

**Phase 1 Environmental Due
Diligence Assessment
Dalymount Park**

**On behalf of
IDOM**

Avda. Zarandoa, 23. Bilbao





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Phase 1 Environmental Due Diligence Assessment

Dalymount Park

IDOM

Avda. Zarandoa, 23. Bilbao

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1 INTRODUCTION

Malone O'Regan Environmental (MOR) was commissioned by IDOM (the Client) to prepare a Phase 1 Environmental Due Diligence (EDD) Assessment Report for the Dalymount Park Stadium Site located in Phibsboro Co. Dublin. Please refer to Appendix A, Figure 1 for the location of the Site.

This report presents the findings of this Phase 1 assessment.

1.1 Project Objective

The main objective of this Phase 1 EDD is to assist the Client in assessing any potential environmental liabilities associated with the past and present operations at the Site.

The report has been prepared solely for IDOM.

1.2 Scope of Works Methodology

The agreed scope of works comprised the following:

1.2.1 Desk-based Study

A detailed review of the following published information was undertaken:

- Site history and development – determine the historical use of the Site using historical Ordnance Survey maps.
- Review of available geological and hydrogeological map data including bedrock geology, quaternary deposits, River Basin District (RBD) sub-soils, aquifer classification and groundwater vulnerability.
- Searched available public files online for relevant information:
 - EPA Map viewer, Available at: <https://gis.epa.ie/EPAMaps/>, Accessed on: 22/10/2021. (EPA, 2021).
 - GeoHive Map viewer, OSI, Available at: <http://map.geohive.ie/mapviewer.html>. (Ordnance Survey Ireland, 2021).
 - Google Earth Pro, Google, Available at: <https://earth.google.com/web> , Accessed on 22/10/2021. (Google, 2021).
 - Public Data Viewer Series Map, GSI, Available at: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>. (Geological Survey of Ireland, 2021).
 - National Flood Map, Office of Public Works, Available at: <https://www.floodinfo.ie/map/floodplans/>. (Office of Public Works, 2021).
 - National Monuments Service, Records of Monuments and Places, Available at: [Record of Monuments and Places | National Monuments Service \(archaeology.ie\)](https://www.archaeology.ie). (National Monuments Service, 2021).

1.2.2 Site Inspection

An environmental site inspection was completed by two experienced MOR Environmental Consultants on the 1st December 2021. The following was completed as part of the site inspection:

- Site walkover and inspection comprising both external and internal areas; and,
- Assessment of potential sources of contamination.

During the Site visit a photographic record to illustrate significant observations was compiled, refer to Appendix B.

1.2.3 Data Assessment and Reporting

All available information from the Site visit and desk-based studies have been evaluated and the findings are presented in this report.

The reports received by MOR and subsequently reviewed included the following:

- Waste Characterisation Assessment, Connaught Street Stand, Dalymount Park, Phibsborough, O'Callaghan Moran & Associates, Unit 15 Melbourne Business Park, Model Farm Road, Co. Cork, September 2021 (O'Callaghan Moran & Associates, 2021).
- Waste Classification Report, Dalymount Park, Tinnelly Group, Ground Investigations Ireland, Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin, August 2021 (Ground Investigations Ireland, 2021).
- Refurbishment & Demolition Asbestos Survey, Dalymount Park Football Stadium, About Safety Ltd., 24 Ocean Crest, Arklow, Co. Wicklow, August 2019 (About Safety Ltd., 2019).
- Phase 1 Hydrogeological Assessment, Dalymount Park, Phibsboro, Dublin 7, Envirologic, 78 St. Peter's Terrace, Howth, Co. Dublin, August 2018 (Envirologic, 2018).

Reports sourced by MOR from publicly available sources included the following:

- All Planning Permissions for the Site available on the Dublin County Council eplanning website.
- Dublin City Development Plan 2016-2022, Dublin City Council, Civic Offices, Wood Quay, Dublin 8, 2016 (Dublin City Council, 2016).

1.3 Limitations of Audit and Report

The conclusions presented in this report are professional opinions based solely on the tasks outlined above and the information made available to MOR Environmental. They are intended for the purpose outlined herein and for the indicated Site and project. The report is for the sole use of IDOM. The scope of services performed in the execution of this assessment may not be appropriate to satisfy the needs of other users. This report may not be relied upon by any other party without explicit agreement from MOR Environmental.

Opinions and recommendations presented herein apply to the existing conditions of the Site at the time of assessment. They cannot apply to changes at the Site that MOR Environmental is not aware of and has not had the opportunity to evaluate. This report is intended for use in its entirety; no excerpt may be taken to be representative of the assessment

2 SITE OVERVIEW

2.1 Site Location

The Site is the Dalymount Park Stadium located in Phibsboro, Co. Dublin. It is situated in the centre of Phibsboro, to the south of the Royal Canal and north of Dublin City centre. The Site is accessed by the R147 via St. Peter's Road. There are residential areas located directly to the west, north and south of the Site, with commercial businesses located to the east. The Site location is shown in Appendix A, Figure 1.

2.2 Site Description

The Site area is estimated to be approx. 0.066 hectares (ha) (ca. 656 sq.m (square metres)) based on site boundary details provided by the Client. The Site is operational as a football stadium but it is currently off season. The existing infrastructure consists of a main, roofed stands (southern area – Jodi stands) which houses seven (7 No) football stadiums toilets, offices, three (3 No) bars, storage rooms, electric mains room, and boiler room. The Site's infrastructure also consists of a football pitch, a carpark to the north-west, eastern stands, northern stands (Connaught Street stands) and the western stands (Des Kelly stands). The roofed section of the western stands has recently been demolished and in its place there is an exposed berm ca. 5m high. Due to their condition, the northern and eastern stands are not in use. The Site layout is shown in Appendix A, Figure 2 and Figure 3 (Site schematic).

The Site is under the jurisdiction of Dublin City Council. According to the most recent City Development Plan 2016 – 2022, the lands are zoned as Zone Z9 and Zone Z4 in Zoning Map E (Dublin City Council, 2016). Zone Z9 consist of the majority of the Site including the football pitch, northern, southern and western stands and the car park. The zoning objective of Zone Z9 lands are *'to preserve, provide and improve recreational amenities and open space and green networks'*. The eastern stands are Zone Z4, with the zoning objective *'to provide for and improve mixed-services facilities'*.

2.3 Site History

A review of historical maps dating back to 1831 shows that the Site was a greenfield site prior to the construction of the facility ca.1900. The Historic 25-inch maps dating between 1888-1913 show that the football stadium had been constructed during this time and has the same footprint that exists today with the exception of a few ancillary structures. The Historic 6-inch map shows that during 1831-1846 the lands surrounding the Site were used mainly for residential dwellings (east) and roads accessing the city centre at that time (north and south) (Ordance Survey Ireland, 2021). According to the Historic 25-inch map between 1888 and 1913, the land use surrounding the Site had changed to the north, west and south with the addition of rows of residential dwellings adjacent to the Site (Ordance Survey Ireland, 2021).

Aerial photographs available from 1995 to present show that the infrastructure at the Site has experienced some changes, including renovation works to the southern stands, and the removal of a section of the western stands (Ordance Survey Ireland, 2021). The surrounding land use has changed slightly with the addition of a primary school along the western boundary and the lands along the eastern and partially southern boundary being used for commercial and business services.

According to the Record of Monuments and Places provided by the National Monuments Service (National Monuments Service, 2021) there are no recorded archaeological monuments listed at the Site. The closest RMP is a Ritual Site - Historical Holy Well ca. 880m to the northeast of the Site (registered as DU018-010) (National Monuments Service, 2021). According to the National Inventory of Architectural Heritage Saint Peter's National School is a building of architectural and historical importance on a regional scale (Reg No. 50060228) (National Monuments Service, 2021). This building is located along the western site boundary.

2.4 Planning History

MOR only had access to the planning history of the Site dating back to 1993 as available on the Dublin City Council's planning website (Dublin City Council, 2021). All planning permissions prior to this would have to be accessed through the council's archives.

The conditions accompanying the planning permissions reviewed were all available. These documents were reviewed by MOR. Table 2.1 provides a list of the planning permissions and the associated development description.

