to implement across the Site with individual

work packages being typically of short duration and delivered to a restrictive programme. Given these constraints the project could not accommodate the additional costs and delays awaiting the receipt and assessment of chemical test data. It is for these reasons that following a re-review, virgin-sourced and/or engineered products were reused or used in LOCOG works and below marker layer materials were sent off-site to an appropriately licensed recycling facility.

3.9 Health, Safety and Environment

LOCOG works were completed in accordance with Construction (Design and Management) (CDM) Regulations. Permit to work, permit to dig and permit to proceed systems were in operation for the duration of LOCOG works. Staff wore, as a minimum, suitable Personal Protective Equipment (PPE), with gloves, helmets, boots, eye protection and hi-vis clothing. All details regarding Health and Safety, environmental controls and monitoring are provided within the various LOCOG construction risk assessments and method statements.

Baseline environmental monitoring across the Olympic Park was undertaken and reported by the ODA and was therefore outside of LOCOG's scope.

4. Conclusions

This PDZ3 LOCOG CVR concludes that the placed soils do not pose an unacceptable risk to the SSRS defined critical controlled waters and human health receptors. On this basis this PDZ3 CVR seeks to discharge LOCOG's obligations under Condition OD.0.36 of the Facilities and Their Legacy Transformation Planning Application and the Slot-In Validation Planning Conditions.

Residual remedial actions for completion during future works and / or restrictions to future development within PDZ3 are summarised in Table 4.1 below. The incoming Project Teams should be cognisant of these residual actions together with the underlying assumptions of the SSRS design.

4.1 Reinstatement Works

This report only discusses LOCOG temporary works up to Olympic-Mode. LOCOG's actual scope was subsequently completed towards the end of 2012 upon completion of the Reinstatement Works, which originally comprised deconstruction of all temporary facilities and removal of temporary hardcover. The agreed approach to these Reinstatement Works was issued to LLDC PPDT from Atkins, on behalf of LOCOG, via email correspondence dated 19th October 2012 (refer to Appendix B3).

Within this correspondence it was confirmed that validation documentation, to support these works, would be provided to LLDC for inclusion in the Stage 4 CVRs. In addition, it was agreed with both LOCOG and LLDC that showcase structures would be deconstructed and all Reinstatement Works in these areas would be carried out in the above marker layer materials only.

Reinstatement Works were to comprise the cutting down of piles to marker layer, where piled foundations were used, removal of concrete bases (where necessary) and the removal/capping of temporary shallow utilities.

The existing Human Health Separation Layer (HHSL) was to be reused in these discrete areas as backfill. Given the discrete nature of the works, controlled method of excavation comprising segregation, storage on hardcover and the type of material used in the HHSL (typically virgin sourced materials), no chemical testing was considered necessary.

It may have been necessary to import a small volume of backfill to make these levels back up to the existing ground level. In these instances virgin-sourced materials were to be imported. An Import of Fill application was submitted to cover this import Park-wide which was approved by the PPDT[9]. This submission included source, quantity, deposition and timeframe as set out in the Import of Fill Framework letter[10].

The Reinstatement Works have been recorded on a Permit to Proceed (or similar) and include the following pertinent details: description of the proposed works, as-built drawings (for cutting off piles), site plans, photographs and confirmation from LOCOG that these works were appropriately carried out in accordance with the agreed approach.

These PTPs (or similar) were prepared on an area basis and form one part of the handover pack to LLDC. It will then be for LLDC, as agreed, to seek discharge from PPDT of these and their works.

However, all existing hardcover outside of the showcase structures and utility ducts has been retained and transferred to LLDC.

Any boreholes encountered during the Reinstatement Works were to be appropriately decommissioned, unless they are confirmed by ODA/LLDC as being part of the long term monitoring programme. In such instances, these boreholes are to be appropriately maintained.

The Reinstatement Works were overseen by LOCOG and independently verified by the PTP team (or equivalent) for and on behalf of LLDC. Following completion of these Reinstatement Works, the PTP application was closed and forms the sole record of LOCOG works, which has been passed directly on to LLDC to validate these works to the satisfaction of PPDT.

4.2 Further Works – Residual List and Issues Affecting Future Development

Table 4.1 below records the outstanding works that were generated from the ODA and LOCOG pre-Games scope that have subsequently been transferred to LOCOG for completion during the Reinstatement Works or Transformation phases of the site redevelopment. This table updates similar tables presented in the ODA CVRs[1&2].

In addition, Table 4.1 records some key aspects for future developers to consider as part of their works. It is further noted that this table does not in any way alleviate the incumbent Project Teams from complying with the full requirements of the remediation documentation, their legal, regulatory and contractual obligations.

Appendix D of this report provides a tracker of comments raised by Hyder Consulting Limited (Hyder), PPDT's technical consultants, as a result of review of this document together with responses from the applicant. This tracker confirms the comments raised have been closed out.

Table 4.1: Works for Incoming Projects and Restrictions on Future Works

No.	Title	Site Specific Actions Required	Action By
3.1	Completion of groundwater monitoring for the Southern Plume	'Southern Plume' groundwater monitoring across the southern part of the Olympic Park shall continue for a period of approximately 12 months (current scheduled end date December 2013), although this will be subject to groundwater monitoring results and PPDT approval. The proposed (LLDC) groundwater monitoring period will commence as soon as reasonably practicable post Games. Any variation in the scope or details of this monitoring would need to be agreed with the Environment Agency and PPDT before implementation.	Future land owners and developers / LLDC
3.2	Completion of groundwater monitoring for the Thanet Sands	Post-remediation groundwater validation monitoring will continue in the Thanet sands and Chalk in the Banner Area of PDZ3 for a further twelve month period, which will commence as soon as practically possible after the Olympic Games. Any variation in the scope or details of this monitoring would need to be agreed with the Environment Agency and PPDT before implementation.	Future land owners and developers / LLDC
3.3	Placement of vapour barriers to buildings in CZ3a Banner	The LLDC has confirmed their agreement to the incorporation of appropriate vapour mitigation measures beneath all future (Legacy) structures constructed within the former Banner Area. On this basis reference should be made to the PDZ3 Stage 1 CVR[1] where information relating to the locations across the South Park that will potentially require further vapour assessment is contained. Depending upon the results of this assessment then further vapour mitigation measures may be required. If required these would need to be appropriately implemented and validated.	Future land owners and developers / LLDC
3.4	Removal of Temporary Structures / Areas	Removal of the Warm-Up Track, LOCOG compound and Outside Broadcast compound and subsequent placement and/or replacement of Marker Layer and full HHSL to FFL (where applicable). The location of the temporary structures is shown in Figure 4 of the Stage 2 ODA CVR[2].	Future land owners and developers / LLDC
3.5	Removal of Temporary Bridges	Removal of temporary Bridges F07, F17, H04 (northern section) and F08, F11 and F14 (southern section) together with subsequent placement of Marker Layer and full HHSL to FFL.	LLDC

No.	Title	Site Specific Actions Required	Action By
3.6	Investigation of the western portion of the CZ3b site	Following the removal of the Warm-Up Track and hand back of the site, the existing landowner should give consideration to the investigation of the site; in order to confirm if the soil and groundwater beneath the original ground level represents an unacceptable risk to the health of future site operatives or the surrounding controlled waters (in the form of the nearby rivers or the underlying aquifers). This may also need to include screening for possible radiological contamination as a precautionary measure as this part of the site has not previously been fully investigated. If remedial works are proposed then consideration will also need to be given to validating the works. The location of the Warm-Up Track is shown in Figure 4 of the Stage 2 ODA CVR[2].	CZ3b land owners
3.7	FoP SSAC exceedances removal	There was an exceedance of benzo(a)pyrene identified within imported fill used on the Warm-Up Track. It was deemed suitable for inclusion in the works for Games use but further assessment / consideration will be required if the material is to be re-used during Legacy Transformation works. Additional information is contained in Figure 10 and within Appendix E of the Stage 2 CVR[2].	Future land owners and developers / LLDC
3.8	Radiation	Any changes to the design of the Stadium Island in Legacy (particularly any excavation below the Marker Layer) will need to re-assess the risks from radiological contamination, as a precautionary measure. Refer to the Stadium Island Validation Addendum report for further information on this issue[8]. In addition, the LOCOG Ceremonies ground anchor reinstatement works are to be captured in subsequent validation reporting by the transformation team.	Future land owners and developers / LLDC
No.	**Title**	**General Actions Required**	**Action By**
3.9	Placement of vapour barriers to buildings in accordance with the SSRS	Assessment of soil and gas vapour hazard and appropriate design and construction. If soil gas / vapour mitigation measures are required these would need to be appropriately implemented and validated. See also item 2.3 above.	Future land owners and developers / LLDC
3.10	Placement of Marker Layer and HHSL	FoPs were required to provide survey plans within two months of completion of the entire HHSL to demonstrate to the PPDT an acceptable thickness of HHSL (minimum 600 mm thickness). These survey plans also identified any areas where the Marker Layer was not laid. Reference should be made to Figures 6 & 7 within the PDZ3 Stage 2 CVR[2] for the survey of extent of Marker Layer and HHSL placed or replaced during the works and non-remediated area drawing.	Future land owners and developers / LLDC

3.11	Suitable infrastructure design	Future land owners and developers need to consider ground conditions when designing infrastructure. Infrastructure installed beneath the Marker Layer should assume ground conditions are impacted by chemical contamination and appropriate mitigation measures should be taken (e.g. use of barrier pipes for potable water, sulphate resistant concrete etc).	Future land owners and developers / LLDC

No.	Title	General Actions Required	Action By
3.12	Suitable methods to protect contamination pathways	In agreement with PPDT the remedial designers have completed a Park-wide assessment of risks to controlled waters from removal of Alluvium (0241-OPS-SPK-C-REP-0003). Future land owners and developers need to consider protection of contamination pathways as part of their earthworks design.	Future land owners and developers / LLDC
3.13	Protection of monitoring and groundwater remediation installations and facilities	Undertaking measures required to protect monitoring and groundwater remediation installations and facilities. Any damage to such installations or facilities is to be reported to the appropriate permitting parties as soon as practicable so that remedial works/decommissioning (as appropriate) can be undertaken.	Future land owners and developers / LLDC
3.14	Excavation of soils at the Site	Future land owners and developers shall take appropriate health and safety measures to protect workers involved in excavation of soils. It is likely that a permitting system similar to PTP shall be implemented within the Olympic Park in post-Games mode. Future land owners/developers should be cognisant of utilities works below Enabling works sub grade completed by McNicholas Utilities. In certain areas the project re-used non validated materials around their utilities. As such below Marker Layer soils around utilities should be treated as potentially contaminated / harmful to health. This is highlighted in the applicable Asset Holders health and safety file. Health and safety risks to future workers assessing these utilities should be assessed in advance of undertaking works. In addition future developers should also be aware of the Root-X membrane installed to retard the spread of Japanese Knotweed within utility works in some parts of PDZ3.	Future land owners and developers / LLDC
3.15	Completion of unremediated areas & Restrictions to remediation	An addendum[7] to the RARAR has been produced by the remedial designers for details of areas not remediated as part of the ODA works. Contractors shall also be cognisant of the Residual Actions detailed in the RARA Addendum report (0241-ENW-PWD-CM-REP-0001) and in particular when working in the proximity of the features referenced in this report.' Future developers also need to consider what additional information is required in these areas. This includes the ODA 'White Space Areas' where the full remedial scope has not been implemented.	Future land owners and developers / LLDC

3.16	Risk assessments	Future land owners and developers shall undertake appropriate risk assessments with respect to UXO, pathogens, asbestos. Radiation and ground gas / vapours when undertaking excavations and/or construction activities during Legacy phase.	Future land owners and developers / LLDC
3.17	Future land use	Future land owners and developers shall ensure that areas designated for different land uses are not amended without reassessment of the soil conditions and that the Site is not used for growing edible crops or for private gardens. This includes the ODA 'White Space Areas' where the full remedial scope has not been implemented.	Future land owners and developers / LLDC

No.	Title	General Actions Required	Action By
3.18	Changes in final levels	Any works by future land owners and developers involving a reduction of FFL will require a reassessment of the underlying soil and potentially additional investigation or remediation. The design levels used for the ODA remediation assume that a minimum 600 mm thickness HHSL will be provided.	Future land owners and developers / LLDC
3.19	Outer Perimeter Security Fence Removal	An easement associated with the Outer Perimeter Security Fence (OPF) has meant that remediation and placement of Marker Layer and full HHSL has not been completed by ODA. The area of the OPF shall be assessed and corrective actions undertaken to complete the remedial design as part of the Legacy / Transformation phase. The location of the OPF is shown in Figure 4 of the Stage 2 CVR[2].	Future land owners and developers / LLDC
3.20	Piling Risk Assessments	Piling risk assessments are required for any future structures constructed across the site.	Future land owners and developers / LLDC
3.21	Invasive Species Monitoring	Ongoing monitoring of invasive species adjacent to river bank, as discussed in the Stage 2 CVR[2]. The location of invasive species requiring ongoing monitoring is shown in Appendix E of the Stage 2 CVR[2].	Future land owners and developers / LLDC
3.22	Validation reporting	Future works will need to be captured and recorded through the established validation process including further stages of Consolidated Validation Report production on a zonal basis. This includes the LOCOG infrastructure removal and Reinstatement Works, in accordance with the agreed approach, which are to be reported by LLDC and subsequent Transformation (Stage 4 CVRs) and Legacy stages of the project.	LLDC and future land owners and developers

Note: This table incorporates residual actions following completion of the ODA and LOCOG works and represents the status at the end of the Stage 3 consolidated reporting (hence the Residual Action Nos. 3.1 etc). These actions will need to be considered by future parties and incorporated in subsequent validation reporting (for example, the Transformation phase Stage 4 CVRs).

5. References

1. Atkins Limited (for the Olympic Delivery Authority), PDZ3 Enabling Works (Stage 1) Consolidated Validation Reports (REP-ATK-PM-ZZZ-ZZZ-ZZZ-E-0194), Rev 4, July 2012 (Decision Notice Ref: 11/90438/AODODA).
2. Atkins Limited (for the Olympic Delivery Authority), PDZ3 Follow On Projects (Stage 2) Consolidated Validation Reports (REP-ATK-PM-03Z-ZZZ-ZZZ-Z-0001), Rev 3, January 2013 (Decision Notice Ref: 12/00038/AOD).
3. Planning Application Approval (Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and their Legacy Conditions Planning Application, Application No – 07/90010/OUMODA, Date of Application - 7th February 2007): Condition 36.
4. Planning Application Approval (Olympic, Paralympic and Legacy Transformation Planning Applications: Site Preparation Planning Application, Application No – 07/90011/FUMODA, Date of Application - 7th February 2007): Condition 35
5. Atkins (for London Organising Committee of the Olympic and Paralympic Games), Site Wide Remediation Method Statement (ATK-ES-O-XX-XX-ALL-MST-XX-0001), May 2012 (Decision Notice Ref: 12/90179/AODODA).
6. Atkins Limited (for the Olympic Delivery Authority), Retained Areas Risk Assessment (REP-ATK-CM-ZZZ-OLP-XXX-E-0007), Rev04, May 2012 (Decision Notice Ref: 11/90102/AODODA).
7. Atkins Limited (for the Olympic Delivery Authority), Retained Areas Risk Assessment – Addendum Report (0241-ENW-PWD-CM-REP-0001), 07 December 2012 (Decision Notice Ref: 11/90102/AODODA).
8. Buro Happold. Stadium Island Validation Report Addendum. 6050-STA-STA-CM-REP-0002-P01. (Decision Notice Ref: 12/90294/AODODA).
9. Atkins Limited (for the London Organising Committee of the Olympic Games). Letter and enclosure from Atkins dated 18th December 2012: Olympic Park LOCOG Reinstatement Works Quality of Imported Fill Application (Rev 2, Final) reference 5082494/2006236/C003 rev2. (Decision Notice Ref: 12/00229/AOD).

DRAWINGS

Drawing 1 (POP-A-O-XX-MP-CDM-SP-00-003 B03): Common Domain Overlay Site Plan

Drawing 2: PDZ3 Common Domain Overlay

Drawing 3 (0239-MPO-URB-T-DSP-5111): Olympic End Use

Drawing 4 (SKE-EDW-UD-ZZZ-ZZZ-XXX-CA0006): Legacy End Use

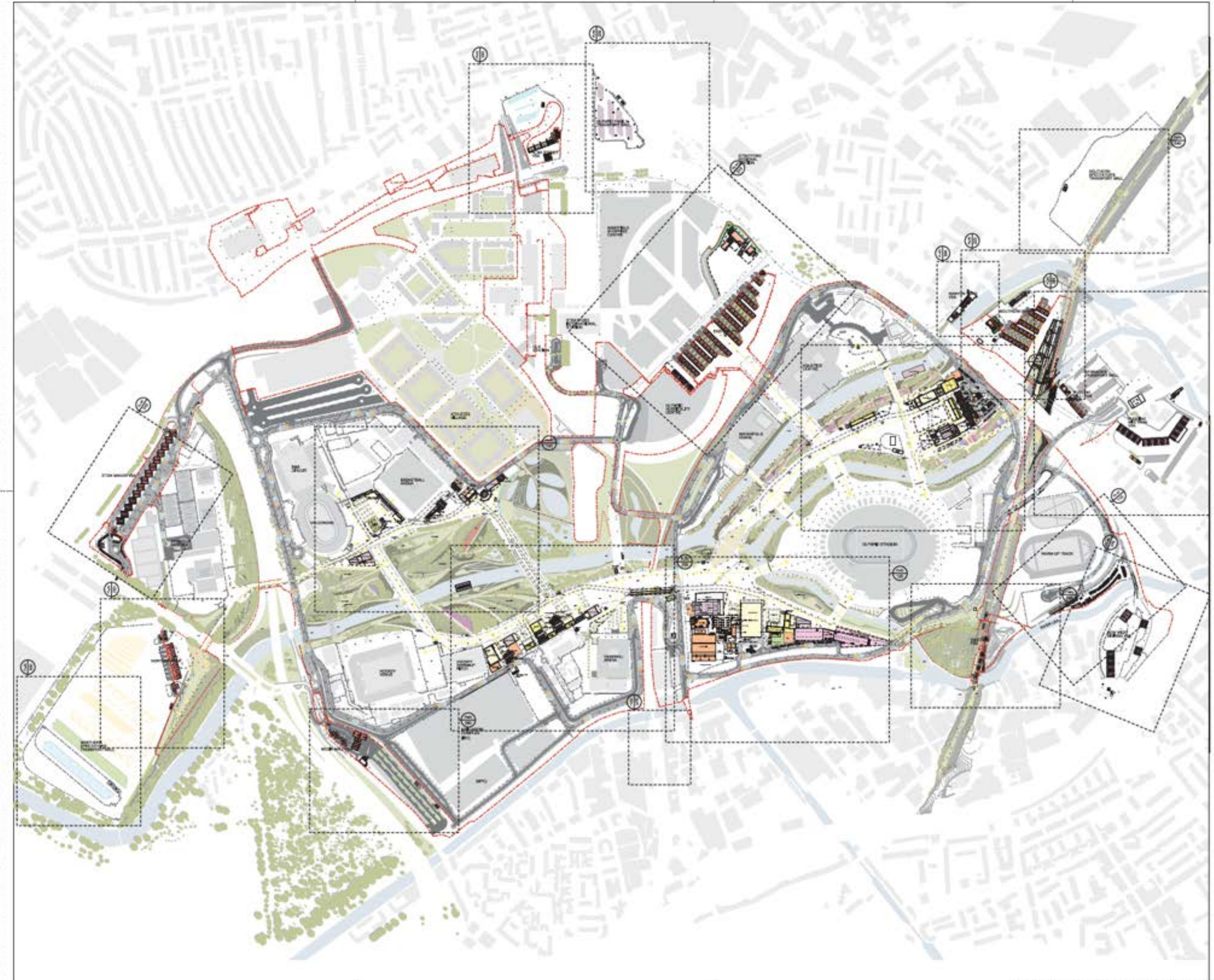
Drawing 5: SK-POP-2080_Post Games Reinstatement Works South Park_02

Drawing 6: Showcase Venue Reinstatement Areas - South Park

Drawing 7: Plan of LOCOG & Sponsor Showcase Validation Areas

Drawing 8 (LC810-LTR-OLS-C-DGA-0003): Pavement Area Key Plan

Drawing 9 (ATK-C-O-XX-XX-ALL-GE-XX-8055): Pavement Details



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constituent groups & flows

- spectators
- athletes/comp. mans.
- press
- sponsors
- olympic family
- access control
- spectator queuing area
- secure perimeter fence
- spectator flow
- transport flow
- operative flow
- (haul road indicative only)
- spectators
- field of play
- broadcast
- ceremonies
- operations
- transport
- broadcast cable route
- areas pending decision (see adjacent note)

PLEASE REFER TO REVISION DRAWING SET FOR DETAILS OF REVISIONS

[redacted]

SAFETY, HEALTH AND ENVIRONMENT INFORMATION
Based on the use of experienced and competent contractors working to an approved method statement list unusual/residual hazards / risks are listed below or the statement NO UNUSUAL RISKS

Construction C1 C2	
Operations O1 O2	
Maintenance M1 M2	
Dismantling / Demolition D1 D2	

1:4000 @ A1; 1:8000 @ A3

KEY PLAN

OLYMPIC PARK KEY PLAN

Common Domain

DRAWING TITLE

Overlay Site Plan Ground Level

STATUS	PROJECT NO.
Detailed Design	4251.01

DRAWING NUMBER

POP - A - O - XX - MP CDM - SP - 00 - 003

DATE	SCALE @A1	SIZE	ISSUE
18.12.2009	1:4000	A1	B03

CHECKED	APPROVED
[redacted]	[redacted]

OVERLAY DESIGN SET - NOT FOR CONSTRUCTION

COMMON DOMAIN - PDZ3 Overlay Site Plan

DRAWING 2

APPROXIMATE PDZ3 BOUNDARY

OLYMPIC STADIUM

WARM UP TRACK

WESTERN PSA

RIVER LEA

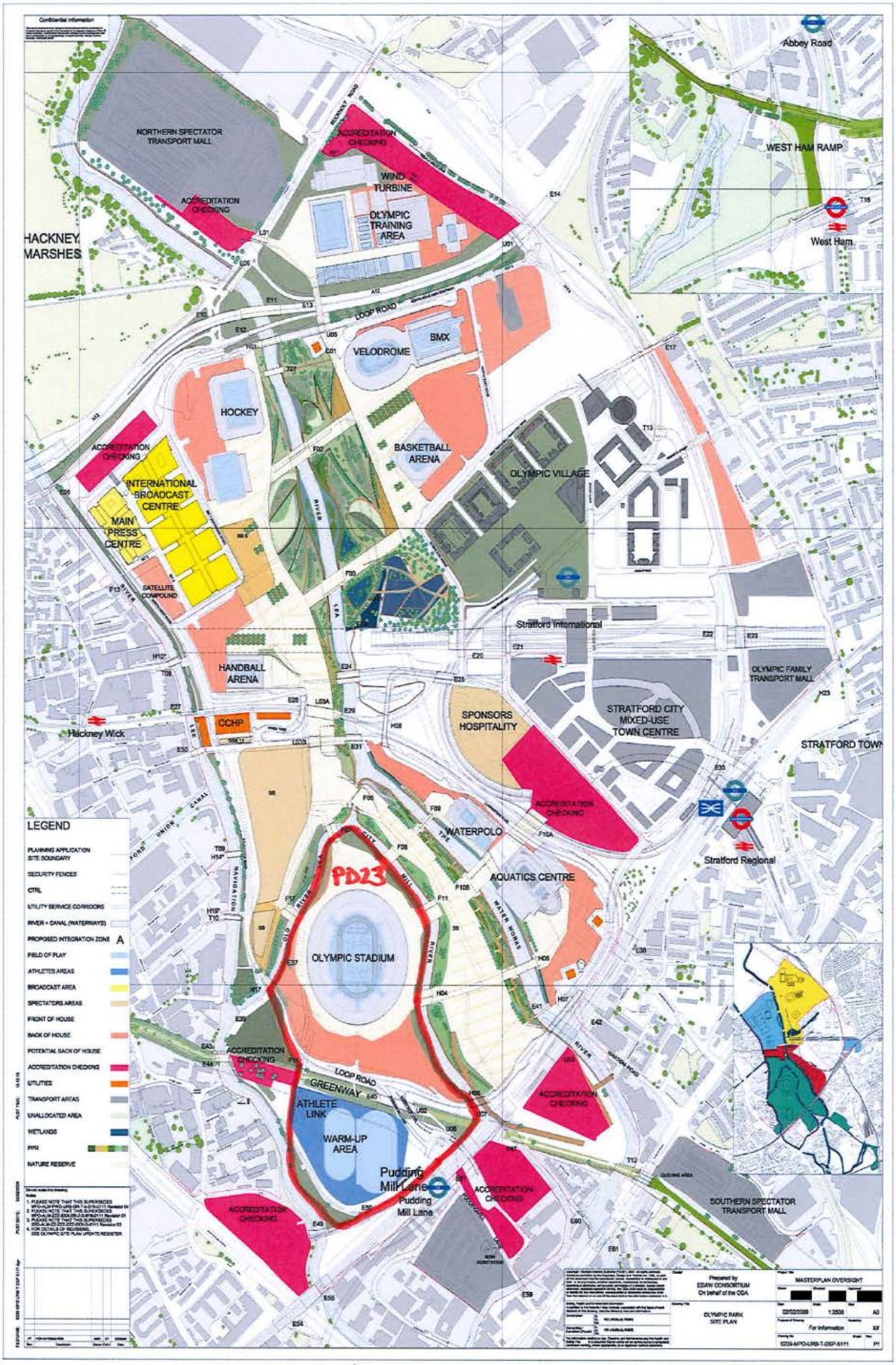
BOW WEST SIDINGS VSA

PL-00 110

PL-00 120

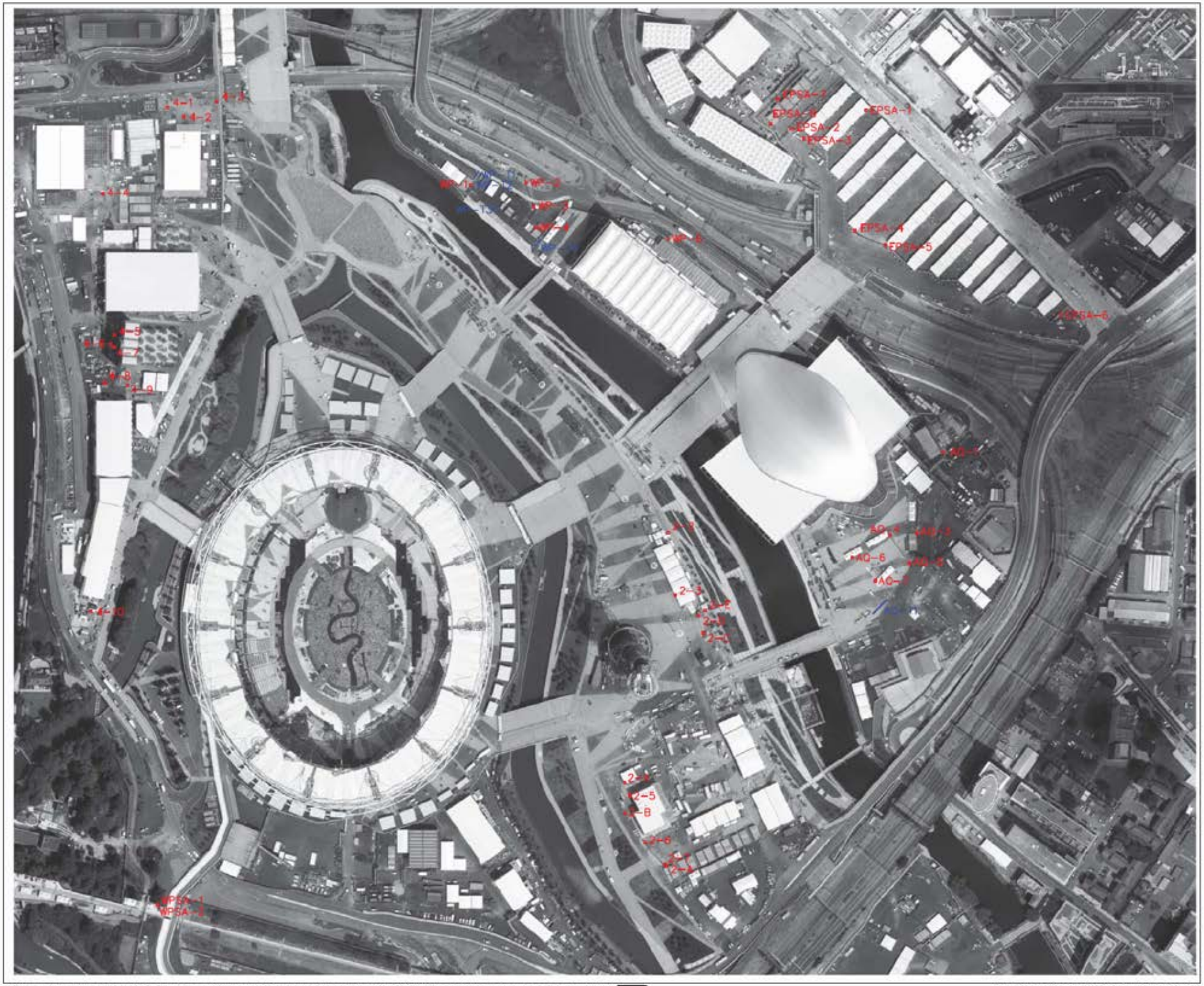
PL-00 240

370



DRAWING 3 SHOWING PD23 BOUNDARY

15
6
10
5
9
4
1
3
2
14
8
BOW
DRAFT
FOR INFORMATION ONLY



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F +44 (0) 20 3012 001
www.london2012.com

1. EXTENT OF POP UP REINSTATEMENT IS INDICATIVE AND NOT TO SCALE.
2. FOR DETAILS OF BELOW GROUND DUCT ROUTES PLEASE REFER TO PRE GAMES VENUE AND CDM REDLINE DRAWINGS.
3. FOR REINSTATEMENT DETAILS IN EACH LOCATION PLEASE REFER TO REINSTATEMENT SCHEDULE LOC-SCM-001 AND THE STANDARD DETAILS SHEET: LOC-SK-001.

