



Expansion of Anfield Stadium for Liverpool Football Club

Environmental Statement,
Volume 3: Non-Technical Summary
May 2014

Liverpool Football Club and Athletics Grounds Ltd.



Expansion of Anfield Stadium for Liverpool Football Club

Environmental Statement,
Volume 3: Non-Technical Summary
May 2014

Liverpool Football Club and Athletics Grounds Ltd.

Issue and revision record

| Revision | Date | Originator | Checker | Approver | Description | Secure |
|----------|----------|------------|-----------|------------|-------------|--------|
| A | 23/05/14 | E Campbell | H Jenkins | A Lawrance | Draft | |
| B | 30/05/14 | E Campbell | H Jenkins | A Lawrance | Final | |

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it..

Contents

| Chapter | Title | Page |
|---------|-----------------------------------|------|
| 1 | Introduction | 1 |
| 2 | The Proposed Development | 3 |
| 3 | Alternatives and Design Evolution | 9 |
| 4 | The EIA Process | 11 |
| 5 | Summary of Environmental Effects | 13 |
| 6 | Cumulative Effects | 29 |
| 7 | Residual Impacts and Conclusions | 31 |

1 Introduction

1.1 The Application

- 1.1.1 Liverpool Football Club and Athletics Grounds Ltd (LFC) intend to seek planning permission from Liverpool City Council (LCC) for the expansion of Anfield Stadium, Anfield Road, Liverpool.
- 1.1.2 A hybrid planning application for the development has been submitted to LCC; this comprises the phased expansion and redevelopment of the existing Anfield Stadium and includes two phases:
- Phase 1 - An application for full planning permission for expansion of the Main Stand adding a further 8,300 seats, with associated conferencing and banqueting facilities, club shop (in addition to the retained shop in the Kop Stand), car park for circa 60 vehicles and team coach access beneath a podium, and the provision of high quality public realm, comprising concourse and 'community garden' area lying between the Main Stand and retained properties on Alroy Road, a 'Fan Zone' between the extended Main Stand, existing Kop Stand and Walton Breck Road and a memorial garden for the relocated Hillsborough Memorial.
 - Phase 2 - An application for outline planning permission for the expansion of the Anfield Road Stand to provide an additional circa 4,800 seats. Car parking will be provided beneath the expanded stand and the area immediately to the north of it will be landscaped.
- 1.1.3 The expansion proposals aim to increase the overall capacity of the stadium to circa 58,500 seats.
- 1.1.4 This document is a summary of the Environmental Statement (ES) that has been submitted to LCC as part of the planning application. The ES has been carried out in accordance with The Town and Country Planning (EIA) Regulations 2011 (EIA Regulations) and summarises the potential significant impacts and effects associated with both Phase 1 and Phase 2 of the development, identifying where necessary mitigation measures to prevent, reduce and where possible offset any significant adverse effects on the environment.
- 1.1.5 The identification of the environmental effects to be assessed was undertaken through a Scoping exercise with LCC and statutory consultees. The following topics were agreed for inclusion in the ES:
- Built Heritage;
 - Townscape, Landscape and Visual Amenity;
 - Sunlight and Shading;
 - Light Pollution;
 - Microclimate (Wind);
 - TV Reception and Telecommunications;
 - Transport;
 - Air Quality;

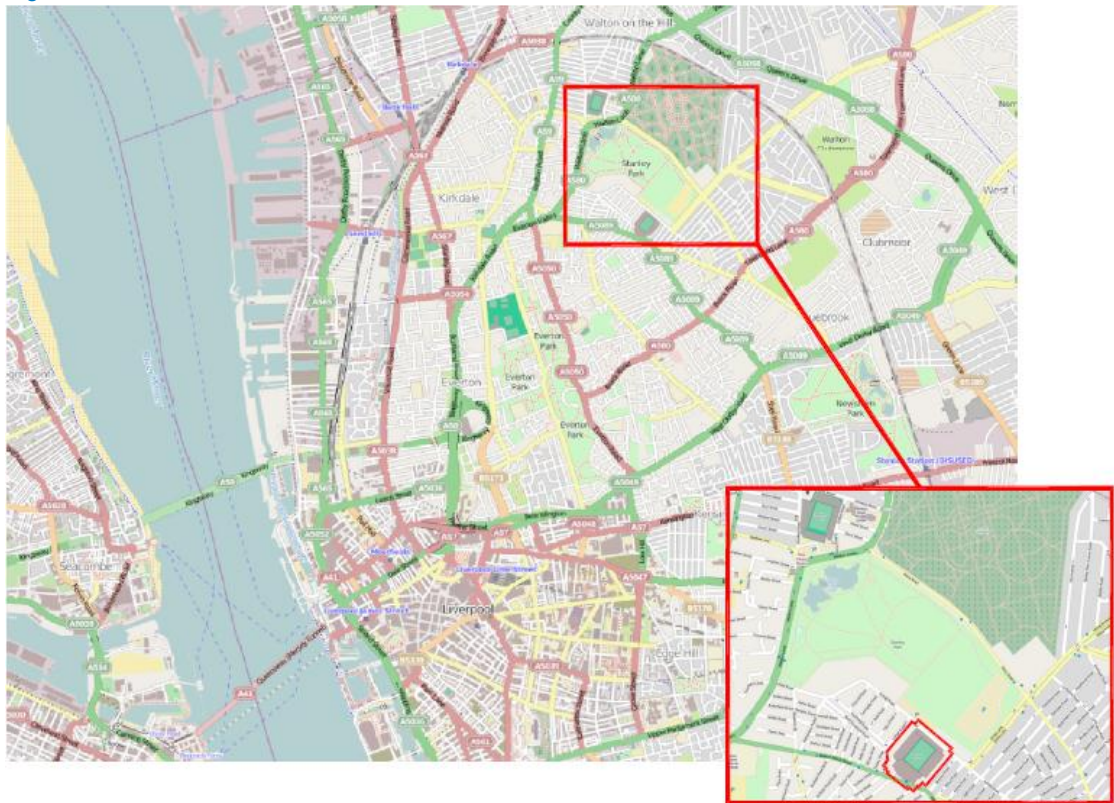
- Noise and Vibration;
- Ecology;
- Geology and Soils;
- Flood Risk and Water Resources; and
- Socio-Economics.

2 The Proposed Development

2.1 Site description

- 2.1.1 Anfield is situated approximately 3km to the north of the city centre. It is an inner city Victorian community characterised predominantly by neighbourhoods of terraced properties (Figure 2.1). Anfield is one of the most disadvantaged neighbourhoods in Liverpool in terms of income, employment, health deprivation and disability.

Figure 2.1: Site Location Plan



Source: Mott MacDonald, 2014

- 2.1.2 Anfield is home to the stadium of Liverpool Football Club. Immediately north of the Anfield Stadium is Stanley Park and Anfield Cemetery which comprise a significant area of open space (circa 101ha in total). They were both laid out towards the end of the 19th Century and are included on the English Heritage Register of Historic Parks and Gardens (Grade II* listed). Everton Football Club's ground at Goodison Park is located on the west side of Stanley Park less than 1km from Anfield Stadium.
- 2.1.3 The part of Stanley Park to the east of Mill Lane is characterised by open grassland which rises gently from north to south. A significant part of the extreme south eastern end of the park is occupied by a large tarmac car park.

