

**BELGARD GARDENS TALLAGHT  
PHASE 1**

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**CONSTRUCTION METHODOLOGY & PHASING  
MANAGEMENT PLAN**

**PROJECT: A557**

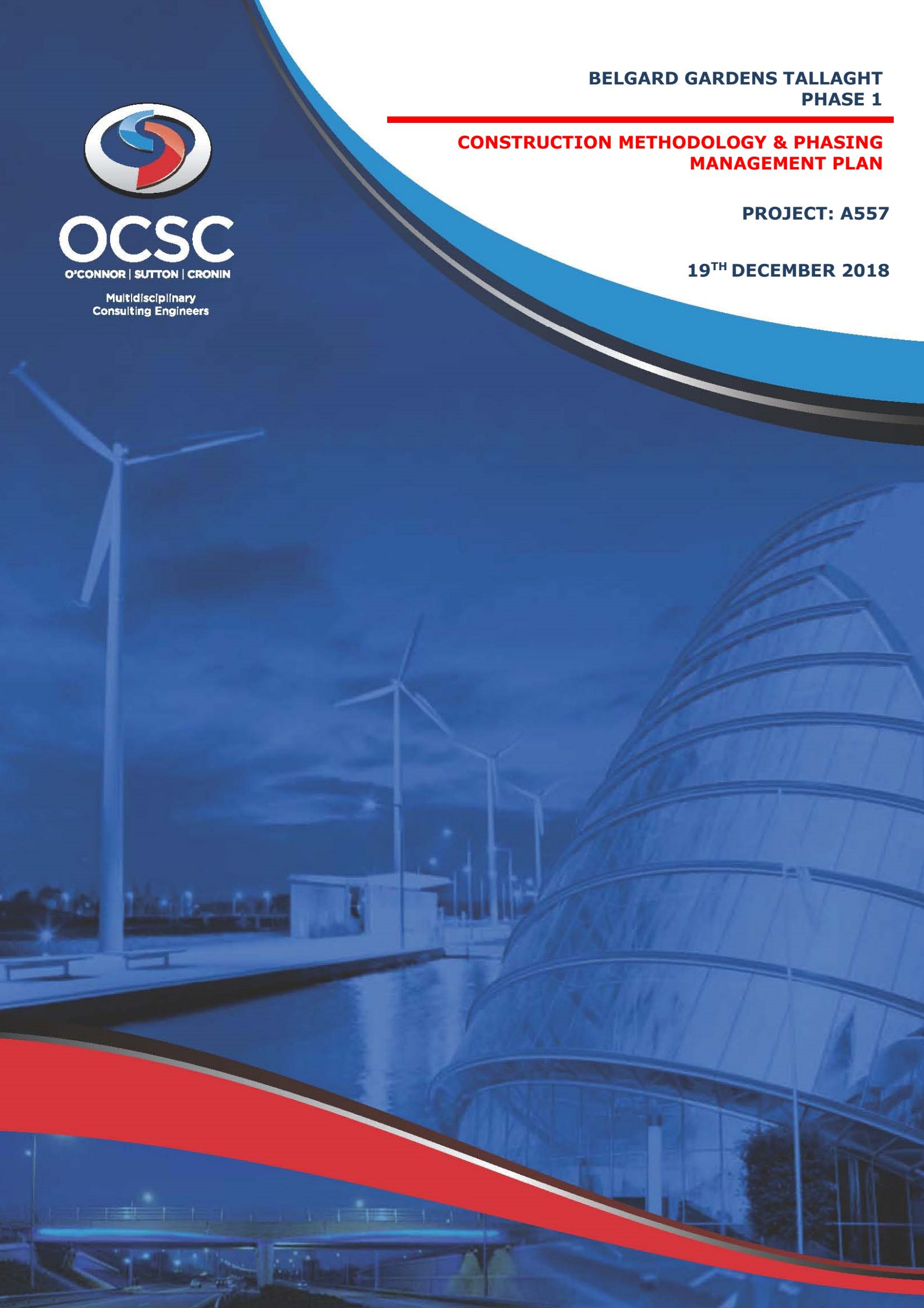
**19<sup>TH</sup> DECEMBER 2018**



**OCSC**

O'CONNOR | SUTTON | CRONIN

Multidisciplinary  
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**BELGARD GARDENS, TALLAGHT, DUBLIN 24**

**Construction Methodology & Phasing  
Management Plan**



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**BELGARD GARDENS, TALLAGHT, DUBLIN 24**

**CONSTRUCTION METHODOLOGY & PHASING MANAGEMENT PLAN**

**ATLAS GP LTD  
O'CONNOR SUTTON CRONIN & ASSOCIATES  
MULTIDISCIPLINARY CONSULTING ENGINEERS  
PROJECT NO. A557**

**19<sup>TH</sup> DECEMBER 2018**

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**APPENDIX A                      SUSTAINABILITY WASTE CRITERIA**

## 1.0 DESCRIPTION OF PROJECT

### 1.1 Introduction

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by *Atlas GP Limited*; to carry out the design of the civil engineering services associated with Phase I of the proposed mixed-use development, located west of Belgard Road, Tallaght, Dublin 24.

Atlas GP Ltd. intend to apply for planning permission for development at a site of c.6.87 hectares at a combined site located at the junction of Belgard Square North and Belgard Road, Tallaght, Dublin 24. The sites are known as Belgard House, Belgard Square and the former Uniphar factory and are generally bounded to the east by Belgard Road, to the south by Belgard Square North, to the west by vacant land and commercial buildings, and to the north by the Belgard Retail Park – Figure 1.

