

# BASEMENT IMPACT ASSESSMENT SCREENING REPORT

FOR

PROPOSED DEVELOPMENT

AT

128A CAMDEN ROAD LONDON NW1 9EE

**FOR** 

**BUCHANAN MOTORS** 

Project No. P2080

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#### **EXECUTIVE SUMMARY**

This executive summary is an overview of the key findings of the report, and the full body of the report should also be consulted for further detail and to give appropriate context.

#### Brief

This report was commissioned by Buchanan Motors and has been prepared to support the renewal the Planning Application. It was prepared by Michael Alexander Consulting Engineers and compiled by a Chartered Structural Engineer. It follows the approach laid out in Camden Planning Guidance 'Basements and Lightwells' CPG4 (April 2011) for the Screening Stage of the Basement Impact Assessment. It is to be read in conjunction with Osel Architect's drawings.

#### **Project Description**

128A Camden Road is currently occupied by three industrial type buildings. The proposed works involve the demolition of the existing buildings and the construction of light industrial and residential accommodation with a new lower ground floor level.

#### Screening Results

A screening exercise was carried out in accordance with the recommendations of CPG4 in respect of groundwater flow; land stability and surface flow/flooding. Reference was made to the Camden Geological, Hydrogeological and Hydrological Study and other data sources.

In respect of groundwater flow, the underlying soil is not an aquifer and the site is not in close proximity to any surface or subsurface water features. Hence it was assessed that no further consideration was required with regards the impact of the development on groundwater flows.

With regards to ground stability the screening process highlighted a number of issues which are regularly associated with the construction of basements in London Clay in close proximity to adjoining buildings and the public highway. In addition it was identified that there is a deep storm relief sewer in Camden Road adjacent to the site so liaison will be required with Thames Water to confirm its location and to establish any approvals that will be required.

The screening for impact on surface water flow noted that the impermeable area of the site would be reduced by the proposals, so it was not considered necesary to consider surface flow issues further.

The area was not affected by the 1975 or 2002 floods and therefore a flood risk assessment is not required.

### 1.00 INTRODUCTION

- 1.01 Michael Alexander Consulting Engineers has been appointed to prepare a Structural Basement Impact Assessment Screening Report as requested by the London Borough of Camden to support the renewal of an existing Planning Consent.
- 1.02 This report has been prepared by Isaac Hudson MEng MA(Cantab) CEng MIStructE, a Chartered Structural Engineer.
- 1.03 The proposed works involve the demolition of the existing buildings and the construction of a new mixed used development with 9 residential units and a light industrial unit. The works will involve both light industrial and residential accommodation at a new lower ground floor level.
- 1.04 The existing site has three connected industrial type buildings surrounded by hard landscaping. One unit is for car washing and the other two units are a car servicing centre.
- 1.05 The existing property is located within the Camden Broadway Conservation Area.
- 1.06 The existing property is not Listed.
- 1.07 The majority of properties along Camden Road (to the north west of the site) are three storey properties, with retail units at the ground floor level and residential units above refer Photo C2 in Appendix C. St Pancras Way runs both sides of the site. The properties to the South West of the site are typically four storey properties including a lower ground floor refer Photo C1. To the North East of the site, there are many large residential units up to 7 storeys but generally set back from the road, refer Photo C4.
  - It is unclear exactly how many properties nearby have basements, but with reference to Figure 25 of the Camden Geological, Hydrogeological and Hydrological Study (Camden Planning Applications), there seems to be several basement applications close to the site around Camden Road and St Pancras Way which have been given approval since June 2005.
- 1.08 This document addresses the specific key issues in DP27 as described in Camden Planning Guidance CPG4 (April 2011).