- 2.1.4 The remainder of Stanley Park (i.e. the area to the west of Mill Lane) has been successfully restored, through physical infrastructure and public realm improvements and the full restoration of the Isla Gladstone Conservatory and Bandstand.
- 2.1.5 Walton Breck Road to the south of Anfield Stadium provides a number of local shops, commercial businesses and amenities including a large number of hot-food takeaways predominantly catering for football supporters on a match day.
- 2.1.6 Anfield is one of the highest points in the city, and the north-west corner / west end of Anfield Road is the highest point of the ground, some 3-4m higher than Walton Breck Road boundaries to the south and 2m higher than the east end of Anfield Road.
- 2.1.7 The two predominant residential neighbourhoods within the area, Rockfield and Anfield Village, are characterised principally by pre-1919 terraced housing which have suffered from low housing demand resulting in low house prices. These neighbourhoods have high proportions of vacant, private-rented and social housing compared to the city average. Comprehensive intervention is proposed in these neighbourhoods by LCC and its partners comprising selective clearance and redevelopment, refurbishment of dwellings and general environmental improvements.
- 2.1.8 The existing stadium at Anfield (Figure 2.2) comprises a four-stand structure with cantilevered roof. While the stadium is a large and dominant structure in the street scene, it also creates a focal point and helps to define Anfield as a place distinct from other predominantly residential areas of the city.

Figure 2.2: Existing Anfield Stadium



Source: Stage C Civil and Structural Engineering Report, SKM, January 2014

- 2.1.9 In April 2014 LCC adopted a Spatial Regeneration Framework (SRF) Plan for the Anfield area. The plan sets out guidance and proposals for the comprehensive, coordinated and planned approach to secure regeneration of the Anfield area. The Anfield Stadium Expansion is included in the SRF which provides in principle support for expansion of the stadium and includes specific parameters for the development.

2.2 Description of the Proposed Development

- 2.2.1 The development will have two separate phases, with the Main Stand and associated public realm comprising Phase 1 and the expansion of the Anfield Road Stand and associated external landscaped concourse encompassing Phase 2.

Phase 1 – Main Stand Expansion

- 2.2.2 The Main Stand expansion will provide an additional circa 8,300 seats to bring total capacity of the stand to circa 20,300 and the overall capacity of the whole stadium to circa 53,800.

- 2.2.2.1 The new stand will be constructed to the rear of the existing stand, to be extended to 140m in length, 65m wide and up to 45m tall at its highest point. The Main Stand will be expanded from a single tier configuration to three tiers with the existing lower tier kept operational during construction.

Figure 2.3: Proposed Main Stand including associated public realm



Source: Design and Access Statement, KSS, May 2014

- 2.2.2.2 The external landscape development includes the creation of a new public realm, improved circulation space and gathering space around the Main Stand including a new 'fan zone' to the south-west corner adjacent to Walton Breck Road. This will include the provision of a 12m to 15m wide concourse and open space around the extended ground lying between the Main Stand and retained properties on Alroy Road.
- 2.2.2.3 There will be limited vehicular access to the expanded stadium. The amount of on-site car parking that will be provided as part of the development involves a small increase with an additional 60 car parking spaces provided beneath the podium of the expanded Main Stand with access from Anfield Road. The majority of car parking to serve the expanded stadium will utilise the existing facility in Stanley Park and other existing off-site facilities in the locality.
- 2.2.2.4 A Transport Strategy has been devised that aims to limit the number of private vehicles being used by people attending matches at the stadium. The Strategy assumes that the

effectiveness of the existing Football Match Parking Zone will continue to discourage travel to the stadium by car, except for those that have a pre-booked ticket in one of the car parks operated by the Club. The use of buses and taxis will be further encouraged with taxis following an identified route for drop-off and pick-up in the vicinity of the ground and match day buses given areas for pick up along Robson Street. Walton Breck Road will be closed for a fixed period on match days to facilitate a much improved pedestrian experience around the Stadium. The coach lay-by on Priory Road will be extended to accommodate additional home-supporter coaches.

Phase 2 – Anfield Road Stand Expansion

- 2.2.3 The Anfield Road Stand expansion is to increase the capacity by a further circa 800 seats for general admission bringing the total capacity of the stand to 13,800 and the whole stadium to circa 58,500.
- 2.2.4 The application for phase 2 proposes the stopping up of Anfield Road to create a widened concourse around the northern end of the stadium. The expansion of the stand and its external concourse area will be on the land to the north of Anfield Road currently used by LFC as a fan zone and car park.
- 2.2.5 As with the Main Stand expansion, the extension of the Anfield Road Stand will take the form of a new structure erected to the rear of the existing stand with reconfiguration of seating and internal spaces to integrate the development. The expanded Anfield Road Stand will be approximately 108m in length, 46m wide and over 39m tall at its highest point.
- 2.2.6 Away fans will continue to be accommodated in the Anfield Road Stand, although they will be relocated to the eastern end of that stand where they have closest access to away coach parking on Arkles Lane.
- 2.2.7 An overall circa 102 car parking spaces will be provided beneath the expanded stand.

2.3 Construction

- 2.3.1 The overall strategy is to construct the new stands to the rear of the existing structures, enabling them to remain fully functional throughout the majority of the works, in particular during the football season. The more disruptive works will be carried out during the Close Season (mid-May to mid-July).
- 2.3.2 The development programme is based on a 20-month construction programme for the Main Stand. The construction programme is proposed to commence in January 2015 with completion aimed for August 2016.

- 2.3.3 Outline proposals for the Main Stand incorporate the construction of shallow concrete pads (around 1.5m-2m deep) supported on the rock formation just below ground level. The pad foundations will support two towers that support the new Main Stand roof (built at each end of the Main Stand adjacent to the Kop and Anfield Road Stands). The new steel tower structures supporting the roof will first be assembled on the ground and lifted into position by cranes.
- 2.3.4 The new roof would include a long span steel truss over the existing stand which would be lifted into position by large cranes to sit on the two steel towers. A steel framed structure will support composite concrete floors in the stand and precast concrete terracing.
- 2.3.5 The existing roof and upper 6 rows of the Main Stand will need to be demolished.
- 2.3.6 The construction programme for the Anfield Road Stand is currently unknown however it is anticipated to follow a similar or slightly shorter duration to that of the Main Stand.
- 2.3.7 Outline proposals for the building and structure is envisaged to be similar to the Main Stand. The stand will feature a steel frame with composite slabs, supported on pad foundations. The roof will share a similar design to the Main Stand, with a long span truss supported on steel towers. At present it is expected that the Anfield Road Stand will be a separate structure to the Main Stand.
- 2.3.8 The construction of both phases of the stadium expansion will be governed by a Construction Environmental Management Plan (CEMP). The CEMP will be prepared by the construction Contractor in accordance with standard best practice and will define procedures, roles and responsibilities for the implementation of environmental and management controls throughout the duration of the construction works. Key issues which will be covered by the CEMP include (but are not limited to):
- Site hoarding, housekeeping and security;
 - Vehicle and plant emissions and dust management;
 - Control of pollution to surface water and ground water;
 - Noise and vibration control; and
 - Protection of built heritage resources.
- 2.3.9 In addition to the CEMP, a Site Waste Management Plan will also be produced and will set out procedures for the management of construction waste.
- 2.3.10 Adoption of these mitigation measures will ensure the Contractor uses good practice during construction to prevent or minimise adverse environmental impacts.