Legend:

- TRENCH REINSTATEMENT
- POP UP REINSTATEMENT
- P - 6 ITEM CODE

Rev	Description	Drawn	Chkd	Appd	Date

SAFETY, HEALTH AND ENVIRONMENT INFORMATION

Construction	
Operations	
Maintenance	
Demolition	

No.	Description	Appr	M	Date

KEY PLAN

On behalf of the LOCOG
ATKINS
Olympic Park Design

POST GAMES LOCOG
REINSTATEMENT WORKS
SOUTH PARK

STATUS: AS BUILT | PROJECT NO.

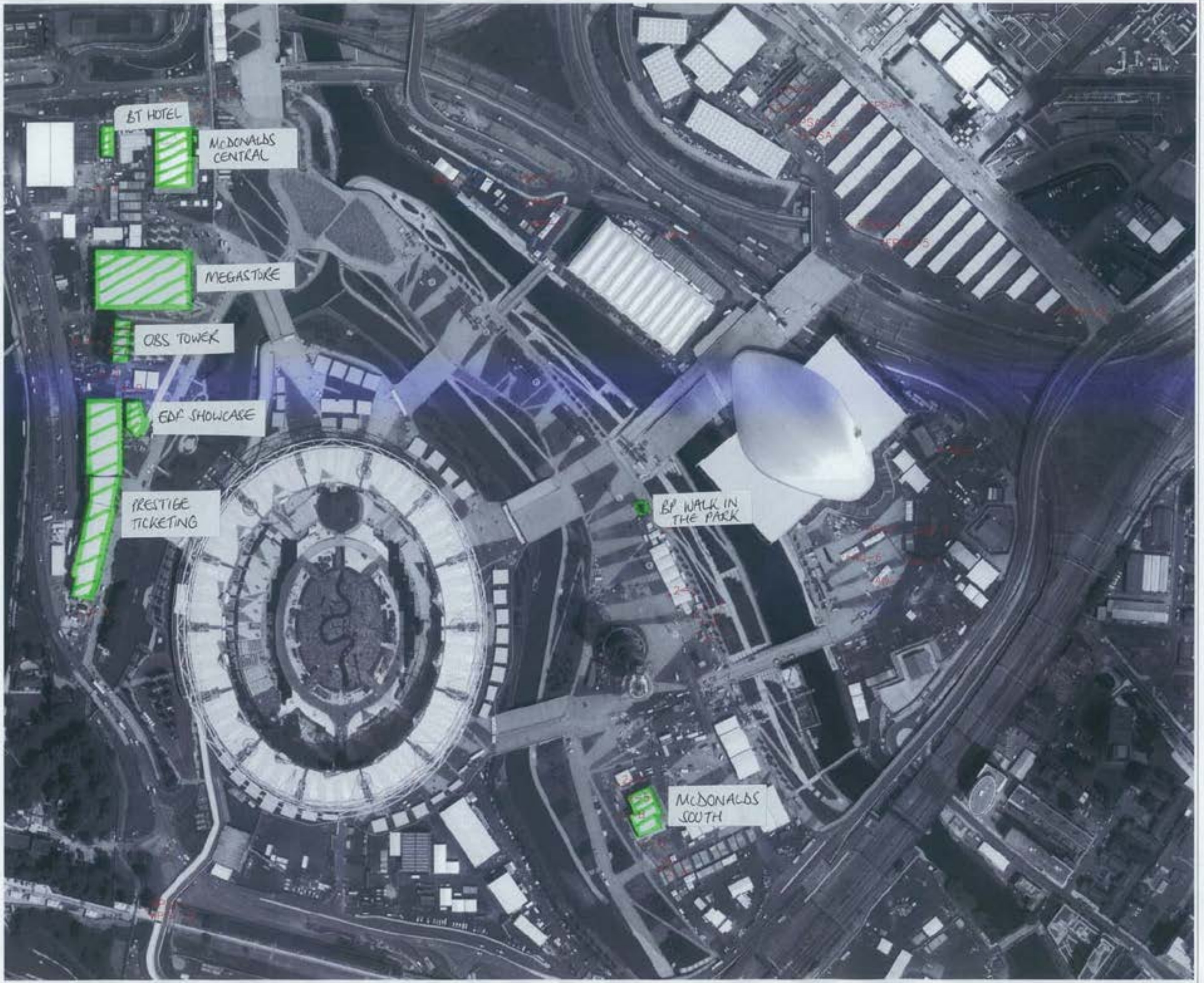
DRAWING NUMBER: SK-POP-2080

ORIGINATOR	ZZ	VOLUME	LEVEL	TYPE	ROLE	NUMBER

DRAWN	SCALE @ A0	STATUS	ISSUE
OCT '12	NTS	A	02

CHECKED | APPROVED | DATE

OVERLAY DESIGN SET - NOT FOR CONSTRUCTION



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1. EXTENT OF POP UP REINSTATEMENT IS INDICATIVE AND NOT TO SCALE.
2. FOR DETAILS OF BELOW GROUND DUCT ROUTES PLEASE REFER TO PRE GAMES VENUE AND COM REDLINE DRAWING.
3. FOR REINSTATEMENT DETAILS IN EACH LOCATION PLEASE REFER TO REINSTATEMENT SCHEDULE: LOC-SCM-001 AND THE STANDARD DETAILS SKETCH: LOC-SK-001.

Legend:

- TRENCH REINSTATEMENT
- POP UP REINSTATEMENT
- P - 5 ITEM CODE
- SHOWCASE VENUE REINSTATEMENT

On behalf of the LOCOG
ATKINS
Olympic Park Design

DRAWING TITLE

POST GAMES LOCOG
REINSTATEMENT WORKS
SOUTH PARK
- SHOWCASE VENUES

STATUS: AS BUILT

DRAWING NUMBER: SK-POP-2080

DATE	SCALE @ A3	SIZE	ISSUE
OCT '12	n/a	A	02

CHECKED [redacted]

APPROVED

OVERLAY DESIGN SET - NOT FOR CONSTRUCTION

COMMON DOMAIN - PDZ3 Overlay Site Plan

DRAWING 7
LOCOG VALIDATION AREAS

OLYMPIC STADIUM

WARM UP TRACK

RIVER LEA

WEST PSA

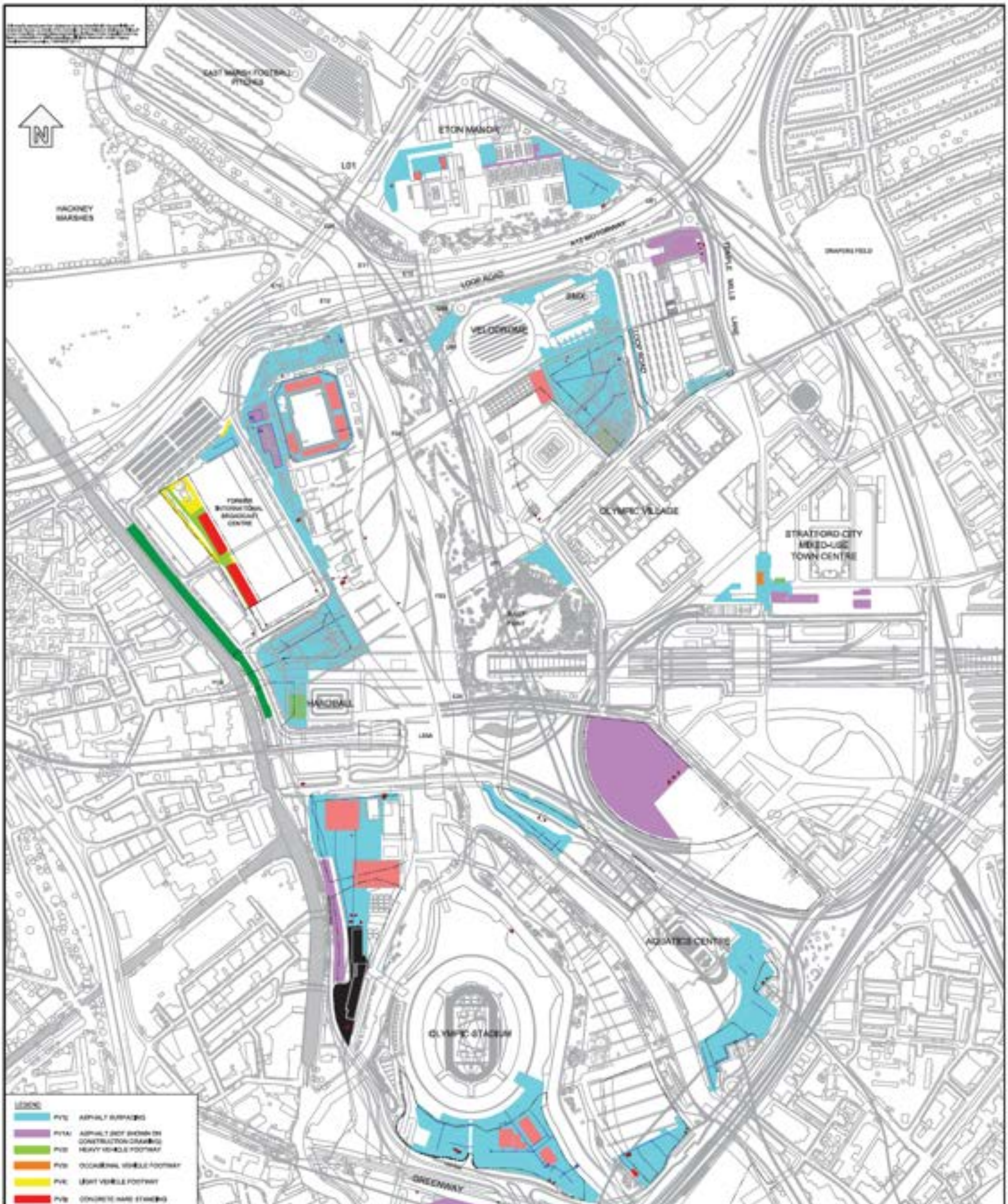
BOW WEST SIDINGS VSA

PL-00 110

PL-00 120

PL-00 240

370



Do not scale this drawing.

Notes:

1. PAVEMENT AREAS ARE BASED ON THE LOCOG CONSTRUCTION DRAWINGS AND DO NOT INCLUDE ALL 3RD PARTY WORKS. OTHER LOCOG INSTRUCTED WORKS ARE SHOWN WHERE KNOWN.
2. 'PV' DESIGNATIONS ARE LOCOG PAVEMENT TYPES AS DETAILED ON DRAWING [illegible] PAVEMENT DETAILS.
3. TRANSFORMATION DEVELOPMENT PLOT BOUNDARIES ARE TAKEN FROM THE ILLUSTRATIVE TRANSFORMATION MASTERPLAN REVISION P01.
4. RETAINING ELEMENTS ARE NOT SHOWN ON THIS PLAN. PLEASE REFER TO TILEC PLANS FOR DETAILS.
5. SURFACE WATER RUNS ARE SHOWN AS PER THE CONSTRUCTION DRAWINGS. PLEASE REFER TO ASBUILT RECORDS FOR DETAILS.

Prepared by
ATKINS
On behalf of the LLDC

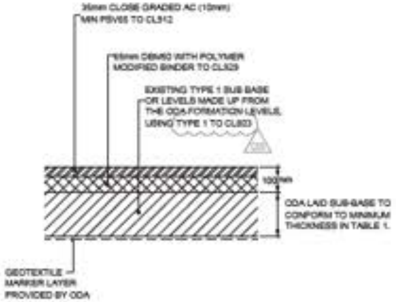
Project title: LEGACY TRANSFORMATION

Drawing title: LOCOG FINISHED SURFACES GAMES TIME OVERLAY ILLUSTRATIVE

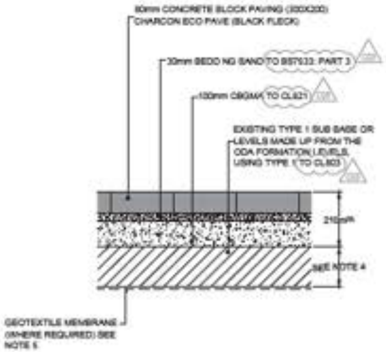
Date	Scale	Size
24/07/12	1:3000	A1

Purpose of drawing: FOR INFORMATION — S2

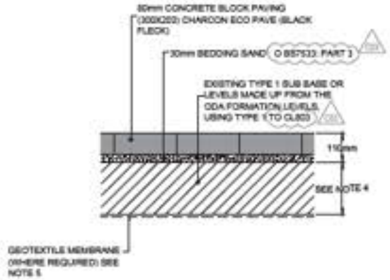
Drawing No.: LC5194LTR-OLS-C-DGA-0003 — Rev. P01



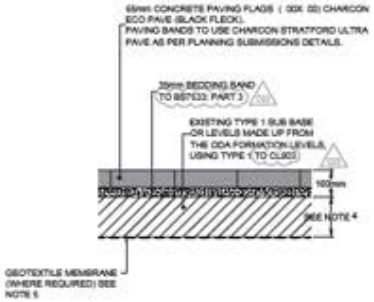
PV1: ASPHALT SURFACING
(STANDARD ON-PARK SURFACING)



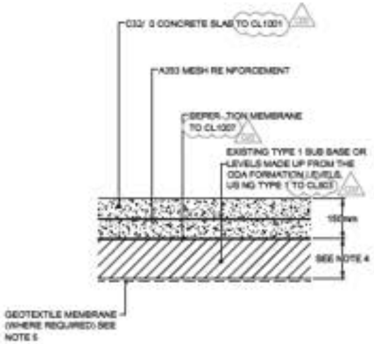
PV2: HEAVY TRAFFIC FOOTWAY



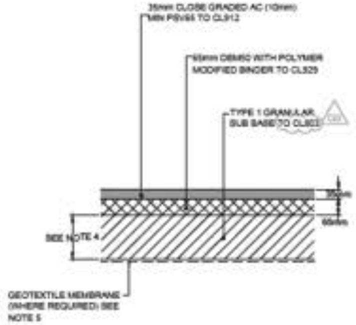
PV3: LIGHT VEHICLE FOOTWAY, WITH VERY OCCASIONAL VEHICLE OVERRUN



PV4: LIGHT VEHICLE FOOTWAY



PV5: CONCRETE HARDSTANDING

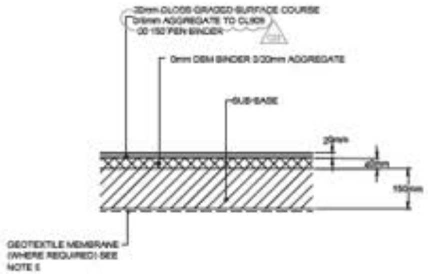


PV6: ASPHALT CONSTRUCTION ACCESS ROAD, LOCOG PLANT AREAS AND OPERATION AREAS

TABLE 1
0.03 MSA "FOOTPATH" DESIGN

CBR (%)	MINIMUM THICKNESS OF TYPE 1 REQUIRED (mm)
2 *	365
≤3	270
≤4	210
≤5	165
>5	150

(a) SEE NOTE 4
(b) FOR PAVING TYPES PV2, PV3, PV4, PV5, PV7 MINIMUM CBR IS 2%. WHERE CBR IS LESS THAN 2%, GROUND IMPROVEMENT WILL BE REQUIRED



PV7: FOOTWAY CONSTRUCTION

TABLE 2
0.08 MSA "ROAD" DESIGN (PV1 &PV6)

CBR (%)	MINIMUM THICKNESS OF SUB BASE REQUIRED (mm)
≥2.5 *	350
≥5	210
≥15	150

(a) SEE NOTE 4
(b) * FOR PAVING TYPES PV1 AND PV6, MINIMUM CBR IS 2.5%. WHERE CBR IS LESS THAN 2.5%, GROUND IMPROVEMENT WILL BE REQUIRED

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NOTES

1. ALL DETAILS ARE INDICATIVE AND ARE SUBJECT TO DETAILED DESIGN.
2. CLAUSE No. REFER TO THE SPECIFICATION FOR HIGHWAY WORKS.
3. PAVEMENT SPECIFICATION TO COMPLY WITH ITEM 6.6 IN THE PERFORMANCE SPECIFICATION ATK-C-O-XX-XX-ALL-SPE-XX-0002.
4. (a) FOR ON-PARK VENUES THE EXISTING FORMATION COMPRISES COMPACTED TYPE 1 MATERIAL CONSTRUCTED BY THE ODA CONTRACTOR. MINIMUM DEPTHS APPLY.

   (b) FOR OFF-PARK VENUES THE THICKNESS OF SUB BASE IS DETERMINED BY TABLE 1 OR 2 AND IS BASED ON AN ASSUMED CBR OF 5% AT FORMATION LEVEL.
5. MEMBRANE TO BE INSTALLED TO FACILITATE REMOVAL POST GAMES WHERE APPLICABLE.

Rev	Description	Drawn	Chk'd	App'd	Date
C03	Issued for Acceptance Rev sed as shown clouded	[redacted]	[redacted]	[redacted]	13.02.12
C02	Issued for Acceptance	[redacted]	[redacted]	[redacted]	27.01.12
C01	Issued for Acceptance	[redacted]	[redacted]	[redacted]	20.01.12
C00	Issued for Acceptance	[redacted]	[redacted]	[redacted]	22.12.11
B01	Amendments as shown clouded	[redacted]	[redacted]	[redacted]	22.03.11
B00	Issued for Procurement	[redacted]	[redacted]	[redacted]	28.01.11

SAFETY, HEALTH AND ENVIRONMENT INFORMATION

Construction C1 C2	REFER TO VENUE DRAWINGS
Operations O1 O2	REFER TO VENUE DRAWINGS
Maintenance M1 M2	REFER TO VENUE DRAWINGS
Dismantling / Demolition D1 D2	REFER TO VENUE DRAWINGS

ALL VENUES

DRAWING TITLE
Typical Details
Pavement Details

STATUS	PROJECT NO.
Construction	5077022

DRAWING NUMBER
ATK - C - O - XX - XX ALL - GE - XX - 8055

DATE	SCALE @ A1	SIZE	ISSUE
01.10.10	N.T.S	A1	C03

CHECKED [redacted] APPROVED [redacted]

APPENDICES

Appendix A: Glossary of Terms and Definitions

Appendix B: LOCOG Contractor Documentation (Validation Reports, Permit to Proceed (PTP) Applications and Reinstatement Works)

- Appendix B1: Temporary Venue (Warm Up Track)
- Appendix B2: Common Domain Areas
- Appendix B3: Agreed Reinstatement Approach and Correspondence regarding the ISG Method Statement
- Appendix B4: Groundwater Monitoring Borehole Information

Appendix C: Permit to Proceed Protocol (PTP) (CD only)

Appendix D: PPDT / Hyder Comments and Responses

APPENDIX A:

Glossary of Terms and Definitions

Glossary of Terms and Definitions

Term	Meaning / Definition
CSM	Conceptual Site Model
CVR	Consolidated Validation Report
CZ	Construction Zone
GRS	Global Remediation Strategy
GQRA	Generic Quantitative Risk Assessment
DQRA	Detailed Quantitative Risk Assessment
EWFL	Enabling Works Formation Level
FFL	Final Finished Level
FoP	Follow-on Project
HHSL	Human Health Separation Layer
LLDC	London Legacy Development Corporation (formerly known as the Olympic Park Legacy Company (OPLC) and London Development Agency (LDA).
LLDC PPDT	London Legacy Development Corporation Planning Policy and Decisions Team
LOCOG	London Organising Committee of the Olympic and Paralympic Games
LTD	Legacy Transformation Development
ODA	Olympic Delivery Authority
ODA PPDT	Olympic Delivery Authority Planning Decisions Team (the former Planning Authority)
PAH	Polycyclic Aromatic Hydrocarbons
PDZ	Planning Delivery Zone
PPR	Parklands and Public Realm
PTP	Permit to Proceed
RARAR	Retained Areas Risk Assessment Report
RMS	Remediation Method Statement
RTD	River Terrace Deposits
SSAC	Site Specific Assessment Criteria
SSRS	Site Specific Remediation Strategy
SSRT	Site Specific Remediation Target

APPENDIX B:

LOCOG Contractor Documentation

(PTP Applications)

APPENDIX B1:

Temporary Venue (Warm Up Track)

Do not scale this drawing.

Notes:

1. This drawing is to be read in conjuction with drawing SWT-OAP-3-SPK-DR-C-5-N23-0005 & 0006.
2. For standard details refer to drawing SWT-OAP-3-SPK-DR-C-5-H8271-0002.
3. Caution should be taken during earthworks operations adjacent to the existing sheet pile wall to the south of the site to prevent undermining the structure.
4. The existing site may be contaminated. No remediation has been completed. The contractor must investigate site conditions prior to any excavation of existing surface. Appropriate treatment and disposal is to be arranged prior to any excavation commencing and review provided pre-construction H&S file.
5. Principal utilities and corridors shown on drawing SWT-OAP-3-SPK-DR-C-5-D1-0001 for information - refer to Utilities drawings for latest information.
6. Works in / adjacent to railway tracks / sidings shall be carried out subject to industry standard working practices and following submission and acceptance of an approved method statement to the Project Manager.
7. Levels shown are FGL. Refer to drawing SWT-OAP-3-SPK-DR-C-5-H8271-0001 for details of earthworks required.
8. Earthworks to be in accordance with Appendix 6 - Earthworks specification SPE-ATK-ZZ-ZZZ-ZZZ-XXX-Z-1060.

Key:

Warm Up Track Site Boundary

Proposed Ramp to F14 Bridge Including Earthworks Abutments and Drainage

Greenway

WUT and Throwing Field works to be completed by others. Contractor to provide leveled platform.

Existing Bridge E45

Match to existing surface

Marshgate Lane

Pudding Mill Lane

DLR

WARM UP TRACK +7.040

THROWING FIELD +7.040

River Lea

Warm Up Track Access Road

Western Entrance Access Road (by SBH)

Great Eastern Railway

Cii
Existing Sheet Pile wall to remain

Topography to match Western Entrance Access Road (by SBH)

Code 1: Accepted by Employer's Agent - Project Manager

Rev	Description	Drawn	Chk'd	Date
H	New survey included			25/03/11
G	For Construction			11/02/11
F	For Construction			14/09/10
E	For Review			16/04/10
D	WIP for Procurement			07/04/10
C	Construction Issue			21/08/09
B	Detailed Design			06/07/09

Safety, Health and Environment Information

In addition to the hazards / risks normally associated with the types of work detailed on this drawing, note the following risks and information:

Construction	CI. Underground services CII. Undermining existing sheet pile wall CIII. For further SHE risks refer to notes above.
Dismantling / Demolition (Future)	DI. DII. DIII.

For Information relating to Use, Cleaning and Maintenance see the Health and Safety File. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Creator

Prepared by
ARUP
On behalf of the ODA

Drawing Title

Warm Up Track
Games - LOCOG
Topography
Proposed General Arrangement

Project Title

London 2012 Olympic Park Infrastructure

Drawn	Checked	Approved

Date	Scale	Size
AUG 2009	1:500	A1

Purpose of Drawing	Suitability
For Construction	A

Drawing No.	Sheet.	Rev.
SWT-OAP-3-SPK-DR-C-5-N23-0001		H

FILENAME: $FILENAME PLOT DATE: $PLOTDATE PLOT TIME: $PLOTTIME

V:\4_Internal_Project_Data\4-03_CADM-03-01_Drawing_Files\G_General\GW_Warm-Up_Track\SWT-OAP-3-SPK-DR-C-5-N23-0001.dgn

Security Classification Protect

Do not scale this drawing.

Notes:

Rev	Description	Drawn	Chk'd	Date

Safety, Health and Environment Information

In addition to the hazards / risks normally associated with the types of work detailed on this drawing, note the following risks and information:

Construction	
Dismantling / Demolition (Future)	

For information relating to Use, Cleaning and Maintenance see the Health and Safety File. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Creator

Prepared by
Jackson Civil Engineering
On behalf of the ODA

Drawing Title

Warm Up Track
Level Survey

Project Title

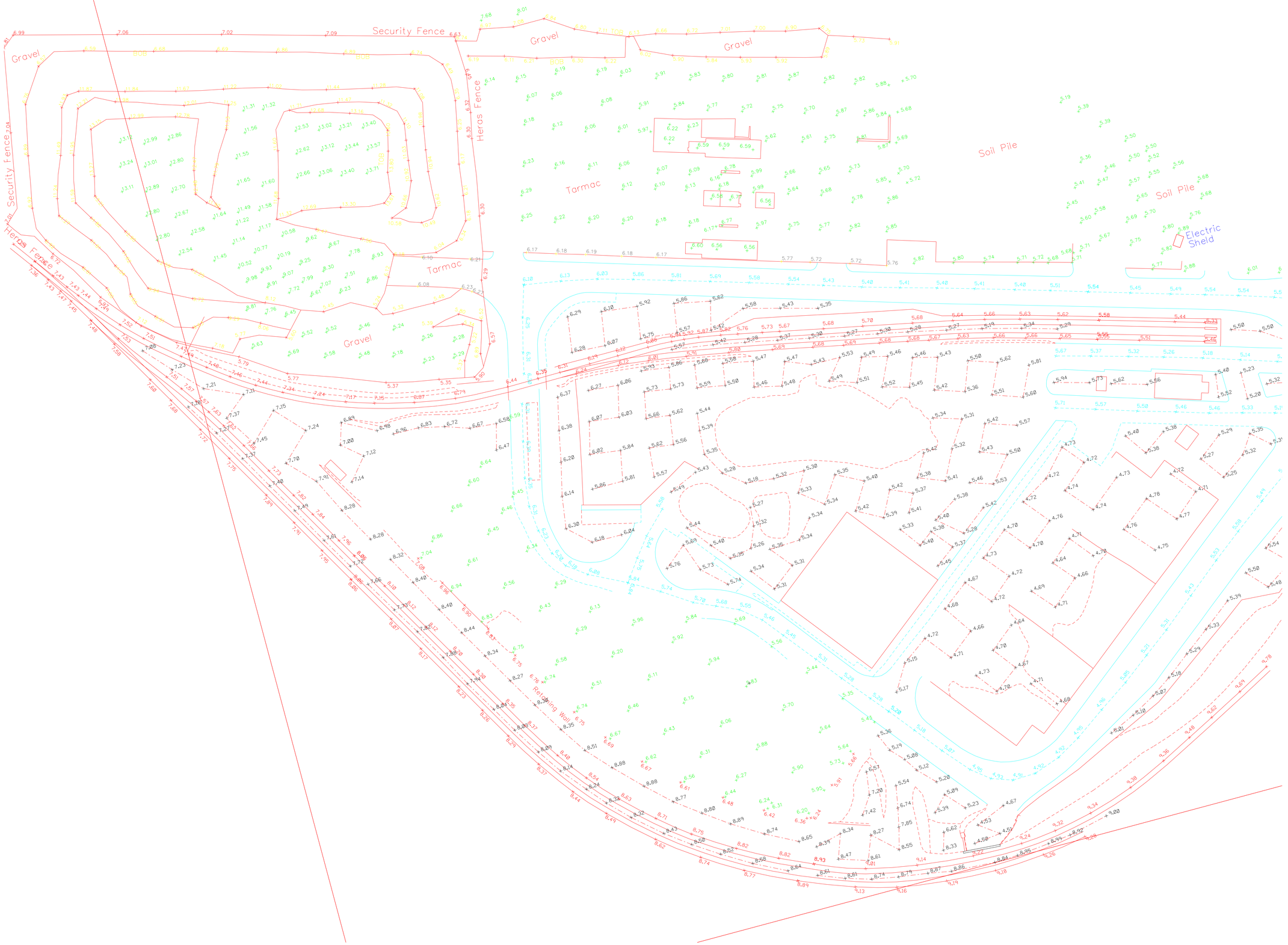
London 2012 Olympic Park Infrastructure

Drawn	Checked	Approved
[redacted]	[redacted]	[redacted]
Date 28/06/11	**Scale** NTS	**Size** A1
Purpose of Drawing		**Suitability**

Drawing No. Prepared by — Sheet. — Rev. A

FILENAME: $FILENAME
PLOT DATE: $PLOTDATE
PLOT TIME: $PLOTTIME

Security Classification Protect



Do not scale this drawing.