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Table 2-1: Planning Permission

Planning Permission	Year	Description of Development	Conditions
0812/93	1993	Alterations including new training pitch and raising of existing boundary wall.	Yes
1538/96	1996	The upgrading of stadium at Dalymount Park, Dublin 7, in phases, to include; general amenity and spectator safety improvements resulting in a reduction of the capacity of the stadium from previous highest attendance of 47,000 spectators to below 20,000; refurbishment of existing main stand including the removal of timber sections, forming of new deck and fitting of new spectator seating, demolition of existing roof and replacement with new steel clad roof and sides; demolition of existing north concrete terrace and erection of new covered stand with spectator seating; upgrading of shed on west terrace; erection of seating area at east side; inclusion of gates in and removal of part of pitch perimeter fence; erection of new entrance stiles and gates at Connaught Street and St. Peter's Road entrances; removal of existing 4 no. 34 metre high latticed masts and replacement with 4 no. 27 metre high pole type lighting masts to give level of illumination of 900 lux.	Application Withdrawn
2903/96	1996	Upgrading of Dalymount Park, Dublin 7, in stages to include; general amenity and spectator safety improvements resulting in a reduction of the capacity of the stadium from previous highest official attendances of 47,600 spectators to 20,000; refurbishment of existing main stand including the removal of timber sections, forming of new deck and fitting of new spectator seating, demolition of existing roof and replacement with new steel clad roof; demolition of existing north concrete terrace and erection of new covered stand with spectator seating; upgrading of shed on west terrace; forming of new terrace with seating at east side; removal of part of pitch perimeter fence and inclusion of gates in remainder; erection of new entrance stiles and gates at Connaught Street and St. Peters Road entrances and upgrading of boundary walls to stadium; installation of two no. large scale replay screens; removal of existing 4 no. 34 metre high latticed masts and replacement with 4 no. 27 metre high pole type floodlighting masts to give level of illumination of 900 lux; erection of 46 two bedroomed and 2 one bedroomed flats on lands at east side of stadium with access from Connaught Street.	Application Withdrawn
2224/97	1997	Upgrading of Dalymount Park, to include; Refurbishment of existing Main Stand including the removal of timber sections, forming of new deck and fitting of 2700 spectator seats, demolition of existing roof and replacement with new steel clad roof; Demolition of section of existing north concrete terrace and upgrading of remaining terrace; Upgrading of Shed on west terrace; Forming of new terrace with 840 seats at east side; Removal of part of pitch perimeter fence and inclusion of gates in remainder; Erection of new entrance stiles and gates at Connaught Street and St. Peters Road entrances and upgrading of boundary walls to stadium; Removal of existing 4 no 34 metre high latticed masts and replacement with 4 no. 27 metre high pole type floodlighting masts; Erection of 46 two bedroomed and 2 one bedroomed flats on lands at east side of stadium with access from Connaught Street.	Yes
2268/97	1997	Erection of new covered all seater stand with spectator capacity of 6200 to north side of playing pitch to replace existing north concrete stand.	Additional Information Requested

2209/01	2001	Retention of 2,820 sq.m. of land as a 150 no. space car park with access from St Peters Road. Retention of groundworks and resurfacing, and the siting of a temporary building on the lands in connection with the car park use.	Permission Refused
3878/04	2004	Eye Park.ie Ltd. intends to apply for permission for development for the continuation of a temporary car park use of 2,820 sq.m. of land at Dalymount Park, Dublin 7, as a 150 no. space car park with access from St. Peters Road; and a temporary portacabin of ca. 8.6 sq.m. used as an office; until 8th February 2008 in accordance with Condition no. 1 of the previous An Bord Pleanala decision relating to this site (ref PL29N.126958).	Yes
6250/07	2007	Retention permission for development consisting of the continuation of a car park use of 2,820sqm of land at Dalymount Park, with access from Saint Peter's Road, as a 150no. spaces car park with access from St Peter's Road and the retention of a temporary building of ca. 8.6sqm used as an office for a temporary period of three years, in accordance with condition no. 2 of the previous Dublin City Council decision relating to this site (register reference 3878/04).	Yes
3266/12	2012	RETENTION: The development consists of the retention/ continuation of previously approved temporary car park use at Dalymount Park with access from Saint Peters Road. Permission is also sought for retention and continuance of use of a temporary building (8.6sq.m) used as a management/ security cabin associated with the temporary car park.	Yes
3038/21	2021	Pursuant to the requirements of the above, notice is hereby given of the proposed demolition of the disused Connaught Street Stand at Dalymount Park, Phibsborough, Dublin 7 and associated site clearance. The area is to be left clear of debris and finished to the same level of the existing car park. No new construction works are proposed at this time, other than those necessary to secure the site and provide new services. These include connection for temporary commentary box along with emergency lighting. The foundations of the stand will be removed, and all services will be removed insofar as this is practicable.	Yes

Table 2.2 lists the planning conditions that are active at the Site and need to be maintained as agreed with the Planning Authority concerning the planning permissions granted since 1991.

Table 2-2: All planning conditions active at the Site

Planning Permission	Year	Condition
0812/93	1993	1. The training pitch shall not be used between the hours of 22.00 hours and 08.00 hours Monday to Sunday inclusive. REASON: In order to protect the residential amenities of adjoining properties.
2224/97	1997	2. The proposed football stadium shall be used solely for the purposes of football matches and shall not be used as a music/concerts venue unless specific permission for such use has been obtained. REASON: In the interest of ensuring orderly development.
2224/97	1997	5. Where it is intended to install a booster pump or pumps full details of the proposed installation shall be submitted to the Water Division for written approval. All booster pumps in excess of 10 litre min capacity must be fed from the brake cistern. The effected capacity of a brake water cistern should be decided after consideration of the total water storage requirements and its location in the building should not be less than 50min pump output. REASON: In the interests of orderly development.
2224/97	1997	9. The 48 no. car parking spaces proposed for the apartment development shall be reserved solely for the residents of the approved apartment development. REASON: In the interest of orderly development.
3878/04	2004	2. The use of the area as a car park shall cease on or before the expiration of a period of three years from the date of this order, unless before the end of that period, permission for the continuance of the use beyond that date shall have been granted for a further and final period not to exceed three years. Reason: In order that the Planning Authority may review the position and assess the impact of the proposal on the area
3878/04	2004	4. The following are the requirements of the Engineering Department, Drainage Division to be carried out with the development; (a) The developer shall comply with the requirements of the Code of Practice for Development Works - Drainage, (b) All private drains, downpipes, gullies, manholes, Armstrong Junctions, and similar private fittings are to be located within the final site boundary, with the exception of the Private Drain Connection to the Public Sewer. (c) A Class I Light Liquid Separator, in accordance with the latest Drafts of European Standards prEN 858: Parts 1 & 2, shall be installed at suitable location on the private drainage system before discharging to Dublin City Council's drainage system. (d) The Developer shall limit surface water discharge from site in accordance with the requirements of Drainage Division as set out in Dublin City Council's "Storm Water Management Policy for Developers". Full details of such control measures shall be agreed in writing with Drainage Division prior to commencement of construction. The surface water from this development is to be drained to the nearest public sewer. (e) Drainage layout submitted is not acceptable to Drainage Division of Dublin City Council. (f) The developer shall submit two copies of a detailed site drainage plan directly to the Drainage Division of Dublin City Council for written approval. These plans shall be submitted not later than the submission of the commencement notice for the development, and drainage works shall not under any circumstances commence prior to the issuing of such written approval. Reason: In the interest of orderly development
6250/07	2007	2. The use of the area as a car park shall cease on or before the expiration of a period of three years from the date of this order or in the event of a grant of permission for the Dalymount site contained within the blue line boundary submitted with the application, such date being the final grant of permission, whichever is the earlier, unless before the end of that period, permission for the continuance of the use beyond that date shall have been granted for a further period not to exceed three years. Reason: The existing use is not acceptable in principle. Permission is granted for a strictly limited period, and to enable the effect of the development on

		the amenities of the area to be reviewed having regard to the circumstances then prevailing.
6250/07	2007	3.The use of the car park by staff of the shall be limited to the following hours: Mondays to Saturdays 07.00 to 24.00 Sundays and Public Holidays No operation Reason: In the interests of residential amenity and proper planning and sustainable development.
6250/07	2007	4.The developer shall comply with the Greater Dublin Regional Code of Practice for Development Works Drainage. (see www.dublincity.ie Forms and Downloads). - Dublin City Councils Drainage records are indicative and must be verified on site. The Developer must carry out a comprehensive site survey to establish all drainage services that may be on the site. If drainage infrastructure is found that is not on Dublin City Councils records the Developer must immediately contact Dublin City Council's Drainage Division to ascertain their requirements. Detailed as-constructed drainage layouts for all diversions, extensions and abandonment of the public drainage network; in both hard and soft copy in an approved format; are to be submitted by the Developer to the Drainage Division for written approval. See section 5 of the above-mentioned Code of Practice for more details. Reason: In order to ensure a satisfactory standard of development.
3266/12	2012	2. The use of the area as a car park shall cease on or before the expiration of a period of three years from the date of this order or in the event of a grant of permission for the Dalymount site contained within the blue boundary submitted with the application, such date being the final grant of permission, whichever is the earlier, unless before the end of that period, permission for the continuance of the use beyond that date shall have been granted for a further period not to exceed three years. Reason: The existing use is not acceptable in principle. Permission is granted for a strictly limited period, and to enable the effect of the development on the amenities of the area to be reviewed having regard to the circumstances then prevailing.
3266/12	2012	3. The use of the car park shall be limited to the following hours: Mondays to Saturdays 07.00 to 24.00 Sundays and Public Holidays: No operation Reason: In the interests of residential amenity and proper planning and sustainable development.
3266/12	2012	4.The developer shall comply with the Greater Dublin Regional Code of Practice for Development Works Drainage. (see www.dublincity.ie Forms and Downloads). - Dublin City Councils Drainage records are indicative and must be verified on site. The Developer must carry out a comprehensive site survey to establish all drainage services that may be on the site. If drainage infrastructure is found that is not on Dublin City Councils records the Developer must immediately contact Dublin City Council's Drainage Division to ascertain their requirements. Detailed as-constructed drainage layouts for all diversions, extensions and abandonment of the public drainage network; in both hard and soft copy in an approved format; are to be submitted by the Developer to the Drainage Division for written approval. See section 5 of the above-mentioned Code of Practice for more details. Reason: In order to ensure a satisfactory standard of development.
3038/21	2021	1. Drainage Division Recommendations: The contractor shall take care to protect all public sewers that may be affected by the demolition works; in particular no debris shall be allowed to enter the public sewerage system. Where possible developer should disconnect and cap all drainage links from the private site during demolition and future construction activity.
3038/21	2021	2. Transportation Planning Division Recommendations: Prior to commencement of development, and on appointment of the main contractor, an updated Demolition Waste Management Plan shall be submitted to the planning authority for written agreement. This plan shall provide details of intended demolition practice for the development, demolition phasing and programme, a detailed traffic management plan, hours of working, location of plant and labour compound, noise and dust

		management measures, and off-site disposal of construction/demolition waste. The appointed contractor shall liaise with DCC Road Works Control Division during the demolition period.
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In addition, MOR noted that the Des Kelly stands (west stands) have been removed from the Site during 2021, however, upon reviewing the planning history of the Site there was no planning application related to these works. MOR requested further information from DCC, regarding planning permission for this removal, which was as follows;

“Following an inspection from the DCC structural engineer in December 2020, it was found that the structure was unsafe and posed a danger undermined. The planning department concluded that it was emergency situation requiring immediate action in accordance with Section 179 (6) (B) of the Planning Act 2000 (as amended). Work on its demolition began in August and was complete in September 2021.”