## 2.00 BASEMENT PROPOSALS

- 2.01 The details of the existing building and proposals for the basement and upper floors are shown on Osel Architects drawings.
- 2.02 Outline proposals for the basement are shown on Osel Architects drawing, as follows:

2403/S01 - Existing Site Plan and Elevations 2403/S02 - Existing Building Elevations Sheet 1 2403/\$03 - Existing Building Elevations Sheet 2 - Location Plan 2403/S100 2403/P201 Rev.A - Lower Ground Floor Arrangement 2403/P202 - Ground Floor Arrangement 2403/P203 Rev.A - 1<sup>st</sup> Floor Arrangement - 2<sup>nd</sup> Floor Arrangement 2403/P204 Rev.A 2403/P205 Rev.A - Roof Plan Arrangement 2403/P206 - St Pancras & Camden Road Elevations 2403/P207 South and East Elevations 2403/P208 Landscaped Terrace Elevations 2403/P209 - Cross Sections

- 2.03 The details of the existing structure, site boundaries and site soil conditions will be subject to further detailed exploratory work prior to works commencing on site.
- 2.04 The design and construction of the building structure shall be in accordance with current Building Regulations, British Standards, Codes of Practice, Health and Safety requirements and good building practice.

## 3.00 GROUNDWATER

#### 3.01 STAGE 1 (SCREENING)

- 3.01.1 The impact of the proposed development on ground water flows is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart Figure 1 in CPG4.
- 3.01.2 (Q1) With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a) in Appendix A) the site is above an unproductive strata.
- 3.01.3 Q2) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figures (b) and (c) in Appendix A), the nearest watercourse is the Grand Union Canal, which runs approximately 150metres to the south of the site. The River Fleet runs approximately 150metres to the south west of the site, and is culverted in this location. As the site is remote from the stratigraphic boundary, the local geology suggests that the site is not within close proximity of a spring line. From the British Geological Society 'Geoindex' the nearest water wells are to the west of Camden Street and north of the river fleet approximately 300metres from the site.

- 3.01.4 (Q3) With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.
- 3.01.5 (Q4) The site is currently completely covered by either building or hard landscaping refer figure (k) in Appendix A. For the proposed scheme there will be a increase in building area but there will be an similar reduction in hard standing refer figure (I) in Appendix A. There will also be a small communal garden introduced at ground floor level, so the permeability of the site will actually be increased by the proposals.
- 3.01.6 (Q5) Soakaways are not considered appropriate to the site, due to the sub-soil conditions, and therefore no collected surface water will be discharged to ground as part of the site drainage.
- 3.01.7 (Q6) There are no local ponds or spring lines in close vicinity to the site.
- 3.01.8 On the basis of items 3.01.1 to 3.01.7 above, and in reference to Figure 1 of CPG4, it is not considered necessary to consider further any aspects of the development in respect of surface flow and flooding, due to the negative responses above.

## 4.00 GROUND STABILITY

## 4.01 STAGE 1 (SCREENING)

- 4.01.1 The impact of the proposed development on land stability is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart figure 2 in CPG4.
- 4.01.2 (Q1) There is a difference of 850mm in height between the north-west and southeast of the site. All slopes are at less than 1 degree.
- 4.01.3 (Q2) The surrounding land will generally remain at existing slopes in the permanent condition.
- 4.01.4 (Q3) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (i) in Appendix A), the neighbouring properties also have slopes less than 7 degrees.
- 4.01.5 (Q4) The surrounding areas slope towards the south-east of the site. With reference to the Camden Geological, Hydrogeological and Hydrological Study (refer Figure (i) in Appendix A), the closest site with more than a 7 degree slope is located approximately 100m to the south of the site where the national rail line runs eastwest.
- 4.01.6 (Q5) The underlying soil strata is London Clay, and with reference to Camden Geological, Hydrogeological and Hydrological Study (refer figure (e) in Appendix A), the stratigraphic boundary is approximately 2km away to the south of the site; therefore the site is not considered close to a stratigraphic boundary.

