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Our ref: 16.280
3rd May 2017

Ornan Court
2 Ornan Road
London
NW3 4PT

BIA Supplementary Report Contents

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2. Response to objectors
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4. Site Analytical Services - Standpipe observations and swell assessment
5. SUDS Report
6. Historical Maps
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M.A.Redston 25th May 2017

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Supplementary BIA report based on Campbell Reith Audit Query – Tracker dated March 2017

The audit query tracker is situated in Appendix 2 of the Campbell Reith preliminary report. We will provide information based on Campbell Reith numbering and sub paragraphs.

1. Desk Study/BIA

The site currently comprises a four storey block of flats. The original building near the site was a large house, Elm house. Ornan Court was built in its grounds in 1894. Elm house was demolished in 1911. A Nurses Home was later constructed which was finally sold for private development. The building is the first structure on the site and no previous structures had been in existence prior to its construction in the late 19th Century. The building is raised above ground level which as indicated elsewhere in the report slopes in each direction. Maps are provided to indicate the historical land use of the site.

5.2 Historical land use was basic farming prior to urban development. Underground utility assets are outside the zone of influence. Outline construction programme by MP Brothers is enclosed for information. Impact assessments for issues taken beyond scoping, there are no impacts beyond that which Camden Council have requested. Non technical summary indicates that the basement is a standard structure constructed beneath the existing building by the use of underpinning and concrete retaining walls. The work envisaged is standard and typical for basements in this area of London. The ground conditions are London Clay with slight water ingress at low level. There is a party wall on the left hand side and this will be protected during the work.

2. Stability

4.8 As above

5.3 Shrink swell movements are minor in relation to the mass and weight of the heavy masonry and timber construction above. There is no potential for shrinkage or swelling beyond the immediate vicinity of the works during initial excavation. Movements are considered to be less than 25mm within 1 metre of the property. A statement from our geotechnical consultants is included in order to confirm this point.

3. **Stability in Relation to London Underground Limited**

As indicated in all of their correspondence LUL have indicated no concern whatsoever for their tunnel which is 37 metres below the ground and at a distance of 5 metres from the nearest excavation. The excavations are less than 5 metres deep in total and calculations were provided in the original BIA indicating no surface influence on the tunnel below.

3.(?) Further groundwater monitoring has been provided by Site Analytical Services and their conclusion is appended to this report. Water levels have reduced in the standpipes on site. It is less likely that water will be encountered in the excavation.

4. De watering proposals will include minor pumping at the base of the excavations during the low level underpinning work. Ground water monitoring may continue during the works as indicated in paragraph 4.1.3.

5. **Assessment of onsite retaining structures.**

The only onsite retained structure is the masonry wall between the site and the back line of the pavement in Rosslyn Hill and Ornan Road. The excavations to take place at distances in excess of 3 metres from each of these retaining structures. Some strengthening has already taken place along the Haverstock Hill elevation where cracks were noted in 2016. The process of removing clay and soil from inside the site will reduce any earth retained pressure on these walls and the net outcome will be that the new concrete retaining structure will considerably reduce the likelihood of any collapse of these walls in the future. It should be noted that the provision of the new basement will actually enhance the stability of the site in the future.

6. **Ground movement, damage impact and structural monitoring**

Proposals have been provided for structural monitoring and these were included in the provisional BIA. The damage is unlikely to be greater than category 1 and no ground movement is expected during the work provided that the Contractor proceeds with due caution in accordance with the sequencing provided. An outlined methodology for monitoring structural movements has been included in a document by Knight Associates.

4.14 Indicates highway, retained structures and any utilities. All of these items are outside the area of any influence. It should be noted that the highway on both sides of the building are at lower levels than the upper embankment. The extent of foundation work below the highway level is likely to be less than 3 metres. This type of excavation is precisely the same as for any deep foundation constructed in clay subsoil in the vicinity. There are many constructions of this nature based on new surface buildings and no assessment of movement is required by the Local Authority either at planning or Building Control stage. This item is included within the BIA.

7 **SUDS – Sustainable drainage**

A specialist report is attached.

Conclusion

For an understanding of previous application for this project, the opportunity is taken to enclose a copy of the previous BIA used for a planning appeal in 2015. The outcome of this appeal is also included in the Planning Inspector's document. It should be noted that the appeal was only rejected on architectural grounds and no concern whatever was shown by the Appeals Inspector about the structural matters. This is of major significance because the reason why the appeal was lodged at that time was because Camden Council considered that the information on the construction method was inadequate but the Appeals Inspector clearly wrote that no issues had been established in relation to the construction procedure. The appeal decision document was dated 17th August 2015 and it has been indicated in paragraphs 11 and 12 labelled 'the effects of the proposed basement on the local environment' - 'from a careful assessment of the submissions it seems to be that there is very little risk that the proposal would give rise to an increased risk of flooding in the area and would not be at a risk itself. The London Clay soils here are said to be impermeable and so the introduction of the basement would not alter this.' In paragraph 12 the inspector clearly indicates that 'in relation to structural stability these are matters covered by the Building Regulations but in the UU the addition of a detailed basement construction plan provides me with the assurance that this scheme could be satisfactorily undertaken in this respect.' The final conclusions of this report in item 14 indicates that the only matter which concerned the Planning Inspector was 'in relation to day lighting and outlook' i.e. an architectural issue not connected to engineering matters.

It is therefore concluded that the considerable amount of structural and hydrogeological information already provided for this assessment more than justifies the construction of a basement on this particular site. There should be no further requirements for detailed structural information and the BIA should be accepted in order for the planning approval to be obtained at the earliest opportunity. As indicated in the Planning Inspector's report Building Control Inspectors will ensure that the construction is carried out to a high standard, of course party wall procedures will be applied where necessary.

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RESPONSE TO OBJECTIONS RECEIVED FROM LOCAL RESIDENTS

We have been provided with objections to the current Planning Application received during February 2017 and we will refer to these in order of receipt.

1. Eleanor and David Gutmann – email dated 27th February 2017

   The objector refers to 'disturbance of tree roots and the consideration of serious subsidence owning to presence of many mature trees'. The current and previous basement impact assessments indicated that any nearby trees will not be affected by the new basement extension. It should be recognised that many buildings in the Camden area are required to be provided with very deep foundations (up to at least 3 metres depth in some cases) for simple residential extensions and small building construction. The construction of a basement with reinforced or mass concrete is exactly the same as this type of work. The Arboricultural Consultant has also provided a report on the tree roots and has indicated that there is no concern. With regard to subsidence, it should be noted that the entire borough of Camden and most of North London generally is subject to subsidence as a result of clay shrinkage. The construction of basements and, indeed other deep foundations does not affect subsidence risks for the building or nearby structures during this work. In fact the deeper foundations will stabilise the property in any event.

2. Danton Hope – dated 14th February 2017

   There are no structural concerns noted in this email and therefore no further comment will be provided by ourselves.

3. Belsize Residents Association – dated 23rd February 2017

   There are no structural objections in this email and therefore no further comments will be provided by ourselves.