According to the Site’s previous planning permissions listed above (Table 2.1), the car park to the north-west side of the Site has had four retention planning applications for the continuation of its use as a car park. The most recent of which was in 2012 (ref 3266/12) which expired 3 years after the date of issue. DCC have confirmed that:

“the carpark ... will continue as a carpark until the redevelopment takes place and then will no longer be in operation.”.

Therefore, an additional retention planning application for this car park is not required.

2.5 Surrounding Area and Land Use

The Site is surrounded by mainly residential and commercial areas. The Site is located in a densely populated area out the outskirts of the city centre. The lands surrounding the Site are mainly residential areas that are zoned as Zone Z2, which has a zoning objective ‘*To protect and/or improve the amenities of residential conservation areas*’ (Dublin City Council, 2016).

To the north the Site is bounded by a lane and beyond this is a row of houses on Connaught Street. The Royal Canal is located ca. 270m north of the Site and more residential houses.

To the west the Site is bounded by Saint Peter’s National School and residential houses. The Luas Tram line is located ca. 400m west of the Site and more residential areas. The entrance to the Site’s carpark is on St Peter’s Road, at the northwest end of the Site.

The Site is bounded by a row of commercial and services buildings to the east. The Mountjoy Prison is located ca. 310m east of the Site.

The south boundary of the Site is bounded by a lane and beyond this is a row of houses and businesses. The Site entrance is located to the south. The R147 is located ca. 67m south of the Site.

2.6 Potential Sources of Historical Contamination

According to interviews with site personnel (DCC), there was no information available about historic spills or potential contamination from the previous Site owner who owned the site up to 2016. DCC confirmed that no such pollution incidents have occurred at the Site since they took ownership in 2016.

3 ENVIRONMENTAL SETTING

3.1 Topography

According to the GSI mapping (GSI, 2021), the ground elevation contours show that the topography of the Site is flat, with an elevation of approx. 30 mAOD.

3.2 Hydrology

According to the EPA maps (EPA, 2021), the closest river to the Site is the Tolka (Slaney) River (EPA_Code: Tolka_060) which is located c. 1.2km north of the Site and flows in a south-easterly direction before joining the River Tolka Estuary at Dublin Bay ca. 3km south-east of the Site. The Royal Canal Main Line is located ca. 279m north of the Site and discharges into the Liffey River just before it reaches Dublin Bay ca. 2.75km south-east of the Site.

According to the Water Framework Directive (WFD), the Tolka River is classified as being 'at risk'. The Royal Canal Main Line has a WFD Risk status of 'Review'. The Site is located within Liffey and Dublin Bay hydrometric area (09) and the Tolka sub-catchment drainage network (Tolka _SC_020) (EPA, 2021).

According to the Office of Public Works (Office of Public Works, 2021) National Flood Map this area is not at risk of river flooding.

3.3 Geology and Subsoils

3.3.1 Soils

According to the GSI mapping (GSI, 2021), the soils present at the Site are classified as made ground.

3.3.2 Subsoils

According to the GSI database (GSI, 2021), the Quaternary deposits underlying the site are classified as tills derived from limestone till (TLs) (boulder clay).

3.3.3 Bedrock Formation

According to the Geological Survey of Ireland maps (Geological Survey of Ireland, 2021), the bedrock underlying the Site is a member of the Lucan Formation, which comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestones and shales. The Lucan formation is approximately equivalent to the Calp Formation.

3.4 Hydrogeology

3.4.1 Aquifer Classification and Vulnerability

The GSI provides a methodology for aquifer classification based on resource value (regionally important, locally important and poor aquifer) and vulnerability (extreme, high, moderate or low). Resource value refers to the scale and production potential of the aquifer whilst vulnerability refers to the ease with which groundwater may be contaminated by human activities (vulnerability classification is primarily based on the permeability and thickness of subsoils).

Bedrock Aquifer

The bedrock aquifer beneath the Site is classified as a Locally Important Aquifer (LI) – Bedrock, which is moderately productive only in local zones, associated with the "Lucan Formation".

Sand and Gravel Aquifer

There is no gravel aquifer identified beneath the Site by the GSI (Geological Survey of Ireland, 2021).

Groundwater Vulnerability

The groundwater vulnerability rating beneath the Site is classified as “Low” (Geological Survey of Ireland, 2021).

Groundwater Use and Protection

A search of the GSI (Geological Survey of Ireland, 2021) groundwater well database was conducted to identify registered wells within a 2km radius of the Site. Refer to Table 3-1.

Additionally, there are no karst features within a 1km radius of the Site (GSI, 2021). There is no identified public supply source of protection areas with a 1km radius of the Site.

Table 3-1: Groundwater Wells and Springs

GSI Name	Source Use	Total Depth (m)	Townland	Distance from Site (km)	Yield Class (m3/d)
2923SEW013	Unknown	106.7	Ormond Quay	ca.1.78 SE	Good - 114.5
2923SEW012	Unknown	137	Parnell Street	ca.1.43 SE	Good - 163.9
2917SWW107	Industrial Use	30.4	North Street Brunswick	ca.1.3 S	Good - 393
2923SEW028	Unknown	106	Glasnevin	ca.0.85 N	Excellent - 482
2923SEW027	Unknown	90	Glasnevin	ca. 0.92 N	Good - 300
2923SEW024	Unknown	90	Glasnevin	ca. 1.8 N	Poor - 16.5

3.5 Protected Ecological Sites

There is one (1 No) ecologically sensitive area within a 5 km radius of the Site (EPA, 2021). Refer to Table 3-2.

Table 3-2: Ecologically Sensitive Areas

Site Name	Site Code	Protected Status	Distance from Site
South Dublin Bay and River Tolka Estuary SPA	004024	Special Protection Area	Ca. 3km SE

3.6 Radon

As detailed in radon maps on the EPA website (EPA, 2021), within the 10 km grid square where the Site is located between 1% and 5% of homes are estimated to be above the 200Bq/m³ Reference Level. A high radon area according to the EPA is ‘any area where it is predicted that 10% or more of homes will exceed the Reference Level of 200Bq/m³. Therefore, the Site is not located in an area of high radon levels.

3.7 Sensitive Receptors

Sensitive receptors include:

- A number of residential properties to the north, south and west of the Site.
- Saint Peter's National School located along the western Site boundary.
- Commercial businesses located along the eastern and southern Site Boundary.
- Nearby rivers – Tolka (Slaney) River and the Royal Canal Main Line which joins the Liffey River at Dublin Bay.

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4 ENVIRONMENTAL AUDIT FINDINGS

4.1 Current Site Condition

This chapter outlines the key environmental findings. A schematic diagram of the facility with associated labelling of areas is available in Appendix A (Figure 3). All photos are available in Appendix B.

4.1.1 Site Walkover Findings

The following were the key observations:

- During the site visit, MOR had access to all four stands; Des Kelly Stands and berm (west), Connaught Stands (north), Jodi Stands (south) and the east stands, including the rooms below the southern stands, both car parks (north-west and south-east of the Site) and the football pitch.
- There is a small staff car park area, which is located to the south-east of the Site. In this carpark area the following was observed:
 - The car park comprised of tarmac and appeared to be in good condition. See Photo 1.
 - There is an ancillary prefab building that has been put in place due to covid (i.e., storage, toilets).
 - An oil tank sits on top of a concrete block, within a metal bund at the side of the carpark near the boiler room and the ancillary prefab building. The volume of this oil tank and metal bund was not known by site personnel, as well as the age of the bund or its integrity. However, it appeared to MOR that the metal bund would not be of sufficient capacity to hold any potential oil spills from the tank. Details of the volume of the oil tank and the integrity of the tank and the bund were requested by MOR. Those details were not made available to MOR at the time of preparing this report. A documented statement of orders placed to Liffey Oil Ltd was made available to MOR from January 2018 to April 2021. This statement contains a record of the litres of oil that were purchased during that period ranging from 532 litres (October 2018) to 1,370 litres (April 2018). According to these records oil deliveries occur 2-3 times a year. See Photo 2 and 3.
 - The boiler room is located in the basement area of the south stands (Jodi Stands) and is accessed through the car park. These boilers heat some of the indoor areas/rooms and showers beneath the south stands. There was moderate/strong odour noticed (i.e., solvent) immediately outside and inside of the boiler room, which houses two boilers that are connected to the oil tank in the car park. The boiler room is accessed by stairs which descend below the ground level of the car park. Rainwater builds up in the areas outside and directly inside the boiler room. A pump, which is located on the ground inside the boiler room, is switched on to remove this excess rainwater (Photo 4). The rainwater present during the site visit in this area was observed to also have an oily sheen. Site personnel did not know where this rainwater drains to, nor could MOR personnel establish the onsite drainage within the scope of this investigation. See Photo 4 (pump) and 5 (boiler room and pump). An accurate drainage drawing was requested by MOR for the Site, however, it was not made available to MOR at the time of preparing this report.
 - A number of manholes and one suspected storm water drain were observed in the car park. According to site interviews, the site personnel did not know where the storm water drains discharge to. Please note that MOR did not have access to an accurate drainage drawing for the Site.

