METROLINK

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A5.9

Demolition Tara St

Contents

LIST OF ABBREVIATIONS

ACM	Asbestos Containing Materials
CFA	Continuous Flight Auger
EIAR	Environmental Impact Assessment Report
IT	Irish Times

1. Introduction

This appendix sets out the preliminary programme and methodology for the demolition works required at the site of the proposed Tara Station. Due to the constrained space available at Tara Street construction compound, the demolition approach at this location is complex.

This appendix should be read in conjunction with the General Approach to Demolition report, Appendix 5.8 of this EIAR.

The buildings to be demolished specifically for this project are:

- 6 storey commercial office building, Ashford House on Tara Street;
- 4 storey commercial office building on Poolbeg Street;
- 6 storey residential building, College Gate Apartments on Townsend Street;
- Single storey pool and leisure complex on the ground floor, Markievicz Leisure Centre;
- 4 storey disused residential building, 22, Luke Street;
- 4 storey disused residential building, 24, Townsend Street; and
- 3 storey occupied residential building on 25-32, Townsend Street.

2. List of Assumptions

The following list provides the assumptions made in preparing the programme and methodology.

1. The Irish Times (IT) building adjacent to the blocks to be demolished is to remain occupied. (Refer to
2. Figure **6-1**).

3. At this stage, it is unclear as to the full extent of land ownership of Ashford House and College Gate. It is assumed that the land separating these buildings and the IT is owned by the IT. (Refer to Figure 6-2). It is also assumed that there are no basements extending into the adjacent public footways below ground.

4. As part of the preparatory works prior to demolition, a full height independent scaffold will be erected around the perimeter of the site to provide a safety curtain baffle to help contain dust and noise transference. In some areas, it will be necessary to base the scaffold on or over the adjacent public footpaths to maintain a sufficient safe working space for the demolition works. This requirement will be agreed with the Local Authorities and appropriate licences obtained by the demolition contractor. It will also be necessary to erect scaffold within the IT land which will need to be agreed with the IT owners in advance of works proceeding.

5. The structures of Ashford House and College Gate are assumed to be traditional reinforced concrete structures with no pre or post tensioning. The façades are a combination of in-situ brickwork and aluminium panels with glazing plus pre-cast concrete or stone panels and face blockwork at ground and first floors. It is assumed that the internal walls are mainly drylined partitions and blockwork to the plantrooms.

6. It is assumed that the basement does not extend beyond one subterranean level. In view of the location of the site and the proximity to the River Liffey, it is assumed that the basement is a waterproof tanked construction with a secant piled perimeter wall. The foundations are also likely to be bored or continuous flight auger (CFA) piles tied into the basement slab. The leisure pool floor slab is assumed to be integral with the basement slab construction. The three storey brick cladded buildings are likely not to have basements and their foundations would be a combination of tradition strip or raft foundations.

7. It is possible that there may be asbestos or other hazardous containing materials (ACMs) within the buildings. Asbestos surveys will be carried out following vacant possession and prior to demolition proceeding. If ACM's are present, it is considered likely that they may be present in fire barriers within the façade cavities and insulation products within the plant rooms. Flooring and ceiling products may also be present.

8. There is a car ramp entrance in Poolbeg Street leading down to the basement car parking. It is assumed that there is residential parking for College Gate which is accessed via the Ashford House parking with a shared use of the ramp on to Poolbeg Street.

9. There appears to be a secondary ramp access to the IT basement via Townsend Street between the IT and College Gate buildings. It is assumed there is no shared car parking access from Poolbeg Street to the IT building.

10. Luke Street is likely to remain open to two-way traffic during the demolition works, however all bus set-downs will require suspending to allow safe working zones and easier access points to both sites on either side of Luke Street. The eventual reinstatement or re-location of bus set downs in Luke Street will need to be resolved prior to demolition works commencing.