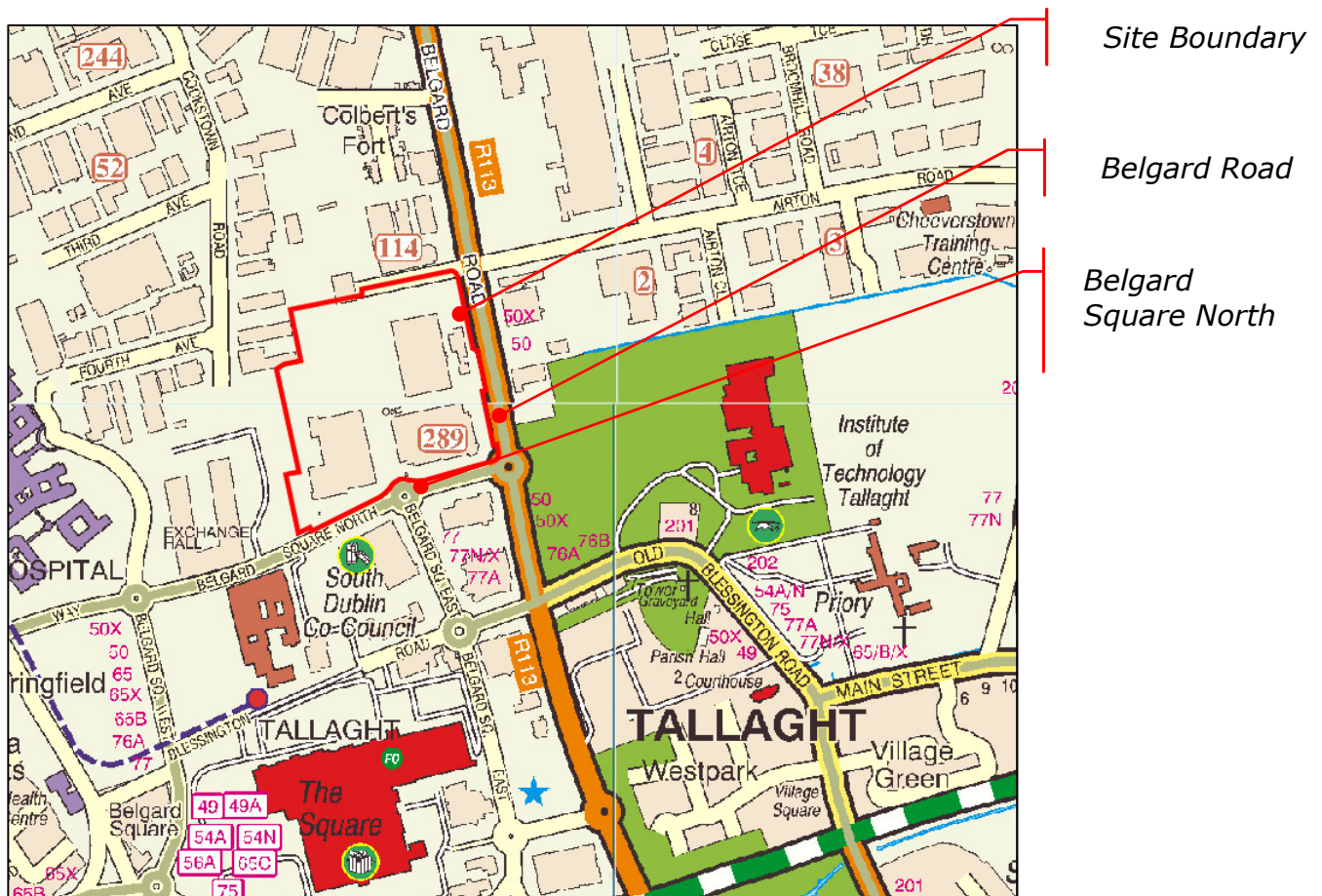
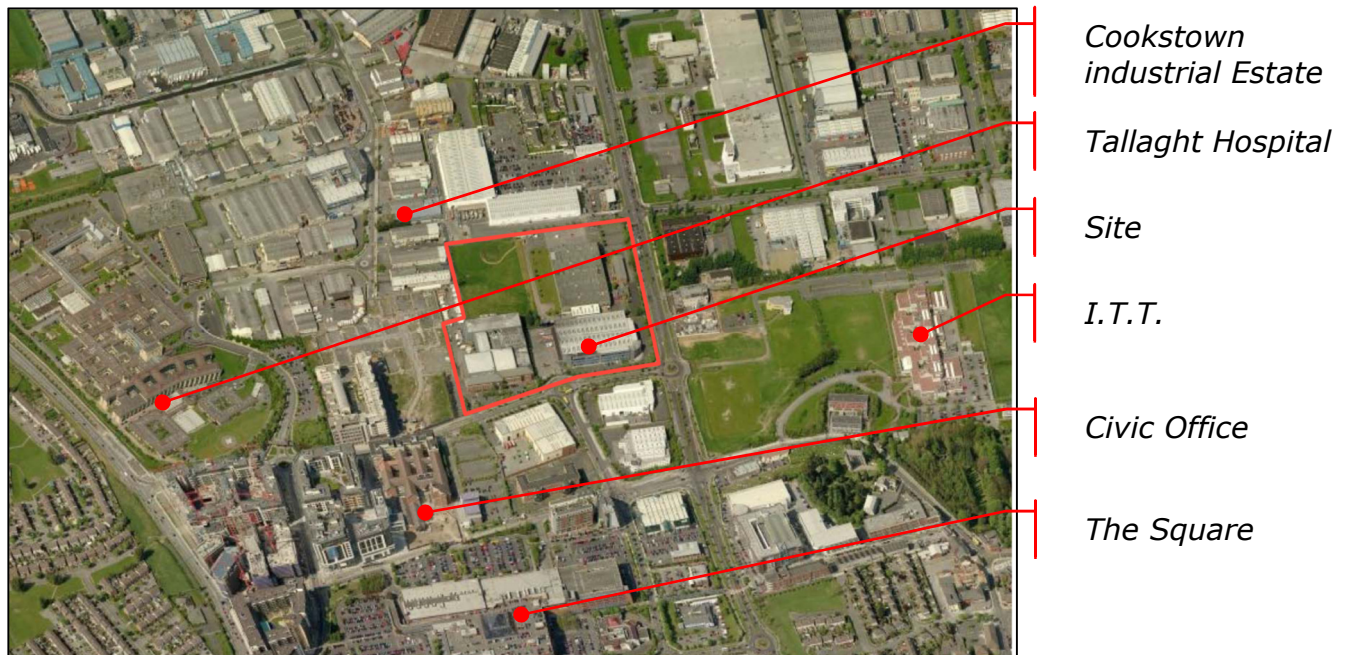


Figure 1: Site Location



The subject site is bounded by Cookstown industrial Park to the north, the Civic Offices and The Square retail centre to the south and is within 500m of both the Tallaght Hospital Campus to the west and the campus of the Institute of Technology Tallaght (ITT) to the east.

The site is shown against an aerial photographic background in Figure 2 with the overall Atlas GP Limited site boundary outlined in red thereon.



*Figure 2: Site Environs*

The proposed development will consist of demolition and construction.

The demolition of all existing buildings on the site ranging from one to three storeys in height and the removal of hardstanding throughout. Proposed buildings for demolition include 2 – 3 storey Belgard Square (c.11,362m<sup>2</sup>); 3 storey Belgard House (c.9,706m<sup>2</sup>); 2 storey former Uniphar factory (c.7,780m<sup>2</sup>), associated 2 storey office building (c.1,033m<sup>2</sup>). The proposed development will also include provision of site boundary protection to all frontages, all ancillary site works and redevelopment works.

## 1.2 Proposed Demolition Works

An application is being made for the demolition of existing buildings at Belgard House, Belgard Square and the former Uniphar factory. The site is currently comprised of unoccupied offices and industrial units as well as ancillary buildings and hardstanding areas.

The existing buildings comprise of a 1 No. warehouse and 2 No. three storey offices with tarmac car park and goods delivery yards. The following existing buildings are to be demolished to enable the development of the site;

- Uniphar Factory (Building No. 1 & 2):  
The Uniphar factory is an industrial building comprised of an office and warehouse building. The office block is constructed from a steel frame clad in brickwork with an insitu reinforced concrete floors and profiled roof cladding sheets. The warehouse is of steel frame construction with a metal deck roof and a combination of concrete block/metal clad walls and a reinforced concrete floor.



*Photo 1: Uniphar Office Building 1*



Photo 2: Uniphar Warehouse – Building 2

- Belgard Square - Cuisine de France Office & Warehouse (Building No. 3):  
The office block is constructed from a steel frame clad in brickwork with insitu reinforced concrete floors to the ground floor and pre-cast concrete slabs to the first floor. The roof is timber frame finished with concrete roof tiles. Doubled glazed aluminium framed window façade is provided at high level at the entrance.



