

# Condition Survey Report

**Ravensbury Estate**  
Mitcham  
Surrey  
CR4 4DT

Prepared on behalf of:  
Circle Housing  
1-3 Highbury Station Road  
London  
N1 1SE

Job No: 27762  
Date: June 2016



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**Prepared By: Rob Ireland BSc (Hons), MRICS**

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For and on behalf of Baily Garner LLP

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22 June 2016 16:07:02



Version	Issue Date	Reason for Issue
1	18/11/2015	Draft Issue – Client Review and Comment
2	08/12/2015	2 <sup>nd</sup> Draft Issue – Client Review and Comment
3	16/12/2015	Costs updated to omit brick houses.
4	03/02/2016	Updated costs to reflect revised property list.
5	08/04/2016	Final draft following client review.
6	22/06/2016	Amended draft following Client review.

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**Appendix C – Insulated Render System Photos**

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### Executive Summary

Baily Garner LLP have been appointed by Circle Housing to produce a report and 50 year life cycle cost analysis on the Ravensbury Estate. The brief included internal surveys and reviews of technical reports previously produced.

The Ravensbury Estate is located in Mitcham, South London and was constructed circa 1950. The Estate consist of two construction types including traditional masonry and non-traditional Orlit prefabricated reinforced construction (PRC). The Orlit houses were built after World War II and were originally intended to be a short term solution for housing shortages after the War. The buildings have been retained for much longer than designed and following deterioration noted in the 1980s, the construction was classified as defective under the Housing Defects Act 1985.

Condition surveys were completed by HTA in February 2015. The surveys identified a number of hazards within the units including damp, mould, excess cold, crowding, entry by intruders, domestic hygiene and pests, provision of amenities, fire, hot surfaces, food safety, sanitation, falls on level surfaces and stairs. From external inspections it was noted that external decorations, flat roof coverings, lead flashings and fascias were in a poor condition.

Tully De'Ath undertook structural investigations to the Estate in March 2015 which included visual inspections along with specialist concrete investigations. The key concerns raised relate to the potential risk of further concrete deterioration due to water ingress. The investigations found typical concrete and PRC defects expected for their age. The reports did not identify the presence of defects (identified within previous BRE reports) that cause PRC buildings to be deemed defective.

Baily Garner's internal surveys identified that 16% of kitchens and 33% of bathrooms were deemed old and in poor condition. 66% of boilers were also deemed old and at the end of their life.

Our recommendations allow for a full scope of external repairs for both the traditional and Orlit buildings. Works include replacement of roofs, rainwater goods, windows, doors and communal services. In addition, for the Orlit units, an insulated render system has been allowed to provide protection to the concrete and improve thermal performance.

Internally the traditional brick built blocks have been identified to be drylined to improve the thermal performance. A full scope of internal works covering new kitchens, bathrooms, electrics and heating installations has also been allowed for both construction forms.

Due to the disruptive nature of drylining and external insulation works further investigation will need to be undertaken to assess whether works can be completed in-situ.

We have provided a life cycle cost analysis for all of the recommended works which totals £36,807,136. In addition to this we have provided a second cost option whereby the percentage of 1<sup>st</sup> year replacement works is adjusted in line with the survey findings. The impact of the proposed change totals - £450,297.00.

The proposed works will achieve a 50 year requirement as identified within the Client's brief and improve the aesthetics and reduce maintenance costs for the Estates.

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### 1.0 Introduction

#### 1.1 Client Details

1.1.1 Circle Housing, Circle House, 1-3 Highbury Station Road, London, N1 1SE

#### 1.2 Property Address

1.2.1 Ravensbury Estate, Mitcham, Surrey, London, CR4 4DT

1.2.2 The Estate consists of;

1. 72 semi-detached prefabricated reinforced concrete (PRC), Orlit construction houses located on Rutter Gardens, Hatfeild Close and Ravensbury Close.
2. 32 brick traditionally built houses located on Ravensbury Grove and Hengelo Gardens.
3. 88 flats and maisonettes located within traditionally built brick flat blocks, within Morden Road, Ravensbury Grove and Ravensbury Court.

#### 1.3 Date of Inspection

1.3.1 The surveys were carried out by Rob Ireland MRICS and Lloyd Hudson of Baily Garner LLP.

1.3.2 The properties were inspected on Wednesday 23<sup>rd</sup> September 2015.

#### 1.4 Weather Conditions

1.4.1 The weather conditions on the date of survey were dry, sunny with a temperature of 17°C.

#### 1.5 Description of Property

1.5.1 Ravensbury Estate is located in Mitcham, South London and constructed circa 1950. The Estate is accessed from Morden Road (A239), which borders the Estate to the North and West. To the South the Estate is bordered by the river Wandle and to the East by Ravensbury Park.

1.5.2 The Estate is a mix of 2 construction types including traditional masonry and non-traditional PRC Orlit.

1.5.3 The traditional construction on the Estate, consists of 2 and 4 storey buildings containing maisonettes, flats and semi-detached houses. The structural external walls are either solid or cavity brickwork construction, with concrete tiled pitched roofs and double glazed windows.

1.5.4 The Orlit houses on the Estate are a form of PRC and were built after World War II. On the Ravensbury Estate, the constructions consist of 2 storey semi-detached dwellings with pitched tiled roofs. The loadbearing structure consists of pre-fabricated reinforced concrete frames of columns and beams at first floor and roof levels. The ground floor construction is solid concrete and external walls are of cavity construction, including an inner leaf of blockwork and outer leaf of interlocking precast concrete panels.

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1.5.5 The use of PRC construction was originally intended to be a short term solution to housing shortages after the war. However, these buildings have now been retained for much longer periods than designed. Due to the deterioration noted in the PRC buildings during the 1980's, the construction form was classified as defective under the Housing Defects Act 1985.

### 1.6 **Statement**

1.6.1 This report is prepared solely for the use of Circle Housing and may not be used or relied upon by any third party, without specific written permission of Baily Garner LLP.

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### 2.0 Client Brief

#### 2.1 Background

2.1.1 Following a positive ballot vote in 2009, 6,326 tenants and 2,535 leasehold units were transferred on the 22<sup>nd</sup> March 2010 from Merton Council to Merton Priory Homes (MPH). MPH is now incorporated into Circle Housing.

2.1.2 A key part of the transfer was an "offer document" issued to the residents which encapsulated the promises to be delivered by MPH following transfer. Included in the offer document was an improvement and modernisation programme to meet the 'Merton standard'. The 'Merton standard' is a commitment that goes beyond what is required under the Government Decent Homes Standard. It differs by requiring all homes to have modern facilities with residents offered choices in relation to replacement works.

#### 2.2 Baily Garner Brief

2.2.1 Circle Housing have requested that Baily Garner provide assistance in establishing the 50 year life cycle cost of refurbishing and maintaining the housing stock on the Ravensbury Estate. The brief included the following:

- View and report on existing survey and reports previously produced on the Estate.
- Undertake additional Baily Garner internal surveys to achieve a 10% inspection rate across all unit types.
- Provide lifecycle cost information for a 50 year period.
- Provide summary test of the key findings from surveys, provide clarification and commentary on cost information.

#### 2.3 Scope of Survey

2.3.1 As part of previous surveys completed by other consultants, a number of units across the Estate had been inspected, as detailed below.

Property Address	Percentage Inspected
Morden Road	9%
Rutter Gardens	7%
Hatfeild Close	5%
Ravensbury Grove	3%
Hengelo Court	33%



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Ravensbury Court	2%
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2.3.2 Based upon the previous inspections and our brief to achieve a 10% internal inspection rate, Baily Garner undertook internal surveys of the following units:

- 5 Hatfeild
- 8 Ravensbury Court
- 18 Ravensbury Court
- 19 Ravensbury Court
- 48 Ravensbury Court
- 55 Ravensbury Court
- 26 Ravensbury Grove
- 46 Ravensbury Grove
- 56 Ravensbury Grove

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### 3.0 Limitations and Exclusion

#### 3.1 Generally

- 3.1.1 Unless expressly provided, no term in the contract between Baily Garner LLP and the Client is enforceable under the contract (Rights of Third Parties) Act 1999 by any person other than Baily Garner LLP or the Client.
- 3.1.2 We have not carried out an inspection in respect of the 29 hazard categories identified within the Housing Health & Safety Rating System (HHSRS). This report is limited to the requirements of the brief only.
- 3.1.3 We have reported an obvious Health & Safety hazards only to the extent that they were apparent from the elements of the property considered as part of the inspection.
- 3.1.4 We have not commented or advised on any matter the significance of which, in relation to the property, was not apparent at the time of the inspection or from the inspection itself.
- 3.1.5 We have not undertaken any structural or other calculations.