- 4.01.7 (Q6) There are no trees within the existing site and therefore no trees will be felled as part of the proposed works.
- 4.01.8 (Q7) The London Clay strata is usually classified as having a high volume change potential and hence can lead to seasonal shrink-swell subsidence where buildings are founded in desiccated soils. We have however no specific evidence of subsidence having been experienced on site or in the immediate surrounding area.
- 4.01.9 (Q8), (Q11) With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figures (b) and (c) in Appendix A), the nearest surface water is the Grand Union Canal, which runs approximately 150m to the south of the site. The River Fleet runs approximately 150m to the south west of the site, and is culverted in this location. The site is remote from the Hampstead Heath Ponds. As the site is remote from the stratigraphic boundary, the local geology suggests that the site is not within close proximity of a spring line.
- 4.01.10 (Q9) The site is not in the vicinity of any recorded areas of worked ground. With reference to the Camden Geological, Hydrogeological and Hydrological Study (figure (e) in Appendix A) the nearest recorded on the geological map are to the south along Royal College Street approximately 450m from site.
- 4.01.11 (Q10) With reference to the Camden Geological, Hydrogeological and Hydrological Study (figure (a) in Appendix A) the site is above an unproductive strata.
- 4.01.12 (Q12) The site is surrounded by the public highway. Parts of the proposed basement will be constructed within 5m of the public highway.
- 4.01.13 (Q13) Due to the site being surrounded by a wide public highway, the Adjoining Buildings are approximately 20m away from the site along Camden Road and the main part of St Pancras Way.
  To the south of the site, the closest buildings are approximately 5m from the proposed basement. It is assumed that these buildings do not have basements and so the differential foundation depth will be increased by the development, albeit that these buildings are not directly adjoining the site.
- 4.01.14 (Q14) With reference to the British Geological Survey 'Geoindex' (figure (j) in Appendix A), there are no National Rail tunnels located below the site. The nearest underground tunnel is the Northern Line which runs approximately 250m to the west of the site.

There is a Thames Water storm relief sewer running along Camden Road at a depth of approximately 17m below street level – refer asset search in Appendix B. The proximity of the necesstiate liaision with Thames Water to establish location and any approvals required.

- 4.01.15 On the basis of items 4.01.1 to 4.01.14 above and in reference to Figure 2 of CPG4, the aspects that should be carried forward to a scoping stage in respect of land stability are:
  - The impact of the site being built within 5m of a public highway (Q12)
  - The risk of potential subsidence due to the underlying subsoils being London Clay (Q5, Q7)
  - The increase in differential depth of foundations relative to the properties to the South West of the site
  - The proximity to the Thames Water storm relief sewer (Q14)

It is not considered necessary to consider further the other issues in the screening stage where a negative response was given.

- 4.01.16 The issues raised above will need to be addressed by: -
  - Site investigations
  - Due consideration in the detailed design
  - Consultation with the relevant statutory authorities

These processes will need to occur in due course in order to develop the design and produce construction information; and to meet the requirements of building control and in the preparation of party wall awards with the adjoining owners.

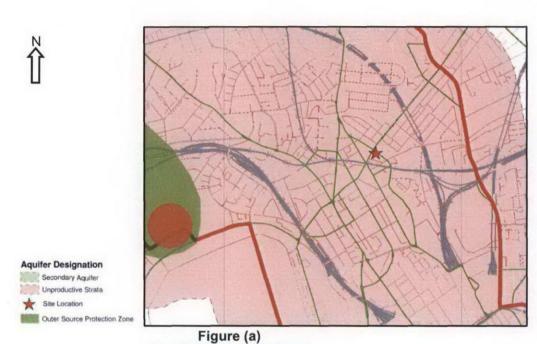
#### 5.00 SURFACE FLOW AND FLOODING

## 5.01 STAGE 1 ASSESSMENT (SCREENING)

- 5.01.1 The impact of the proposed development on the surface water environment and whether a flood risk assessment is required is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart figure 3 in CPG4.
- 5.01.2 (Q1) With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.
- 5.01.3 (Q2) On completion of the development the surface water flows will be routed similarly to the existing condition, with rainwater run-off collected in a surface water drainage system and discharged to a combined sewer. SUDS measures that will be considered are as follows:-
  - Roof gardens for lower level roofs to minimise rate of storm water run off
  - Extensive green roofs for upper level roofs to attenuate storm water run off
  - The introduction of soft landscaping at ground level
- 5.01.4 (Q3) There will be a decrease in the amount of paved external areas due to the introduction of a communal ground floor level garden – refer figures (k) and (l) in Appendix A.

