Pre-Demolition Audit

52-54 Avenue Road

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Document Revision History

Revision	Date	Comments
A	05/06/2023	Document issued

INTRODUCTION

Scope

This document gives details of how the company will manage the demolition works for the site, The site 52-54 Avenue Road, NW8 6BS. This is based on a desktop study undertaken using site records and photographic survey of the building demolition in question. This document is to be read in conjunction with any existing SWMP (Site Waste Management Plan) to ensure the maximum reuse and recycling of existing materials and mitigate the carbon footprint of the demolition works on site.

Responsibility

As the main contractor Knowles would ensure that the waste and routes highlighted within this report are assessed and implemented where possible. Furthermore, any hazards highlighted in the document will be assessed and suitably mitigated by Knowles and this information will be passed onto subcontractors to allow them to suitably plan their works. This report has been prepared in order to address MAT 01 Credits in BREEAM.

Related Documents

- Appendix A – Existing Site Plans
- Appendix B – Photographic Survey on site

The Project

The current structure consists of a detached main property, and a garage to the rear paved area. The existing building is currently unlisted but is being considered for demolition to allow for substantial improvement in both use and performance to provide a home to last into the future.

The current building is unoccupied and is in a state of disrepair at the time of surveying. The existing structure has already been soft stripped of all FFE and soft furnishings and thus will not be considered in the report.

The partitions to be removed within the existing building consist of London brick and mortar, nominally 100mm thick to principal walls and timber stud to remaining. Intrusive surveys where not possible however the state of damage to sections of ceiling and wall allowed for nominal investigation. Reviewing this material make up broadly what would be expected for a building of this age. The GF slab appears to be concrete, with no lower cellars or basements. The upper floors appear to be timber joisted, with a combination of various finishes. The roof structure is assumed to be timber truss however access was not available to survey. We would hope to retain the tiles for sale and reuse, recycle the timber elements, and crush any brick and concrete on site to assist in future piling works for the new structure. This should ensure very little wastage during the demolition scope.

The garage as far as surveyed consists of concrete strip foundations supporting a single storey brick wall with lightweight timber roof, with double glazed glass windows. The roof is tiled. The slab looks to be ground bearing and shows signs of deterioration.

This report has been prepared in full compliance with the waste hierarchy principles as supported by WRAP.

This is a report based on a non- invasive inspection of the building and as such it does not include wiring and copper pipework as by default all demolition contractors will scrap these for recycling due to the high value of the material. However, in this instance it is noted that the structure looks to have already been stripped of any such material.

An estimated 811 tonnes of waste will be produced from the removal of the structure including both the primary residence, garage, hard landscaping and boundary walls. Excluded elements are the boundary walls to 57 Elsworthy & the rear garden wall to 50 Avenue Road as these are to be retained and protected for the duration of works.

Demolition statement

Main Building:

Full Demolition of existing structure, grub out of all existing foundations to allow for new piled RC foundations.

The structure in its current form is deemed unsafe and would benefit from demolition, numerous internal floor plates have failed to the upper floors and water ingress within the building and caused further damage and deterioration within. The structure has numerous cracks to structural walls varying in thicknesses, this is assumed due to the heave of the clay soil and its impact on foundational settlement.

Garage:

The whole building is to be demolished in keeping with the redevelopment plan, the house and garage look to have been constructed in tandem, and although the garage has remained a semblance of weathertight, the existing slab shows signs of failure and its setting within the site is not beneficial for future use.

The garage shows signs of differential movement and settlement over time and is not considered a candidate for continued use.

All of the waste will be for recycling or energy recovery and the tiling to the existing outbuilding has great potential for reuse if carefully removed.

External:

It is expected that hard landscaping to the rear of the property will be removed during the works. It is also expected the boundary walls to both Elsworthy Road and Avenue Road will require replacing due to poor condition and subsidence over time.

KDPs:

The Key Demolition Products (KDP's) are

Concrete: 324Te.

Brickwork 380Te.

Timber 54te.

Metal N/A

Glass 6.25Te.

Tiling 34.5Te.

Internal Finishes 10Te.

Furniture 0Te.

MEP 2Te.

It is recommended that a target of at least 95% diversion of waste from landfill (by weight) should be set and 98% could be reached depending on the availability of recycling routes.

The current structure is approximately 430m² in plan and the amount of waste generated from the demolition in relation to the floor area is estimated to be 811Te. Please note this does not include any waste from the construction of the new building, however the largest quantity material comes from the external house walls of which 181m3 of brickwork & 135m3 of concrete hardstanding & footing is expected.

There is good potential for reuse on this project, with tiling to be carefully removed and stored, and brickwork/blockwork to be crushed and used for new build construction.