*Photo 3: Cuisine de France Office – Building 3*

The warehouse is constructed with a combination of a steel and reinforced concrete portal frame structure with internal steel and concrete columns supporting concrete floors. The building and roof are finished with composite insulated profiled roof cladding sheets.



*Photo 4: Cuisine de France Warehouse – Building 3*

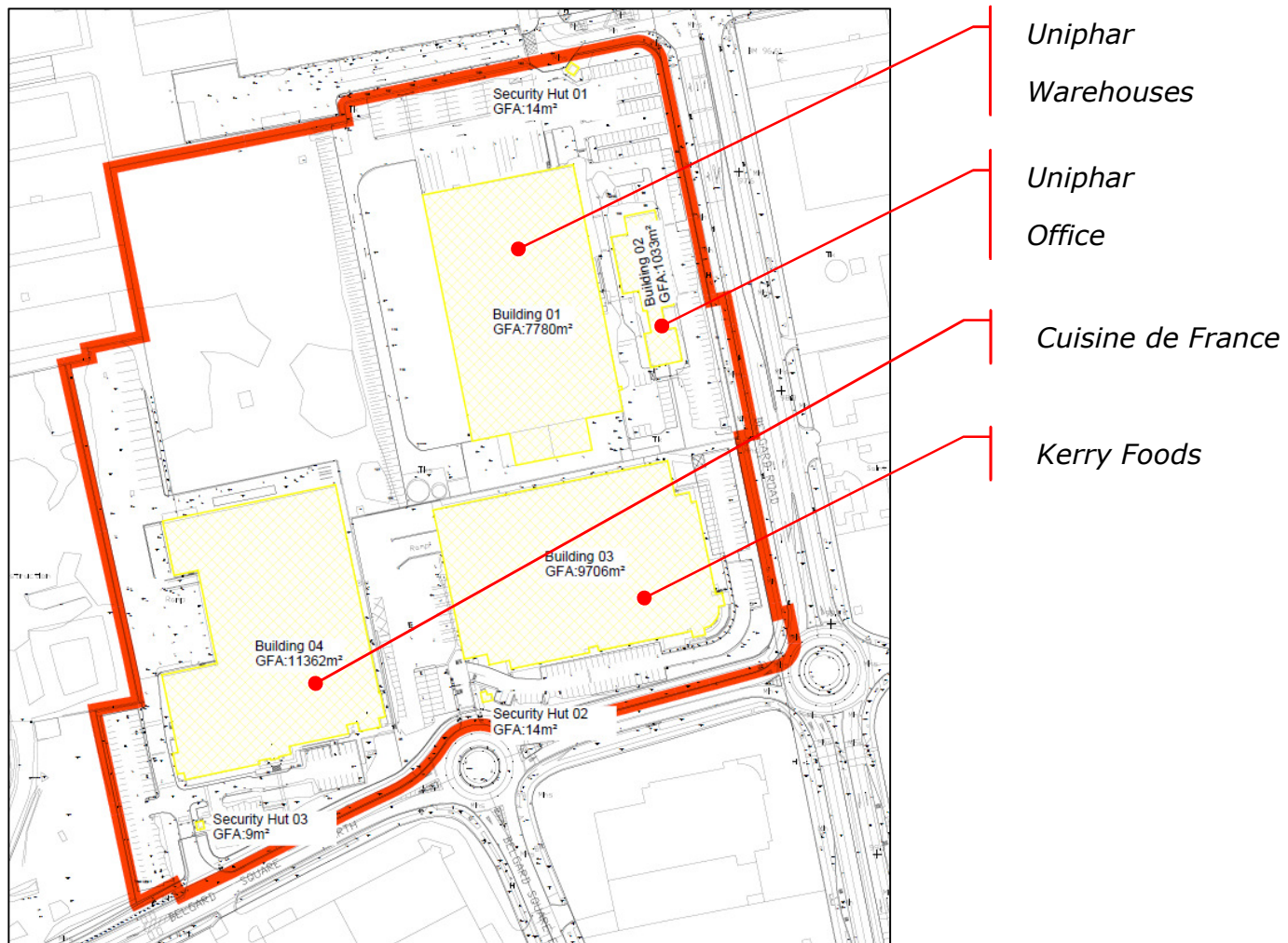
- Belgard House - Kerry Foods Office (Building No. 4):  
The office is built from a steel portal frame and generally insulated with composite profile roof sheeting and perspex roof lights. The building is clad in powder coated insulated panels with curtain wall glazing and windows. The floors are insitu reinforced concrete floor to the ground floors and pre-cast concrete slabs to the first and second floors.



*Photo 5: Kerry Foods Office – Building 4*

All properties are serviced with electricity, gas and water. Air conditioning is provided within the office block whilst ceiling mounted gas heaters are provided within the warehouse areas.

The demolition of all existing buildings will be to the ground floor slab level including hardstanding areas. There will be no removal of foundations, soil and services below ground level at this stage. The major element of work will be the removal of the above ground elements. Figure 3 below shows the outline of the buildings to be demolished. A future CMPMP will be submitted for the excavation and construction works as part of separate application for the proposed development.



*Figure 3: Existing buildings to be demolished*

### 1.3 Site Compound

A Site Compound for the demolition works will be established in the existing green area to the north-west corner of the site, as shown following in Figure 9.

### 1.4 Contaminated Land

The demolition work will include the removal of the ground floor slab of the existing buildings. No soil beneath the buildings will be excavated. It is not therefore expected that there will be any contaminated soils encountered or arising as part of these enabling works.

Some soil will be removed during the enabling and construction works. Contaminated soil encountered during construction stage will be dealt with in a

Soil Management Plan and a Watching Brief. Hydrocarbons or oil tanks found prior to enabling works will be removed to facilitate these works.

### **1.5 Material Re-use / Recovery Rate**

Where possible materials will be re-used. Careful extraction of materials will be undertaken to ensure that the highest proportion of the materials can be re-used. This will reduce the level of new materials required for the proposed site. This in turn reduces the impact on new resources and carbon emissions associated with the extraction, manufacture and transportation of materials to the site. Undertaking the demolition and enabling works upfront ensures that more time can be spent on the careful recovery of materials on site. Where appropriate, excavated material from development sites should be reused on the subject site. If any of the excavated spoil is found to be clean/inert, the site manager will investigate whether nearby construction sites may require clean fill material, to both minimise the costs of transport and to reuse as much material as possible. Any material used on another site will be done under Article 27 of the European Communities (Waste Directive) Regulations 2011. It is noted that at present there is no set timeline for the EPA to respond to an Article 27 application and that the

### **1.6 LEED Sustainability Criteria**

As the demolition is generating in excess of 100 cubic metres in volume of construction and demolition waste an Energy Efficiency and Climate Change Adaptation Design Statement will be provided to include any on-site C&D works.

It is noted that the final development on the Belgard Gardens site may be a LEED accredited development. The LEED criteria for the C&D works is included in Appendix A of this report to outline the sustainability targets for the demolition contractor to be complied with. The principles for recycled waste follow the LEED criteria for best practice in terms of demolition waste.

This Design Note will accompany the Demolition Tender Package, with the elements outlined above included.



## 2.0 OUTLINE DEVELOPMENT PROGRAMME

### 2.1 Introduction

Details of the proposed programme will be subject to planning and market conditions. However an initial programme has been prepared and this is outlined below in section 2.2.