4. Alan Wilding – undated email

   There are no structural objections in this email and therefore no further comments will be provided by ourselves.

5. The BoisotWaters Cohen Partnership – dated 20th March 2017.

The majority of this document refers to planning matters rather than structure. There is reference to lorry movements along Ornan Road. It is understood that heavy traffic including lorries, petrol tankers, ambulances and the like already traverse this road and additional lorry traffic has not been considered to be an issue by the Camden Transport Department as far as we are aware.

6. Line Planning – dated 20th March 2017.

The majority of this document relates to planning guidelines but there are structural matters noted on pages 6 and 7 as follows (using their paragraph numbers):

6.1 A non-technical summary of the BIA has been provided in accordance with the Camden requirements. Basically the project comprises the underpinning of the existing mansion block to provide two new basement flats. Reinforced concrete will be used for the supporting structure and the underpinning will be carried out in standard short sections in accordance with usual guidelines. The building will be supported during the work and structural steel work will be installed to carry the floors above. This work will be approved by Building Control Inspectors as it continues on site.

6.2 The document indicates questions about control or adequate drainage, high permeability corridors, underpinning of neighbouring structures and setting the basement in from property boundaries. All of these items are clarified within the Basement Impact Assessment. A sustainable drainage report has been obtained indicating that there are no concerns in this area. There are no high permeability corridors as the ground is entirely impermeable clay in the building.

6.3 The lateral damage assessment is very typical for this type of work and there will not be any lateral damage to the neighbouring property at Rosslyn Court or the ground around the building.

6.4 The predicted movement at the party wall with Rosslyn Court will not be significant. Underpinning will be carried out in short sections which entirely controls the movement at the surface. The existing masonry walls at both Rosslyn and Ornan Courts are robust and in exceptionally good condition. Trial holes have been obtained which indicate that the current foundations are also robust and in good condition. Monitoring of the adjoining building at Rosslyn Court has been described in the Basement Impact Assessment and is to be carried out in accordance with normal guidelines.

6.5 The flood risk assessment has been carried out. There is no flood risk whatsoever from the basement development as previously indicated in earlier documents the only flooding that occurred in 1975 and 2002 were in Ornan Road outside and commenced further along the road towards the West and did not affect either Rosslyn or Ornan Courts at the time. Flooding was not caused by ground water and was related to over-charging or drains and gullies in the road. Camden Council's report has clarified this matter.

6.6 Surface water drainage has been indicated in the sustainable drainage report and there is no additional volume or flow as a result of the basement. The basement will be constructed below ground and any water flow is at ground floor level and is generally only impeded by surface features such as porous buildings, vehicles, hardstandings and the like.

6.7 Independent assessment has been carried out by Campbell Reith and Partners and a number of minor points have been clarified in the enclosed report for them.

6.8 There is reference to London Underground and the Northern Line tunnel. The LUL correspondence clearly indicates that the tunnel is 37 metres (100ft) below the road at a distance of at least 5 metres laterally from the building. As with any building works on the side of the road the loads are dissipated in the underlying clay and we have provided a calculation indicating that there is no effect on the railway line. It is clear that any deep foundation constructed in the vicinity of any tube line would have a similar effect and the fact that this is a basement construction is entirely irrelevant to the question of any possible effect on the tunnel.

7. Danton Hope – 2nd email – undated

There are no structural objections in this email and therefore no further comments will be provided by ourselves.

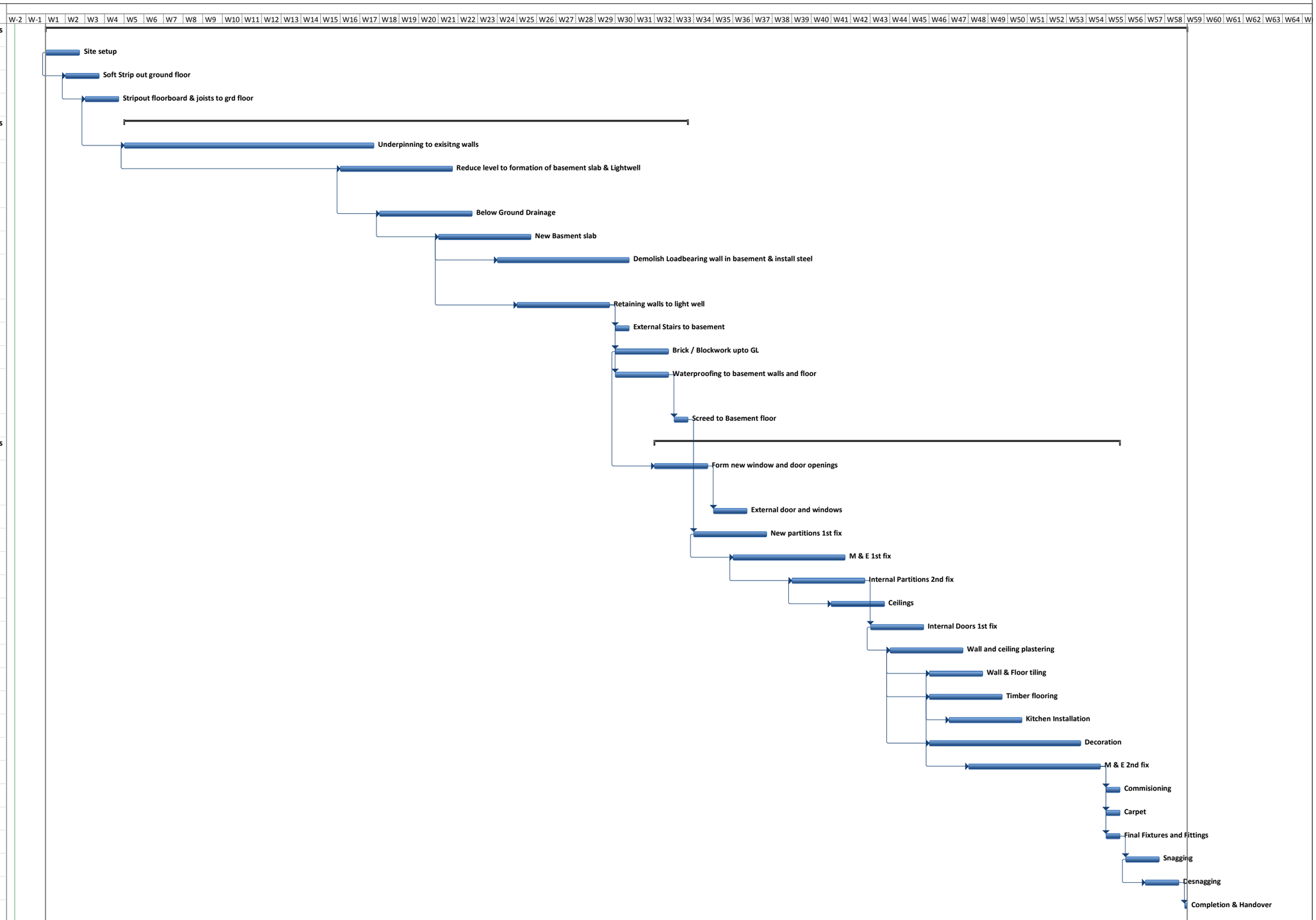
Conclusion

We are satisfied that there are no structural matters outstanding for this application. The points that have been made by Objectors appear to be reiterations of previous points with no engineering back up or qualification. It would appear that technical objections have reduced significantly since the previous application which we consider to be a very positive situation. The geo-hydrological information, sustainable drainage information and structural information already provided are more than adequate to allow this construction to be built at the earliest opportunity.