Notes:

Rev	Description	Drawn	Chk'd	Date
Z02	Issued for Record	[redacted]		22/02/2011
Z01	Issued for Comment	[redacted]		20/02/2011

Safety, Health and Environment Information

In addition to the hazards / risks normally associated with the types of work detailed on this drawing, note the following risks and information:

Construction	
Dismantling / Demolition (Future)	

For information relating to Use, Cleaning and Maintenance see the Health and Safety File. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Creator

Prepared by
Mason Land Surveys Ltd
On behalf of the ODA

Drawing Title

Warm Up Track
Topographical Survey
Area Cleared of Tips
3137

Project Title

Logistics Hrz & Vrt Control

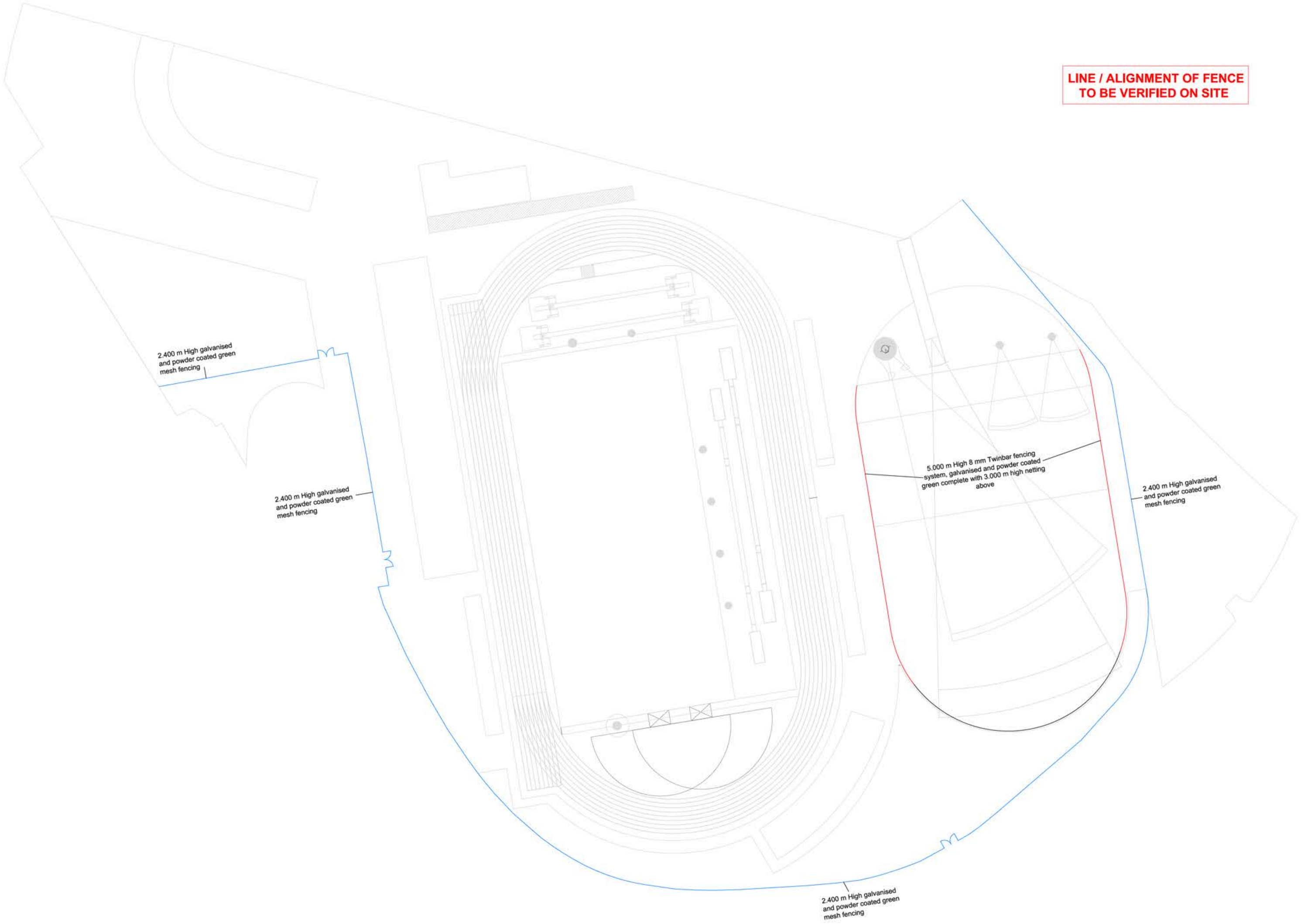
Drawn	Checked	Approved
[redacted]	[redacted]	[redacted]

Date	Scale	Size
24 Mar 11	1:500	A1

Purpose of Drawing	Suitability
Record	R

Drawing No.	Sheet.	Rev.
9040-LSP-STL-V-SUR-3137	001	Z03

FILENAME: 9040-LSP-STL-V-SUR-3137.dgn
PLOT DATE: 24/03/2011
PLOT TIME: 17:29:51



Notes

N

Rev	Initials	Date	Description
A	[redacted]	01/07/11	Fencing note added

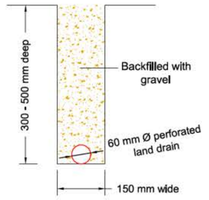
SMITH
SPORTS & CIVILS
Station Road
Heckington
Sleaford
Lincs, NG34 9NF
Telephone: 01529 461500
Facsimile: 01529 461463

PROJECT
2012 Olympics works

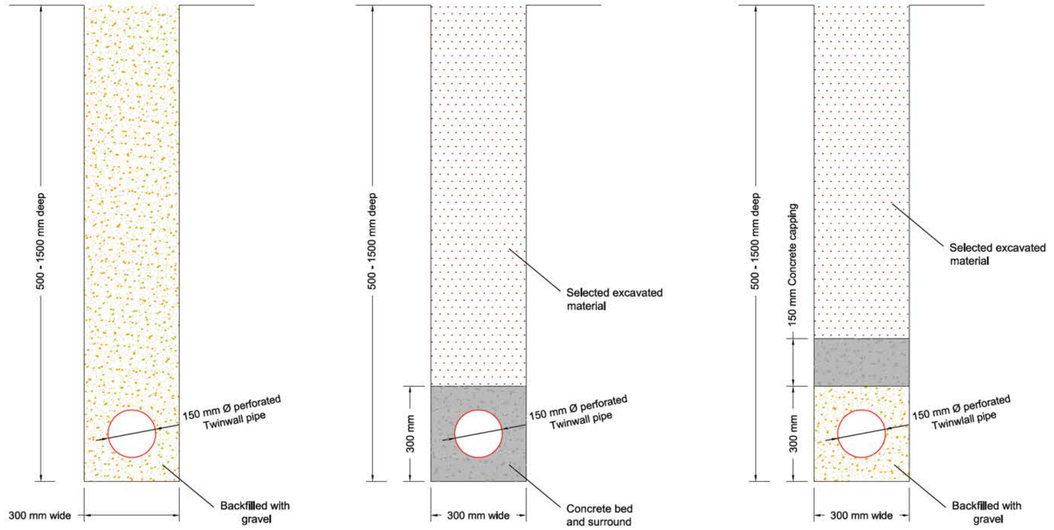
DRAWING TITLE
Proposed fencing plan

DATE 06/04/11
Approved By [redacted]
SCALE NTS
DRAWN BY [redacted]
DRAWING No. 1413/FEN/01
REVISION A

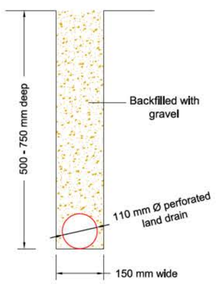
60 mm PERFORATED LAND DRAINS



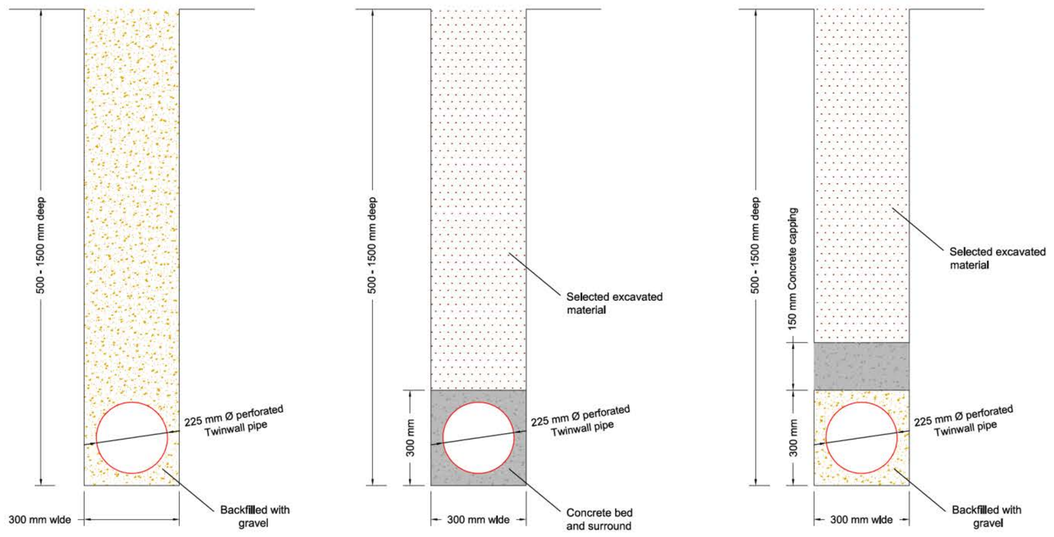
150 mm PERFORATED TWINWALL DRAINS (WILL BE EITHER OF THE FOLLOWING 3 SECTIONS)



110 mm PERFORATED LAND DRAINS



225 mm PERFORATED TWINWALL DRAINS (WILL BE EITHER OF THE FOLLOWING 3 SECTIONS)



Notes

Rev	Initials	Date	Description

SMITH
SPORTS & CIVILS
Station Road
Heckington
Sleaford
Lincs, NG34 9NF
Telephone: 01529 461500
Facsimile: 01529 461463

PROJECT
2012 Olympics works

DRAWING TITLE
Proposed drainage sections

DATE 06/07/11
Approved By [redacted]
SCALE 1:10 @ A1
DRAWN BY [redacted]
DRAWING No. 1413/DRSEC/01
REVISION

DRAINAGE DETAIL - Atheletics Track

225 mm Ø Perforated twinwall pipe

150 mm Ø Perforated twinwall pipe

110 mm Ø Perforated perimeter drain

60 mm Ø Perforated collector drain

Aco channel denoted :-

Manholes denoted :-

DRAINAGE DETAIL - Field events

150 mm Ø Perforated twinwall pipe

110 mm Ø Perforated perimeter drain

60 mm Ø Perforated collector drain

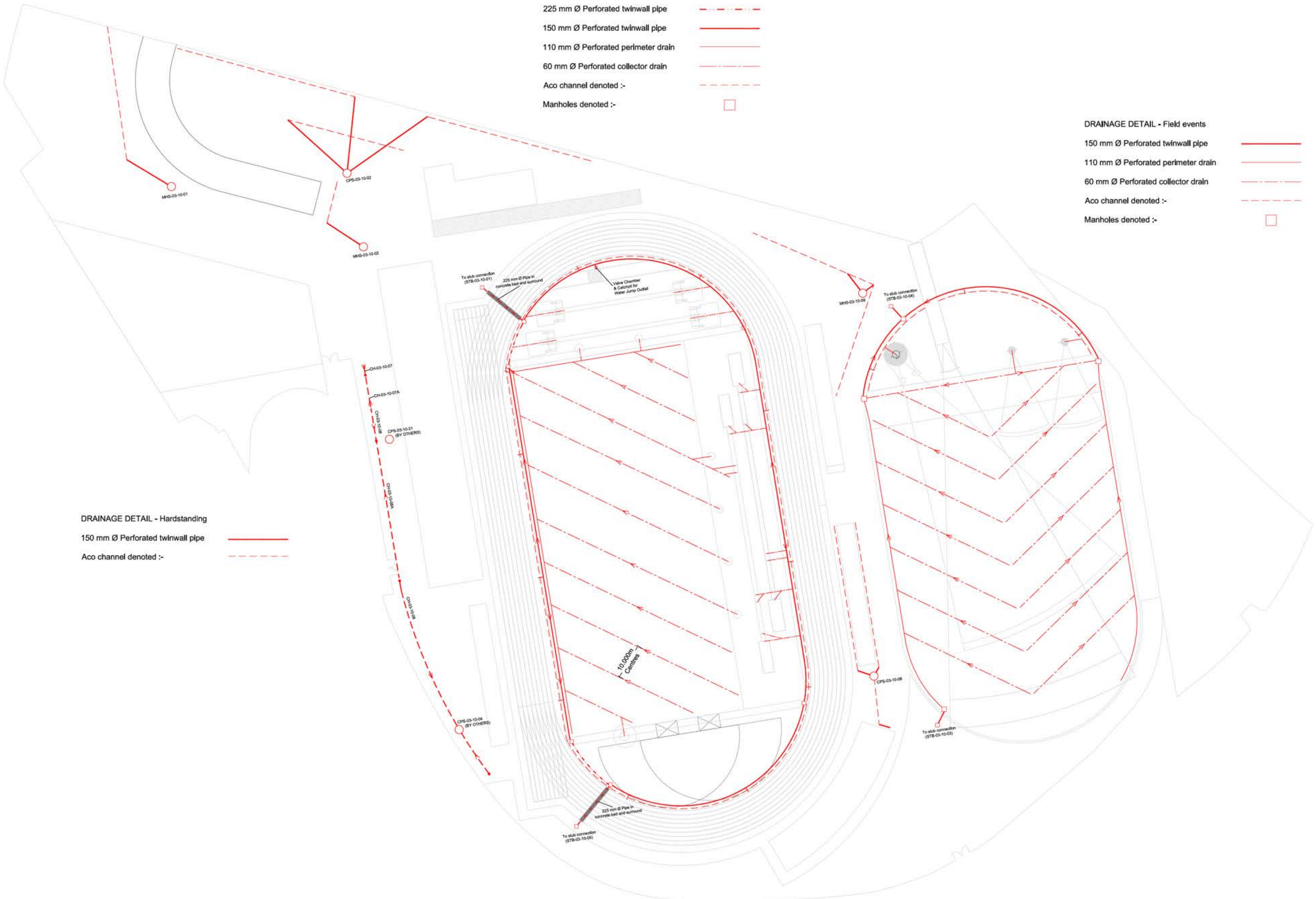
Aco channel denoted :-

Manholes denoted :-

DRAINAGE DETAIL - Hardstanding

150 mm Ø Perforated twinwall pipe

Aco channel denoted :-



Notes

N

Rev	Initials	Date	Description
A	[redacted]	01/07/11	Drainage to circles added, Hardstanding drainage altered

SMITH

SPORTS & CIVILS

Station Road
Heckington
Sleaford
Lincs, NG34 9NF
Telephone: 01529 461500
Facsimile: 01529 461463

PROJECT
2012 Olympics works

DRAWING TITLE
Proposed drainage plan

DATE: 06/04/11	Approved By: [redacted]
SCALE: NTS	DRAWN BY: [redacted]
DRAWING No.: 1413/DR/01	REVISION: A

London 2012 Olympic Park	PERMIT TO PROCEED

PROTECTION OF REMEDIATION WORKS: FORM ATK-084

PTP Reference: 0049_WUT_PRW_0004

Dear Sirs,
With respect to the protection and maintenance of previously completed ground remediation works and site specific remediation strategies we hereby submit this Permit to Proceed application for our intrusive works and for your acceptance. We understand we initially require your completed section B prior to commencement of our works and that we are responsible for the integrity of the remediation works.

SECTION A *(Please complete & submit to permit.to.proceed@london2012.com 5 days prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	LOCOG	of Company	LOCOG
Date	05/07/2011	Date	08/07/2011
Follow on Project		Principal Contractor	Smiths Construction
Title of Works	Olympic Stadium Warm up Site Works	FOP Doc Reference	*(if different from PTP reference)*
Construction Zone	CZ3B	Works Start Date	11/07/2011
LA Site Reference	LA3560 & LA12270	Works Finish Date	31/01/2012

Co-ordinates of works	*(Olympic Grid or Ordinance Survey)*
Drawing Reference	• 1413-DR-01 Rev A (Proposed drainage plan) • 1413-DRSEC-01 (Drainage Sections) • 9040-LSP-STL-V-SUR-3137-001-Z03 (original site levels) • Level%20Survey-Layout1-000 (ODA As Built Earthworks Level) • swt-oap-3-spk-dr-c-5-n23-0001_h_2 (LOCOG Games Time Finished Topography) • 1413-FEN-01 Rev A (Proposed fencing plan) • Sections of fencepost footings to follow
Description of works	Excavation of surface water drainage trenches & excavation of fencepost footings
Dimension of works (incl. depth)	See enclosed drawings
Method Statement Reference(s)	1413-CDM REV B- Pre Construction Phase H&S Plan includes method statements & Scope of Works COS2-Concrete-RA for concrete usage GrDr-Drainage-RA for drainage installations
Piling Risk Assessment Ref.	N/A
Existing Marker layer depth	Varies- see original site levels drawing (9040-LSP-STL-V-SUR-3137-001-Z03) following site clearance and ODA as built earthworks platform levels survey (Level%20Survey-Layout1-000) enclosed. Marker layer is considered to be the existing site layer as identified on levels drawing 9040-LSP-STL-V-SUR-3137-001-Z03.

Earthworks above marker layer (m^3)	See details of ODA as built earthworks platform levels above marker layer. In addition to the ODA earthworks platform the LOCOG build up above this is as follows: • 490mm build up of MOT Type 1 and two courses of macadam in hardstand areas • 150mm of topsoil and turf to soft landscape areas • 250mm of topsoil and turf to throws field and infield • 430mm build up in Mondo athletic track areas (MOT Type 1, two courses of macadam and 13mm prefabricated athletics track surface) Details of the LOCOG Games Time finished topography are outlined in attached drawing swt-oap-3-spk-dr-c-5-n23-0001_h_2
Earthworks below marker layer (m^3)	N/A
Historic boreholes at vicinity of works	
Planned backfill material types	Imported aggregate and gravel for drainage trenches. Concrete mix for fence post footings
Additional Comments:	

SECTION B *(Completed by and returned from Permit to Proceed Team prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	07/07/11	Date	07/07/11
Accepted	Yes		

Conditions of acceptance / reason for non-acceptance:

- Arisings shall be stored in a manner that prevents contamination of any remediated Made Ground or Human Health Separation Layer (HHSL) soils. All "Clean" material shall be kept separate from potentially contaminated spoil, so that it is conserved without deterioration of quality, as far as is reasonably practical.
- Any material suspected to contain contamination should be segregated and the PTP Team informed. If additional remedial excavations/works are deemed necessary, the requirements of Planning Condition OD.0.38 (unexpected contamination) may apply.
- Any excavations that progresses into the alluvium may create a temporary / permanent pathway which allows any perched water within the made ground to contaminate the minor aquifer in the underlying river terrace deposits. You should therefore consider this risk and if appropriate install measures to ensure that no migration of contamination occurs and that you are able to validate your works on completion. This may involve prior consultation with the Remediation Designers for CZ3b and / or PDT.
- All backfill materials shall be compliant with applicable chemical assessment criteria agreed between the contractor and the ODA Planning Decisions Team. For information, the latest version of the criteria used by Enabling Works are detailed in the remediation design memorandum produced by Arup reference: 213736-11/CJK.
- For imported materials, contractors are also required to comply with: Facilities and their Legacy Transformation Planning Application, No. 07/90010/OUMODA, Condition OD.0.39 'Quality of Imported Fill' via liaison with the ODA Planning Decisions Team.
- Marker Layer and Human Health Separation Layer soils should be placed / replaced as part of these works in accordance with 9040-LSP-STL-V-SUR-3137-001-Z03. Please ensure that Marker Layer is reinstated with like materials where breached. This also applies to areas where hard standing represents Marker Layer.
- Please ensure that all boreholes within the area of your works are suitably protected and, if necessary, modified/maintained or otherwise decommissioned in consultation with the Soil Hospital via the standard ATK-095 processes, noting recent changes to the Soil Hospital Protocol under Soil Hospital Protocol under REP-ATK-CM-ZZZ-ZZZ-ZZZ-E-0009.
- Further to the assessment of excavated materials, movement of those materials from the site shall be arranged through appropriate Soil Hospital ATK-088 documentation and tracked using the ODA Park-wide M^3n system.

- Please ensure that appropriate records of the works are maintained in order to allow you to complete the following Section C of this document upon completion of the works (including records of Marker Layer and Separation Layer reinstatement, earthworks volumes, SMARTStart / M^{3}n data entry, as-built records and frequency of validation sampling undertaken during the works).

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team.*

SECTION C *(Please complete and return to permit.to.proceed@london2012.com on completion of the works)*

Dear Sirs,
We confirm completion of works in accordance with the methods described in Section A and conditions described in Section B. On the basis of the following information and the attached supporting documents, we request that this application be formally closed.

Prepared by		Authorised by	
of Company		of Company (PC)	
Date		Date	

C1: COVER LAYER	**Reinstated**	**Altered**	**Omitted**
Marker Layer	Yes / No	Yes / No	Yes / No
Human Health Separation Layer	Yes / No	Yes / No	Yes / No
Comments or description of cover system reinstatement	*(Detail Marker Layer and Human Health Separation Layer materials and any reasons for specific omission)*		
Photo record of excavation and Marker Layer reinstatement	*(Attach photograph record document)*		
As-Built drawings provided	*(Attach as-built drawing or sketch indicating cover system reinstatement)*		

C2: EXCAVATED VOLUMES	**Above Marker Layer (m^3)**	**Below Marker Layer (m^3)**
Total cut		
Cut volume retained (on site)		
Cut volume to Soil Hospital		
Cut volume sent off Olympic Park		
Related ATK-088 Export Application(s):		
SMARTWaste References	*(Attach spreadsheet from SMARTStart detailing relevant entries)*	

C3: FILL VOLUMES	**Above Marker (m^3)**	**Chemical Tests (no.)**	**Below Marker (m^3)**	**Chemical Tests (no.)**
Total fill				
Site won fill (reused)				
Fill from Soil Hospital				
Fill from outside Olympic Park				
Related ATK-088 Import Application(s):				

Additional Comments:

SECTION D *(Application is closed by the Permit to Proceed Team following review of Section C and returned to FOP Team)*

Prepared by		Authorised by	
of Company		of Company	
Date		Date	
Accepted & Closed	Yes / No		

Comments or conditions on closure / reason for non-closure of application:

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team, EW Project Manager.*

APPENDIX B2:

Common Domain Areas

Appendix B2-1:

LOCOG Ceremonies

(0069_LOCOGCER_PRW_0001)
(0069_LOCOGCER_PRW_0002)

ASSAI: 0000-LOCOGCER-ATP-N-PTP-0002

London 2012 Olympic Park	PERMIT TO PROCEED

PROTECTION OF REMEDIATION WORKS: FORM ATK-084

PTP Reference: *0069_LOCOGCER_PRW_0002*

Dear Sirs,
With respect to the protection and maintenance of previously completed ground remediation works and site specific remediation strategies we hereby submit this Permit to Proceed application for our intrusive works and for your acceptance. We understand we initially require your completed section B prior to commencement of our works and that we are responsible for the integrity of the remediation works.

SECTION A *(Please complete & submit to permit.to.proceed@london2012.com 5 days prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Topbond plc	of Company	London 2012 Ceremonies Ltd
Date	19.04.12	Date	14/05/12
Follow on Project	N/A	Principal Contractor	Topbond plc.
Title of Works	Ground Anchor Installation	FOP Doc Reference	*N/A*
Construction Zone	Olympic Stadium field of play	Works Start Date	12/05/12
LA Site Reference		Works Finish Date	18/05/12

Co-ordinates of works	See attached drawing
Drawing Reference	Anchors(2012-04-12) 1733-05-101-0102-103-104-105-106
Description of works	Installation of Platipus Ground anchors
Dimension of works (incl. depth)	0.3 x 0.15 x 5m deep
Method Statement Reference(s)	Topbond_RAMS_template-ground-anchor-main-installation
Piling Risk Assessment Ref.	N/A
Existing Marker layer depth	N/A
Earthworks above marker layer (m^3)	N/A
Earthworks below marker layer (m^3)	N/A
Historic boreholes at vicinity of works	N/A
Planned backfill material types	N/A

Additional Comments:
Existing substrate layers not affected by works

SECTION B *(Completed by and returned from Permit to Proceed Team prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	14/05/12	Date	14/05/12
Accepted	Yes		

Conditions of acceptance / reason for non-acceptance:

- As mentioned in previous discussions; the methodology for anchor installation and removal must ensure minimal mixing of above and below marker layer materials. This permit therefore applies only to the anchors detailed in the above method statements. Anchors which vary from this design should be further assessed and presented to the PtP team and/or the Planning Decisions Team for review.

- In cases where anchor removal causes disturbance to existing ground and raises potential for the mixing of materials in a localised area, the material around the anchor site shall be excavated and replaced with compliant fill materials (as defined in the relevant Site Specific Remediation Strategy/Specification), supported by appropriate validation. Details of marker layer reinstatement including photographs to be included in Section C.
- Voids created following removal of anchors in hard standing shall be reinstated to prevent preferential pathways for surface water.
- In the unlikely event that anchors require local excavation to assist in their removal, marker layer shall be appropriately reinstated and fill materials replaced with chemically and geotechnically suitable material.
- This permit does not replace the Park Operations ATP1 and ATP2 process. The contractor retains responsibility for ensuring anchor locations are clear of all underground utilities or similar.
- **The retrieval of soil during these works may present specific risks from residual ground contamination which is present at depth. Topbond and all subcontractors must ensure that they are in possession of sufficient information relating to ground contaminants and adequately address any identified risks prior to works commencing. Further information has been provided by Nin Prakash (N.Prakash@london2012.com). Details of any specific measures which are undertaken should be provided to PTP (eg. method statements). All works should be carried out in accordance with the agreed method statements. LOCOG ceremonies have confirmed that a RPA will provide supervision throughout these works.**
- Please ensure that appropriate records of the works are maintained in order to allow you to complete the following Section C of this document upon completion of the works (including records of Marker Layer and Separation Layer reinstatement, earthworks volumes, as-built records and frequency of validation sampling undertaken during the works).

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team.*

SECTION C *(Please complete and return to permit.to.proceed@london2012.com on completion of the works)*

Dear Sirs,
We confirm completion of works in accordance with the methods described in Section A and conditions described in Section B. On the basis of the following information and the attached supporting documents, we request that this application be formally closed.

Prepared by	[redacted]	Authorised by	[redacted]
of Company	LOCOG Ceremonies	of Company (PC)	LOCOG Ceremonies
Date	21/06/12	Date	21/06/12

C1: COVER LAYER	Reinstated	Altered	Omitted
Marker Layer	N/A	No	No
Human Health Separation Layer	N/A	No	No
Comments or description of cover system reinstatement	*No cover system reinstatement was required – please see our RAMS.*		
Photo record of excavation and Marker Layer reinstatement	*None available*		
As-Built drawings provided	Installation works completed in line with the design drawings.		

C2: EXCAVATED VOLUMES	Above Marker Layer (m^3)	Below Marker Layer (m^3)
Total cut	-	-
Cut volume retained (on site)	-	-
Cut volume to Soil Hospital	-	-
Cut volume sent off Olympic Park	-	-

Related ATK-088 Export Application(s):	N/A
SMARTWaste References	No arisings were generated as part of these works (see RAMS).