- 5.01.5 (Q4) All surface water for the site will be contained within the site boundaries and collected as described in 5.01.3 above; hence there will be no change from the development on the quantity or quality of surface water being received by adjoining sites.
- 5.01.6 (Q5) The surface water quality will not be affected by the development, as in the permanent condition collected surface water will be generally be from roofs, or communal hard landscaping. The areas of the site accessible to vehicles will be reduced as a result of the scheme; a petrol interceptor will be considered for the turning/loading bay.
  - During construction any contaminated arisings will be covered to ensure that the collected surface water is not in contact with contaminated soil.
- 5.01.7 On the basis of 5.01.1 to 5.01.6 above, with reference to figure 3 in CPG4, it is not considered necessary to consider further any aspects of the development in respect of surface flow and flooding, due to the negative responses above.
- 5.01.8 (Q6) The site is not surrounded by one of the streets noted within the Camden Planning Guidance CPG 4 (April 2011) as a street "at risk of surface water flooding" (refer figure (f) in Appendix A). The site is not at risk of static flooding.
- 5.01.9 From reference to the EA Rivers and Sea Flood Maps (Refer figure (g) in Appendix A), the site is not located within a flood risk zone. The EA Reservoir flood map (Refer figure (h) in Appendix A), shows that the site is not at risk of flooding from reservoirs.
- 5.01.10 On the basis of 5.01.8 and 5.01.9 above and in accordance with the figure 3 in Camden Planning Guidance CPG 4 (April 2011), a flood risk assessment is not required.

**APPENDIX A - FIGURES** 



Acquifer Designation Map
(Extract from Fig 8 of Camden Geological, Hydrogeological and Hydrological Study)

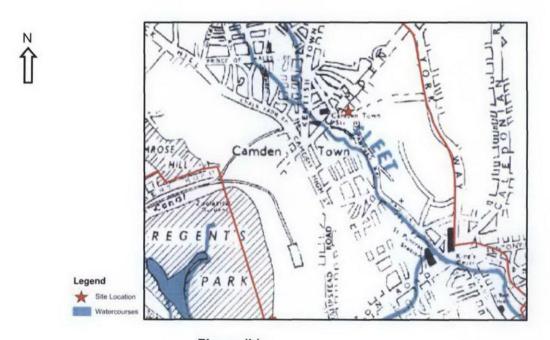


Figure (b)
Watercourses
(Extract from Fig 11 of Camden Geological, Hydrogeological and Hydrological Study)

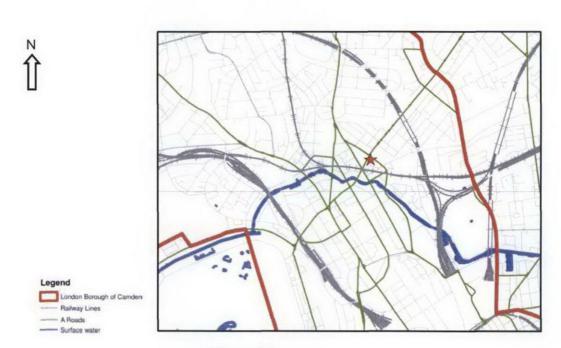
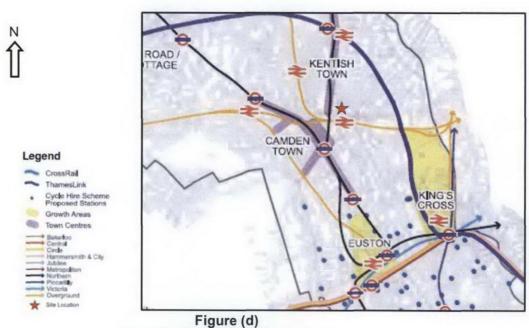


Figure (c)
Surface Water Features
(Extract from Fig 12 of Camden Geological, Hydrogeological and Hydrological Study)



Map of underground infrastructure
(Extract from Fig 18 of Camden Geological, Hydrogeological and Hydrological Study)

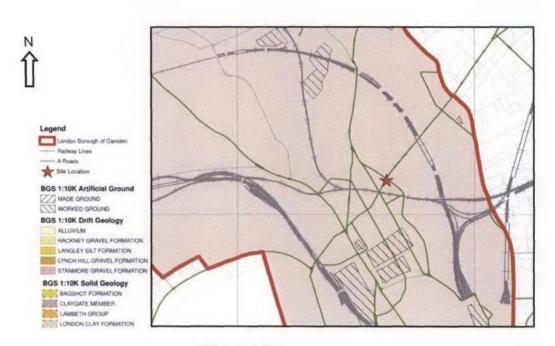


Figure (e)

Geological Map

(Extract from Fig 4 of Camden Geological, Hydrogeological and Hydrological Study)