M A Redston – 10th May 2017

Preliminary Programme of Works
Ornan Court, 2 Ornan Road, NW3 4PT

ID	Task Mode	Task Name	Duration
1		**Ornan Court**	**291 days**
2		Site setup	10 days
3		Soft Strip out ground floor	10 days
4		Stripout floorboard & joists to grd floo	10 days
5		**Structure**	**145 days**
6		Underpinning to exisitng walls	65 days
7		Reduce level to formation of basement slab & Lightwell	30 days
8		Below Ground Drainage	25 days
9		New Basment slab	25 days
10		Demolish Loadbearing wall in basement & install steel	35 days
11		Retaining walls to light well	25 days
12		External Stairs to basement	5 days
13		Brick / Blockwork upto GL	15 days
14		Waterproofing to basement walls and floor	15 days
15		Screed to Basement floor	5 days
16		**Finishes**	**120 days**
17		Form new window and door openings	15 days
18		External door and windows	10 days
19		New partitions 1st fix	20 days
20		M & E 1st fix	30 days
21		Internal Partitions 2nd fix	20 days
22		Ceilings	15 days
23		Internal Doors 1st fix	15 days
24		Wall and ceiling plastering	20 days
25		Wall & Floor tiling	15 days
26		Timber flooring	20 days
27		Kitchen Installation	20 days
28		Decoration	40 days
29		M & E 2nd fix	35 days
30		Commisioning	5 days
31		Carpet	5 days
32		Final Fixtures and Fittings	5 days
33		**Snagging**	10 days
34		**Desnagging**	10 days
35		Completion & Handover	1 day



Project: Programme

Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only	Manual Progress
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline	
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Progress	

Ornan Court, 16.280

Comments in response to Appendix 2 – Audit Query Tracker

1.0 Past uses of the site and a site conceptual model is part of the Desk Study Report (14/22662) previously completed for the site.

2.0 It is proposed for the basement level to be dug to 3.2m maximum depth. Variation in ground moisture can cause ground movements such as shrink/swell, but this is usually in the upper two metres of the ground which may affect building foundations. At 3.2m depth, any variations are likely to be un-noticed.

3.0 Additional monitoring has been carried out as per below:

GROUNDWATER MONITORING RECORD			
Date	**Weather Conditions**	**Ground Conditions**	**Temperature (°C)**
04/05/2017	Cloudy	Dry	9
Monitoring Point Location	**Depth to water (mBGL)**		**Depth to Base of well (mBGL)**
BH1	2.82		4.87
BH2	3.40		4.92
BH3	4.00		4.93
BH4	3.48		4.92

These levels are lower than previously encountered on site and are at the base of the proposed basement.

Regards,

Tom

Thomas Murray MSc, BSc (Hons), FGS
Geotechnical Engineer

For and On Behalf of

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2 Ornan Road, London, NW3 4PT

SuDs Report

Prepared by

Nimbus
ENGINEERING CONSULTANTS

Contents

1 INTRODUCTION

1.1 Appointment

Nimbus Engineering Consultants Ltd have been appointed by Prime Central Properties to calculate the pre, and post development surface water run off for and provide a proposed SuDs solution on the management of Surface Water run off at 2 Ornan Road, London, NW3 4PT.

1.2 Objectives

This report will address the concerns raised by the Borough and provide details on a suitable Sustainable Urban Drainage System in order to reduce the surface water runoff leaving the site and show that the proposed development will not increase Flood Risk at the site or elsewhere.

1.3 Limitations

The general limitations of this report are:

- A number of data and information sources have been used to prepare this report. Whilst Nimbus Engineering believes them to be trustworthy, Nimbus Engineering is unable to guarantee the accuracy of data and information that has been provided by others;

- This report has been prepared using best data and information that was available at the time of writing. There is the potential for further information or data to become available, leading to changes in the conclusions drawn by this report, for which Nimbus Engineering cannot be held responsible.

1.4 Local Planning Policy

This report has been written in conjunction with the following local planning policies:

- Mayor's London Plan, Policy 5.13;
- Camden Local Development Framework Core Strategy, CS13;
- Camden Local Development Policies, DP22 and DP23.

Mayor's London Plan, Policy 5.13 states that:

Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible…

CS13 of the Camden Local Development Framework Core Strategy focusses on minimising surface water flood risk, as it states by:

h) making sure development incorporates efficient water and foul water infrastructure;

i) requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and downstream flooding, especially in areas up-hill from, and in, areas known to be at risk from surface water flooding such as South and West Hampstead, Gospel Oak and King's Cross…

DP22 of the Camden Local Development Policies requires development must:

b) incorporate green or brown roofs and green walls wherever suitable.

DP22 requires that development be resilient to climate change, by including appropriate measures. The ones relevant to this report are stated as:

g) limiting run-off;

h) reducing water consumption;

Within DP23, Camden Council requires developments to reduce their water consumption, their pressure on the combined sewer network and reduce risk of flooding, as they state by:

a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site;

b) limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part a) and other sustainable urban drainage methods to reduce the risk of flooding;

c) reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified by the North London Strategic Flood Risk Assessment and shown on Map 2 as being at risk of surface water flooding are designed to cope with the potential flooding;

d) ensuring that developments are assessed for upstream and downstream groundwater flood risks in areas where historic underground streams are known to have been present;

2 GROUNDWATER FLOODING ADDENDUM

Long term groundwater monitoring was carried out in four boreholes at this development site, and the results are shown below:

GROUNDWATER MONITORING RECORD			
Date	**Weather Conditions**	**Ground Conditions**	**Temperature (°C)**
04/05/2017	Cloudy	Dry	9
Monitoring Point Location	**Depth to water (mBGL)**		**Depth to Base of well (mBGL)**
BH1	2.82		4.87
BH2	3.40		4.92
BH3	4.00		4.93
BH4	3.48		4.92

The groundwater level at this site was recorded as being just above the basement excavation level, therefore any de-watering required will be minimal.

In order to ensure the building is protected from any groundwater flooding, albeit unlikely, the following mitigation measures have been proposed:

The proposed structures will be designed to resist any potential hydrostatic uplift forces which may be imparted by the presence of groundwater.

The basements will be designed as watertight elements. It should also be appreciated that the soils at likely foundation/basement depth will deteriorate rapidly in the prolonged presence of water, therefore a waterproof membrane such as delta membrane or equivalent should be used.

Consequently, it may be prudent to apply a blinding layer of lean-mix concrete to all excavations, if continuous working cannot be achieved.

Pumps will also be provided to remove excess water should the properties flood.