### 2.2 Key Activities & Timelines:

- The project has been in design development since July 2017;
  
- Phase 1 Planning
  - A PAC meeting took place on 09/02/2018 and 01/06/18;
  - Lodgement to ABP for opinion June 2018;
  - Planning lodgement expected Q4 2018;
  - It is expected that planning decision will be issued in Q1 2019;
  
- Phase 2 Planning
  - A PAC meeting took place on 24/08/2018;
  - Lodgement to ABP for opinion is expected Q4 2018;
  - Planning lodgement expected Q1 2019;
  - It is expected that planning decision will be issued in Q2 2019;
  
- Tendering process will run in tandem with the planning process and it is intended to appoint a contractor in early 2019;
- Allowing a reasonable period for mobilisation and site set up, it is expected that demolition work on site will commence Q1 2019.
- The demolition contract is estimated to be complete within 8 months.
- The construction works will start Q3 2019 with the projected completion of the buildings by Q4 2021. It is envisaged that the construction of the blocks will start on the western extremities of the site and work towards the east side of the site. This will allow unimpeded access to the works and minimise the opportunity for cross overs of new construction and conflict of working area requirements.

Phase 1 construction is split below into 5 stages and these have been set out in the following diagrams.

**1. Construction of the access roads;**



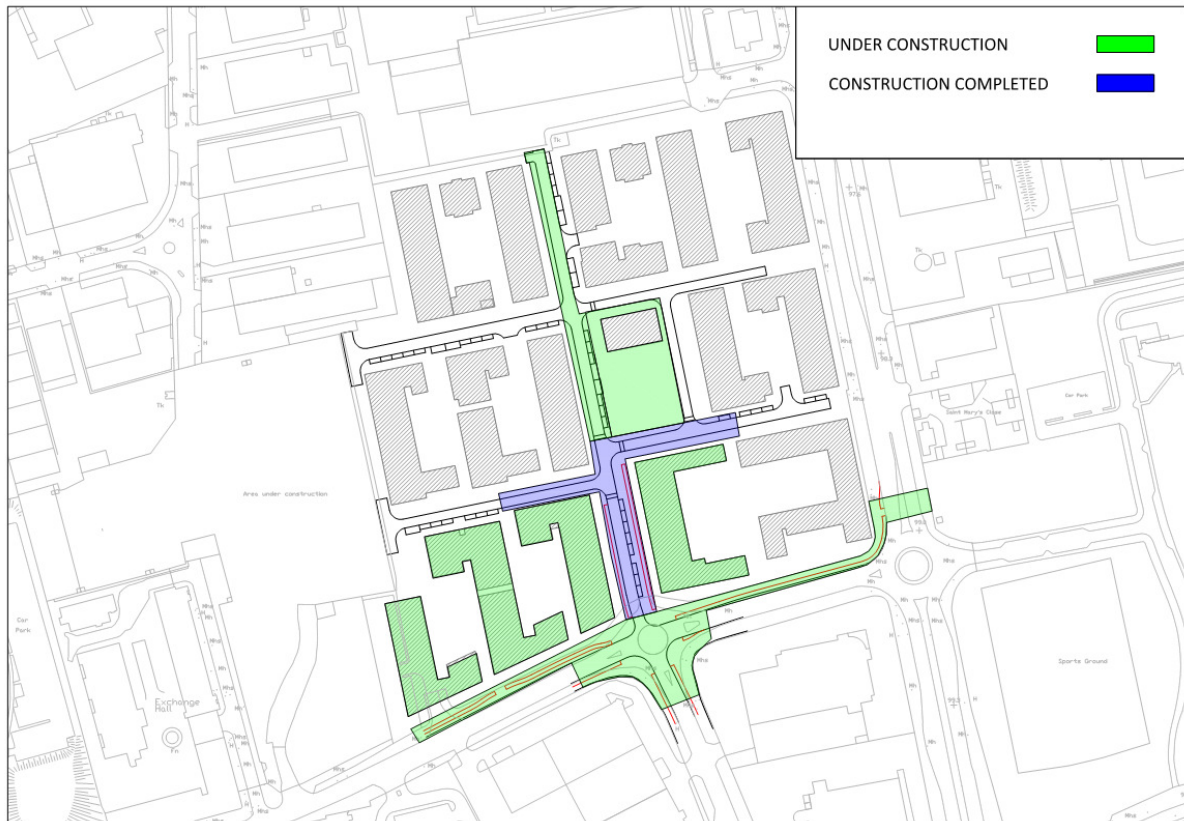
*Figure 4: Construction Sequence Stage 1*

## 2. Construction of the west blocks;



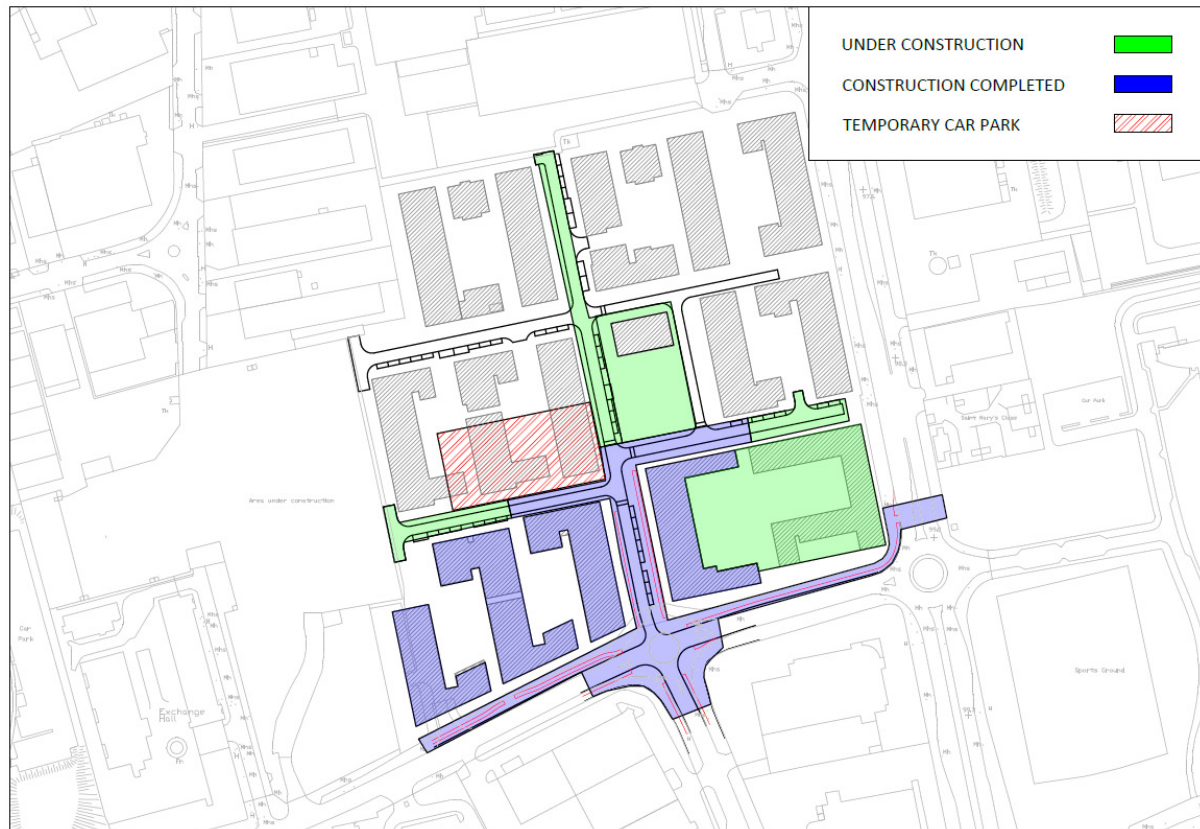
*Figure 5: Construction Sequence Stage 2*