Where this is not possible, there is potential for recycling most of these materials thereby diverting waste from landfill.

Pre - demolition audit methodology

Construction drawings provided the perimeter areas for the building and gross floor areas. These were used along with measurements of the building and site which were manually taken during the site survey, undertaken in May 2023.

The principal residence was inspected with full photographic records listed below. Although no intrusive surveys were undertaken it can be well deduced from measuring on site the expected build up of walls and floors plus where existing floor plates have failed visual inspection can be undertaken.

There was a full set of as built plans available at the time this audit was undertaken.

The structure was deemed unsafe and as such a comprehensive survey of upper floors and some areas on the GF was not possible, this site is broadly overgrown and visuals to the structure GF to 1st externally are largely obscured.

The volume (m3) figures calculated for each material have been converted into tonnages using standard density figures for each material assessed.

Note: The findings and values contained in this report represent the best estimate of the materials and components within Building by means of using drawings of the buildings and taking measurements of the different materials encased in the buildings. We received plans listing the approximate area (m2) of the layouts for the different floors but not an inventory of the types of materials and construction used. Calculating the quantities of the different materials contained in the buildings was undertaken in an office environment. Material conversion rates used to calculate volume (m3) into tonnages have been undertaken using standard density factors.

Audit results

A number of Key Demolition Products that presented potential for recycling were identified. An estimate of the overall volume and tonnage of waste likely to be generated during the refurbishment are shown in Table 1:

Table 1

Material	**M3**	**Tonnage**
Concrete	135	324
Brickwork	181	380
Timber	107	54
Glass	2.5	6.25
Tiling	431 (m2)	34.5
Internal Finishes	N/A	10 (remaining plaster/boarding)
Fittings	N/A	0.5
Furniture	N/A	0
MEP	N/A	2

The largest KRP by tonnes is brickwork (380 tonnes), followed by concrete (324 tonnes), timber (54 tonnes)

The KDPs are now described.

Reuse within the development

Analysing the material list and quantities now identified. Values can be applied to achieve 20% reuse by cost within the development. Below table 2 ascribes cost estimates to the materials identified:

Table 2

Material	**M3**	**Value (GBP/£)**
Concrete	135	£17,550
Brickwork	181	£116,745
Timber	107	£60,955
Glass	2.5	£12,485
Tiling	431	£128,701
Internal Finishes	N/A	£40,000
Fittings	N/A	£45,000
Furniture	N/A	£5,000
MEP	N/A	£80,000 (plant to be removed)
TOTAL		**£506,436**

Analysing the site we expect that without reuse we would need to import approximately 316m3 of additional 6F2 crush material to create working platforms for plant and machinery, this equates to 41no. tipper loads. By utilising a concrete crusher we will reuse both concrete and brickwork from the building and as such should omit the need for imported crushed material, making a saving of £141,050.

With a total material value of £506,436 this is a 28% reuse by value on site. With the remaining value being diverted/recycled to 95% of its value.

Recycling within the development

Bricks and block work

The brick and concrete can be recycled as recycled aggregate or recycled concrete aggregate. It is unsuitable for reuse.

It is recommended that the concrete should be segregated either onsite or at a waste facility and crushed to produce recycled concrete aggregate (RCA) in accordance with the WRAP Quality Protocol for aggregates from inert waste. Various options are available to utilise RCA.

Recycled concrete aggregates can be used in:

1. Bitumen bound materials – Recycled concrete aggregate can be used may be used in a variety of base course and binder course mixtures.

2. Concrete – Recycled concrete aggregate

is permitted for use in certain grades of concrete. It is generally acknowledged that RCA can potentially be used to replace 20% of the coarse aggregate in concrete up to Grade 50.

3. Pipe bedding – suitably graded recycled concrete aggregate is used in pipe bedding.

4. Hydraulically bound mixtures (HBM) for subbase and base – recycled concrete aggregate can be suitable for use in HBMs. These can be used in the construction of car parks, estate/minor roads and hard standing.

5. Unbound mixtures for subbase – suitably graded recycled concrete aggregate is used as subbase.

6. Capping – Recycled concrete aggregate is suitable for capping applications.

Concrete

Local waste management companies that could manage the concrete waste include:

Day Aggregates

Gatwick Rd, Crawley RH10 9RE, 01293 511644

http://www.daygroup.co.uk/

Alternatively, licensed waste management contractors should be able to reprocess concrete waste into aggregates.

Timber (including MDF)

The majority of the timber can be recycled. It is recommended that a local wood recycling organization is contacted to see what timber items are suitable for reclamation and reuse.