Incoming services and drainage outfalls for the buildings assumed are located on Tara Street and Townsend Street. It has been assumed that there are no electrical substations on the site.

11. For the non-structural elements (soft strip), the Ashford House offices are assumed to require Category B non-licenced and notifiable, non-licenced asbestos removal.

3. Demolition Methodology

Building surveys will be carried out to establish types of construction material used, the presence of wastewater and hazardous materials, condition of the drainage and incoming utilities and third-party interfaces. Structural surveys will identify the original method of construction, structural systems and conditions of the basements and structures.

Should hazardous materials such as asbestos minerals or petroleum contamination be discovered, a specialised team would be used to remove the material from site prior to the demolition commencing. The important topic of demolition waste management will be central to the selection process for the demolition contractor.

In view of the location of the works, the plant used will include the use of high reach excavators with hydraulic hammers, cutters and crusher attachments. General excavator plant and equipment will be used in support where appropriate. This approach is therefore considered to be a non-explosive demolition process. Anticipated plant to be used for the demolition works is detailed in Table 2.1.

Table 2.1: Anticipated Main Plant to Be Used for the Demolition Works

Plant	Usage
High reach hydraulic tracked demolition machines	Operated from ground level with long boom arms and typically working to heights above 15m. Used in conjunction with heavy attachment equipment having specific functions for demolition of concrete and steel structures, namely: • crusher attachments • shears • breakers • selected grab attachments • hydraulic magnets
Large hydraulic tracked excavators	Typically for low level buildings not requiring a long reach capability. Also used in conjunction with heavy attachment equipment described above.
Robotic demolition equipment (Brokk or similar)	Electro-hydraulically powered remote controlled demolition excavators for working in confined spaces or hazardous areas.
Low loader road vehicles	For transportation of large plant and equipment to and from site
Hiab trucks with integral lifting capability	For transportation of small plant and equipment to and from site
Concrete crushers	For producing re-cycled aggregate from demolition brick and concrete arisings which can be stockpiled and used for backfilling on site.
Wheeled tippers	For the loading of various types of waste and stockpile material arising from the site.
Mini excavators	Typically used alongside operatives during the initial strip out operations before demolition.
Dust suppression equipment	Equipment generating a fine water mist spray for dampening down dust produced during demolition.
Asbestos containment equipment	Portable air filtration, air scrubbers, negative air equipment.

Water flow in and around existing basements will need to be controlled to avoid settlement and the potential for damage to the surrounding buildings. Following the completion of the demolition works above ground, the

demolition contractor will be responsible for the removal of all basement walls and ground slab to areas affected by the zone of influence of the new station footprint.

During the removal of the basement structures the Demolition Contractor will be responsible for strengthening and/or temporary support to prevent undermining of:

- statutory services in the public footpaths or highways;
- zones adjacent to the IT building;
- zones adjacent to the railway viaduct on the north eastern corner of the site.

Appropriate measures will be taken to manage surface drainage, groundwater seepage and any dewatering activities, which may necessitate passing the water through settlement tanks prior to discharge into the sewerage system. Discharge arrangements and licences are therefore to be agreed with Irish Water prior to commencement of the demolition works.

The movement of HGVs accessing and egressing the site from the main Dublin arterial routes has been addressed based on the assumption that suitable selected material can be crushed, screened and stockpiled on site. The eastern site area may be suitable for crushing facilities and stockpiling subject to Local Authority approvals (see Figure 6-4).

The monitoring of noise, vibration and dust will be carried out on a regular basis during the demolition phase, both on site and in sensitive areas adjacent to the site and the appropriate corrective actions taken in line with the threshold limits set prior to commencement of the demolition works. Likely mitigation measures to limit dust, noise vibration and air pollution (e.g. through dust and fumes) include:

- Careful selection of demolition methods and plant used to minimise noise at source;
- Regular maintenance of plant and equipment to meet certified standards;
- Use of hoardings and sheeted scaffolding around the site perimeters;
- Use of acoustic barriers where appropriate;
- Use of non- percussive equipment where appropriate;
- Dampening down surfaces during spells of dry weather; and
- Effective wheel and body washing of vehicles leaving site.