**3. All west blocks in phase 1 under construction and centre block on eastern side;**



*Figure 6: Construction Sequence Stage 3*

4. All blocks from previous section 3 that were under construction are now complete, podium slab on east side of Phase 1 under construction along with plaza and remainder of access roads as part of Phase 1. A temporary car park provides 108nr. spaces for residents

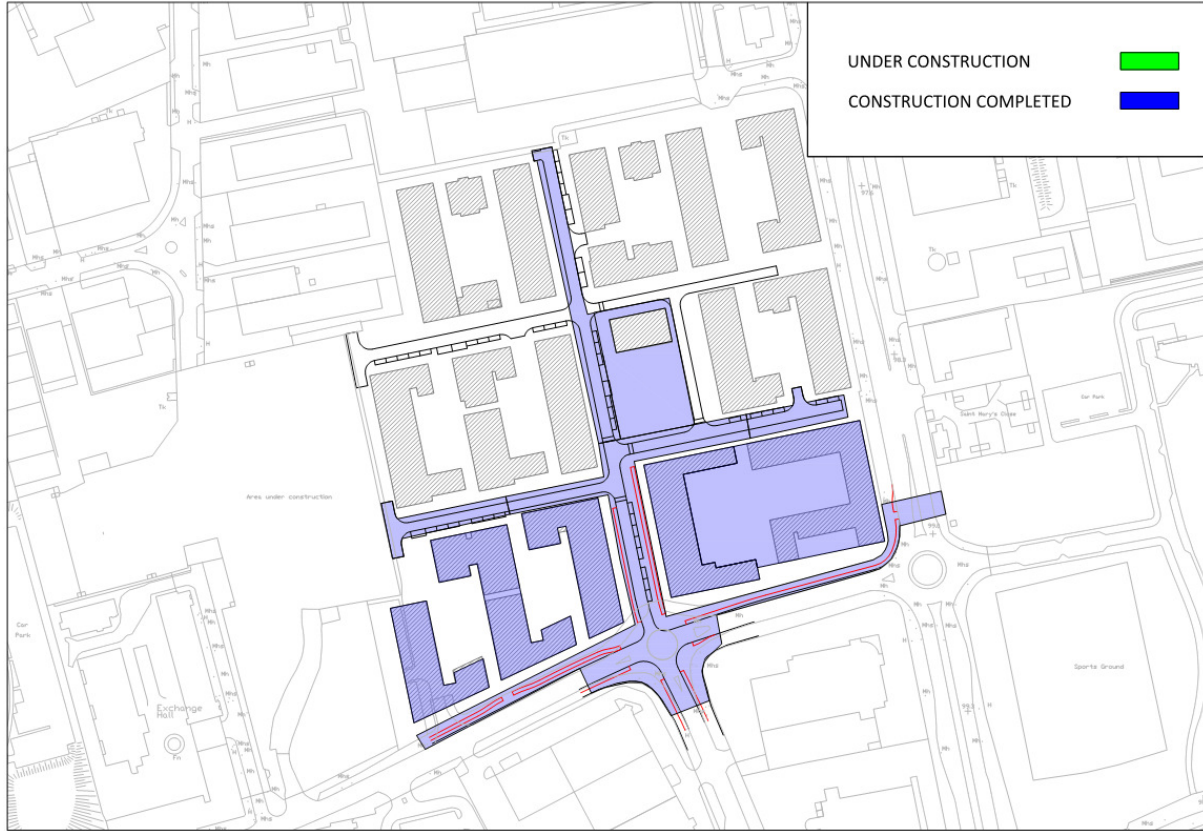


*Figure 7: Construction Sequence Stage 4*

The extent of the North – South road for taking in charge will be constructed most likely between Q2 2021 and Q4 2021 but in any case no later than 3 years after commencement of construction. This is to ensure that the critical infrastructure for the development and the wider City of Tallaght is delivered for South Dublin County Council in a timely manner. The duration of three years from commencement is also reasonable to allow the project to support the delivery of this infrastructure in a financially sustainable way. It is noted that earlier delivery of this expensive piece of infrastructure would put an onerous burden on the project and could be too early in the project lifecycle to effectively contribute to

the city requirements. The completed Phase 1 development including roads as part of Phase 1 can be seen in the overleaf *Figure 8*.