3 Alternatives and Design Evolution

3.1 Alternatives

- 3.1.1 The EIA Regulations requires 'an outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made, taking into account the environmental effects.'
- 3.1.2 In accordance with these Regulations, the ES includes a discussion of the alternative development options. The following alternatives have been considered:
- Do-nothing (i.e. no expansion or works to the stadium); and
 - Stadium expansion (the subject of this ES).
- 3.1.3 The do-nothing approach would mean no works would be carried out to the Anfield Stadium, and as a result there would be no environmental effects. A consequence of no works to the stadium could limit the growth of the football club, and its sustained overall competitiveness. This, in turn, is likely to have an adverse impact on the timescale for delivery of wider regeneration of the Anfield area and reduce the positive economic benefits that the success of the Club brings to the City. 'Do-nothing' is not a feasible option for the Club.
- 3.1.4 Since 2003, LFC has submitted two separate planning applications for the development of a new Anfield Stadium. Consent was granted on both occasions and a material start was made on site for the earlier development.
- 3.1.5 Prior to preparing and submitting the planning applications for a new stadium the Club undertook a comprehensive alternatives sites assessment. That assessment confirmed that retaining LFC in Anfield would offer the greatest regeneration benefits to the city; conversely, relocating from Anfield would have a seriously detrimental impact on the local area.
- 3.1.6 At that time, there was no scope to expand the existing stadium and the analysis led to the formal identification of Stanley Park as the optimum location to accommodate the enlarged ground. The most significant effects comprised positive economic, social/community, recreation and physical environment effects. Minor-medium negative effects were principally limited to the visual effect on views from Anfield Cemetery.
- 3.1.7 In 2010, LFC changed ownership and the new owners commenced a detailed review of the options for providing an increased spectator scheme in light of the universal limitations on the availability of finance for the construction of a new stadium.
- 3.1.8 While the construction of a new stadium in Stanley Park remains a potential option for the Club; that has not been considered in this ES as an alternative that is likely to be delivered in the short term; certainly within the timescale for delivering the stadium expansion.

3.2 Design Evolution

- 3.2.1 The proposed Anfield Stadium design development has been driven chiefly by the target stadium capacity of 60,000, whilst maintaining existing capacity during construction. This meant the following needed to be taken into consideration during the design:
- Optimum designs for new seating tiers;
 - Necessary levels of front and back of house space for general admission concourses and premium seat hospitality facilities; and
 - Allocating the back of house operation facilities to the right locations and at the most appropriate floor levels to maximise operational efficiencies.
- 3.2.2 Alongside this, a key influence to the evolution of the stadium design has been through on-going dialogue with LFC's in house team, consultation with LCC Planning, Heritage, and Transport Teams, the Places Matter! Design Panel review and the Hillsborough Families Support Group.

4 The EIA Process

- 4.1.1 The EIA has been commissioned by LFC in line with the EIA Regulations. The results of this process are presented within the ES and accompanying Technical Appendices. This document, known as the Non-Technical Summary (NTS), provides an overview of the findings of the EIA and has been prepared for a general audience.
- 4.1.2 EIA is a structured process to identify the potential impacts of a proposed development, and the likely residual effects that are predicted to be significant post mitigation. These are then reported in the ES which is submitted in support of the planning application to assist in the decision making process. The ES also provides stakeholders and the public with a basis on which to make comments to the local planning authority on the environmental impacts associated with the proposed development.
- 4.1.3 The ES comprises the following parts:
- ES Volume 1 – Environmental Statement: Presents the findings of the EIA and is divided into a number of background and technical summary chapters;
 - ES Volume 2 – Technical Appendices: Provide detail on the assessments undertaken and information used to inform ES Volume 1; and
 - ES Non-Technical Summary (NTS) – this document.
- 4.1.4 ES Volume 1 presents the main statement which provides a description of the development, an outline construction methodology, the development need and alternatives considered, general EIA approach and methodology, technical impact assessments and a discussion on cumulative impacts. The document is structured as outlined in Table 4.1 below:

Table 4.1: ES Volume 1 structure

| Chapter | Chapter Description |
|---------|--|
| 1 | Introduction: comprising the proposed development, the applicant, the planning application, consultation requirements and contact detail, and the ES availability. |
| 2 | The proposed development: describes the site location and surrounding area in terms of the existing physical and social characteristics and land uses. |
| 3 | Construction methodology: this chapter presents details of the outline construction methodology and provides an indicative construction programme. |
| 4 | Policy Context: presents a high level overview of relevant national and local planning policy documents. |
| 5 | Alternatives: this chapter presents information on the alternatives that have previously been assessed and the reasons for their rejection. |
| 6 | EIA methodology: this chapter provides an overview of the approach undertaken to ensure the requirements of the EIA Regulations are fulfilled. It indicates how key issues have been identified and addressed within the ES and the approach that has been taken for the EIA process. |
| 7 - 19 | Impact assessments: details the assessment of significant residual effects from built heritage, townscape, landscape and visual, sunlight and shading, light pollution, microclimate, TV reception, transport, air quality, noise and vibration, ecology, geology and soils, flood risk and water resources and socio-economics during construction and operation. |
| 20 | Cumulative impact assessment: this chapter presents both the combined and cumulative |

| Chapter | Chapter Description |
|---------|---|
| | impacts resulting from the accumulation of impacts generated by the development on the same receptors and the impacts potentially arising from adjacent or nearby developments together with those predicted for the development. |
| 21 | Conclusions: summarises the significant residual impacts. |

4.2 Scoping and Consultation

- 4.2.1 Consultation on the technical methodology behind the assessment of potential significant effects is an important part of the EIA process. The objectives of the stakeholder consultation process is to ensure a responsible and transparent approach to the development, that gives consideration of stakeholder input in the decision making process as early as possible. Ultimately this leads to an understanding where there are areas of disagreement or discrepancy for early review and resolution to reduce the likelihood of valid technical or other objections being raised.
- 4.2.2 The ES was preceded by a preliminary scoping exercise to determine specific requirements of the EIA and to set out assessment methodologies. An EIA Scoping and Methodology Report was submitted to LCC in December 2013 under Regulation 13 of the EIA Regulations to obtain a Scoping Opinion on the content of the EIA.
- 4.2.3 A Scoping Opinion was issued by LCC and confirmed the key issues which needed to be assessed in the EIA.
- 4.2.4 In addition, a Statement of Community Engagement has been prepared as part of the planning application.

5 Summary of Environmental Effects

5.1 Built Heritage

- 5.1.1 An assessment of the potential impacts and effects of the proposed development on the above ground historic built environment surrounding the site has been undertaken. In addition, a standalone Heritage Statement has been produced in support of the planning application.
- 5.1.2 Following a baseline assessment of below-ground archaeological assets, there is low potential for archaeological remains to have existed on the site and this is not, therefore, considered further in the EIA.
- 5.1.3 There are no designated heritage assets within the boundary of the site and there are no scheduled ancient monuments or registered battlefields within the application site or the study area.
- 5.1.4 The following designated heritage assets have been identified within the study area:
- Stanley Park Registered Park & Garden (grade II* listed);
 - Anfield Cemetery Registered Park & Garden (grade II* listed);
 - 40 grade II listed assets (including The Arkles Public House and various properties along Anfield Road including Stanley House); and
 - 1 grade I listed asset (Church of St George).
- 5.1.5 A series of mitigation measures in relation to the construction and operation of the development have been included within the assessment, including the proposed design of the new stands and public realm works. No further mitigation measures are proposed.
- 5.1.6 A moderate adverse effect is predicted during the construction phase of the proposed development on Stanley Park, Anfield Cemetery and Nos 35 to 45 Anfield Road. A minor/moderate effect on Stanley House and a low adverse effect are predicted on The Arkles public house during the construction phase. Construction mitigation measures in the form of the CEMP and standard construction methods have already been taken into consideration in the assessment. These effects will be temporary and reversible in nature and as such are considered to be acceptable.
- 5.1.7 It is concluded that the operation phase of the proposed development will cause some harm to the significance of Stanley Park, resulting in a low adverse magnitude of impact, and a moderate/minor magnitude of impact against value.
- 5.1.8 It is concluded in relation to Anfield Cemetery that the proposed development will alter the experience within the cemetery and cause a degree of harm to the significance of the asset. The operation phase will have a low adverse magnitude of impact on Anfield Cemetery, equating to a moderate/minor magnitude of impact against value.
- 5.1.9 In relation to Nos 35 to 45 Anfield Road, Phase 2 of the proposed development will alter the way in which these properties are experienced and will result in a change to the traditional