#### 3.2 Accessibility

- 3.2.1 Baily Garner have not completed external surveys but have reviewed and commented upon external survey information completed by other consultants.
- 3.2.2 We have not opened or inspected those parts of the structure which were not exposed, or are inaccessible. We are therefore unable to confirm such parts are free from defective concrete, corrosion, condensation, wet rot, dry rot, woodworm or any other defects.
- 3.2.3 We have not lifted any floorboards nor have we lifted any ply, hardboard, fitted carpets or other fixed floor coverings.
- 3.2.4 We have not moved any obstruction during the inspection, including but not limited to furniture, fixtures, fittings or equipment.
- 3.2.5 We were unable to inspect any roof voids, lift rooms or water tanks.
- 3.2.6 We have not carried out any exposure work or destructive testings, however in the event of our suspicions being aroused we will recommend further exposure. Such intrusive investigations, if instructed by the client will be at the risk and liability of the client and will be assumed to be within the agreement between the client and the building owner.

#### 3.3 Services

- 3.3.1 We have not carried out any tests of gas, electric, water and drainage installations. The report is based upon a visual inspection only and we have prevised upon the need for any visual test if deemed necessary within the appropriate report.

#### 3.4 Areas Not Inspected

- 3.4.1 We were unable to gain access to the following areas which are therefore excluded from the report.

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- Roof and roof voids

### 3.5 Environmental Issues

- 3.5.1 Particular noise and disturbance affecting the properties has only been noted if it is significant at the time of the inspection. Specific investigations have not been undertaken.
- 3.5.2 Our survey and report has not taken into account the energy performance of the building or properties contained within it.

### 3.6 Hazardous Materials

- 3.6.1 This report cannot be relied upon to confirm the presence or otherwise of asbestos containing materials. If you are unaware the presence of such materials, a suitably qualified specialist should carry out a specific asbestos survey.
- 3.6.2 Unless otherwise expressly stated in the report, we assume no deleterious or hazardous materials or techniques have been used in the construction of the property. However, we have advised in the body of the report if, in our view, there is a likelihood that deleterious materials have been used in the construction and specific enquiries should then be made or tests carried out by a specialist.

### 3.7 Ground Conditions

- 3.7.1 We have not commented on the possible existence of radon, noxious substances, landfill or mineral extraction implications, or any other forms of contamination.

### 3.8 Consent, Approvals and Searches

- 3.8.1 We have assumed the building or site is not subject to any unusual or onerous restrictions, obligations or covenants which apply to the properties or affect the reasonable enjoyment of the properties.
- 3.8.2 We have assumed that the properties are unaffected by any matters which would be revealed by a local search and replies to the usual enquiries, or by a Statutory Notice, and that neither the properties, nor their condition or intended use is or will be unlawful.
- 3.8.3 We have assumed that all planning, building regulations and other consents required in relation to the property had been obtained and such consents have not been verified by us.

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### 4.0 Previous Condition Surveys

#### 4.1 Dwelling Condition Surveys by HTA

4.1.1 HTA were appointed to undertake visual assessments of existing dwellings and reported on their findings within their condition report dated the 12 February 2015.

4.1.2 The purpose of the surveys was to determine the internal and external fabric condition of units along with compliance with the Department for Communities and Local Government Decent Homes Standard.

4.1.3 A number of dwellings were specifically selected to provide a suitable sample across the construction types on the Estate.

#### 4.2 Housing Health & Safety Rating System Assessment

4.2.1 A summary of the hazards identified through their HHSRS assessments can be found below:

- Damp and mould. Signs of mould staining at window reveals and other window components. Signs of damp staining at ceiling wall junctions.
- Excess cold. No external wall insulation and anecdotal evidence reported by residents relating to temperature within units.
- Crowding and space. Original room purpose altered by residents. Limited storage space and kitchen capacity.
- Entry by Intruders. Poor external lighting.
- Domestic hygiene and pests. Poor kitchen layouts. Rodent infestations reported by residents.
- Capability of amenities. High level window handles over sink and wash hand basins. Difficult operation of door ironmongery.
- Fire. Defective or faulty smoke alarms.
- Hot surfaces. Kitchen wall units located too close to cooking facilities. Long lengths of exposed radiator pipework in child's bedroom.
- Food safety. Inadequate kitchen storage and poor condition of work surfaces. Rodent issues.
- Sanitation. High level cistern and old pipework. External lead sanitary pipeworks susceptible to freezing.
- Falls on level surfaces. Deterioration to floor coverings, creating slip and trip hazards.
- Fall on stairs. Poor quality floor finish and installation, creating slip and trip hazards

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### 4.3 Building Component Failure

4.3.1 Defects were noted to the following building components.

- Wall finish. Hollow patches to plaster finish. Damp and mould identified. Extensive peeling of decorations.
- Windows. Mould noted to window frames. Thermally broken window units.
- Gas boiler. Reports of faulty and ineffective boilers.
- External doors. Old door installation (+30 years), low security rating of installation.
- Poor condition of decorations to external elements.
- Poor condition and defective flat roof coverings to outbuildings.
- Rotten timber fascias.
- Defective pointing to chimney stacks.
- Old and poor condition lead flashings to roof abutments.

### 4.4 Facilities and Services

4.4.1 8 units were inspected by HTA and 62.5% exhibited old and poor condition kitchens. 25% of the units exhibited old and poor condition bathrooms.

### 4.5 Thermal Comfort

4.5.1 87.5% of units inspected were noted to have a defect relating to the provision of thermal insulation to the units. Predominantly there was no cavity or external insulation and reports of units being excessively cold. 25% of the units had old and poor condition boiler and heating installations.

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### 5.0 Previous Structural Investigations

#### 5.1 Tully De'Ath Structural Report

5.1.1 Tully De'Ath were instructed to undertake a report on the structural condition of the Orlit properties on the Estate in March 2015. The report reviews the options to extend the life for the units following the inspection.

5.1.2 The inspection consisted of on-site visual inspections, review of plans, review of BRE report on Orlit construction, review of HTA feasibility report (February 2015) and a concrete specialist inspection and report.

5.1.3 Internal access was provided to 4 units only, and opening up inspections were also completed within these units.

5.1.4 The report provides a historical background and context to the Ravensbury Estate and the use of Orlit (PRC) construction.

5.1.5 The Orlit houses on the site are generally 2 storey semi-detached dwellings with pitched roofs. The loadbearing structures of each house comprise of pre-fabricated reinforced concrete (PRC) frames of columns and beams. The external walls are formed of cavity wall construction with inner leaves of blockwork and outer leaves of interlocking pre-cast concrete panels.

5.1.6 The key issues raised within the BRE report for Orlit construction can be summarised as follows:

- Most advanced deterioration was noted to secondary beams (longitude cracking) in flat roof constructions due to roof leaks and condensation. Deterioration was also noted in first floor construction due to high chloride or concrete carbonation.
- Cracking in soffits and sides of main beams. This is the result from corrosion of reinforcement due to carbonation and high chloride level.

5.1.7 Non-structural issues identified within the BRE report covered the following:

- Spalling of concrete cladding panels due to erosion of reinforcement.
- Extensive deterioration of cover to cladding panels.
- Cracking and spalling of front door canopies and supports.
- Cracking of chimney stacks.
- Bowing and learning out of the uppermost layer of panels on the front elevation.
- Cracking and spalling of concrete soffits in flat roof housing.

#### 5.2 External Observations

5.2.1 The observations identified by the structural engineer to the Orlit PRC buildings on Ravensbury Estate are as follows:

- Cracking noted to PRC corner cladding units more prevalent on the North and North West elevations.

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- Spalling/cracking to party wall cladding units more prevalent to the North and North West elevations.
- Patch repairs in mortar between cladding panels.
- Spalling concrete to external columns supporting canopies.
- Evidence of cavity injection works to a number of units.
- A mix of finishes to the external elevations including decoration, pebble dash and undecorated.
- Where decoration and pebble dash has been applied, ventilation air bricks have been covered.
- Cracking to the PRC window frames.
- Poor guttering and rainwater pipe condition.