### 5. Completion of Phase 1

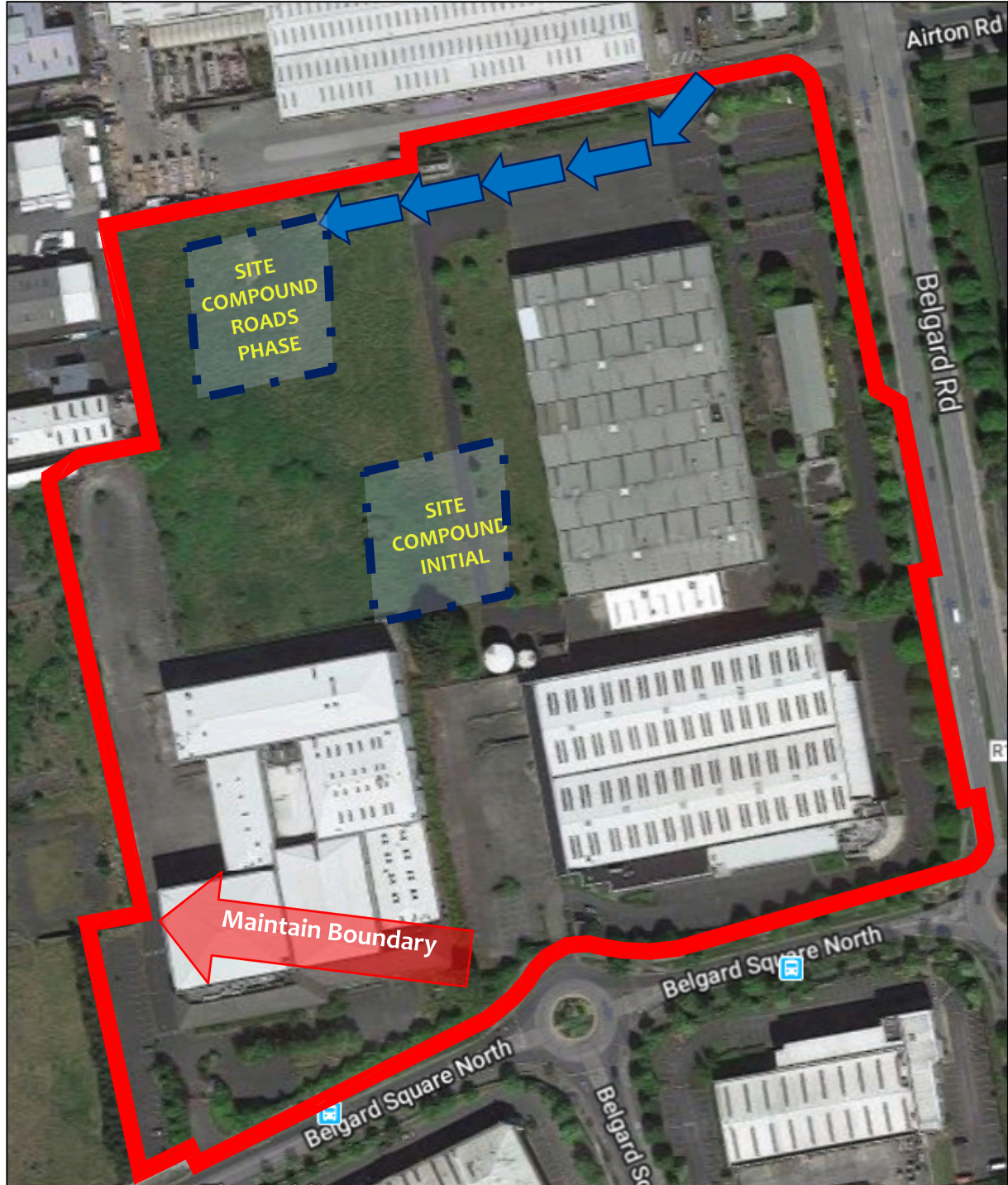


*Figure 8: Construction Sequence Stage 5*

### 3.0 INDICATIVE SITE SETUP

#### 3.1 Introduction

The proposed site set up is shown in Figure 9 below.



*Figure 9: Site Compound*

### 3.2 Site Offices & Compound

The site compound will initially be set up at the centre of the site where the three existing buildings meet. This will allow for the efficient spread of resources and time in motion. The compound will be moved to the northwest later in the project to allow the completion of the north-south road. Site offices will be provided on site for construction and management personnel. Appropriate levels of welfare facilities will be provided along with secure facilities for the storing of construction materials.

Segregation will be employed on site to separate pedestrians from heavy equipment. Fenced off pedestrian walkways will be provided close to the site offices.

### 3.3 Site Delineation

The site is to be surrounded by an existing 2.4m high hoarding/wall/railings with access gates and the site of the future civic building will be hoarded off during construction of Phase 1. The existing boundary to the site will be maintained at all times. Construction traffic will access the site via the existing access off Airton Road so as to minimise dis-amenity on other routes as shown in Figure 9 above. Adequate site security will be maintained throughout the contract period.

### 3.4 Logistics Planning

The limited site access and the location of the site within a busy city, combined with the proximity of the site to Cookstown industrial Park, SDCC Civic Offices, The Square retail centre, Tallaght Hospital and ITT Campus all present very significant logistic, environmental and construction challenges. A major part of construction planning for the development will be the development of a Materials Logistic Plan (MLP). This plan will include the permitted site operation hours approved by SDCC. The appointed contractor will be required to prepare and adhere to a *Site Environmental Policy Plan* and any employed subcontractors will be required to buy into this document. Unscheduled deliveries will not be allowed access.



### 3.5 Pedestrian Access

Pedestrian access will be strictly controlled. Only *Safepass* accredited personnel will be permitted on site and daily in-out attendance records will be maintained.

### 3.6 Vehicle Access

Vehicular access to the site will be via the existing access on Airton Road only and will be strictly managed and controlled – see *Site Monitoring, Security & Management* section following. A traffic management plan will be prepared in order to safely control construction traffic.

### 3.7 On Site Parking

No on-site provision will be made for car parking by site construction personnel. Adequate numbers of cycle parking will be provided for site personnel and personnel will be encouraged to use public transport which is widely available in the surrounding area. A limited number of spaces will be provided for VIP visitors. All vehicular access will be controlled at the gate where all access and egress will be recorded. All site personnel and delivery drivers will have to undergo site induction. A *Site Safety & Induction Room* will be provided as part of the site set up.

### 3.8 Construction Personnel Numbers

Based on a construction contract value of €100 million over a 150 week construction period, it is estimated that 30,000 man weeks of onsite labour will be required for the project.

Based on industry standard figures it is likely that an average of 300 construction personnel will be on site on a daily basis. However it is likely that this figure may approach 450 during periods of peak activity.

### 3.9 Construction Vehicle Numbers

Based again on a construction contract value of €100 million over a 150 week construction period, it is estimated that maximum construction vehicle numbers will be of the order of 60 movements per day.

### 3.10 Traffic Management Plan

As detailed in the earlier paragraphs this development will have a significant number of movements for construction goods and people during the building phase. It is noted that the traffic management plan will be developed for the scheme and this will be discussed with the Area Engineer for SDCC. It is also noted that due to the proposal to change the entrance junction type and carry out works on the public road the builder will have to apply for road opening licences through the MapRoad Roadworks Licensing website. All works on the public road will be carried out in accordance with the "Guidelines for Managing Openings in the Public Road" published by the Department of Transport (2017).

### 3.10 Site Craneage

Given the scale of the site it is evident that a number of tower cranes will be required in order to provide efficient site coverage. Whilst the exact number will be dictated by the programme and the specific construction requirements, it is likely that between five and eight tower cranes will be required, based on a 30m crane jib dimension an outline tower crane layout is shown below. It is noted that to maximise efficiency of the tower cranes they will be supplemented by mobile cranes to facilitate lifts at and beyond the extremity of the reach of the cranes.



## 4.0 SITE MONITORING, SECURITY & MANAGEMENT

### 4.1 Monitoring

#### 4.1.1 Noise Monitoring:

Noise monitoring will be carried out in accordance with any SDCC planning consent and also in accordance with *Safety, Health and Welfare at Work (Construction) Regulations 2006 – 2012 Safety, Health and Welfare at Work Act 2005, BS 6187:2011 - Code of Practice for Full & Partial Demolition, BS 5228:2009 Code of Practice for Noise & Vibration Control on Construction & Open Sites, Environmental Protection Agency Act 1992.*

#### 4.1.2 Vibration Monitoring:

Vibration monitoring will be carried out in accordance with BS 5228-1, 2009, *Code of Practice for Noise & Vibration Control on Construction & Open Sites.*

#### 4.1.3 Air Quality Monitoring:

Appropriate Air Quality and Dust monitoring will be carried out on a regular basis in accordance with SDCC planning conditions and records will be kept of all such monitoring for review by the Planning Authority.

#### 4.1.4 Pre Commencement Condition Surveys:

A Visual Condition Survey (VCS) will be carried out of all shared boundaries and surrounding streets prior to any site works commencing. The appointed Demolition Contractor will liaise with SDCC Roads & Traffic Department to agree any changes to load restrictions and construction access routes for the site. Measures will be put in place as required to facilitate construction traffic whilst simultaneously protecting the built environment.

### 4.2 Site Security & Management

The site will be closely managed on a day to day basis by site management. Security and control will be provided at the main site access to record and control all personnel entering and leaving the site and to record and control all materials

entering and leaving the site. Appropriate manned security will be maintained at the site access gates in order to secure the site, to control vehicular access and to monitor and record all deliveries and removals operations. The main construction works will be conducted within the permitted working hours, as will be outlined in permitted planning permission.