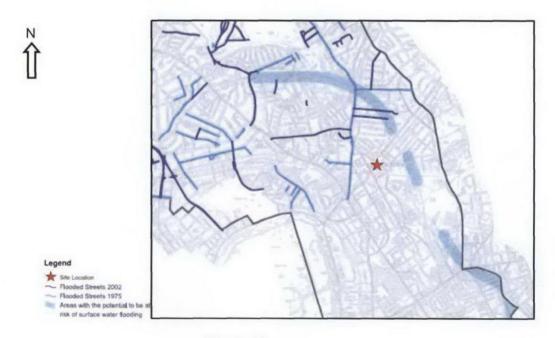


Figure (f)
Flood Map
(Extract from Figure 15 of Camden Geological, Hydrogeological and Hydrological Study)

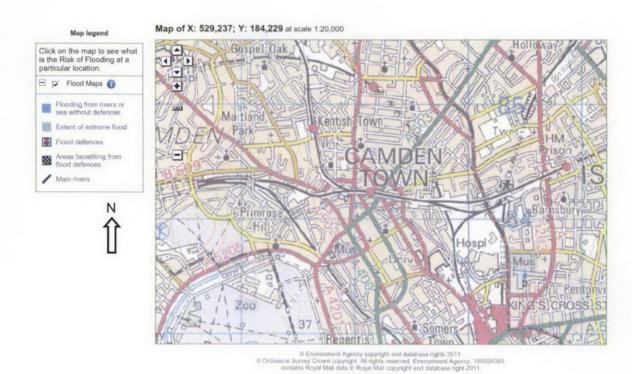


Figure (g)
Areas at Risk of Flooding from Rivers or Sea
(Extract from Environment Agency flood map)

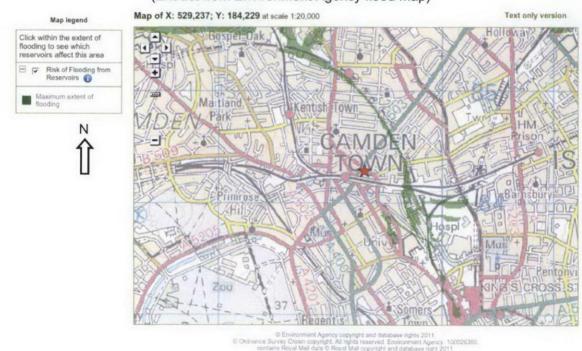


Figure (h)
Areas at Risk of Flooding from Reservoirs
(Extract from Environment Agency flood map)



Figure (i)
Slope Angle Map
(Extract from Figure 16 of Camden Geological, Hydrogeological and Hydrological Study)

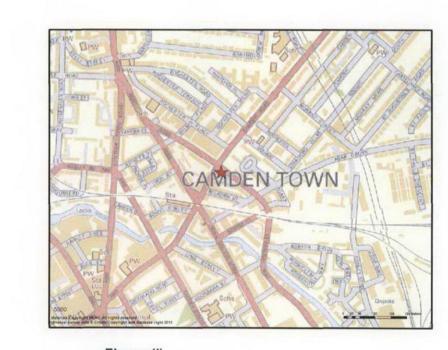


Figure (j)

Map showing National Rail
(Extract from British Geological Survey, Geoindex)

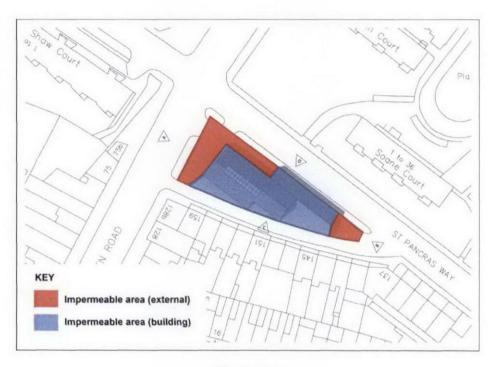
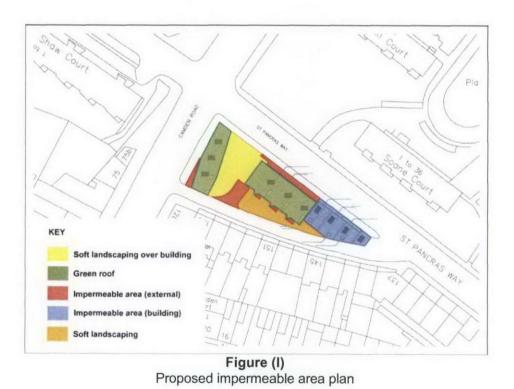