Additional mitigation measures will include:

- Fixtures and fittings for the basement will be located to ensure that if any flood water does enter the building, the impact of floodwater on the property will be minimal;

- Electricity sockets for the basement will be 600mm above the finished floor level and wired from the ceiling down;

- Non return valves will be employed in the drainage design for the basement, to prevent back up of flow;

- Water resistant paint to be used for internal walls. As the proposed development involves the construction of a basement, it is imperative that the client provides appropriate damp proofing measures such as delta membrane for the basement floor to ensure any future groundwater flooding risk is mitigated.

3 SUSTAINABLE URBAN DRAINAGE SYSTEMS

The total site area is 764 m^2, and the impermeable areas of the site prior to development are 390 m^2.

Following the development at this site, the impermeable areas will increase to 404 m^2, comprising the roof area of the proposed building, as well as the hard standing areas, prior to any SuDs mitigation. Pre and post development surface water runoff calculations showing the peak flow rate leaving the site, prior to SuDs mitigation can be found in Appendix A.

Surface water arising from a developed site should, as far as is practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing the flood risk to the site itself and elsewhere, taking climate change into account.

Reducing the rate of surface water discharge from urban sites is one of the most effective ways of reducing and managing flood risk.

Traditional piped surface water systems work by removing surface water from our developments as quickly as possible, however this can cause various adverse impacts:

- Increased downstream flooding, and sudden rises in flow rates and water levels in local water courses.
- Reduction in groundwater levels and dry weather flows in watercourses.
- Reduce amenity and adversely affect biodiversity due to the surface water run-off containing contaminants such as oil, organic matter and toxic materials.

SUDS are defined as a sequence of management principles and control structures designed to drain surface water in a more sustainable fashion than conventional piped drainage techniques. SUDS should utilise the natural

landscape of an area which as well as slowing down the rate of runoff provides a number of environmental, ecological and social benefits.

These include:

- Protection and enhancement of water quality – As well as providing on-site attenuation, SUDS treat the water, resulting in an improved quality of water leaving the site. This is achieved when the water passes through fine soils and the roots of specially selected plants, pollutants washed off the hard landscaping by rainfall will be safely removed before the water reaches the natural receiving water course.

- A sympathetic approach to the environmental setting by providing opportunities to create habitats for flora and fauna in urban watercourses and open spaces.

- Meeting the amenity and social needs of the local community and residents in the creation of attractive green spaces.

The various types of SUDS include:

Permeable paving	
Soakaways;	
Swales and basins;	

Bioretention/ rain gardens;	
Green roofs and rainwater re-use;	
Infiltration trenches and filter drains	
Ponds and wetlands.	

Preferably a combination of these techniques should be used as part of the surface water management train, and it is important for all stakeholders, such as developers, architects, landscape architects and engineers to work together at the planning stage in order to determine a feasible solution.

4 PROPOSED SOLUTION

The proposed SUDS solution increases biodiversity and lessens the burden on the existing Thames Water infrastructure in accordance with the London Plan, with the intention of treating rainfall at source across the site.

Four raingarden planters will be provided in order to deal with and treat some of the roof run off at source, as well as reduce the peak flow rate of this. Two outdoor wall mounted rainwater harvesters will be provided in order to promote rainwater re-use and lessen the burden on the existing over-burdened Thames Water network. Permeable paving is proposed at all the hard-standing areas in the proposed new lightwell areas, in order to treat and deal with the surface water run off at source.

We believe the Sustainable Urban Drainage System hierarchy has been considered fully, and the above solution meets the requirements of the London Plan and London Borough of Camden's local plans and strategies.

5 TIMESCALE AND MAINTENANCE OF DRAINAGE WORKS

All drainage works shall be completed prior to first occupation and there shall be no adoption of any of the drainage works within the site. The developer/landlord should be responsible in overseeing the long term, maintenance of all communal drains. The following outline maintenance strategy sets out recommended timescales for maintenance of the proposed drainage works, in line with CIRIA SuDs Design Guide:

Maintenance Category	Maintenance activity	Comments	Frequency
Routine Maintenance	Litter and debris removal	Litter & debris to be removed prior to any pruning activity.	**Monthly or as required**
	Mulching – removal and replace		**Annually**
	Pruning and weeding		**Monthly or as required**
Infrequent Maintenance	Replacement of plants		**As required**
Corrective Maintenance	Treatment of diseased vegetation		**As required**
	Silt removal		**As required**
	Repair of perforated pipe		**As required**

Table 1 – Raingarden operation and maintenance requirements

- Regular inspection will comprise the inspection and cleaning of catchment, gutters, filters and tanks to reduce the likelihood of contamination, this is recommended to be carried out every 3 to 6 months.

- Regular jet-washing of permeable block paving can be used to keep joints and voids clear, this should be carried out every 6 months.

- Any flow control device and rainwater harvesting system should be checked every 3 months for the accumulation of debris/silt, in order to ensure that there are no blockages, and cleaned as necessary.

APPENDIX A – SURFACE WATER CALCULATIONS

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Job No.	C1809
Sheet no.	1
Date	02/05/17

MasterDrain
HY 9.4

Project	By	Checked	Reviewed
2 Ornan Road, NW3 4PT	S.L		

Title: **Pre and post development Surface Water run off Calcs**

Data:-

Hydrology (FSR):-

Location = LONDON (NORTH)		WRAP	= 4
Long reference = 540190		Grid reference	= TQ4090
M5-60 (mm)	= 20	SAAR (mm/yr)	= 610
r	= 0.43	Soil	=0.47
Hyd. area	= 6	Hyd. zone	= 8
Hydrograph	= Winter	Area = England and Wales	

Site values used in design:-

Total site area	= 0.0764 ha	Climate change factor	= 30%
Pre-dev area drained	= 0.0390 ha	Post-dev area drained	= 0.0404 ha
Imperm runoff factor	= 98%	Perm runoff factor	= 20%

Pre-development

Area to soakaways	= 0.0000 ha	Area to other SUDS	= 0.0000 ha
Perv. area to SUDS	= 0.0000 ha	Pre-dev flow to drain	= 0.00 l/s

Post-development

Area to soakaways	= 0.0000 ha	Area to other SUDS	= 0.0000 ha
Perv. area to SUDS	= 0.0000 ha	Post-dev flow to drain	= 0.00 l/s

Calculations:-

Revised Post-dev Imperm. area = 0.040 ha
Equiv. Post-dev Imperm. area = 0.040 ha
Equiv. Post-dev Perm. area = 0.007 ha
Total Pre-dev equiv. area ha = 0.046 ha
Total Post-dev equiv. area ha = 0.047 ha
100 yr 6 hour mean intensity = 10.13mm/hr

Results:-

Pre-dev peakflow runoff (l/s) (m^3/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	10.1	6.7	4.1	2.5	1.5	1.1	0.9	0.8	10.1	N/A	10.1	1
30	24.7	15.9	9.8	5.8	3.4	2.5	2.0	1.6	24.7	N/A	24.7	30
100	32.1	20.8	12.9	7.7	4.5	3.2	2.5	2.1	32.1	N/A	32.1	100