#### 4.2.1 Wheel Washing Facilities:

A properly sized and designed wheel wash will be provided and maintained on site for the full duration of construction. Appropriate water collection and filtering will take place prior to discharge to the public sewer system. Gate staff will be trained to inspect vehicles for cleanliness prior to egress to the public road network and any trucks that have been inadequately cleaned will be re-washed.

#### 4.2.2 Covered Vehicles:

Cover systems will be used on all vehicles removing spoil from site so as to minimise dust arising on surrounding streets. Trucks leaving the site will, as previously noted, pass through a wheel washing system. In addition these trucks will be watered down and covered as shown. This will be carried out in a dedicated wash down zone with dedicated site personnel.

#### 4.2.3 Concrete Breaking:

In all cases the most efficient and environmentally sensitive methodologies will be used in the demolition process. Concrete munchers will be used instead of a rock breaker. This is a much quieter piece of equipment and generates significantly less noise. Where munchers cannot be used i.e. for in-situ reinforced slabs, then multi-head concrete breakers will be used.

#### 4.2.4 Dust Suppression:

The use of appropriate water based dust suppression systems will greatly reduce the amount of dust and windborne particulates as a result of the demolition process. This system will be closely monitored by site management personnel particularly during extended dry periods and in accordance with site management methods discussed earlier.

## 5.0 METHODOLOGY FOR DEMOLITION OF STRUCTURES

### 5.1 Health & Safety

Health & Safety issues will be the primary concern for the appointed Demolition Contractor. This will apply in respect of persons working on the site and in respect of passing pedestrians, motorists or other transport carriers. In this regard the highest possible care will be taken in providing a detailed Construction Stage Health and Safety Plan in advance of works commencing on site.

It is intended to operate a Health, Safety & Environmental Management System in line with ISO 18001 & ISO 14001. This Management System translates the company policy into processes to ensure safety, health and environmental responsibilities and performance can be monitored, reported and improved.

A suitably qualified and competent *Project Supervisor Design Process (PSDP)* and *Project Supervisor Construction Stage (PSCS)* will be appointed in line with those requirements laid down in the Safety, Health and Welfare at Work Construction Regulations 2013.

### 5.2 Bat Mitigation

The likelihood of significant roosts of bats within any built structure within the proposed site is deemed to be low. Nonetheless the presence of small numbers of bats occasionally using buildings cannot be ruled out entirely. Whilst loss of a small roost for individual bats, would not have a perceptible impact on the local population, it would be important to avoid any direct harm to bats. During the demolition phase of the development, if bats are encountered during any works at the site the relevant works will be suspended until the advice of a suitably qualified and licenced bat ecologist is sought. A derogation licence may need to be sought from NPWS in order to permit removal of bats and mitigate for the loss of any roosts on the site. This is outline further in the bat assessment report provided with this submission.

### 5.3 Sequencing of Demolition Works

The appointed demolition contractor will engage with the professional design team to reach early agreement on an acceptable demolition sequence. The following demolition sequencing is however envisaged:

- Set up site Access and Compound;
- Completion of Pre-Demolition Surveys prior to works commencing;
- Stripping of hazardous materials;
- Removal of existing fixtures and fittings such as floors, doors, partitions, ceilings, windows, mechanical equipment and non-buried pipping & electrical services;
- Removal of all roof coverings and building envelope finishes;
- Support and then cut roof structures before lowering to ground level for dismantling;
- Demolish internal separating walls retaining sufficient buttressing for external walls;
- Step by step demolition of the main structure;
- Separation of demolition debris into different waste streams;
- Removal of all waste from site.

### 5.4 C&D Materials Arisings

The *Construction & Demolition Waste Management Plan* prepared for the scheme states that the following materials may arise on site:

Glass	1616
Concrete, Brick, Tiles, Ceramics	9155
Plasterboard	718
Asphalt	5130
Metals	2693
<i>Slate</i>	<i>1436</i>
<i>Timber</i>	<i>2154</i>
Total	22901

## 5.5 Sequencing of Contract Works

As noted previously, details of the overall proposed development of the site will be discussed under another cover for a separate planning submission.

## 5.6 Control of Contaminants

It is noted that a separate *Construction & Demolition Waste Management Plan* by AWN Consulting Engineer and has been provided with this submission. It is not intended to reiterate the control measures set out in those documents herein but merely to note that it will be a condition of any awarded contract that the appointed demolition contractor put in place suitably qualified environmental personnel and comply fully with appropriate regulatory and planning requirements for the treatment of contaminants.



## 6.0 BASEMENT & SUPERSTRUCTURE CONSTRUCTION

### 6.1 Construction Sequence

The construction sequencing is outlined in section 2.0 of this report. It is proposed to initially demolish the existing buildings. This will be followed by a build out of Phase 1 development lands from the west to east.

### 6.2 Basement Construction Methodology

Given the levels of the existing ground and the designed layout the carparking area is under a podium and not in a basement in the sense that it will not require deep excavation. This means that the scheme is minimising the bulk excavation requirements of the scheme. It also means that there will be no need for shoring of interfaces to existing public roads.

All basement concrete works will be designed and constructed as watertight structures in accordance with BS-8102. A pour plan will be agreed with the Engineer ahead of casting. This will outline the location of construction joints and the specific detailing of all watertightness installations.

Construction will be by traditional formwork and falsework methods with all temporary works being fully designed by a qualified structural engineer. Formwork and rebar will be handled by mobile and tower craneage.



*Figure 11: Rebar and Water Bar Installation*

In general, large horizontal elements such as slabs will be pumped with vertical elements such as columns and walls being craned in skips. Specified finishing grades will determine pour sizes and schedules.

Planning restrictions on working times will be strictly adhered to in the basement construction operation. In this regard it will be important for the Main Contractor to schedule sufficient time to accommodate poor or cold weather limitations on working times.

### 6.3 Superstructure

The entire development comprises medium rise buildings with the maximum building height being of the order of 35 m above ground level. In this regard it is not considered that any specialised construction techniques will need to be applied on the site.

### 6.4 Health & Safety

Health & Safety issues will be a primary concern for the Main Contractor. This will apply in respect of persons working on the site and in respect of passing pedestrians, motorists or other transport carriers. In this regard the highest possible care will be taken in providing properly designed scaffolding.



*Figure 12: Scaffolding Design*

Given the location of the site in a live city environment, special care will be taken to provide suitable protection for passing pedestrians.

The following general principles will apply:

- Watertight toe boards will be provided;
- There will be no lifting of materials over live footpaths or roadways;
- A sloped fan will be provided at second floor level and will move upwards as construction advances (where necessary);
- Debris netting will be provided for the full scaffolded perimeter;
- Fully recorded inspections will be carried out of the scaffolding for the full duration of construction.



*Figure 13: Pedestrian Protection*

## 6.5 Sequencing

The Main Contractor will engage with the professional design team to reach early agreement on an acceptable construction sequence. The building will be made watertight

## 7.0 PROPOSED CONSTRUCTION HAUL ROUTES

### 7.1 Introduction

Given the site is located in a built up city area it is critical that appropriate construction traffic / removal haul routes be identified and a *Traffic Management Plan* is implemented by the appointed Demolition Contractor.

### 7.2 Construction Delivery & Haul Routes

It is important that the most appropriate construction routes be identified in order to bring materials to and from the site in the most efficient and environmentally sensitive manner. It is noted that specific haul routes will be agreed and licensed between the appointed demolition contractor for the enabling works package and SDCC.