C3: FILL VOLUMES	Above Marker (m^3)	Chemical Tests (no.)	Below Marker (m^3)	C3: FILL VOLUMES
Total fill	-	-	-	-
Site won fill (reused)	-	-	-	-
Fill from Soil Hospital	-	-	-	-
Fill from outside Olympic Park	-	-	-	-
Related ATK-088 Import Application(s):	NA			

Additional Comments:

Works were carried out in line with the Design documentation provided. An RPA was present during the entirety of these works and no materials were encountered/identified above background concentrations (see appended survey reports).

SECTION D *(Application is closed by the Permit to Proceed Team following review of Section C and returned to FOP Team)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	22/06/2012	Date	22/06/2012
Accepted & Closed	Yes		

Comments or conditions on closure / reason for non-closure of application:

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team, EW Project Manager.*

SCALE 1:300

0 5M 10M 15M 20M 25M 30M

0 10' 20' 30' 40' 50' 60' 70' 80' 90' 100'

PLAN

E N S W

Dimensions in mm unless stated

1 2 3 4 5 6 7 8 9 10

KEY

- PROPS STORAGE
- MESHED BARRIER AREA
- PODIA STORAGE
- POPPINS TRAP BAG
- STEEL MANHOLE COVER
- FOP MANHOLES
- AUDIO & COMMS
- MAYPOLE
- ACCESS (RACKS & LIFTS)
- AIRWORKS
- LIFTS (CHIMNEY / BEAM ENGINE)
- LX & POWER
- PYRO
- STAGE ONE
- FTC CONTROL
- WATER TANK & EQUIPMENT
- DECK ANCHOR POINTS
- 0 LIFT NUMBER
- A1 ATELIER ONE
- SCA SHOW CANADA

ceremonies

N 14/05/12 LIFT 7 STORAGE UPDATED

TITLE

OPENING CEREMONY
MEADOW SUBSTAGE EQUIPMENT

SIZE	SCALE	DRAWN	DATE	REV
A3	1:300		13/02/12	N

FILE NAME

040_214_N_A3_MEADOW_SUB_STAGE_EQUIPMENT

CONFIDENTIAL

DO NOT DISTRIBUTE

Plot Date: 14/05/2012 Plot Time: 9:50 AM Plotted by: TOM WHITE

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)		Hazard Rating:		Survey Type (tick)	
14' MAY 2012	OLYMPIC STADIUM	Controlled	☐	(H, M, L)		Routine	☐
Area Surveyed: FIELD OF PLAY STAGING ANCHOR POSITIONS AS BELOW (SEE PLAN FOR LOCATION)		Supervised	☐	Radiation	L	Request	☑
		Non-Des	☑	Contamination	L	Alarm/Incident	☐
		Start Time:	0800			Other	☐
		Survey No:	CEREMONIES (1)				☐

Instruments	Serial No.	Pre Test	Bgd*	Post Test
RD 51/DP6AD	1602 / 2352	☑	<0.1µ 4cps β	☑
MINI MON/44B	03676S / 1045	☑	5cps	☑
		☐		☐
		☐		☐
		☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**
	ANCHOR POSITIONS AT C11(x2) AND AT C14(x2) SURVEYED PRIOR TO WORK		4-6								
	DRIVE RODS SURVEYED AS WITHDRAWN FROM GROUND		4-6		<0.1	3-5			P		
	RAGS SURVEYED (USED FOR ROD CLEANING)		4-6		<0.1	3-5			P		
	OPERATIVES GLOVES SURVEYED		4-6		<0.1	3-5			P		
	ANCHOR POSITIONS SURVEYED AFTER WORK		4-6								

General Comments:

Survey completed by Print: [redacted]	Sign: [redacted]	HP Supervisor's Comments:
HP Supervisor Sign:	Date:	
RPS or Area Supervisor Sign:	Date:	

DISTRIBUTION - White Prime Copy to Health Physics   Yellow Carbonated Copy Retained by Client

HPCF/30001 - Issue B   **Symbol Comments**   * Instrument Background   ♦ Probe or Smear   ** U/S - Unsatisfactory, S - satisfactory, K- Known   ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)	Hazard Rating:	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
15th MAY 12	[illegible] STATION	Controlled ☐	(H, M, L)	Routine ☐	[illegible] 1003	2282	☑	<0.1 4 [illegible]	☑
Area Surveyed: FIELD OF RING STATIONS ANCHOR POSITIONS AS BELOW (SEE PLAN FOR LOCATIONS)		Supervised ☐	Radiation	Request ☑	MINI MONITOR 44A	07845/[illegible]	☑	5 cps	☑
		Non-Des ☑	Contamination	Alarm/Incident ☐			☐		☐
		Start Time: 0800		Other ☐			☐		☐
		Survey No: [illegible] (2)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h βγ	or γ	mSv/h η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**
	ANCHOR POSITIONS AT FOUNDATION LOCATIONS SURVEYED PRIOR TO EXCAVATION* (& FURTHER SURVEY AFTER EXCAVATION) AT POSITIONS C3, C4, C5, C6, C9, C17 & C19		4.7								
	ANCHOR INSTALLATION CONDUCTED AT POSITIONS C9(x2) & C17(x2)										
	AND PERSONNEL & EQUIPMENT CHECKED DURING WORK		4.7		<0.1	3.7			(P)		
	ALSO EXCAVATIONS FOUND IN AREA SURVEYED		4.7								

General Comments:

* METHOD CHANGED. AREAS EXCAVATED TO CAT LEVEL PRIOR TO POSITIONING OF ANCHOR INSTALLATIONS

Survey completed by Print: [redacted]	Sign: [redacted]	HP Supervisor's Comments:
HP Supervisor Sign:	Date:	
RPS or Area Supervisor Sign:	Date:	

DISTRIBUTION - White Prime Copy to Health Physics   Yellow Carbonated Copy Retained by Client

HPCF/30001 - Issue B   **Symbol Comments**   * Instrument Background   ♦ Probe or Smear   ** U/S - Unsatisfactory, S - satisfactory, K- Known   ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)		Hazard Rating:		Survey Type (tick)		Instruments	Serial No.	Pre Test	Bgd*	Post Test
16 MAR 12	OLYMPIC STADIUM	Controlled	☐	(H, M, L)		Routine	☐	[illegible] / [illegible]	1603 / 2382	☑	3.0 [illegible]	☑
Area Surveyed: FIELD OF PLAY STAGING ANCHOR POSITIONS AS BELOW		Supervised	☐	Radiation	L	Request	☑	Mini-mon [illegible]	036746 / 1045	☑	4 cps	☐
		Non-Des	☑	Contamination	L	Alarm/Incident	☐			☐		☐
		Start Time:	0800			Other	☐			☐		☐
		Survey No:	CEREMONIES (2)				☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h βγ	or γ	mSv/h γ	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**	General Comments:
	ANCHOR POSITIONS AT FOLLOWING											
	LOCATIONS SURVEYED AFTER											
	EXCAVATION ([illegible]) :-											
	C5, C6, C13 & C15 [illegible]		3-7									
	[illegible] 4 ANCHOR POINTS											
	ALL AREAS [illegible] FILLED IN		3-7									
	& SURVEYED											
	RODS PERSONNEL & EQUIPMENT		4-6		<0.1	2.5			(P)			
	SURVEYED DURING WORK											

Survey completed by Print: [redacted] Sign: [redacted]

HP Supervisor Sign: Date:

RPS or Area Supervisor Sign: Date:

HP Supervisor's Comments:

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HPCF/30001 - Issue B

Symbol Comments * Instrument Background ♦ Probe or Smear ** U/S - Unsatisfactory, S - satisfactory, K- Known ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)		Hazard Rating:	Survey Type (tick)		Instruments	Serial No.	Pre Test	Bgd*	Post Test
17 MAY 12	OLYMPIC STADIUM			(H, M, L)							
Area Surveyed: FILLS OF PLAY SURFACING ANCHOR POSITIONS AS BELOW		Controlled	☐		Routine	☐	PCM5-1 / [illegible]	1002 / 2782	☑	<0.1 <4 cps	☑
		Supervised	☐	Radiation	Request	☑	[illegible] / 44B	[illegible] / 1066	☑	5 cps	☑
		Non-Des	☑	Contamination	Alarm/Incident	☐			☐		☐
		Start Time: 0700			Other	☐			☐		☐
		Survey No: CLEARANCE (4)				☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**
	ANCHOR POSITIONS AT										
	FOLLOWING LOCATIONS AFTER										
	ALTERNATIVE EXCAVATIONS										
	C3 C4, C18, C22, C23										
	C24 + C25 THEN FILLING		4-6								
	& ANCHOR POINTS										
	ALL AREAS COMPLETED FILLED		4-6								
	IN + SURVEYED										
	ROAD PERSONNEL & EQUIPMENT		4-6		<0.1	3-6			(P)		
	SURVEYED DURING WORK										

General Comments:

Survey completed by Print: [redacted] Sign: [redacted]

HP Supervisor Sign: Date: [redacted]

RPS or Area Supervisor Sign: Date:

HP Supervisor's Comments:

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HPCF/30001 - Issue B

Symbol Comments: * Instrument Background ♦ Probe or Smear ** U/S - Unsatisfactory, S - satisfactory, K- Known ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)	Hazard Rating:	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
15 MAY 12	OLYMPIC STADIUM	Controlled ☐	(H, M, L)	Routine ☐	[illegible] / [illegible]	[illegible] / [illegible]	☑	<0.1 [illegible]	☑
Area Surveyed: FIELD OF PLAY STADIUM ANCHOR POSITIONS AS BELOW		Supervised ☐	Radiation	Request ☑	[illegible] / [illegible]	[illegible] / [illegible]	☑	5 CPS	☑
		Non-Des ☑	Contamination	Alarm/Incident ☐			☐		☐
		Start Time: 0730		Other ☐			☐		☐
		Survey No: [illegible] (5)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h- or (CPS) mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**
	ANCHOR POSITIONS SURVEYING										
	AT FOLLOWING LOCATIONS										
	AFTER EXCAVATIONS -										
	C1, C2, C10, C16 & C12										
	(4 ANCHOR POINTS)		3-7								
	C7 C8 C20 & C21										
	(2 ANCHOR POINTS)										
	ALL ABOVE COMPLETED &		3-7								
	FILLED IN. ABOVE SURVEYED										
	ALL RODS [illegible] &		3-5		<0.1	4-6			(P)		
	& EQUIPMENT SURVEYED										
	DURING WORK										
	ALL WORK NOW COMPLETED										

General Comments:

Survey completed by Print: [redacted]	Sign: [redacted]	HP Supervisor's Comments:
HP Supervisor Sign:	Date:	
RPS or Area Supervisor Sign:	Date:	

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HPCF/30001 - Issue B

Symbol Comments

* Instrument Background

♦ Probe or Smear

** U/S - Unsatisfactory
S - satisfactory
K- Known

‡ R - Removed
FM - Fixed and Marked

ASSAI: 0000-LOCOGCER-ATP-N-PTP-0001

London 2012 Olympic Park	PERMIT TO PROCEED

PROTECTION OF REMEDIATION WORKS: FORM ATK-084

PTP Reference: *0069_LOCOGCER_PRW_0001*

Dear Sirs,
With respect to the protection and maintenance of previously completed ground remediation works and site specific remediation strategies we hereby submit this Permit to Proceed application for our intrusive works and for your acceptance. We understand we initially require your completed section B prior to commencement of our works and that we are responsible for the integrity of the remediation works.

SECTION A *(Please complete & submit to permit.to.proceed@london2012.com 5 days prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Topbond plc	of Company	London 2012 Ceremonies Ltd
Date	19.04.12	Date	19/04/12
Follow on Project	N/A	Principal Contractor	Topbond plc.
Title of Works	Ground Anchor test installation	FOP Doc Reference	*N/A*
Construction Zone	Olympic Stadium field of play	Works Start Date	23.04.12
LA Site Reference		Works Finish Date	26.04.12

Co-ordinates of works	See attached drawing
Drawing Reference	Anchor Test Positions (201-04-13) 1733-05
Description of works	Ground Radar survey and test anchors
Dimension of works (incl. depth)	0.3 x 0.15 x 5m deep
Method Statement Reference(s)	RAMS Topbond Survey & Anchor Install R1 17-04-2012
Piling Risk Assessment Ref.	N/A
Existing Marker layer depth	N/A
Earthworks above marker layer (m^3)	N/A
Earthworks below marker layer (m^3)	N/A
Historic boreholes at vicinity of works	N/A
Planned backfill material types	N/A

Additional Comments:
Existing substrate layers not affected by works

SECTION B *(Completed by and returned from Permit to Proceed Team prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	27/04/12	Date	27/04/12
Accepted	Yes		

Conditions of acceptance / reason for non-acceptance:

- As mentioned in previous discussions; the methodology for anchor installation and removal must ensure minimal mixing of above and below marker layer materials. This permit therefore applies only to the anchors detailed in the above method statements. Anchors which vary from this design should be further assessed and presented to the PtP team and/or the Planning Decisions Team for review.

- In cases where anchor removal causes disturbance to existing ground and raises potential for the mixing of materials in a localised area, the material around the anchor site shall be excavated and replaced with compliant fill materials (as defined in the relevant Site Specific Remediation Strategy/Specification), supported by appropriate validation. Details of marker layer reinstatement including photographs to be included in Section C.
- Voids created following removal of anchors in hard standing shall be reinstated to prevent preferential pathways for surface water.
- In the unlikely event that anchors require local excavation to assist in their removal, marker layer shall be appropriately reinstated and fill materials replaced with chemically and geotechnically suitable material.
- This permit does not replace the Park Operations ATP1 and ATP2 process. The contractor retains responsibility for ensuring anchor locations are clear of all underground utilities or similar.
- **The retrieval of soil during these works may present specific risks from residual ground contamination which is present at depth. Topbond and all subcontractors must ensure that they are in possession of sufficient information relating to ground contaminants and adequately address any identified risks prior to works commencing. Further information has been provided by Nin Prakash (N.Prakash@london2012.com). Details of any specific measures which are undertaken should be provided to PTP (eg. method statements). All works should be carried out in accordance with the agreed method statements. LOCOG ceremonies have confirmed that a RPA will provide supervision throughout these works.**
- **A separate permit application needs to be made for the actual ground anchor installations. This permit covers only installation of the 3 No. test anchors.**
- Please ensure that appropriate records of the works are maintained in order to allow you to complete the following Section C of this document upon completion of the works (including records of Marker Layer and Separation Layer reinstatement, earthworks volumes, as-built records and frequency of validation sampling undertaken during the works).

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team.*

SECTION C *(Please complete and return to permit.to.proceed@london2012.com on completion of the works)*

Dear Sirs,
We confirm completion of works in accordance with the methods described in Section A and conditions described in Section B. On the basis of the following information and the attached supporting documents, we request that this application be formally closed.

Prepared by	[redacted]	Authorised by	[redacted]
of Company	LOCOG Ceremonies	of Company (PC)	LOCOG Ceremonies
Date	21/06/12	Date	21/06/12

C1: COVER LAYER	Reinstated	Altered	Omitted
Marker Layer	N/A	No	No
Human Health Separation Layer	N/A	No	No
Comments or description of cover system reinstatement	*No cover system reinstatement was required – please see our RAMS.*		
Photo record of excavation and Marker Layer reinstatement	*None available*		
As-Built drawings provided	Installation works completed in line with the design drawings.		

C2: EXCAVATED VOLUMES	Above Marker Layer (m^3)	Below Marker Layer (m^3)
Total cut	-	-
Cut volume retained (on site)	-	-
Cut volume to Soil Hospital	-	-
Cut volume sent off Olympic Park	-	-
Related ATK-088 Export Application(s):	N/A	
SMARTWaste References	No arisings were generated as part of these works (see RAMS).	

C3: FILL VOLUMES	Above Marker (m^3)	Chemical Tests (no.)	Below Marker (m^3)	Chemical Tests (no.)
Total fill	-	-	-	-
Site won fill (reused)	-	-	-	-
Fill from Soil Hospital	-	-	-	-
Fill from outside Olympic Park	-	-	-	-

Related ATK-088 Import Application(s):	NA

Additional Comments:

Works were carried out in line with the Design documentation provided. An RPA was present during the entirety of these works and no materials were encountered/identified above background concentrations (see appended survey reports). It should be noted that the test anchors and the main activities were carried out concurrently and therefore, these details provided are sufficient to also close out PTP Ref.: 0069_LOCOGCER_PRW_0002).

SECTION D *(Application is closed by the Permit to Proceed Team following review of Section C and returned to FOP Team)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	22/06/2012	Date	22/06/2012
Accepted & Closed	Yes		

Comments or conditions on closure / reason for non-closure of application:

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team, EW Project Manager.*

ANCHOR TEST POSITION

ANCHOR TEST POSITION

ANCHOR TEST POSITION

NORTH

SHOWING ALL PIPES LAYOUT

ISSUED FOR INFORMATION xx.04.12

No — Date — Revision

atelier one

Client 2012 CEREMONIES

Architect SHOW CANADA

Project OLYMPIC OPENING CEREMONY

Title PLAN - ANCHOR TEST POSITIONS

Date MAR' 12 Scale 1:500 @ A3

Drawn by T.M.S. Checked

Drawing No A1/1733/05/105 Rev

Atelier One 9 Windmill Street London W1T 2JF 020 7323 3350

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date: 14th MAY 2012	Building: OLYMPIC STADIUM	Area Designation (tick)	Hazard Rating: (H, M, L)	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
Area Surveyed: FIELD OF PLAY STAGING ANCHOR POSITIONS AS BELOW (SEE PLAN FOR LOCATION)		Controlled ☐		Routine ☐	RM451/DP6AD	1602/2352	☑	<0.1 & 4cps β	☑
		Supervised ☐	Radiation L	Request ☑	MINI MON/44B	03676S/1065	☑	5cps	☑
		Non-Des ☑	Contamination L	Alarm/Incident ☐			☐		☐
		Start Time: 0800		Other ☐			☐		☐
		Survey No: CEREMONIES (1)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**	General Comments:
	ANCHOR POSITIONS AT C11(x2) AND AT C14(x2) SURVEYED PRIOR TO WORK		4-6									
	DRIVE RODS SURVEYED AS WITHDRAWN FROM GROUND		4-6		<0.1	3-5			P			
	RAGS SURVEYED (USED FOR ROD CLEANING)		4-6		<0.1	3-5			P			
	OPERATIVES GLOVES SURVEYED		4-6		<0.1	3-5			P			
	ANCHOR POSITIONS SURVEYED AFTER WORK		4-6									

Survey completed by Print: [redacted]	Sign: [redacted]	HP Supervisor's Comments:
HP Supervisor Sign:	Date: [redacted]	
RPS or Area Supervisor Sign:	Date:	

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HPCF/30001 - Issue B   Symbol Comments   * Instrument Background   ♦ Probe or Smear   ** U/S - Unsatisfactory, S - satisfactory, K - Known   ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)	Hazard Rating:	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
15th MAY 12	[illegible]	Controlled ☐	(H, M, L)	Routine ☐	[illegible] / [illegible]	1002 / 2382	☑	<0.1 / 4 [illegible]	☑
Area Surveyed: FIELD OF RING STATIONS ANCHOR POSITIONS AS BELOW (SEE PLAN FOR LOCATIONS)		Supervised ☐	Radiation	Request ☑	MINI MONITOR 44A	07845 / [illegible]	☑	5.0	☑
		Non-Des ☑	Contamination	Alarm/Incident ☐			☐		☐
		Start Time: 0800		Other ☐			☐		☐
		Survey No: [illegible] (2)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**
	ANCHOR POSITIONS AT FOUNDATION LOCATIONS SURVEYED PRIOR TO EXCAVATION* (+ FURTHER SURVEY AFTER EXCAVATION) AT POSITIONS C3, C4, C5, C6, C9, C17 + C19		4.7								
	ANCHOR INSTALLATION CONDUCTED AT POSITIONS C9(x2) + C17(x2)										
	RIG PERSONNEL + EQUIPMENT CHECKED DURING WORK		4.7		<0.1	3.7			(P)		
	ALSO LOCATIONS FLAGGED IN AREA SURVEYED		4.7								

General Comments:

* METHOD CHANGED AREAS EXCAVATED TO CAT LEVEL PRIOR TO POSITIONING + ANCHOR INSTALLATIONS

Survey completed by Print: [redacted] Sign: [redacted]

HP Supervisor Sign: Date:

RPS or Area Supervisor Sign: Date:

HP Supervisor's Comments:

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HPCF/30001 - Issue B

Symbol Comments * Instrument Background ♦ Probe or Smear ** U/S - Unsatisfactory S - satisfactory K- Known ‡ R - Removed FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)	Hazard Rating:	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
16 MAR 12	OLYMPIC STADIUM	Controlled ☐	(H, M, L)	Routine ☐	Electra/DP6AB	1603/2382	☑	3 c/s β <0.1 α	☑
Area Surveyed: FIELD OF PLAY STAGING ANCHOR POSITIONS AS BELOW		Supervised ☐	Radiation L	Request ☑	Mini-mon/44B	036746/1045	☑	4 cps	☐
		Non-Des ☑	Contamination L	Alarm/Incident ☐			☐		☐
		Start Time: 0800		Other ☐			☐		☐
		Survey No: CEREMONIES (3)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**	General Comments:
	ANCHOR POSITIONS AT FOLLOWING											
	LOCATIONS SURVEYED AFTER											
	EXCAVATION (OIL CHECK) :-											
	C5, C6, C13 & C15 (ALL		3-7									
	HAVE 4 ANCHOR BOLTS)											
	ALL AREAS [illegible] FILLED IN		3-7									
	& SURVEYED											
	RODS PERSONNEL & EQUIPMENT		4-6		<0.1	2.5			(P)			
	SURVEYED DURING WORK											

Survey completed by Print: [redacted]	Sign: [redacted]	HP Supervisor's Comments:
HP Supervisor Sign:	Date:	
RPS or Area Supervisor Sign:	Date:	

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HPCF/30001 - Issue B   **Symbol Comments**   * Instrument Background   ♦ Probe or Smear   ** U/S - Unsatisfactory, S - satisfactory, K- Known   ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)		Hazard Rating:	Survey Type (tick)		Instruments	Serial No.	Pre Test	Bgd*	Post Test
17 MAY 12	OLYMPIC STADIUM										
Area Surveyed:		Controlled	☐	(H, M, L)	Routine	☐	PCMS-1/DP6AD	1002/2762	☑	<0.1 & 4cps	☑
FIELD OF PLAY STADIUM ANCHOR POSITIONS AS BELOW		Supervised	☐	Radiation	Request	☑	[illegible]/44B	[illegible]/[illegible]	☑	5cps	☑
		Non-Des	☑	Contamination	Alarm/Incident	☐			☐		☐
		Start Time: 0700			Other	☐			☐		☐
		Survey No: CLEARANCE (4)				☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h or mSv/h βγ	γ	η	Contamination CPS α	CPS βγ	Bqcm² α	Bqcm² βγ	P or S♦	R or FM ‡	U/S S or K**	General Comments:
	ANCHOR POSITIONS AT											
	FOLLOWING LOCATIONS NEED											
	ALTERNATIVE EXCAVATIONS											
	C3 C4, C18, C22, C23											
	C24 + C25 THEN MOVING		4-6									
	A ANCHOR POINTS											
	ALL AREAS COMPLETED FILLED		4-6									
	IN + SURVEYED											
	ROAD [illegible] + EQUIPMENT		4-6		<0.1	3-6			(P)			
	SURVEYED DURING WORK											

Survey completed by Print: [redacted]	Sign: [redacted]		HP Supervisor's Comments:
HP Supervisor Sign:	Date:		
RPS or Area Supervisor Sign:	Date:		

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HPCF/30001 - Issue B   **Symbol Comments**   * Instrument Background   ♦ Probe or Smear   ** U/S - Unsatisfactory, S - satisfactory, K- Known   ‡ R - Removed, FM - Fixed and Marked

NUVIA

Radiation & Contamination Survey Report

Health Physics

Date:	Building:	Area Designation (tick)	Hazard Rating:	Survey Type (tick)	Instruments	Serial No.	Pre Test	Bgd*	Post Test
15 MAY 12	OLYMPIC STADIUM	Controlled ☐	(H, M, L)	Routine ☐	PCM5-1/[illegible]	[illegible]/7752	☑	<0.1 & 4cps	☑
Area Surveyed: FIELD OF PLAY STADIUM ANCHOR POSITIONS AS BELOW		Supervised ☐	Radiation	Request ☑	[illegible]/44B	[illegible]/[illegible]	☑	5cps	☑
		Non-Des ☑	Contamination	Alarm/Incident ☐			☐		☐
		Start Time: 0730		Other ☐			☐		☐
		Survey No: [illegible] (5)		☐			☐		☐

No	Survey Details	Radiation (circle units) µSv/h- cps or mSv/h: βγ	γ	η	Contamination CPS: α	CPS: βγ	Bqcm²: α	Bqcm²: βγ	P or S♦	R or FM ‡	U/S S or K**	General Comments:
	ANCHOR POSITIONS SURVEYING											
	AT FOLLOWING LOCATIONS											
	AFTER EXCAVATION :-											
	C1, C2, C10, C16 & C12											
	(4 ANCHOR POINTS)		3-7									
	C7 C8 C20 & C21											
	(2 ANCHOR POINTS)											
	ALL ABOVE CONCRETED &		3-7									
	FILLED IN. ABOVE SURVEYED											
	ALL POST PERSONNEL &		3-5		<0.1	4-6			(P)			
	& EQUIPMENT SURVEYED											
	DURING WORK											
	ALL WORK NOW COMPLETED											

Survey completed by Print: [redacted] Sign [redacted]

HP Supervisor Sign: Date:

RPS or Area Supervisor Sign: Date:

HP Supervisor's Comments:

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HPCF/30001 - Issue B **Symbol Comments** * Instrument Background ♦ Probe or Smear ** U/S - Unsatisfactory S - satisfactory K- Known ‡ R - Removed FM - Fixed and Marked

Project: London 2012 - Ceremonies
Date: 26 July 2012
Version: 001
Issued by: [redacted]

Radiological testing of ground anchor tendons – Method Statement

Background Information

To provide anchoring for the central show deck for the Olympic Opening Ceremony, platipus ground anchors were installed to a depth of between 3m and 6m under the field of play in the Olympic Stadium.

During the installation of the anchors the installation rods were tested for radiological contamination after the installation of each anchor tendon and no contamination was found.

During the transition from Ceremonies to sport the anchor tendons will be removed, as they are occupying the same space underground as the installation rods, it is expected that no contamination will be found, however they will be tested after removal.

The timing of the removal of the tendons is subject to the progress of transition and cannot be accurately timed, but it is expected that this will take place between 00:01 on Sunday 29th and 23:00 on Monday 30th.

The following procedure will be followed:

- The tendons will be unscrewed from the anchors by crew. All crew employed in this activity will wear suitable gloves.
- On removal the tendons will be tagged with the area of the field of play that they were removed from (these locations can be found using survey points.
- The tendons will then be removed to a cordoned off area and all gloves used in the removal will be left with the tendons. Signage will be place – "Do not touch or remove any items within this cordon without authority from a member of the L2012C Staging Team"
- During working hours on Monday 30th and Tuesday 31st July all tendons and gloves will be monitored for surface radiological contamination, with appropriate instrumentation (as advised by an RPA), and any results greater than twice background levels will be reported to the RPA for advice.

[redacted]

[redacted]
Production Manager Staging & Scenic
London 2012 Ceremonies Ltd

[redacted]

[redacted]
Radiation Protection Advisor
Nuvia Ltd

[redacted]

From: [redacted]@london2012.com]
Sent: 11 March 2013 08:30
To: [redacted]
Subject: FW: Nuvia report

From: [redacted] [mailto:[redacted]@london2012.com]
Sent: 26 July 2012 14:21
To: [redacted]; [redacted]@atkinsglobal.com; [redacted]@Atkinsglobal.com
Subject: RE: Nuvia report

Gents

Further to my previous email below, I have just spoken to [redacted] (LOCOG Ceremonies) who has confirmed that the tendons will be removed over the next few days (Note the anchors will remain in situ). NUVIA have been contacted and will provide support, however, given Ceremonies will be working 24 hrs a days over the next 3-4 days – with most tendon works being completed in the early hours - it has been agreed that these tendons will be safely extracted, handled and temporarily stored/removed in line with the Method Statement that Ceremonies/NUVIA will jointly prepare with NUVIA surveying these tendons the following morning. I will run through the Method Statement and Risk Assessment with Allan if need be when I receive. The current risk is considered low given the historical works and they will follow the same approach we previously agreed with the Environment Agency.

