



EUSTON TOWER

Basement Impact Assessment

December 2023



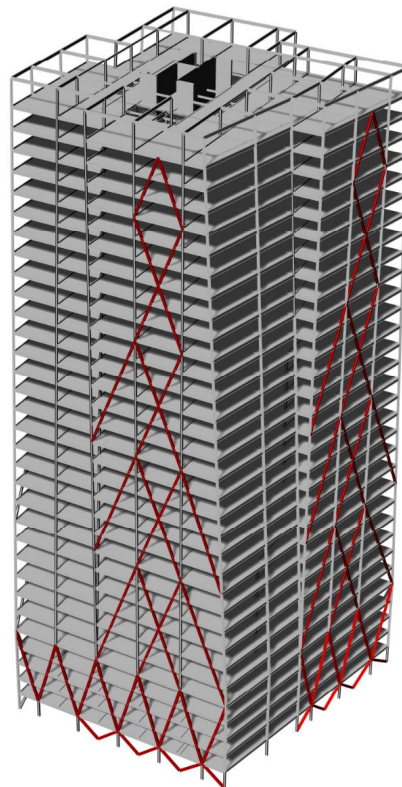
British Land Property Management Limited

Euston Tower, 286 Euston Road

Basement Impact Assessment

Reference: 281835-GEO-RP-00003

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Job number 281835

Ove Arup & Partners Limited

8 Fitzroy Street
London
W1T 4BJ
United Kingdom
arup.com

Contents

Non-technical summary	1
1. Introduction	2
2. The site	3
2.1 Site location	3
2.2 Existing Euston Tower	4
2.3 Site history	4
2.4 Topography	5
2.5 Neighbouring buildings and assessment methodology	6
2.6 Neighbouring highway assets	8
2.7 Tunnels and utilities	10
2.8 Future infrastructure	12
2.9 Unexploded ordnance	14
2.10 Flood risk assessment	15
3. Ground conditions and ground model	16
3.1 Regional geology	16
3.2 Site investigations	16
3.3 Stratigraphy	17
3.4 Ground model	20
3.5 Groundwater	22
4. Screening assessment	24
4.1 Screening assessment methodology	24
4.2 Subterranean Screening Assessment	24
4.3 Stability Screening Assessment	24
4.4 Surface Flow and Flooding Screening Assessment	26
4.5 Summary of potential impacts and mitigations	27
5. Basement design	28
5.1 Proposed development	28
5.2 Proposed basement geometry	28
5.3 Foundations	29
5.4 Construction sequence	31
6. Preliminary ground movement assessment	33
6.1 Scope of the assessment	33
6.2 Ground movements	33
7. Basement impact assessment conclusions	38
7.1 Summary	38
7.2 Monitoring strategy	38
References	39

Tables

Table 1: Summary of site historical development	5
Table 2 - Summary of tunnels and utilities identified from statutory search.	10
Table 3: Summary of encountered stratigraphy from nearby site investigations.	18
Table 4: Anticipated site stratigraphy	19
Table 5: Preliminary ground model adopted for ground movement assessment.	20
Table 6: Monitored groundwater levels from nearby site investigations.	22
Table 7: Key stages considered for ground movement assessment.	33