### 5.3 Internal Observations

5.3.1 The internal observations are as follows:

- Noted that the observations were limited as the structures were covered. More access was available within the roof voids.
- Identified the construction units are in line with BRE report.
- There are no obvious signs of deterioration visible to the surfaces of the primary or secondary beams.
- Some movement was noted to the “stick” connections to primary and secondary beams.
- Break out investigations to the concrete columns and beams revealed they were traditionally reinforced.

### 5.4 Summary of Specialist Concrete Inspection and Tests

5.4.1 Tests consisted of visual, traditional intrusive/breakouts, cover meter, carbonation testing, chloride content tests, cement content tests, HAC tests, petrographic examination of concrete samples and metal/impulsive radar surveys of galvanised wall tiles.

5.4.2 The observations were as follows:

- Structural form noted to reflect BRE report.
- Traditionally reinforced columns and beams with plain round bars.
- Continuity bars at connections of primary and secondary beams exhibited light corrosion but generally considered in fair condition.
- Light to moderate corrosion of steel plate column connectors.
- Foam insulation noted to various cavity wall constructions.

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- The concrete cover of elements varied with some very minimal depths identified.
- Carbonation depth exceeded the depth of reinforcement in 16% of the areas tested. In 12.5% of locations the carbonation depth was within 5mm of the bars.
- Generally chloride levels were noted to be low.
- Cement content was noted to be good and indicated good quality pre-cast concrete units.
- High Alumina Cement (HAC) concrete was not found in any of the 24 locations tested.
- Petrographic analysis identified no obvious signs of distress.
- Wall tiles were limited around openings. Generally wall tiles to elevations were noted to be in good condition however, the bedding was less than current standards.

### 5.5 Structural report conclusions

5.5.1 The conclusions of the structural report were as follows:

- Generally the buildings were in reasonable condition for the age of construction with no obvious signs of significant deterioration to the concrete frames.
- The wide range of reinforcement cover depth indicates variable workmanship quality.
- Higher depths of carbonation and chlorination noted are not considered an issue if there is no further water ingress to the structure.
- Key area of deterioration in the BRE report relates to corrosion to flat roof beams. There are only pitched roofs on the Estate and of the 4 units (out of 72) inspected, roof voids were noted to be dry.
- Wall tile spacing was adequate to main panels. Bedding is below the standard and ties may not be as effective as intended.
- A lack of ties was noted at corners, which were cracking due to thermal movements. Provision of wall ties around openings were also minimal.
- Poor condition rainwater goods create a higher risk for long term concrete damage.
- Only 4 units were inspected, but the main issue identified is the water ingress on the external concrete panels and potential risk of concrete deterioration.
- The engineer report recommends further surveys to the rest of Estate be undertaken.
- Generally it is important to keep rainwater goods clear and fill in joints in panels to prevent water ingress. Spalled concrete and additional strength to corner cladding units which is also recommended.
- In relation to filled cavities this needs to be removed and consideration needs to be given for panels to be over clad to prevent water ingress.



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### 6.0 Our Survey Findings

#### 6.1 Kitchens

6.1.1 Generally our inspections identified the following:

Properties	Old (20 Years+)	Poor Condition
5 Hatfeild Close	X	X
18 Ravensbury Court	✓	✓
19 Ravensbury Court	✓	X
55 Ravensbury Court	X	X
46 Ravensbury Grove	X	✓
56 Ravensbury Grove	X	X

6.1.2 Generally we identified that 16% of units inspected exhibited kitchens which were both old and in poor condition. 33% of kitchens were old and 33% of kitchens were in poor condition.

6.1.3 Of the specific issues raised within the kitchens we identified that units in poor condition invariably had an inadequate layout to facilitate a safe and hygienic use of the kitchen facilities required.

#### 6.2 Bathrooms

6.2.1 A summary of our findings in the bathrooms are as follows:

Properties	Old (20 Years+)	Poor Condition
5 Hatfeild Close	✓	✓
18 Ravensbury Court	✓	✓
19 Ravensbury Court	✓	X
55 Ravensbury Court	X	X
46 Ravensbury Grove	X	X
56 Ravensbury Grove	✓	X

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6.2.2 Following our inspections within the units we identified that 33% of the bathrooms inspected were both old and in poor condition. 66% of bathrooms were noted as old and 33% were in poor condition.

### 6.3 Electrics

6.3.1 Our findings following our inspection of the electrics are as follows:

Properties	Old (20 Years+)	Inadequate
5 Hatfeild Close	✓	X
18 Ravensbury Court	X	X
19 Ravensbury Court	X	✓
55 Ravensbury Court	✓	X
46 Ravensbury Grove	✓	X
56 Ravensbury Grove	✓	X

6.3.2 In relation to the electrical installations none of the units identified had both an old and inadequate system. 66% of the electrics were old and 16% were noted as inadequate.

6.3.3 However, where an inadequate installation was identified this was due to the low quantity of sockets provided within the rooms. This led to additional sockets and extension leads were being used and therefore a risk of overloading the current system.

6.3.4 It should be noted that the majority of the installations appear to be less than 15 years of age from reference with the Merton Stock Condition data.

### 6.4 Heating

6.4.1 The findings from our inspections relating to heating are as follows:

Properties	Heating Old (30 Years+)	Heating Inadequate	Boiler Old (10 Years+)
5 Hatfeild Close	X	X	X
18 Ravensbury Court	X	X	✓
19 Ravensbury Court	X	X	X
55 Ravensbury Court	X	X	✓

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46 Ravensbury Grove	X	X	✓
56 Ravensbury Grove	X	X	✓

6.4.2 In relation to the heating installations we did not find any units that exhibited old and inadequate heating installations. From our surveys we did identify that 66% of the boilers contained within units were deemed old and at the end of their life.

### 6.5 General

6.5.1 Our general observations on surveys of the units indicated that the condition of internal finishes was poor and that there were extensive examples of damp and mould issues to walls and windows.

6.5.2 In addition to the damp and mould issues there were also numerous instances where residents reported the properties were very cold, especially in winter months.

6.5.3 In comparison with the findings from HTA's condition surveys it should be noted that 63% of the units surveyed by HTA were deemed to have old and poor condition kitchens. This is approximately a 4 times higher failure rate.

6.5.4 With regard to the bathroom installations HTA identified that only 25% of bathrooms were old and poor condition. This is approximately 25% lower than our findings.

6.5.5 25% of heating installations were identified by HTA as inefficient. We did not identify any units with inadequate heating. Although anecdotal evidence from residents indicated that the heating performance of the properties was poor.

6.5.6 No data was provided by HTA on age of heating, boiler or electrical installations.

### 7.0 Refurbishment Work Options

#### 7.1 Traditional Construction

- 7.1.1 In relation to the traditional construction buildings on the estate, a full scope of external repairs has been identified for the flat blocks only. These works have been based upon the findings noted in the HTA report. No works have been included for the traditional constructed houses.
- 7.1.2 Roofs have been identified as approaching the end of their serviceable life and been allowed to be replaced in their entirety from year 1. In general the windows and doors were noted to also be approaching their end of life and these elements have been identified for replacement.
- 7.1.3 A series of communal area enhancement works have also been allowed for including new landlords electrical installations, IRS installation and external lighting upgrades.

#### 7.2 Orlit PRC Construction

- 7.2.1 In relation to the Orlit PRC buildings the structural engineer report identified specific concrete repairs required to the buildings including filling joints, repairing spalled concrete and additional strengthening to corner cladding panels. In addition general replacement of rainwater goods was also identified to prevent water ingress into the concrete construction. These works have been included within the proposed scope of works.
- 7.2.2 However, the key risk related to the current condition of the buildings was the potential further deterioration to the concrete should further water ingress occur. There are a number of refurbishment options available to protect the concrete and provide the 50 year life criteria set by the client. Anti-carbonation or render coats could be considered, however, when the structural issues are considered in conjunction with HTA's condition report the provision of an insulated system has been allowed.
- 7.2.3 By providing a fully insulated render system to the Orlit units the client will be able to protect and enhance the life of the concrete whilst also addressing the excessive cold and thermal comfort issues identified in the decent homes surveys.
- 7.2.4 The system proposed is similar to that recently installed for Circle Housing at a scheme in Westcott, Dorking (please see Appendix C). The provision of a render system such as this would require associated regular maintenance, and have an expected life of 30 years. Our life cycle cost plan allows for works to address these factors.
- 7.2.5 It should be noted that the proposed insulated render system allowed for within the scope of works will not provide a fully licensed repair. As such there will be no ability for the properties to be mortgaged.
- 7.2.6 In relation to the Orlit homes allowance has also been made for associated repair works to the external elements, gardens and outbuildings.