Post-dev peakflow runoff (l/s)

R.P.	15	30	60	120	240	360	480	600	Max	CCF	Final	R.P.
1	10.4	6.8	4.2	2.6	1.6	1.2	0.9	0.8	10.4	30	13.5	1
30	25.3	16.3	10.0	6.0	3.5	2.5	2.0	1.7	25.3	30	32.9	30
100	32.9	21.3	13.2	7.9	4.6	3.3	2.6	2.2	32.9	30	42.8	100

100 year 6 hour (x Climate Change Factor) storm gives:-
Pre-dev runoff volume m^3 = 27.8m^3
Post-dev rainfall volume = 37.0m^3
Post-dev volume m^3 (excess above SUDS) = 37.0m^3
100 yr 6 hour mean intensity = 10.13mm/hr
Pre-dev volume to drain at 0 l/s = 0.0 m^3
Post-dev volume to drain at 0 l/s = 0.0 m^3
Post-dev storage volume = 37.0m^3
Post-dev 5mm imperm volume = 2.0 m^3
Post-dev 5mm perm volume = 1.8 m^3

$Q_{BAR(rural)}$ = 0.314 l/s or 4.110 l/s/ha or 0.000 cumecs - from IoH 124.

The rainfall rates are calculated using the location specific values above in accordance with the Wallingford procedure.

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Sheet no. 2			
Date 02/05/17			
Project 2 Ornan Road, NW3 4PT	By S.L	Checked	Reviewed
Title Pre and post development Surface Water run off Calcs			

MasterDrain
HY 9.4

Data summary.

Use the data below for the SUR1 form

Site areas:-

Total site area =	0.0764 ha ;764.0 m²	[3A]
Pre-development impermeable area =	0.0390 ha	[3B]
Pre-development permeable area =	0.0374 ha	
Post-development impermeable area =	0.0404 ha	[3C]
Post-development permeable area =	0.0360 ha	

Peak runoff:-

Pre-development 1 year storm (15min) =	10.1 l/s	[6A]
Pre-development 100 year storm (15min) =	32.1 l/s	[6C]
Post-development 1 year storm (15min) =	10.4 l/s	[6B]
Post-development 100 year storm (15min)=	32.89 l/s	[6D]

Greenfield runoff:-

$Q_{BAR(rural)}$ = 0.314 l/s or 4.110 l/s/ha or 0.000 cumecs - from IoH 124.

Climate change factor:-

CCF = 30%

Volumes:-

Pre-development 100 yr/6hr storm [12A]= 36.1m³
Post-development 100 yr/6hr storm (add. volume with no SUDS) [12B]= 37.0m³
Post-development 100 yr/6hr storm (add. volume with SUDS) = 37.0m³
Post-development add. predicted volume (No SUDS) [12C] = 0.9m³

You may also require

Data relating to the infiltration test calculations (if applicable)
Evidence to show runoff reduction (if applicable)
Information on calculation methods (if applicable see next sheet)

Note

Numbers in square brackets relate to the
Nov. 2010 v1.1 / issued 11/02/10 copy of SUR1

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Job No.	C1809
Sheet no.	3
Date	02/05/17

MasterDrain
HY 9.4

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Definitions and methods

Hydrology

The hydrological constants are derived from the Wallingford maps. They are used to calculate location specific rainfall figures.

Site values and factors

Areas of the site should be entered in hectares (10000 m²). If the Pre-development site is a green field, this box is blank.
Climate Change Factor is initially set at 20% - this may be changed as required.
Greenfield runoff is calculated using the method described in IoH 124.
Runoff factors

The impermeable runoff factor is initially set at 98%
The permeable runoff factor is initially set at 20%

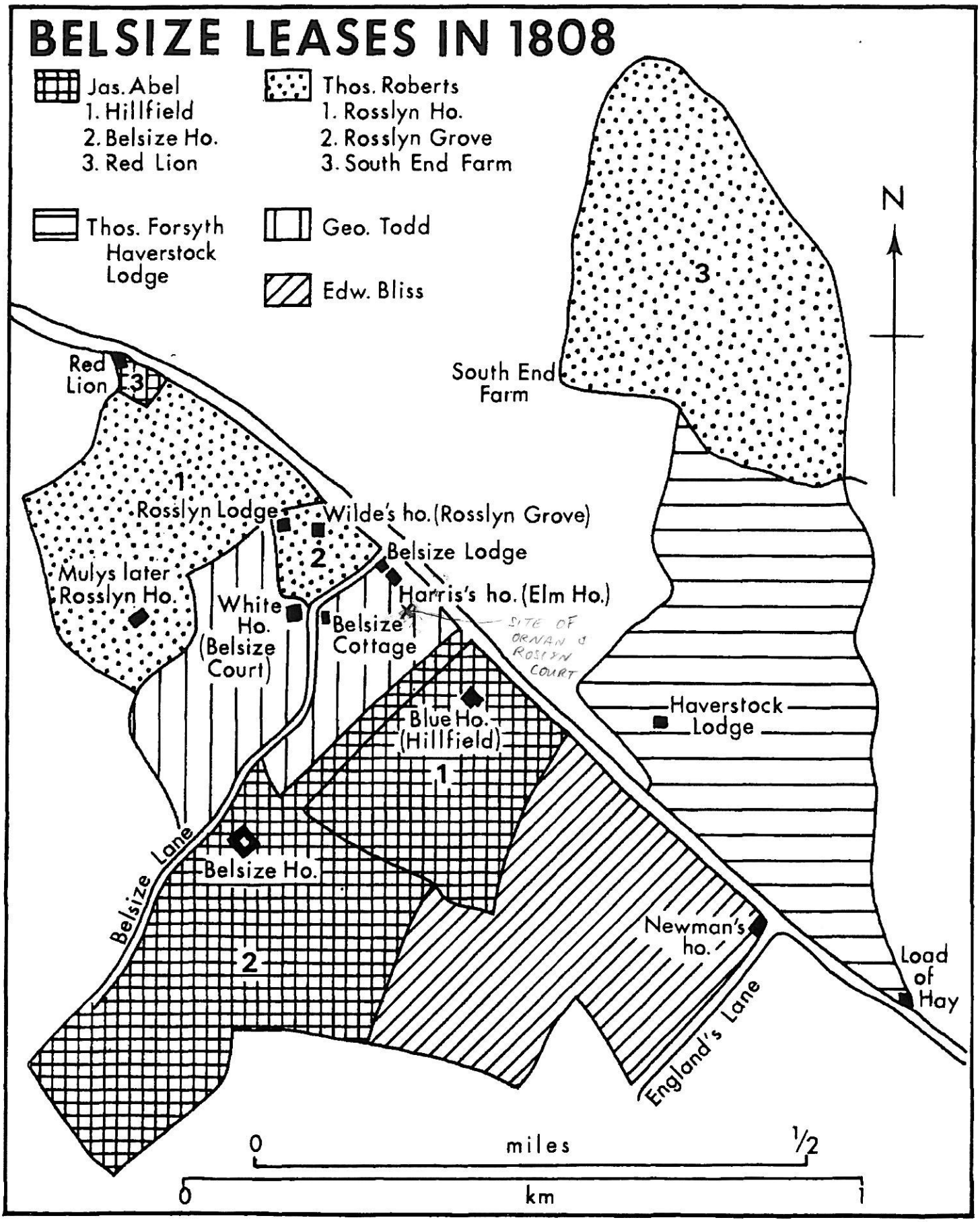
Note: the CCF and the runoff factors may be changed by the user to suit the development
The areas draining to soakaways and other SUDS are entered in the appropriate box (in hectares)