4. Demolition Plan and Contractor Appointment

It is envisaged that a Preliminary Demolition Plan will be developed prior to the appointment of a Demolition Contractor. It will then be fully developed by the successful Demolition Contractor.

It is assumed that all of the buildings will be totally vacated prior to the Demolition Contractor commencement on site. The Demolition Contractor will be responsible for securing the site to take account of the perimeter scaffold positions and the safe passage of the public around the perimeter of the site.

On completion of the demolition works, the Demolition Contractor will re-locate the hoarding lines back to within the site ownership boundaries to allow the public footpaths to be re-established. The hoardings and gates will be secured in readiness for the Advanced Enabling Works Contractor who will be responsible for re-locating in accordance with the proposed construction land take requirement hoarding line.

Following the vacant possession of the buildings, it may be necessary to carry out further intrusive surveys in order to verify and validate initial desktop studies and site surveys.

5. Work Sequencing

Access to the site will initially be from Poolbeg Street and Luke Street. It is proposed to commence demolition of the three structures numbered 1 to 3, followed by the low-level office structures numbered 4 to 8. (Refer to Section 6). The removal of these structures will allow the existing basement areas affected by the zone of influence of the new station footprint to be demolished. It is envisaged that all basements will be backfilled up to ground level to provide a clear working zone to tackle the higher structures following on. It may be necessary to provide initial back-propping from the basement to the underside of the ground floor slab of structures 4 and 6 to provide initial run-offs to enable heavy trucks to park on the suspended slab for loading of demolition arisings.

Following the completion of structures 4-8 and subsequent backfilling of the basement up to ground level, demolition works to the high level structures can commence. It is anticipated that the demolition of structures 9 and 10 may be carried out concurrently. The feasibility of this approach however, needs to be fully tested by the demolition contractor regarding safe working zones and practices together with the resource levels required.

The general sequence of demolition is depicted in Figure 5.1 below and further detail on sequencing is provided in the figures in Section 6.