# Condition Survey Report

## Ravensbury Estate, Mitcham, Surrey, CR4 4DT

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### 7.3 Internals

- 7.3.1 In relation to the traditional brick built blocks an allowance has been made to dry line the units to improve the thermal efficiency to the flat blocks only. This is based upon the units failure under thermal comfort criteria in the HTA condition surveys. No such allowance has been made for the Orlit units due to the installation of an external render system. We would recommend that further energy performance assessments are completed to all units, to establish whether insulation should be provided.
- 7.3.2 The scope of works for the internal elements allows for replacement kitchens, bathrooms, electrical re-wires and new heating systems. Due to the extensive nature of works an allowance has also been included for the full decoration of units.
- 7.3.3 Due to the differing age and condition of the kitchen, bathrooms, electrical and heating installations identified during our survey process, we have provided 2 cost options. The first option identifies a worst case scenario whereby all elements are replaced in year one.
- 7.3.4 The second option reviews the findings from our survey process and provides an adjustment based on recommended replacement percentages of key internal elements in the 1st year (either old or poor condition). This also assumes that the remaining units would be replaced in year 10.
- 7.3.5 From review of the combined survey data we noted the following:
- 40% of kitchens were old and in poor condition.
  - 30% of bathrooms were old and in poor condition.

# Condition Survey Report

## Ravensbury Estate, Mitcham, Surrey, CR4 4DT

### 8.0 Cost Information

8.1.1 The tables below provide a summary of Option 1 (Full Replacement) and Option 2 (percentage first year replacement). Please note no cost allowance has been included for the traditional brick house construction.

8.1.2 A full summary of the cost information is located within Appendix A.

#### **Option 1** – 100% replacement of key internal elements in first year

Block	Cost
Orlit Houses (Rutter Gardens, Hatfield Close & Ravensbury Close)	£13,798,832
Brick Flats (171-177 Morden Road & 2-70 Ravensbury Grove)	£4,044,461
Ravensbury Court	£7,413,300
Estate Works	£3,169,440
<b>Sub Total</b>	<b>£28,426,033</b>
<b>Preliminaries 17%</b>	<b>£4,832,425</b>
<b>Contingency 5%</b>	<b>£1,662,923</b>
<b>Inflation 5.4% (4<sup>th</sup> Quarter 2015)</b>	<b>£1,885,755</b>
<b>Total</b>	<b>£36,807,136</b>

#### **Option 2** – Percentage 1<sup>st</sup> year replacements in accordance with Baily Garner surveys

Element	Cost
Kitchens (replace 40%)	-£356,280
Bathrooms (replace 30%)	-£39,620
Heating Installations (0%)	-£25,100
Boilers (67%)	-£108,537

# Condition Survey Report

## Ravensbury Estate, Mitcham, Surrey, CR4 4DT

Electrical Installations (83%)	£0.00
<b>Adjusted Total</b>	<b>-£36,356,839</b>

- 8.1.3 The cost information has been predominantly benchmarked against 3 separate schemes in which Baily Garner have been involved with and have completed over the last 2-5 years.
- 8.1.4 The schemes identified are of a similar type and extent of work to similar building archetypes.
- 8.1.5 All costs provided include an allowance for inflation but excludes Net Present Value adjustments.
- 8.1.6 The costs exclude any works or demolition completed within the 50<sup>th</sup> year.
- 8.1.7 A cost breakdown for works per year has also been provided in Appendix B. The cost information has also been broken down into a unit cost per property, as follows:

<b>Internals</b>	<b>Total Cost</b>	<b>No. of Tenants</b>	<b>Cost per Tenant</b>
Orlit Houses (Rutter Gardens, Hatfield Close & Ravensbury Close)	£9,501,446	64	£148,460
Brick Flats (171-177 Morden Road & 2-70 Ravensbury Grove)	£3,013,427	26	£115,901
Ravensbury Court	£4,163,102	32	£130,097
Sub-total	£17,216,394	122	£136,705
<b>Communals</b>	<b>Total Cost</b>	<b>No. of Dwellings</b>	<b>Cost per Dwelling</b>
Orlit Houses	£8,365,820	64	£130,716
Brick Flats	£2,223,499	27	£82,352
Ravensbury Grove	£5,435,928	59	£92,134
Estate Works	£4,103,915	150	£27,359
Sub-total	£20,129,162	150	£134,194
<b>Total</b>	<b>£36,807,136</b>		

### 9.0 Conclusions and Recommendations

- 9.1.1 The total cost for Option 1 (100% 1<sup>st</sup> year replacement) is **£36,807,136**.
- 9.1.2 The total cost for Option 2 (percentage replacement in 1<sup>st</sup> year based on surveys) is **£36,356,839**. The saving is realised due to key elements not requiring replacement in year one.
- 9.1.3 This is the total anticipated cost for the buildings to achieve a 50 year life under each scenario. These works are required to ensure the properties achieve a serviceable condition.
- 9.1.4 The costs do not include any works to the traditional house construction.
- 9.1.5 The external condition of the traditional construction on the estate exhibit issues expected for buildings of their age. Due to the surveys completed, works to improve the thermal performance of the buildings has been identified. To minimize complications with planning an allowance has been made to internally dry line the tenant units. The scope of works proposed to the units will address the issues identified and will also ensure the units meet the Merton Standard, across the 50 year life.
- 9.1.6 The structural investigations completed on the Orlit units identified that the structural condition of the units was fair and importantly some of the most deleterious issues of the Orlit construction are not present (e.g. flat roofs). However, the current condition of the concrete and in particular the depth of carbonation and level of chlorides make the structures at very high risk of further concrete deterioration should further water ingress occur. If this issue is not addressed there is a very high risk of the concrete structures failing. Due to the process of deterioration it is not possible to establish an exact timescale for this potential failure. As such to achieve an enhanced 50 year life the provision of a render system has been allowed.
- 9.1.7 Further Structural Engineer assessments will be required to establish condition of all Orlit construction and (due to low survey sample e.g. 4 units) determine the feasibility of installing an insulated render system. In addition costs have been allowed for to complete necessary structural repairs before the installation of the render systems. It is possible that the further surveys may identify additional works which would increase the cost of retaining the buildings. These costs have not been allowed for in our cost analysis.
- 9.1.8 The proposals to provide insulated render for the Orlit properties will require planning approval. Early discussion with the Local Authority will be required to ascertain the extent of works feasible on the Estate. In addition, in our experience, it will also be of benefit for extensive consultation to be undertaken with residents prior to such works. This will enable input into the process and ownership of the proposed works where possible. Options for colour and finishes can also be provided.
- 9.1.9 From our experience of working with similar PRC buildings, we would note that the proposed external insulation works would be very disruptive for residents particularly relating to noise and dust. Pilot and investigation works would need to be undertaken at an early stage to establish the extent of exposure, concrete repairs and level of disruption, so that a risk review on residents remaining in-situ could be made. Due to the level of internal



# Condition Survey Report

## Ravensbury Estate, Mitcham, Surrey, CR4 4DT

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disruption for the drylining of brick built units, a detailed review and risk assessment would also be required regarding in-situ works. Costs for a de-cant programme have not been allowed for within the life cycle costs.

- 9.1.10 Internally our HTA's inspections revealed that there was a range of condition issues for key elements in the buildings. The sample size of 10% is deemed suitable due to the similar construction form noted on site. However, we have proposed an adjustment to the costs (Option 2) to allow for a variance in the condition of such elements. This has resulted in the proposed level of replacement works in the first year being adjusted which in turn reduces the overall 50 year life cost.
- 9.1.11 In order to provide a more accurate assessment of the 1<sup>st</sup> year replacements on the Estate, further survey samples could be undertaken. In addition the percentages can also be reviewed and adjusted to reflect the interpretation of the Merton Standard.
- 9.1.12 Our proposals identify a number of energy improvement works, and these will need to be carefully reviewed in line with any proposed energy strategy for the Estate. These works have been allowed for in anticipation that over a 50 year period the issue of increasing fuel costs and fuel poverty will need to be proactively addressed by the client.
- 9.1.13 A number of the proposals included within the scope of works, have been included in order to raise standard of unit and are practical to complete whilst undertaking other works but may not be deemed strictly necessary in accordance with the Merton Standard. Such works include full internal redecoration, block entrance canopies and provision of external balconies. In addition, the interpretation of the standard is subjective process. We are therefore happy to review the full scope of works in detail with the client and amend the scope where required.
- 9.1.14 In conclusion we believe the works proposed will achieve the 50 year life requirement, address promises made in the offer document by the client, generally improve the aesthetics and reduce maintenance costs for the Estate.