route of Anfield Road as a street by its closure at the eastern end. For this reason it is concluded that the operation phase will have a low adverse magnitude of impact on these listed buildings, resulting in a minor adverse magnitude of impact against value.

- 5.1.10 The operation phase of the proposed development will also harm, to a minor degree, the significance of Stanley House. A medium adverse magnitude of impact has been identified in relation to the non-designated heritage asset, equating to a minor adverse magnitude of impact against value.
- 5.1.11 The magnitude of impact on all other identified heritage assets will be imperceptible, resulting in a negligible effect.
- 5.1.12 The level of impact identified in relation to Stanley Park, Anfield Cemetery, Nos 35 to 45 Anfield Road and Stanley House accurately reflects the conclusion of 'less than substantial harm' (in the context of the NPPF), as set out in the Heritage Statement in support of the planning application and does not equate to a significant environmental effect in EIA terms.

5.2 Townscape, Landscape and Visual

- 5.2.1 An assessment of the potential impacts and effects of both phases of the proposed development on townscape, landscape character and visual amenity has been undertaken.
- 5.2.2 The following townscape and landscape resources were identified in the study area that may be affected by the proposed development:
- Designated landscapes; and
 - Townscape character areas.
- 5.2.3 A total of 24 principal viewpoints were selected in consultation and agreed with LCC and English Heritage, and include a range of distant and close views. Discussions were held between all parties as to the validity of including views of the stadium expansion from the City Centre (and in particular the historic waterfront) and it was concluded that given the distance of the viewpoint from the stadium and the topography of the city and its surroundings there would not be any material change on views of the waterfront.
- 5.2.4 Temporary effects will occur during the construction phase as a result of site lighting, hoarding, storage, construction plant, HGV movements and cranes. Adverse impacts will be mitigated by hoarding at ground level, used to screen construction plant and activity at street level and good site management measures taken to reduce the visibility of construction works.
- 5.2.5 Permanent effects on townscape character as a result of operation of the proposed development will range from neutral to moderate adverse through to major beneficial. It is concluded that on balance, the development will have a minor beneficial impact on the townscape and visual character for the area. This is due to the enhancements to the already significant contribution of the existing stadium of the Anfield area, with the quality of design

proposed for the two stand expansions and the significant areas of high quality public realm that they will sit within.

- 5.2.6 The effect to the entirety of the adjacent Stanley Park (a Grade II* Registered Landscape) is deemed to be generally minor adverse broken down into residual minor adverse impact that the stadium expansion will have on the character and visual amenity of the eastern portion of Stanley Park and the negligible impacts on the western, more sensitive historic portion of the Park.
- 5.2.7 The effect on the Anfield Cemetery to the north of the site is deemed to be generally moderate adverse based on the visual intrusion of both proposed phases of expansion in a Grade II* Registered Landscape.
- 5.2.8 The effect of the stadium expansion will not be mitigated completely by the public realm and landscape proposals, or the growth of trees within and around them over the passage of time. However, the extensive cover afforded by the existing trees within the park and cemetery will improve over time and when the trees come into leaf and filter the majority of the lower portions of both phases.

5.3 Sunlight and Shading

- 5.3.1 The potential effects on natural daylighting, sunlighting and overshadowing from the proposed development on the surrounding buildings and open spaces were assessed.
- 5.3.2 The methodology and assessment has been conducted in line with industry good practice laid out by The Building Research Establishment (BRE). Most Local Authorities recognise these guidelines as the most appropriate method for sunlight and overshadowing assessments. These methods are to be viewed as tools to instruct and inform the design of developments, rather than creating mandatory criteria that must strictly be met.
- 5.3.3 The criteria laid out in the BRE guidelines to be calculated for each receptor are Vertical Sky Component (VSC) and Annual Probable Sunlight Hours (APSH).
- 5.3.4 VSC is a measure of the access of a façade or window to daylight, with daylight referring to indirect or diffuse light received from the sky. A high VSC value would afford a room a generally bright appearance, while a low VSC value will give a room a gloomy feel.
- 5.3.5 APSH measures the access of a façade or window to direct sunlight, with sunlight referring to light that falls directly from the sun. A high APSH value means that the room will receive a high amount of direct sunlight.
- 5.3.6 In accordance with the BRE guidelines, VSC has been considered for all relevant façades whilst APSH has been assessed only for those that face within 90° of south.

- 5.3.7 As gardens and amenity areas are deemed to be in use all year around, the spring equinox (21st March) has been used as a date for assessment as it gives an average level of shadowing.
- 5.3.8 Of the 781 window receptors surrounding the site that were tested for VSC, the changes for 755 were negligible, therefore meeting the BRE Guideline value. The results for 26 of the window receptors (along Alroy Road) show minor adverse effects.
- 5.3.9 For all of the 204 window receptors surrounding the site assessed for APSH values, the changes were negligible, therefore meeting the BRE guideline values.
- 5.3.10 Of the 204 window receptors assessed for Winter APSH, the changes for 197 were negligible, while 2 changes were minor adverse, 2 changes were moderate adverse and 3 changes were substantial adverse (all along Sybil Road).
- 5.3.11 Under the existing conditions, all of these façades on Sybil Road have very low Winter APSH. They do not receive any direct sunlight during the months of December and January with limited direct sunlight in early November and February since the sun does not get high enough in the sky to appear over the houses in Alroy Road. Any sunlight they do receive in the winter months occurs during the morning period. The reduction in the direct sunlight that the Winter APSH calculations indicate in the months that the properties do receive sunlight will occur at the early to mid-morning period.
- 5.3.12 For these properties that do not meet the BRE guidelines, they are in areas that are already heavily shaded to the rear of the houses on Sybil Road, with the existing baseline Winter APSH values showing a maximum of 56% to a minimum of 0% for Winter APSH, therefore any reduction in Winter APSH values are minimal and are unlikely to be felt.
- 5.3.13 Due to the width and height of the proposed development in relation to that of the existing, some additional overshadowing to surrounding receptors will be experienced. In line with BRE assessment criteria, it is predicted that the surrounding receptors considered as part of this assessment receive at least 2 hours of sunlight on 21st March. As such, a negligible effect is predicted and no significant temporary or permanent effects would occur during the construction or operational phases of the proposed development.