Figures

Figure 1: Site location plan (Google Earth, 2022)	4
Figure 2: Large single-storey shared basement across Regents Place Estate	4
Figure 3: 1 Triton square looking west from Euston Tower (image taken 10/11/2023, Arup)	7
Figure 4: 2 Triton Square looking west from Euston Tower (image taken 10/11/2023, Arup)	8
Figure 5: a) 10-30 Brock Street (North East Quadrant) looking west from Hampstead Road; b) 10-30 Brock Street pedestrian zone (images taken 10/11/2023, Arup)	8
Figure 6 - Map of publicly owned land (source https://apps.london.gov.uk/public-land/ accessed 16/1/22)	9
Figure 7 - Euston Road underpass under construction (Evening Standard, 1965)	10
Figure 8 - Euston Road Underpass under construction ~1966 Source- A London Inheritance/ London Metropolitan Archives https://alondoninheritance.com/london-streets/a-lost-bank-and-the-adam-and-eve-pub-on-the-corner-of-euston-road-and-hampstead-road/attachment/eus	10
Figure 9 – TfL/LUL Statutory utility search response dated 7 November 2019, obtained via Groundwise. The location of Warren Steet station is shown in blue.	11
Figure 10 - Crossrail 2 safeguarding directions Sheet No24. March 2015. [MMD-307346-C-DR-SG-XX-1124]	12
Figure 11 - Crossrail 2 safeguarding map extract – a) accessed 13/1/2023 b) Mk20.1 provided by CR2 9/10/23.	13
Figure 12 - Exclusion zone section from the Crossrail 2 Information for Developers, (April 2021)	14
Figure 13 - Layers of London Bomb damage map from the London Metropolitan Archives webmap (https://www.layersoflondon.org/ accessed 17/01/2023)	15
Figure 14 - West-east geological cross-section	17
Figure 15: Undrained shear strength from Undrained Unconsolidated triaxial results on 100mm diameter samples.	22
Figure 16 - Lost rivers of London (https://www.hiddenhydrology.org/ , accessed 17/01/2023)	22
Figure 17: Proposed redevelopment of Euston Tower building	28
Figure 18: Proposed Basement 02 plan (extract from 3XN drawing no.: ET_DR-A_20098)	29
Figure 19: Plan showing anticipated existing foundations of Euston Tower	30
Figure 20: New foundations showing existing and new piled raft areas.	31
Figure 21: Current anticipated indicative construction sequence (extract from indicative proposal, May 2023)	33
Figure 22: Net unloading applied in Oasys PDISP model, resulting from partial superstructure deconstruction and proposed Basement 02 excavation.	35
Figure 23: Net unloading/ loading applied in Oasys PDISP model, resulting from partial superstructure deconstruction, proposed Basement 02 excavation and new superstructure loading.	35

Figure 24: Calculated short term heave (mm) at basement level +21.6mOD resulting from partial superstructure deconstruction and proposed Basement 02 excavation.	36
Figure 25: Calculated short term settlement (mm) at basement level +21.6mOD resulting from partial superstructure deconstruction, proposed Basement 02 excavation, and new superstructure loading.	36
Figure 26: Calculated long term settlement (mm) at basement level +21.6mOD resulting from partial superstructure deconstruction, proposed Basement 02 excavation, and new superstructure loading.	37

Drawings

No table of figures entries found.

Pictures

No table of figures entries found.

Photographs

No table of figures entries found.

Attachments

No table of figures entries found.

Appendices

Appendix A – Plowman Craven topographic survey	44
Appendix B – Site constraints plans.	44
Appendix C – Regional geology	44
Appendix D – Existing ground investigation information	44
Appendix E – Crossrail 2 safeguarding correspondence	44

Non-technical summary

This Basement Impact Assessment (BIA) report has been prepared by Ove Arup and Partners Ltd (Arup) on behalf of British Land Property Management Limited in support of a planning application at Euston Tower, 286 Euston Road, London NW1 3DP.

The proposed development comprises redevelopment of Euston Tower, including the partial retention (retention of existing core, foundations and basement), disassembly, reuse and extension of the existing building, to provide a 32-storey building for use as offices and research and development floorspace (Class E(g)) and office, retail, café and restaurant space (Class E) and learning and community space (Class F) at ground, first and second floors, and associated external terraces. Provision of public realm enhancements, including new landscaping, and provision of new publicly accessible steps and ramp. Provision of short and long stay cycle storage, servicing, refuse storage, plant, and other ancillary and associated works.

A new steel structural frame and new floorplates will be constructed, with the foundations and central core being reused. New supplementary foundations will be constructed to support the new superstructure where it extends beyond the extent of the existing piled raft. A local Basement 02 level is proposed underneath the existing single level basement to accommodate a water tank and plant room. The proposed local Basement 02 level has a plan dimension of approximately 7.45m x 33m (246 sqm), located to the west of existing pinwheel piled raft. The proposed FFL is +19.77mOD in relation to the general single level basement level of +23.9mOD.

The assessment presented in this BIA report is based on guidance provided in the following documents (listed in top-down hierarchy order):

- Camden Local Plan - Policy A5 'Basements' (Camden 2017).
- Camden Planning Guidance (CPG) on Basements (Camden, 2021); and
- Camden geological, hydrogeological, and hydrological study. Guidance for subterranean development (Camden, 2010).