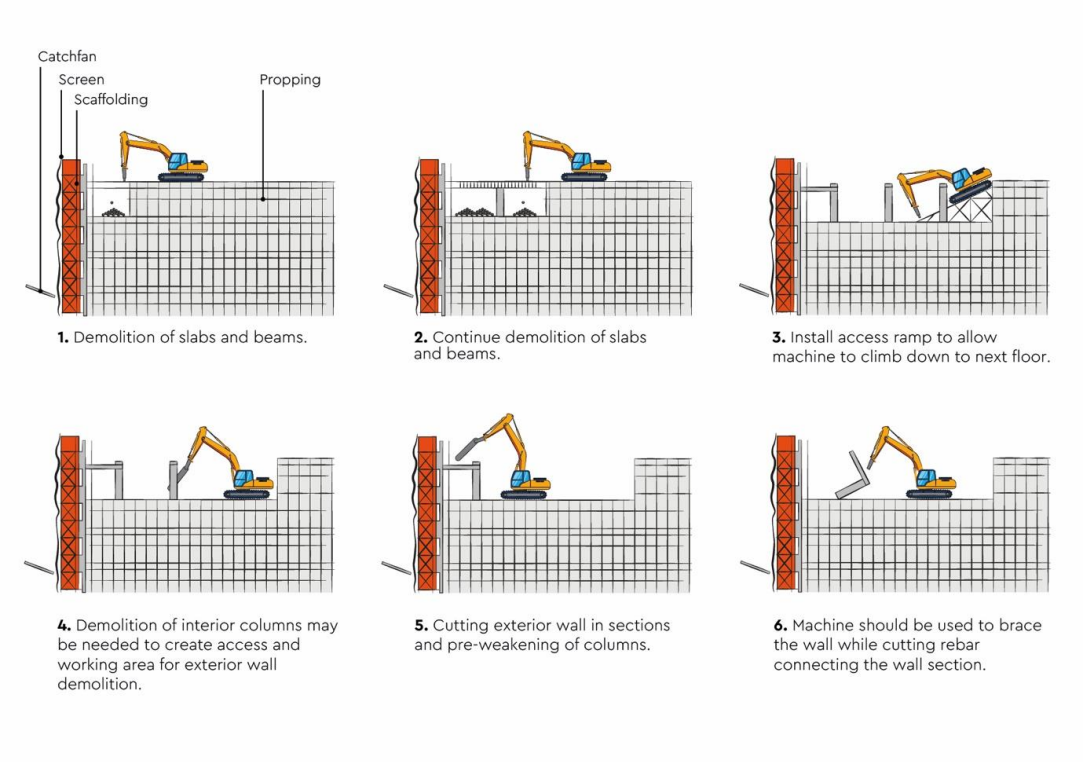

Figure 5-1 Demolition Sequence

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6. Figures

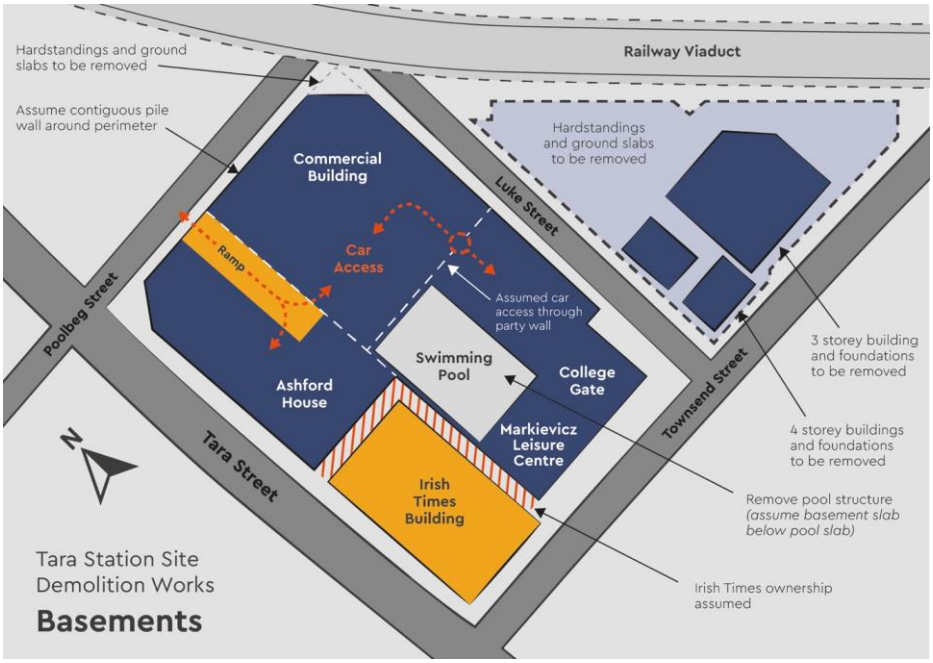

Figure 6-1:Site Boundaries and Ownership Assumptions