5.4 Light Pollution

- 5.4.1 The potential impacts and effects of both phases of the proposed development on the lighting conditions within the area directly surrounding the stadium were assessed. The lighting environment around the stadium can have an impact on the safety and security of spectators using the stadium and the visual and general amenities of pedestrians and residents in its near vicinity. The lighting conditions for the pitch flood lighting, public realm lighting and stadium facade lighting of the proposed development has therefore been modelled and an assessment has been carried out to identify any associated impacts and effects.

- 5.4.2 Lighting design standards require a development to conform with the stipulated lighting design standards and codes set out in guidance provided by the Institution of Lighting Professionals. For the proposed development, any exceedance of these proposed levels will require additional design measures to be incorporated into the design to ensure the proposed development will meet the lighting standards.
- 5.4.3 The assessment accounts for four types of impacts from the lighting installations of the proposed development, these include sky glow, light intrusion into windows, glare and building luminance. These are defined as follows:
- Sky glow considers the light emitted directly into the sky and applies on an area-wide basis;
 - Light intrusion into windows is the light spilling beyond the application site boundary onto adjacent property windows;
 - Glare intensity is the direct light observed from a given height (1.5m above ground level); and
 - Building luminance is defined as an indicator of how bright a surface appears when light falls on it from an observed position. For buildings this refers to the over-lighting and is related to the general districts brightness.
- 5.4.4 The construction phase will require temporary site lighting to be installed to provide health and safety for the construction workers and site security. The main source of effects from the construction phase will be from the light spilling out and glare. This will result in a moderate adverse effect on the surrounding area. However, the application of appropriate mitigation measures to control the amount of light spill and glare will reduce this effect to insignificant.
- 5.4.5 The effects on lighting conditions on the surrounding area during the operational phase will arise from the use of floodlighting in the stadium, public realm lighting and stadium façade lighting. The effects will vary according to the type of light impact. Sky glow is identified to have an overall minor adverse effect and is not deemed significant. Light intrusion into windows is expected to have a minor to major adverse effect for certain residential properties surrounding the area with potential to cause significant effect. Glare effects are anticipated to range from minor to moderate/major with potential to cause a significant effect. There will be no to negligible effects for building luminance.
- 5.4.6 Following application of the appropriate mitigation there will be no significant residual effects from the proposed development.

5.5 Microclimate (Wind)

- 5.5.1 The potential effects on the microclimate (the wind environment) of the proposed development were assessed. The wind environment around a stadium can have an impact on the comfort and safety of spectators using the stadium and pedestrians in its near vicinity. It can also

influence the quality of pitch conditions. Wind tunnel testing has therefore been carried out to model the proposed wind environment and to identify any associated impacts and effects.

- 5.5.2 Wind effects during the construction of the proposals were not considered. These are not considered to be significant, since any associated wind effects will be temporary in nature.
- 5.5.3 Existing wind conditions around the site are deemed suitable in terms of pedestrian safety and comfort. Existing wind conditions within the current stadium are deemed relatively calm and very calm in terms of spectator comfort and the pitch environment respectively, being suitable for their intended use.
- 5.5.4 The wind microclimate within and around the proposed stadium is not expected to be significantly altered by the completed development. No significant effects are predicted on off-site streets and pedestrian routes, the stadium entrances, spectator comfort within the stands and on pitch conditions.
- 5.5.5 The only potential adverse effects are for the proposed stadium concourse where a minor adverse effect is predicted. The redevelopment of this area means that it will be used for pedestrian waiting and recreation and for these purposes pedestrians risk discomfort in certain locations, particularly at the north-eastern corner of the stadium in the area of the outside broadcast compound / informal outdoor pitch. Other areas around the concourse are expected to be more sheltered, and pedestrians should be able to move to these areas if uncomfortable.
- 5.5.6 To minimise these impacts, it is recommended that the predicted wind environment should be considered when confirming the location of outdoor seating and amenity areas around the stadium. In certain areas, the use of wind breaks or evergreen vegetation barriers may be considered to provide additional shelter to pedestrians.

5.6 TV Reception and Telecommunications

- 5.6.1 The potential effects of increasing the stadium mass on local terrestrial and satellite TV reception and point-to-point fixed microwave links which may pass near the stadium have been assessed. FM and DAB radio reception have not been considered further in the assessment as they are deemed to be unaffected by their nature of transmission.
- 5.6.2 New structures may affect the transmission paths of television and other telecommunication services. In the case of terrestrial television, users may be affected either by blocking off signal access from the television transmitter or by causing ghost images in receivers from signal reflections caused by the new structures. Digital terrestrial television (e.g. Freeview) is more resilient to the effects of signal reflections. In the case of satellite television, users may experience loss of signal reception due to a structure blocking signals between the satellite dish and receiving dish.

- 5.6.3 The construction phase of the development is not anticipated to have a significant effect on the reception of television. Signal shadowing and reflection by temporary structures such as cranes and scaffolding is difficult to predict as the positions of these structures and their interference effects will change over time. In addition, these structures do not have suitably large/flat surface areas to effectively produce reflected signals of adequate strength to result in signal 'ghosting'.
- 5.6.4 Some households within an estimated 400m of the site to the south-west may experience a noticeable reduced terrestrial TV signal during the operational stage. A minor adverse impact is predicted which is easily preventable by the application of mitigation measures.
- 5.6.5 Alternative transmitters are available for those households experiencing loss of terrestrial TF signal. Some residents are likely to repoint their antennas themselves, or to arrange for a specialist tradesman to do so. Others may ask LFC to do this, so prior arrangements with a suitable local TV aerial installer/maintainer to act on a call-off basis to repoint antennas if requested should be put in place. Such a job is common place for an experienced TV aerial installer.
- 5.6.6 Households in a north-north-westerly direction of the stadium may lose line of sight to the Freesat and Sky satellites in orbit. A significant major adverse effect is predicted.
- 5.6.7 Two potential solutions exist for these households and include obtaining Sky TV channels via Virgin Media's terrestrial cable service or for households wishing to maintain a satellite service, the installation of a communal distribution system is deemed feasible.

5.7 Transport

- 5.7.1 The transport assessment considered the potential impacts of the proposed development on the local highway network, pedestrians, cyclists and public transport. In addition, a standalone Transport Assessment and Interim Travel Plan have been produced in support of the planning application.
- 5.7.2 Given the historical operation of the stadium, the scope of the transport impact of the proposed increase in seating will principally be concentrated on the roads and other access routes in the near vicinity of the site; this will be where match day impacts will be at their greatest.
- 5.7.3 No wider area transport impact assessment has been undertaken based on findings presented in previous studies which were both able to demonstrate, on the basis of information available at that time, that a new 60,000 capacity stadium could be accommodated, subject to implementation of a variety of mitigating measures. These measures have mainly been implemented/funded by the Club, despite the previous planning permissions not delivering a new stadium. As such, the network is already primed for an increase in capacity at the stadium.