A screening assessment has been carried out in accordance with Camden geological, hydrogeological, and hydrological study. Guidance for subterranean development (Camden, 2010). It is concluded that the proposed development is unlikely to result in any groundwater or surface water issues. This basement impact assessment complies with the requirements of the Camden Local Plan - Policy A5 'Basements' (Camden, 2017) and the latest Camden Planning Guidance on Basements (Camden 2021).

Preliminary ground movement assessment carried out in this report indicated that the neighbouring 1 Triton Square and 2 Triton Square do not fall within the zone of influence for ground movements associated with the proposed development. The southern façade of neighbouring North East Quadrant (10-30 Brock Street) falls within the zone of influence. However, the potential impact of the long-term settlements on 10-30 Brock Street is anticipated to be negligible.

The site falls within the 2015 Crossrail 2 Safeguarding Directions and is located to the west of Northern and Victoria line tunnels, to the north of St Johns Wood to Back Hill deep cable tunnel and Hammersmith & City, Circle and Metropolitan line tunnel). Third party consultation and engagement with the respective asset owners is in progress. Ground movement assessments will be carried out in separate standalone technical assessments for review by the respective third parties ahead of the proposed development as required.

1. Introduction

Ove Arup and Partners Ltd (Arup) have been commissioned by British Land Property Management Limited to carry out a Basement Impact Assessment to support the planning application for the proposed development of Euston Tower, 286 Euston Road, London NW1 3DP.

Euston Tower is the last largely unaltered building constructed as part of the Euston Centre estate for developer DE & J Levy between the years 1962-1972. The estate was designed by architect Sidney Kaye, Eric Firmin & Partners, and the structural engineer for the tower was John De Bremaecker & Partners who are believed to have designed both the sub and super-structure. The Euston tower superstructure was constructed by contractor George Wimpey between approximately 1965 and 1970; it is unclear whether they also constructed the substructure and foundations. The podium was refurbished at the turn of the millennium by architects Sheppard Robson with structural engineers Arup.

The proposed development comprises redevelopment of Euston Tower, including the partial retention (retention of existing core, foundations and basement), disassembly, reuse and extension of the existing building, to provide a 32-storey building for use as offices and research and development floorspace (Class E(g)) and office, retail, café and restaurant space (Class E) and learning and community space (Class F) at ground, first and second floors, and associated external terraces. Provision of public realm enhancements, including new landscaping, and provision of new publicly accessible steps and ramp. Provision of short and long stay cycle storage, servicing, refuse storage, plant, and other ancillary and associated works.

A new steel structural frame and new floorplates will be constructed, with the foundations and central core being reused. New supplementary foundations will be constructed to support the new superstructure where it extends beyond the extent of the existing piled raft. A local Basement 02 level is proposed underneath the existing single level basement to accommodate a water tank and plant room. The proposed local Basement 02 level has a plan dimension of approximately 7.45m x 33m (246 sqm), located to the west of existing pinwheel piled raft. The proposed FFL is +19.77mOD in relation to the general 1 level basement level of +23.9mOD.

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- Camden Planning Guidance (CPG) on Basements (Camden, 2021); and
- Camden geological, hydrogeological and hydrological study. Guidance for subterranean development (Camden, 2010).

This BIA report is prepared by Arup as structural/ geotechnical and services designer of the proposed development. The report has been prepared or checked by a Chartered Civil Engineer (member of the Institution of Civil Engineers) and approved by a Chartered Civil Engineer (Fellow of the Institution of Civil Engineers.)

2. The site

2.1 Site location

Euston Tower (the site) is situated within the London Borough of Camden and the ward of Regent's Park. The site is bounded by Euston Road (south), Hampstead Road (east), Brock Street (north) and Regent's Place (west). The site covers an area of 8,079sqm, comprised of a single, ground plus an existing 36-storey tower. The tower has been largely vacant for several years, predominantly comprising office uses on the upper floors, however there are still retail uses currently in operation at ground floor level.

The site does not fall within a conservation area (CA); however, Fitzroy Square CA and Bloomsbury CA are both located in close proximity (south). There are no elements of the site that are statutory or locally listed. A Certificate of Immunity from listing has been submitted and at the time of submission is still pending in respect of the existing tower. There are several buildings located within a close radius of the site that are Grade I, Grade II, and Grade II* listed. The site has a PTAL rating of 6b indicating 'excellent' transport connectivity. The site is mainly served by Watten Street Underground Station (south), Euston Square Underground Station (east) and Great Portland Street Underground Station (west). There are also several bus routes that serve the site along Euston Road (south) and Hampstead Road (east).