- Eighteen (18 No) IBCs containing groundwater pumped from the onsite groundwater well were observed east of the car park and along the southern boundary of the east stands (currently not in use). These IBC's are connected through blue pipes and this water is only used to water the pitch. The pump house where the well is located was just beyond these IBCs. MOR did not have access to the pump house during the site visit. A photographic record of the pump house and the groundwater well was requested by MOR, however, they were not made available to MOR at the time of this report. There was a lot of debris in this area including wood and plastics. According to site personnel, the area of the pump house is not within the boundary of the Site. See Photo 6 and 7.
- The east stands are not accessible to the public as they are not in a condition suitable for use.
 - These stands comprised of hardstanding (i.e., concrete) and had a series of rusted metal railings running throughout the rows of seats.
 - Two (2 No) floodlight towers are located to the centre right and centre left in the stands.
 - There was some waste present (i.e., bottles, paper wraps) and some cracks on the hardstanding, however, they appeared to be in fair condition with no obvious signs of staining or odour present. See Photos 8 and 9.
- The north stands (Connaught Street Stands) are also not accessible to the public and comprise of the seating area and a series of entrances leading below the stands to a long semi-indoor corridor area, which extends the entirety of the area below the stands. This area appeared to be an old and disused entrance to the stadium, as there were a number of turnstiles and covered/sealed doors, which would have exited onto Connaught Road (See Photo 10). In the north stands area, the following was observed:
 - Debris was identified on the ground in the corridor area (See Photo 11);
 - Wires extended along the back of the wall between the corridor area and the stand that appeared to be loose and hanging down (See Photo 12).
 - There was evidence of a localised fire due to a burning smell and burnt materials on the ground in a fire pit shaped area (small area of burnt debris).
 - The ground comprised primarily hardstanding and only a small section comprised hardcore (i.e., crush stones) (See Photo 13).
 - No visual or olfactory evidence of contamination was observed during the site visit.
 - The seating area of the stands appeared to be in good condition with rows of seats and railings all present (See Photo 14).
 - A small viewing/commentator's box is located at the top of the north-western side of the stands, which contains numerous cables (See Photo 15).
- The west stands (Des Kelly stands and berm) is similar in layout to the east stands and comprise of hardstanding and railings with limited seats available.
 - This area is accessible to the public during games and is well maintained with very little waste (i.e., paper wraps, etc.) present (See Photo 16).
 - There is a mound/berm of ca. 5m in height in the area behind and to the northwest of the west stands (Des Kelly stands) (See Photo 17). This area used to be a roofed stand that joined the existing west stands. According to the GII report, a site investigation was undertaken in this area for a proposed redevelopment of the existing stand.
 - The soil present in this berm is exposed and contains visible discolouration as some areas appear darker in colour than others (See Photo 18).
 - Two (2 No) floodlight towers are located in either side of the stands.

- The south stands (Jodi Stands) are the main stand at the football stadium and is roofed. The ground below the stand comprises tarmac (i.e., hardstanding) and the stand itself comprises concrete (i.e., hardstanding), with rows of seats and railings. Two tunnels at the bottom of the stands lead into the indoor area, beneath the seating (See Photo 19 and 20). In the area surrounding the stand the following was observed:
 - There were five storm water drains and two aco drains present. The aco drains were located under the roofed area and appeared to have moss and debris in them, indicating that they may no longer be in use. Drainage maps of the Site were not available and site personnel were not able to confirm if these drains were inactive and where they discharged to (See Photo 21 and 22).
 - A shed made of concrete blocks was located beside the south stands on the western side. MOR did not have access to this shed, however, it appears that this shed is used to store jackets, flags, nets and some kind of machinery (according to a note posted in the main door).
 - A couple of food trucks were also located beside the south stands on the western side and the concrete shed. Three canisters of flow gas were situated at the back of one of the trucks with a capacity of 47 kilos each (See Photo 23).
 - Some beer bottles, rubbish bags, brown and black bins, buckets, brushes, cardboard, etc., were observed in the area behind the food trucks and the concrete shed.
- Indoors, beneath the south stand the following was observed:
 - In the furthest west end of the stands are toilets and a bar area, all were in good condition and had good housekeeping practices in place;
 - A series of storage areas, including a cleaning chemicals storage room, electricity mains storage room and amplification room, and a stock storage room with a commercial fridge were inspected and all were in good condition.
 - At the eastern side of the building are more toilets, teams changing rooms and referee changing room, three staff offices and a staff room, including a jersey and football supplies shop and another bar and two sets of toilets. There is an electricity switch board in the staff room. All of these areas were tidy and have good housekeeping practices in place. There was no staining or noticeable odour observed in any of these areas.
 - There is a fire exit at the eastern most part of the building where some waste was being stored in a blue skip but was not obstructing the exit.
 - See Photo 24 to 27.
- The car park in the north-western section of the Site was in good condition. The car park slopes towards the east towards the north stands (Connaught Street stands). Storm water drains were not present in this car park to drain rainwater. According to site personnel some areas have been affected by a Japanese Knotweed. However, Dublin City Council have cordoned off these areas, which have been treated for the past number of years (See Photo 28).

At the time of the visit, MOR did not have access to the pump house where the groundwater well is located. Therefore, this building has not been assessed for any potential environmental liability. As stated before, according to site personnel, this area where the pump house is located does not belong to the Site boundary.

Based on the professional judgement of the MOR Environmental consultants who undertook the site visit, the Site appeared to be maintained in a reasonably good condition.

4.2 Asbestos

According to the findings of an asbestos report conducted by About Safety Ltd. (About Safety Ltd., 2019) asbestos containing materials were found at different locations around the Site. The areas of confirmed asbestos included:

- Asbestos containing bitumen adhesive in the floor tiles under the carpet in the referee's changing room.
- Asbestos containing cement sheeting debris in the electrical cupboard in the Gents WC.
- Single skin asbestos cement sheeting in the old turnstiles in the North Stand and miscellaneous debris around the ground and on the raised mounds of earth of under the stand.

The survey also concluded locations where it is strongly presumed that asbestos containing materials are. These included:

- Integral areas of the old boiler unit are presumed to contain asbestos.
- Integral areas of the old grey electrical panel in the Des Kelly Stand presumed to contain asbestos.

These areas require investigation by a competent contractor prior to any works commencing which are likely to disturb the asbestos in these areas.

Furthermore, asbestos fibres were detected in all samples analysed in the soil samples collected from the trial pits excavated in the west stands (Des Kelly stand and berm) (Ground Investigations Ireland, 2021). However, asbestos containing materials (ACMs) were not identified in any of the samples. The level detected in all cases was below the hazardous level of 0.1%. Refer to section 4.3 for a description of the material encountered during this site investigation.

4.3 Previous Site Investigations - Soil

IGSL Limited requested O'Callaghan Moran & Associates (OCM) to undertake a waste characterisation assessment of the made ground collected from five (5 No) probe holes (WS01 to WS05) installed at the north stands (Connaught Street stands) including samples taken in the corridor area below the stands and samples taken in the seating areas of the stands. The made ground consisted of man-made material >2% of the soil matrix at all locations. This included red brick fragments, concrete, ash and timber.

The composite samples were analysed for a broad suite of parameters; metals (arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc), total organic carbon, BTEX (benzene, toluene, ethylbenzene and xylene) aliphatic and aromatic hydrocarbons, polychlorinated biphenyls (PCB), mineral oil, polyaromatic hydrocarbons (PAH) and asbestos. Leachate generated from the samples was tested for the same metals as per the composite samples, chloride, fluoride, soluble sulphate, phenols, dissolved organic carbon, total dissolved solids. The results were compared against the WAC (Waste Acceptance Criteria) for Inert, Non-Hazardous and Hazardous Waste Landfills pursuant to Article 16 of the EU Landfill Directive 1999/31/EC Annex II, which establishes criteria and procedures for the acceptance of waste at landfills. Total Organic Carbon exceeded the inert WAC in WS02, WS03 and WS05, and the inert WAC increased limits in WS01. Antimony exceeded the inert WAC increased limits in WS01. All other samples complied with the inert landfill WAC. Asbestos was not detected at any of the soil samples collected from the probe holes.

All samples were classified as non-hazardous according to the Haz Waste Online Classification Tool (HWOL), and the appropriate List of Waste Code was 17 09 04

(Construction and Demolition Waste other than those mentioned in 17 09 03*) (O'Callaghan Moran & Associates, 2021).

In accordance with waste management options, all samples were classified as 17 09 04 and therefore would not be suitable for soil recovery. The waste management options for the Connaught Street stands were as follows:

- Soil (wastes) encountered at WS04 were deemed suitable for recovery/disposal to inert waste landfill;
- Soil (wastes) encountered at WS02, WS03 and WS05 were deemed suitable for recovery/disposal to inert waste landfill with increased limits; and,
- Soil (wastes) encountered at WS01 were deemed suitable for disposal to a non-hazardous landfill.