# Appendix A

## Life Cycle Cost Information

# Life Cycle Cost Plan

for

**Ravensbury Estate**  
Ravensbury Estate  
Merton  
Surrey  
CR4 4DL



The works comprises the refurbishment of the existing dwellings including all common areas

Prepared for:

**Refurbishment of Existing Dwellings and Associated  
External Works**

**Circle Housing Group**  
1-3 Highbury Station Road  
Islington  
London  
N1 1SE

Project No.: 27762

Revision: D

29-Jan-16



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Life Cycle Cost Plan  
 Revision: D  
 Date: 29-Jan-16  
 Project No: 27762

Circle Housing Group  
 Ravensbury Estate

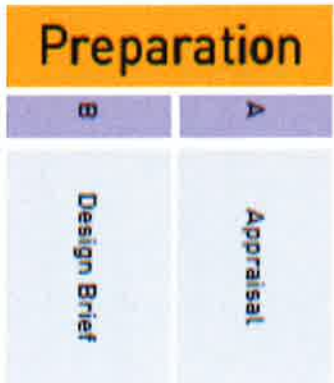


Contents Page

Section	Heading
1	Project Brief
2	Basis of Costs
3	Summary
4	Detailed Life Cycle Costs
5	Annual Amounts
6	Costs per Unit

Quality Assurance

Rev	Status	Prepared by
A	-	Neil Fraser
B	-	Neil Fraser
C	-	Neil Fraser
D	-	Neil Fraser



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## Life Cycle Cost Plan

## Circle Housing Group

Revision: D

Date: 29-Jan-16

Project No: 27762

## Ravensbury Estate



### Section 1 - Project Brief

#### 1.1 Location

The site is located at Ravensbury Estate, Mitcham, Greater London, CR4

#### 1.2 Site Description

Existing housing estate comprising mainly low rise houses and flats

#### 1.3 Description of the Works

The works comprises the refurbishment of the existing dwellings including all common areas, the external envelope and all hard and soft landscaped areas.

#### 1.4 Existing Accommodation

The accommodation consists of mixed tenure dwellings:

General needs rented	122
Leaseholder	28
Total	150

We have split the dwellings into 4 basic archetypes :-

1. Orlit built houses (precast concrete)
2. Brick built flats and houses
3. Ravensbury Court brick built maisonettes

## Life Cycle Cost Plan

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## Circle Housing Group

### Ravensbury Estate



## Section 2 - Basis of Costs

### 2.1 Information used to

Circle database of repairs history (to ascertain accommodation schedules)  
Baily Garner Condition Survey Report dated November 2015  
HTA Existing Dwellings survey dated 4 February 2015 (DRAFT)  
HTA Existing Stock Refurbishment Appraisal

CAG-REM-00-100 1:100 A3 Existing Property - 185 Morden Hall Road  
CAG-REM-00-101 1:100 A3 Existing Property - 19 Hatfield Close  
CAG-REM-00-102 1:100 A3 Existing Property - 43 Ravensbury Close  
CAG-REM-00-103 1:100 A3 Existing Property - 5 Hatfield Close  
The works comprises the refurbishment of the existing dwellings including all common areas, the external envelope and all hard and soft landscaped  
CAG-REM-00-105 1:100 A3 Existing Property - 40 Ravensbury Grove  
CAG-REM-00-106 1:100 A3 Existing Property - 14 Ravensbury Grove  
CAG-REM-00-107 1:100 A3 Existing Property - 56 Ravensbury Grove  
CAG-REM-00-120 1:100 A3 Existing Community Room  
CAG-REM-00-150 1:500 A3 Existing Property - Ravensbury Court Plan - Ground/First Floor  
CAG-REM-00-151 1:500 A3 Existing Property - Ravensbury Court Plan - Second/Third Floor  
CAG-REM-00-152 1:500 A3 Existing Property - Ravensbury Court Plan - Roof Plan  
CAG-REM-00-153 1:500 A3 Existing Property - Ravensbury Court Plan - External Site  
CAG-REM-01-001 1:1250 A1 Existing Site - Site Boundary Plan  
CAG-REM-01-002 1:1250 A1 Existing Site - Site Constraints Plan  
CAG-REM-01-003 1:1250 A1 Existing Site - Refurbishment and Regeneration Plan  
CAG-REM-01-004 1:1250 A1 Existing Site - Building Type Plan  
CAG-REM-01-005 1:1250 A1 Existing Site - Tenure Plan  
CAG-REM-01-100 1:1000 A1 Existing Site - Site Plan  
CAG-REM-01-120 1:500 A1 Existing Site - Site Sections  
CAG-REM-02-100 1:1000 A1 Proposed - Masterplan  
CAG-REM-02-120 1:100 A1 Proposed - Site Sections (4 sheets)  
CAG-REM-02-150 1:1000 A1 Proposed - Phasing Plan

Tully de Ath - Structural Assessment Report of Orlit Houses Revision A dated 6 Nov 2014  
Tully de Ath - Structural Assessment Report of Ravensbury Court dated 24 Oct 2014  
Tully de Ath - Initial Structural Assessment Report of Ravensbury Grove Flats dated 14 Oct 2015

## Life Cycle Cost Plan

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## Circle Housing Group

### Ravensbury Estate



#### Section 2 - Basis of Costs

### 2.2 Assumptions

- Inflation only allowed for up to 4Q2015 (with maximum 12 months fixed price allowance).
- Life cycle cost assumptions
  - Discount Rate 0.00%
  - Building Life 50 years
- Assumed no freeholders in Ravensbury Court

### 2.3 Exclusions

- Year 50 costs and demolition at end of 50 year life
- Pre-contract design fees and Client on-costs
- Value Added Tax
- Inflation beyond 4Q15
- Internal works to leaseholders and freeholder dwellings
- Any on-plot works to freeholder dwellings
- Decanting
- Relocation costs
- Finance
- Furniture, fittings and equipment, beyond that specifically referred to in the cost plan.

**Cost Plan**

Revi: -

Date 29-Jan-16

Proj: 27762

**Circle Housing Group****Ravensbury Estate**

## Section 3 - Summary

Block	Cost
Orlit Houses	£13,798,832
Brick Flats/Houses	£4,044,461
Ravensbury Grove	£7,413,300
Estate Works	£3,169,440
<b>Sub-total</b>	<b>£28,426,033</b>
Preliminaries	17% £4,832,425.58
Contingency	5% £1,662,923
Inflation [costs based at 4th quarter 2015]	5.4% £1,885,755
<b>Total Cost [with 100% replacement of key internal elements in 1st year]</b>	<b>£36,807,136</b>

Adjustments below are based on recommended replacement % (in red) of key internal elements in the 1st year in accordance with Bailly Garner surveys. This also assumes that the remaining % would be replaced in year 10

Kitchens	Replace: 40%	-£356,280
Bathrooms	Replace: 30%	£39,620
Radiators	Replace: 0%	-£25,100
Boilers	Replace: 67%	-£108,537
Electrical Installation	Replace: 83%	£0
<b>Adjusted Total Cost</b>		<b>£36,356,839</b>



**Life Cycle Cost Plan**

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**Circle Housing Group  
Ravensbury Estate**



**Section 4 - Detailed Life Cycle Costs**

Block/Houses:

**Orlit Houses**

	Leasehold	General Needs	Total
1 bed			
2 bed		1	
3 bed		63	
4 bed+			
<b>Total</b>		<b>64</b>	<b>64</b>

Works	Quant.	Unit	Rate (incl OHP)	Applies?	Cost	1st Year of Replacement	Freq. of Future Refurb (Years)	NPV of Future Refurb Costs
<b>Dwelling Internals</b>								
<b>Kitchen refurbishment, finishes, fittings and mechanical ventilation.</b>								
2 bed	1	no	£3,500	Yes	3,500		12	17,500
3 bed	63	no	£3,800	Yes	239,400		12	1,197,000
<b>Bathroom refurbishment, finishes, fittings</b>								
2 bed	1	no	£1,650	Yes	1,650		12	8,250
3 bed	63	no	£1,800	Yes	113,400		12	567,000
Renew gas supply	64	no	£250	Yes	16,000		30	32,000
<b>Radiator replacement</b>								
2 bed	1	no	£2,200	Yes	2,200		30	4,400
3 bed	63	no	£2,500	Yes	157,500		30	315,000
Boiler Replacement inc. Controls	64	no	£2,000	Yes	128,000		15	512,000
Mechanical extract fan bathroom	64	no	£350	Yes	22,400		10	112,000
Mechanical extract fan kitchen	64	no	£350	Yes	22,400		10	112,000