The land surrounding the site consists of a range of uses. The site is designated within the Knowledge Quarter Innovation District (KQID), home to world-class clusters of scientific and knowledge-based institutions and companies specialising in life-sciences, data and technology and creative industries. The neighbouring Regents' Place comprises commercial, office and cultural land uses, as well as pedestrianised streets and public realm incorporated into the space. The closest residential properties are located along Drummond Street (north) and Hampstead Road (east).

The building is part of the mixed-use Regent's Place Estate, currently managed by British Land, as shown in Figure 1.

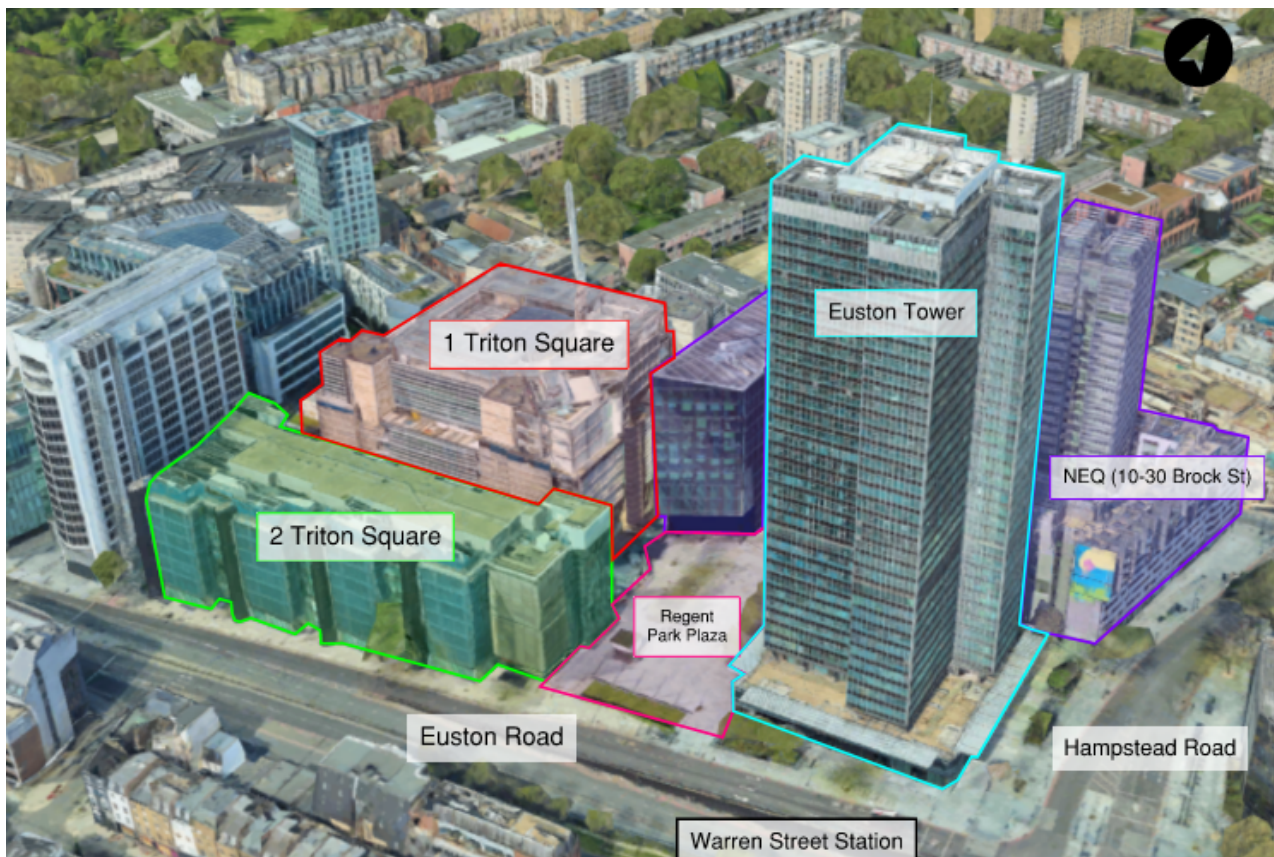


Figure 1: Site location plan (Google Earth, 2022)

2.2 Existing Euston Tower

Euston Tower is a 36-storey tall building standing on the northern edge of central London, situated in the south-west of the London Borough of Camden.