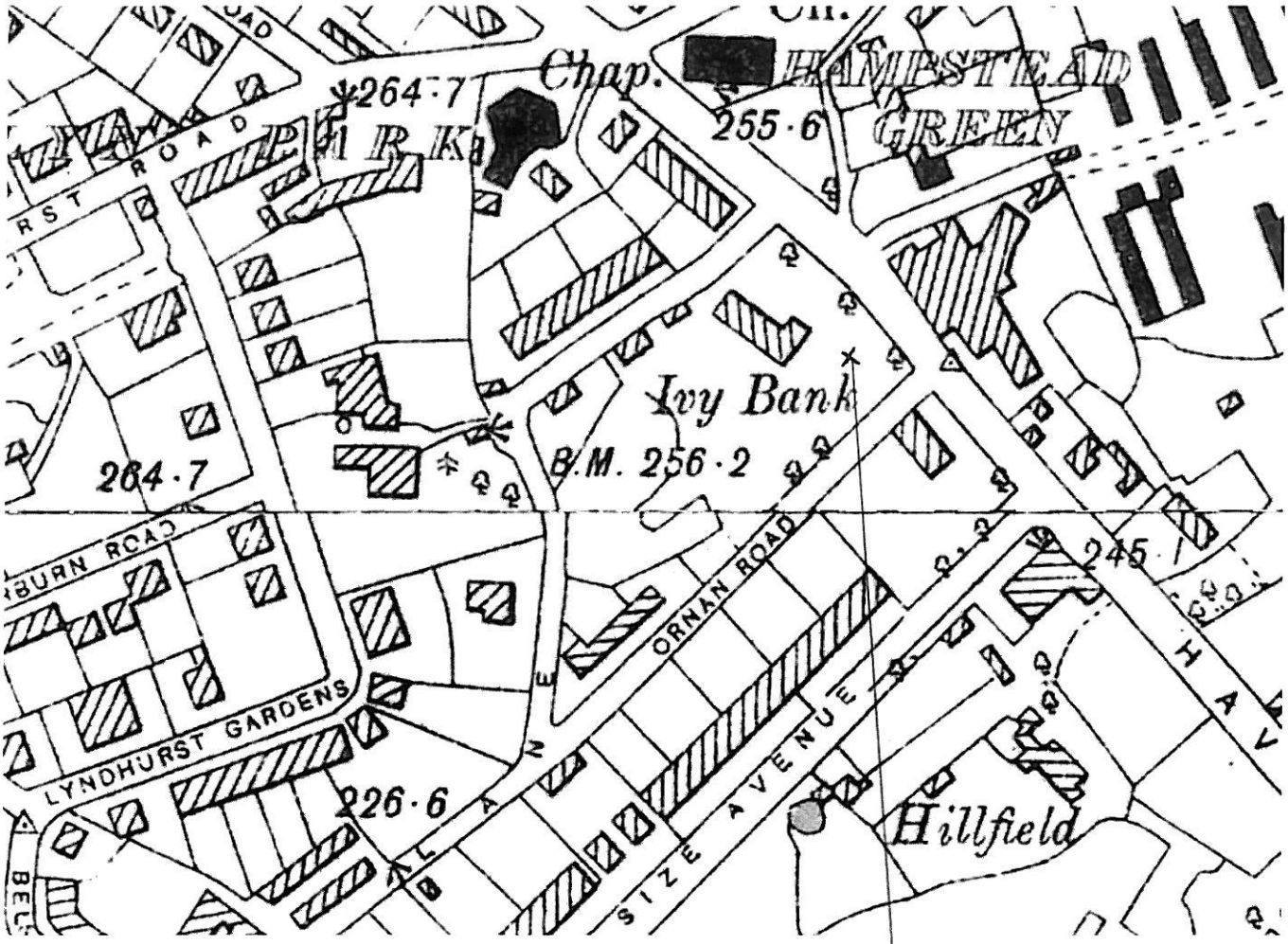
Calculations

The post-development area is reduced by subtracting the areas that drain to soakaways or other SUDS, to give a revised figure.
All areas are then multiplied by the appropriate runoff factor to give an equivalent area with 100% runoff.
These are then summated.
This gives a total pre-development equivalent area, and a similar figure for the post-development area.
The 'Post-dev volume to drain (no SUDS)' gives the total runoff to drain if no SUDS were used.