- 5.7.4 The overarching aim of the transport strategy is to not increase the proportions of existing levels of match day private car use, with a proportion of journeys generated by the stadium expansion being facilitated via alternative modes and in time through an increase in the modal share of these more sustainable modes.
- 5.7.5 The construction phase has the potential to cause disruption (such as temporary road closures and increased HGV movements) to sensitive receptors within the vicinity of the construction boundary and along access routes. In addition there will be increased movements in the surrounding residential community from construction workers arriving and leaving their place of work.
- 5.7.6 The overall impact of construction is therefore considered to be a temporary major impact. Mitigation will be determined through the CEMP and reviewed following the development of a construction programme. This will likely include preferred HGV routings, hours of operation and alternative diversion routes for vehicles to avoid delays in the surrounding area. As part of the CEMP, a travel plan would need to be implemented to ensure that construction staff are aware of various travel choices and do not rely solely upon private vehicles.
- 5.7.7 To help facilitate the stadium expansion a number of nearby roads will need to be permanently closed and stopped up. This will be necessary, firstly as the footprints of the Main and Anfield Road stands will increase, and secondly to facilitate improved pedestrian circulation around the stadium. The road closures will require a change to current travel habits however alternative routings are to be provided to minimise the impact to minor.
- 5.7.8 Match days will generate additional pedestrian and vehicle movements in the vicinity of the stadium which will impact upon the surrounding local community. This practice already occurs on match days, however mitigation measures are proposed to manage the movements, such as the closure of Walton Breck Road to minimise their impacts to minor.
- 5.7.9 A review of the capacity of the public transport network showed that there was sufficient capacity within the existing service to accommodate additional supporters. Formalisation of the match day closure for Walton Breck Road will enable scheduled bus services to overcome the current delay they experience by being held behind the closure, as diversion routes can be implemented and promoted. This will enable the service to continue to operate to an advertised frequency and schedule and ensure this impact is minor and is therefore considered beneficial.
- 5.7.10 It is proposed that the Soccerbus route is reversed from its current anti-clockwise route to enable passengers to alight on the eastern side of Walton Lane, which removes the requirement for passengers to cross the road (which is the current arrangement), improving pedestrian safety. This will have a minor impact upon the service in terms of journey times and be beneficial in terms of safety.

- 5.7.11 To facilitate more formal use of taxis and the City Centre Express service post-match, waiting areas are proposed on a number of surrounding streets. On match days, vehicles (taxis or buses) will therefore be arriving to and departing from these streets for around one hour post-match to support the movement of supporters away from the stadium. Vehicles waiting would be required to turn off their engines resulting in a minor impact.
- 5.7.12 On non-match days, there is the potential for a small increase in trips associated with the enhanced facilities at the stadium acting as an attraction to visitors and tourists. On non-match days there are ample parking spaces available (on Stanley Park) as well as strong public transport options (with the exception no match day specific travel by the City Centre Express bus service or the Soccerbus) which ensure a modal choice. The expected non-match day traffic is anticipated to be low and therefore able to be easily accommodated onto the transport network without any residual impact and a minor impact.
- 5.7.13 Whilst there will be obvious impacts on match days associated with supporter movements to the stadium, many of which already occur, a range of intervention measures have been proposed (or previously implemented) to promote sustainable travel and to reduce the convenience of the private car for match day travel. Football matches are temporary in nature and as such the impacts from them are also temporary with no with major impacts resulting from high volumes of supporters being managed and experienced temporarily as is the existing scenario.

5.8 Air Quality

- 5.8.1 The air quality assessment has included an assessment of both construction and operational impacts of the proposed development on air quality.
- 5.8.2 During the construction phase, the proposed development will introduce new emission sources in the form of traffic and plant at some locations, and involve potentially dust-generating activities.
- 5.8.3 At this stage, information related to traffic generated during construction is limited however HGV flows are not anticipated to reach levels recommended in guidance as requiring detailed assessment. As such, no further consideration has been given to the impacts and effects of construction traffic on air quality.
- 5.8.4 The construction phase will consist of several activities with dust-raising potential including demolition, earthworks, construction and track out from heavy duty vehicles. The duration of these activities will vary depending on the individual task being carried out. In order to assess the worst case scenario it has been assumed that all activities will be carried out for the duration of the construction period (20 months). The overall effect of dust nuisance from the construction phase is described as High Risk at worst without mitigation. Best practice mitigation measures defined within the CEMP will reduce this predicted risk to low.

- 5.8.5 During operation the proposed development will contribute additional spectator numbers to the existing transport network. While the transport strategy aims to facilitate a mode shift away from private car use, it is likely that, overall, the amount of traffic generated by the proposed development will increase at least in the short term (Phase 1). Changes in traffic flows can impact the location and amount of emissions to air and subsequently, affect ambient air quality.
- 5.8.6 Dispersion modelling has been undertaken to predict concentrations of key pollutants along Walton Breck Road during operation based on traffic assumptions outlined in the proposed development traffic assessment. The proposed development is not anticipated to have any significant impacts on air quality during the operation phase.
- 5.8.7 Emissions from queuing buses on Robson Street and St Domingo Road have been accounted for and are not anticipated to cause any significant air quality effects. Bus companies have been asked to switch off their engines when laying over.

5.9 Noise and Vibration

- 5.9.1 The noise and vibration assessment considered the potential impacts and effects that would arise as a result of construction and operation of the proposed development. The assessment was based on a series of environmental noise surveys undertaken at the site and surrounding area.
- 5.9.2 The noise and vibration assessment considers potential impacts and effects on the sensitive receptors in terms of:
- Airborne noise and ground-borne vibration from construction activities and construction compounds;
 - Increase in road traffic noise associated with construction vehicle movements on local roads;
 - Increase in road traffic noise associated with operational vehicle movements including match day traffic;
 - Changes in noise from crowds within and outside the stadium and from the public address and voice alarm systems (PAVA) associated with the development; and
 - Noise from new building services plant associated with the development.
- 5.9.3 During all phases of the Main Stand construction, with the exception of construction of the roof, frontline properties on Alroy Road and Rockfield Road (during Main Stand construction) and frontline properties at the junction of Anfield Road and Skerries Road which have direct line of site to the Anfield Road Stand construction work are predicted to experience increased noise levels in excess of recommended guidelines. The noise exposure has the potential to last more than one month, and therefore may result in a significant effect upon these receptors. During Anfield Road Stand foundation work, similar levels of exposure are predicted for properties at the south end of Arkles Lane.

- 5.9.4 The predicted noise increase due to construction deliveries is less than 1dB and as such would not be regarded as perceptible. No significant adverse effect is therefore anticipated due to construction delivery traffic noise.
- 5.9.5 The movement of construction workers would also need to be considered. It is anticipated that the majority of these would driver to the vicinity of the site and make use of Stanley Park car park. The intensity of construction workers on site will be finalised within the CEMP, together with details of any shift working or private transport provisions (such as shuttle buses).
- 5.9.6 Some residential facades lie within 8m of the red line boundary to the overall development (receptors on Rockfield Road and remaining residences on Alroy Road) and therefore have some potential to experience slight or moderate adverse effects from construction vibration should ancillary works approach the boundary. It should be noted however that any vibration impacts from construction would be transient, for example the passage of an excavator, crawler crane or other construction vehicle, and unlikely to occur for one hour or more, reducing the likelihood of significant adverse effects.
- 5.9.7 Limits for normal working hours and levels of noise at nearby properties will be agreed in advance with LCC and incorporated into the contract specification for the development. The contract will also include a clause requiring that the best practicable means for noise control be applied at all times. These should include the selection of the most appropriate method and plant for the job, adequate maintenance of plant, optimum siting of stationary plant, local screening and the education of the workforce. Restrictions may also be placed on early/late delivery times. Potentially affected residents should be kept informed in advance of the works and contacts details be provided to request further information or to report disturbance.
- 5.9.8 The CEMP will identify the series of measures to reduce the environmental effects during the construction period and will cover environmental and safety aspects affecting the interests of residents, businesses, all road users and the general public in the vicinity of the works.
- 5.9.9 The effects of potential noise and vibration impacts on affected communities can be mitigated by effective communication between the promoter, contractors and the public. Specific provisions for the notification of affected residents ahead of noisy works and the arrangements for the investigation and remediation of noise issues that may arise during construction will also be required.
- 5.9.10 Changes in operational traffic flow sufficient to produce a significant increase in noise are not anticipated. No significant permanent effects are therefore predicted due to changes in traffic flows upon implementation of the development.
- 5.9.11 At the time of assessment, details of the type, number, locations and noise output of new items of fixed building services plant associated with the stadium development are not known and it has not been possible to predict resultant rating noise levels for plant at sensitive receptors. It is however possible to ensure that mitigation measures for building services plant

are specified and it is anticipated that LCC will set a planning condition in relation to this aspect.