Located on the corner of Euston and Hampstead Road, at the top of Tottenham Court Road, the tower shares a busy intersection with the UCL Hospital campus and is directly opposite Warren Street Station. The current tower has a prominent presence, given its status as the tallest building in the borough aside from the nearby BT Tower, and as such acts as a physical landmark for London Euston, Euston Square and Warren Street stations as well as wayfinding for the wider neighbourhood.

Completed in 1970, Euston Tower is designed in the 'International Style'. Above a two-storey extruded glazed podium, the tower has a pinwheel plan clad in aluminium curtain walling with green reflective tinted glazing. It was designed as an office building to provide cellular office accommodation typical of the period and formed part of a wider masterplan known as The Euston Centre. It now stands on the eastern edge of the pedestrianised Regent's Place Estate.

Since its completion, the Euston Tower has undergone a small refurbishment, but beyond this its external form and façade remain as originally constructed. These elements of the building are in a generally poor condition, due to a combination of wear in use and the quality of the original detailing. Gradually it has been vacated, and since 2021, except for the retail at grade level, the building is entirely disused.

There is a large single-storey shared basement across Regent's Place Estate, which is bounded by Drummond Street to the north, Hampstead Road to the East, Euston Road to the South and by Osnaburg Street to the west. Euston Tower is located in the southeast corner as indicated in Figure 2.

The basement will be retained as part of the new works. Reference can be made to the Structural Report (Arup, 2023) contained within the planning application for further details on the existing building structure and proposed modifications.

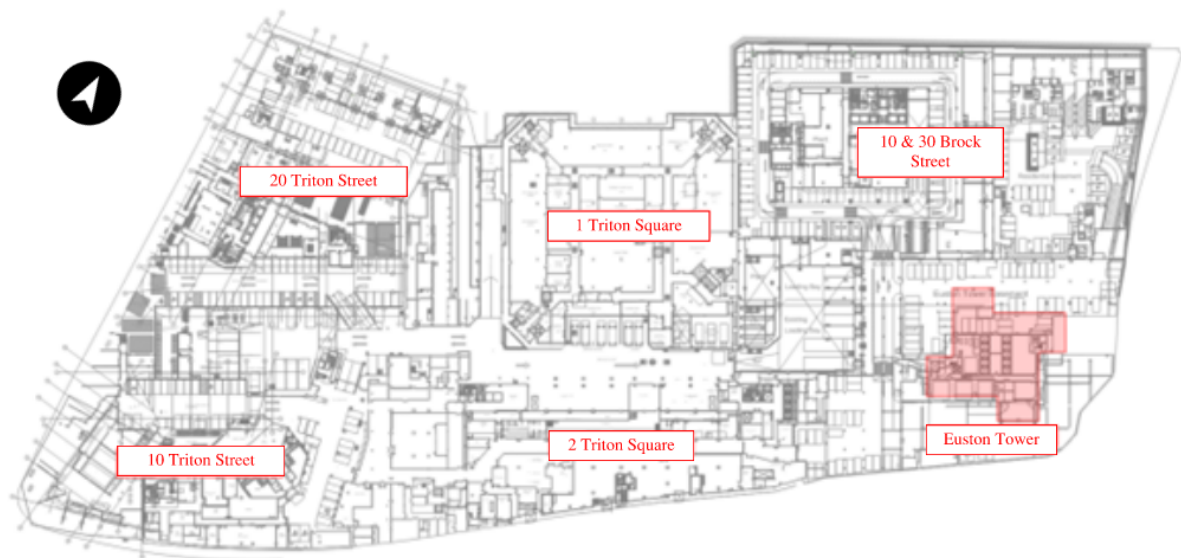


Figure 2: Large single-storey shared basement across Regent's Place Estate

2.3 Site history

A geotechnical desk study has been carried out to determine the historical development of the site. Sources of information reviewed as part of the desk study are summarised as below:

- Envirocheck site history search.
- Historical Ordnance Survey mapping.
- Aerial/historic image searches.