Figure (k)
Existing impermeable area plan



**APPENDIX B - THAMES WATER RECORDS** 

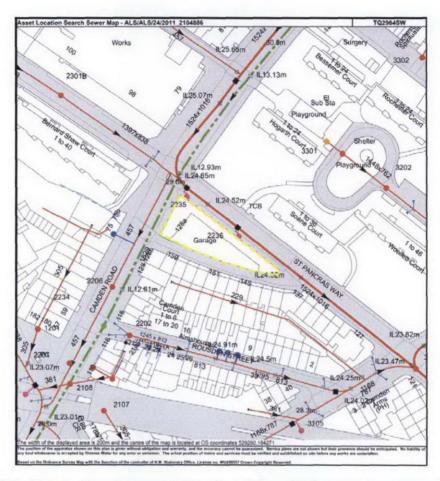


Figure B1 - Extract from Thames Water Asset Search showing a combined sewer

Thames Water ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Sewer Fittings

A feature in a sewer But does not affect the flow in the pipe. Example: a vent is a fifting as the function of a vent is to release excess one.

Symbols used on maps us



**APPENDIX C - PHOTOGRAPHS** 





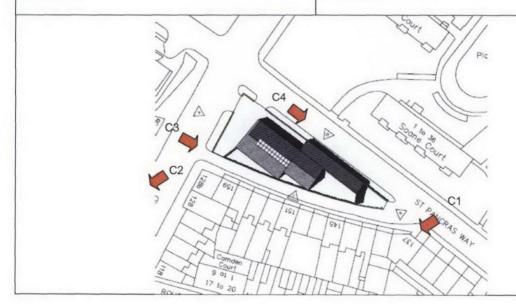
Photo C2



Photo C3



Photo C4



#### LIFETIME HOMES STATEMENT

# (http://www.lifetimehomes.org.uk/pages/revised-design-criteria.html)

As revised Design Criteria from 5 July 2010

The proposed residential units have been assessed against the Lifetime Homes Checklist. Below are completed checklists for the 2 bedroom houses, 3 bedroom houses and the apartments. From a review of this checklist it is demonstrated that the units are Lifetime Homes Compliant, being easily adaptable to the needs of users who during the lifetime of their occupation of the property develop temporary or permanent "additional needs".

### **Conclusion:** Lifetime Homes Compliant

To demonstrate, below we have tabulated the completed Lifetime Homes Checklist.

#### COMPLETED CHECKLIST

**Project title:** 128a Camden Road **Project no:** E11-052

## A: 2 Bedroom Houses – Compliant / easily convertible

- 1. Car Parking Width
  - a) within dwelling plot, capable of enlarging at least 1 space to 3300mm width
  - b) communal, at least 1 space over and above any wheelchair housing requirement
- Access From Car Parking
  - minimum distance and level or gently sloping
- 3. Approach Gradients
  - level or gently sloping
- 4. External Entrances
  - a) Illuminated
  - b) level access over the threshold
  - c) clear opening widths (800 mm min) and nibs

In addition, main entrances should

- d) have adequate weather protection
- e) a level external landing

Not Applicable.

The development is within a densely populated Urban Area with very good links to public transport and is subject to a Section 106 – Car Free - legal agreement.

Not Applicable (As above)

Level entry from pavement

- a) bulkhead external lighting adjacent to each of the dwelling's front entrance doors (at height of approximately 1.8m)
- b) proposals comply
- c) proposals comply
- d) not currently provided but could be added by owners at a future date, subject to Planning and Conservation Area consent
- e) proposals comply

- 5. Communal vertical access
  - a) communal stairs are Part M compliant
  - b) where homes are reached by a lift it should be fully accessible
- 6. Doorways & Hallways

Compliance with door and hallway widths as Table 4 (page 67) of Approved Document M1 of the Building Regulations.