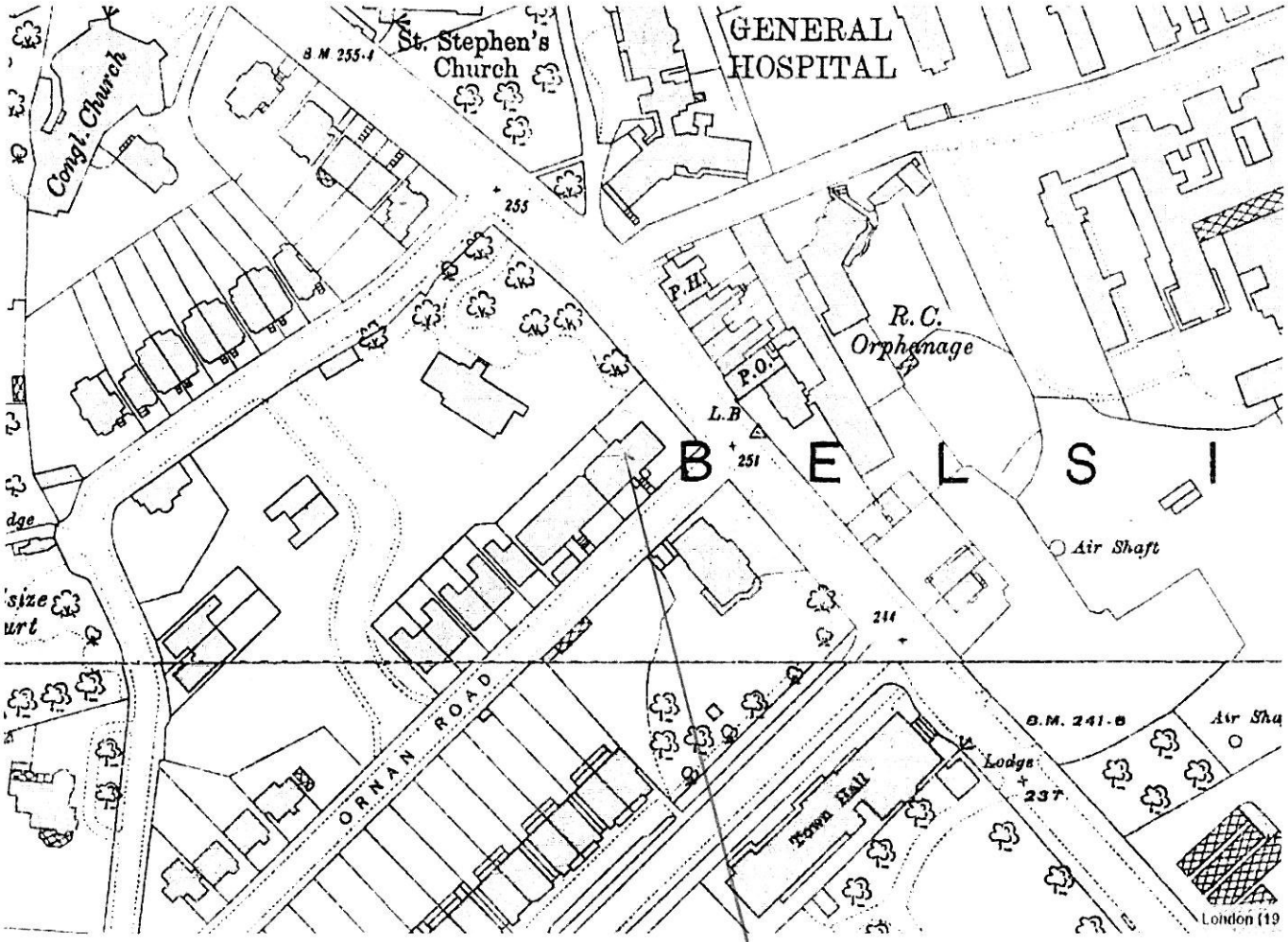
Results

The pre- and post-development areas are subjected to 1,30 and 100 year return period storms with a duration of 15 to 600 minutes.
The Revised Post-dev Imperm. area is the area (in ha) that is not going to SUDS x impervious runoff factor.
The runoff rates are calculated for the chosen hydrograph (Summer or Winter) as l/s. Figures in red indicate m³/s
The peak value is measured, multiplied by the CCF and the total maximum rate is shown.
The pre- and post-development volumes for a 100 year / 6 hour storm are calculated from the area under the hydrograph curve.
Post-dev volume (i.e. excess above SUDS) is that volume produced by the drained area that does not go to SUDS.
Qbar(rural) is calculated in accordance with the procedure laid down in IoH 124


BELSIZE LEASES IN 1808
Jas. Abel
1. Hillfield
2. Belsize Ho.
3. Red Lion
Thos. Roberts
1. Rosslyn Ho.
2. Rosslyn Grove
3. South End Farm
Thos. Forsyth
Haverstock
Lodge
Geo. Todd
Edw. Bliss
N
Red Lion
3
South End Farm
1
Rosslyn Lodge
Wilde's ho. (Rosslyn Grove)
2
Belsize Lodge
Mulys later Rosslyn Ho.
White Ho. (Belsize Court)
Harris's ho. (Elm Ho.)
Belsize Cottage
SITE OF ORNAN'S ROSLYN COURT
Haverstock Lodge
Blue Ho. (Hillfield)
1
Belsize Lane
Belsize Ho.
2
Newman's ho.
Load of Hay
England's Lane
0
miles
1/2
0
km
1

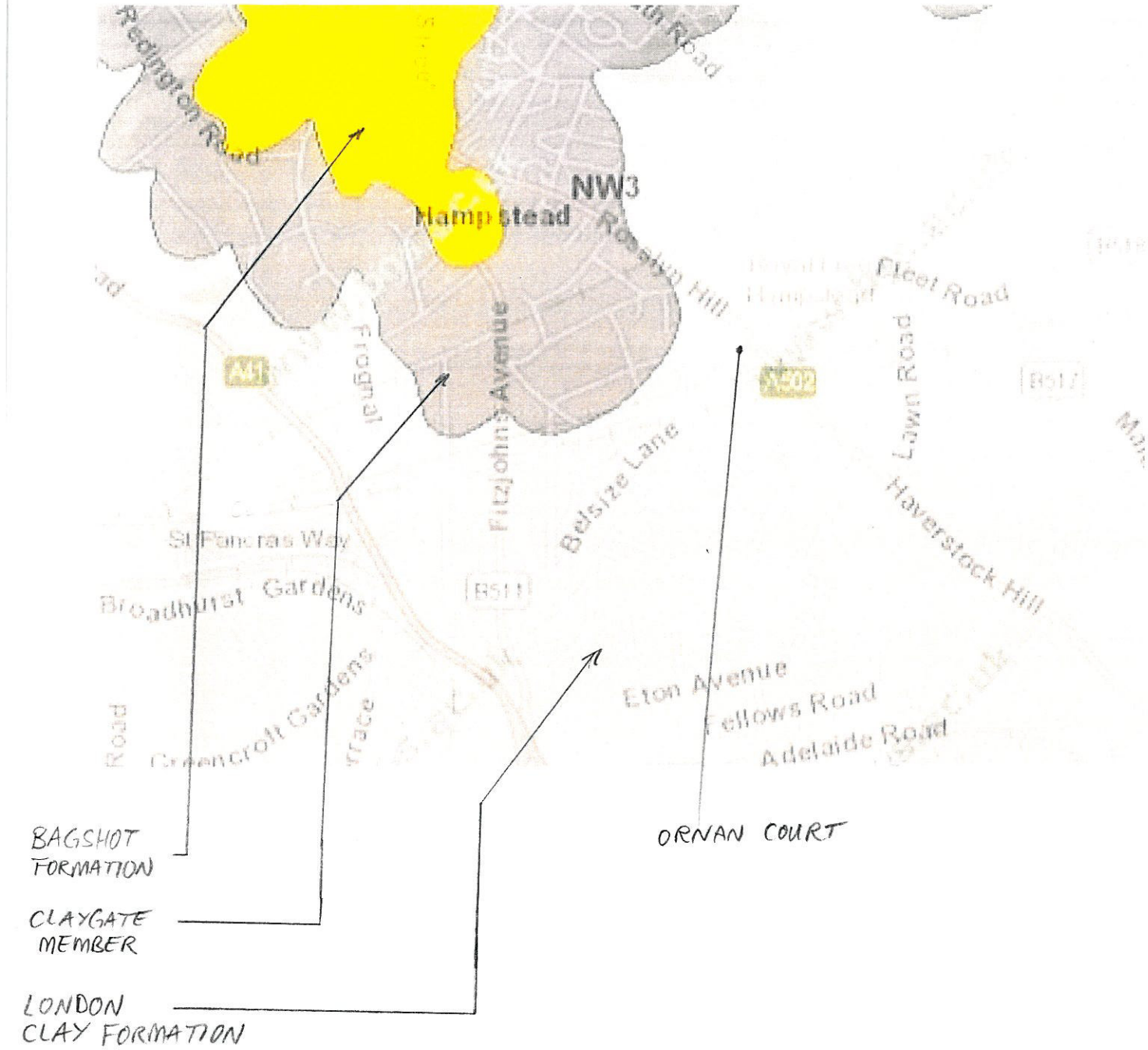

Chap.
HAMPSTEAD
GREEN
264·7
255·6
Ivy Bank
B.M. 256·2
264·7
ORNAN ROAD
LYNDHURST GARDENS
226·6
245·1
Hillfield
ORNAN COURT