Will keep you in the loop but any queries in the interim please let me know

Regards

[redacted]

From: [redacted]
Sent: 21 June 2012 16:25
To: [redacted]; [redacted] (LOCOG)
Subject: FW: Nuvia report

[redacted]

Further to my previous email (Thu 21/06/2012 @ 12:22), I have specified to [redacted] at LOCOG Ceremonies that NUVIA will need to be in attendance to oversee the "reinstatement" works (removal of anchors and/or tendons). In addition, I have also advised [redacted] of the completed works and future requirements.

Regards

[redacted]

From: [redacted]
Sent: 21 June 2012 16:16
To: [redacted]
Subject: FW: Nuvia report

[redacted]

As discussed earlier, please find attached and below correspondence with LOCOG ceremonies and the Environment Agency regarding the below ground works carried out at the Main Stadium (ground anchors). The ODA encountered (and appropriately dealt with) radiological materials that were associated with historical activities in and around the Olympic Stadium. Consequently, the ODA specified that any further below ground works completed in these areas would require specialist radiological support to safeguard the workforce and for environmental protection. LOCOG

ceremonies have confirmed that the radiological thresholds were not breached during their works (installation of ground anchors) and I have relayed this to the Environment Agency, ODA Radiological Advisor and the PTP Team.

I have also informed LOCOG Ceremonies that during the "reinstatement" phase post-Games, radiological support will again be required. In short, we are managing these works appropriately through liaison with the relevant parties (see below and attached email) including the PDT, where I have agreed with [redacted] that this will be discussed in the Zone 3 Consolidated Validation Report.

Should you have any queries then please do not hesitate to contact me.

Regards

[redacted]

From: [redacted]
Sent: 21 June 2012 16:05
To: [redacted]
Subject: RE: Nuvia report

Hi [redacted]

Yes, radiological support will be required to oversee the removal of these anchors tendon and any other proposed below ground works during the "reinstatement" phase for a number of overlapping reasons:

- environmental protection point of view as there still remains the potential for soil mixing at depth as you extract the tendons which may in turn impact on waste disposal of any soil arisings which have adhered to tendons;
- worker safety under the Ionising Rad Regs 1993 (IRR93); and
- to suppress any negative public perception, which is important from a Legacy company perspective.

During these works, we'll have to go through the PTP process again.

Any queries then please let me know

Regards

[redacted]

From: [redacted] [mailto:[redacted]@london2012ceremonies.com]
Sent: 21 June 2012 12:52
To: [redacted]
Subject: RE: Nuvia report

[redacted]

It was part of the agreement that the anchor tendons would be removed, which is why we changed to using solid rather than cable tendons.
Do we need Nuvia for that process? – because the rods that installed the anchors have been found clear and they have occupied the same space under ground as the tendon rods that we will be removing.

Let me know your thoughts

Thanks

[redacted]

From: [redacted] [mailto:[redacted]@london2012.com]
Sent: 21 June 2012 12:29

To: [redacted]
Subject: RE: Nuvia report

Thanks [redacted], as you'll see I've closed out the PTP on your behalf with these survey records and confirmed we found nothing with the Environment Agency.

The next question I have is how do LOCOG Ceremonies intend to leave the Site post-Games, particularly with regards to the anchors/cables? If these are to be extracted then we'll need to ensure NUVIA are again present and if not, then in the handover file, you will need to specify this requirement for any incoming incumbent. This is particularly important from a LLDC perspective.

Regards

[redacted]

From: [redacted] [mailto:[redacted]@london2012ceremonies.com]
Sent: 21 June 2012 10:41
To: [redacted]
Subject: Nuvia report

Hi [redacted]

Please see attached Nuvia reports

[redacted]

[redacted]
Production Manager Staging & Scenic

London 2012 Ceremonies Ltd.
One Churchill Place
Canary Wharf
London E14 5LN

Direct: [redacted]
Mobile: [redacted]
Fax: [redacted]
london2012.com

[redacted]

From: [redacted] [redacted]@london2012.com]
Sent: 24 January 2013 07:48
To: [redacted]
Cc: [redacted]
Subject: Anchors

This message has been archived.

NOT PROTECTIVELY MARKED

[redacted]

E-mail on Ground Anchors during LOCOG's work at the Main Stadium.

No need to action as I will produce a response on this query, but thought I would copy you and [redacted] for information.

Regards

[redacted]

From: [redacted] [mailto:[redacted]@london2012.com]
Sent: 21 June 2012 12:22
To: [redacted] (LOCOG); [redacted]
Subject:

Attachments:

image001.png	(15 KB)
Nuvia report.pdf	(511 KB)

[redacted]

From: [redacted] [redacted]@london2012.com]
Sent: 24 January 2013 07:48
To: [redacted]
Cc: [redacted]
Subject: Anchors

This message has been archived.

NOT PROTECTIVELY MARKED

[redacted]

E-mail on Ground Anchors during LOCOG's work at the Main Stadium.

No need to action as I will produce a response on this query, but thought I would copy you and [redacted] for information.

Regards

[redacted]

From: [redacted] [mailto:[redacted]@london2012.com]
Sent: 21 June 2012 12:22
To: [redacted] (LOCOG); [redacted]
Subject:

Attachments:

image001.png	(15 KB)
Nuvia report.pdf	(511 KB)

[redacted]

From: [redacted]
Sent: 27 July 2012 10:47
To: [redacted]
Cc: [redacted]
Subject: Olympic Stadium - radological issues

This message has been archived.

[redacted],

We informed you of our intention to install, and then remove, anchors and tendons to support the temporary awning at the stadium. We also informed you that the installation had been completed, with no detected issues of radiological contamination despite the fact that the new penetrations extended below the marker level – that is, the level at which extensive radiological assessment

Appendix B2-2:

Temporary Structures (0066_LOC_PRW_0001)

London 2012 Olympic Park	PERMIT TO PROCEED

PROTECTION OF REMEDIATION WORKS: FORM ATK-084

PTP Reference: 0066_LOC_PRW_0001

Dear Sirs,
With respect to the protection and maintenance of previously completed ground remediation works and site specific remediation strategies we hereby submit this Permit to Proceed application for our intrusive works and for your acceptance. We understand we initially require your completed section B prior to commencement of our works and that we are responsible for the integrity of the remediation works.

SECTION A *(Please complete & submit to permit.to.proceed@london2012.com 5 days prior to works)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	LOCOG	of Company	LOCOG
Date	19 January 2012	Date	19 January 2012
Follow on Project	GL Events Tents	Principal Contractor	GL, TBC
Title of Works	Installation of GL Tents	FOP Doc Reference	0066_LOC_PRW_0001
Construction Zone	Site Wide	Works Start Date	January 2012
LA Site Reference	Various – Site wide	Works Finish Date	July 2012

Co-ordinates of works	Park Wide
Drawing Reference	Upon request
Description of works	Installation of GL Tents of various sizes across the park to provide FoH and BoH accommodation.
Dimension of works (incl. depth)	3m x 3m, 5m x 5m garden tents use 600mm anchor pins - maximum ground penetration will be circa 550mm All gable tents with cassette floor fitted use 1000mm long anchor pins - maximum ground penetration will be circa 950mm All gable tents without cassette floor (mainly PSA's & VSA's) use 1200mm long anchor pins, so maximum ground penetration will be circa 1150mm
Method Statement Reference(s)	LON2012 - Method Statement - Anchor Pins – 120124 LON2012 - Method Statement - Anchor Pins in tarmac – 120124 LON2012 - Method Statement - Small Square Structures – 111206 LON2012 - Method Statement - 10m Absolute Tent – 111206 LON2012 - Method Statement - 10m Neivalu Tent – 111208 LON2012 - Method Statement - 15m Absolute Tent – 111206 LON2012 - Method Statement - 20m Absolute Tent – 111206
Piling Risk Assessment Ref.	*n/a*
Existing Marker layer depth	Various
Earthworks above marker layer (m^3)	
Earthworks below marker layer (m^3)	
Historic boreholes at vicinity of works	
Planned backfill material types	

Additional Comments:

LOCOG also have dispensation by ODA to pin the tents which are outside the ZOI of 3rd party assets, or with prior permission from the 3rd party asset owners.

We hereby confirm that the methods used will ensure minimal mixing of general fill/separation layer materials, and marker layer will not need to be replaced.

GL Events have confirmed they have never encountered a situation where we have had to excavate to remove anchors, therefore the segregation materials and marker layer reinstatement is not applicable.

SECTION B *(Completed by and returned from Permit to Proceed Team prior to works)*			
Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	03/02/2012	Date	03/02/2012
Accepted	Yes		

Conditions of acceptance / reason for non-acceptance:

- As detailed above and in previous discussions; the methodology for pin selection, installation and removal must ensure minimal mixing of above and below marker layer materials. This permit therefore applies only to the anchor pins detailed in the above method statements. Anchor pins which vary from this design (screw/grooved/notched) should be further assessed and presented to the PtP team and/or the Planning Decisions Team for review.
- In cases where pin removal causes disturbance to existing ground and raises potential for the mixing of materials in a localised area, the material around the pin site shall be excavated and replaced with compliant fill materials (as defined in the relevant Site Specific Remediation Strategy/Specification), supported by appropriate validation. Details of marker layer reinstatement including photographs to be included in Section C.
- Voids created following removal of anchor pins in hard standing shall be reinstated to prevent preferential pathways for surface water.
- In the unlikely event that pins require local excavation to assist in their removal, marker layer shall be appropriately reinstated and fill materials replaced with chemically and geotechnically suitable material.
- This permit does not replace the Park Operations ATP1 and ATP2 process. The contractor retains responsibility for ensuring pin locations are clear of all underground utilities or similar.

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team.*

SECTION C *(Please complete and return to permit.to.proceed@london2012.com on completion of the works)*

Dear Sirs,
We confirm completion of works in accordance with the methods described in Section A and conditions described in Section B. On the basis of the following information and the attached supporting documents, we request that this application be formally closed.

Prepared by	Completed on behalf of LOCOG	Authorised by	Completed on behalf of LOCOG
of Company		of Company (PC)	
Date		Date	

C1: COVER LAYER	**Reinstated**	**Altered**	**Omitted**
Marker Layer	No	Yes / No	Yes / No
Human Health Separation Layer	No	Yes / No	Yes / No
Comments or description of cover system reinstatement	Not provided		
Photo record of excavation and Marker Layer reinstatement	*(Attach photograph record document)*		
As-Built drawings provided	*(Attach as-built drawing or sketch indicating cover system reinstatement)*		

C2: EXCAVATED VOLUMES	**Above Marker Layer (m^3)**	**Below Marker Layer (m^3)**
Total cut	0	0
Cut volume retained (on site)		
Cut volume to Soil Hospital		
Cut volume sent off Olympic Park		
Related ATK-088 Export Application(s):		
SMARTWaste References	*(Attach spreadsheet from SMARTStart detailing relevant entries)*	

C3: FILL VOLUMES	Above Marker (m^3)	Chemical Tests (no.)	Below Marker (m^3)	Chemical Tests (no.)
Total fill	0		0	
Site won fill (reused)				
Fill from Soil Hospital				
Fill from outside Olympic Park				
Related ATK-088 Import Application(s):				
Additional Comments:				

SECTION D *(Application is closed by the Permit to Proceed Team following review of Section C and returned to FOP Team)*

Prepared by	[redacted]	Authorised by	[redacted]
of Company	Atkins	of Company	Atkins
Date	26/11/2012	Date	26/11/2012
Accepted & Closed	Yes / No		

Comments or conditions on closure / reason for non-closure of application:

Permit closed following discussions with the Principal Contractor who confirmed that works were completed as per the agreed method statement and all lightning rods have since been removed. No information has been provided by the contractor regarding the filling of the small diameter voids in the hard standing. If not already addressed, these will be removed during Transformation Phase development in this area.

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team, EW Project Manager.*

METHOD STATEMENT – Anchoring Method (Anchor pins – Chemical anchors – Mechanical anchors)

Description of the Activity:	**Installation of anchor pins, mechanical and chemical anchors.**		
Site Address/ Location:		**Start Date/Time:**	
		Finish Date/Time:	
Site Supervisor:		**Tel:**	

PPE Required:

 Safety Boots	 Hard Hats	 Safety Gloves	 Hi-Viz Clothing	 Hearing Protection	 Eye Protection	**Other:** 1. Respiratory protection 2. 3.
Yes	Yes	Yes	Yes	Yes	Yes	

Materials Required: Anchor pins – Base plates – Mechanical or chemical anchor system.

Other Equipment:

Mechanical hammer

Rotary Hammer Drill

Air cleaning pump

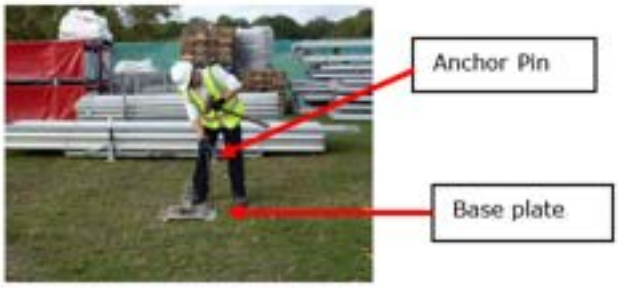
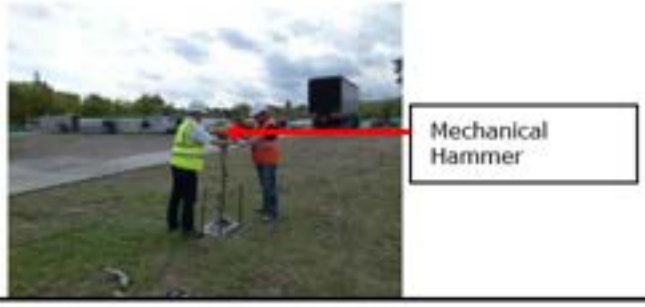
Chemical Injector

Cable Detector

Cleaning Brush

Sledge Hammer

Anchor pin puller

Identified Risks:	T22 Manual Handling T23 Mechanical Hammer T24 Hand Tools G12 Noise
Specific Staff Training:	All work will be undertaken by qualified, competent persons with experience of the type of work described below and in all cases in full accordance with safety procedures specified in the company Health and Safety Policy. All crew members will be trained and competent in manual handling. All crew will be trained in use of mechanical hammer and will take regular breaks to reduce the risk of hand arm vibration.
Sequence of Operations:	**Installation of Anchor Pins in Grass, Soil and Bitumen Tarmac** 1. Confirm that underground utilities surveys are completed before installation and that it is safe to install in the intended location. A permit to dig must be issued before work begins but a crew member will scan the area before penetrating ground to ensure they will not penetrate any existing services. 2. Operative will ensure that all base plates are packed correctly before installing anchor pins. 3. Operative will place a pin through a hole in the base plate making sure the pin is centred.  4. The operative will strike the anchor pin with a sledge hammer until the pin is fixed firmly in the ground (approximately 3-4 times). 5. This process will be repeated until the correct numbers of pins are partially driven into the ground so they are ready to be driven to the required depth with a mechanical hammer.  6. Two operatives will stand on opposite sides of the mechanical hammer and position the cup of the hammer over the head of the anchor pin, ensuring that the hammer is centred and upright. Pressing the handle down activates the hammer driving the anchor pin to the correct depth. 

Sequence of Operations:

7. The operatives will drive all anchor pins into the ground until all the pins are installed and the base plate is secure.

8. When installing anchor pins through tarmac the same method is used to drive the anchor pins into the ground, but first a borehole has to be drilled through the tarmac surface. The borehole will be drilled using a mechanical rotary drill to the required depth through tarmac cover into ground below.

Rotary Hammer Drill

Different types of Anchor Pins

Installation of Anchors using Mechanical Anchor Bolt in Concrete

1. To anchor structures using mechanical anchors the thickness of the slab has to be established by using existing site drawings or trial holes to make sure that when drilling the holes the operative does not drill through the slab.

2. Once the thickness of the slab is known the operative places the base plate in the required position. A hole is then drilled to the required depth as detailed in the manufacturer's specifications.

Rotary hammer drill

3. Once the correct depth is reached the hole is cleaned before inserting the mechanical anchor. This is done with a cleaning brush and an air puffer.

Sequence of Operations:

4. Once the hole is free of any remaining dust or particles the operative will insert the mechanical anchor and tighten as recommended in the manufacturer's specifications.

5. This sequence is repeated until all base plates are securely anchored to the ground.

Installation using Chemical Bolt in Concrete

1. To anchor structures using mechanical anchors the thickness of the slab has to be established by using existing site drawings or trial holes to make sure that when drilling the holes the operative does not drill through the slab.

2. Once the thickness of the slab is known the operative places the base plate in the required position, a hole is then drilled to the required depth as detailed in the manufacturer's specifications.

Rotary hammer drill

3. Once the correct depth is reached the hole will be cleaned before inserting the chemical vile anchor. This will be done with a cleaning brush or air puffer

4. The chemical ampoule or chemical liquids are inserted into the cleaned hole. Using a special attachment supplied by the manufacturer, the bolt is threaded into the hole using a rotary drill to the correct depth as detailed in the manufacturer's specifications.

Chemical Liquids Chemical Ampoule Anchor bolts

This action breaks the glass ampoule and mixes the chemicals. After the recommended time required in the manufacturer's specifications the chemical will cure and set the anchor bolt solid.

5. After the bolt is solid, the base plate can be fixed using the supplied fixings.

Sequence of Operations:

Anchor Removal

1. Anchor pins can be removed using a manual pin puller. The cup end of the pin puller handle is placed underneath the head of the anchor pin. The pin puller handle is secured into the vertical support tool. By applying downward pressure on the handle of the pin puller the anchor pin will start to rise out of the ground. The handle is then reset further up the vertical support tool and the process is repeated.

2. This process will be repeated until the anchor pin is completely removed.

3. To remove the mechanical anchor the operative will undo the bolt from the fixing and remove completely. After the bolts are removed the fixings can be loosened and removed from the surface. The hole is now ready for reinstatement

4. There are various types of chemical anchors which can be used, the most commonly used chemical anchor leaves a threaded bar on the ground. This bar is cut off at ground level using a grinder.

Drop in flush sleeve anchor

Bolt anchor

The other type of chemical anchor is a sleeve and bolt system. After the bolt is removed the sleeve can be filled with cement grout to fill the hole and finished neatly at surface level. It is not anticipated that excavation will be required for removal of anchor pins.

Reinstatement after Anchor removal

It is standard practice to leave any holes created when an anchor pin is removed on a grass site (18mm – 20mm dia) to close naturally over time (1-2 weeks). This removes the need to deposit any foreign soil into the hole and risk cross contamination of the ground soils. Leaving the holes open also aerates the ground.

When reinstating tarmac covers and sub-base, various methods for the sub-base can be used. These can include granular fill or cement based grout fill, the last 100mm can be filled with bitumen. Crew members will ensure that both methods are compacted and finished at the correct level. Our methods will require minimal if no mixing of general fill/separation layer materials and marker layers will not need to be replaced.

When re-instating holes with concrete after removing mechanical anchors, crew members will use a cement based grout mixture to fill the holes which will be finished neatly at surface level.

When using chemical fixed anchor bolts generally these bolts will remain in situ but will need to be cut off at surface level, unless when using sleeve type anchor where the anchor can be filled with a cement type grout mixture after the fastening bolt has been removed.

Extra Protection Measures:	When drilling or cleaning a hole in concrete or tarmac crew member will wear eye protection and respiratory protection in case of contact with dust.
Other Information & Comments:	This method statement is a working document and will be updated as required. All installation crew members are encouraged to make suggestions that may improve the method of working. Please make your suggestions and comments to the supervisor or the Site Management Team.

Prepared by: ..... **Date:** .....

Position: .....

Reviewed by: ..... **Date:** .....

Position: .....

I hereby acknowledge that I have read the above Method Statement and will comply with this safe way of installing the anchor pins at .....

I realise that it is my duty to report any unsafe working practices that I may observe to my direct supervisor or to the GL Site Management Team.

Crew Member	**Signature**	**Date**
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METHOD STATEMENT – Anchoring Method for Anchor pins

Description of the Activity:	**Installation of anchor pins into grass soil or bitumen tarmac.**		
Site Address/ Location:		**Start Date/Time:**	
		Finish Date/Time:	
Site Supervisor:		**Tel:**	

PPE Required:

						**Other:**
Safety Boots	Hard Hats	Safety Gloves	Hi-Viz Clothing	Hearing Protection	Eye Protection	1. Respiratory protection
Yes	Yes	Yes	Yes	Yes	Yes	2.
						3.

Materials Required:	Anchor pins and base plates.

Other Equipment:

Mechanical hammer

Rotary Hammer Drill

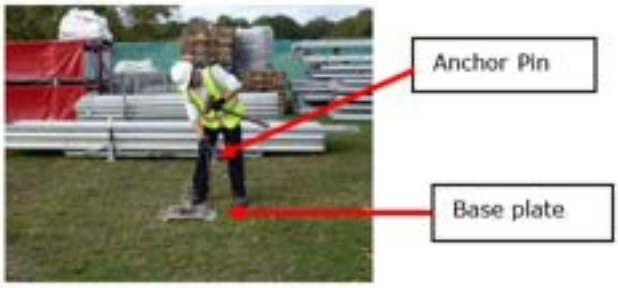
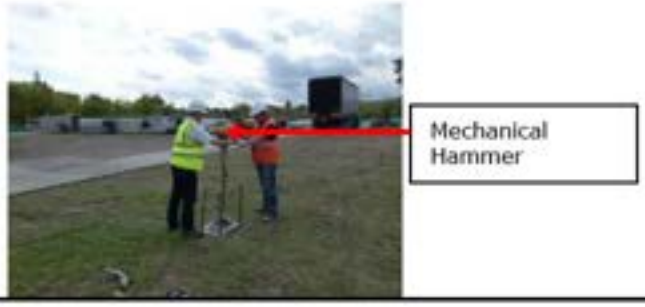
Air cleaning pump

Cable Detector

Cleaning Brush

Sledge Hammer

Anchor pin puller

Identified Risks:	T22 Manual Handling T23 Mechanical Hammer T24 Hand Tools G12 Noise
Specific Staff Training:	All work will be undertaken by qualified, competent persons with experience of the type of work described below and in all cases in full accordance with safety procedures specified in the company Health and Safety Policy. All crew members will be trained and competent in manual handling. All crew will be trained in use of mechanical hammer and will take regular breaks to reduce the risk of hand arm vibration.
Sequence of Operations:	**Installation of Anchor Pins in Grass, Soil and Bitumen Tarmac** 1. Confirm that underground utilities surveys are completed before installation and that it is safe to install in the intended location. A permit to dig must be issued before work begins but a crew member will scan the area before penetrating ground to ensure they will not penetrate any existing services. 2. Operative will ensure that all base plates are packed correctly before installing anchor pins. 3. Operative will place a pin through a hole in the base plate making sure the pin is centred.  4. The operative will strike the anchor pin with a sledge hammer until the pin is fixed firmly in the ground (approximately 3-4 times). 5. This process will be repeated until the correct numbers of pins are partially driven into the ground so they are ready to be driven to the required depth with a mechanical hammer.  6. Two operatives will stand on opposite sides of the mechanical hammer and position the cup of the hammer over the head of the anchor pin, ensuring that the hammer is centred and upright. Pressing the handle down activates the hammer driving the anchor pin to the correct depth. 

Sequence of Operations:

7. The operatives will drive all anchor pins into the ground until all the pins are installed and the base plate is secure.

8. When installing anchor pins through tarmac the same method is used to drive the anchor pins into the ground, but first a borehole has to be drilled through the tarmac surface. The borehole will be drilled using a mechanical rotary drill to the required depth through tarmac cover into ground below.

Rotary Hammer Drill

Different types of Anchor Pins

Anchor Removal

1. Anchor pins can be removed using a manual pin puller. The cup end of the pin puller handle is placed underneath the head of the anchor pin. The pin puller handle is secured into the vertical support tool. By applying downward pressure on the handle of the pin puller the anchor pin will start to rise out of the ground. The handle is then reset further up the vertical support tool and the process is repeated.

2. This process will be repeated until the anchor pin is completely removed.

Sequence of Operations:

3. To remove the mechanical anchor the operative will undo the bolt from the fixing and remove completely. After the bolts are removed the fixings can be loosened and removed from the surface. The hole is now ready for reinstatement

4. There are various types of chemical anchors which can be used, the most commonly used chemical anchor leaves a threaded bar on the ground. This bar is cut off at ground level using a grinder.

Drop in flush sleeve anchor

Bolt anchor

The other type of chemical anchor is a sleeve and bolt system. After the bolt is removed the sleeve can be filled with cement grout to fill the hole and finished neatly at surface level. It is not anticipated that excavation will be required for removal of anchor pins.

Reinstatement after Anchor removal

It is standard practice to leave any holes created when an anchor pin is removed on a grass site (18mm – 20mm dia) to close naturally over time (1-2 weeks). This removes the need to deposit any foreign soil into the hole and risk cross contamination of the ground soils. Leaving the holes open also aerates the ground.

When reinstating tarmac covers and sub-base, various methods for the sub-base can be used. These can include granular fill or cement based grout fill, the last 100mm can be filled with bitumen. Crew members will ensure that both methods are compacted and finished at the correct level. Our methods will require minimal if no mixing of general fill/separation layer materials and marker layers will not need to be replaced.

When re-instating holes with concrete after removing mechanical anchors, crew members will use a cement based grout mixture to fill the holes which will be finished neatly at surface level.

When using chemical fixed anchor bolts generally these bolts will remain in situ but will need to be cut off at surface level, unless when using sleeve type anchor where the anchor can be filled with a cement type grout mixture after the fastening bolt has been removed.

Extra Protection Measures:	When drilling or cleaning a hole in concrete or tarmac crew member will wear eye protection and respiratory protection in case of contact with dust.
Other Information & Comments:	This method statement is a working document and will be updated as required. All installation crew members are encouraged to make suggestions that may improve the method of working. Please make your suggestions and comments to the supervisor or the Site Management Team.

Prepared by: [redacted]..... **Date:** ...06/12/2011.....

Position: ...Senior Cluster Manager.....

Reviewed by: [redacted]..... **Date:** ...05/01/2012.....

Position: ...Health & Safety Manager.....

I hereby acknowledge that I have read the above Method Statement and will comply with this safe way of installing the anchor pins at .....

I realise that it is my duty to report any unsafe working practices that I may observe to my direct supervisor or to the GL Site Management Team.

Crew Member **Signature** **Date**

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APPENDIX B3:

Agreed Reinstatement Approach and Correspondence regarding the ISG Method Statement

From: [redacted]
Sent: 19 October 2012 09:28
To: [redacted]
Cc: [redacted] [redacted]@londonlegacy.co.uk; [redacted]; [redacted] (London2012); [redacted]
Subject: LOCOG Reinstatement Works

[redacted]

Further to our discussions regarding LOCOG's Reinstatement Works at the Remediation Forum last week, we set out below the revised process for achieving discharge.

1. As part of our on-going discussions with LLDC, we have agreed that all Reinstatement works (principally 9 Sponsor Showcase Areas) will be carried out in the above marker layer materials only.
2. Reinstatement works will comprise the cutting down of piles to marker layer, removal of concrete bases (where necessary) and the removal/capping of temporary shallow utilities.
3. The existing Human Health Separation Layer (HHSL) will be reused in these discrete areas as backfill. Given the discrete nature of the works, controlled method of excavation comprising segregation, storage on hardcover and the type of material used in the HHSL (typically virgin sourced materials), no chemical testing will be considered necessary.
4. It may be necessary to import a small volume of backfill to make these levels back up to the existing ground level. In these instances virgin-sourced materials will be imported. An import of Fill submission will be drafted to cover this import Park-wide. This submission will include source, quantity, deposition and timeframe as set out in the Import of Fill Framework letter.
5. The reinstatement works will be recorded on a Permit to Proceed (or similar) and will include the following pertinent details: description of the proposed works, as-built drawings (for cutting off piles), site plans, photographs and confirmation from LOCOG that these works were appropriately carried out in accordance with this email.
6. These PTPs (or similar) will be prepared on an area basis and will form one part of the handover pack to LLDC. It will then be for LLDC, as agreed, to seek discharge from PDT of these and their works.

Regards

[redacted]

From: [redacted] [mailto:[redacted]@hyderconsulting.com]
Sent: 08 May 2013 12:31
To: [redacted]
Cc: [redacted] ([redacted]@londonlegacy.co.uk)
Subject: LOCOG CVRs and ISG Method Statement

[redacted]

Further to our recent meeting about the LOCOG CVRs, you requested that we re-visit our comment on the ISG Method Statement, for example:

1.9	Section 3.1.2.1	With regards to reference to the ISG-specific Method Statement, referenced here and elsewhere, this is subject to discussion at the proposed meeting on 17/01/2013.

I have included herein the ISG method statement, for your information. Clearly, we have all been overtaken by events somewhat and there is no opportunity to amend the approach presented in ISG's MS. With this in mind, we will have no further comment on this specific matter, with respect to LOCOG's CVRs.