- Publicly available information regarding tunnels including safeguarded alignments.
- Available drawings and reports from Arup project archives and those received from British Land.
- Historical maps, records, and fire insurance plans (Goad plans).
- Enquiries with parties involved with the original Euston Tower construction (or successors); and
- Archive searches for Euston Tower.

The historical development of the site is briefly summarised in

Table 1. Based on available information, Euston Tower is understood to have different commercial uses in the past. Some notable previous uses include Capital Radio broadcasting centre and government communications centre.

Table 1: Summary of site historical development

Year	Historical developments
c.1746	Greenfield. The site is not developed.
c. 1813	First development of the site with the majority of site being covered by terraced buildings. By 1989, the properties comprised shops, a pawnbroker, and vacant three-storey terrace buildings with single level basements in the south.
c. 1936	The vacant properties in the south are now occupied with a surgical instrument factory, a sign factory, and a toilet requisite factory.
c. 1957	A sheet metal works now occupies most of the southern plots with miscellaneous shops and units occupying the north.
c. 1963	Clearance of the southern area of site (Euston Road to Eden Street).
c. 1966	Construction of Euston Road/ Hampstead Road underpass (south of Euston Tower).
c. 1966-1970	Euston Centre development. Construction of Euston Tower (then known as Euston Centre Block A), comprising the existing 36-storey concrete framed tower with two-level podium and a single level basement carpark (common level basement, spanning across the site).
c. 1971	Euston Tower completed.
c. Late 1960s/ early 1970s	Construction of Euston Centre Block F immediately to the west of Euston Tower (Euston Centre Block A)
c. 1972-1974	Construction of buildings to the north of Euston Tower, 10-30 Brock Street.
c. 1990s	Demolition of 2 Triton Square area, including the connecting two-storey podium structure, in early-mid 90s, current adjacent building completed by 2006.
c. 2010-2012	Demolition and construction of buildings to the north of Euston Tower (Northeast Quadrant 10-30 Brock St).

2.4 Topography

The ground level public realm across the site footprint is relatively flat at approximately +28.0 metres above Ordnance Datum (mOD) as shown in the Plowman Craven topographic survey dated June 2018. The drawings are included in Appendix A.

The single level basement slab level at the site is typically around +23.9mOD SSL or 4.1 metres below ground level (mbgl). Towards 1 Triton Square situated west of the site, the basement slab level drops down to approximately +21.7mOD via a step, to allow access for larger service vehicles via a loading bay.

2.5 Neighbouring buildings and assessment methodology

Camden Planning Guidance (CPG) on Basements (Camden, 2021) states that the anticipated damage category for neighbouring structures should not exceed category 1 ‘very slight’ on the Burland scale. The Burland assessment methodology referenced in the CPG has been adopted for projects internationally and has been used by the Building Research Establishment and the Institution of Structural Engineers, London.

The classification system is based on the ease of repair of potential damage. Burland Scale categories 0 (‘negligible’), 1 (‘very slight’), and 2 (‘slight’) refer to aesthetic damage, category 3 (‘moderate’) and 4 (‘severe’) relate to serviceability and function, and 5 (‘very severe’) represents damage which relates to stability. Further details are provided within the CPG on Basements (Camden, 2021) guidance document.

Neighbouring structures are identified below and described in the following sections.

- 10-30 Brock Street – Northeast Quadrant (NEQ)
- 1 Triton Square
- 2 Triton Square

The zone of influence for ground movements refers to the area with calculated vertical ground movements greater than $\pm 1\text{mm}$. A screening ground movement assessment has been carried out to identify the zone of influence.

- A limited extent of the Northeast Quadrant (10-30 Brock Street) southern façade falls within the zone of influence, and is assessed in this report.
- The assessment showed that 1 Triton Square and 2 Triton Square do not fall within the zone of influence for ground movements associated with the proposed redevelopment.

For further details of the methodology for ground movement assessment, refer to Section 6 of this report.

2.5.1 1 Triton Square

An eight-storey reinforced concrete frame commercial building with a single-level service basement which connects to wider basement for Euston Tower and under Regent’s Park Plaza. The superstructure is located approximately 50m west from the Euston Tower superstructure. 1 Triton Square was originally developed in the early 1990s and was substantially modified to provide additional storeys by 2020.