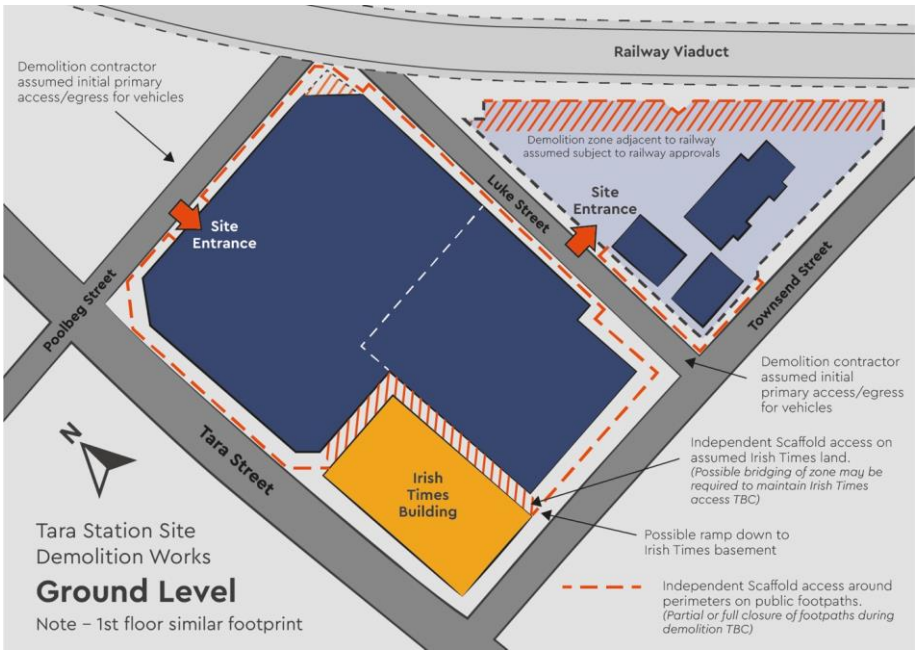

Figure 6-2:Site Constraints and Third-Party Interfaces

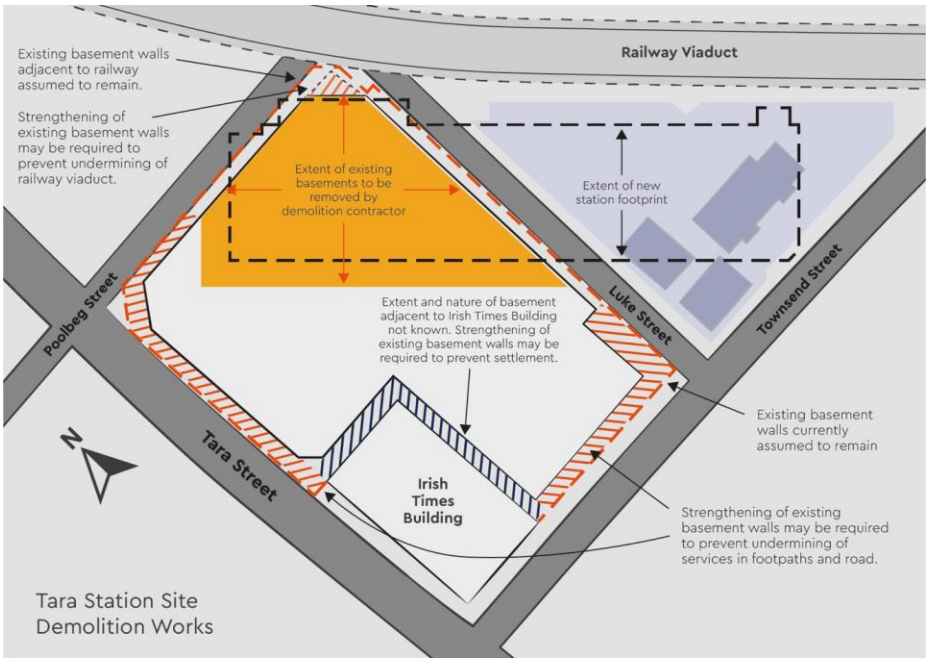

Figure 6-3: Basement Demolition and Strengthening Works