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**Section 4 - Detailed Life Cycle Costs**

Renew cold water incoming service	64	no	£150	Yes	9,600	40	19,200
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**Ravensbury Estate**



**Section 4 - Detailed Life Cycle Costs**

<b>Full Electrical Rewire (excluding kitchen &amp; bathroom)</b>										
2 bed	1	no	£3,200	Yes	3,200			30	6,400	
3 bed	63	no	£3,500	Yes	220,500			30	441,000	
Smoke Detector Installation		no			-				-	
2 bed	1	no	£130	Yes	130			10	650	
3 bed	63	no	£180	Yes	11,340			10	56,700	
<b>Other Internal</b>					-					
Asbestos Type 2 Survey & Report & Removal	64	no	£430	Yes	27,520			100	27,520	
Removal of cylinder and convert cupboard	64	no	£320	Yes	20,480			100	20,480	
Replace internal door and ironmongery 10%	38	no	£200	Yes	7,680			40	15,360	
Replace internal frame 10%	38	no	£190	Yes	7,296			40	14,592	
Replace internal door and ironmongery 90%	346	no	£200	Yes	69,120			40	69,120	
Replace internal frame 90%	346	no	£190	Yes	65,664			40	65,664	
Overhaul internal doors and ironmongery	384	no	£190	Yes	72,960			10	364,800	
Overhaul doors and ironmongery	384	no	£190	Yes	72,960		20	10	364,800	
Replace flat front entrance doors	64	no	£950	Yes	60,800			30	121,600	
<b>Redecorate flat entirely</b>		no			-					
2 bed	1	no	£1,750	Yes	1,750			5	17,500	
3 bed	63	no	£1,950	Yes	122,850			5	1,228,500	
<b>Replace floor finishes (except kitchen and bathroom)</b>					-					
2 bed	1	no	£3,400	Yes	3,400			15	13,600	
3 bed	63	no	£3,550	Yes	223,650			15	894,600	
<b>Replaster internally</b>					-					
3 bed	63	no	£4,500	Yes	283,500		20	40	283,500	
Replace boarding to upper floors	64	no	£2,800	Yes	179,200		-	35	358,400	
Repairs to ground floor screed	64	no	£300	Yes	19,200			15	76,800	
M&E works (flats)	-	no	£1,160		-			30	-	

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## Circle Housing Group

### Ravensbury Estate



#### Section 4 - Detailed Life Cycle Costs

<b>Communals</b>																					
<b>Roofs</b>																					
Pitched roofs - overhaul and upgrade	56	m2	£10	Yes	-	556	10	10	2,781												
Timber pitched roof structure only	56	m2	£150	Yes	8,343	25	50	8,343													
Pitched roofs -complete renewal - concrete tiles	56	m2	£160	Yes	8,899		50	8,899													
Loft insulation 270 deep	56	m2	£10	Yes	556		30	1,112													
Replace rainwater goods	64	no	£1,400	Yes	89,600		25	179,200													
<b>External Walls</b>																					
Insulated render system	8,694	m2	£90	Yes	782,467		55	782,467													
Insulated render system - re-coating only	8,694	m2	£55	Yes	478,174	30	31	478,174													
Provision of joint sealants	64	no	£75	Yes	4,800		55	4,800													
Concrete repair - see separate breakdown	64	no	£4,588	Yes	293,632		10	1,468,160													
Scaffolding - per house	64	no	£1,250	Yes	80,000		10	400,000													
Temporary roof	70	m2	£35	Yes	2,433		65	2,433													
<b>Windows and External Doors</b>																					
Overhaul existing windows	1,199	m2	£15	Yes	17,982	15	10	89,910													
Replace existing windows - new composite alum/timber	1,199	m2	£510	Yes	611,388		45	1,222,776													
Replace external flat front doors not served by door entry	64	no	£840	Yes	53,760		25	107,520													
<b>Communal Areas</b>																					
Loft hatches	64	no	£490.00	Yes	31,360		30	62,720													
Overhaul soil and vent pipes	64	no	£130.00	Yes	8,320		40	16,640													

# Life Cycle Cost Plan

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## Circle Housing Group

### Ravensbury Estate



#### Section 4 - Detailed Life Cycle Costs

<b>Environmentals</b>													
<b>External Works</b>													
On plot parking	960	m2	£130.00	Yes	124,800			35		249,600			
On plot footpaths and patios	960	m2	£75.00	Yes	72,000			35		144,000			
Renew and repair external toilet structures as sheds	64	no	£1,500.00	Yes	96,000			40		192,000			
Fencing and boundary wall repairs	64	no	£300.00	Yes	19,200			5		192,000			
Fencing and boundary wall replacement	64	no	£3,000.00	Yes	192,000			25		384,000			
Repair and replacement of incoming services	64	no	£1,200.00	Yes	76,800			50		76,800			
<b>Drainage</b>													
Drainage Inspection and Survey	64	no	£20.00	Yes	1,280			35		2,560			
Drainage repairs	64	no	£500.00	Yes	32,000			15		128,000			
New drainage	64	no	£2,000.00	Yes	128,000			35		256,000			
<b>Block Total</b>										<b>13,798,832</b>			

Life Cycle Cost Plan

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Circle Housing Group

Ravensbury Estate



Section 4 - Detailed Life Cycle Costs

Block/Houses:

Brick Flats/Houses

	Leasehold	General Needs	Total
1 bed		22	
2 bed		1	
3 bed		3	
4 bed+			
<b>Total</b>	<b>1</b>	<b>26</b>	<b>27</b>

Works	Quant.	Unit	Rate (incl OHP)	Applies?	Cost	1st Year of Replacement	Freq. of Future Refurb (Years)	NPV of Future Refurb Costs
<b>Dwelling Internals</b>								
<b>Kitchen refurbishment, finishes, fittings and mechanical ventilation.</b>								
1 bed	22	no	£3,200	Yes	70,400	-	12	352,000
2 bed	1	no	£3,500	Yes	3,500		12	17,500
3 bed	3	no	£3,800	Yes	11,400		12	57,000
<b>Bathroom refurbishment, finishes, fittings</b>								
1 bed	22	no	£1,550	Yes	34,100		12	170,500
2 bed	1	no	£1,650	Yes	1,650		12	8,250
3 bed	3	no	£1,800	Yes	5,400		12	27,000
Renew gas supply	26	no	£250	Yes	6,500		30	13,000
<b>Radiator replacement</b>								
1 bed	22	no	£1,500	Yes	33,000		30	66,000
2 bed	1	no	£2,200	Yes	2,200		30	4,400
3 bed	3	no	£2,500	Yes	7,500		30	15,000
Boiler Replacement inc. Controls	26	no	£2,000	Yes	52,000		15	208,000
Replace HW cylinder	7	no	£350	Yes	2,450		15	9,800
Replace cold water tank (houses only)	7	no	£280	Yes	1,960		35	3,920
Mechanical extract fan bathroom	26	no	£350	Yes	9,100		10	45,500

**Life Cycle Cost Plan**

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**Circle Housing Group**

**Ravensbury Estate**



**Section 4 - Detailed Life Cycle Costs**

Mechanical extract fan kitchen	26	no	£350	Yes	9,100		10	45,500
Renew cold water incoming service	26	no	£150	Yes	3,900		40	7,800