Mid Sussex wood recycling project

The Old Dairy Barn Brooklands Farm, Rocky

Ln, Haywards Heath RH16 4RR

07974 933940

https://www.midsussexwoodrecycling.com/

Where reclamation is not possible the timber should be segregated on site and sent to a licensed waste management contractor for recycling.

Additional material types

It should be noted that there are likely to other sources of metal from the refurbishment especially from building services (water, central heating, ducting, wiring etc). These materials been estimated but not intrusively established.

It is common practice for demolition contractors to reduce their contract value by allowing for the income from the recycling of metals during demolition and refurbishment. Standard skip hire companies are likely to charge for haulage costs only, they may give back a small rebate on the metals. Local waste management contractors include:

Sussex waste management services Ltd

Bank House, Southwick Square, Southwick BN42 4FN

01273 871971

http://sussexwaste.com/

Additional material types

Additional materials likely to arise from the demolition and refurbishment are summarised below:

WEEE (Waste electronic and electrical equipment). WEEE should be sent to a specialist recycling facility, such as the following:

Oden Services UK Ltd

Unit 4 Sharlands Road Industrial Park

14 Sharlands Road, Fareham, Hampshire

PO14 1RD

www.odenservicesuk.co.uk

Maximising Reuse

Experts advise that a long lead-in time and maximum exposure are required to enable the reuse of products and components. The best chances for reuse, with the best environmental and economic benefits, are as near to site as possible:

- Used by the same client locally.
- Sold or given away locally.

The following recommendations may assist in maximising the reclamation potential of KRPs identified:

- Consult the client on the findings of this report and consider any options for closed-loop re-use in a similar project in this project.
- Consider setting aside storage on site for segregation of salvage items.
- Advertise specific salvage items for free on www.salvo.co.uk or low value materials on www.salvomie.co.uk. Salvo also operates a demolition/refurbishment alert service on their website which serves to bring forthcoming demolition products to the attention of potential buyers or users.
- Use local organisations such as London Reuse (www.londonreuse.org)
- Contact local architectural salvage merchants about specific items. Salvo publishes a directory on their website. Local options can also be found by looking on BREMAP (www.bremap.co.uk). This is a BRE tool which lists local waste management facilities based on postcodes.
- Ensure that salvaged items are removed and stored in such a way that all components remain together, e.g., doors in their frames.

Recommendations

It is highly recommended that to maximise reuse and recycling that the following materials are segregated on site or if space does not permit at a waste facility:

- Timber
- Hard-core materials (brick, block, cement and render)
- WEEE

Recycling/reuse targets

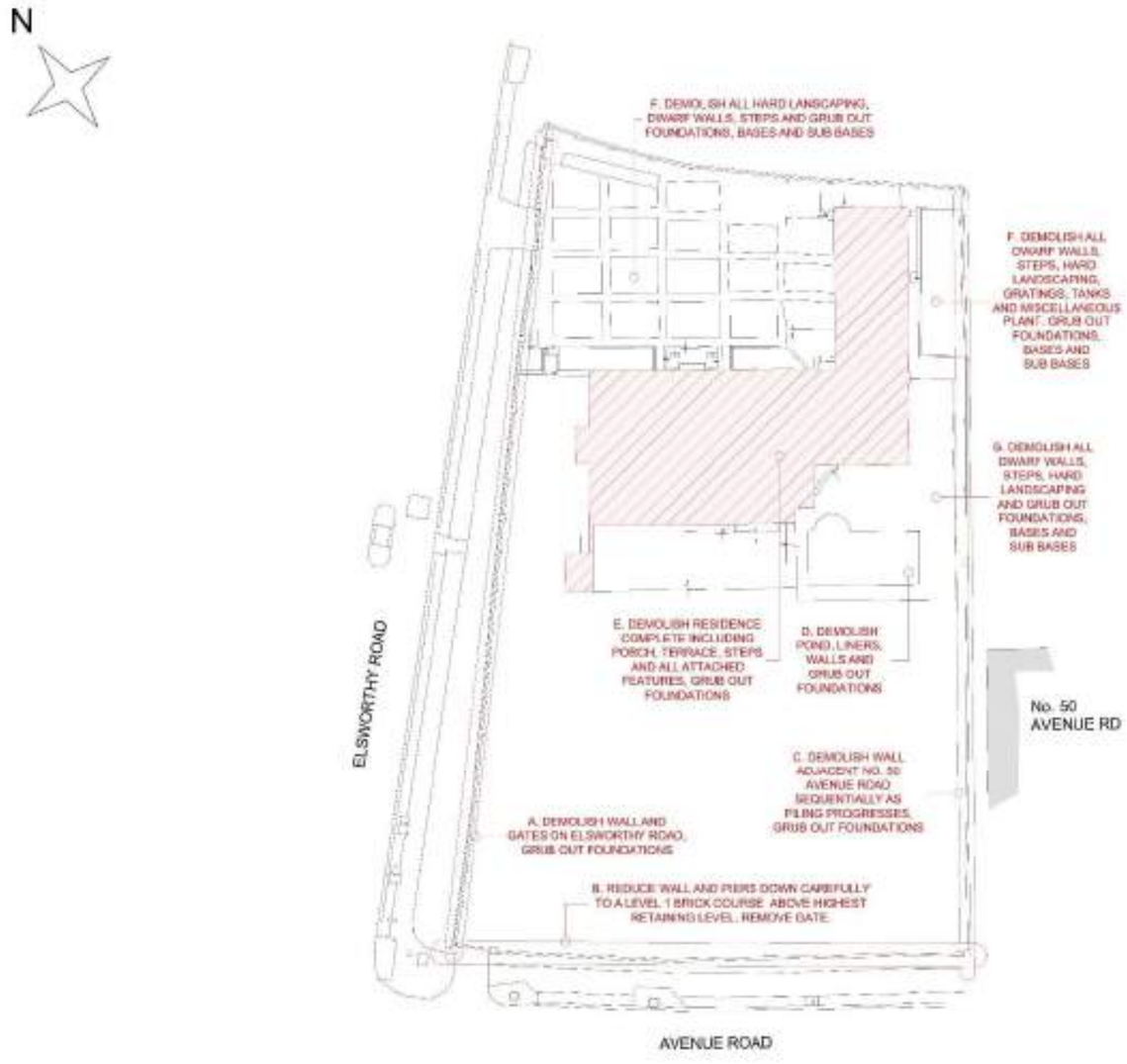
It is recommended that an overall reuse and recycling target is set prior to the demolition commencing based on the recommendations of this report in conjunction with the selected contractor. An estimate on the total percentage of waste materials that can be reused and recycled, and thus diverted from landfill on this project is 95%; it is therefore suggested that a target of 95% of waste diverted from landfill is set.