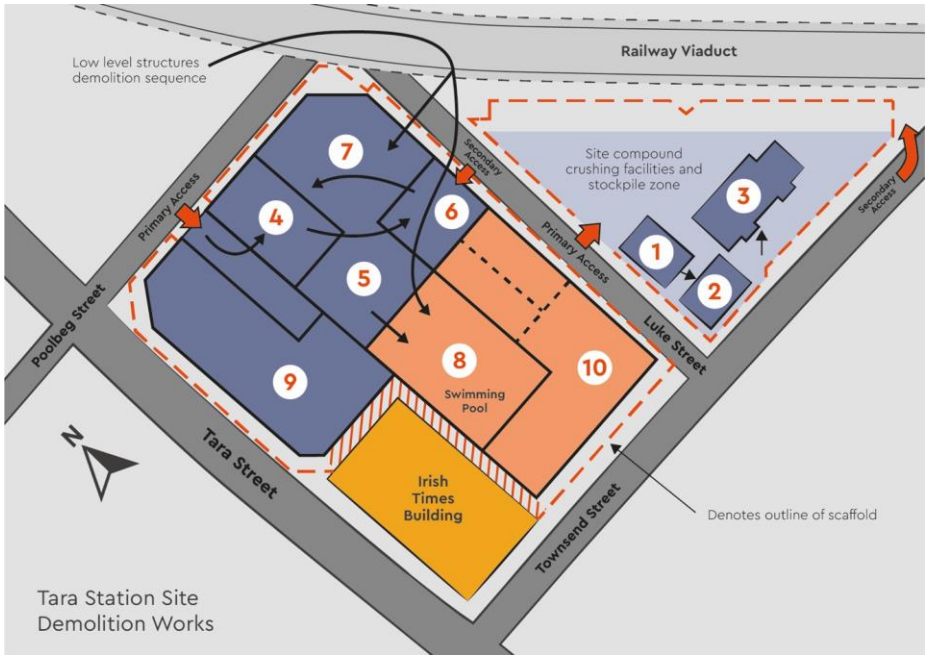

Figure 6-4: Proposed Site Access and Demolition Sequence for Low Buildings

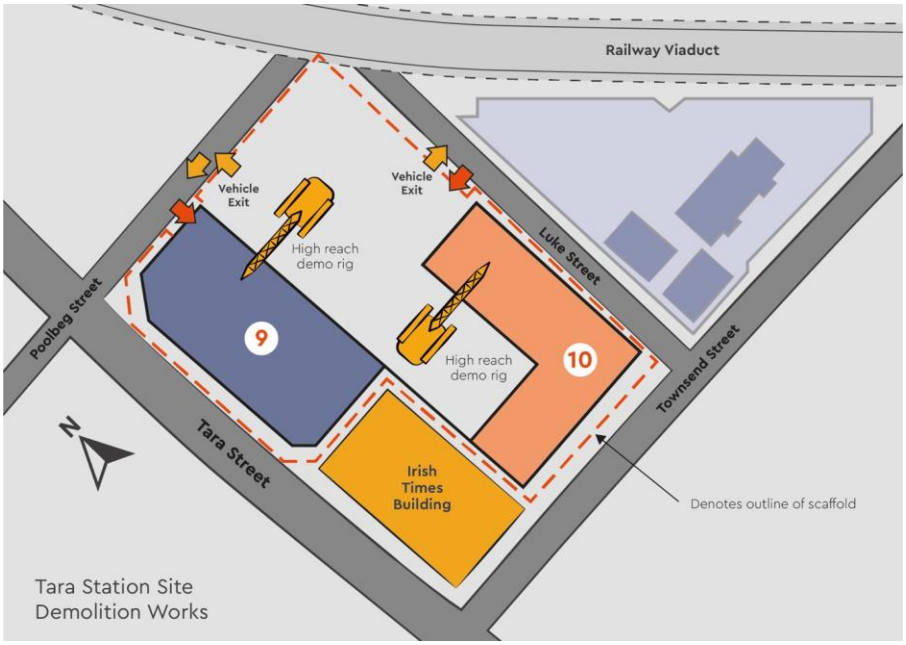

Figure 6-5: Proposed Demolition for High Buildings