GII conducted a Waste Classification Assessment for a proposed redevelopment of the still existing west stands (Des Kelly Stands and berm area) - roofed stands, in August 2021 (Ground Investigations Ireland, 2021). This section of the roofed stands has since been removed and in its place, there is an exposed soil berm ca. 5m in height on top of which, the roofed stands were located. According to GII, as part of the proposed redevelopment of the existing stands, the level of the material underlying the stands will be reduced. Therefore, this material that will be excavated and removed would be assessed in terms of waste disposal outlets.

The mound/berm was comprised of made ground (mixture of subsoils (generally slightly gravelly very clayey fine to coarse Sand) with construction and demolition wastes (C&D waste - occasional fragments of anthropogenic materials including concrete, tile, ceramic, timber, slates, glass, metals and red brick). The made ground underlying the roofed stands was visible from the rear of the stands, as the material was exposed in this area. Six (6 No) trial pits were excavated in this area and six (6 No) soil samples were taken for laboratory analyses. Asbestos fibres were detected in all samples analysed, however, ACMs was not identified (as stated in section 4.2). In addition, the level of asbestos fibres was below the hazardous level of 0.1% (asbestos dry weight).

Due to the different composition (%) of C&D waste encountered in the made ground, there are potentially two sets of List of Waste (LoW) codes with "mirror" entries, which may be applied to excavated materials to be removed from site:

- 17-05-03* (soil and stone containing dangerous substances, classified as hazardous) or 17-05-04 (soil and stone other than those mentioned in 17-05-03, not hazardous); or,
- 17-09-03* (other construction and demolition wastes (including mixed wastes) containing hazardous substances) or 17-09-04 (mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03).

According to the Haz Waste Online classification tool (HWOL), which assists in the classification of potentially hazardous materials to determine whether the materials collected are classified as hazardous or non-hazardous, the material present at the Site (west stands – Des Kelly stands and berm) were classified as follows;

- The samples collected from TP-02 and TP-03 were classified as hazardous due to elevated levels of TPH and the associated hazardous properties HP7 Carcinogenic and HP11 Mutagenic;
- The sample collected from TP-04 was classified as hazardous due to elevated levels of lead and zinc and the associated hazardous property HP14 Ecotoxic; and,
- The rest of the samples (TP-01, TP-05 and TP-06) were classified as non-hazardous.

The WAC is only applicable to evaluate the suitability of waste materials to be disposed of as a waste at a landfill facility. However, the WAC is not suitable for use in the determination of whether a waste is hazardous or non-hazardous. Therefore, the WAC data in combination with the results obtained using the Haz waste Online tool were used to determine the most suitable waste category to be applied to the material tested and to determine the appropriate disposal route for any waste generated.

- TP-02, TP-03 and TP-04 classified as Category D (Hazardous Treatment) – Results found to be hazardous using HWOL tool (elevated levels of TPH (TP-02 and TP-03) and elevated levels of lead and zinc (TP-04)).
- TP-01 and TP-05 classified as Category C1 (Non Haz Landfill) – As Category C but containing <0.001% w/w asbestos fibres. Category C – Within non-hazardous landfill according to the waste acceptance limits and also non-hazardous using the HWOL tool.
- TP-06 classified as Category C2 (Non Haz Landfill) - As Category C but containing >0.001% and <0.01% w/w asbestos fibres.

According to the site personnel (DCC), it is planned to have these soils removed by the appropriate waste contractor. MOR requested information regarding the timeframe for these removal works. However, the requested information was not received at the time of preparing this report.

4.4 Previous Site Investigations - Groundwater

Envirologic conducted a hydrogeological assessment (i.e., pumping test and water quality) on the existing groundwater well located south-east of the Site. According to the Envirologic report (Phase I Hydrogeological Assessment, 2018), the existing groundwater well is within lands to be used for the construction of a new shopping centre, and therefore needs to be replaced with a new production well within the boundary of the Site. The existing well will be decommissioned once the new production well is in operation.

The bedrock in the area is calp limestone, which is classified as a locally important aquifer that is moderately productive only in local zones (LI). The level of impurity of calp limestones indicates that it is not susceptible to karstification, the process of dissolution, which can result in highly transmissive pathways (Envirologic, 2018).

The groundwater well tends to pump dry when pumped over several hours. The pump is a jet-type pump, with motor at surface. Groundwater was currently pumped to storage tanks with a combined capacity of 6 m³ (Envirologic, 2018). A groundwater sample collected from the well in July 2018 noted that it was free from pesticides and hydrocarbons but contained very low (orthophosphate and nitrates) to low-moderate (ammonia) nutrient levels. The water was noted as clear with no odour. This water is only suitable for pitch irrigation. The Site uses potable water from the mains for all other uses onsite (showers, toilets, bar, etc.).

A new well will be installed adjacent to the eastern end of the south stands (Jodi Stands) and will replace the existing groundwater well. The drilling specifications and installation details of the new well were discussed within the Phase I Hydrogeological Assessment Report (Envirologic, 2018).

5 POTENTIAL ENVIRONMENTAL LIABILITIES

5.1 General

The following chapter outlines the key environmental findings compiled for the Client in terms of potential liabilities associated with the Site.

5.1.1 Potential Liabilities

MOR identified the following risks associated with current operations onsite that could result in potential environmental liabilities:

1. Fuel/oil leaks and spills:
 - a. There is a risk of a spill/leak of oil from the oil drum/ tank present on site, either during refuelling or due to compromised integrity of the drum/tank.
 - b. There is a risk of oil/fuel leak from vehicles parked at the car park areas (i.e., staff car park (south-eastern area of the Site) and public car park (north-western area of the Site)).
 - c. The car park to the north-western area of the Site does not have any formal storm water drainage installed. This area was observed to slope to the east towards the north stands (Connaught Street stands).
 - d. The integrity of the metal bund present within the staff car park could not be confirmed.
2. The asbestos containing materials at the Site, especially at the northern stands (Connaught Street stands), could deteriorate further, due to wear and tear, and could be disturbed during works onsite.
3. The berm in the area where the Des Kelly stands (west stands) was once present (roofed section of the west stand) contains materials that have a noticeable discolouration (darker colour). The assessment of the soil samples collected from six trial pits in this area by GII concluded that the materials present were classified as follows:
 - a. Non-hazardous at TP-01, TP-05 and TP-06 containing variable amounts of asbestos fibres (<0.001% w/w at TP-01 and TP-05 and >0.001% and <0.01% w/w at TP-06); and,
 - b. Hazardous at TP-02, TP-03 and TP-04 due to the elevated levels of TPH (TP-02 and TP-03) and metals (lead and zinc (TP-04)).

Asbestos fibres were detected in all samples, the level of which was below the hazardous level of 0.1% (asbestos dry weight). ACMs was not identified in this part of the Site. The issue with asbestos fibres in soils is that they can be very random, therefore some waste facilities in Ireland will not accept waste soils that contain asbestos fibres regardless of their waste classification. The presence of asbestos fibres raises potential constraints for offsite disposal.

The elevated contamination identified in samples collected from a number of trial pits (TP-02, TP-03 and TP-04) would present a liability if the soil from these locations were to be reused on site. These materials will need to be removed off site and disposed of in strict accordance with all requirements of the Waste Management Legislation.

4. The pump on the ground within the boiler house and beside the staff car park, which is activated to allow excess rainwater that gets accumulated in this area to be pumped away. An oily sheen and noticeable solvent odour were noticed in this area. There is general lack of drainage details for the Site.
5. Japanese Knotweed was identified in the north-west car park, which could spread if not managed and contained appropriately.

5.1.2 Soil Contaminant Sources

Onsite sources of soil contamination are summarised as follows:

- Sources of historical contamination – According to site interviews with DCC, there was no information available pre-2016 in relation to potential contamination at the Site, as the Site was owned by Bohemian FC. DCC has confirmed that no contamination has occurred post-2016, since they acquired the Site.
- Current sources of onsite contamination due to spills or water discharges have the potential to occur due to the normal activities of the Site (see above Section 5.1) - potential environmental issues.
- Visual evidence of potential contamination was observed by the MOR Consultants on sections of the berm, on the exposed soils below the west stands (Des Kelly stands and berm) during the site walkover (i.e., discolouration). In addition, a moderate/strong solvent odour (olfactory evidence) was identified in the boiler room with an oily sheen (visual evidence) also noted in the rainwater within this area.
- The presence of ACMs in the north stands (Connaught Street stands) have the potential to become airborne if those areas are not managed and disposed of by an appropriate contractor, especially when the area is demolished / removed (section 5.1.1). The presence of asbestos fibres in the west stands (Des Kelly stands) have the potential to become airborne or already have become airborne (fibres) due to the removal of the Des Kelly stands and the exposure of this soil material (berm) to the environment.

Further assessment would be necessary to fully characterise the extent of any potential residual contamination present on site coming from those sources.

5.1.3 Surface Water Contaminant Sources

Site personnel were not able to confirm details of where the storm water drains discharge to or the layout of the storm water drainage system at the Site (or the presence of an oil interceptor). MOR Consultants identified one (1 No) stormwater drain in the staff car park to the south-east and seven (7 No) storm water drains, including two (2 No) aco drains, surrounding the south stands. The boiler room has also a manual activated pump to remove excess rainwater that builds up during a rainfall event, however the destination of this pumped water could not be confirmed by site personnel.