It is recommended that the following targets could be set:

Table 3

Material	% Reuse	% Recycle
Concrete	80 (Crushed on site)	100 (including reuse on site)
Brickwork	80 (Crushed on site)	100 (including reuse on site)
Timber	0	100
Glass	0	100
Tiling	0	100
Internal Finishes	0	95
Fittings	0	95
Furniture	0	95
MEP	0	95
Overall Target	**28% (By value)**	**95% (By quantity)**

Appendix A – Existing Site Plans



DEMOLITION PLAN 1:200

0 20M

REV P2 28/03/2023 NOTE F AMENDED

DOMVS LONDON

WWW.DOMVSLONDON.COM

PROJECT:
52 AVENUE ROAD

TITLE:
DEMOLITION PLAN

Date: MARCH 2023
Scale: 1:200 @ A1 Drawn: SDK

DRAWING NUMBER: 208-1080P2

REV P2 28/03/2023 NOTE ADDED IN RED

DOMVS LONDON

WWW.DOMVSLONDON.COM

PROJECT:
52 AVENUE ROAD

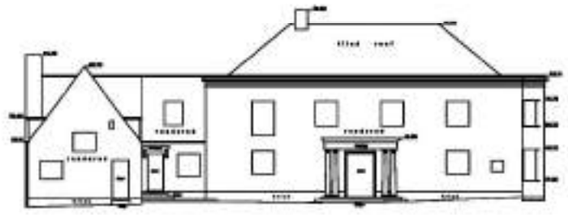
TITLE:
DEMOLITION - PLANS OF THE EXISTING BUILDING

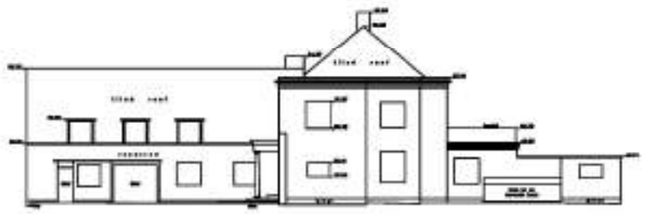
Date: MARCH 2023
Scale: 1:100 @ A1 Drawn: SDK

DRAWING NUMBER: 208-1081P2

SCALE BAR

DEMOLITION - PLANS OF THE EXISTING BUILDING
1:100





DEMOLITION - ELEVATIONS OF THE EXISTING BUILDING
1:100

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PROJECT:
52 AVENUE ROAD

TITLE:
DEMOLITION - ELEVATIONS
OF THE EXISTING BUILDING

Date: MARCH 2023
Scale: 1:100 @ A1 Drawn: SDK

DRAWING NUMBER: 208-1082P1

Appendix B – Site Photographic Survey


WARNING


Controlled
ZONE