- 5.9.12 It is possible that the change in noise from the crowd emanating from the stadium will be perceptible at some residences. However individual response to this type of noise will be subjective. The change in crowd noise will be perceptible for only a limited period on an average of 28 days of the year. Crowd noise is therefore temporary in nature and its character is not anticipated to cause a significant adverse impact in the context of this location, close to an established football stadium.
- 5.9.13 Proposals to extend the PAVA system to provide coverage of the new stand are being developed. The noise from PAVA systems will be designed to ensure that public address announcements are not more intrusive to sensitive receptors than the currently operating system. Provided this approach to PAVA design is implemented, no significant adverse effects are predicted.

5.10 Ecology

- 5.10.1 The potential effects on ecological assets have been considered for both the construction and operational stages of the development. Ecological assets include designated sites, habitats, plant communities and flora, protected animal species and protected, notable and invasive species.
- 5.10.2 The proposed works are not predicted to directly impact upon any of the non-statutory nature conservation sites identified in the assessment.
- 5.10.3 An Initial Bat Assessment of the buildings and trees located inside the red line boundary was undertaken on 30 October 2013. The stadium as a whole offers very little suitability for roosting bats; however, despite the lack of roosting opportunities, a single pipistrelle bat was found roosting in The Kop stand during the survey.
- 5.10.4 Pipistrelle bats are the most common bat in the urban environment and a small, opportunistic species able to exploit areas for roosting unsuitable for other bats. The presence of the bat within The Kop stand can potentially be explained by the opportunistic nature of the species and daring of a singular bat. It is highly unlikely that more bats will be roosting elsewhere with the stadium. As no works are currently planned to The Kop stand, and given the levels of disturbance the bat is willing to endure when the stadium is in use, it is considered that the proposed development will have no significant effect on the individual currently roosting within the stand.
- 5.10.5 None of the trees within the site are of sufficient maturity to support roosting bats.
- 5.10.6 No other protected animal species were identified during the Extended Phase 1 Habitat Survey.

5.10.7 No protected, notable or invasive plant species were identified during the Extended Phase 1 Habitat Survey and none were listed within the historic records obtained during the desk study.

5.10.8 No significant effects on ecological assets are predicted as a result of construction and operation of the proposed development.

5.11 Geology and Soils

5.11.1 An assessment of the geology and soils, including contaminated or unstable land that could impact, or be impacted by the stadium expansion was undertaken.

5.11.2 A desk-based study has been undertaken, supplemented by data from ground investigations which were carried out in 2002-2003 and 2007 at the adjacent Stanley Park site. Intrusive ground investigations to inform the design of the Main Stand and Anfield Road Stand will be undertaken when access is available, with the results informing the development of a Phase II Contaminated Land Risk Assessment.

5.11.3 The following significant effects are anticipated for the development during the construction phase:

- Moderate effect on groundwater from pollution of the underlying Principal Aquifer due to accidental spills/ leaks of hazardous materials and mobilisation of contaminants during construction works. Assuming the implementation of appropriate mitigation measures, the risk is reduced to minor, insignificant;
- Moderate effect on construction workers from coming into contact with potentially contaminated material. Assuming implementation of appropriate mitigation measures the risk is reduced to minor, insignificant;
- Moderate effect on general public during construction works, principally from dust generation of exposed potentially contaminated material which could lead to short term health effects. Assuming implementation of appropriate dust suppression measures the risk is reduced to minor, insignificant; and
- Moderate effect on structures, due to Made Ground and soils underlying the site having the potential to contain chemicals and acidity corrosive to concrete. Assuming assessment of the aggressive chemical environment and selection of an appropriate concrete class, the risk is reduced to minor, insignificant.

5.11.4 The following significant effect is anticipated for the development during the operational phase

- Moderate effect on groundwater from pollution of the underlying Principal Aquifer due to fuel/oil spillages from large vehicles parked in the Outside Broadcast area. Assuming the implementation of fuel interceptors, the risk is reduced to minor, insignificant.

5.12 Flood Risk and Water Resources

- 5.12.1 The EIA assesses the risk of flooding to the development from all sources of flooding, the possible impact of the development on flood risk elsewhere, and makes allowances for increased flows and rainfall due to climate change. The assessment also considers the potential impact of the proposed stadium expansion on water resources. In addition, a standalone Flood Risk Assessment (FRA) has been produced in support of the planning application.
- 5.12.2 During the construction phase there is the potential for excavated or stockpiled material to be washed into local sewers. This could lead to blockages, increasing flood risk at manhole locations near the blockages. Accidental spills or leakages of hazardous substances may lead to contaminants in surface water run-off and the sewer system, affecting the water quality. The predicted effects of the construction phase on sewer flood risk and surface and sewer water quality is predicted to be of a minor temporary nature prior to mitigation.
- 5.12.3 Temporary removal of topsoil during construction works may increase the risk of contaminants leaching into groundwater. Accidental spills or leakages of hazardous substances may lead to migration of contaminants into underlying groundwater. The predicted effects of the construction phase on groundwater contamination and quality is predicted to be of a moderate and major temporary nature respectively prior to mitigation.
- 5.12.4 The Contractor will produce a CEMP prior to commencement of construction of the development. During construction, care will be taken to prevent stockpiled materials from being washed into the sewer system. Workers onsite will be given the necessary guidance to ensure that blockages of the sewer system are prevented. Site drainage will be designed to ensure that sediment, litter and other foreign materials are removed from surface water runoff prior to discharge into the sewer system.
- 5.12.5 The FRA demonstrates that the proposed site is not at risk from fluvial (river), tidal, groundwater or sewer flooding, or flooding from artificial sources, but is at risk from surface water flooding. The FRA therefore recommends that surface water run-off at the site is managed through the use of new and existing underground sewer systems for Phase 1. Sustainable Urban Drainage Systems were considered during the development of the drainage strategy for Phase 1 however, due to the local geology, most options were not viable and were ruled out. For Phase 2 it is proposed to drain the Anfield Road Stand's roof, via rainwater pipes, and surrounding impermeable surfaces to an attenuation area. From here water will discharge through a flow control device and then outfall into the existing public sewer network.
- 5.12.6 The predicted effects of the operation phase on surface water run off/surface water flooding is predicted to be of a minor temporary nature.

- 5.12.7 For the operational phase, spillages from parked vehicles may contaminate underlying groundwater. The predicted effect of the operational phase on groundwater quality is predicted to be of moderate temporary or permanent nature prior to mitigation. For the operational phase, fuel interceptors will be installed within the Outside Broadcast area to ensure that any spillages from parked vehicles will be captured and not contaminate underlying groundwater.
- 5.12.8 Following mitigation the proposed development is shown to not have any significance effects on flood risk and water resources. The proposed development is shown to have an overall neutral residual effect on flood risk and water resources.