The car park to the north-west area of the Site does not have any storm water drains present. The destination of the surface water runoff from this car park would need to be confirmed, along with the destination of the storm water drainage system at the Site.

5.1.4 Groundwater Contaminant Sources

The groundwater that is pumped into IBCs and is used to water the pitch, would not be suitable for other uses due to the very low to low-moderate nutrient levels (section 4.4). MOR did not have access to the pump house or the groundwater well during the Site visit and therefore, could not assess the potential liabilities arising from this infrastructure.

In order to avoid potential groundwater contamination to the underlying aquifer, the decommissioning of the well should be undertaken according to best practise procedures and supervised by an environmental geologist to ensure it is properly decommissioned. In addition, the new well should be drilled and installed as per the specifications set out in the Phase I Hydrogeological Assessment (Envirologic, 2018).

Furthermore, if the pump located within the boiler room does not discharge to a storm water drainage system and an oil interceptor is not located on site capable of separating the oily water present within the rainwater observed during the site visit, this water has the potential to reach the underlying aquifer and receiving waters. IDOM have confirmed as part of the site

investigations the installation of four (4 No) shallow groundwater wells at the Site (ca. 20m bgl total depth), one in the north, one in the south, one in the east and one in the west in order to measure changes in water level. According to IDOM, water samples could be retrieved from these groundwater wells to ascertain the quality of the aquifer beneath the Site to assess potential contamination. These groundwater wells could also be used to infer the groundwater flow direction if a topographical survey is carried out after the installation on these wells.

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6 CONCLUSIONS

Based on the Site visit and documentation made available to MOR, the findings of this Phase 1 due diligence assessment were as follows:

- The Site is zoned by Dublin City Council CDP as Zone Z9 lands *'to preserve, provide and improve recreational amenities and open space and green networks'*, and Zone Z4 *'to provide for and improve mixed-services facilities'*.
- Based on the professional judgement of the MOR Environmental consultant who undertook the inspection, there was some visual evidence of potential contamination (i.e., soil discolouration – black colour) identified in the berm located in the west stands (Des Kelly stands) and moderate-strong solvent odour was identified in the boiler room with an oily sheen present in the stagnant rainwater. However, overall, the Site appeared to be maintained in a reasonably good condition, though the following environmental compliances matters were identified:
 1. The areas identified by About Safety Ltd. (north stands and south stands) as containing asbestos materials will need to be assessed further and removed by an appropriate contractor during the demolition works in accordance with all relevant legislation.
 2. Soil with elevated contamination has been identified in some specific samples collected during the trial pit excavation in the berm located in the west stands (Des Kelly stands) due to the elevated levels of TPH, lead and zinc (TP-02, TP-03 and TP-04). Asbestos fibres were identified in other samples (TP-01, TP-05 and TP-06). Based on these results, the soils from this berm should not be reused onsite and should be removed offsite in strict accordance with the relevant Waste Management Legislation.
 3. There were no records or evidence to confirm either the design or the integrity of the storm water drainage system.
 4. Although there was no evidence of staining on the ground, there was no documentary evidence to confirm that the bund onsite had ever been integrity tested.
 5. In absence of accurate drainage drawings for the Site, there is an uncertainty as to whether the pumped water, that based on visual and olfactory evidence appeared to be contaminated in the boiler room is being discharged to.
 6. There was Japanese Knotweed identified in the north-west car park, which needs to be managed and contained appropriately.

7 RECOMMENDATIONS

Based on the findings of this Phase 1 Environmental Site Assessment it is recommended that the following is carried out:

1. The areas where ACMs (north stand - Connaught Street stands) and asbestos fibres (west stands - Des Kelly stands) were identified to present a potential liability, therefore, they would need to be removed by a suitable asbestos contractor in accordance with all relevant legislation.
2. The elevated contamination (TPH, lead and zinc) present at specific areas in the berm (Des Kelly stands) would not be suitable for reuse on site and they would need to be removed by a suitable contractor and disposed of in accordance with all relevant legislation. Therefore, the areas of hydrocarbon contamination should be better delineated before sending material off site as hazardous waste.
3. In order to confirm that the identified non compliances have not impacted upon the underlying groundwater to the extent that could result in future liabilities, groundwater samples should be taken from the four groundwater wells to be installed by IDOM to confirm the water quality beneath the Site.
4. The oil tank and bund should be integrity tested and the design capacities reviewed. Subject to obtaining these details a programme of upgrade works may be warranted.
5. A CCTV of the drainage network should be undertaken to confirm the integrity of the drains and also to provide an accurate drainage map.
6. Japanese Knotweed will have to be mapped and managed to avoid further spreading.

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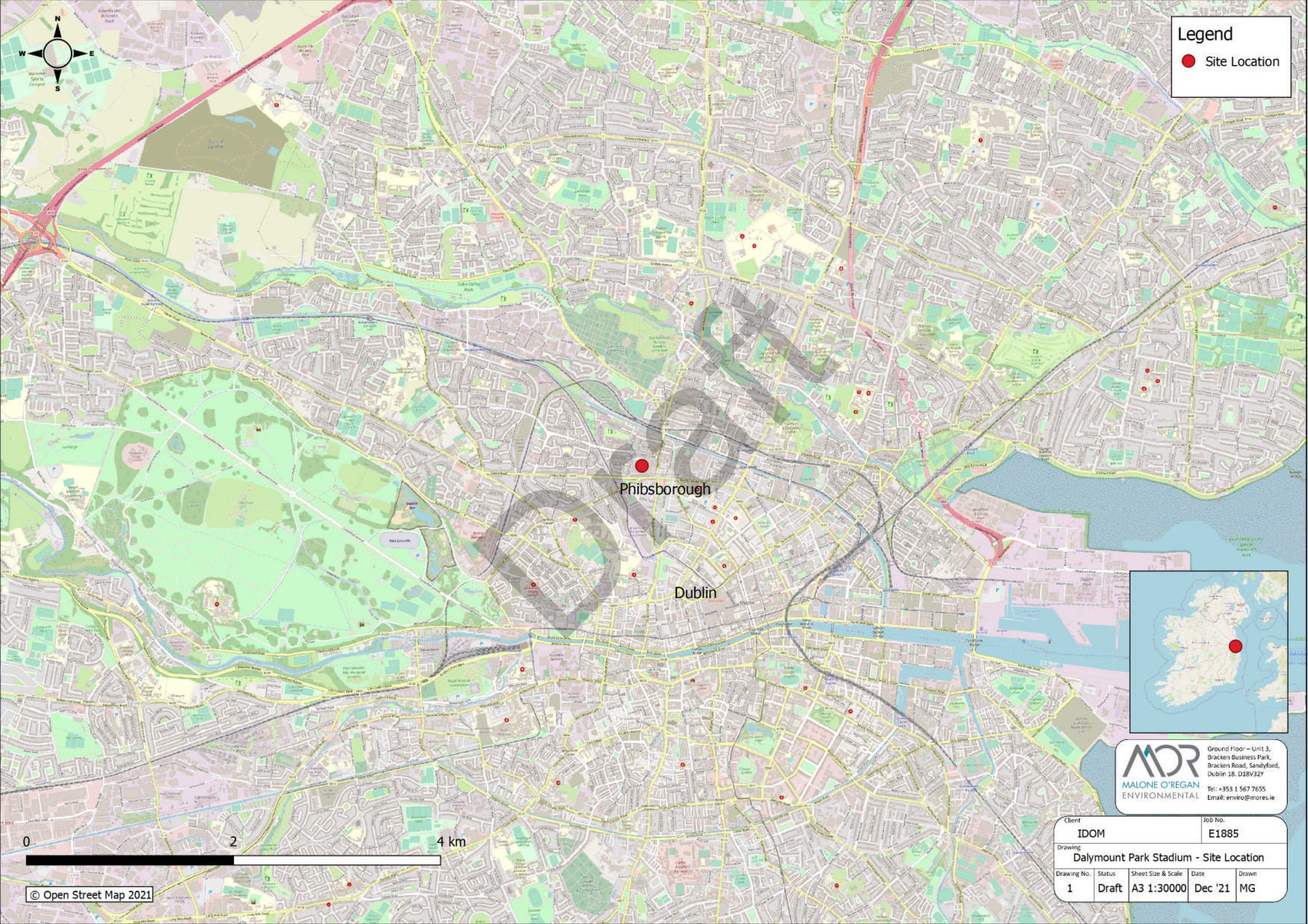
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Appendices