Figure 3 shows the view of 1 Triton Square, looking west from Euston Tower.



Figure 3: 1 Triton square looking west from Euston Tower (image taken 10/11/2023, Arup)

2.5.2 2 Triton Square

A seven-storey concrete frame commercial building with a single level basement located southwest of Euston Tower. It is currently the head office for Santander UK. The building was completed in 2001. Figure 4 shows a view of 2 Triton Square looking west from Euston Tower.



Figure 4: 2 Triton Square looking west from Euston Tower (image taken 10/11/2023, Arup)

2.5.3 10-30 Brock Street - North East Quadrant (NEQ)

Situated immediately north of Euston Tower, NEQ (as shown in Figure 5) covers 10 and 20-30 Brock Street where development began in late 2000s and was completed in 2013.

- 20-30 Brock Street (The Triton Building) comprises a 26-storey residential tower with accompanying eight-storey block. 20-30 Brock Street has a double-level basement connecting to the single-level basement under Euston Tower.
- 10 Brock Street is commercial office space and comprises a part-9, part-11, and part-16 storey block. 10 Brock Street has a double-level basement which connects to the single-level basement under Euston Tower.

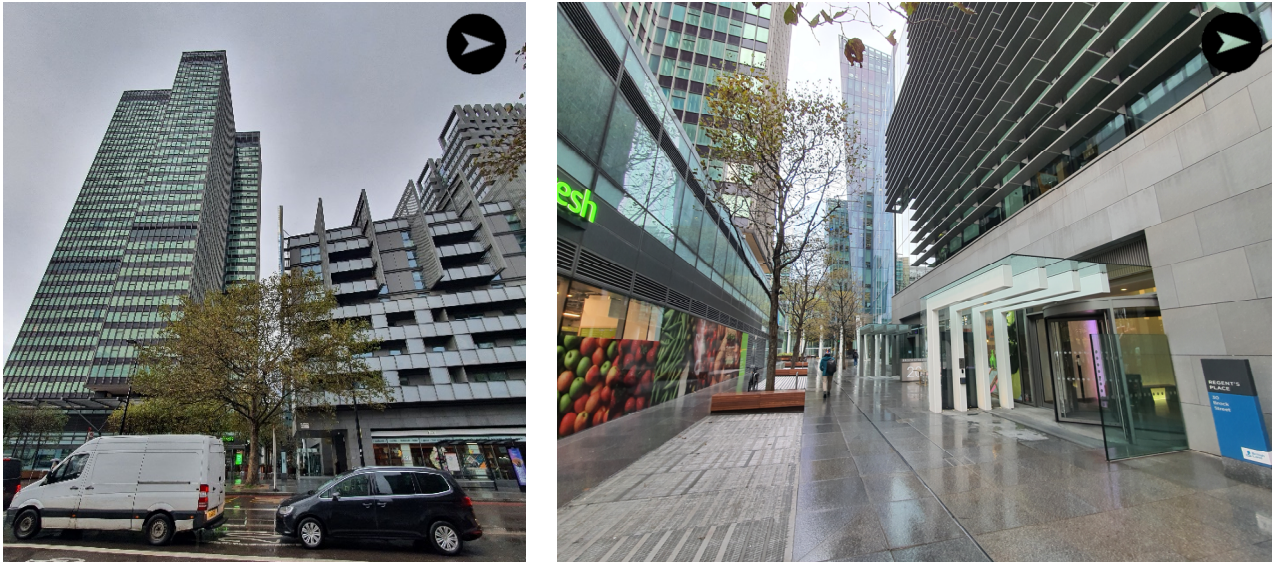


Figure 5: a) 10-30 Brock Street (North East Quadrant) looking west from Hampstead Road; b) 10-30 Brock Street pedestrian zone (images taken 10/11/2023, Arup)

2.6 Neighbouring highway assets

A review of publicly owned land in immediate proximity to the site has been carried out using the “Mayor of London – Map of Publicly Owned Land” GIS web app. The map, as presented in Figure 6, indicates land owned by Transport for London to the south of the site boundary under Title number: NGL375743, including the Euston Road, highway underpass structure and the public realm. A further small parcel of land (NGL375743) is indicated to be within TfL ownership immediately adjacent to the south-east corner of the existing building.