5.13 Socio-economics

- 5.13.1 The EIA considers the likely socio-economic effects of LFC's proposed redevelopment of their football stadium to the local area, Liverpool local authority area, and to the Liverpool city region. The assessment also considers the wider regeneration benefits from the proposed stadium redevelopment. In addition, a standalone economic impact assessment has been produced in support of the planning application.
- 5.13.2 The stadium expansion development is one of the most significant investments in the Anfield area and in North Liverpool. It is coming forward in parallel with the wider spatial regeneration framework for the neighbourhood. The stadium is an important spatial and economic anchor for the Anfield neighbourhood, given the dominance of the stadium on the local landscape and the role of the Club as an employer, purchaser, and attractor of visitors. Consequently, the Club's stadium expansion proposals, and the socio-economic benefits that this would deliver (particularly in terms of the additional direct, indirect and induced employment opportunities), are a strategically important component in achieving the SRF's objectives for re-shaping the economic, social and environmental trajectory of the Anfield area over the next 10-15 years, to deliver sustainable regeneration.
- 5.13.3 When the Club was proposing to build a new stadium in Stanley Park they developed an employment and training strategy in line with a S106 obligation required by LCC. This strategy highlighted the Club's proposed approach to maximise the employment benefits of the stadium for local people, as well as Liverpool and city region residents. It is anticipated that the Club would follow a similar recruitment approach for the expanded stadium.
- 5.13.4 The following significant effects are anticipated for the development during the construction phase:
- In the Liverpool city region impact area the construction phase is judged to have a minor beneficial effect on both the employment base receptor and the labour market receptor.
 - In the Liverpool impact area the construction phase is judged to have a moderate beneficial effect on both the employment base receptor and the labour market receptor.

- 5.13.5 The following significant effects are anticipated for the development once the expanded stadium is operational:
- In the Liverpool impact area the operation of the expanded stadium is judged to have a minor beneficial effect on the employment base, labour market, and visitor economy receptors.

6 Cumulative Effects

- 6.1.1 The EIA Regulations require that, in assessing the impacts of a particular development proposal, consideration is also given to the cumulative impacts which might arise from the proposal in conjunction with other development proposals in the vicinity. The assessment of cumulative impacts has been based upon information readily available at the time of writing and currently available assessment techniques.
- 6.1.2 For the cumulative assessment, two types of impact have been considered:
- Combined effect of individual impacts for example noise, airborne dust or traffic on a single receptor or resource; and
 - Cumulative impacts of several development schemes which may, on an individual basis be insignificant, but cumulatively have a significant effect for example, combined townscape and visual impacts from two or more (proposed) developments.
- 6.1.3 The proposed LFC stadium expansion project is part of the wider Anfield SRF which aims to *"explore and harness the potential of the area, bringing a number of current live projects and new proposals together in a coordinated and comprehensive manner in order to deliver lasting social, economic and environmental regeneration. In particular it seeks to capitalise upon Liverpool Football Club's stated preference to extend its existing stadium and remain in Anfield"*.
- 6.1.4 The cumulative assessment accounts for the proposed developments outlined within the Anfield SRF, of which the Anfield Stadium expansion falls within and also sits with close proximity to the further proposed development sites.

6.2 Combination Effects

- 6.2.1 The construction phase has potential interactions between individual impacts that will result in short-term minor to major adverse effects upon the residential receptors. Those living in closest proximity to the construction site will experience a period of combined moderate to major adverse impacts in relation to noise, visual intrusion and potential transport disruption. These impacts will be temporary in nature lasting for the duration of the construction phase. Application of the CEMP will minimise the combined impacts and effects.
- 6.2.2 It is identified that there will be more beneficial effects under the long-term operation phase in terms of the local economy and employment, bus services and townscape character for the surrounding area. Minor to moderate adverse combined residual effects upon residential receptors, Stanley Park and Anfield Cemetery are anticipated.

6.3 Cumulative Effects

- 6.3.1 The development opportunity sites proposed as part of the Anfield SRF are as follows:
- Land to the south of Walton Breck Road;
 - Former Anfield Comprehensive Site;

- Mill Lane/Anfield Road; and
- Anfield Square Development Site.

- 6.3.2 The overall Anfield SRF will have positive effects in terms of promoting and creating employment and training opportunities, regeneration of the area, contributing to the local economy, improving accessibility and enhancing the public realm and landscape of the area.
- 6.3.3 The SRF aims to sustain and enhance Stanley Park and Anfield Cemetery, and deliver better integration between adjoining areas and these significant heritage assets. Environmental improvement throughout the area including new and enhanced public realm and green infrastructure will help enhance the setting of heritage assets. If this is achieved the setting of the park, cemetery and historic structures on Anfield Road will be improved.
- 6.3.4 The Anfield SRF will enhance the urban environment. Regeneration of the area through new high quality residential and commercial development will provide an attractive environment. In particular, re-development of vacant areas and vacant housing would enhance the visual quality of the public realm, especially surrounding Anfield Cemetery and Stanley Park. New public realm and open spaces will be provided. These open spaces will be created in keeping with the wider Anfield regeneration plan and be used for everyday activities while also providing a buffer between the residential neighbourhood and the stadium.
- 6.3.5 Potentially temporary and permanent adverse effects, in terms of air quality, noise disturbance and flood risk, will be reduced through adherence to the guidance set out in the Anfield SRF.

7 Residual Impacts and Conclusions

7.1 Residual impacts and conclusions

- 7.1.1 Residual significant impacts (i.e. the impacts of the proposed development once mitigation has been incorporated where feasible) have been classified as not significant or still significant (albeit reduced), as appropriate for each environmental aspect. These are discussed further within the ES.
- 7.1.2 During construction of the proposed development, it is predicted there will be temporary (short term) significant adverse residual impacts on townscape character and some residents surrounding the site. Mitigation measures will be applied where required in the CEMP, including production and implementation of a SWMP.
- 7.1.3 The level of impact the ES identifies in relation to Stanley Park, Anfield Cemetery and listed buildings (Nos. 35 to 45 Anfield Road and Stanley House) accurately reflects the conclusion of 'less than substantial harm (in the context of the National Planning Policy Framework – NPPF) as set out the Heritage Statement in support of the planning application and does not equate to a significant effect in EIA terms.
- 7.1.4 Significant beneficial residual impacts will result in relation to townscape character, employment base, the labour market and visitor economy. All other permanent impacts attributable to the proposed development are considered not significant.
- 7.1.5 Balancing the adverse temporary and permanent impacts against the long term benefits the operational development will bring, the overall conclusion of the EIA is that the proposed Anfield Stadium Expansion will have an overriding beneficial impact, enhancing and improving the existing area.

7.2 Contact and Availability of the ES

- 7.2.1 This ES is available for viewing by the public during normal office hours at the Planning Department of LCC. Comments on the ES and planning application should be forwarded to LCC at the address below or posted on the LCC planning portal website:

<http://liverpool.gov.uk/planning-and-building-control>

Municipal Buildings
Dale Street
Liverpool
L2 2DH

- 7.2.2 Additional copies of this Non-Technical Summary are available free of charge in electronic format. Copies of the full ES are available from Mott MacDonald at the following address at a

cost of £350 for a complete hard copy or free of charge if downloaded from:
<http://liverpool.gov.uk/planning-and-building-control>

Mott MacDonald Limited
9th Floor
Royal Liver Building
Pier Head
Liverpool
L3 1JH