Moving forward to Transformation and Legacy developments, we would still be looking for some validation evidence that material that has been excavated from utility trenches is suitable for its new use, be that in the location of the excavation or elsewhere. Evidence could include photos, re-assurance testing, field notes etc.

Hope this helps.

Regards

[redacted]

Your message is ready to be sent with the following file or link attachments:

0063_ISGL_PRW_0004

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

APPENDIX B4:

Groundwater Monitoring Borehole Information

Retained boreholes

Hole ID	Construction Zone	Response Zone	Eaasting (BNG)	Northing (BNG)	Easting (OLY)	Northing (OLY)	Ground Level (mAOD)	Cover Level (mAOD)	Monitoring Datum (mAOD)	Base (mAOD)	Inst. Diameter (mm)	Top Response Zone (mAOD)	Bottom Response Zone (mAOD)	Status (May 2012)
NBHCZ1A-603	1a	WHCK	538256.71	184089 50	28256.84	14089.35	3.798	3.798	3.710	-36 202	50	-30.602	-36 202	ACTIVE
NBHCZ1B-605	1b	WHCK	537743.11	184461.47	27743.16	14461.38	5.629	5 629	6.709	-34.111	50	-29.111	-34.111	ACTIVE
NBHCZ2A-112	2a	RTDU	537938.40	183794 68	27938.47	13794.48	6.898		7 676	-25 277	50	1 573	-3.427	ACTIVE
NBHCZ2A-138	2a	RTDU	537847 65	183913.13	27847.71	13912.95	6.128	7 075	7 075	-3.607	50	0.193	-3.107	ACTIVE
NBHCZ2A-140	2a	WHCK	537979.76	183761 80	27979.84	13761.59	10 210	10.195	10.173	-41.195	50	-35.700	-41 200	ACTIVE
NBHCZ2A-604	2a	WHCK	537834 96	184256 55	27835.02	14256.43	10 344	10.949	10.949	-35.767	50	-27.667	-35.767	ACTIVE
NBHCZ2A-605	2a	WHCK	537912 56	183866 52	27912.63	13866.34	9.789	9 275	10.253	-36.782	50	-32.082	-36.782	ACTIVE
BHCZ4-043A	4	MGR	537439 56	184028.11	27439.55	14027.95	7.610	7 680	9.86	-22 393	50	6 607	1.807	ACTIVE
BHCZ4-043A	4	RTDU	537439 56	184028.11	27439.55	14027.95	7.610	7.449	9.86	-22 393	50	1 607	-4.393	ACTIVE
BHCZ4-043A	4	TAB	537439 56	184028.11	27439.55	14027.95	7.610	8 268	9 845	-22 393	19	-21.893	-22 393	ACTIVE
BHCZ4-065	4	MGR	537557.74	184379 02	27557.75	14378.92	8.090	10.667	10.667	-6.912	50	7 088	2.588	ACTIVE
BHCZ4-065	4	ALV/RTDU	537557.74	184379 02	27557.75	14378.92	8.090	10.692	10.692	-6.912	50	1 090	-0.910	ACTIVE
NBHCZ4-634	4	WHCK	537337 95	184448 65	27337.92	14448.56	7.720	8.766	9.766	48.500	50	-38.500	-48 500	ACTIVE
BHCZ3A-023	3a	TAB	537586.75	183901 93	27586.77	13901.75	8 200	8.200	6 526	-21 900	50	-18 800	-21 800	ACTIVE
BHCZ3A-205	3a	RTDU	537924 21	183710 31	27924.31	13709.99	5 503	4.100	6.783	-27 900	50	0.100	-1.900	ACTIVE
BHCZ3A-205	3a	TAB	537924 21	183710 31	27924.28	13710.09	5 503	4.100	7 877	-27 900	50	-22 900	-27 900	ACTIVE
IW2	3a	RTDU	537558 80	183942 22	27558 81	13942.04		6.633		-2.988	100	-7.388	-2.988	ACTIVE
IW4	3a	RTDU	537654.47	184220 38	27654.49	14220.25		12.037		-2.463	100	4.037	-2.463	ACTIVE
NBHCZ3A-1005	3a	TAB	537747 80	183766.72	27747.84	13766.51	3.363			-33 374	100	-22.174	-32 974	ACTIVE
NBHCZ3A-1010	3a	TAB	537773 99	183814 82	27774.03	13814.62	5.589		5 589					ACTIVE
NBHCZ3A-1022	3a	RTDU	537795.11	183791 09	27795.16	13790.89	4.981		4 889					ACTIVE
NBHCZ3A-1025	3a	RTDU	537816 88	183797 52	27816.93	13797.32	5.517		5.473					ACTIVE
NBHCZ3A-1029	3a	RTDU	537827 51	183805 23	27827.56	13805.03	5.098		5 060					ACTIVE
NBHCZ3a-1042	3a	RTDU	537787.17	183799 34	27787.22	13799.14	5.786		5.744					ACTIVE
NBHCZ3a-1043	3a	RTDU	537830.78	183785.75	27830.84	13785.55	5.524		5.492					ACTIVE
NBHCZ3a-1046	3a	RTDU	537805.49	183842 83	27805.54	13842.63	5.028		4 952					ACTIVE
NBHCZ3a-1055	3a	RTDU	537769 33	183859 95	27769.37	13859.76	5.700		5 602					ACTIVE
NBHCZ3A-1058	3a	TAB	537797.56	183838.40	27797 61	13838.21	5 031		5.079	-32.410	50	-20 510	-32.110	ACTIVE
NBHCZ3A-1059	3a	TAB	537816 24	183813 67	27816 29	13813.47	5.400		5.247	-32 670	50	-20.770	-32 370	ACTIVE
NBHCZ3A-180	3a	TAB/WHCK	537745 62	183755 54	27745 66	13755.33	3 374	3.259	3 274	-34 241	100	-18.741	-34 241	ACTIVE
NBHCZ3A-184	3a	RTDU	537561.10	184199 37	27561.11	14199.24	5.664	5 009	5 600	-22.199	50	2 001	-2.799	ACTIVE
NBHCZ3A-184	3a	TAB	537561.10	184199 37	27561.11	14199.24	5.009	5 009	5 547	-22.199	19	-16.899	-22.199	ACTIVE
NBHCZ3A-186	3a	WHCK	537722.78	184197 09	27722.82	14196.95	11.344	11.582	11.582	-38.156	50	38.156	-50 000	ACTIVE
NBHCZ3A-696	3a	WHCK	537721 62	183763 55	27721.66	13763.34	2.847	2 853	3 807	-38 859	50	-34 059	-38 859	ACTIVE
NBHCZ3A-697	3a	TAB	537520.70	183824 29	27520.70	13824.10	8.228	8 228	8 228	-32 314	50	-27.714	-32 314	ACTIVE
NBHCZ3A-698	3a	WHCK	537929.16	183710 65	27929.23	13710.43	5.483	4 213	6.467	-44.787	50	-34.787	-44.787	ACTIVE
NBHCZ3A-851	3a	TAB	537745.19	183789.45	27745.23	13789.25	4.920	4 350	4.732	-35 650	100	-59 650	-35 650	ACTIVE
NBHCZ3A-853	3a	TAB	537814 50	183756.78	27814 55	13756.57	3.757	3.539		-32 561	100	-58 561	-32 561	ACTIVE
NBHCZ3A-856	3a	TAB	537844 64	183817 38	27844.70	13817.18	5.659	5.148	5 387	-31 352	100	-17 852	-31 352	ACTIVE
NBHCZ3A-859	3a	TAB	537809 27	183874 29	27809.32	13874.10	6.002	4.386	6 079	-33.114	100	-57.114	-33.114	ACTIVE
NBHCZ3A-861	3a	RTDU	537734.16	183815.08	27734 20	13814.88	6 065	5.840	5.840	-0.160	100	2.840	-0.160	ACTIVE
NBHCZ3A-873	3a	RTDU	537774 36	183819 57	27774.41	13819.37	5.431	6.020	5 362	-1.080	50	3.020	-1.080	ACTIVE
NBHCZ3A-885	3a	TAB	537753 69	183767 22	27753.73	13767.02	3.388	36.200	3.423	-0.300	100	9.700	-0.300	ACTIVE
NBHCZ3A-889	3a	RTDU	537856.46	183796 50	27856.52	13796.30	5.095	5.486	5 064	-3.514	50	-0.114	-3.514	ACTIVE
NBHCZ3A-890	3a	TAB	537736.69	183726.94	27736.73	13726.72	4.185		6.093	-33 855	50	-21 855	-33 855	ACTIVE
NBHCZ3A-893	3a	TAB	537768.17	183792.71	27768.22	13792.51	5.003	5.434	4 930	-34 366	50	-21 366	-34 366	ACTIVE
NBHCZ3A-894	3a	TAB	537763 38	183820 55	27763.43	13820.36	5 605		5 570	-32 883	50	-21 383	-32 883	ACTIVE
NBHCZ3A-902	3a	TAB	537620 88	183803 80	27620.90	13803.60	5.029	4 690	5 808	-33 310	50	-21 610	-33 310	ACTIVE
NBHCZ3A-903	3a	WHCK	537539 93	183832 94	27539.93	13832.75	4.730		5 338	-50 915	50	-41 915	-50 915	ACTIVE
NBHCZ3A-904	3a	WHCK	537629.44	183802.57	27629.46	13802.37	5.039		6 218	-3.725	50	-41 625	-3.725	ACTIVE
NBHCZ3A-906	3a	WHCK	537810 67	183869.46	27810.73	13869.28	6.021	5 954	6 017	-54.146	50	-45.146	-54.146	ACTIVE
NBHCZ3A-907	3a	WHCK	537847.63	183807.06	27847 69	13806.86	5 345		5.270	-54 955	50	-45 955	-54 955	ACTIVE
NBHCZ3A-914	3a	RTDU	537888 34	183762 05	27888.40	13761.84	5.413		5 292	-3.398	50	0.302	-3.398	ACTIVE
NBHCZ3A-922	3a	RTDU	537792 38	183786 61	27792.43	13786.41	5.025		4 984	-2.651	50	-1.451	-2.451	ACTIVE
NBHCZ3A-927	3a	RTDU	537756 95	183772 34	27756.99	13772.13	3.130		3 320	-4.827	50	-3.527	-4.527	ACTIVE
NBHCZ3A-932	3a	RTDU	537769 22	183776 65	27769.26	13776.45	3.369		4 989	-2.987	50	-1.687	-2.687	ACTIVE
NBHCZ3A-934	3a	RTDU	537750.44	183781.10	27750.49	13780.90	3.289		4 297	-2.415	50	-0.115	-1.115	ACTIVE
NBHCZ3A-936	3a	RTDU	537851.13	183765.19	27851.19	13764.99	5.143		5.115	-1.775	50	0 525	-0.475	ACTIVE
NBHCZ3A-939	3a	RTDU	537836 65	183753.79	27836.71	13753.58	5.079		5.714	-2.199	50	-0.899	-1.899	ACTIVE
NBHCZ3A-942	3a	RTDU	537759 02	183771 31	27759.07	13771.11	3.130		3 320	-2.417	50	-0.217	-1.217	ACTIVE
NBHCZ3A-975	3a	RTDU	537766 00	183834 31	27766.04	13834.11	5.229		5 218					ACTIVE
NBHCZ3A-979	3a	RTDU	537755 88	183827.49	27755.93	13827.30	5.506		5.452					ACTIVE
NBHCZ3A-981	3a	RTDU	537760 86	183821 54	27760.91	13821.34	5.590		5 590					ACTIVE
NBHCZ3A-982	3a	RTDU	537789 98	183820 06	27790.03	13819.87	5.053		5 043					ACTIVE
NBHCZ3A-997	3a	RTDU	537816 09	183813 67	27816.14	13813.48	5.166		5.167					ACTIVE
NBHCZ3A-998	3a	RTDU	537795.78	183828.48	27795.83	13828.29	5.213		5.191					ACTIVE
NBHCZ3a-RW9(A)	3a	RTDU	537760 30	183906 62	27760.34	13906.44	6.517		4.421					ACTIVE
NWSCZ3a-700	3a	MGR	537763 81	183821 52	27763 85	13821.32	5 573	5 671	5 250					ACTIVE
NWSCZ3a-701	3a	MGR	537766.46	183834 29	27766 50	13834.10	5 218	5 320	4 926					ACTIVE
NWSCZ3a-702	3a	MGR	537796 22	183828 27	27796 27	13828.07	5 211	5 280	4 915					ACTIVE
NWSCZ3a-703	3a	MGR	537789.76	183819.71	27789 81	13819.51	5 035	5.124	4.734					ACTIVE
NWSCZ3a-704	3a	MGR	537816.19	183814 08	27816 24	13813.88	5.160	5 264	5 054					ACTIVE
NWSCZ3a-705	3a	MGR	537787 37	183799 57	27787.42	13799.37	5 672	5 855	5 547					ACTIVE
NWSCZ3a-706	3a	MGR	537831.72	183785 96	27831.78	13785.76	5 506	5 623	5 205					ACTIVE
NWSCZ3a-707	3a	MGR	537806.17	183843 39	27806 22	13843.20	5.232	5 339	4 871					ACTIVE
NWSCZ3a-708	3a	MGR	537769.74	183860.74	27769.78	13860.55	5.703	5 800	5.413					ACTIVE
RW1	3a	RTDU	537499 81	183932 00	27499.81	13931.83	8.558	5 244	7 560	-5.44	100	0 26	-4 54	ACTIVE
RW10	3a	RTDU	537784 21	183787 97	27784 26	13787.77	5.846	5.846	5.846	-1.15	100	1 65	-0 85	ACTIVE
RW11	3a	RTDU	537865 67	183755 22	27865.73	13755.02	5.546	4 563	4 570	-0 94	100	2 06	-0 64	ACTIVE
RW2	3a	RTDU	537501.18	184017.48	27501.18	14017.32	6.049	6 049	6.430	-2.951	100	1.849	-2.951	ACTIVE
RW3B	3a	RTDU	537518 58	184119 33	27518.58	14119.19	6.46	6 066	6.460	-1 54	100	2 96	-1 24	ACTIVE
RW4A	3a	RTDU	537611 39	184252 92	27611.40	14252.79	10.83	10.830	10.160	-2 37	100	2.83	-2 37	ACTIVE
RW4B	3a	RTDU	537595.10	184202.42	27595.12	14202.29	11 896	11.500	11.870	-4.13	100	2 27	-3 63	ACTIVE
RW5	3a	RTDU	537662.74	184274 67	27662.77	14274.55	9.372	9 372	9 372	-2.628	100	2.972	-2.628	ACTIVE
RW6	3a	RTDU	537721.71	184222 82	27721.75	14222.69	11.173	11.173	10.770	-3.127	100	3.173	-3.127	ACTIVE
RW6A	3a	RTDU	537763 30	184175 35	27763.34	14175.21	11.576	11.768	11.250	-1.024	100	2 576	-1.024	ACTIVE
RW7	3a	RTDU	537790.40	184100.45	27790.45	14100.30	11.669	11 820	11.890	-1.131	100	-9.731	-1.131	ACTIVE
RW8	3a	RTDU	537773 33	184003 62	27773.37	14003.45	11.56	11.560	11.980	-1.44	100	3.36	-1.44	ACTIVE
RW9	3a	RTDU	537784.72	183907 30	27784.76	13907.12	6.3	6.421	6.421	-1.7	100	2.00	-1.40	ACTIVE
NBHCZ3b-605	3b	RTDU	537805.298	183679.754	27805 349	13679 534	4.435	4.435	4 296	-2.265	50	-0.365	-1.965	ACTIVE
BHCZ5A-347	5a	RTDU	537430.41	185327 07	27430.40	15327.13		9 602	10.431		50mm	2 669		ACTIVE
BHCZ5A-347	5a	MGR	537430.41	185327 07	27430.40	15327.13		9 602	10.431		50mm	8 069		ACTIVE
MBHCZ5A-509	5a	MGR	537543 00	184720.72	27543.01	14720.67	11 548	11.876	11.884	2.89	50mm	10.19	2 89	ACTIVE
MBHCZ5a-541	5a	MGR	537364 60	185501 06	27364.58	15501.14	7.75	7.452	7.75	2.1	50mm	7.05	4 05	ACTIVE
MBHCZ5a-546	5a	MGR	537360.44	185358 32	27360.42	15358.38	9.824	10 61	9 916	1.97	50mm	8.774	3 57	ACTIVE
MBHCZ5a-548	5a	MGR	537409.17	185387.77	27409.15	15387.83	9.541	10.246	9 874	3.28	50mm	8 575	4 28	ACTIVE
NBHCZ5a-600	5a	MGR	537537 85	184855 91	27537.86	14855.89	9.883		10.586					ACTIVE
NBHCZ5a-601	5a	MGR	537430 56	185167 39	27430.55	15167.42	10 047		10.902					ACTIVE
BHCZ5A-435	5b	TAB	537258.76	185135 83	27258.80	15135.81	9 05	9.33	9.33		50mm	-15.520		ACTIVE
MBHCZ5b-134	5b	WHCK	537249 20	184707 98	27249.24	14708.03		6.754	6.754	-33 330	50mm	-30.270	-34 670	ACTIVE
MBHCZ5b-152	5b	TAB	537191 85	185323 55	27191.80	15323.60	7.11	8 351	8 351	-26 890	50mm	-20.890	-26 890	ACTIVE
MBHCZ5b-153	5b	WHCK	537187.75	185322 35	27187.70	15322.40	6 86	8.136	8.136	-42.140	50mm	-37.140	-42.140	ACTIVE
MBHCZ5b-155	5b	TAB	537400 62	184841 83	27400.60	14841.80	9.4	9.95	9.95	-25 530	50mm	-19.530	-24 530	ACTIVE
MBHCZ5b-156	5b	WHCK	537401.12	184838.73	27401.10	14838.70	9.4	9.92	9.92	-40 890	50mm	-35.890	-40 890	ACTIVE
MBHCZ5c-159	5c	TAB	536996 08	185078 69	26996.00	15078.70	9.882	9.735	9.735	-25.72	50mm	-20 02	-25.02	ACTIVE
MBHCZ5c-160	5c	WHCK	536994 28	185076 89	26994.20	15076.90	9.439	9 647	9 647	-41.6	50mm			ACTIVE
CZ6a M8	6a	RTDU	537803 96	185031 97	27804.01	15031.98	12.1	13.2	13.2					ACTIVE

Hole ID	Construction Zone	Response Zone	Eaasting (BNG)	Northing (BNG)	Easting (OLY)	Northing (OLY)	Ground Level (mAOD)	Cover Level (mAOD)	Monitoring Datum (mAOD)	Base (mAOD)	Inst. Diameter (mm)	Top Response Zone (mAOD)	Bottom Response Zone (mAOD)	Status (May 2012)
EP 28	6a	RTDU	537844 69	184993 95	27644.81	14994.06			7 254					ACTIVE
MBHCZ6a-115	6a	RTDU	537713 80	185298 63	27713.83	15298.68	12 3	13.3	13.358	-5.311	50mm	1.789	5.6	ACTIVE
MBHCZ6a-159	6a	DNG	537985 92	185427.44	27986.00	15427.51	11.66	12.351	12.286	-55.791				ACTIVE
NBHCZ6a-600	6a	RTDU	537898.19	185128 25	27898.26	15128.27	12 549		12.834					ACTIVE
NBHCZ6a-602	6a	WHCK	537804 01	185032 07	27787.75	15311.74	12 501	12.501	12.481					ACTIVE
NBHCZ6a-603	6a	RTDU	537762 62	185233 57	27762.66	15233.61	13 086	13.086	12.969					ACTIVE
MBHCZ6b-008b	6b	TAB	537948.11	185186.13	27948.18	15186.16	12.35	13 03	13 03	-18 220	50mm	-8.22	-18.22	ACTIVE
NBHCZ6a-605	6b	WHCK	537941 92	185224 31	27941.99	15224.35			12.781	-36.46	50mm	-26.456	-36.456	ACTIVE
BH/M303b	6c	WHCK	538206.16	185368 22	28206 28	15368.28	11.036		12 292	34.464	50	22.464	34.464	ACTIVE
MBHCZ6c-101	6c	WHCK	538121.30	185580.14	28121.40	15580.24	5.402		5.402	-24 228	50	-19 228	-24 228	ACTIVE
MBHCZ6d-103	6d	WHCK	537552.49	185216 26	27552.48	15216.22		10 31	10 31		50mm	-28.510		ACTIVE
MBHCZ7a-019A	7a	TAB	537583.17	185692 55	27583.18	15692.67	7 84	8.51	8.51					ACTIVE
MBHCZ7a-152	7a	WHCK	537696 84	185829.15	27696.81	15829.01		6.14	6.14	-24 906	50mm	-21.906	-24 906	ACTIVE
MBHCZ7ai-002A	7ai	WHCK	537491 26	185693 51	27491.26	15693.62	6 56	7.76	7.76					ACTIVE
BHCZ8A-009A	8a	RTDU	537962.42	183326 94	27962.50	13326.66	4.115		4 575	-5.917	50	-0.317	-5.717	ACTIVE
NBHCZ8A-605	8a	WHCK	537880 68	183382 53	27881.31	13381.29	4.549	4.549	4.549	-43 677	50	-38.677	-43 677	ACTIVE
NBHCZ8A-606	8a	TAB	537881 08	183364 31	27881.15	13364.04	4.501	4 501	4 501	-33 642	50	-23.642	-33 642	ACTIVE
NBHCZ8A-610B	8a	RTDU	537900.73	183499 84	27900.80	13499.59	4.256		4 534	-3.205	50	0.195	-2.944	ACTIVE
NBHCZ8A-806	8a	RTDU	537995.10	183365 91	28000.48	13360.29	4.487	4.480	4.432		50			ACTIVE
NBHCZ8A-808	8a	RTDU	537939 07	183349 06	27939.02	13348.64	4.747	4.758	4 675					ACTIVE
NBHCZ8B-102	8b	RTDU	538037 05	183490.19	28037.26	13489.69	3.507	4.793	4 512	-7.876	50	-0.276	-3.176	ACTIVE
NBHCZ8B-112	8b	RTDU	537977 85	183563 52	27978.21	13564.05	3.708	5 096	4 081	-22 323	50	1 327	-2.473	ACTIVE
NBHCZ8B-610	8b	RTDU	538108.10	183554 97	28108.11	13554.81	4.708	4.708	4.718	-3.792	50	-0.492	-3.292	ACTIVE
NBHCZ8B-611	8b	RTDU	538054 96	183615.46	28055.06	13615.27	5.049	5 049	4 512	-4.251	50	0.45	-3.75	ACTIVE
PML12-1	8b	RTDU	538014 55	183643 37	28014.63	13643.15	3.453	4 092	4 092					ACTIVE
PML12-1	8b	TAB	538014 55	183643 37	28014.63	13643.15	3.453	4 092	4 092					ACTIVE
BHCZ8C-004	8c	WHCK	538223 59	183787 86	28223.71	13787.66	7.431	7.431	7.431	-36 833	50	-34.833	-36 833	ACTIVE
NBHCZ8C-103	8c	RTDU	538191 67	183686 81	28191.79	13686.59	7.670	7 670	8 360	-7.509	50	0.191	-2.509	ACTIVE
NBHCZ8C-608	8c	RTDU	538258 65	183725 93	28258.78	13725.71	7.252	7 252	7 252	-7.545	50	0 855	-2.545	ACTIVE
MBHRWCZOLY2B-101	OLY2B	LMBE/TAB	537055.75	185979 21	27055.82	15979.05	6 96	6.785	6.785	-19.185	50 mm	-14.085	-19.185	ACTIVE
NBHOLY3-106	OLY3	TAB	538366 94	183530 20	28367.08	13529.96	2.518	2 518	2.415	-29.498	50	-24.698	-29.498	ACTIVE
NBHOLY3-112	OLY3	WHCK	538693.11	183456 32	28693.30	13456.06	3.410	3.410	3.414	-42.440	50	-37.240	-42.440	ACTIVE

Total **139**

Boreholes scheduled for decommissioning (not completed)