### 7.3 Construction Route Options

The site is located in Tallaght, south of Dublin City Centre and is approximately 3.5 kilometres from the M50. The following options are put forward for discussion - Figure 14;

- **The Red Route:** this route runs south along Belgard Road onto N81 before running east to the N81-M50 junction;
- **The Navy Route:** this route runs east along Airton Road then turning south down Greenhills Road before meeting the N81 red route to the M50 junction;
- **The Green Route:** this route runs north along Belgard Road and turns east along the R838 to the M50 junction at Ballymount.



*Figure 14: Construction Route Options*

## **8.0 CONSTRUCTION STAGE COMMUNITY LIAISON**

### **8.1 Introduction**

It is imperative that discussions with local residents, businesses and the general public commence well in advance of work commencing on site. The appointed contractor will be required to follow best practice '*Considerate Constructor*' guidelines. The Considerate Constructor experience in Ireland and the U.K. has been that early positive and proactive engagement with businesses and residents impacted by building works is the best approach.

### **8.2 Code of Considerate Practice**

Considerate Constructors seek to improve the image of the construction industry by striving to promote and achieve best practice under the Code. The *Code of Considerate Practice* outlines the Scheme's expectations and describes those areas that are considered fundamental for registration with the Scheme. The Code is in five parts and contains a series of bullet points. Each section of the Code contains an aspirational supporting statement and four bullet points which represent the basic expectations of registration with the Scheme. The Code of Considerate Practice applies to all registered sites, companies and suppliers regardless of size, type or location.

### **8.3 Respect the Community**

Constructors should give utmost consideration to their impact on neighbours and the public by informing, respecting and showing courtesy to those affected by the work. This shows itself in minimising the impact of deliveries, parking and work on the public highway. It also contributes to and supports the local community and economy. Finally it works to create a positive and enduring impression, and promoting the Code.

### **8.4 Community Liaison Manager**

A Community Liaison Officer (CLO) will be appointed by the Main Contractor to lead and manage all community related issues. The CLO will initially host and attend regular community meetings. Following the initial meetings the CLO will

compile a list of stakeholders in the area. These stakeholders will be kept informed of progress and planned works on the site. A Monthly Progress Newsletter may be prepared and distributed locally.



Figure 15: Community Newsletter

Follow through is a vital attribute for successful community liaison so it will be a fundamental element of the CLO's job description that they continually engage with the community, follow through on promises and deliver results.

### 8.5 Updated Construction Programme

An important element of community liaison will be the provision of updates to the community on the construction programme. In this regard each edition of the Community Newsletter will feature any updates to the construction programme along with details of any upcoming Exceptional Activities which may impact on traffic, short term accessibility for businesses or residents or have the potential to be disruptive. It is intended that by implementing a strong community liaison relationship that the environmental impacts of the proposed development on the community can be minimised and the social impacts, by way of local employment or business opportunities may be maximised.

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**(BE, P.Cert RSA, P. Dip. PM)**

**For OCSC MULTIDISCIPLINARY CONSULTING ENGINEERS**



## APPENDIX A

## SUSTAINABILITY WASTE CRITERIA

### Demolition Works at Belgard Gardens – Sustainability Waste Criteria

#### Intention of Design note

The intention of this Design Note is to outline the sustainability targets for the construction and demolition waste that should be complied with for the Demolition Works at Belgard Gardens. The principles for recycled waste follow the LEED criteria for best practice in terms of construction and demolition waste. It is recommended that this design note accompanies the Demolition and Main Contractor packages, or that the elements outlined below are extracted and included within the aforementioned packages.

#### Sustainability Requirements

Where existing buildings on the site will be demolished, a pre-demolition audit of any existing buildings, structures or hard surfaces will be completed to determine if, in the case of demolition, refurbishment / reuse is feasible and, if not, to maximise the recovery of material from demolition for subsequent high-grade / value applications. The audit must be referenced in the Site Waste Management Plan (SWMP) and cover:

- Identification of the key refurbishment/demolition materials.
- Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials.

The following percentages of non-hazardous demolition waste generated by the project must be diverted from landfill:

Type of waste stream	Weight
Demolition waste (Non- hazardous)	75%

#### Contractor Requirements

On the basis of the requirements outlined above, the appointed contractor(s) must provide the following information which confirms the targets outlined above have been achieved:

- Site Waste Management Plan (SWMP) for demolition works or alternatively provide all information to be inserted into the main Contractor's SWMP.
- Waste materials will be sorted into separate key waste groups see Table – 1 below (according to the waste streams generated by the scope of the works) either onsite or offsite through a licensed contractor for recovery. This information should be recorded at regular intervals and issued to the design team for approval.

### **Information on Site Waste Management Plans (SWMP)**

SWMP aims to promote resource efficiency and to prevent illegal waste activities. Resource efficiency includes minimising waste at source and ensuring that clients, designers and principal contractors assess the use, reuse and recycling of materials and products on and off the site.

- Best Practice SWMP
- Best practice (site waste management) is a combination of commitments to:
- Design out waste (materials optimisation)
- Reduce waste generated on site
- Develop and implement procedures to sort and reuse/recycle construction waste on and off site (as applicable). Follow guidance from:
- DEFRA (Department of Environment, Food and Rural Affairs)
- BRE (Building Research Establishment Ltd)
- WRAP (Waste & Resources Action Programme)

European Waste Catalogue	Key Group	Examples
170102	Bricks	Bricks
170101	Concrete	Pipes, kerb stones, paving slabs, concrete rubble, precast and in situ
170604	Insulation	Glass fibre, mineral wool, foamed plastic
1501	Packaging	Paint pots, pallets, cardboard, cable drums, wrapping bands, polythene sheets
170201	Timber	Softwood, hardwood, boards products such as plywood, chipboard, medium density fibreboard (MDF)
1602	Electrical and electronic equipment	Electrical & electronic TVs, fridges, air-conditioning units, lamps equipment
200301	Canteen/office	Office waste, canteen waste, vegetation
1301	Oils	Hydraulic oil, engine oil, lubricating oil
1703	Asphalt and tar	Bitumen, coal tars, asphalt
170103	Tiles and ceramic	Ceramic tiles, clay roof tiles, ceramic, sanitaryware

European Waste Catalogue	Key Group	Examples
	ics	
1701	Inert	Mixed rubble/excavation material, glass
1704	Metals	Radiators, cables, wires, bars, sheet
170802	Gypsum	Plasterboard, render, plaster, cement, fibre cement sheets, mortar
170203	Plastics	Pipes, cladding, frames, non-packaging sheet
200307	Furniture	Tables, chairs, desks, sofas
1705	Soils	Soils, clays, sand; gravel, natural stone
Most relevant EWC	Liquids	Non-hazardous paints, thinners, timber treatments
Most relevant EWC	Hazardous	Defined in the Hazardous Waste List (HWL) of the European Waste Catalogue (EWC)
Most relevant EWC	Floor coverings (soft)	Carpets, vinyl flooring
Most relevant EWC	Architectural Features	Roof tiles, reclaimed bricks, fireplaces
170904 (Mixed)	Mixed/ other	Efforts should be made to categorise waste into the above categories wherever possible

**Table 1: Key Waste Groups and Examples**