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Ravensbury Estate



Section 4 - Detailed Life Cycle Costs

<b>Full Electrical Rewire (excluding kitchen &amp; bathroom)</b>									
1 bed	22			£2,600	Yes	57,200		30	114,400
2 bed	1	no		£3,200	Yes	3,200		30	6,400
3 bed	3	no		£3,500	Yes	10,500		30	21,000
<b>Smoke Detector Installation</b>									
1 bed	22	no				-			-
2 bed	1	no		£100	Yes	2,200		10	11,000
3 bed	3	no		£130	Yes	130		10	650
<b>Other Internal</b>									
Asbestos Type 2 Survey & Report Removal	26	no		£430	Yes	11,180		100	11,180
Removal of cylinder and convert cupboard	26	no		£320	Yes	8,320		100	8,320
Replace internal door and ironmongery 10%	13	no		£200	Yes	2,600		40	5,200
Replace internal frame 10%	13	no		£190	Yes	2,470		40	4,940
Replace internal door and ironmongery 90%	112	no		£200	Yes	22,400	10	40	22,400
Replace internal frame 90%	112	no		£190	Yes	21,280	10	40	21,280
Overhaul internal doors and ironmongery	125	no		£60	Yes	7,500	20	10	37,500
Replace flat front entrance doors	26	no		£950	Yes	24,700		30	49,400
<b>Redecorate flat entirely</b>									
1 bed	22	no		£1,550	Yes	34,100		5	341,000
2 bed	1	no		£1,750	Yes	1,750		5	17,500
3 bed	3	no		£1,950	Yes	5,850		5	58,500
<b>Replace floor finishes (except kitchen and bathroom)</b>									
1 bed	22	no		£3,150	Yes	69,300		15	277,200
2 bed	1	no		£3,400	Yes	3,400		15	13,600
3 bed	3	no		£3,550	Yes	10,650		15	42,600
<b>Replaster internally</b>									
1 bed	22	no		£3,900	Yes	85,800		40	171,600
2 bed	1	no		£4,200	Yes	4,200		40	8,400
3 bed	3	no		£4,500	Yes	13,500		40	27,000
M&E works (flats)	1	no		£1,160.00	Yes	1,160		30	2,320
<b>Communals</b>									
						-			





Life Cycle Cost Plan

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Circle Housing Group  
Ravensbury Estate



Section 4 - Detailed Life Cycle Costs

Block/Houses:

Ravensbury Court

	Leasehold	General Needs	Total
1 bed			
2 bed		31	
3 bed		1	
4 bed+			
Total	27	32	59

Works	Quant.	Unit	Rate (incl OHP)	Applies?	Cost	1st Year of Replace ment	Freq. of Future Refurb (Years)	NPV of Future Refurb Costs	Cost per unit
<b>Dwelling Internals</b>									
<b>Kitchen refurbishment, finishes, fittings and mechanical ventilation.</b>									
2 bed	31	no	£3,500	Yes	108,500		12	542,500	16,953.13
3 bed	1	no	£3,800	Yes	3,800		12	19,000	593.75
<b>Bathroom refurbishment, finishes, fittings</b>									
2 bed	31	no	£1,650	Yes	51,150		12	255,750	7,992.19
3 bed	1	no	£1,800	Yes	1,800		12	9,000	281.25
Renew gas supply	32	no	£250	Yes	8,000		30	16,000	500.00
<b>Radiator replacement</b>									
2 bed	31	no	£2,200	Yes	68,200		30	136,400	4,262.50
3 bed	1	no	£2,500	Yes	2,500		30	5,000	156.25
Boiler Replacement inc. Controls	32	no	£2,000	Yes	64,000		15	256,000	8,000.00
Booster pumps - single (flats over 2 storeys)	32	no	£550	Yes	17,600		15	70,400	2,200.00
Mechanical extract fan bathroom	32	no	£350	Yes	11,200		10	56,000	1,750.00
Mechanical extract fan kitchen	32	no	£350	Yes	11,200		10	56,000	1,750.00
Renew cold water incoming service	32	no	£150	Yes	4,800		40	9,600	300.00
<b>Full Electrical Rewire (excluding kitchen &amp; bathroom)</b>					-				-

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Section 4 - Detailed Life Cycle Costs

2 bed	31	no	£3,200	Yes	99,200		30	198,400	6,200.00
3 bed	1	no	£3,500	Yes	3,500		30	7,000	218.75
Smoke Detector Installation		no			-			-	-
2 bed	31	no	£130	Yes	4,030		10	20,150	629.69
3 bed	1	no	£180	Yes	180		10	900	28.13
Other Internal					-			-	-
Asbestos Type 2 Survey & Report Removal	32	no	£430	Yes	13,760		100	13,760	430.00
Removal of cylinder and convert cupboard	32	no	£320	Yes	10,240		100	10,240	320.00
Replace internal door and ironmongery 10%	19	no	£200	Yes	3,800		40	7,600	237.50
Replace internal frame 10%	19	no	£190	Yes	3,610		40	7,220	225.63
Replace internal door and ironmongery 90%	181	no	£200	Yes	36,200		40	36,200	1,131.25
Replace internal frame 90%	181	no	£190	Yes	34,390		40	34,390	1,074.69
Overhaul internal doors and ironmongery	190	no	£60	Yes	11,400		20	57,000	1,781.25
Replace flat front entrance doors	32	no	£950	Yes	30,400		30	60,800	1,900.00
Redecorate flat entirely		no			-			-	-
2 bed	31	no	£1,750	Yes	54,250		5	542,500	16,953.13
3 bed	1	no	£1,950	Yes	1,950		5	19,500	609.38
Replace floor finishes (except kitchen and bathroom)					-			-	-
2 bed	31	no	£3,400	Yes	105,400		15	421,600	13,175.00
3 bed	1	no	£3,550	Yes	3,550		15	14,200	443.75
Replaster internally					-			-	-
2 bed	31	no	£4,200	Yes	130,200		40	260,400	8,137.50
3 bed	1	no	£4,500	Yes	4,500		40	9,000	281.25
M&E works (flats)	27	no	£1,160	Yes	31,320		30	62,640	1,957.50
Communals					-			-	-
Roofs					-			-	-
Pitched roofs- overhaul and upgrade	1,309	m2	£110	Yes	13,090		10	65,450	1,109.32
Timber pitched roof structure only	1,309	m2	£150	Yes	196,350		25	196,350	3,327.97
Pitched roofs -complete renewal - concrete tiles	1,309	m2	£160	Yes	209,440		50	209,440	3,549.83
Roof access doors and ladders	3	no	£950	Yes	2,850		40	5,700	96.61
Loft insulation 270 deep	1,309	m2	£110	Yes	13,090		30	26,180	443.73
New balconies incl struct alterations	45	no	£5,000	Yes	225,000		60	225,000	3,813.56

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Ravensbury Estate**



Section 4 - Detailed Life Cycle Costs

Canopies to private balconies	45	m		£280	Yes	12,600			25,200	427.12
<b>External Walls</b>										
Brickwork surveys	59	no		£35	Yes	2,065			10,325	175.00
Brickwork repairs	1,890	m2		£10	Yes	18,900			94,500	1,601.69
Dry lining internally (tenants only)	1,111	m2		£65	Yes	72,215			144,430	2,447.97
Refurbishment of private balconies	45	m		£70	Yes	3,150	15	15	12,600	213.56
Refurbishment of communal walkways	258	m		£240	Yes	61,920		35	123,840	2,098.98
Render repairs to walkway soffits	258	m		£25	Yes	6,450		10	32,250	546.61
Scaffolding - flats per m2 of elevation area	1,890	m2		£25	Yes	47,250		10	236,250	4,004.24
<b>Windows and External Doors</b>										
Overhaul existing windows	941	m2		£15	Yes	14,115	15	10	70,575	1,196.19
Replace existing windows - new composite alum/timber	941	m2		£510	Yes	479,910		45	959,820	16,268.14
Rubber matting at entrances	3	no		£200.00	Yes	600		5	6,000	101.69
<b>Communal Areas</b>										
Asbestos surveys to communals	59	no		£25.00	Yes	1,475		100	1,475	25.00
Replacing communal doors	24	no		£460.00	Yes	11,040		35	22,080	374.24
Overhauling and repairing communal doors	24	no		£175.00	Yes	4,200	20	10	21,000	355.93
Communal decorations - doors, walls and ceilings	207	m2		£60.00	Yes	12,420		7	99,360	1,684.07
Communal floor and stair finishes	207	m2		£60.00	Yes	12,420		15	49,680	842.03
Overhauling communal balustrades	12	no		£530.00	Yes	6,360	10	10	31,800	538.98
Renewing communal balustrades	12	no		£1,950.00	Yes	23,400		40	46,800	793.22
Loft hatches	8	no		£490.00	Yes	3,920		30	7,840	132.88
New main entrances and canopies	3	no		£8,500.00	Yes	25,500		50	25,500	432.20
Refuse system - seal up hoppers and chutes	59	no		£25.00	Yes	1,475		100	1,475	25.00
External and communal block signage	59	no		£180.00	Yes	10,620		15	42,480	720.00
Lift renewal per lift up to 4 storeys	3	no		£63,000.00	Yes	189,000	25	25	378,000	6,406.78
New lift towers and lifts	3	no		£180,000.00	Yes	540,000		100	540,000	9,152.54
IRS Installation	59	no		£320.00	Yes	18,880		25	37,760	640.00
Upgrading landlords electrical supply laterals and lighting	59	no		£2,100.00	Yes	123,900		30	247,800	4,200.00
External lighting	59	no		£65.00	Yes	3,835		25	7,670	130.00
Door entry and access control system	59	no		£740.00	Yes	43,660		25	87,320	1,480.00
Overhaul existing communal cold water tanks	59	no		£180.00	Yes	10,620	15	15	42,480	720.00