Hole ID	Construction Zone	Response Zone	Eaasting (BNG)	Northing (BNG)	Easting (OLY)	Northing (OLY)	Ground Level (mAOD)	Cover Level (mAOD)	Monitoring Datum (mAOD)	Base (mAOD)	Inst. Diameter (mm)	Top Response Zone (mAOD)	Bottom Response Zone (mAOD)	Status (May 2012)	Comments following final borehole survey
NBHCZ1A-892	1a	RTDU	538118.40	184004.10	28118.48	14003.97	6.048	6 048	6 593	-2.052	100	0 548	-2.052	~~ACTIVE~~	Burried (Type 1)
NBHCZ2A-124	2a	RTDU	537855 86	184028 91	27855.92	14028.75	8.855	8 921	8 005	-8.088	50	0.712	-3.088	~~ACTIVE~~	Burried (soft landscaping)
NBHCZ2A-602	2a	RTDU	537784.10	184292 27	27784.15	14292.15	9.643	9.490	9.490	-3.311	50	0 689	-2.311	ACTIVE	Accessible
BHCZ4-082	4	RTDU	537512 91	184285.77	27512.91	14285.65	7.250	8.480	8.480	-17.752	50	1 248	-2.252	~~ACTIVE~~	Burried (temporary road)
BHCZ4-082	4	TAB	537512 91	184285.77	27512.91	14285.65	7.250	9.126	9.126	-17.752	19	-17.252	-17.752	~~ACTIVE~~	Burried (temporary road)
NBHCZ4-308	4	RTDU	537363 87	184530 51	27363.85	14530.43	7.510	7 510	7 510	-2.389	50	1 011	-2.489	ACTIVE	No access (Cofely compound)
BHRWCZ3A3-006	3a	RTDU	537817 38	184092 01	27817.43	14091.86	5.470	5.470	5.470	-15 530	50	0.970	-2.730	~~ACTIVE~~	Burried (soft landscaping)
NBHCZ3A-1023	3a	RTDU	537765 35	183855 92	27765.39	13855.73	5.701		5 561					ACTIVE	No access (offices)
NBHCZ3A-608	3a	RTDU	537789 04	183862.14	27789.09	13861.95	3 629	6 360	6 360	-3.371	50	1.329	-2.371	ACTIVE	No access (obstruction)
NBHCZ3A-802	3a	RTDU	537842 64	183773.70	27842.70	13773.50	5.142	3 930		-2.070	100	-5.070	-2.070	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-803	3a	RTDU	537844 01	183763 53	27844 07	13763.32	5.809	3 931		-2.069	100	1.431	-2.069	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-850	3a	TAB	537708 02	183774 80	27708.06	13774.60	3.390	3 390	3 941	-34.110	100	-58 610	-34.110	~~ACTIVE~~	Burried (Type 1)
NBHCZ3A-852	3a	RTDU	537761.13	183763.40	27761.17	13763.20	3.366	3.324	3.180	-3.676	100	-6.176	-3.676	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-855	3a	TAB	537882.72	183769 82	27882.78	13769.62	3.948	3 948	4.764	-31.752	100	-19 552	-31.752	~~ACTIVE~~	Burried (Type 1)
NBHCZ3A-860	3a	RTDU	537729 22	183820 92	27729 26	13820.73	5 960	4.960	5 907	-1.040	100	1.960	-1.040	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-862	3a	RTDU	537740 24	183829.16	27740.28	13828.96	5 662	6.130	5 802	0.130	100	3.130	0.130	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-863	3a	RTDU	537749 87	183825 31	27749 91	13825.11	5 621	5.610	5 584	-0.390	100	2.610	-0.390	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-864	3a	RTDU	537744 81	183814 22	27744.85	13814.02	5 999	6.380	6 364	0.380	100	3.380	0.380	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-869	3a	RTDU	537734 25	183820 23	27734.28	13820.03	5.942	6 232	5 933	0.116	50	3.816	0.116	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-874	3a	RTDU	537734.15	183829 53	27734.19	13829.34	5.753		5 694	0.164	50	2.964	0.164	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-877	3a	RTDU	537763 99	183829 50	27764.03	13829.31	5 344	6.270		0.470	50	3.270	0.470	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-879	3a	RTDU	537743.42	183840 37	27743.46	13840.17	5 316	7.080	5 262	1.280	50	4.080	1.280	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-882	3a	RTDU	537774.49	183839 81	27774.53	13839.61	5.073			0.790	50	3.490	0.790	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-884	3a	RTDU	537765 03	183849 20	27765 07	13849.00	5 248	6.790		0.590	50	3.690	0.590	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-888	3a	RTDU	537792 04	183903 07	27792 09	13902.89	6.234		6 269	-3.030	50	0.470	-3.030	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-892	3a	TAB	537742 23	183774 51	27742.27	13774.31	3.395	3 322	3 365	-36 678	50	-23.478	-36 678	~~ACTIVE~~	Burried (Type 1)
NBHCZ3A-895	3a	TAB	537787 62	183808.70	27787 67	13808.51	5 561		6 209	-33 690	50	-23 290	-33 690	~~ACTIVE~~	Burried (Type 1)
NBHCZ3A-898	3a	TAB	537772 31	183771.15	27772.36	13770.95	3.283	3 616	3 923	-33 584		-22.184	-33 584	ACTIVE	No access (loop road)
NBHCZ3A-900	3a	TAB	537827 38	183750.42	27827.43	13750.21	4.287		4 356	-33.462		-21 262	-33.462	ACTIVE	No access (loop road)
NBHCZ3A-901	3a	TAB	537785.45	183756 50	27785.50	13756.29	3.135		4 356	-33.416		-21 516	-33.416	~~ACTIVE~~	Burried (Type 1)
NBHCZ3A-912	3a	RTDU	537806 00	183808.40	27806.05	13808.20	5.324		5.197	-1.455	50	1.045	-1.455	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-938	3a	RTDU	537821 02	183775.43	27821.08	13775.23	5.228		4.416	-3.001	50	-1.701	-2.701	~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-959	3a	RTDU	537738 02	183857 30	27738.05	13857.11	5.691		5 654					~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-971	3a	RTDU	537719 20	183835 65	27719.24	13835.45	5.751		5.768					~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-972	3a	RTDU	537755 80	183842 87	27755.84	13842.68	5.140		5 098					~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-984	3a	RTDU	537799 57	183812 64	27799.62	13812.45	5.141							~~ACTIVE~~	Burried (tarmac)
NBHCZ3A-988	3a	RTDU	537797 56	183838 35	27797.61	13838.16	5.028		4 949					ACTIVE	No access (temporary building)
NBHCZ3A-991	3a	RTDU	537802 08	183822 62	27802.13	13822.42	5.238		5.173					~~ACTIVE~~	Burried (gravel)
NBHCZ3A-996	3a	RTDU	537794 20	183834 31	27794.25	13834.11	5.151							~~ACTIVE~~	Burried (gravel)
PLEE0303	3a	WHCK	537360.00	183890.00	27359 98	13889.82	5 000							ACTIVE	No access (outside OPF)
BHCZ5a-205	5a	LMBE	537453 08	185068.73	27453.07	15068.74	9 54	9 575	9 575		50mm	-4.105		ACTIVE	Accessible
BHCZ5a-205	5a	RTDU	537453 08	185068.73	27453.07	15068.74	9 54	9 595	9 959		50mm	1 095		ACTIVE	Accessible
MBHCZ5b-103	5b	RTDU	537190.17	185325.16	27190.22	15325.10		7.01	7.01	-12.795	50mm	2 305	-0.595	ACTIVE	No access (Northern VSA)
MBHCZ5b-122	5b	RTDU	537281.10	184621.42	27281.13	14621.49	6.772	7 294	7 294	-13 054	50mm	0 946	-1.854	ACTIVE	Accessible
MBHCZ5b-151	5b	LMBE	537193 55	185328 25	27193.50	15328.30	7.752	7 665	7 665	-7.980	50mm	-2.980	-7.980	ACTIVE	No access (Lock down)
BHCZ5C-009	5c	TAB	536992 66	185074 36	26992.74	15074.35	8 36	9.104	9.104		19mm	-18.495		ACTIVE	No access (Lock down)
BHCZ5C-009	5c	RTDU	536992 66	185074 36	26992.74	15074.35	8 36	9.104	9.104		50mm	2 004		ACTIVE	No access (Lock down)
MBHCZ5c-158	5c	LMBE	536998 38	185080 39	26998.30	15080.40	9.882	9.735	9.735	-7 99	50mm	-2.99	-7 99	ACTIVE	No access (outside OPF)
EP 11	6a	RTDU	537726 99	185194 50	27727.03	15194.53								~~ACTIVE~~	Burried (tarmac)
EP 13A	6a	RTDU	537823 53	185194 21	27823.59	15194.25					100mm			~~ACTIVE~~	Burried (tarmac)
EP 16A	6a	RTDU	537776.18	185152.19	27776.23	15152.21					100mm			~~ACTIVE~~	Burried (tarmac)
EP 17	6a	RTDU	537830 20	185142 65	27830.26	15142.68								~~ACTIVE~~	Burried (tarmac)
MBHCZ6b-011d	6b	RTDU	537937 91	185267 94	27937.99	15267.99	12 975	13.796						~~ACTIVE~~	Burried (tarmac)
MBHCZ6b-030	6b	RTDU	537867 26	185323.18	27867.20	15323.13	13 208	14.298	14.298	-1.226	50mm	1.474	-1.226	~~ACTIVE~~	Burried (tarmac)
MBHCZ6b-104	6b	WHCK	537954.15	185245 26	27954.08	15245.22	11 099	11.219	11.219		50mm	-25.138		~~ACTIVE~~	Burried (tarmac)
MBHCZ6b-104	6b	LMBE	537954.15	185245 26	27954.08	15245.22	11.7	11.3	11.3	-29.138	50mm	-2.662	-10.462	~~ACTIVE~~	Burried (tarmac)
BHCZ7-003	7a	RTDU	537822 00	185570 00	27821.95	15569.91	7 26	8.45	8.45		SPIE 50mm			ACTIVE	Accessible
MBHCZ7a-101	7a	RTDU	537639.46	185828.14	27639.44	15828.00	5.72	7.81	7.81	-15.409	50mm	2 591	-0.409	~~ACTIVE~~	Burried (tarmac)
MBHCZOLY2-101	OLY2	LMBE	537208 26	185705.10	27208.31	15704.98	7.465	7 385	7 385		19mm	-0.645		ACTIVE	No access (outside OPF)
MBHCZOLY2-101	OLY2	RTDU	537208 26	185705.10	27208.31	15704.98	7.465	7 385	7 385		50mm	2.755		ACTIVE	No access (outside OPF)
NBHOLY3-103	OLY3	RTDU	538400 23	183635 39	28400.38	13635.17	6.216	6 216	6.02	-7.296	50	-0.696	-2.096	ACTIVE	Accessible
NBHOLY3-111	OLY3	RTDU	538655 95	183425 66	28656.15	13425.39	4.163		5.198	-7.337	50	-0.637	-2.337	ACTIVE	No access (OLY3 offices)
NBHOLY3-604	OLY3	RTDU	538438.10	183565 57	28438.26	13565.33	4.516	4 516	6 048	-4.016	50	-1.216	-3.216	ACTIVE	Accessible

Total **63**

ATKINS

Atkins Limited

Reference: LET-ATK-PM-ZZZ-ZZZ-ZZZ-E-3581

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Olympic Park Project
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London
E14 5LN

FAO: [redacted]

28/09/2012

Dear Sirs

Project: **Olympic Park – Park Operations**
Subject: **Handover of Borehole assets from Park Operations to London Legacy Development Corporation**

We refer to previous communications between the Park Operations team and the London Legacy Development Corporation (LLDC) regarding the retention of groundwater monitoring boreholes for use by LLDC and those that also require decommissioning.

Accordingly we enclose spreadsheet (reference: SCH-ATK-PM-ZZZ-ZZZ-ZZZ-E-0090) which confirms 139 no. boreholes to be retained for use and a further 63 no. which were not able to be decommissioned during the final pre-Olympic Games survey as a result of access restrictions and temporary works (principally hard standing in Back of House areas). These boreholes should be decommissioned by LLDC where possible. Whilst the majority of the retained boreholes have been integrated in to the final finish works by follow on contractors, a proportion of these boreholes may have become lost or damaged as a result of construction works just prior to the commencement of the Olympic Games.

Please note that until decommissioning of the boreholes is completed they must be protected and maintained. Failure to do so may result in further damaged or loss of boreholes, which may provide a pathway for the migration of contaminants in to the aquifers beneath the site. Lost or damaged boreholes must also be reported to the Environment Agency.

For information, we enclosed Operations and Maintenance Manual (MST-ENL-CE-ZZZ-OLP-SP1-E-0006 Rev.03) which details appropriate methods for decommissioning boreholes, locating lost boreholes via shallow excavation and unblocking of damaged boreholes.

In the event you require any further information please contact Nick Ketchell or the undersigned.

Yours faithfully
For and on behalf of
ATKINS Limited

[redacted]
Implementation Manager

cc. [redacted] (CLM Park Operations)
[redacted] (Atkins)

Encl. SCH-ATK-PM-ZZZ-ZZZ-ZZZ-E-0090
MST-ENL-CE-ZZZ-OLP-SP1-E-0006 Rev.03

APPENDIX C:

Permit to Proceed Protocol (CD only)

The Permit to Proceed Protocol:
Protection of Remediation Works on the Olympic Park

Notice

This report was produced by Atkins Limited for the Olympic Delivery Authority for the specific purpose of the PTP works o n the Olympic Park.

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Document History

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Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date
10	Division of Permit to Proceed & Soil Hospital Documents	[redacted]	[redacted]	[redacted]	[redacted]	01/07/09
09	For Implementation	[redacted]	[redacted]	[redacted]	[redacted]	30/01/09
08	For Implementation	[redacted]	[redacted]	[redacted]	[redacted]	15/08/08
07	For Implementation	[redacted]	[redacted]	[redacted]	[redacted]	11/08/08
06	For Implementation	[redacted]		[redacted]	[redacted]	11/07/08
05	For Implementation	[redacted]		[redacted]	[redacted]	06/06/08
04	For Implementation	[redacted]		[redacted]	[redacted]	14/02/08
03	For Issue			[redacted]	[redacted]	07/01/08
02	For Information	[redacted]				
01	For Information	[redacted]				

Contents

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Appendices

Definitions

CLM – The Employers Delivery Partner

Employer – The Olympic Delivery Authority (ODA) located at 23rd Floor, 1, Churchill Place, Canary Wharf, London, E14 5LN, and includes transferees, successors and assignees.

Enabling Works – The site clearance, demolition, bulk earthworks and Remediation Works carried out by the Enabling Works Tier 1 Contractors to prepare the Olympic Park platform for construction by Follow on Projects.

Enabling Works Formation Level (EWFL) – The site surface level that is handed over to the Follow on Projects by the Enabling Works Tier 1 Contractors.

Enabling Works Sub-Formation Level (EWSFL) – The level beneath the EWFL upon which the Marker Layer is placed.

Enabling Works Tier 1 Contractors – The contractors appointed to a Framework Contract to undertake Demolition, Remediation and Enabling Works. They are BAM Nuttall Ltd (BNL) who have responsibility under the Enabling Works contract to provide the works to the southern area of the site (Construction Zones (CZ) 1, 2, 3, 4 and 8; Planning Delivery Zones (PDZ) 12, 13 and 14) and Morrison Construction Ltd (MCL) who have responsibility to provide the works to the northern area of the site (CZ 5, 6 and 7; PDZ 15).

Exported Material – Materials excavated and removed from Follow on Project sites.

Final Finished Level (FFL) – Final ground levels or constructed floor levels under a building, upon completion of works by Follow on Projects.

Final Build Layer – Term referenced in Planning Conditions for the Olympic Park, meaning soil or other material placed to complete the remediation and, with the exception of topsoil, to be at the finished ground levels.

Follow on Projects (FOP) – Any project involving contractors employed by the Employer to construct infrastructure and venue works on the Olympic Park following completion of Enabling Works by the Tier 1 Contractors.

Human Health Separation Layer (HHSL) (or Separation Layer) – Chemically and geotechnically acceptable fill material which satisfies Human Health and Controlled Waters Site Acceptance Criteria (SSAC/SSRT), which lies above the Marker Layer but beneath the final ground cover.

Imported Material – Infill materials brought into FOP from within or from outside the Olympic Park. All permanent fill materials placed within the Park must be compliant with the site specific remediation criteria as established in the Baseline Remediation Strategy and associated Site Specific Remedial Strategies and Specifications.

Marker Layer – An orange non woven geo-textile membrane (or similar) placed directly beneath the Separation Layer to clearly delineate the separation layer from potentially contaminated materials below.

Permit to Proceed (PTP) Team – The Team responsible for implementation and administration of the protection of remediation works by Follow on Projects. The PTP Team are provided by Atkins and from June 2009 will operate under CLM Project Assurance. The management of the supply and receipt of earthworks materials to and from Follow on Projects will be handled by the separate Soil Hospital Team.

Remediation Technical (RemTech) Team – The Team responsible for residual Enabling Works and established to offer technical advice to Follow on Projects on remediation issues.

Sharepoint – A web-based shared workspace (https://sharepoint.demrem.com) which hosts data regarding chemical and geotechnical laboratory test results of materials supplied by Tier 1 Contractors. Its aim is to provide direct access for the FOP to data needed in the validation process of the infill material sourced from Tier 1 contractors.

SMARTStart – A computer system available from BRE, which provides a Site Waste Management Plan (SWMP) tool to aid the construction industry in meeting legislation and as an aid to improving waste management (www.smartwaste.co.uk). This is designed to monitor and track all materials used and / or

generated within a construction site, supporting the requirements of clients and contractors under duty of care.

Soil Hospital Team – Part of the former PTP Team responsible for the administration and management of 'Request from Contractor' applications from Follow on Project Teams for the import and export of earthworks materials to and from those projects. The Soil Hospital Team will also retain the responsibility to coordinate the resolution borehole conflicts where construction works conflict with borehole installations across the Olympic Park.

1. Introduction

1.1 Permit to Proceed: The Protection of Remediation Works

The Employer has established this Permit to Proceed (PTP) Protocol, which shall be adopted by all Follow on Project (FOP) Teams, to regulate any disruption, modification or penetration of ground surfaces and to protect the overall integrity of site remediation works across the Olympic Park.

From June 2009 the PTP Team will form part of CLM Assurance. Implementation of this PTP Protocol is designed to protect existing remediation works and maintain environmental protection measures.

The PTP Team will administer this Protocol via 'Protection of Remediation Works (ATK-084)' applications that will be submitted by FOP Teams for all elements of their works that penetrate previously remediated ground surfaces. ATK-084 applications shall be submitted to permit.to.proceed@london2012.com.

1.2 Soil Hospital: Management of Olympic Park Earthworks Material

To facilitate the supply and receipt of earthworks materials between FOP and soil treatment facilities within the Olympic Park, FOP Teams will submit *'Request from Contractor (ATK-088)'* applications to the Soil Hospital Team. ATK-088 applications shall be submitted to soil.hospital@demrem.com.

The function of the Soil Hospital Team is described in the separate document:

The Soil Hospital Protocol: Management of Olympic Park Earthworks Materials. *(Document Ref: PRO-ATK-CM-ZZZ-ZZZ-ZZZ-E-0005)*

1.3 Soil Hospital: Resolution of Borehole Installation Conflicts

Monitoring wells and other borehole installations are located across the Olympic Park. Many of the installations must remain intact and accessible in order to verify that remediation objectives have been met or to allow ongoing groundwater remediation works.

Matters relating to the management of boreholes that conflict with construction works are detailed in the Soil Hospital Protocol (referenced above).

1.4 Compliance Auditing

The PTP Team will audit FOP works to ensure they conform to authorised site remediation strategies and Planning Conditions. Members of the PTP and Soil Hospital Teams shall be allowed access to FOP sites to inspect and audit construction works for compliance against this PTP Protocol; the Soil Hospital Protocol and any relevant permits issued under either protocol.

An audit report will be issued to the FOP Team, their CLM Project Manager and CLM Assurance detailing performance and any key issues identified in the audit.

1.5 Non-Conformance Reports

Where the FOP Team fails to conduct works in accordance with this PTP Protocol, or if in the view of the PTP Team any works or actions pose a potential risk to the integrity of previous (or ongoing groundwater) remediation works, a Non-Conformance Report will be raised by the PTP Team and issued through CLM Assurance.

Non-conformance reports will be issued to the FOP Team and their CLM Project Manager and will be reported to the CLM Executive in monthly Performance Assurance Reports.

2. Olympic Park Remediation Information

2.1 Site Remediation Background

It is the responsibility of the FOP Team to ensure they are familiar with all relevant aspects of completed or ongoing site remediation works and construction activities; such that they may ensure their works do not damage or otherwise negate any preceding site remediation works.

A general summary of remediation works completed at the Olympic Park to date is provided below. These descriptions are not exhaustive and are provided for introductory purposes only. Exact details of completed or ongoing remediation works for specific parts of the site are detailed in site handover documentation and will be referenced on the CLM Sharepoint website (https://sp.h0twise.com) within the 'Programme Delivery Management System' (PDMS).

Completed site remediation works have involved or included:

- Removal and treatment of soils below the Enabling Works Formation Level (EWFL) that contained concentrations of contaminants above acceptance criteria defined within Site Specific Remediation Specifications (SSRSpec) and which presented a risk to controlled waters and/or human health receptors in either Olympic or Legacy land use phases of the Olympic Park.
- Provision of a remediated ground cover system incorporating:
  - a Marker Layer (ML), in most cases placed 600-800mm below the Final Finished Level (FFL) and typically consisting of orange geotextile 'Terram 1000' on horizontal surfaces and 'Signal' geogrid type marker layer on slopes steeper than 1(V):3(H).
  - Human Health Separation Layer (HHSL) of soil or aggregate placed in a thickness of (typically) 300mm over the Marker Layer.
- Treatment of excavated soils to render them suitable for reuse, predominantly as General and Structural Fill beneath the Marker Layer.
- Treatment of contaminated groundwater via both pump & treat systems and/or in-situ remediation
- Groundwater interception and pathway control via construction of below ground barriers and/or installation of pumping systems.
- In geotechnical terms, materials have been placed using Method Compaction or End Product Compaction (95% of maximum dry density) as appropriate. California Bearing Ratio (CBR) tests (one test per 1,000m^2) have been carried out on the Enabling Works Sub-Formation level (EWSFL) and EWFL to ensure a minimum CBR of 5% on Class 1 and Class 6a (granular fills) and a minimum CBR of 2% on Class 2 materials (cohesive fills).
- Remediation works to address post-construction risks to controlled waters and human health. These works do not, and will not, address potential risks to any FOP Team workforce arising from exposure to soils, groundwater, ground gases or vapours below the site. T**he Olympic Park remains a "brownfield site".** In accordance with legislation, the FOP Team must appropriately assess, control and mitigate potential risks to worker health and safety.

2.2 Reference Documents and Information Sources

It is the responsibility of FOP Teams to be familiar with all applicable planning conditions and relevant site remediation specifications prior to commencing any ground works. These documents will be included or referenced within site handover documentation and on the CLM Sharepoint website (https://sp.h0twise.com) within the PDMS.

The following list of generic specification and planning documents is not exhaustive and it remains the responsibility of FOP Teams to be aware of all documents applicable to their works. The PTP Team may audit any aspect of FOP works against any applicable site remediation specifications or planning conditions (which relate to the protection and maintenance of site remediation works).

2.2.1 Remediation Design Documents

1. (Typical) Site Specific Remediation Documents

Site specific remediation and earthworks design documents remain applicable to FOP construction works and present (chemical) soil acceptance criteria and details of how remediated ground cover systems (ML and HHSL) must be constructed within site formation levels:

- Site Specific Remediation Strategy (SSRS)
- Site Specific Remediation Specification (SSRSpec)
- Remediation Method Statement
- Site Validation Reports (where available)

2. Park-wide Remediation Documents

Where site specific remediation design documents do not apply, global site remediation documents and specifications will normally be adopted:

- Global Remediation Strategy
- Global Groundwater Monitoring Strategy

3. Amendments to Remediation Specifications

Agreed alterations or updates to site specific remediation specifications may be introduced via submissions approved by the Planning Decisions Team. Any such amendments made by prior contractors / occupiers of the site will be provided in supplementary handover documentation and will be referenced on the PDMS.

2.2.2 Olympic Park Planning Permissions

Approved planning permissions for the development of the Olympic Park can be viewed at the ODA website (http://www.london2012.com/planning/). The park-wide permissions include:

- Olympic, Paralympic and Legacy Transformation Planning Applications: Site Preparation Planning Application
- Olympic, Paralympic and Legacy Transformation Planning Applications: Facilities and their Legacy Transformation Planning Application

2.2.3 Further Standards and Guidance Documents

The following documents include additional design requirements and obligations that FOP Teams must implement with respect to various site construction works:

- The Soil Hospital Protocol: Management of Olympic Park Earthworks Materials
- The Code of Construction Practice
- Intrusive Investigation Method Statement
- EA Guide to Contractors on the Olympic Park
- Environmental Protection Requirements for Piling (REP-ATK-CG-ZZZ-ZZZ-ZZZ-Z-0001)
- Soil Gas and Vapour Risks: A Briefing Note to Designers (REP-ATK-CM-ZZZ-OLP-ZZZ-Z-0001)
- Environmental Permit No. EAWML80790 (South Park Waste Management License)
- Environmental Permit No. EAWML80791 (North Park Waste Management License)
- Construction Waste Management Plan (CLM-D0701-Rep-CWMP-v1.6.doc)
- Memorandum of Understanding for Waste Management Licensing Applied to the Olympic Park (Appended to CWMP)
- A Guide to Material Movements: London 2012 Enabling Works (GUI-MOR-CE-ZZZ-ZZZ-XXX-E-0015)

3. The Protection of Remediation Works

3.1 Introduction

As a minimum, FOP Teams are responsible for the following matters, against which they will be audited:

- Works must comply with site remediation design specifications.
- Works shall not invalidate any previously completed site remediation works.
- Protection, reinstatement or installation (completion) of remediated ground cover systems as necessary (Marker Layer and Human Health Separation Layer).
- Protection of ongoing groundwater remediation works and the maintenance of adequate access to them to allow completion.
- Additional remediation of any unexpected contamination or contaminant hotspots (if necessary).
- 'Duty of Care' obligations under Waste Regulations to satisfy the conditions of Waste Recovery Licenses for the Olympic Park.
- Protection of boreholes and groundwater monitoring installations.

These obligations and responsibilities are further detailed in Table 1 of Appendix A, which includes a cross-reference to generic remediation design, specification and guidance documents and relevant planning conditions.

3.2 Implementation: Application Form ATK-084

Follow on Projects shall submit a PTP application for the 'Protection of Remediation Works' (ATK-084) for any excavation works and under any circumstances where FOP construction works will result in the disturbance or penetration of the EWFL, irrespective of whether or not the works are of a sufficient depth to penetrate the Marker Layer.

Protection of Remediation works applications shall be submitted to the PTP Team (permit.to.proceed@london2012.com) a minimum of 5 working days prior to the commencement of such works. Applications shall be made on an ATK-084 form, shown in the following pages. An electronic version of this form shall be issued to all FOP Teams.

The ATK-084 application should indicate the maximum plan size of any excavation. This will not generally be greater than one section of trench up to 100 metres long, or an area of ground works with plan dimensions up to 25 metres in any one direction (exceptions to these dimensions of works should be agreed with the PTP Team directly and in advance). The FOP may prepare standard method statements that may be referenced in the ATK-084 application to assist in the assessment and granting of the ATK-084 Protection of Remediation Works Permit by the PTP Team.

The ATK-084 application procedure shall be as follows:

1. FOP Team completes Section A of the ATK-084 proforma and submits it electronically to permit.to.proceed@london2012.com, with all necessary supporting documentation (as indicated in the ATK-084 proforma and this PTP Protocol);
2. The PTP Team will review the application and if the planned works comply with this Protocol, will sign off Section B of the ATK-084 proforma and return it to the applicant;
3. On completion of works, the FOP Team completes Section C of the ATK-084 proforma and returns it to the PTP Team (permit.to.proceed@london2012.com) together with necessary earthworks volume information, SMARTStart verification and supporting as-built information;
4. If works have been conducted in accordance with the requirements of the PTP Protocol, the PTP Team will sign off Section D and return it to the FOP Team, closing the ATK-084 application;
5. If the works have **not** been carried out in accordance with the requirements of the PTP Protocol, the FOP shall undertake additional works or provide additional information, which the PTP Team may reasonably require.

London 2012 Olympic Park	PERMIT TO PROCEED

PROTECTION OF REMEDIATION WORKS: FORM ATK-084

PTP Reference: *(To be completed by PTP team)*

Dear Sirs,
With respect to the protection and maintenance of previously completed ground remediation works and site specific remediation strategies we hereby submit this Permit to Proceed application for our intrusive works and for your acceptance. We understand we initially require your completed section B prior to commencement of our works and that we are responsible for the integrity of the remediation works.

SECTION A *(Please complete & submit to permit.to.proceed@london2012.com 5 days prior to works)*

Prepared by		Authorised by	
of Company		of Company	
Date		Date	
Follow on Project	*(eg SBH Lot X)*	Principal Contractor	*(i.e. the PC in control of the LA site)*
Title of Works	*(eg H12 north abutment)*	FOP Reference	*(if different from PTP reference)*
Construction Zone		Works Start Date	
LA Site Reference		Works Finish Date	

Co-ordinates of works	*(Olympic Grid or Ordinance Survey)*
Drawing Reference	*(Attach drawing or sketch indicating the location of works)*
Description of works	
Dimension of works (incl. depth)	
Method Statement Reference(s)	*(Attach applicable method statements, including specific MS for unexpected contamination or invasive species removal works where necessary)*
Piling Risk Assessment Ref.	*(Required by the EA for piling works)*
Existing Marker layer depth	
Earthworks above marker layer (m^3)	
Earthworks below marker layer (m^3)	
Historic boreholes at vicinity of works	
Planned backfill material types	

Additional Comments:

SECTION B *(Completed by and returned from Permit to Proceed Team prior to works)*

Prepared by		Authorised by	
of Company		of Company	
Date		Date	
Accepted	Yes / No		

Conditions of acceptance / reason for non-acceptance:

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team.*

SECTION C *(Please complete and return to permit.to.proceed@london2012.com on completion of the works)*

Dear Sirs,
We confirm completion of works in accordance with the methods described in Section A and conditions described in Section B. On the basis of the following information and the attached supporting documents, we request that this application be formally closed.