1894



ORNAN COURT

1900


Redington Road
NW3
Hampstead
Fleet Road
Lawn Road
Haverstock Hill
Frognal
Fitzjohn's Avenue
Belsize Lane
St Pancras Way
Broadhurst Gardens
Eton Avenue
Fellows Road
Adelaide Road
A41
A502
B511
BAGSHOT FORMATION
CLAYGATE MEMBER
LONDON CLAY FORMATION
ORNAN COURT

The Planning Inspectorate

Appeal Decision

Site visit made on 10 August 2015

by Tim Wood BA(Hons) BTP MRTPI

an Inspector appointed by the Secretary of State for Communities and Local Government

Decision date: 17 August 2015

Appeal Ref: APP/X5210/W/15/3007531
Ornan Court, Ornan Road, London NW3 4PT

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for [outline] planning permission.
- The appeal is made by Ornan Court Ltd against the Council of the London Borough of Camden.
- The application Ref 2014/4206/P, is dated 25 June 2014.
- The development proposed is the excavation of a lower ground floor with associated front and rear lightwells to create 2 X 3 bedroom self-contained flats.

Decision

1. The appeal is dismissed.

Preliminary Matters

2. The appeal relates to the Council's failure to issue a decision within the prescribed time limit. The Council has indicated that they would have refused the application and set out their putative reasons; these relate to, the standard of accommodation, the effects of the basement excavation and the absence of a legal agreement to secure a car-free development, a Construction Management Plan and a Basement Construction Plan. A Unilateral Undertaking (UU) has been provided by the appellants relating to the issues of car-free development, a Construction Management Plan and a Basement Construction Plan. The Council has confirmed that it is satisfied with the UU.

Main Issues

3. Taking the above matters into account, the main issues in this appeal are;

   - The standard of natural lighting and amenity space proposed
   - The effects of the proposed basement on the local environment.

Reasons

The standard of natural lighting and amenity space proposed

4. The existing substantial building is set higher than the road level at Ornan Road, such that the main entrance level is between 1.5m and 2m above the road. Between the front elevation and the front site boundary is a grassed area and an area containing refuse storage. The proposal is to create a basement (or referred to as a lower ground floor) level under the building. Natural lighting would be provided by excavating areas at the margins of the

building to create lightwells, which would also provide some private amenity space.

5. Reference is made by the Council and by the appellant to the Building Research Establishment's guidelines in its publication '*Site Layout Planning for Daylight and Sunlight'* and also to the Council's '*Camden Planning Guidance 6 – Amenity'* (CPG). The Council acknowledge in the CPG that there should be some flexibility in the employment of such standards due to the individual characteristics of each proposal.

6. The appellants' report on day-lighting refers to the sections of the CPG which draw from the BRE guide and states that if a predominantly daylit appearance is required, then the average daylight factor should be 5% or more if no electric lighting is provided, 2% or more if electric lighting is provided; at a minimum for dwellings the figures should be 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. In relation to the daylight factor, the appellants' figures indicate the following for each of the 2 flats: kitchens, 1.34% and 1.45%; living rooms, 1.44% and 1.86%; bedroom 1, 0.2% and 0.35%; bedroom 2, 0.14% and 0.64%; bedroom 3, 0.32% and 0.27%. This means that the only room exceeding the minimum requirement is the living room of one of the flats, although it is acknowledged that the other living room is very close to that minimum level.

7. A further assessment of day-lighting is undertaken by taking a 25 degree line from the centre of a window of a proposed dwelling and finding if any structures interrupt that line (the Council's CPG indicates that the level can be taken at 2m above ground level). The documents submitted with the appeal indicate that the windows at the front of the proposal would meet this test, with an angle of 20 degrees possible from the middle of the window. However, as a result of the proximity of taller nearby structures at the rear only a 40 degree angle would be possible, and 50 degrees elsewhere. From what is available to me, it would appear that even if the Council's guide of taking the position at 2m above ground level were employed, the guideline would not be met here.

8. Whilst I acknowledge that the front elevation of the building faces south and this may mean that the front elevation of the flats would be in the best position to receive sun-light, there are considerable deficiencies in relation to daylight, wherein only one room in the proposal would meet the minimum guideline and a number of other rooms would be significantly below the guidelines. Even acknowledging that some flexibility may be applied, I consider that the proposed flats would not provide a suitable living environment as they would be significantly deficient of natural lighting. This is linked to the outlook that would be available to residents of the proposal, which I consider would be unduly restricted, particularly at the rear.

9. In relation to the amenity space, the occupiers would have access to the communal space around the building and to private space within the light-wells. Flat 1 would have 25sqm of private space at the front and flat 2 would have 7sqm at the side of the building. The Council do not consider that the area to the front of flat 2 is private as it is immediately adjacent to a proposed access ramp. The Council refer to the Mayor London's Housing Supplementary Planning Guidance (SPG) wherein standards for private amenity space are set out. It is expected that each unit should have a minimum of 5sqm for a 1-2

person dwelling plus an extra 1sqm for each additional occupant. The Council states that a minimum of 9sqm should be provided, which implies that they consider that there would be 6 occupants. In circumstances where some private space and some communal space is provided, as is the case here, and where the number of future occupiers cannot be stated with certainty, I consider that some flexibility can be exercised and a deficiency of 2sqm in relation to the guideline in the SPG is not fatal to the scheme.

10. However, this last point does not outweigh my concerns in relation to day-lighting and outlook. As a result, I find that the proposal is contrary to the aims of Policies CS6 and CS14 of the Core Strategy and Policy DP26 of the Development Policies.

The effects of the proposed basement on the local environment

11. The Council is concerned that the proposal would give rise to unacceptable effects on the stability of the existing building and on the local water environment. The appellant has supplied detailed information, some of which has been independently verified, which addresses these and other matters. From a careful assessment of the submissions, it seems to me that there is very little risk that the proposal would give rise to an increased risk of flooding in the area and would not be at a risk itself. The London Clay soils here are said to be impermeable and so the introduction of the basement would not alter this.

12. In relation to structural stability, these are matters covered by the Building Regulations, but in the UU the addition of a Detailed Basement Construction Plan provides me with the assurance that this scheme could be satisfactorily undertaken in this respect.

Conclusions

13. I have taken account of the written representations submitted by local residents and their representatives in relation to this appeal. I also take note of the UU and the provision that it contains in relation to some of these matters. I do not find that there is anything of sufficient weight to add to my conclusions in relation to the effects of the scheme. I have taken account of the location of the appeal site within the Fitzjohns/Netherhall Conservation Area and I am satisfied that the proposal would preserve the character and appearance of the area.

14. Nevertheless, my concerns in relation to day-lighting and outlook remain and these are not outweighed by any other matters. Therefore, the appeal is dismissed.

S T Wood

INSPECTOR