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**Section 4 - Detailed Life Cycle Costs**

Renew existing communal cold water tanks	59	no	£410.00	Yes	24,190		40	48,380	820.00
Overhaul soil and vent pipes	59	no	£130.00	Yes	7,670		40	15,340	260.00
<b>Block Total</b>								<b>7,413,300</b>	<b>171,628.52</b>

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Circle Housing Group

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Section 4 - Detailed Life Cycle Costs

Block/Houses:

Estate Wide Works

	Leasehold	General Needs	Total
1 bed			
2 bed			
3 bed			
4 bed+			
Total			

Works	Quant.	Unit	Rate (incl OHP)	Applies?	Cost	1st Year of Replacement	Freq. of Future Refurb (Years)	NPV of Future Refurb Costs
<b>Environmentals</b>					-			
<b>External Works</b>					-			
Allowance per dwelling for all off-plot hard and soft landscaping repairs and renewals incl external services and lighting	186	no	£2,500.00	Yes	465,000		35	930,000
Annual repairs	186	no	£150.00	Yes	27,900		1	1,395,000
<b>Drainage</b>					-			
Drainage Inspection and Survey	186	no	£20.00	Yes	3,720		35	7,440
Drainage repairs and renewal	186	no	£500.00	Yes	93,000		15	372,000
Annual repairs	186	no	£50.00	Yes	9,300		1	465,000
<b>Block Total</b>								<b>3,169,440</b>

**Cost Plan**

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**Section 5 - Annual Amounts**

Year	Orlit Houses	Brick Flats	Ravensbury Grove	Estate Works	Total
0	5,801,938	1,738,237	4,023,265	775,505	12,338,945
1	-	-	-	48,168	48,168
2	-	-	-	48,168	48,168
3	-	-	-	48,168	48,168
4	-	-	-	48,168	48,168
5	209,482	60,152	91,824	48,168	409,625
6	-	-	-	48,168	48,168
7	-	-	16,082	48,168	64,250
8	-	-	-	48,168	48,168
9	-	-	-	48,168	48,168
10	1,107,038	276,670	341,468	48,168	1,773,345
11	-	-	-	48,168	48,168
12	463,488	163,732	213,972	48,168	889,360
13	-	-	-	48,168	48,168
14	-	-	16,082	48,168	64,250
15	735,510	251,166	386,218	168,588	1,541,483
16	-	-	-	48,168	48,168
17	-	-	-	48,168	48,168
18	-	-	-	48,168	48,168
19	-	-	-	48,168	48,168
20	1,299,602	220,112	250,066	48,168	1,817,947
21	-	-	16,082	48,168	64,250
22	-	-	-	48,168	48,168
23	-	-	-	48,168	48,168
24	463,488	163,732	213,972	48,168	889,360
25	654,522	275,819	676,735	48,168	1,655,243

**Cost Plan**  
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Section 5 - Annual Amounts

Year	Orlit Houses	Brick Flats	Ravensbury Grove	Estate Works	Total
26	-	-	-	48,168	48,168
27	-	-	-	48,168	48,168
28	-	-	16,082	48,168	64,250
29	-	150,505	-	48,168	198,673
30	2,714,913	692,457	1,041,717	168,588	4,617,675
31	-	-	-	48,168	48,168
32	-	-	-	48,168	48,168
33	-	-	-	48,168	48,168
34	-	-	-	48,168	48,168
35	863,738	71,754	202,377	655,085	1,792,953
36	463,488	163,732	213,972	48,168	889,360
37	-	-	-	48,168	48,168
38	-	-	-	48,168	48,168
39	-	-	-	48,168	48,168
40	1,099,414	384,621	625,355	48,168	2,157,559
41	-	-	-	48,168	48,168
42	-	-	16,082	48,168	64,250
43	-	-	-	48,168	48,168
44	-	-	-	48,168	48,168
45	1,527,159	460,505	1,007,624	168,588	3,163,876
46	-	-	-	48,168	48,168
47	-	-	-	48,168	48,168
48	463,488	163,732	213,972	48,168	889,360
49	-	-	16,082	48,168	64,250
	<b>17,867,266</b>	<b>5,236,926</b>	<b>9,599,030</b>	<b>4,103,915</b>	<b>36,807,136</b>



**Cost Plan**

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**Circle Housing Group****Ravensbury Estate****Section 6 - Costs per Unit**

<b>Internals</b>	<b>Total Cost</b>	<b>No. of Tenants</b>	<b>Cost per Tenant</b>
Orlit Houses	£9,501,446	64	£148,460
Brick Flats/Houses	£3,013,427	26	£115,901
Ravensbury Grove	£4,163,102	32	£130,097
Sub-total	£16,677,974	122	£136,705
<b>Communals</b>	<b>Total Cost</b>	<b>No. of Dwellings</b>	<b>Cost per Dwelling</b>
Orlit Houses	£8,365,820	64	£130,716
Brick Flats	£2,223,499	27	£82,352
Ravensbury Grove	£5,435,928	59	£92,134
Estate Works	£4,103,915	150	£27,359
Sub-total	£20,129,162	150	£134,194
<b>Total</b>	<b>£36,807,136</b>		

# Appendix B

Annual Costs (Not Discounted)

## Cost Plan

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### Section 5 - Annual Amounts

Year	Orlit Houses	Brick Flats	Ravensbury Grove	Estate Works	Total
0	5,801,938	1,738,237	4,023,265	775,505	12,338,945
1	-	-	-	48,168	48,168
2	-	-	-	48,168	48,168
3	-	-	-	48,168	48,168
4	-	-	-	48,168	48,168
5	209,482	60,152	91,824	48,168	409,625
6	-	-	-	48,168	48,168
7	-	-	16,082	48,168	64,250
8	-	-	-	48,168	48,168
9	-	-	-	48,168	48,168
10	1,107,038	276,670	341,468	48,168	1,773,345
11	-	-	-	48,168	48,168
12	463,488	163,732	213,972	48,168	889,360
13	-	-	-	48,168	48,168
14	-	-	16,082	48,168	64,250
15	735,510	251,166	386,218	168,588	1,541,483
16	-	-	-	48,168	48,168
17	-	-	-	48,168	48,168
18	-	-	-	48,168	48,168
19	-	-	-	48,168	48,168
20	1,299,602	220,112	250,066	48,168	1,817,947
21	-	-	16,082	48,168	64,250
22	-	-	-	48,168	48,168
23	-	-	-	48,168	48,168
24	463,488	163,732	213,972	48,168	889,360

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### Section 5 - Annual Amounts

Year	Orlit Houses	Brick Flats	Ravensbury Grove	Estate Works	Total
25	654,522	275,819	676,735	48,168	1,655,243
26	-	-	-	48,168	48,168
27	-	-	-	48,168	48,168
28	-	-	16,082	48,168	64,250
29	-	150,505	-	48,168	198,673
30	2,714,913	692,457	1,041,717	168,588	4,617,675
31	-	-	-	48,168	48,168
32	-	-	-	48,168	48,168
33	-	-	-	48,168	48,168
34	-	-	-	48,168	48,168
35	863,738	71,754	202,377	655,085	1,792,953
36	463,488	163,732	213,972	48,168	889,360
37	-	-	-	48,168	48,168
38	-	-	-	48,168	48,168
39	-	-	-	48,168	48,168
40	1,099,414	384,621	625,355	48,168	2,157,559
41	-	-	-	48,168	48,168
42	-	-	16,082	48,168	64,250
43	-	-	-	48,168	48,168
44	-	-	-	48,168	48,168
45	1,527,159	460,505	1,007,624	168,588	3,163,876
46	-	-	-	48,168	48,168
47	-	-	-	48,168	48,168
48	463,488	163,732	213,972	48,168	889,360
49	-	-	16,082	48,168	64,250

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### Section 5 - Annual Amounts

Year	Orlit Houses	Brick Flats	Ravensbury Grove	Estate Works	Total
	17,867,266	5,236,926	9,599,030	4,103,915	36,807,136

# Appendix C

## Insulated Render System Photos

# Appendix C

Photo Schedule









# Appendix D

## Photographs