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Appendix A



Legend

- Site Location

Phibsborough

Dublin



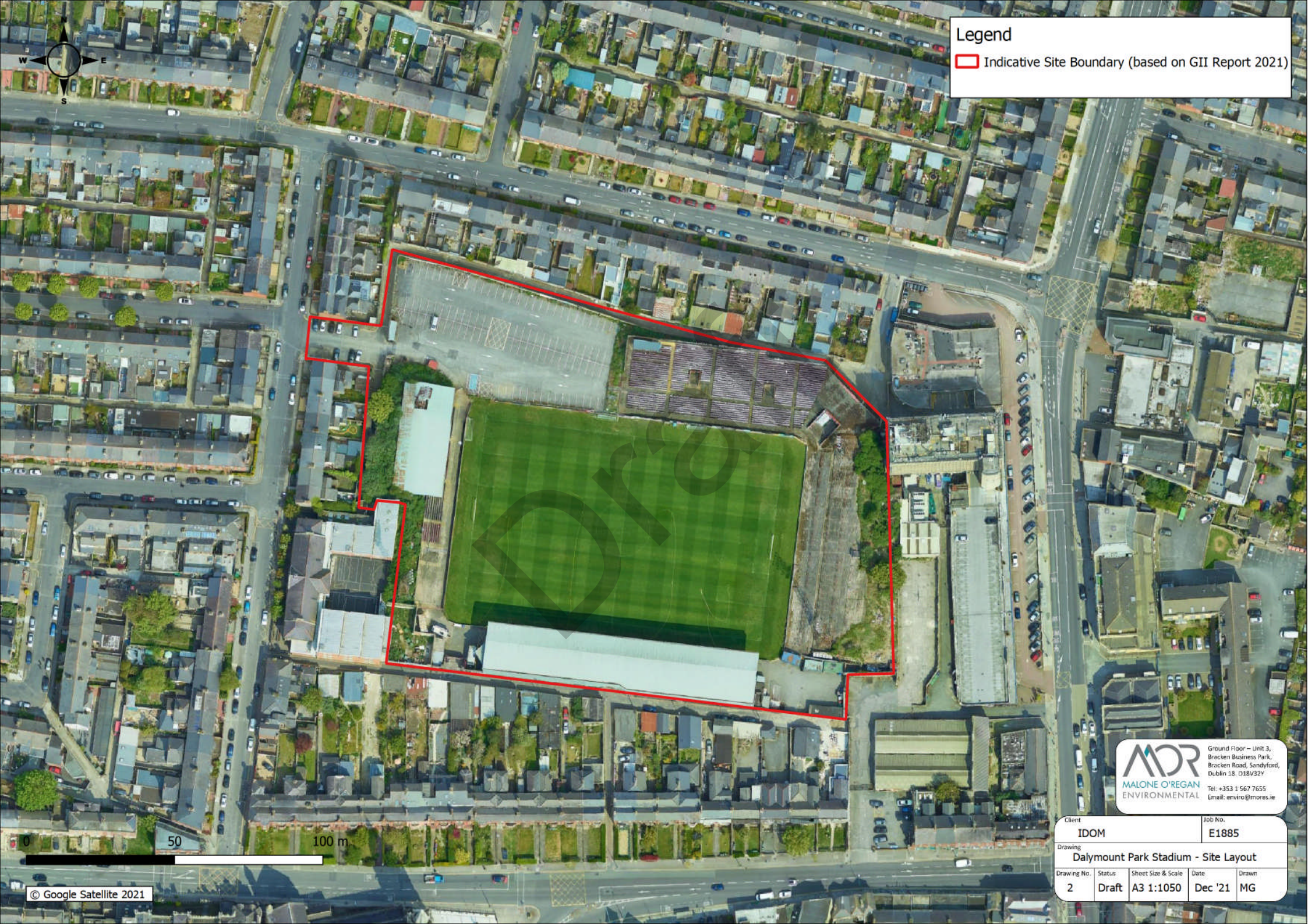
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Client		Job No.	
IDOM		E1885	
Drawing			
Dalymount Park Stadium - Site Location			
Drawing No.	Status	Sheet Size & Scale	Date
1	Draft	A3 1:30000	Dec '21
			Drawn
			MG



Legend

Indicative Site Boundary (based on GII Report 2021)

MOR
MALONE O'REGAN
ENVIRONMENTAL

Ground Floor – Unit 3,
Bracken Business Park,
Bracken Road, Sandyford,
Dublin 18, D18V32Y
Tel: +353 1 567 7655
Email: enviro@mores.ie

Client		Job No.	
IDOM		E1885	
Drawing			
Dalymount Park Stadium - Site Layout			
Drawing No.	Status	Sheet Size & Scale	Date
2	Draft	A3 1:1050	Dec '21
Drawn		MG	



Legend

Indicative Site Boundary (based on GII Report 2021)

Car Park

Des Kelly Stand

Connaught Street Stand

East Stand

Jodi Stand

Staff Car Park

50 100 m

MOR
MALONE O'REGAN
ENVIRONMENTAL

Ground Floor - Unit 3,
Bracken Business Park,
Bracken Road, Sandyford,
Dublin 18. D18V32Y
Tel: +353 1 567 7655
Email: enviro@mores.ie

Client IDOM		Job No. E1885	
Drawing Dalymount Park - Site Layout (Labels)			
Drawing No. 3	Status Draft	Sheet Size & Scale A3 1:700	Date Dec '21
Drawn MG		Date Dec '21	

Draft

Appendix B

Photo 1: Staff Car Park

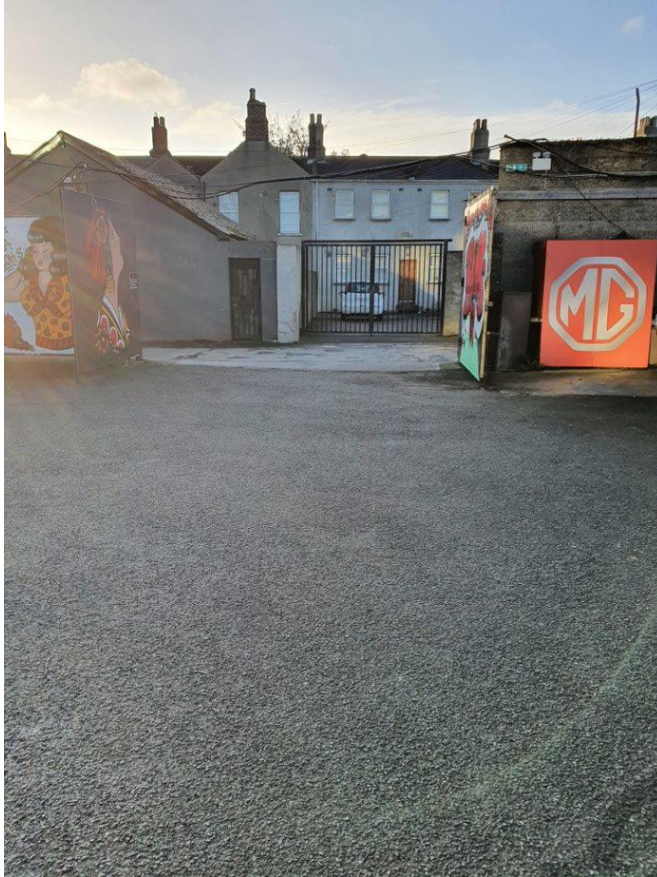


Photo 2: Oil Tank – Inside Metal Bund



Photo 3: Oil Tank and Bund atop of Concrete Block



Photo 4: Boiler Room – Pump (Rainwater)