7. Wheelchair Accessibility

There should be space for turning a wheelchair in dining areas and living areas and adequate circulation space for wheelchairs elsewhere

- 8. Living Room at entrance level
- 9. Potential for entrance level convenient temporary bed-space (if no permanent bedroom on the entrance level)
- 10. Entrance Level WC

Where a bathroom in accordance with Criterion 14 is not provided on the entrance level, provide an accessible WC (1.8m  $\times$  1.5m) with potential for a shower to be installed.

- 11. Bathroom & WC Walls capable of taking adaptations such as grab rails
- 12. Dwelling of 2 or more storeys should incorporate both:
  - a) potential for stair lift installation
  - b) suitable identified space for through the floor lift from entrance level to level containing a main bedroom and a bathroom as item 14
- 13. Bedroom and Bathroom ceilings designed to support hoist and reasonable route between bedroom and bathroom

- a) Not applicable
- b) Not applicable

Proposals comply

Doors generally 826mm (802mm clear) or 862mm (838mm clear) with hallway 950mm wide.

The ground floor of units 2 & 3 are accessible by wheelchair.

Unit 1 Complies

Unit 2 & 3 have 2 bedrooms at ground floor, one of which could be adapted in the future to enable entry level living.

- Unit 2 & 3 have bedrooms on the entrance level
- Unit 1's living space is large enough to enable a bed to be accommodated.
- a) Proposals can comply
- b) A floor gully will be constructed within each bathroom to ensure they can be easily converted to level access shower / wet rooms if required.

Proposals comply

- a) Unit 2 & 3 straight flight with solid masonry flank wall for easy installationb) Unit 1 Can be provided from Bed 1 to foot
- of stairs. Unit 2 and 3 not required as bedrooms and bathroom on entry level.

Ceiling will be concrete soffit.

Unit 2 & 3 bathroom adjacent to bedroom

14. Accessible Bathroom Layout on same storey as main bedroom

Unit 3 complies
Unit 2 is easily convertible to comply

15. Glazing (view when seated from within principle room) and Window handle heights

Proposals comply

16. Controls, Fixtures & Fittings450 – 1200mm above FFL and min 300mm awayfrom an internal corner

Proposals comply

## B: 3 Bedroom Houses - Compliant / easily convertible

- 1. Car Parking Width
  - a) within dwelling plot, capable of enlarging at least 1 space to 3300mm width
  - b) communal, at least 1 space over and above any wheelchair housing requirement
- Access From Car Parking
  - minimum distance and level or gently sloping
- 3. Approach Gradients- level or gently sloping
- 4. External Entrances
  - a) Illuminated
  - b) level access over the threshold
  - c) clear opening widths (800 mm min) and nibs

In addition, main entrances should

- d) have adequate weather protection
- e) a level external landing
- 5. Communal vertical access
  - a) communal stairs are Part M compliant
  - b) where homes are reached by a lift it should be fully accessible

Not Applicable.

The development is within a densely populated Urban Area with very good links to public transport and is subject to a Section 106 – Car Free - legal agreement.

Not Applicable (As above)

Level entry from pavement

- a) bulkhead external lighting adjacent to each of the dwelling's front entrance doors (at height of approximately 1.8m)
- b) proposals comply
- c) proposals comply
- d) not currently provided but could be added by owners at a future date, subject to Planning and Conservation Area consent
- e) proposals comply
- a) Not applicable
- b) Not applicable

6. Doorways & Hallways

Compliance with door and hallway widths as Table 4 (page 67) of Approved Document M1 of the Building Regulations.

7. Wheelchair Accessibility

There should be space for turning a wheelchair in dining areas and living areas and adequate circulation space for wheelchairs elsewhere

- 8. Living Room at entrance level
- 9. Potential for entrance level convenient temporary bed-space (if no permanent bedroom on the entrance level)

Entrance Level WC

Where a bathroom in accordance with Criterion 14 is not provided on the entrance level, provide an accessible WC ( $1.8m \times 1.5m$ ) with potential for a shower to be installed.