Prepared by		Authorised by	
of Company		of Company (PC)	
Date		Date	

C1: COVER LAYER	Reinstated	Altered	Omitted
Marker Layer	Yes / No	Yes / No	Yes / No
Human Health Separation Layer	Yes / No	Yes / No	Yes / No
Comments or description of cover system reinstatement	*(Detail Marker Layer and Human Health Separation Layer materials and any reasons for specific omission)*		
Photo record of excavation and Marker Layer reinstatement	*(Attach photograph record document)*		
As-Built drawings provided	*(Attach as-built drawing or sketch indicating cover system reinstatement)*		

C2: EXCAVATED VOLUMES	Above Marker Layer (m^3)	Below Marker Layer (m^3)
Total cut		
Cut volume retained (on site)		
Cut volume to Soil Hospital		
Cut volume sent off Olympic Park		
Related ATK-088 Export Application(s):		
SMARTWaste References	*(Attach spreadsheet from SMARTStart detailing relevant entries)*	

C3: FILL VOLUMES	Above Marker (m^3)	Chemical Tests (no.)	Below Marker (m^3)	Chemical Tests (no.)
Total fill				
Site won fill (reused)				
Fill from Soil Hospital				
Fill from outside Olympic Park				
Related ATK-088 Import Application(s):				

Additional Comments:

SECTION D *(Application is closed by the Permit to Proceed Team following review of Section C and returned to FOP Team)*

Prepared by		Authorised by	
of Company		of Company	
Date		Date	
Accepted & Closed	Yes / No		

Comments or conditions on closure / reason for non-closure of application:

Distribution: *Originating Team, Principal Contractor, CLM Project Manager, RemTech Team, EW Project Manager.*

APPENDIX A:

SUMMARY OF FOLLOW ON PROJECT OBLIGATIONS COVERED UNDER THE PERMIT TO PROCEED PROTOCOL

Table 1: Summary of Follow on Project Obligations Covered Under the Permit to Proceed Protocol

FOP Obligation / Responsibility	Description	Applicable Remediation Design Documents, Guidance Documents and Planning Conditions	PTP Implementation and Auditing
Ensure works comply with site remediation design specifications	Earthworks materials used within the Olympic Park must comply with remediation design specifications applicable to the Planning Delivery Zone (PDZ) in which the works are being undertaken. All earthworks materials placed by FOP Teams (above or below the ML) shall meet the Site Specific Assessment Criteria (SSAC) outlined in applicable remediation design documents.	The Soil Hospital Protocol: Management of Olympic Park Earthworks Materials. Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy *OD.0.36 Validation of the Remediation Works for the purposes of human health protection must be provided within two months of completion of the Final Build Layer within any Construction Zone. When all works for the protection of human health are completed within each Planning Delivery Zone, a consolidated validation report, drawing together the Construction Zone validations, shall be submitted to the Local Planning Authority. This shall include topographic mapping of the final finished ground levels.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.* *OD.0.37 Approved post-remediation monitoring and maintenance of the remediated land shall continue, as set out in the validation reports, until such dates or events as are approved by the Local Planning Authority.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.* *OD.0.39 No soils or infill materials (including silt dredged from watercourses), shall be imported onto the Site until it has been satisfactorily demonstrated that they present no risk to human health, planting and the environment. Documentary evidence to confirm the origin of all imported soils and infill materials, supported by appropriate chemical analysis test results, shall be submitted to and approved by the Local Planning Authority prior to that import. The import onto Site of material classified as 'waste' is only acceptable with the prior approval of the Local Planning Authority.* *Reason: To ensure that no contaminated material is brought onto Site.*	FOP Teams submit an ATK-088 Application (Request from Contractor) to the Soil Hospital Team at soil.hospital@demrem.com (Refer to separate Soil Hospital Protocol document for further details.) FOP Teams submit an ATK-084 Application (Protection of Remediation Works) to the PTP Team at permit.to.proceed@london2012.com detailing the scope of works and arrangements for completing works in accordance with the site remediation design. Section C of Form ATK-084 requires that information on the number of chemical tests performed on backfill materials is reported. In auditing the works the PTP Team may request evidence and details of sampling and chemical testing of backfill materials.
Ensure works do not invalidate any previously completed site remediation works	Completed remediation works that must be maintained may include (but are not limited to): • Placed fill materials that comply with applicable remediation design documents (as above) • Cut off walls and sheet piling • Low permeability layers • Gas membranes • Groundwater or ground gas monitoring boreholes • Groundwater remediation systems In addition FOP Teams must ensure that pathways are not created in the ground that could: • invalidate any completed Remediation Works • present any pollution risks to controlled waters • cause any ingress of ground borne gases or vapours to any buried structures This shall be achieved by selecting, designing and constructing piling, deep foundation works and ground treatment methods that do not create such pathways (in this regard, the guidance and requirements of the Environment Agency shall apply).	Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy EA Guide to Contractors on the Olympic Park Environmental Protection Requirements for Piling (REP-ATK-CG-ZZZ-ZZZ-ZZZ-Z-0001) Soil Gas and Vapour Risks: A Briefing Note to Designers (REP-ATK-CM-ZZZ-OLP-ZZZ-Z-0001) *OD.0.26 Before the construction of each building is commenced, details of the foundations and piling, the means by which previously installed remediation measures are to be safeguarded and any measures to prevent ingress of gaseous contaminants into that building or the contamination of controlled waters, shall be submitted to and approved by the Local Planning Authority.* *Reason: To avoid risk to human health or contamination of controlled waters.* *OD.0.59 Before construction of any bridge or other structure requiring foundations is commenced, details of foundation design, including details of any piling and a method statement for any piling, shall be submitted to and approved by the Local Planning Authority.* *Reason: To avoid risk to human health or contamination of controlled waters.*	FOP Teams submit an ATK-084 (Protection of Remediation Works) Application to the PTP Team at permit.to.proceed@london2012.com detailing the scope of works and any proposed measures to protect completed remediation works and prevent any adverse environmental effects. Section C of Form ATK-084 requires information on the number of chemical tests on backfill materials and as-built details to prove integration. Any details of vapour protection measures should also be reported in Section C. In auditing the works the PTP Team will inspect methods of piling and other intrusive works. Where necessary, the PTP Team will check that piling risk assessments have been approved by the Environment Agency.

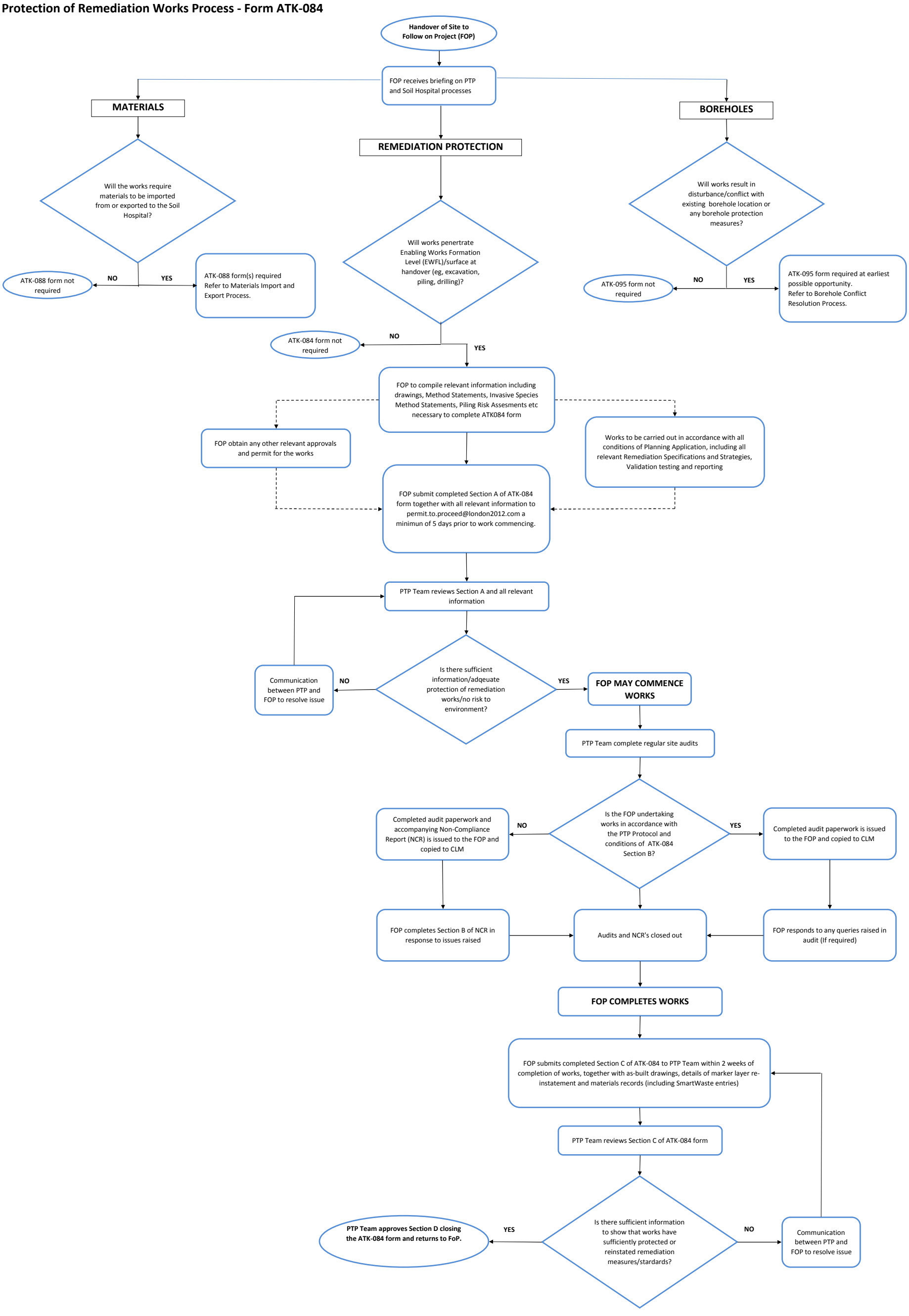
FOP Obligation / Responsibility	Description	Applicable Remediation Design Documents, Guidance Documents and Planning Conditions	PTP Implementation and Auditing
Reinstate or install remediated ground cover systems (Marker Layer and Human Health Separation Layer)	Project works must maintain the integrity of existing site remediation and remediated ground cover systems. The majority of FOP Teams will need to penetrate installed ML and HHSL elements and excavate materials beneath those layers to construct foundations or install utilities. Where the ML is penetrated or altered it must be reinstated and integrated within final constructed levels to ensure that applicable remediation designs are met. FOP Teams shall ensure that the ML is reinstated immediately beneath materials that satisfy SSAC for HHSL and that any altered location and level of the ML is accurately recorded. ML and HHSL requirements may differ between or within Planning Delivery Zones. In some instances it will be more practical to locally deepen or raise the ML. Significant changes to ML depth will require approval from the Planning Decisions Team (PDT) and FOP Teams should seek approval from the PDT where any such changes or omissions are proposed.	Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy Any approved supplementary design for ML and HHSL (which may allow omission of ML and/or HHSL), as submitted to and approved by the Planning Decisions Team *OD.0.37 Approved post-remediation monitoring and maintenance of the remediated land shall continue, as set out in the validation reports, until such dates or events as are approved by the Local Planning Authority.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.*	FOP Teams submit an ATK-084 Application (Protection of Remediation Works) to the PTP Team at permit.to.proceed@london2012.com detailing the scope of works and arrangements for the protection of remediation works. Section C of Form ATK-084 requires that photographic evidence and as-built drawings are supplied to detail reinstatement of ML and HHSL elements. In auditing the works the PTP Team may request evidence of adequate ML reinstatement and integration into FOP works.
Protect groundwater remediation works and maintain adequate access to them	Several sites across the Olympic Park contain active groundwater remediation systems. Some of these are intended to remain operational throughout the Olympic Park construction period and into Legacy phases. FOP Teams must protect all elements of such groundwater remediation systems, including any extraction or injection wells and connecting pipe work and cable routes. Other elements of the installed remediation systems may include compound areas containing operational plant and storage areas for ancillary equipment. Groundwater monitoring wells used to assess the progress of groundwater remediation works must also be maintained.	Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy Global Groundwater Monitoring Strategy Site Specific Groundwater Treatment Method Statement *OD.0.37 Approved post-remediation monitoring and maintenance of the remediated land shall continue, as set out in the validation reports, until such dates or events as are approved by the Local Planning Authority.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.*	FOP Teams submit an ATK-084 Application (Protection of Remediation Works) to the PTP Team at permit.to.proceed@london2012.com detailing the scope of works and arrangements for the protection of any known groundwater remediation equipment and works (within appended Method Statements). In auditing the works the PTP Team may request evidence of adequate project integration between FOP works and incumbent groundwater remediation contractors.
Unexpected contamination	If unexpected contamination is encountered during earthworks, the PTP Team and the Planning Decisions Team should be notified and a methodology for the assessment, remediation and validation of the affected area shall be prepared to support a Remediation Change Note as required by Planning Condition OD.0.38.	Site Investigation Reports Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy *OD.0.38 If at any time during the construction of the Olympic Development, contamination is encountered which was not previously identified or treated or has been brought to the surface by construction activity, construction work in that Construction Zone shall not proceed (except to the extent that it would not further disturb that contamination) until a Remediation Change Note, containing an assessment of that contamination and a scheme and timetable to contain, treat or remove it has been submitted to and approved by the Local Planning Authority and any necessary remediation has been carried out.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.*	FOP Teams shall submit an ATK-084 Application (Protection of Remediation Works) to the PTP Team at permit.to.proceed@london2012.com (as well as an ATK-088 Application to cover the transfer of excavated materials). The application shall detail excavations and earthworks associated with any remediation works, supported by method statements, as required by OD.0.38.

Uphold 'Duty of Care' obligations under Waste Regulations and satisfy conditions of Waste Recovery Licenses for the Olympic Park	The recovery and re-use of materials within the Olympic Park is authorised by two Waste Recovery Licenses held by the Olympic Delivery Authority. By legislation, excavation within a contaminated or 'Brownfield' site requires that materials must be characterised before being excavated or re-used. The Principal Contractor of any site is the responsible party under Waste Regulation 'Duty of Care' obligations, the Environment Act (including associated legislation) and the Waste Recovery Licenses for the Olympic Park. Any Principal Contractor conducting earthworks within the Olympic Park is therefore deemed a Waste Operator and must meet obligations associated with the handling of waste and recycled earthworks materials. Those obligations include the requirement to maintain accurate information relating to earthworks materials excavated from or placed within the site and to ensure traceability of material movement within and between different sites across the Olympic Park. The ODA has determined that BRE's SMARTStart system shall be used within all projects to allow electronic records of all material movements and final deposition locations of to be referenced and traceable.	Environmental Permit No. EAWML80790 (South Park Waste Management License) Environmental Permit No. EAWML80791 (North Park Waste Management License) Construction Waste Management Plan (CLM-D0701-Rep-CWMP-v1.6.doc) Memorandum of Understanding for Waste Management Licensing Applied to the Olympic Park (Appended to CWMP) A Guide to Material Movements: London 2012 Enabling Works (GUI-MOR-CE-ZZZ-ZZZ-XXX-E-0015) *OD.0.39 No soils or infill materials (including silt dredged from watercourses), shall be imported onto the Site until it has been satisfactorily demonstrated that they present no risk to human health, planting and the environment. Documentary evidence to confirm the origin of all imported soils and infill materials, supported by appropriate chemical analysis test results, shall be submitted to and approved by the Local Planning Authority prior to that import. The import onto Site of material classified as 'waste' is only acceptable with the prior approval of the Local Planning Authority.* *Reason: To ensure that no contaminated material is brought onto Site.*	References of SMARTStart entries relating to specific works must be provided to the PTP in Section C of ATK-084 applications and if necessary be backed up with a printed spreadsheet of information generated from SMARTStart. This information is required to ensure materials are being adequately tracked in SMARTstart and to ensure that obligations under Waste Recovery Licenses are being fulfilled.
Protection of Boreholes and Groundwater Monitoring Installations	FOP Teams must protect, preserve and ensure access to all existing boreholes and monitoring locations, unless or until the Soil Hospital Team formally confirm alternative arrangements and/or arrange for borehole decommissioning. Identification and resolution of conflicts between borehole locations and FOP construction works are detailed in the Soil Hospital Protocol. Any damage to an operational borehole will be reported as an Environmental Incident and should be raised by the FOP responsible for the damage and be reported to the Soil Hospital Team and CLM Assurance.	Site Specific Remediation Strategy (SSRS) Site Specific Remediation Specification (SSRSpec) Remediation Method Statement Site Validation Reports (where available) Global Remediation Strategy Global Groundwater Monitoring Strategy Site Specific Groundwater Treatment Method Statement *OD.0.37 Approved post-remediation monitoring and maintenance of the remediated land shall continue, as set out in the validation reports, until such dates or events as are approved by the Local Planning Authority.* *Reason: To ensure the protection of human health and avoidance of pollution of controlled waters.*	FOP Teams submit an ATK-095 Application (Borehole Conflict) to the Soil Hospital Team at soil.hospital@demrem.com a minimum of six-weeks prior to occurrence of conflict with FOP works. (Refer to separate Soil Hospital Protocol document for further details.) During audits the PTP Team will review borehole protection measures installed at any site and request that any potential risks to borehole installations are rectified and that any damage is reported.

APPENDIX B:

PERMIT TO PROCEED PROCESS DIAGRAM

Protection of Remediation Works Process - Form ATK-084



APPENDIX D:

PPDT / Hyder Comments and Responses

Olympic Delivery Authority PDT

EIA & Site Remediation Advisory Services Call Off Contract

DOCUMENT REVIEW

Application No.	Submission Title	Submission Ref.	Applicant Author	Date of Document Review	HCL Task Ref.
12/00068/AOD (formerly 12/90375/AODODA)	LOCOG (Stage 3) Consolidated Validation Report – Planning Delivery Zone 3	ATK-WI-O-XX-XX-OPK-REP-XX-0003	Atkins	22/01/2013 13/06/2013	REM 303

The report titled "*LOCOG (Stage 3) Consolidated Validation Report – Planning Delivery Zone 3*" has been reviewed by Hyder Consulting on behalf of the PDT to determine compliance with the Facilities and Legacy Planning Condition OD.036 Protection and Validation of Remediation. The report has been reviewed against the requirements of this Condition as outlined in *'Remediation and Follow-on Works – Follow on Contractors Interaction with the Olympic Delivery Authority Planning Decisions Team'* document.

Table 1 - HCL Comments

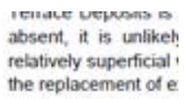
Ref.	Submission Section / Aspect	HCL Comment Applicant response 07/06/2013 Hyder Review 13/06/13
As agreed at LLDC, Hyder, Atkins meeting of 17/1/13, the applicant should assume that Hyder's comments on PDZ5, 6 and 7 Stage 3 CVRs will also apply to this CVR. The comments presented below should be regarded as in addition to those other comments presented in Hyder's review of PDZ5, 6 and 7 Stage 3 CVRs.		
10.1	Section 3.1.2.1 – Radiological	We are not aware of pre-works dialogue with PDT on the following: LOCOG Ceremonies confirmu determined thresholds set ou the Survey Reports presente 0002 presented in Appendix B Response 07/06/2013: Please see amendments to the text of Section 3.1.2.1. The Environment Agency, in their role as the regulatory body and responsible party with respect to Radioactive Substances Regulation, were consulted by phone and email regarding the installation and removal of the ground anchors. All email correspondences with the Environment Agency, including their approval and comments regarding the method of anchor installation, are presented in Appendix B2-1. **Hyder review 13/06/13: Assuming Appendix B2-1 is appropriately populated, then we have no further comment.** Did PDT or the EA review and accept the Nuvia method statement? It has also been confirmed to L to oversee the removal of the g during the Reinstatement phas Response 07/06/2013: Please see amendments to the text of Section 3.1.2.1. The Environment Agency, in their role as the regulatory body and responsible party with respect to Radioactive Substances Regulation, were consulted by phone and email regarding the installation and removal of the ground anchors. All email correspondences with the Environment Agency, including their approval and comments regarding the method of anchor installation, are presented in Appendix B2-1. **Hyder review 13/06/13: Assuming Appendix B2-1 is appropriately populated, then we have no further comment.** Should the above advice be included in the residual actions table and was it implemented during the re-instatement activities. Response 07/06/2013: A note has been added to residual action 3.8 of Table 4.1 to capture this issue. It is understood the agreed approach was adopted during extraction of the ground anchors post the Games ceremonies.

Ref.	Submission Section / Aspect	HCL Comment Applicant response 07/06/2013 Hyder Review 13/06/13
10.2	Section 3.2	Should residual item include radiological contamination?  Response 07/06/2013: Please see amendments to text of point no. 2.6 of Table 3.1. Potential radiological contamination has been included in this residual item. **Hyder review 13/06/13: No further comment.**
10.3	Tables 3.1 & 4.1	Is the McNicholas issue directly relevant to PDZ3?  Response 07/06/2013: Yes, the McNicholas issue is relevant to PDZ3. Residual item remains. Action needs to be transferred to future developers / landowners / LLDC. **Hyder review 13/06/13: No further comment.** We recommend that this requirement is reviewed in light of the actual completed re-instatement works.  Response 07/06/2013: Tables 3.1 and 4.1 have been revised in accordance with the tables presented in the Stage 2 CVR for PDZ3. Please see revised text. As agreed with the PPDT, all reinstatement works following decommissioning and removal of the temporary structures, facilities and infrastructure will be closed out via LLDC in the Stage 4 CVR. **Hyder review 13/06/13: No further comment.**

General comments relating to the PDZ5 Stage 3 CVR have been applied to the PDZ3 report, as agreed at the meeting on 17th January 2013, as follows:

Ref.	Submission Section / Aspect	HCL Comment Applicant response: 07/06/2013
1.1	All drawings	We note that this drawing is marked "LOCOG in Confidence", with associated notes. We are unsure if this protection prevents public viewing of this drawing, which PPDT may not accept. Please liaise directly with PPDT. Response 07/06/2013: The 'in confidence' labels have been removed from the drawings. **Hyder review 13/06/13: No further comment.**
1.2	Drawing 3	Please could you clearly mark up PDZ5 boundary on this drawing – by hand with appropriate legend would suffice. Response 07/06/2013: The PDZ boundary has now been added to this drawing. **Hyder review 13/06/13: On the basis that this has been adequately (we have not been provided with the revised drawing, then we have no further comment.**
1.3	Drawing 5	This drawing is referred to in Section 3.1.2.3, as showing where 100mm tarmacadam was placed. However it is not immediately clear on Drawing 5 where this was placed. Please can the applicant make hand drawn mark-ups with associated legend to highlight the areas referred to. Response 07/06/2013: This drawing reference has now changed (to Drawing 8) but where referenced an additional note has been added to clarify which area on the drawing is being referred to. **Hyder review 13/06/13: No further comment.**
1.4	Drawing 6	This drawing is referred to in Section 3.1.2.3, to show how tarmacadam was placed. Please could the applicant confirm whether as-built drawings are available, which would be more appropriate. Response 07/06/2013: This drawing is now referenced as Drawing 9. Unfortunately no further as-built information is available from the project to support close out of the CVR. **Hyder review 13/06/13: No further comment.**

Ref.	Submission Section / Aspect	HCL Comment **Applicant response: 07/06/2013**
1.5	Appendices	• Page 49 typo – header sheet “Appendix B1 Common Domains” – should this read Appendix B2? • The CD submission provided to Hyder does not contain all the Appendices – please ensure that the final version of the report issued to PDT is a complete version including all Appendices. Response 07/06/2013: The headings have been checked for this CVR. We will ensure all the appendices are provided with the revised (final) version. **Hyder review 13/06/13: No further comment.**
1.6	Section 1.6 and other sections	Please update the report to reflect the proposals set out in LOCOG’s email to LLDC PPDT of 19th October 2012, 09.28hrs. Response 07/06/2013: The report has been updated to reflect the contents of this agreed email approach – refer specifically to Section 1.6 and 4.1 – and the email correspondence is now included in Appendix B3. **Hyder review 13/06/13: No further comment.**
1.7	Section 1.6	Please update to reflect validation reports that have subsequently been approved. Response 07/06/2013: Section 1.6 has been updated. For PDZ3 this update principally reflects the agreed approach for the reinstatement works. **Hyder review 13/06/13: No further comment.**
1.8	Section 2.1	Somehow the CVR needs to portray where LOCOG have completed, disturbed or added to the existing remediation profile. Please include additional drawings akin to the agreed Stage 3 CVR for PDZ 1, whereby new Drawings 5 and 6 were included, which was acceptable. Response 07/06/2013: Additional drawings have been produced in line with the previously agreed PDZ1 Stage 3 CVR and these are referenced in Section 2.1 together with further details regarding the LOCOG excavations. **Hyder review 13/06/13: No further comment.**
1.9	Section 2.2	The following is quite subjective and ambiguous. Is more accurate information available? Site. • The (even more) l across the Site. Response 07/06/2013: Reference is now included in Section 2.2 to Drawing 5 which shows the extent of the LOCOG utility excavations. **Hyder review 13/06/13: No further comment.**
1.10	Section 3.1	• Please ensure all referenced reports included or referred to in the CVR are accompanied by the specific ODA PDT Application reference number to enable 3rd party scrutiny. • Does this section include new information not already provided to PDT? If so, this should be made clear and explained why this is the case. Furthermore the report introduction should confirm that new information is provided. • Preceding CVRs have a separate Appendix (B) summarising all the relevant RMS and Validation Report documents for each PDZ. Is Section 3.1 of your report intended as an equivalent to this? If so, does it summarise all the relevant LOCOG or showcase RMS and validation reports? Response 07/06/2013: • Planning Authority application references have now been added to the reports, where available, within the reference list. • A note has been added to Section 3.1 to confirm the PTP information has not been provided previously to PPDT as it forms part of an internal construction process. The information is now included to help inform validation. The introduction has also been updated to note that PTP information has been included to support validation. • Yes, Section 3.1 provides the works summary, which, together with the summary of the Site Wide RMS in Section 2.2 provides the equivalent to the Appendix B summaries in the Stage 1 and 2 CVRs. Due to the relatively small number of separate projects under the LOCOG scope a further summary of these documents is not considered necessary. **Hyder review 13/06/13: No further comment.**
1.11	Section 3.1.1.1	• Second paragraph refers to a drawing entitled “Hockey Pitch” – please could you clarify which Drawing number this is. • Fourth paragraph, second bullet - please could you confirm the diameter of the temporary fence posts and for completeness we suggest you indicate approximately where the penetrations are. For the avoidance of doubt we are not requesting portrayal of the exact locations / ML penetrations, but a note on a drawing warning that in a certain areas the ML has been penetrated by these features. Could you please also clarify whether or not the fence post removal will be documented and the ML penetration sealed. Response 07/06/2013: These comments aren’t directly relevant to PDZ3 though Section 3.1 has been checked and updates applied, where relevant. **Hyder review 13/06/13: No further comment.**
1.12	Section 3.1.2.1	With regards to reference to the ISG-specific Method Statement, referenced here and elsewhere, this is subject to discussion at the proposed meeting on 17/01/2013. Response 07/06/2013: Not applicable to PDZ3. **Hyder review 13/06/13: No further comment.**
1.13	Section 3.1.2.2	Second paragraph – “In all of the above instances, these works were (or are being) completed in general” – have any of the on-going works been completed since the issue of this report, which requires text amendment to this section? Response 07/06/2013: Section 3.1 has been updated to reflect the current state of the works completed under LOCOG’s scope.. **Hyder review 13/06/13: No further comment.**
1.14	Section 3.1.2.3	• Please could the applicant clarify why it is only “…understood to complete the Human Health Separation Layer to FFL”? Are no as-built drawings / validation available? • Please also see comments regarding Drawing 5 and Drawing 6. Response 07/06/2013: Unfortunately no further as-built information is available at this stage to substantiate this comment. As above, the standard pavement detail drawing is the only available drawing outlining the pavement section details. **Hyder review 13/06/13: No further comment.**
1.15	Section 3.1.2.3.1	Please could the applicant review the tense used in this section (e.g. “will be fitted”) and amend accordingly. Response 07/06/2013: Not directly applicable to PDZ3, however, the tense has been updated where applicable within the general report text. **Hyder review 13/06/13: No further comment.**

Ref.	Submission Section / Aspect	HCL Comment Applicant response: 07/06/2013
1.16	Section 3.2	• This section states that Table 3.1 is taken from Table 4.1 of the Stage 2 CVR. We note, however that on occasion, the No.'s in Table 3.1 are not consistent with those in the current version of the Stage 2 CVR Table 4.1 that we have. Can the applicant please clarify / amend accordingly. • No. 2.1 - please could the applicant substantiate this comment. • No 2.11 – to aid the reader, please could the applicant substantiate this comment. • No.2.12 – to aid the reader, please could the applicant substantiate this comment. • No. 2.13 – please could the applicant confirm which boreholes have and which have not been identified and safeguarded. • No. 2.14 - please could the applicant substantiate this comment. • No. 2.15 – refers to Section 3.1.1, however we are unable to find related comment in 3.1.1. Please could the applicant review and clarify. • No. 2.18 - please could the applicant substantiate this comment. Response 07/06/2013: We have reviewed the contents of Table 3.1 and updated with the latest information from the approved PDZ3 Stage 2 ODA CVR. **Hyder review 13/06/13: No further comment.**
1.17	Section 3.4	The section described below is slightly subject and ambiguous – is any more accurate information available?  Response 07/06/2013: A further drawing is now provided and referenced in Section 2.2 which outlines the areas of excavation associated with LOCOG's utilities and this is cross-referenced in Section 3.4 No further additional information is available. **Hyder review 13/06/13: No further comment.**
1.18	Section 3.6	Please confirm whether chemical testing was required in PDZ5. Response 07/06/2013: The first sentence of Section 3.6 confirms no in situ chemical testing was undertaken in PDZ3 for LOCOG's works. **Hyder review 13/06/13: No further comment.**
1.19	Section 3.8	Please confirm whether aggregates were imported to construct LOCOG's works in PDZ5. Response 07/06/2013: A note has been added to confirm which unbound materials were imported for LOCOG's scope in PDZ3. **Hyder review 13/06/13: No further comment.**
1.20	Section 4.1	Please revise in line with agreed approach. Response 07/06/2013: Section 4.1 has been revised in line with the agreed approach and the relevant correspondence included in Appendix B3. **Hyder review 13/06/13: No further comment.**
1.21	Tables 3.1 & 4.1	For ease of reference, we recommend that you list the residual items verbatim from the CVR Stage 2, with any new LOCOG residual items added at the end. Response 07/06/2013: Both Tables 3.1 and 4.1 have been reviewed against the final residual actions table in the ODA Stage 2 CVR and are included verbatim from this document with applicable LOCOG updates where necessary. **Hyder review 13/06/13: No further comment.**
1.22	Spatial coverage of reports	A simple drawing showing the spatial extent of the LOCOG / Showcase validation reports should be included in the report, even if a hand-drawn mark-up. Response 07/06/2013: Drawing 7 has now been included which shows the approximate validation area / coverage for LOCOG's works. **Hyder review 13/06/13: No further comment.**
1.23	RARAR	Please confirm in the report whether or not LOCOG did any works in RARAR areas. Response 07/06/2013: Text has been included in Section 2.2 to confirm LOCOG's works did not interact with the RARA areas. **Hyder review 13/06/13: No further comment.**