Photo 5: Boiler Room



Photo 6: IBCs beside East Stands



Photo 7: Pipes running from Groundwater Well in Pumphouse to IBCs



Photo 8: East Stands



Photo 9: East Stands

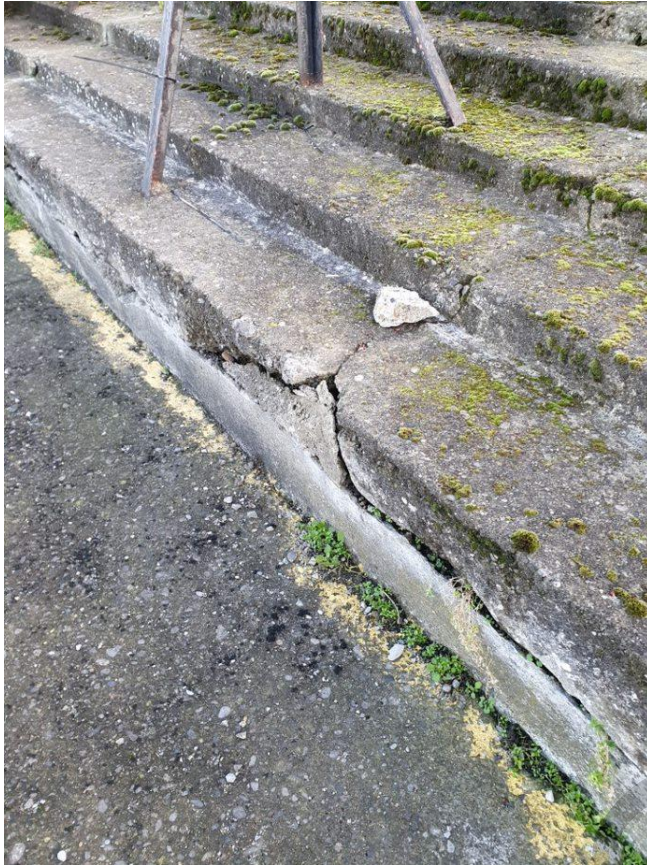


Photo 10: Turnstiles under North Stands Seating Area



Photo 11: Corridor under North Stands Seating Area



Photo 12: Wires - North Stands



Photo 13: North Stands Hardstanding and Hardcore with Debris



Photo 14: North Stands facing South-East

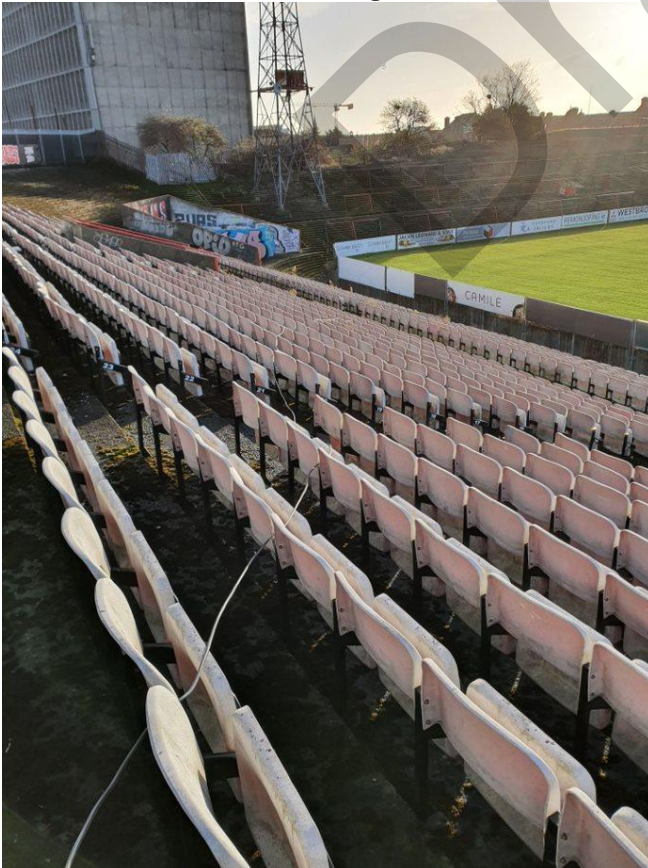


Photo 15: Commentator's Box - North Stands

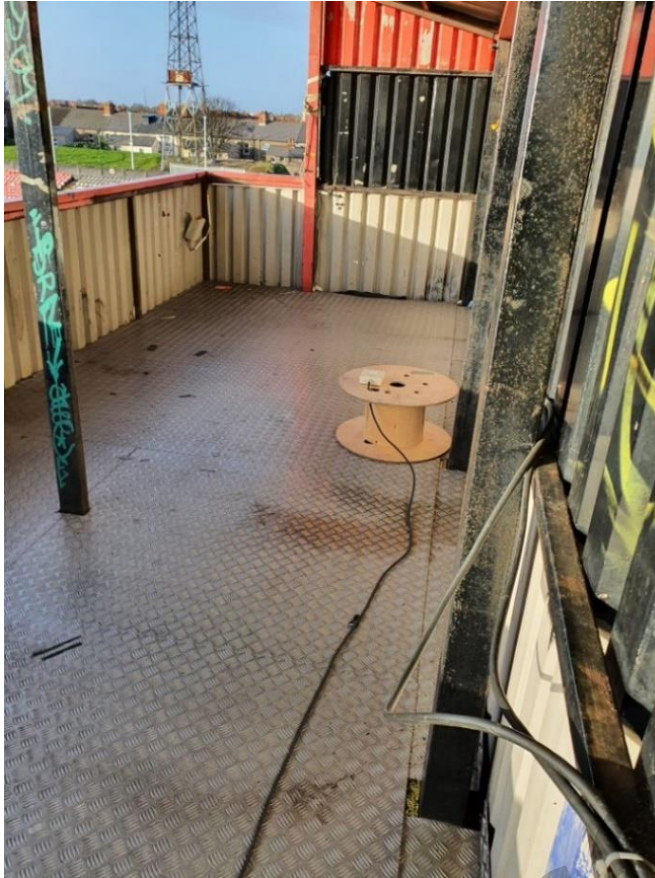


Photo 16: West Stands facing North



Photo 17: Berm where Des Kelly Stands used to be located



Photo 18: Soil Discolouration (Berm)



Photo 19: South Stands facing West



Photo 20: South Stands



Photo 21: Aco Drain - South Stands



Photo 22: Drain - South Stands



Photo 23: FloGas Cannisters behind Food Truck

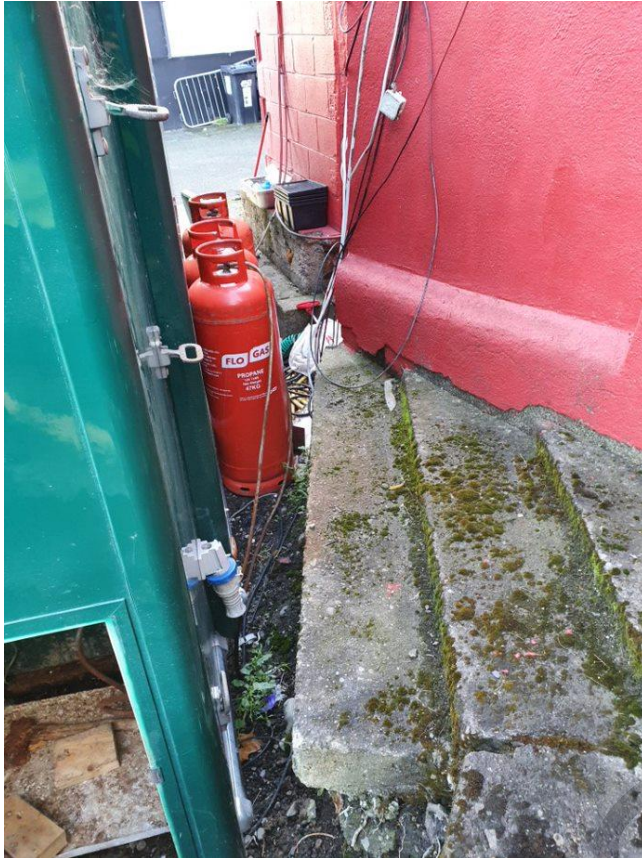


Photo 24: Bar Area under South Stands

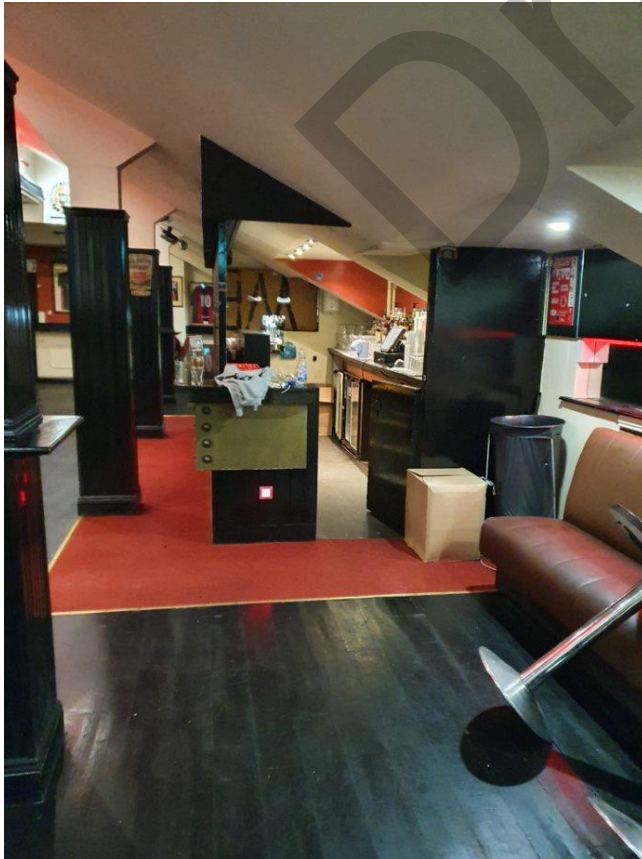


Photo 25: Cleaning Storage Area – South Stands

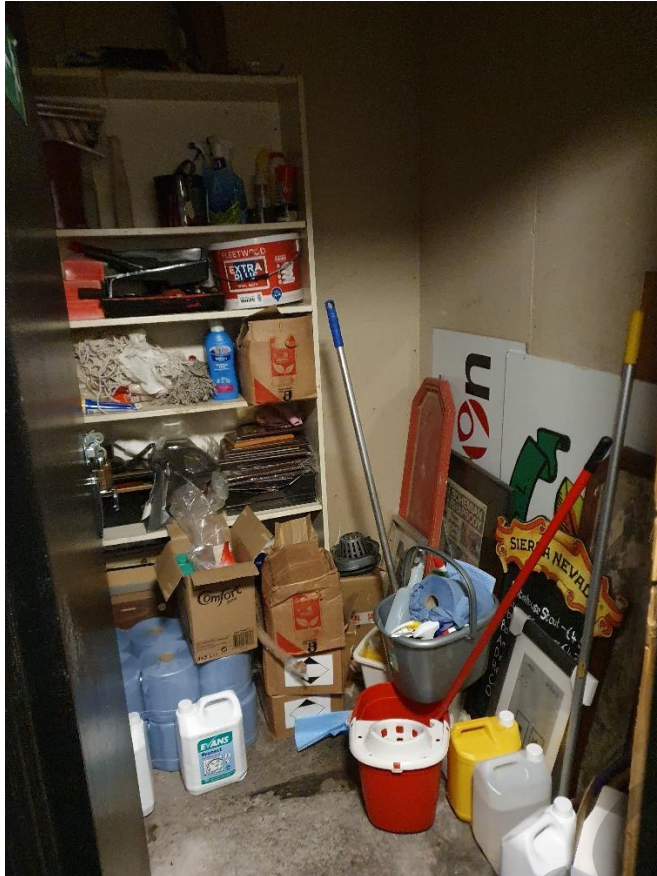


Photo 26: Shop - South Stands



Photo 27: Electricity Switch Board Staff Room - South Stands



Photo 28: Japanese Knot Weed North-West Car Park