- 11. Bathroom & WC Walls capable of taking adaptations such as grab rails
- 12. Dwelling of 2 or more storeys should incorporate both:
  - a) potential for stair lift installation
  - b) suitable identified space for through the floor lift from entrance level to level containing a main bedroom and a bathroom as item 14
- 13. Bedroom and Bathroom ceilings designed to support hoist and reasonable route between bedroom and bathroom
- 14. Accessible Bathroom Layout on same storey as main bedroom
- 15. Glazing (view when seated from within principle room) and Window handle heights
- 16. Controls, Fixtures & Fittings450 1200mm above FFL and min 300mm awayfrom an internal corner

Proposals comply

Doors generally 826mm (802mm clear) or 862mm (838mm clear) with hallway 950mm wide.

The ground floor of units 4, 5 & 6 are fully accessible by wheelchair.

Proposals comply

Can be provided in large Living Area (note these houses also have living space at lower ground floor).

Proposals comply

A floor gully will be constructed within each ground level bathroom to ensure they can be easily converted to level access shower / wet rooms if required.

Proposals comply

- a) stair is in straight flight with full landing top and bottom
- b) can be provided between ground level Store and Bedroom 2

Ceiling will be concrete soffit.

Bedroom 1 adjacent to accessible sized bathroom

Proposals comply

Proposals comply

Proposals comply

## C: Apartment units - Compliant / easily convertible

- 1. Car Parking Width
  - a) within dwelling plot, capable of enlarging at least 1 space to 3300mm width
  - b) communal, at least 1 space over and above any wheelchair housing requirement
- Access From Car Parking
  - minimum distance and level or gently sloping
- 3. Approach Gradients
  - level or gently sloping
- 4. External Entrances
  - a) Illuminated
  - b) level access over the threshold
  - c) clear opening widths (800 mm min) and nibs

In addition, main entrances should

- d) have adequate weather protection
- e) a level external landing
- 5. Communal vertical access
  - a) communal stairs are Part M compliant
  - b) where homes are reached by a lift it should be fully accessible
- 6. Doorways & Hallways

Compliance with door and hallway widths as Table 4 (page 67) of Approved Document M1 of the Building Regulations.

7. Wheelchair Accessibility

There should be space for turning a wheelchair in dining areas and living areas and adequate circulation space for wheelchairs elsewhere

Not Applicable.

The development is within a densely populated Urban Area with very good links to public transport and is subject to a Section 106 – Car Free - legal agreement.

Not Applicable (As above)

Level entry from pavement

- a) bulkhead external lighting adjacent to each of the dwelling's front entrance doors (at height of approximately 1.8m)
- b) proposals comply
- c) proposals comply
- d) not currently provided but could be added by owners at a future date, subject to Planning and Conservation Area consent
- e) proposals comply
- a) proposals comply
- b) no lift is provided

Proposals comply

Doors generally 826mm (802mm clear) or 862mm (838mm clear) with hallway 950mm wide.

The apartment units are all accessed off a podium level over the commercial space. As there are only 3 units it is not commercially viable to provide a lift, thus the apartments are not wheelchair accessible. Access and approach are Part M compliant.

8. Living Room at entrance level All 3 apartments comply (NB Unit 9's "Entrance Level" is as defined in Lifetime Homes Appendix I where no rooms are located on the main entrance door level).

9. Potential for entrance level convenient temporary bed-space (if no permanent bedroom on the entrance level)

Proposal complies

10. **Entrance Level WC** 

main bedroom

13.

Where a bathroom in accordance with Criterion 14 is not provided on the entrance level, provide an accessible WC (1.8m x 1.5m) with potential for a shower to be installed.

Proposals can comply

A floor gully will be constructed within each bathroom to ensure they can be easily converted to level access shower / wet rooms if required.

11. Bathroom & WC Walls capable of taking adaptations such as grab rails

Proposals comply

12. Dwelling of 2 or more storeys should incorporate both:

a) potential for stair lift installation

Not applicable

b) suitable identified space for through the

Bedroom and Bathroom ceilings designed to

support hoist and reasonable route between

floor lift from entrance level to level containing a main bedroom and a bathroom as item 14

> Ceiling will be concrete soffit. Bathrooms adjacent to bedrooms

bedroom and bathroom 14. Accessible Bathroom Layout on same storey as

Proposal complies

Glazing (view when seated from within principle 15. room) and Window handle heights

Windows to Unit 8 are 850mm above FFL (thus within the 50mm tolerance provision) the other units comply

16. Controls, Fixtures & Fittings 450 - 1200mm above FFL and min 300mm away from an internal corner

Proposals comply